ROUTING (5/10/2023)		
1)	Shannon/KymH	SMB 5/11/23
2)	Omar (PW) or designee	✓
3)	Glenn (Proc.) or designee	✓
4)	Peter (FIN) or designee	✓
5)	Linda (FIN) or designee	✓
6)	City Attorney (Shari) or designee	✓
7)	CMO & City Clerk	
8)	Maureen Lewis	

Contracts/Bids PW Finance Checklist

Date: 5/11/2023

Reviewed By: Shannon Barrett

X **Applicable CC-Authorized CAM printed and attached?**

X **Identify and Verify City Contract # is included on the Contract Front Page**

X **Verify contract unit prices on the bid tab.**

X **Verify all calculations and totals on the bid tab.**

(Make sure the bid allowance is included in the total cost)

N/A **What does the contract dictate about reimbursables**

$100 HR **What does the contract dictate about overtime pay rates**

X **Identify and confirm funding with Project Manager and**

FAMIS (6450) or ETS (Monthly Project Report)

Is the scope of work a capital project expense? Or operational?

Capital projects must meet all 3 of the following criteria:

1) $50k value, 2) new or replacement tangible asset, and 3) a useful life of 10 or more years? Or is it operational; repairs and maintenance? Repairing existing system or asset to maintain the original useful life?

X **Initial routing form and forward to Financial Administrator**

(Shannon) for signature.

_____ **Forward to Administrative Assistant (Kian) for continued authorization**

routing.

Project	Chart of Accoun...	Finance Dimension 01	Finance Dimension 01 Description	Project Description	Budget Functiona...	Actual Functional Amount	Commitment Function...	Encumbrance Fun...	Balance
P12474A	CAPITAL	468	AIRPORT FUND	MID-FIELD TAXIWA...	2,408,400	158,154.24	0	0	2,250,245.76
P12474B	CAPITAL	468	AIRPORT FUND	MID-FIELD T/W EXT...	0				0
P12474	CAPITAL	468	AIRPORT FUND	MID-FIELD TAXIWA...	1,932,038	105,573.56	0	0	1,826,464.44
					Σ 4,340,438	**Σ 263,727.80**	**Σ 0**	**Σ 0**	**Σ 4,076,710...**

CITY OF FORT LAUDERDALE
City Commission Agenda Memo **#23-0131**
REGULAR MEETING

TO: Honorable Mayor & Members of the Fort Lauderdale City Commission

FROM: Greg Chavarria, City Manager

DATE: February 21, 2023

TITLE: Motion Approving Agreement for the Fort Lauderdale Executive Airport Midfield Run-up Area Expansion - Weekley Asphalt Paving, Inc. - $2,384,660 - **(Commission District 1)**

Recommendation

Staff recommends the City Commission approve an agreement, in substantially the form attached, with Weekley Asphalt Paving, Inc. (Weekley) for the Fort Lauderdale Executive Airport Midfield Run-up Expansion in the amount of $2,384,660.

Background

The Airport Master Plan recommends the expansion of the mid-field run-up area from an existing 54,000 square feet run-up area to approximately 89,000 square feet run- up area, with the addition of jet blast deflectors. The project's scope of work includes survey and geotechnical costs, consultant and design fees, construction inspection and material testing costs, mobilization and demobilization, airfield lighting system, and signage improvements.

On July 11, 2022, the Procurement Services Division issued Invitation to Bid No. 12666-623. The City received three (3) bids in response to the solicitation, which opened on September 15, 2022. The apparent low bidder, Danto Builders (Danto), failed to provide the City with the required three (3) examples of successfully completed projects that are similar in scope and scale, per bid solicitation requirement. This is required for all the bidders to ensure that they have experience with the airfield construction safety and regulation at airports. Additionally, staff also checked the reference that Danto Builders provided and received a negative response regarding Danto's ability to meet work schedules and coordinate with the subcontractors. Based on the above, staff determined that Danto Builders was not qualified to perform airfield construction for this project and deemed non-responsive and non-responsible.

Staff therefore recommends contract award to Weekley, the second low bidder. Weekley has successfully completed the following projects that are similar in scope and scale to the proposed project; Dual Taxilane Access to Taxiway Lima at North Perry Airport (HWO); Taxiway Delta Phase II Reconstruction at Pompano Beach Airpark and Airfield

Improvements Runway 5-23 at Boca Raton Executive Airport. Weekley has also worked on the FXE Runway 9-27 Rehabilitation project.

The Disadvantaged Business Enterprise Preference is not applicable to this solicitation.

Resource Impact

There is a current fiscal impact to the City in the amount of $2,384,660 for the contract award and $41,394 for in-house project management fees for a total cost of $2,426,054. Funds for this request in the amount of $2,426,054 are available in the FY 2023 Community Investment Plan in the accounts listed below.

Funds available as of January 20, 2023					
ACCOUNT NUMBER	**COST CENTER NAME (Program)**	**CHARACTER/ ACCOUNT NAME**	**AMENDED BUDGET (Character)**	**AVAILABLE BALANCE (Character)**	**AMOUNT**
10-468-9300-542-60-6501-P12474	Mid-Field Taxiway Extension and Run-up Area	Capital Outlay/ Engineering Fees	$1,932,038	$1,835,045	$41,394
10-468-9300-542-60-6599-P12474	Mid-Field Taxiway Extension and Run-up Area	Capital Outlay/ Construction	$1,932,038	$1,835,045	$476,932
10-468-9300-542-60-6599-P12474A	Mid-Field Taxiway Extension and Run-up Area	Capital Outlay/ Construction	$2,184,400	$1,989,975	$1,907,728
				TOTAL AMOUNT ▶	$2,426,054

Strategic Connections

This item is a Top Commission Priority, advancing the *Infrastructure and Resilience* initiative.

This item supports the *Press Play Fort Lauderdale 2024* Strategic Plan, specifically advancing:

- The Business Development Focus Area
- Goal 5: Build an attractive global and local economic community marketplace.
- Objective: Provide best-in-class regional general aviation airport amenities and services

This item supports the Advance Fort Lauderdale 2040 Comprehensive Plan specifically advancing:

- The Infrastructure Focus Area
- The Transportation and Mobility Network
- Goal 3: Ensure the cohesive transportation network, among local, regional, and state regulatory institutions.

This item advances the *Fast-Forward Fort Lauderdale Vision Plan 2035:* We are Prosperous.

Attachments
Exhibit 1 - Solicitation
Exhibit 2 - Bid Tabulation
Exhibit 3 - Agreement

Prepared by:	Khant Myat, Project Manager II, Public Works Maureen Lewis, Senior Procurement Specialist, Finance Friseta Davis, Senior Administrative Assistant, Finance
Department Director:	Alan Dodd, P.E., Public Works Linda Short, Finance

CITY OF FORT LAUDERDALE

CONTRACT

FORT LAUDERDALE EXECUTIVE AIRPORT MIDFIELD RUN-UP AREA EXPANSION (12666-623)

DESCRIPTION

Weekley Asphalt Paving, Inc.

CONTRACTOR

$2,384,660

AMOUNT

February 21, 2023

COMMISSION APPROVAL DATE

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS Agreement made and entered into this 21st day of February, 2023, by and between the City of Fort Lauderdale, a Florida municipal corporation (City) and Weekley Asphalt Paving Inc., a Florida Corporation (Contractor), ("Party" or collectively "Parties");

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No., 12666-623, Project Number, 12474, which was opened on September 15, 2022; and,

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project.

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents – Advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and sample agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion - Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

1.7 Change Order - A written document ordering a change in the Contract Price or Contract Time or a material change in the Work.

1.8 City – The City of Fort Lauderdale, Florida, including but not limited to its employees, agents, officials, representatives, contractors, subcontractors, volunteers, successors and assigns, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, General Conditions, Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and/or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The amount established in the bid submittal and award by the City's City Commission, its successors and assigns, as may be amended by Change Order.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the work shall be started and shall be completed as stated in the Notice to Proceed.

1.12 Contractor – The person, firm, company, or corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, their subcontractors and their other successors and assigns.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – When modifying the word "Work" refers to work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

1.15 Effective Date of the Agreement – The effective date of the Agreement shall be the date the City Commission approves the work.

1.16 Final Completion Date – The date the Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

1.17 Hazardous Materials (HAZMAT) - Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance - As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

1.19 Hazardous Waste - Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays - Those designated non-work days as established by the City Commission of the City of Fort Lauderdale.

1.21 Inspection – The term "inspection" and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award - The written notice by City to the Contractor stating that upon compliance by the Contractor with the conditions precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice to Contractor authorizing the commencement of the activities identified in the notice or as described in the Contract Documents.

1.24 Plans - The official graphic representations of this Project that are a part of the Contract Documents.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The construction project described in the Contract Documents, including the Work described therein.

1.27 Project Manager - The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.28 Punch List - The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents - A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" - A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the Contractor. These documents will be signed and sealed by a Professional Engineer or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantially Completed Date – A date when the Contractor has requested in writing, stating that the Work is substantially completed and is ready for an inspection and issuance of a final punch list for the Project. If, at the time of inspection, it is determined the project is substantially completed, the City will issue a letter of Substantial Completion along with a punch list of incomplete or deficient items to be completed prior to requesting a Final Completion inspection.

1.32 Work – The construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

FORT LAUDERDALE EXECUTIVE AIRPORT
MIDFIELD RUN-UP EXPANSION
ITB 12666-623 PROJECT 12474

2.2 All Work for the Project shall be constructed in accordance with the approved plans and Specifications. The Work generally involves:

PROJECT DESCRIPTION

This Project is located at Fort Lauderdale Executive Airport in the City of Fort Lauderdale. The work to be accomplished under this contract includes, but is not limited to, rehabilitation of the existing run-up area apron pad, extension of the run-up area apron pad, grading of stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, construction of jet blast fences and foundation, and application of temporary and permanent pavement marking.

2.3 Within ten (10) days of the execution of this Agreement, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of all personnel employed. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as **Khant Myat, P.E.**, whose address is 100 N. Andrews Avenue, 4th Floor, Fort Lauderdale, FL 33301, telephone number: **(954) 828-5061**, and email address is kmyat@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents, which comprise the entire Agreement between the City and Contractor, are incorporated herein and attached to this Agreement, and consist of the following:

4.1 This Agreement.

4.2 Exhibits to this Agreement: (Plans sheets [1] to [36] inclusive).

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

4.5 General Conditions and Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number _1_ through _3_, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law.

4.11 Invitation to Bid (Solicitation) No., 12666-623, Instructions to Bidders, and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No., 12666-623, dated August 16, 2022.

4.13 Schedule of Completion.

4.14 All amendments, modifications and supplements, change orders and work directive Changes, issued on or after the Effective Date of the Agreement.

4.15 Any additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Approved change orders, addenda or amendments.

b. Specifications and Drawings.

c. Special Conditions.

d. General Conditions.

e. This Agreement dated 21ST OF FEBRUARY, 2023, and any attachments.

f. Invitation to Bid No., 12666-623, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid No., 12666-623, dated August 16, 2022.

h. Schedule of Values.

i. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five (5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or associations, or to the code of any governmental authority whether such reference be

specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The Contractor recognizes that **TIME IS OF THE ESSENCE.** The Work shall commence within **60** calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within **234** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within **278** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7, subject to additions and deletions by Change Order, as provided for in this Agreement.

6.2 The Parties expressly agree that the Contract Price, which shall not exceed the amount of **$2,384,660**, constitutes the total maximum compensation payable to Contractor for performing the Work, plus any Work done pursuant to a Change Order. The Contract Price is in accordance with the line items unit prices listed in the Bid. Line items are based on a unit price cost multiplied by a defined quantity. Any additional duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change to the Contract Price.

6.3 The Contract Price constitutes the compensation payable to Contractor for performing the Work plus any Work done pursuant to a Change Order. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract price.

ARTICLE 7 – PAYMENT

7.1 Contractor shall submit Applications for Payment in accordance with the Contract Documents. Applications for Payment will be processed by City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's monthly Applications for Payment, which shall be submitted by the Contractor between the first (1st) and the tenth (10th) day after the end of each calendar month for which payment is requested. All progress payments will be made on the basis of the progress of the Work completed.

7.3 Prior to Final Completion, progress payments will be made in an amount equal to ninety-five percent (95%) of the value of Work completed less in each case the aggregate of payments previously made.

7.4 Final Payment. Upon final completion of the Work in accordance with the General Conditions, as may be supplemented, the City shall pay Contractor an amount sufficient to increase total payments to one hundred percent (100%) of the Contract Price. However, not less than five percent (5%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications and shop drawings, including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.

7.5 City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

7.5.1 Defective work not remedied.
7.5.2 Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
7.5.3 Failure of Contractor to make payments properly to subcontractors or for material or labor.
7.5.4 Damage to another contractor not remedied.
7.5.5 Liquidated damages and costs incurred by Consultant for extended construction administration, if applicable.
7.5.6 Failure of Contractor to provide any and all documents required by the Contract Documents.

When the above grounds are removed or resolved satisfactory to the Project Manager, payment shall be made in whole or in part.

7.6 The City shall make payment to the Contractor in accordance with the Florida Local Government Prompt Payment Act, in Chapter 218, Florida Statutes (2022), as amended or revised, provided, however, complete and error free pay application is submitted.

7.7 The City shall make payment to the Contractor by check.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

8.2 Contractor has visited the Work Site, has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, water table condition, moisture conditions and all year-round local weather and climate conditions (past and present), and examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any

manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted within the Contract Time as defined in this Agreement.

Furthermore, Contractor warrants and confirms that it is totally familiar with, understands and obligates Contractor to comply with all federal, state and local laws, ordinances, rules, regulations and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

8.4 The Contractor has also studied on its own, investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and finds and has further determined that no conditions exist that would in any manner affect the Proposed Price and that the Project can be completed for the Proposed Price submitted.

8.5 Contractor has made or caused to be made, examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work at the Contract Prices, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

8.6 Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution by City is acceptable to the Contractor.

8.8 Labor

8.8.1 The Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the site.

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of the Notice to Proceed. The Contractor understands and agrees that the superintendent's physical presence on the job site is indispensable to the successful completion of the Work. If the superintendent is frequently absent from the job site, the Project Manager may deliver written notice to the Contractor to stop work or terminate the Agreement in accordance with Article 17.

8.8.4 Where required and necessary, the contractor shall, at all times, have a certified "competent person" assigned to the job site. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to MOT. Any other certifications that may be required by applicable permitting agencies for the Work shall also be complied with by the Contractor. Failure to pursue the Work with the properly certified supervisory staff may result in notice to stop work or terminate the Agreement in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work.

8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 8 a.m. and 5:00 p.m., Monday through Friday.

Unless approved by the City in advance, the Contractor will not perform work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. For any overtime inspection required by City personnel, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. **It shall be noted that the City's Inspector work hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday, and any work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime at a rate of $100.00 per hour.** The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds himself or itself to indemnify and hold harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses.

The Contractor shall pay all government charges which are applicable at the time of opening of proposals. It shall be the responsibility of the Contractor to secure and pay for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days, and any necessary changes shall be adjusted by any appropriate modifications. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules, standards, specifications and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the laws of the City of Fort Lauderdale, County of Broward, and the State of Florida.

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor.

The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for, or will be required to replace or restore at no expense to the City all properties and areas not protected or preserved as required herein that may be destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials and shall leave the site clean and ready for occupancy by the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.
8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

8.17 Project Record Documents and Final As-Builts (Record Drawings): Contractor shall be responsible for maintaining up-to-date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-Builts) and a CD of the electronic drawings files created in AutoCad 2014 or later. All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the project and other persons who may be affected thereby.

8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy-two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

8.21 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entitles claiming by, through or under the Contractor, releases and discharges the City from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, representatives, contractors and subcontractors, successors, and assigns (hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use, handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence or any Hazardous Substance including asbestos located, transported, or present on, undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. Section 9607, as amended or revised, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.23 No Liens: If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the Work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

8.24 Weather Emergencies: Upon issuance of a hurricane watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available, and in the City before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean

up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.25 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, pandemics, war, act of Governmental Authority, state of emergency, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their subcontractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within ninety-six (96) hours after such an occurrence. The Contractor shall use its reasonable efforts to minimize such delays. The Contractor shall promptly provide an estimate of the anticipated additional time required to complete the Project.

8.26 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the Contractor assures that it, the sub-recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate. This additional language must be included in each subcontract the prime Contractor signs with a subcontractor.

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 The City shall provide public rights-of-way and easement, where available, for the installation of conduits, transformers pads and related appurtenances only.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue, with reasonable promptness, such written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event, and written supporting data will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

9.5 Cancellation for Unappropriated Funds: The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2022), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

10.3 Insurance

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of

coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Crane and Rigging Liability (if applicable)
Coverage must be afforded for any crane operations under the Commercial General or Business Automobile Liability policy as necessary, in line with the limits of the associated policy.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d. In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the City that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to the City before the work and testing is done. Testing results shall be submitted to the Project Manager for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Paragraphs 11.2.1 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if it makes a claim therefore as provided in Articles 14 and 15.

11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other Party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If within one (1) year after the date of final acceptance, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If the Contractor does not promptly comply with the terms of such instructions or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contract's Documents, including

appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, employees and elected and appointed officials from or on account of all claims, damages, court costs, and reasonable attorney's fees (including but not limited to: pre-trial, trial, and appellate attorney's fees), other costs, fees, charges, losses, liabilities and expenses, direct, indirect or consequential which are caused by or result from negligence, recklessness, or intentional wrongful misconduct of the Contractor, its employees, and any other person(s) or entity (ies) utilized in the performance of this Agreement, including but not limited to Contractor's agents, its employees, its subcontractors, its suppliers, engineers, architects, consultants and other professionals, . Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or

destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the work; (i) the violation of any federal, state, county or City laws, ordinances or regulations by Contractor, its subcontractors, agents, servants, independent contractors or employees; The Contractor agrees that negligent, reckless, or intentional misconduct also includes the violation of any Federal, State, County, or City laws, or regulations; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee. Indemnification in this subsection excludes claims or damages resulting from gross negligence or actions that are willful or wanton, or claims or damages that result from intentional misconduct, if the claims or damages are caused or result from actions of the City, its employees, its officers, its directors, its agents and any others excluded in accordance Section 725.06, Florida Statutes, as amended.

12.2.2 Contractor agrees to indemnify, defend, and hold harmless the City, its officers, agents and employees, from all damages, liabilities, losses, claims, fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without

limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06, Florida Statutes (2022), as may be amended or revised, controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the Parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, at any time or from time-to-time order additions, deletions or revisions in the Work through the issuance of Change Orders. Upon receipt of a Change Order, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 14 or Article 15 on the basis of a claim made by either Party.

13.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

Change of Contract Price, approved by City, shall be computed as follows:

14.1 Cost of the Work: The term "Cost of the Work" means the sum of all direct costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by the City, these costs shall be in amounts no higher than those prevailing in the City and shall include only the following items and shall not include any of the costs itemized in Paragraph 14.3:

14.1.1 Payroll costs for employees in the direct employ of the Contractor in the performance of the Work under schedules of job classifications agreed upon by the City and the Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work.

Payroll costs shall include, but not be limited to, salaries and wages plus cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and applicable holiday pay.

14.1.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage, and required suppliers and field services. All cash discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they may be obtained.

14.1.3 Supplemental costs including the following:

14.1.3.1 Cost, including transportation and maintenance of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work.

14.1.3.2 Rentals of all construction equipment and machinery and the parts whether rented from the Contractor or others in accordance with rental agreements approved by the City, and the costs of transporting, loading, unloading, installation, dismantling and removal. The rental of any such equipment, machinery or parts shall cease when the use is no longer necessary for the Work.

14.1.3.3 Sales, consumer, use or similar taxes related to the Work and for which the Contractor is liable, imposed by laws and regulations.

14.1.3.4 Royalty payments and fees for permits and licenses.

14.1.3.5 The cost of utilities, fuel and sanitary facilities at the Work site.

14.1.3.6 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

14.1.3.7 Cost of premiums for additional bonds and insurance required because of changes in the Work.

14.2 The Contract Price may only be increased by a Change Order when Work is modified in accordance with Article 13 and approved by the City in writing. Any claim for an increase in the Contract Price resulting from a Change Order shall be based on written notice delivered to the Project Manager within ten (10) days of the occurrence of the Change Order giving rise to the claim. Notice of the amount of the claim with supporting data shall be included in the Change Order and delivered within twenty (20) days of such occurrence unless Project Manager allows an additional period of time to ascertain accurate cost data. Any change in the Contract Price resulting from any such claim shall be incorporated in the Change Order. **IT IS EXPRESSLY AND SPECIFICALLY AGREED THAT ANY AND ALL CLAIMS FOR CHANGES TO THE CONTRACT**

PRICE SHALL BE WAIVED IF NOT SUBMITTED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.

14.3 Not Included in the Cost of the Work: The term "Cost of the Work" shall not include any of the following:

14.3.1 Payroll costs and other compensation of the Contractor's officers executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditor, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by the Contractor whether at the site or in the Contractor's principal or branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 14.1.1, all of which are to be considered administrative costs covered by the Contractor's fee.

14.3.2 Expenses of the Contractor's principal and branch offices other than the Contractor's office at the site.

14.3.3 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work and charges against the Contractor for delinquent payments.

14.3.4 Cost of premiums for all bonds and for all insurance whether or not the Contractor is required by the Contract Documents to purchase and maintain the same.

14.3.5 Costs due to the negligence of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

14.3.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 14.1.

14.4 Basis of Compensation: The Contractor's compensation, allowed to the Contractor for overhead and profit, shall be determined as follows:

14.4.1 A mutually acceptable negotiated fee:

14.4.1.1 For costs incurred under Paragraphs 14.1.1 and 14.1.2, the Contractor's fee shall not exceed five percent (5%).

14.4.1.2 No fee shall be payable on the basis of costs itemized under Paragraphs 14.1.3.1, 14.1.3.2, 14.1.3.3, 14.1.3.4, 14.1.3.5, 14.1.3.6, 14.1.3.7, 14.3.1, 14.3.2, 14.3.3, 14.3.4, 14.3.5 and 14.3.6.

14.4.1.3 The amount of credit to be allowed by the Contractor to the City for any such change which results in a net decrease plus a deduction in the

Contractor's fee by an amount equal to five percent (5%) for the net decrease.

14.4.1.4 When both additions and credits are involved in any one change the combined overhead and profit shall be figured on the basis of net increase if any, however, not to exceed five percent (5%) of the agreed compensation. Profit will not be paid on any Work not performed.

14.5 Cost Breakdown Required: Whenever the cost of any Work is to be determined pursuant to this Article, the Contractor will submit in form acceptable to the City an itemized cost breakdown together with supporting documentation. Whenever a change in the Work is to be based upon mutual acceptance of a lump sum, whether the amount is an addition, credit, or no-charge-in-cost, the Contractor shall submit an estimate substantiated by a complete itemized breakdown:

14.5.1 The breakdown shall list quantities and unit prices for materials, labor, equipment and other items of cost.

14.5.2 Whenever a change involves the Contractor and one (1) or more subcontractors and the change is an increase in the agreed compensation, the overhead and profit percentage for the Contractor and each subcontractor shall be itemized separately.

14.6 Time for the City to Approve Extra Work: Any Extra Work in an amount up to and not exceeding a cumulative amount of $25,000 for a specific project can be approved by the City Manager and shall require a written Change Order proposal to be submitted to the Public Works Director for submittal and approval by the City Manager. Extra Work exceeding the cumulative amount of $25,000 for a specific project must be approved by the City Commission and a written Change Order proposal must be submitted to the Public Works Director for submittal and approval by the City Manager and City Commission. No financial or time claim for delay to the project resulting from the Change Order approval process outlined above under Section 14.6 will be allowed.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Project Manager within five (5) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

15.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if a claim is made therefore as provided in Paragraph 15.1. Such delays shall include but not be limited to, acts or neglect by the City, or to fires, floods, labor disputes, epidemics, abnormal weather conditions, pandemics, act of Governmental Authority, state of emergency or acts of God.

15.3 All time limits stated in the Contract Documents are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.4 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor (non-affiliated Contractors) shall not give rise to a claim by the Contractor for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.5 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Agreement, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the Work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **One Thousand Dollars ($1,000.00)** for each and every calendar day that the completion of the Work is delayed beyond the time specified in this Agreement for completion, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both Parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each portion of the Work for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

In addition, for work beyond the time (hour and minute) established for opening the taxiway/runway, following each closure of that taxiway/runway in accordance with the phasing plans, the City will charge the Contractor a rental fee for the Contractor's use of the taxiway/runway. The parties agree that the sum of $500 for the first minute and $50 for every minute thereafter shall be fixed as the rental rates for continuing a taxiway/runway closure beyond the time provided for opening the taxiway/runway during each phase of work that requires taxiway/runway closure. The Contractor shall pay to

the City, or have withheld from monies due the Contractor, the rental sum of $500 per the first minute and $50 for every minute thereafter that the Contractor continues a taxiway/runway closure beyond the specified time provided for opening the taxiway/runway during each phase of work that requires closure. Time for opening of the taxiway/runway and rental fee determinations shall be based upon the City's inspector's time keeping, not the Contractor. Contractor may request the inspector to advise him of remaining time periodically prior to opening, but inspector's time keeping shall be the sole determining factor as to whether the taxiway/runway reopened as scheduled without appeal.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

17.2 City's Right to Terminate Contract: The City may terminate this Agreement upon fifteen (15) calendar days' written notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor makes a general assignment for the benefit of creditors.

17.2.2 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Contract, whose appointment or authority to take charge of property of the Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the Contractor's creditors.

17.2.3 If Contractor fails to begin the Work within fifteen (15) calendar days after the Project Initiation Date, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the

Work, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.4 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.5 If the Contractor repeatedly disregards proper safety procedures.

17.2.6 If the Contractor disregards any local, state or federal laws or regulations.

17.2.7 If the Contactor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

17.3.1 If after notice of termination of Contractor's right to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth in Section 17.5 below.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the Parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contactor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the

event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contactor agrees to waive the notice provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the United States Bankruptcy Court. The Contactor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in additional to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Agreement may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work executed and expenses incurred prior to termination in addition to termination settlement costs reasonably incurred by Contractor relating to commitments which had become firm prior to the termination. Payment shall include reasonable profit for work/services satisfactorily performed. No payment shall be made for profit for work/services which have not been performed.

17.6 Where the Contractor's service has been so terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under, or by reason of, the Contract Documents which cannot be resolved by mutual agreement of City Project Manager and Contractor shall be submitted to the City Manager or his designee and Contractor's representative for resolution. Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after final completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

18.1.1 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.2 During the pendency of any dispute and after a determination thereof, Contractor and Contract Administrator shall act in good faith to mitigate any potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.3 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the Parties.

Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies under applicable law. If a Party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said Party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

To the City:

City Manager
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

with copies to the:

Project Manager and City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

With copies to the
City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

To the Contractor:

Daniel D. Weekley
President
Weekley Asphalt Paving, Inc.
20701 Stirling Road
Pembroke Pines, FL 33332
Telephone: (954) 680-8005
E-mail: danweekley@weekleyasp.com

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge

that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes (2022), as may be amended or revised, or to extend the City's liability beyond the limits established in said Section 768.28, Florida Statutes (2022), as may be amended or revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 21 – GOVERNING LAW; WAIVER OF JURY TRIAL

21.1 The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the Parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available

to the City, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

22.3 The Contractor and its employees, volunteers and agents shall be and remain as independent contractor and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2022), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2022), as may be

amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2022), as may be amended or revised.

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2022), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2022), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: If City or Contractor incurs any expense in enforcing the terms of this Agreement or any dispute, cause of action, mediation, claim, appeal, arises regarding this agreement, the prevailing Party in that litigation, dispute, cause of action, claim, mediation, or settlement shall be reimbursed for all such costs and expenses, including but not limited to court costs, reasonable attorney fees, paralegal fees, expert witness fees, appellate attorney's fees, appellate court costs, fees, mediation fees, appellate attorney's fees, and any other costs incurred by the prevailing party during the litigation, cause of action, mediation, appeal, claim, or dispute.

22.11 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2022), as may be amended or revised, or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City, all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

22.12 E-Verify

As a condition precedent to the effectiveness of this Agreement, pursuant to Section 448.095, Florida Statutes (2022), as may be amended or revised, the Contractor and its subcontractors shall register with and use the E-Verify system to electronically verify the employment eligibility of newly hired employees.

1. The Contractor shall require each of its subcontractors, if any, to provide the Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The Contractor shall maintain a copy of the subcontractor's affidavit for the duration of this Agreement and in accordance with the public records requirements of this Agreement.

2. The City, the Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated Section 448.09(1), Florida Statutes (2022), as may be amended or revised, shall terminate the Agreement with the person or entity.

3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Section 448.095(2), Florida Statutes (2022), as may be amended or revised, but that the Contractor otherwise complied with Section 448.095(2), Florida Statutes (2022), as may be amended or revised, shall promptly notify Contractor and order the Contractor to immediately terminate the contract with the subcontractor, and the Contractor shall comply with such order.

4. An Agreement terminated under Sections 448.095(2)(c)1. or 2., Florida Statutes (2022), as may be amended or revised, is not a breach of contract and may not

be considered as such. If the City terminates this Agreement under Section448.095(2)(c), Florida Statutes (2022), as may be amended or revised, the Contractor may not be awarded a public contract for at least one year after the date on which the Agreement was terminated. The Contractor is liable for any additional costs incurred by the City as a result of termination of this Agreement.

5. Contractor shall include in each of its subcontracts, if any, the requirements set forth in this section 22.11, including this subparagraph, requiring any and all subcontractors, as defined in Section 448.095(1)(j), Florida Statutes (2022), as maybe amended or revised, to include all of the requirements of this section 22.11 in its subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Section 448.095(1)(j), Florida Statutes (2022), as maybe amended or revised, with the requirements of Section 448.095, Florida Statutes (2022), as may be amended or revised.

ARTICLE 23 – FAA REQUIRED CONTRACT PROVISIONS FOR AIRPORT CONTRACTS (NON-AIP CONTRACTS)

23.1 General Civil Rights Provisions: The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subtier contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

23.2 Title VI Clauses for Compliance with Non-Discrimination Requirements:

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this Contract.

2. Non-discrimination: The Contractor, with regard to the work performed by it during the Contract, will not discriminate on the grounds of race, color, or national origin (including English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the Contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the

Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this Contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of the Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the Non-discrimination provisions of this Contract, the City will impose such Contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

    a. Withholding payments to the Contractor under the Contract until the Contractor complies; and/or
    b. Cancelling, terminating, or suspending a Contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the City or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the City to enter into any litigation to protect the interests of the City. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

23.3 Title VI List of Pertinent Nondiscrimination Acts and Authorities:

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or

whose property has been acquired because of Federal or Federal-aid programs and projects);

- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27 Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub- recipients and Contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

CITY

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY OF FORT LAUDERDALE, a Florida municipal corporation

By: _____
GREG CHAVARRIA
City Manager

Date: 5/30/2023

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form:
D'WAYNE SPENCE, Interim City Attorney

By: _____
SHARI C. WALLEN
Assistant City Attorney

CONTRACTOR

WITNESSES:

Craig Romero

Tracie Romero
Print Name

Kelly Reed

Kelly Reed
Print Name

(CORPORATE SEAL)

WEEKLEY ASPHALT PAVING, INC.,
a Florida corporation.

By: _____

Print Name: Daniel D Weekley

Title: President

ATTEST:

By: _____
Secretary Wayne D Weekley

STATE OF Florida:
COUNTY OF Broward:

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 7 day of March, 2023, by Daniel D Weekley, (NAME OF AUTHORIZED OFFICER) as President (TITLE OF AUTHORIZED OFFICER), for WEEKLEY ASPHALT PAVING, INC., a Florida corporation.

Kimberly A. Callen
(Signature of Notary Public - State of Florida)

NOTARY PUBLIC STATE OF FLORIDA
KIMBERLY A. CALLEN
Commission # HH 294154
Expires July 27, 2026

Kimberly A. Callen
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known X OR Produced Identification _____
Type of Identification Produced: _____

Notice required by Section 255.05(6), Florida Statutes: "This bond is given to comply with Section 255.05 Florida Statutes, and any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes."

The condition of the above obligation is such that if the above bound "Contractor," or its successor or assigns shall in good faith and in good, sufficient, substantial and workmanlike manner, perform the work and comply with the conditions of the contract, including payment of penalties, in strict accordance with the terms and provisions stipulated in it and shall indemnify and hold harmless the City against and for payments of any and all damages that may happen to persons or property by reason of excavations, embankments, obstructions and all other work in streets, alleys or places in connection with the work, or arising out of any act, neglect or omission of the "Contractor" or its agents, servants, or employees with relation to the work, and shall indemnify and hold harmless the City against and from all suits and acts of every nature and description arising out of any claims by patentees of any process connected with the work agreed to be performed under the contract, or of any materials used upon the work, and pay all costs accruing if the contract is cancelled and a new contract for finishing the work is let, and all other expenses lawfully chargeable to the "Contractor," then this agreement shall be null and void; otherwise it is to remain in full force and effect, but it is expressly provided, understood and agreed that if the "Contractor" or its subcontractors fail to duly and promptly pay for any labor, material, or other supplies used by "Contractor" or any of its subcontractors in the performance of the work to be done, or the Contractor defaults in its Contract with the City, the "Surety" will promptly pay to all claimants, as defined in Section 255.05(1), Florida Statutes, the same in an amount not exceeding the sum specified in this bond, together with interest at the rate of fifteen percent (15%) per annum, and the Surety hereby stipulates and agrees that no change, extension, reduction, alteration or addition to the terms of the contract or the plans, details and specifications shall in any way affect the obligations of this bond.

Whenever Contractor shall be, and is declared by the City to be in default under the contract, the City may proceed to cancel the contract and award a new contract for finishing the work or order the Surety to promptly remedy the default by obtaining a bid or bids for completing the contract in accordance with the original contract terms and conditions. Upon the determination by the City of the lowest responsible bidder, the Surety shall complete all work and pay the full cost of completion, less previous payments.

This Bond is effective for one (1) year after completion and acceptance of the work, with liability equal to twenty-five percent (25%) of the contract price, and is so conditioned that the "Contractor" will, at its own expense, correct any defective or faulty work or material which appears within one (1) year after completion of the work and final payment, upon notification by the City.

IN WITNESS WHEREOF, the above "Contractor" has signed this Agreement, and the "Surety" has caused this Agreement to be signed in its name by its Attorney-in-Fact, and its corporate seal affixed, this 3rd day of March, 2023.

Signed, sealed and delivered
in the presence of:

(Witness) Signature

Kimberly Carter
(Witness) Print Name

(Witness) Signature

Sam Cardinale
(Witness) Print Name

CONTRACTOR: Weekley Asphalt Paving, Inc.

(SEAL)

Wayne D. Weekley, Treasurer
Print Name and Title

SURETY: Western Surety Company

(SEAL)

Local Agent
Anett Cardinale, Attorney in Fact
FL Licensed Resident Agent
Print Name and Title

SB-2

255.05 Bond Form, Rev. 10/21/05

I hereby certify this document to be a true, correct and complete copy of the record filed in my office.
Dated this 09 day of May, 2023 County Administrator.
By: Broward County Deputy Clerk
07aa530d-b3d3-4f87-aa02-12e4491ce1fc Page 2 of 3

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Anett Cardinale, Radha R Jones, Alexa Diaz, Sandra B Lazogue, Jennifer Bernard, Individually

of Tampa, FL, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 5th day of July, 2022.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota } ss
County of Minnehaha }

On this 5th day of July, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
March 2, 2026

M. BENT
NOTARY PUBLIC
SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 3rd day of March, 2023.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

I hereby certify this document to be a true, correct and complete copy of the record filed in my office.
Dated this 09 day of May, 2023 County Administrator.
By: Broward County Deputy Clerk
07aa530d-b3d3-4f87-aa02-12e4491ce1fc Page 3 of 3

WEEKLASP

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/21/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Francys Tolon	
Commercial Lines - (305) 443-4886 USI Insurance Services LLC 201 Alhambra Circle, Suite 1205 Coral Gables, FL 33134	PHONE (A/C, No, Ext): 786.785.1126	FAX (A/C, No): 7862649232
	E-MAIL ADDRESS: francys.tolon@usi.com	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Weekley Asphalt Paving, Inc. 20701 Stirling Road Pembroke Pines FL 33332	INSURER A: Old Republic Insurance Company	24147
	INSURER B: Underwriters at Lloyds, London (IL)	15792
	INSURER C: AGCS Marine Insurance Company	22837
	INSURER D: Axis Surplus Insurance Company	26620
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 15696494 **REVISION NUMBER:** See below

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X		MWZY31242623	3/1/2023	3/1/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			MWTB31242523	3/1/2023	3/1/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	UMBRELLA LIAB [ ] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $			SCX1011423	3/1/2023	3/1/2024	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [Y] N/A If yes, describe under DESCRIPTION OF OPERATIONS below		X	MWC31242723	3/1/2023	3/1/2024	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	Leased & Rented Equipment			MXI93071287	3/1/2023	3/1/2024	L&R Equipment $200,000 Deductible $5,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Bid No. 12666-623 - Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

City of Fort Lauderdale is listed as an additional insured with respects to the general liability policy. Waiver of subrogation applies in favor of the City of Fort Lauderdale with respects to the workers compensation coverage.

CERTIFICATE HOLDER

City of Fort Lauderdale
100 N Andrews Avenue
Fort Lauderdale, FL 33301

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



The ACORD name and logo are registered marks of ACORD © 1988-2015 ACORD CORPORATION. All rights reserved.

(This certificate replaces certificate# 15690595 issued on 2/23/2023)

Certificate of Insurance (Con't)

OTHER Coverage

INSR LTR	TYPE OF INSURANCE	ADDL INSR	WVD SUBR	POLICY NUMBER	EFFECTIVE DATE (MM/DD/YY)	EXPIRATION DATE (MM/DD/YY)	LIMIT
D	Excess Liability			P00100078246702	3/1/2023	3/1/2024	3,000,000 Each Occurrence 3,000,000 Aggregate

MEMORANDUM

DATE: May 10, 2023

TO: Alisha Auth, Sr. Claims Adjuster

FROM: Maureen Lewis, Procurement Division

SUBJECT: Bid No.: 12666-623 – FXE Airport Midfield Run-Up Expansion

Please review the attachments listed below in connection with the referenced contract:

☒ Insurance certificate

☒ Surety Bond

SURETY BOND REQUIREMENT **$2,384,660**

If the City's requirements are met, please sign below and return. Thank you.

By: Alisha Auth Date: 05/10/2023

Alisha Auth
Sr. Claims Adjuster

c: Contract

WEEKLEY ASPHALT PAVING, INC.

Bid Contact **June Stone**
gail@weekleyasp.com
Ph 954-680-8005
Fax 954-680-8671

Address **20701 STIRLING RD**
PEMBROKE PINES, FL 33332

Bid Bond (Status: Authorized on Jul 27, 2022)

Item #	Line Item	Notes	Unit Price	Qty/Unit		Attch.	Docs
12666-623--01-01	BASE BID: Contractor Quality Control Program (CQCP) (C-100)	**Supplier Product Code:**	**First Offer - $61,790.00**	1 / lump sum	**$61,790.00**	Y	Y
12666-623--01-02	BASE BID: Temporary Air and Water Pollution, Soil Erosion, and Siltation Control (C-102-5.	**Supplier Product Code:**	**First Offer - $15,323.00**	1 / lump sum	**$15,323.00**	Y	Y
12666-623--01-03	BASE BID: Mobilization/Demobilization (C-105-6.1)	**Supplier Product Code:**	**First Offer - $220,000.00**	1 / lump sum	**$220,000.00**		Y
12666-623--01-04	BASE BID: Contractor Staging and Storage (C-105-6.2)	**Supplier Product Code:**	**First Offer - $45,000.00**	1 / lump sum	**$45,000.00**		Y
12666-623--01-05	BASE BID: Full Depth Asphalt Pavement Removal (P-101-5.1)	**Supplier Product Code:**	**First Offer - $9.40**	700 / square yard	**$6,580.00**		Y
12666-623--01-06	BASE BID: Cold Milling, 2-Inches (P-101-5.3a)	**Supplier Product Code:**	**First Offer - $3.75**	3000 / square yard	**$11,250.00**		Y
12666-623--01-07	BASE BID: Cold Milling, Variable Depth (P-101-5.3b)	**Supplier Product Code:**	**First Offer - $8.50**	400 / square yard	**$3,400.00**		Y
12666-623--01-08	BASE BID: Remove Existing Asphalt Pavement Milling Piles and Process for Reuse (P-101-5.4)	**Supplier Product Code:**	**First Offer - $28.00**	1000 / cubic yard	**$28,000.00**		Y
12666-623--01-09	BASE BID: Stripping (P-151-2.4)	**Supplier Product Code:**	**First Offer - $3,334.00**	3 / acre	**$10,002.00**		Y
12666-623--01-10	BASE BID: Unclassified	**Supplier**	**First Offer - $24.00**	10100 / cubic yard	**$242,400.00**		Y

	Excavation (P-152-4.1)	**Product Code:**				
12666-623--01-11	BASE BID: Placement of Millings for Surface Stabilization (P-152-4.2)	**Supplier Product Code:**	**First Offer - $8.33**	1800 / square yard	**$14,994.00**	**Y**
12666-623--01-12	BASE BID: Subbase Course (6-Inch depth) (P-154-5.1)	**Supplier Product Code:**	**First Offer - $7.90**	5400 / square yard	**$42,660.00**	**Y**
12666-623--01-13	BASE BID: Lime Rock Base Course (6-Inch depth) (P-211-5.1a)	**Supplier Product Code:**	**First Offer - $20.97**	5400 / square yard	**$113,238.00**	**Y**
12666-623--01-14	BASE BID: Lime Rock Base Course (8-Inch depth) (P-211-5.1b)	**Supplier Product Code:**	**First Offer - $30.58**	500 / square yard	**$15,290.00**	**Y**
12666-623--01-15	BASE BID: Asphalt Mix Pavement (P-401-8.1)	**Supplier Product Code:**	**First Offer - $168.50**	2000 / ton	**$337,000.00**	**Y**
12666-623--01-16	BASE BID: Portland Cement Concrete Pavement (P-501-8.1)	**Supplier Product Code:**	**First Offer - $1,010.00**	150 / cubic yard	**$151,500.00**	**Y**
12666-623--01-17	BASE BID: Emulsified Asphalt Prime Coat (P-602-5.1)	**Supplier Product Code:**	**First Offer - $5.00**	1100 / gallon	**$5,500.00**	**Y**
12666-623--01-18	BASE BID: Emulsified Asphalt Tack Coat (P-603-5.1)	**Supplier Product Code:**	**First Offer - $9.00**	500 / gallon	**$4,500.00**	**Y**
12666-623--01-19	BASE BID: Joint Sealing Filler (P-605-5.1)	**Supplier Product Code:**	**First Offer - $57.00**	250 / linear foot	**$14,250.00**	**Y**
12666-623--01-20	BASE BID: Surface Preparation of New Pavement Surfaces (P-620-5.1a)	**Supplier Product Code:**	**First Offer - $0.50**	5400 / square foot	**$2,700.00**	**Y**
12666-623--01-21	BASE BID: Surface Preparation of Pavement Markings Prior to Remarking (P-620-5.1b)	**Supplier Product Code:**	**First Offer - $0.50**	7700 / square foot	**$3,850.00**	**Y**
12666-623--01-22	BASE BID: Permanent Markings with Type III	**Supplier Product**	**First Offer - $3.20**	3300 / square foot	**$10,560.00**	**Y**

	Beads (P-620-5.2a)	**Code:**				
12666-623--01-23	BASE BID: Permanent Markings with no Beads (P-620-5.2b)	**Supplier Product Code:**	**First Offer - $1.90**	2100 / square foot	**$3,990.00**	**Y**
12666-623--01-24	BASE BID: Temporary Markings without Beads (P-620-5.4)	**Supplier Product Code:**	**First Offer - $4.40**	1100 / square foot	**$4,840.00**	**Y**
12666-623--01-25	BASE BID: Sodding (With 30-day Irrigation Period) (T-904-5.1)	**Supplier Product Code:**	**First Offer - $6.46**	8800 / square yard	**$56,848.00**	**Y**
12666-623--01-26	BASE BID: Airport Safety and Maintenance of Traffic (S-102-5.1)	**Supplier Product Code:**	**First Offer - $195,000.00**	1 / lump sum	**$195,000.00**	**Y**
12666-623--01-27	BASE BID: Wildlife Burrow Protection (S-102-5.2)	**Supplier Product Code:**	**First Offer - $100.00**	6 / each	**$600.00**	**Y**
12666-623--01-28	BASE BID: Jet Blast Deflector for Taxi/Breakaway Velocities (S-104-1)	**Supplier Product Code:**	**First Offer - $217,680.00**	1 / lump sum	**$217,680.00**	**Y**
12666-623--01-29	BASE BID: Foundation of Jet Blast Deflector for Taxi/ Breakaway Velocities (S-104-2)	**Supplier Product Code:**	**First Offer - $84,850.00**	1 / lump sum	**$84,850.00**	**Y**
12666-623--01-30	BASE BID: High Performance Turf Reinforcement Mat (S-105-7.1)	**Supplier Product Code:**	**First Offer - $106.90**	300 / square yard	**$32,070.00**	**Y**
12666-623--01-31	BASE BID: High Density Poly Ethylene (HDPE) Mat (S-106-7.1)	**Supplier Product Code:**	**First Offer - $21.00**	300 / square yard	**$6,300.00**	**Y**

Lot Total **$1,961,965.00**

Item #	Line Item	Notes	Unit Price	Qty/Unit		Attch. Docs
12666-623--02-01	ALTERNATE: Jet Blast Deflector for High Power Run-ups (S-103-1)	**Supplier Product Code:**	**First Offer - $265,295.00**	1 / lump sum	**$265,295.00**	**Y**
12666-623--02-02	ALTERNATE: Foundation of Jet Blast Deflector for	**Supplier Product**	**First Offer - $97,400.00**	1 / lump sum	**$97,400.00**	**Y**

	High Power Run-ups (S-103-2)	**Code:**				
12666-623--02-03	ALTERNATE: Concrete Spall Repair (P-101-5.2)	**Supplier Product Code:**	**First Offer - $120.00**	500 / square foot	**$60,000.00**	**Y**

Lot Total **$422,695.00**

Supplier Total **$2,384,660.00**

Bid Bond from

Surety	CNA Surety - Orlando Branch
Bid Bond Number	SFL07271805
Bond Type	Bid Bond
Bond Form	Bid Bond in Accordance with Contract Specifications
Bid Date	2022-08-16T04:00:00Z
Bid ID	12666-623
Security Percent	5%
Job Description	Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

Agency ID	983
Name	USI Insurance Services National
Address	2601 S Bayshore Drive , Coconut Grove, FL 33133, US
Phone	786-785-1126
Contact Name	Francys Tolon
Bond Status	Executed
Execution Date	2022-07-27T13:05:27Z

Contractor ID	
Name	Weekley Asphalt Paving, Inc.
Contractor Tax ID	590753039
Assigned Contractor ID	3162063114
Address	20701 Stirling Road, Pembroke Pines, FL 33332, US
Phone	954-680-8005

Name	City of Fort Lauderdale
Address	100 North Andrews Ave, Fort Lauderdale, FL 33301, US

Surety ID	11422
Name	CNA Surety - Orlando Branch
NAIC Number	13188
State of Incorporation	
Contact	Bruce Bozelka

Address	2600 Lucien Way, Suite 130, Maitland, FL 32751, US
Phone	(407)919-3942
Terror Rider	

WEEKLEY ASPHALT PAVING, INC.

Item: **BASE BID:Contractor Quality Control Program (CQCP) (C-100)**

Attachments

Attachments.pdf

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

2601 BLAIR STONE ROAD
TALLAHASSEE FL 32399-0783

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

Florida dbpr STATE OF FLORIDA DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CGC1518050 ISSUED: 06/07/2022
CERTIFIED GENERAL CONTRACTOR
WORKMAN, BARRY TOD
WEEKLEY ASPHALT PAVING INC

Signature
LICENSED UNDER CHAPTER 489, FLORIDA STATUTES
EXPIRATION DATE: AUGUST 31, 2024

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD

LICENSE NUMBER: CGC1518050 **EXPIRATION DATE: AUGUST 31, 2024**

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

WORKMAN, BARRY TOD
WEEKLEY ASPHALT PAVING INC
304 INDIAN TRACE, STE 172
WESTON FL 33326

ISSUED: 06/07/2022

Always verify licenses online at MyFloridaLicense.com
Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. Andrews Ave., Rm. A-100, Ft. Lauderdale, FL 33301-1895 – 954-831-4000

VALID OCTOBER 1, 2021 THROUGH SEPTEMBER 30, 2022

DBA:
Business Name: WEEKLEY ASPHALT PAVING INC

Receipt #: 189-4834
Business Type: ALL OTHER TYPES CONTRACTOR (ASPHALT CONST)

Owner Name: WAYNE D WEEKLEY
Business Location: 20701 STIRLING RD PEMBROKE PINES
Business Phone: 954-680-8005

Business Opened: 01/27/1994
State/County/Cert/Reg: CC-78-581
Exemption Code:

Rooms	Seats	Employees	Machines	Professionals
		30		

For Vending Business Only — Number of Machines: — Vending Type:

Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
81.00	0.00	0.00	0.00	0.00	0.00	81.00

THIS RECEIPT MUST BE POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS

THIS BECOMES A TAX RECEIPT WHEN VALIDATED

This tax is levied for the privilege of doing business within Broward County and is non-regulatory in nature. You must meet all County and/or Municipality planning and zoning requirements. This Business Tax Receipt must be transferred when the business is sold, business name has changed or you have moved the business location. This receipt does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.

Mailing Address:

WAYNE D WEEKLEY
20701 STIRLING RD
PEMBROKE PINES, FL 33332

Receipt #1CP-20-00011497
Paid 07/27/2021 81.00
07/26/2021 Effective Date

2021 - 2022

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

BROWARD COUNTY, FLORIDA
CERTIFICATE OF COMPETENCY

CC# 3A MAJOR ROADS (ASPHALT AND CONCRETE PAVING FOR INTERSTATE, PRIMARY, SECONDARY, AND ARTERIAL ROADWAYS AND AIRPORTS AND WORK INCIDENTAL THERETO)
78-581
WEEKLEY, WAYNE D. - QUALIFYING
WEEKLEY ASPHALT PAVING INC
20701 STIRLING RD
PEMBROKE PINES FL 33332
EXPIRES 08/31/2023

Florida dbpr
STATE OF FLORIDA DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CGC1518050 ISSUED: 05/14/2020
CERTIFIED GENERAL CONTRACTOR
WORKMAN, BARRY TOD
WEEKLEY ASPHALT PAVING INC

Signature
LICENSED UNDER CHAPTER 489, FLORIDA STATUTES
EXPIRATION DATE: AUGUST 31, 2022

CLASS	Equip #	Description	Serial #
100	021	2010 FORD EXPEDITION	1FMJU1F56AEB08057
	22	2015 FORD EXPEDITION KING	1FMJU1JT1FWF03082
	24	2014 DODGE RAM 3500	3C6URVHD2EE130640
	026	07 FORD EDGE	2FMDK36C67BB38418
	030	01 CHRYSLER TOWN & CTRY	2C8GP54L61R400405
	031	2012 DODGE DURANGO	1C4SDHCT2CC204738
101	035	2011 FORD F-250	1FT7W2AT0BEC28572
	036	2011 FORD F-250	1FT7W2AT8BEC66373
	037	06 FORD F-250	1FTSX20P36ED62560
	038	2011 FORD F-250	1FT7X2AT5BEC33702
	040	06 FORD F-250 SUPER DUTY	1FTSX20P66EB67178
	041	2014 DODGE RAM 2500	3C6MR4ALXEG269317
	042	2014 DODGE RAM 3500	3C7WRSCLXEG242950
	043	2015 DODGE RAM 3500	3C7WRSAL4FG570367
	44	2015 DODGE RAM 1500	1c6rr6fm2fs521896
	045	06 FORD F-250 SUPER DUTY	1FTSX20PX6EB88955
	052	99 FORD F-250 SUPER DUTY	1FTNX20F8XED77643
	056	06 FORD F-250 SUPER DUTY	1FTSX20P76ED83489
	061	15 DODGE RAM 5500 P/U	3C7WRMFL7FG511575
	063	02 DODGE RAM 2500 P/U	3B7KC23662M263038
	065	1999 DODGE RAM 2500 LARAM	1B7KC2367XJ511477
	073	04 F150 SUPERCAB	1FTPX12594NC08525
	077	2013 FORD F-150	1FTFW1CT0DFC39720
	078	2013 FORD F-150	1FTFW1CT3DFC47441
	79	2015 DODGE RAM 1500	1C6RR6FM3FS535287
	80	2015 DODGE RAM 1500	1C6RR6FM1FS535286
	87	2016 DODGE RAM 1500 QUAD	1C6RR6FM0GS243503
	88	2016 DODGE RAM 1500 CREW	1C6RR6KM0GS298135
	091	08 DODGE LARAMIE	1D7HA182X8S583999
	094	08 DODGE RAM 1500	1D7HA18258S524987

Equipment List

101	Equip #	Description	Serial #
	095	2014 DODGE RAM 1500	3C6JR6DM5EG269972
	099	2012 DODGE RAM 1500	1C6RD7FP9CS342359
	103	06 FORD F-350 SUPER DUTY	1FDWW36P26EB93595
	105	04 USED FORD F-350 SUPER	XLFTSW30P74EC19262
	109	05 FORD F250 SUPER DUTY	1FTSX20P95EB86239
	130	2016 ISUZU TRUCK	JALB4W172G7F00109
	112	06 FORD F350 SUPER DUTY	1FDWW36P86EC25806
	177	2015 DODGE RAM 2500	1C6UR4CL6FG509655
	178	2015 DODGE RAM 1500	1C6RR6FMXFS535285
	179	14 DODGE RAM 3500	3C7WRSBL2EG138227
	181	14 DODGE RAM 3500 FLATBED	3C7WRSCLXEG120816
	182	2014 DODGE RAM	3C7WRSAL9EG182811
	183	2014 DODGE RAM 2500	3C6UR4CL3EG146472
	184	2013 DODGE RAM 2500 CREW	3C6UR4HL2DG578705
	185	2013 RAM 2500 TRUCK	3C6UR4HL5DG520202
	186	2011 DODGE 4500 CREW	3D6WU6CLXBG580440
	188	2011 DODGE RAM 3500	3D73M3CLXBG512555
	189	2011 DODGE RAM 3500	3D73M3CL1BG512556
	190	07 DODGE MEGA 3500 TRUCK	3D7ML39C47G701062
	191	07 DODGE 3500 MEGA CAB TK	3D7ML39L07G701060
	192	07 DODGE 3500 MEGA CAB TK	3D7ML39L57G701054
	195	05 F450 FLAT BED	1FDXF46P45EC89110
	197	2015 DODGE 1500 LONGHORN	1C6RR7PT7FS529505
	198	2011 FORD F-550	1FDUF5GT2BEA65432
	199	1999 FORD F-550	1FDAF56F0XEC43330
	SE107	1999 FORD F350 CREW CAB	1FTSW30F8XEE69556
	PV-001	2014 DODGE RAM 4500	3C7WRLEL7EG209021
	PV-002	2011 DODGE 2500 P/U TRUCK	3D7UT2HL3BG584367
	PV-003	2013 FORD F-350	1FT8W3BT6DEB12207
104			
	T24	06 MACK DUMP TRUCK CV713	1M2AG11C06M040414

Equipment List

104	Equip #	Description	Serial #
	T25	06 MACK DUMP TRUCK CV713	1M2AG11C26M040284
	T26	05 MACK DUMP TRUCK CV713	1M2AG11C55M020870
	T27	05 MACK DUMP TRUCK CV713	1M2AG11C25M022351
	T28	04 MACK DUMP TRUCK CV713	1M2AG11CX4MO12181
	T29	05 MACK DUMP TRUCK CV713	1M2AG11C15MO17318
	T30	05 MACK DUMP TRUCK CV713	1M2AG11C75MO35659
	T31	04 MACK DUMP TRUCK CV713	1M2AG11C84M013068
	T32	07 MACK DUMP TRUCK CV713	1M2AG11C17M055683
	T33	06 MACK DUMP TRUCK CV713	1M2AG11C76M030768
	T34	06 MACK DUMP TRUCK CV713	1M2AG11C96M033476
	T35	06 MACK DUMP TRUCK CV713	1M2AG11C56M042188
	T36	02 USED MACK DMP TK CV713	1M2AG10C02M001544
	T38	03 MACK DUMP TRUCK CV713	1M2AG11C93M006421
	T39	04 MACK DUMP TRUCK CV713	1M2AG11C74M010470
	T40	00 MACK DUMP TRUCK RD690S	1M2P264C0YM029398
	T41	02 MACK DUMP TRUCK CV713	1M2AG11C42M001237
	T42	02 MACK DUMP TRUCK CV713	1M2AG11C62M001238
	T43	01 MACK DUMP TRUCK RD688S	1M2P270CX1M056061
	T47	99 MACK RD 690S	1M2P264C2XM027327
	T48	99 MACK RD 690S	1M2P264C4XM027328
	T49	99 MACK RD 690S	1M2P264C6XM027329
	T50	02 USED MACK DUMP TRUCK	1M2P267C12M064695
	T51	02 USED MACK DUMP TRUCK	1M2P267C42M064660
	T52	02 USED MACK DUMP TRUCK	1M2P267C22M064656
	T53	02 MACK DUMP TRUCK RD688S	1M2P267C02M064655
	T87	99 MACK TRACTOR CH613	1M1AA12Y6XW113596
	T88	00 MACK TRACTOR CH613	1M1AA12Y9YW119877
	T89	98 MACK TRCTOR CH613	1M1AA12Y4WW090138
	T90	00 MACK TRACTOR CH613	1M1AA12Y6YW121974
	T91	00 MACK TRUCK CH613	1M1AA13Y4YW119834
	T92	1999 MACK TRACTOR CH613	1M1AA13YOXW105413

Equipment List

104	Equip #	Description	Serial #
	T93	1999 MACK TRACTOR CH613	1M1AA14Y2XW109090
	T94	07 MACK TRACTOR CHN613	IM1AJ07Y97N011329
	T95	03 MACK TRACTOR CX613	1M1AE06Y73W013803
	T96	05 PETERBILT 335 TRACTOR	2XPLAZ7X75M884528
106			
	D23	2013 FORD/2000 ETNYRE DIST	3FRXF7FJ2DV790990
	D24	2003 STERLING M7500 TRUCK	2FZACGAK93AL66443
	D25	09 FORD/09 ETNYRE DIST	3FRXF75D09V134273
	D26	01 ETNYRE ASPHALT DIST	2FZAASAK11AJ18483
	D27	06 ETNYRE CENTENNIAL DIST	2FZAASDC06AW73579
107			
	193	2008 INT'L MECH TK	1HTMMAAL48H636411
	194	06 FORD F650	3FRNF65036V339872
	S21	08 FORD F-750	EFRXF75D48V062041
	S23	14 FORD F-750	3FRNW7FC8DV019670
	S24	06 FORD F-650	3FRWW65CX6V356795
	S25	2000 FORD F650	3FDWW6542YMA06426
	S26	2000 FORD F650	3FDWW6544YMA06444
	S27	01 STERLING M7500	2FZAAJAK21AG92250
110	TL95	06 EAST DUMP TRL	1E1D1P3886RD39589
111			
	LBT08	08 TRAILBOSS LOWBOY	4SODK483581002847
	LBT09	07 TRAILBOSS LOWBOY	4SODK533571002679
	LBT10	TRAL KING TRAILER	1TKJ049353M122853
	SEC05	1971 FONTAINE TRAILER	13840
	TL94	1974 FLATBED TRAILER	46797
112			
	TL-76	ASPHALT STORAGE TANKER	
	TL77	06 ETNYRE ALUM TANKER	1E9T532316E007204
	TL78	1986 ETNYRE LOWER TANKER	1E9T44200GE007095
	TL-79	ASPHALT TANKER	

Equipment List

113	Equip #	Description	Serial #
	SE111	1966 FRU TANK TRLR	228010
	GTL01	69 STRIGHT EDGE TRAILER	9L9250
	GTL02	02 ALL PRO TRAILER	1A920029123B15732
	GTL03	02 ALL PRO TRAILER	1A920029123B17944
	GTL04	1978 GENERAL TRAILER	8AP78218
	GTL06	05 CALT TRAILER (HORSE)	4GAHC122651001533
	GTL07	06 MALLARD RV	1EF1C302766011711
	GTL08	06 ADVANCED TRAILER	1A9BU15246D736040
	GTL10	08 STRAIGHTEDGE TRL	10022008
	GTL11	06 HOMEMADE TRL	NOVIN0200504683
	GTL12	1977 HOMEMADE TRAILER	NOVIN0200097340
	GTL13	04 HOMEMADE TRAILER 16'	NOVIN0200425862
	GTL14	15 HOMEMADE TRAILER 15'	NOVIN0201096740
	GTL15	05 FLATBED EQUIP TRAILER	5MTPF16235A000023
	GTL16	05 MILLENUIM TRAILER	5MTGD28244A000782
	GTL17	05 CARRY-ON TRAILER	4YMUL10155G025494
	GTL18	06 MILLENNIUM TRL	5MTGD630275A000343
	GTL19	1983 HOMEMADE TRAILER	NOVIN0200097301
	GTL21	05 GOOSENECK TRAILER	16GS628235B079440
	GTL22	05 WINCO 12' BOBCAT TRLR	154BC12256T009147
	GTL23	07 KAUFMAN TRAILER	15XFD18267L002492
	GTL24	07 KAUFMAN TRAILER	15XFD182X7L002494
	GTL25	07 KAUFMAN TRAILER	15XFD18287L002493
	GTL26	1990 HOOPER 16' TRAILER	HICO 0000000001087
	GTL27	2015 GOOSENECK TRAILER	16GS63621FB069337
	GTL28	08 TANDEM AXLE TRAILER	1S907X1618M982723
	GTL30	07 MILLENNIUM TRAILER	5MTPT18247A000027
	GTL31	08 BIG TEX TRAILER	16VEX182182395050
	GTL32	09 ENCLOSED CONTRTR TRL	4YMCL16259G000953
	GTL33	09 KAUFMAN TRAILER	5VGFA202X9L002064
	GTL35	2012 KAUFMAN D TILT DEL	5VGFD2221CL002501

Equipment List

113	Equip #	Description	Serial #
	GTL36	2012 KAUFMAN D TILT DEL	5VGFD2223CL002502
	GTL37	2010 HMDE TRAILER	NOVIN0200861842
	GTL38	GOOSENECK DUMP TRAILER	154FD20206T011282
	GTL39	TILT DEC EQUIP TRAILER	5FTUH1211Y1014457
	GTL94	1995 CUSTOM FLATBED TRLR	1YB321530S1B1T261
	SEC74	1974 GENERAL FLATBED TRLR	6D74182(GTL03)
200	203	00 STERLING G&K 2500 WATER TRK	2FWWHECB6YAF39660
	204	00 STERLING 2500 WATER TRK	2FXHRFAC4YAF15397
300			
	300	06 CAT CB434D VIB ROLLER	CATCB434KCCNH00544
	301	05 DYNAPACD CC142 ROLLER	60213112
	303	05 CAT DBL DRUM ROLLER CB224E	CATCB224P22400732
	304	09 CAT CB34 TANDEM VIB ROLLER	CATOCB34J34500272
	305	05 CAT DBL DRUM ROLLER CB224E	CATCB224P22400733
	306	06 CAT CB334E ASPHALT RLR	CATCB334HC3A00229
	307	06 CAT CB334E ASPHALT RLR	CATCB334AC3A00230
	308	06 CAT CB334E TANDEM RLLR	CATCB334TC3A00283
	309	08 CAT CB24 TANDEM VIB RLLR	CAT0CB24H24000118
	310	INGERSOLL RAND SD100 RLR	174315
	311	ING RAND DBL DRUM ROLLER DD70	172705
	312	2007 CAT CB434D TANDEM RO	CATCB434KCNH00690
	313	2007 CAT CB434D TANDEM RL	CATCB434CCNH00658
	314	2011 VOLVO SD100D ROLLER	226122
	315	2007 CAT CB224E TANDEM VIB RLLR	CATCB224K22402837
	316	2005 CAT CB224E TANDEM VIB RLLR	CATCB224A22400639
	317	2000 CAT CB224E TANDEM VIB RLLR	CATCB224K22401002
	319	86 DYNAPAC MDL CC 21 RLR	476084
	325	05 DYNAPAC CP142 ROLLER	2163BR2100
	326	07 DYNAPAC ROLLER CP142	2163BR2219
	327	1996 DYNAPAC WHEEL ROLLER CP132	726B036

Equipment List

300	Equip #	Description	Serial #
	328	2014 DYNAPAC ROLLER CP142	10000500JOB003182
	349	1987 INGRAM 3 WHL ROLLER T12	578494-EB14
	350	1987 INGRAM 3 WHL ROLLER T12	578502-EB14
	351	03 INGRAM 3 WHEEL ROLLER AS314	901054
	364	BOMAG BW120 ROLLER	101170511714
	369	2011 DYNAPAC ROLLER CC524	JOA006219
400			
	448	07 KUBOTA TRACTOR MX5000DT	56955
	448B	BUSH HOG 6"	12-07967
	449	06 KUBOTA TRACTOR B2630HSDF	51165
	449A	06 48"" SQUEALER MOWER	1219970
	451	04 KUBOTA TRACTOR M4900	53550
	451A	BUSH HOG MOWER 286	12-19380
	452	09 KUBOTA 4WD TRACTOR M954DDTC	59318
	452A	BUSH HOG 3210	12-23642
	457	96 BROCE RC-300 BROOM	87681
	458	98 WALDON SWEEPMASTER 250	25580
	459	99 BROCE RC350-52 BROOM	89055
	460	04 LEEBOY R848 BROOM	481041153
	461	07 LEEBOY BROOM RB48	42289
	462	08 LEEBOY BROOM RB48	51906
	463	02 BROCE RJ350 BROOM	402315
	464	12 BROCE CTR350 BROOM	407501
	465	2011 BLAW KNOX CB-90 BROOM	72882
	501	05 BOBCAT SKID STEER LDR S220	526212716
	502	05 BOBCAT SKID STEER LDR A205	528411458
	503	05 S220 BOBCAT SKID STEER	526214465
	503A	08 HI FLOW PLANER	231711716
	504	99 CAT 225B EXCAVATOR	2ZD01605
	505	USED BOBCAT LOADER S160	526716925
	505A	USED MOUNTED BREAKER	000961

Weekley Asphalt Paving, Inc.

Equipment List

500	Equip #	Description	Serial #
	506	06 BOBCAT SKID STEER LDR T300	532012235
	506A	PALLET FORKS FOR 506	
	506B	24"" AUGER FOR 506	
	507	07 BOBCAT LOADER T300	532016305
	507A	BOBCAT ROOT GRAPPLE	B00212
	507B	BOBCAT BRUSHCAT CUTTER	B00212
	507C	BOBCAT AUGER	506010
	508	99 JOHN DEER BACKHOE 410E	T0410EX838147
	509	07 BOBCAT LOADER W/BUCKET T300	532015797
	511	00 LINKBELT EXCAV 2800QEX	E6I89281
	515	2003 BOBCAT EXCAVATOR 442A	522311589
	516	99 KOMATSU WA-250-3 LDR	53335
	516A	WA200 LOADER RAKE 105""	0506-190195-1
	517	02 KOMATSU BACKHOE LOADER WB140-2	F11633
	517A	TRAMAC 140 HAMMER	139991
	518	08 CAT TERRAIN LOADER 277C	CAT0277CCJWF00649
	519	2009 CAT 299C LOADER	CAT0299CPJSP00553
	520	2014 GRADALL EXCAVATOR XL3300 III	3300000751/8065-6007
	522	03 KOMATSU WA 250-5 LOADR	A73038
	523	03 KOMATSU WB140-2N COMBO	A20189
	524	03 KOMATSU EXCAVATOR PL 3 PC-300LC-7	A85015
	525A	BOBCAT TILLER 68'	054700894
	526	2014 VOLVO EXCAVATOR ECR235DL	0381
	527	2013 KOMATSU WHEEL LOADER WA380-7	A64350
	528	04 KOMATSU WA-380-5 LOADR	A52348
	529	05 KOMATSU BACKHOE LOADER WB140-2	KMTWB001L36A21244
	530	13 VOLVO WHEEL EXCAVATOR EQ180D	220212
	535	11 CATERPILLAR BACKHOE LOADR 420E	CAT0420ETDAN01303
	537	03 KOMASTSU BACKHOE LOADR WB140-2	A20087
	538	04 CATERPILLAR BACKHOE LOADR 420D	CAT0420DVFDP20732
	539	09 KOMATSU BACKHOE LDR WB146	KMTWB016K36A24213

Equipment List

500	Equip #	Description	Serial #
	540	KOMATSU WHEEL LOADERS WA250-5L	KMTWA055J57A74354
	540A	FORKS ATTACHED TO 540	
	541	KOMATSU WHEEL LDR WA250-5	KMTWA055C57A74355
	542	KOMATSU WA250-5L LOADER	KMTWA055L57A73906
	544	2005 KOMATSU WA250 WHLR L	KMTWA055K57A73476
	545	05 CAT 938G WHEEL LOADER	CAT0938GCRTB01672
	546	05 CAT 938G WHEEL LOADER	CAT0938GPCRD01426
	548	2013 BOBCAT SKID STEER LD S630	A3NT17075
	548A	BOBCAT SWEEPER	A9T600369
	548B	2015 BOBCAT 18" PLANER HIGH FLOW	M7018
	549	2013 BOBCAT S630 SKID STE	A3NT16510
	549A	BOBCAT SWEEPER	714429721
	550	2011 BOBCAT SKID LOADER S650	A3NV11560
	550B	2013 CAT SWEEPER BROOM	EQ0028605
	551	2011 BOBCAT SKID LOADER S650	A3NV13049
	551A	72' SWEEPER	6707837
	551B	2010 BC HIFLOW MELROE PLA	231713323
	552	2011 KUBOTA LDR SVL90C	10267
	552A	MOWER DECK	
	553	JCB SKID STEER LOADER 320T	GEO320TVAB1747102
	554	2012 BOBCAT S650 SKID STEER LDR	A3NV15850
	555	2016 KUBOTA TRACK SKID STEER LD	30810
	559A	88 CLEARING RAKE - 950	
	563	88 CAT WHEEL LOADER 966C	76J5660
	571	07 JOHN DEERE 310J BACKHOE LOADER	T0310JX158444
	572	07 JOHN DEERE 310J BACKHOE LOADER	T0310JX138847
	594	1978 950 CAT LOADER	43J10338
	SEC19	79 SKID STEER LOADER RAKE	
	SE103	98 JOHN DEERE 244H LDR	T6244HX000078
600			
	672	USED KOMATSU D-61P DOZER	B1926

Equipment List

600	Equip #	Description	Serial #
	673	01 KOMATSU D41P-6 DOZER	B21604
	675	04 KOMATSU D-41P DOZER	B21359
	676	2013 CAT TRACTOR P5K2LGP	KYY00157
	SE108	99 KOMATSU D31P-20 DOZER	48766
700			
	770	04 HUBER MAINTAINER M850C	M850C02UEM1041
	776	HENRY DICK ROAD WIDENER HDBT-4	
	780	02 CATERPILLAR GRADER 12H	4XM02508
	781	CATERPILLAR 12G GRADER	61M12336
	783	96 REX SOIL STABILIZER HDS	HK427
	784	2011 TEREX RECLAIMER/STAB RS350	560216
800			
	830	94 MIDLAND ROAD WIDENER WA	234
	831	07 CAT AP800D ASP PAVER	A5P00206
	835	CAT ASPHALT PAVER AP800D	CATAP800EA5P00212
	836	09 CAT ASPHALT PAVER AP1000D	EAD00332
	839	05 CAT PAVER AP1000B	CATAP100JAGP00200
	840	14 CAT PAVER AP1000E	T1F00260
	841	14 CAT PAVER AP600D	TFZ00332
900			
	936	90 CORE DRILL/HMD TRL	
	947	90 ASPHALT HEATER	
	951	89 1 1/2 YD CONCRETE BKT	
	954	90 CLAMSHELL BUCKET 1 C.Y	
	957	08 ROLLING STRAIGHTEGE	
	971	89 LISTER GENERATOR	39524TS2E25004
	971A	24"" DW BASETANK	123940
	981	04 CASE 588G FORKLIFT	JG0291482
	982	07 TOYOTA FORKLIFT 8FGCU25 4500LB	14004
	1000	93 360000 BTU PRTBL PATCH	12049
	1001	99 VOLVO FORKS	C397-F420

Equipment List

900	Equip #	Description	Serial #
	1002	08 DIXIE CHOPPER	8078660
	1003	KUBOTA ZERO TURN MOWER W/60" DECK	12233
	1005	AIR COMPRESSOR MODEL 210	19544A
	1007	03 POLARIS 4X4	4XARD50A32D151645
	1010	07 BAD BOY BUGGY	BBE514B3875004069
	1011	2010 POLARIS	4XAWH76A1A2160252
	1013	TILLER	LPQRTA3576
	1021	MAGNUM LIGHT TOWER	S/N 030658
	1022	WACKER LIGHT PLANT	S/N 5257650
	1025	TRL MOUNTED PRESSURE CLNR	
	MH01	04WESTFIELD MOBILE HOME	GAFL307A51509WW31
	WAP76	ASPHALT CURBER	521
	WAP85	PRO MAC WALK BEHIND SAW	11016511
	WAP86	05 TARGET WALK BEHIND SAW	000000429260
	BR001	STORAGE TRAILER - 20'	OCS-230
	BR027	LINK BELT PILE HAMMER 520	520835

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Francys Tolon
Commercial Lines - (305) 443-4886 USI Insurance Services LLC 2601 South Bayshore Drive, Suite 1600 Coconut Grove, FL 33133	PHONE (A/C, No, Ext): 786.785.1126 FAX (A/C, No): 7862649232 E-MAIL ADDRESS: francys.tolon@usi.com

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Weekley Asphalt Paving, Inc. 20701 Stirling Road Pembroke Pines FL 33332	INSURER A: Old Republic Insurance Company	24147
	INSURER B: Certain Underwriters at Lloyds of London	
	INSURER C: AGCS Marine Insurance Company	22837
	INSURER D: Axis Surplus Insurance Company	26620
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 15581642 **REVISION NUMBER:** See below

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER POLICY [X] PRO-JECT [ ] LOC OTHER:	X		MWZY 312426 22	3/1/2022	3/1/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 500,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			MWTB 312425 22	3/1/2022	3/1/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	UMBRELLA LIAB [ ] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $			SCX1011422	3/1/2022	3/1/2023	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: Y If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	MWC 312427 22	3/1/2022	3/1/2023	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	Leased & Rented Equipment			MXI93071287	3/1/2022	3/1/2023	L&R Equipment $200,000 Deductible $5,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Bid No. 12666-623 - Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

City of Fort Lauderdale is listed as an additional insured with respects to the general liability policy. Waiver of subrogation applies in favor of the City of Fort Lauderdale with respects to the workers compensation coverage.

CERTIFICATE HOLDER

City of Fort Lauderdale
100 N Andrews Avenue
Fort Lauderdale, FL 33301

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

The ACORD name and logo are registered marks of ACORD © 1988-2015 ACORD CORPORATION. All rights reserved.

ACORD 25 (2016/03)

Certificate of Insurance (Con't)

OTHER Coverage

INSR LTR	TYPE OF INSURANCE	ADDL INSR	WVD SUBR	POLICY NUMBER	EFFECTIVE DATE (MM/DD/YY)	EXPIRATION DATE (MM/DD/YY)	LIMIT
D	Excess Liability			P00100078246701	3/1/2022	3/1/2023	3,000,000 Each Occurrence 3,000,000 Aggregate

Certificate Of Insurance-Con't

WEEKLEY ASPHALT PAVING, INC.

Item: **BASE BID:BASE BID:Temporary Air and Water Pollution, Soil Erosion, and Siltation Control (C-102-5.**

Attachments

ITB 12665-623 Weekley Asphalt Paving Signed Addendum.pdf

City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

ITB No. 12665-623
TITLE: Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

ISSUED: 8/30/22

This addendum is being issued to make the following change(s):

1. The opening date has been changed to September 1, 2022

All other terms, conditions, and specifications remain unchanged.

James Hemphill
Asst. Manager Procurement and Contracts

Company Name: Weekley Asphalt Paving, Inc.
(please print)

Bidder's Signature: _____
Daniel D. Weekley / President

Date: August 30, 2022

BID NO. 12666-623 SPECIFIC REFERENCES FORM

Bidder shall submit proof of successful completion of a minimum of three (3) airfield construction projects completed within the last ten (10) years in accordance with the requirements of the solicitation specifications/scope of work. Include the owner's name, address, phone number, and current e-mail address.

Note: Do not include proposed team members or parent/subsidiary companies as references in your submittals.

A. PRIME BIDDER'S NAME: Weekley Asphalt Paving, Inc.

CLIENT NO.1 - Name of firm to be contacted: **Broward County**

Address: **1 North University Drive, Plantation, FL 33324**

Contact Person: **Fernando Blanco**

Phone No: **954-359-6260**

Contact E-Mail Address: **fblanco@broward.org**

Project Performance Period: **9/2021**to **1/2022** Dates should be in mm/yy format

Project Name: **HWO Dual Taxilane Access to Taxiway L at North Perry Airport**

Location of Project: **North Perry Airport, Pembroke Pines, FL**

Description of the overall scope:

Construction of a 290 linear foot dual access taxilane and retention drainage swales.

Description of work that was self-performed by Bidder:

Asphalt paving, drainage and grading

CONTRACTOR

WITNESSES:

Tracie Romero

Tracie Romero
Print Name

Kelly Reed

Kelly Reed
Print Name

(CORPORATE SEAL)

WEEKLEY ASPHALT PAVING, INC.,
a Florida corporation.

By: _____

Print Name: Daniel D Weekley

Title: President

ATTEST:

By: _____
Secretary Wayne D Weekley

STATE OF Florida :

COUNTY OF Broward :

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 7 day of March, 2023, by Daniel D Weekley, (NAME OF AUTHORIZED OFFICER) as President (TITLE OF AUTHORIZED OFFICER), for WEEKLEY ASPHALT PAVING, INC., a Florida corporation.

NOTARY PUBLIC STATE OF FLORIDA
KIMBERLY A. CALLEN
Commission # HH 294154
Expires July 27, 2026

Kimberly A. Callen
(Signature of Notary Public - State of Florida)

Kimberly A. Callen
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known X OR Produced Identification _____
Type of Identification Produced: _____

3

SURETY BOND

IN COMPLIANCE WITH AND INCORPORATING THE PROVISIONS OF SECTION 255.05, FLORIDA STATUTES

THIS IS A SURETY BOND given by Weekley Asphalt Paving, Inc. the "Contractor" as principal, referred to in this Bond as "Contractor" and Western Surety Company as "Surety," and they represent by this instrument that they are bound to the CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida ("City"), in the sum of $3,979,833.25 (Three Million, Nine Hundred Seventy-Nine Thousand, Eight Hundred and Thirty-Three Dollars, Twenty-Five Cents) for the payment of which, to be made to the City of Fort Lauderdale, Florida, they jointly and severally, bind themselves and each of their heirs, executors, administrators, successors and assigns.

Owner Name:	CITY OF FORT LAUDERDALE *a municipal corporation of the State of Florida*
Owner Address and Telephone:	City Hall, Public Works Department 100 N. Andrews Avenue Fort Lauderdale, Florida 33301 (954) 828-5772
Bond No.:	30127280 Issued in Duplicate
Contractor Name, Address, Telephone:	Weekley Asphalt Paving, Inc. 20701 Stirling Road Pembroke Pines, FL 33332 (954) 680-8005
Surety Company, Address, Telephone	Western Suerty Company 151 N. Franklin Street Chicago, IL 60606 (312) 822-5000
City Project No./Bid No.:	12708; 12679-623
Name of Project:	Fort Lauderdale Executive Airport Runway 9 Run-up Area Relocation & South End Taxiway Intersection Improvements
Project Location: **Legal Description and Street Address**	Fort Lauderdale Executive Airport Fort Lauderdale, Florida
Description of Work	The work includes, but is not limited to, relocation of the run-up area apron along Taxiway Echo at the end of Runway 9 and installation of blast fence, lighting, sodding, and signage. The project also includes the re-alignment of taxiways Echo and Juliet on the southern end of Runway 9. The taxiways will be extended into perpendicular taxiways by milling and resurfacing Taxiway Echo, striping and sodding, as well as installation of LED edge-lights and guidance signs.

"Contractor" is bound by an instrument in writing dated the 21st day of February, 2023, by which Contractor has contracted with the City of Fort Lauderdale, Florida, to furnish labor, tools, and materials for the Project referenced and described above, together with all work incidental thereto, as fully set out in the plans, specifications and details on file in the Office of the City Engineer of the City.

2

I hereby certify this document to be a true, correct and complete copy of the record filed in my office.
Dated this 23 day of March, 2023 County Administrator.
By: Broward County Deputy Clerk
13b8c439-c04a-4f55-8d4d-f8a51c83c220 Page 1 of 3

Notice required by Section 255.05(6), Florida Statutes: "This bond is given to comply with Section 255.05 Florida Statutes, and any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes."

The condition of the above obligation is such that if the above bound "Contractor," or its successor or assigns shall in good faith and in good, sufficient, substantial and workmanlike manner, perform the work and comply with the conditions of the contract, including payment of penalties, in strict accordance with the terms and provisions stipulated in it and shall indemnify and hold harmless the City against and for payments of any and all damages that may happen to persons or property by reason of excavations, embankments, obstructions and all other work in streets, alleys or places in connection with the work, or arising out of any act, neglect or omission of the "Contractor" or its agents, servants, or employees with relation to the work, and shall indemnify and hold harmless the City against and from all suits and acts of every nature and description arising out of any claims by patentees of any process connected with the work agreed to be performed under the contract, or of any materials used upon the work, and pay all costs accruing if the contract is cancelled and a new contract for finishing the work is let, and all other expenses lawfully chargeable to the "Contractor," then this agreement shall be null and void; otherwise it is to remain in full force and effect, but it is expressly provided, understood and agreed that if the "Contractor" or its subcontractors fail to duly and promptly pay for any labor, material, or other supplies used by "Contractor" or any of its subcontractors in the performance of the work to be done, or the Contractor defaults in its Contract with the City, the "Surety" will promptly pay to all claimants, as defined in Section 255.05(1), Florida Statutes, the same in an amount not exceeding the sum specified in this bond, together with interest at the rate of fifteen percent (15%) per annum, and the Surety hereby stipulates and agrees that no change, extension, reduction, alteration or addition to the terms of the contract or the plans, details and specifications shall in any way affect the obligations of this bond.

Whenever Contractor shall be, and is declared by the City to be in default under the contract, the City may proceed to cancel the contract and award a new contract for finishing the work or order the Surety to promptly remedy the default by obtaining a bid or bids for completing the contract in accordance with the original contract terms and conditions. Upon the determination by the City of the lowest responsible bidder, the Surety shall complete all work and pay the full cost of completion, less previous payments.

This Bond is effective for one (1) year after completion and acceptance of the work, with liability equal to twenty-five percent (25%) of the contract price, and is so conditioned that the "Contractor" will, at its own expense, correct any defective or faulty work or material which appears within one (1) year after completion of the work and final payment, upon notification by the City.

IN WITNESS WHEREOF, the above "Contractor" has signed this Agreement, and the "Surety" has caused this Agreement to be signed in its name by its Attorney-in-Fact, and its corporate seal affixed, this 1st day of March, 2023.

Signed, sealed and delivered in the presence of:

(Witness) Signature

Wayne D. Weekley, Secretary
(Witness) Print Name

(Witness) Signature

Salvatore Cardinale
(Witness) Print Name

CONTRACTOR: Weekley Asphalt Paving, Inc.

(SEAL)

Daniel D. Weekley, President
Print Name and Title

SURETY: Western Surety Company

(SEAL)

Local Agent
Anett Cardinale, Attorney in Fact
FL Licensed Resident Agent
Print Name and Title

SB-2

255.05 Bond Form, Rev. 10/21/05

I hereby certify this document to be a true, correct and complete copy of the record filed in my office.
Dated this 23 day of March, 2023 County Administrator.
By: Broward County Deputy Clerk
13b8c439-c04a-4f55-8d4d-f8a51c83c220 Page 2 of 3

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Anett Cardinale, Radha R Jones, Alexa Diaz, Sandra B Lazogue, Jennifer Bernard, Individually

of Tampa, FL, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 5th day of July, 2022.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 5th day of July, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
March 2, 2026

M. BENT NOTARY PUBLIC SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 1st day of March, 2023.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, If you want to verify bond authenticity.

I hereby certify this document to be a true, correct and complete copy of the record filed in my office.
Dated this 23 day of March, 2023 County Administrator.
By: Broward County Deputy Clerk
13b8c439-c04a-4f55-8d4d-f8a51c83c220 Page 3 of 3

CLIENT NO.2 - Name of firm to be contacted: **City of Pompano Beach**

Address: **1201 NE 5th Ave, Pompano Beach, FL 33060**

Contact Person: **Gary Eagle**

Phone No: **954-786-4061**

Contact E-Mail Address: **gary.eagle@copbfl.com**

Project Performance Period: **6/2021**to **12/2021** Dates should be in mm/yy format

Project Name: **Taxiway Delta Phase II Reconstruction**

Location of Project: **Pompano Beach Airpark, Pompano Beach, FL**

Description of the overall scope:

Reconstruct portions of Taxiway Delta at the Pompano Beach Airpark. Work included the milling and overlay of asphalt pavement, pavement demolition and construction, airfield electrical improvements, pavement markings, drainage improvements and sodding.

Description of work that was self-performed by Bidder:

Reconstruction of taxiway, drainage, grading and paving

CLIENT NO.3 - Name of firm to be contacted: **Boca Raton Airport Authority**

Address: **903 NW 35th Street, Boca Raton, FL 33431**

Contact Person: **Clara Bennett**

Phone No: **561-325-5199**

Contact E-Mail Address: **clara@bocaairport.com**

Project Performance Period: **10/2018**to **11/2018** Dates should be in mm/yy format

Project Name: **2018 Airport Improvements, Schedule D - Rejuvenate and Remark Runway 5-23**

Location of Project: **Boca Raton Airport**

Description of the overall scope:

Improvements consist of asphalt surface treatment, maintenance of traffic and pavement markings of Runway 5-23.

Description of work that was self-performed by Bidder:

Rejuvenate and remark Runway 5-23

QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name: **WEEKLEY ASPHALT PAVING, INC.**

President **Daniel D. Weekley**

Business Address: **20701 Stirling Road Pembroke Pines, FL 33332**

Telephone: **954-680-8005** Fax: **954-680-8671**

E-Mail Address: **danweekley@weekleyasp.com**

What was the last project of this nature which you completed? Include the year, description, and contract value.
Florida Department of Transportation, District 4; T4522 Lyons Rd from Fern Forest Nature Center Entrance to SR-869 (Sawgrass Expressway); 1/2020-4/2022; $10,764,445

The following are named as three corporations and representatives of those corporations for which you have performed work similar to that required by this contract, and which the City may contact as your references (include addresses, telephone numbers and e-mail addresses). Include the project name, year, description, and contract value.

Broward County, Highway and Bridge Maintenance Division, 1600 Blount Road, Pompano Beach, FL 33069; Leah DeRiel, Project Engineer; PH: 305-219-4035; Email: lderiel@miramarfl.gov; Pembroke Road Construction (Dykes Road to Silver Shores Blvd); 3/2018-11/2019; $6,414,261

Florida Department of Transportation, District 4 - CDR Maguire, Inc. as Owner's Representative; Jonathan Guzman, Project Administrator; PH: 786-473-7595; Email: jonathan.guzman@cdrmaguire.com; Lyons Rd from Fern Forest Nature Center Entrance to SR 869 (Sawgrass Expy); 1/2020 - 4/2022; $10,764,445

Town of Davie, 6591 Orange Dr., Davie, FL 33314; Jonathan Vogt, Town Engineer; PH: 954-797-1137 or 954-309-0634; Email: jonathan_vogt@davie-fl.gov; Nova Drive Roadway Improvements; 12/2017-12/2020; $6,443,081

How many years has your organization been in business? **67**

Have you ever failed to complete work awarded to you; if so, where and why?
NO

The name of the qualifying agent for the firm and his position is: **WAYNE D. WEEKLEY, SECRETARY/TREASURER**

Certificate of Competency Number of Qualifying Agent: **78-581**

Effective Date: **08/31/2021** Expiration Date: **08/31/2023**

Licensed in: **BROWARD CO., FLORIDA** Engineering Contractor's License # **General Contractor No. CGC1518050**
(County/State)

Expiration Date:
08/31/2024

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor must have proper licensing and shall provide copy of same with his proposal.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?
   YES

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a) **Maintenance of Traffic**

b) **Airfield Striping**

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?
   SEE ATTACHMENT #1

4. What equipment will you purchase for the proposed work?
   NONE

5. What equipment will you rent for the proposed work?

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
N/A	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Daniel D. Weekley	**President**
Authorized Signature	Title
Daniel D. Weekley	**08/16/2022**
Name (Printed)	Date

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Daniel D. Weekley
Authorized Signature

Daniel D. Weekley, President
Print Name and Title

08/16/2022
Date

CONSTRUCTION BID CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the Department of State, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) **Weekley Asphalt Paving, Inc.**

Address: **20701 Stirling Road**

City: **Pembroke Pines**State: **FL**Zip: **33332**

Telephone No.: **954-680-8005**FAX No.: **954-680-8671**Email: **danweekley@weekleyasp.com**

Check box if your firm qualifies for MBE / SBE / WBE: ☐

If a corporation, state the name of the President, Secretary and Resident Agent. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name.

Daniel D. Weekley	**President**	**Troy L. Weekley**	**Vice President**
Name	**Title**	**Name**	**Title**
Wayne D. Weekley	**Secretary/Treasurer**	**Wayne D. Weekley**	**Resident Agent**
Name	**Title**	**Name**	**Title**

ADDENDUM ACKNOWLEDGEMENT - Bidder acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued
1	**8/16/2022**	**2**	**8/30/2022**	**3**	**09/01/2022**

VARIANCES: If you take exception or have variances to any term, condition, specification, or requirement in this bid you must specify such variance in the space provided below or reference in the space provided below all variances contained on other pages within your bid. Additional pages may be attached if necessary. No variances will be deemed to be part of the bid submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**
N/A

The below signatory affirms that he has or will obtain all required permits and licenses from the appropriate agencies, and that his firm is authorized to do business in the State of Florida. The below signatory agrees to furnish all labor, tools, material, equipment and supplies, and to sustain all the expense incurred in doing the work set forth in strict accordance with the bid plans and contract documents at the unit prices indicated if awarded a contract. The below signatory has not divulged to, discussed, or compared this bid with other bidders, and has not colluded with any other bidder or parties to this bid whatsoever. Furthermore, the undersigned guarantees the truth and accuracy of all statements and answers contained in this bid. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a bid, that in no event shall

the City's liability for bidder's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Daniel D. Weekley Name (printed)	**Daniel D. Weekley** Signature
08/16/2022 Date	**President** Title

Revised 4/28/2020

Solicitation 12666-623

Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

Bid Designation: Public

CITY OF FORT LAUDERDALE

City of Fort Lauderdale

Bid 12666-623
Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

Bid Number	**12666-623**
Bid Title	**Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)**
Bid Start Date	**Jul 11, 2022 7:20:29 AM EDT**
Bid End Date	**Aug 16, 2022 2:00:00 PM EDT**
Question & Answer End Date	**Aug 5, 2022 5:00:00 PM EDT**
Bid Contact	**Maureen Lewis, MBA, CPPB** **Senior Procurement Specialist** **Finance** **954-828-5239** **maureenl@fortlauderdale.gov**
Contract Duration	**One Time Purchase**
Contract Renewal	**Not Applicable**
Prices Good for	**120 days**

Bid Comments

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, for construction services in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

Sealed bids will be received electronically until 2:00 p.m., local time, on TUESDAY, AUGUST 16,âÂÂÂÂÂÂÂÂ 2022, and opened online immediately thereafter in the 5th Floor Conference Room, City Hall, 100 North Andrews Avenue, Fort Lauderdale, Florida 33301, for BID NO., 12666-623, PROJECT NO., 12474, FORT LAUDERDALE EXECUTIVE AIRPORT MIDFIELD RUN-UP EXPANSION.

All openings will be held on the BIDSYNC.COM platform. Once the Procurement Specialist opens the solicitation, the bid tabulations may be viewed immediately on a computer, laptop, cell phone, or any other device with WiFi access.

Anyone requesting assistance or having further inquiry in this matter must contact the Procurement Specialist indicated on the solicitation, via the Question and Answer (Q&A) platform on Bidsync.com before the Last Day for Questions indicated in the Solicitation.

This Project is located at the Fort Lauderdale Executive Airport in the City of Fort Lauderdale. The work includes, but is not limited to, rehabilitation of the existing run-up area apron pad, extension of the run-up area apron pad, grading of stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, construction of jet blast fences and foundation, and application of temporary and permanent pavement marking.

Drawing Plans: This Project consists of Drawing File No., 4-142-90, thirty-six (36) sheets. Drawing plans may be obtained free of charge at BIDSYNC.COM.

Licensing Requirements: Possession of a State of Florida General Contractor license is required for this Project.

NOTE: Payment on this contract will be made by Check.

Pre-Bid Meeting/Site Visit: There will not be a pre-bid meeting or site visit for this Invitation to Bid.

However, it will be the sole responsibility of the bidder to inspect the City's location(s)/facilities and become familiar with the scope of the City's requirements and systems prior to submitting a proposal. No variation in

price or conditions shall be permitted based upon a claim of ignorance. Submission of a proposal will be considered evidence that the proposer has familiarized himself with the nature and extent of the work, equipment, materials, and labor required.

Bid Security : A certified check, cashier's check, bank officer's check or bid bond for FIVE percent (5%) of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each offer.

Bid Bonds:

Bidders can submit bid bonds for projects four different ways.

1) BidSync allows bidders to submit bid bonds electronically directly through their system using Surety 2000. For more information on this feature and to access it, contact BIDSYNC customer care department.

2) Bidders may upload their original executed bid bond on BIDSYNC to accompany their electronic bids and deliver the original, signed and sealed hard copy within five (5) business days after bid opening, with the company name, bid number and title clearly indicated.

3) Bidders can hand deliver their bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.

4) Bidders can mail their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope. NOTE: Bond must be received in Procurement and time stamped before bid opening.

It will be the sole responsibility of the bidder to ensure that his bid is submitted prior to the bid opening date and time listed. PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM

Certified Checks, Cashier's Checks and Bank Drafts :
These CANNOT be submitted via BIDSYNC, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that his bid bond or other bid security is received by the Procurement Services Division before time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Q&A platform provided by BIDSYNC at www.bidsync.com . Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. (See addendum section of BIDSYNC Site). Bidders please note: No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services
For general inquiries, please call (954) 828-5933.

Item Response Form

Item	**12666-623--01-01 - BASE BID: Contractor Quality Control Program (CQCP) (C-100)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)

Item	**12666-623--01-02 - BASE BID: Temporary Air and Water Pollution, Soil Erosion, and Siltation Control (C-102-5.**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

Item	**12666-623--01-03 - BASE BID: Mobilization/Demobilization (C-105-6.1)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
MOBILIZATION - INCLUDE DEMOBILIZATION AND SHALL NOT EXCEED TEN PERCENT (10%) OF TOTAL PROJECT COST PER C-105.

Item	**12666-623--01-04 - BASE BID: Contractor Staging and Storage (C-105-6.2)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
CONTRACTOR STAGING AND STORAGE

Item	**12666-623–01-05 - BASE BID: Full Depth Asphalt Pavement Removal (P-101-5.1)**
Lot Description	**BASE BID**
Quantity	**700 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 700

Description
FULL DEPTH ASPHALT PAVEMENT REMOVAL

Item	**12666-623–01-06 - BASE BID: Cold Milling, 2-Inches (P-101-5.3a)**
Lot Description	**BASE BID**
Quantity	**3000 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 3000

Description
COLD MILLING, 2-INCHES

Item	**12666-623–01-07 - BASE BID: Cold Milling, Variable Depth (P-101-5.3b)**
Lot Description	**BASE BID**
Quantity	**400 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 400

Description
COLD MILLING, VARIABLE DEPTH

Item	**12666-623–01-08 - BASE BID: Remove Existing Asphalt Pavement Milling Piles and Process for Reuse (P-101-5.4)**
Lot Description	**BASE BID**
Quantity	**1000 cubic yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale**

See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 1000

Description
REMOVE EXISTING ASPHALT PAVEMENT MILLING PILES AND PROCESS FOR REUSE

Item	**12666-623--01-09 - BASE BID: Stripping (P-151-2.4)**
Lot Description	**BASE BID**
Quantity	**3 acre**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 3

Description
STRIPPING

Item	**12666-623--01-10 - BASE BID: Unclassified Excavation (P-152-4.1)**
Lot Description	**BASE BID**
Quantity	**10100 cubic yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 10100

Description
UNCLASSIFIED EXCAVATION

Item	**12666-623--01-11 - BASE BID: Placement of Millings for Surface Stabilization (P-152-4.2)**
Lot Description	**BASE BID**
Quantity	**1800 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1800

Description
PLACEMENT OF MILLINGS FOR SURFACE STABILIZATION

Item	**12666-623--01-12 - BASE BID: Subbase Course (6-Inch depth) (P-154-5.1)**
Lot Description	**BASE BID**
Quantity	**5400 square yard**

Unit Price

Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 5400

Description
SUBBASE COURSE (6-INCH DEPTH)

Item **12666-623--01-13 - BASE BID: Lime Rock Base Course (6-Inch depth) (P-211-5.1a)**

Lot Description **BASE BID**

Quantity **5400 square yard**

Unit Price

Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 5400

Description
LIME ROCK BASE COURSE (6-INCH DEPTH)

Item **12666-623--01-14 - BASE BID: Lime Rock Base Course (8-Inch depth) (P-211-5.1b)**

Lot Description **BASE BID**

Quantity **500 square yard**

Unit Price

Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 500

Description
LIME ROCK BASE COURSE (8-INCH DEPTH)

Item **12666-623--01-15 - BASE BID: Asphalt Mix Pavement (P-401-8.1)**

Lot Description **BASE BID**

Quantity **2000 ton**

Unit Price

Delivery Location **City of Fort Lauderdale**
See ITB Specifications
See ITB Specifications
Fort Lauderdale FL 33301
Qty 2000

Description
ASPHALT MIX PAVEMENT

Item **12666-623--01-16 - BASE BID: Portland Cement Concrete Pavement (P-501-8.1)**

Lot Description	**BASE BID**
Quantity	**150 cubic yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 150

Description
PORTLAND CEMENT CONCRETE PAVEMENT

Item	**12666-623--01-17 - BASE BID: Emulsified Asphalt Prime Coat (P-602-5.1)**
Lot Description	**BASE BID**
Quantity	**1100 gallon**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1100

Description
EMULSIFIED ASPHALT PRIME COAT

Item	**12666-623--01-18 - BASE BID: Emulsified Asphalt Tack Coat (P-603-5.1)**
Lot Description	**BASE BID**
Quantity	**500 gallon**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 500

Description
EMULSIFIED ASPHALT TACK COAT

Item	**12666-623--01-19 - BASE BID: Joint Sealing Filler (P-605-5.1)**
Lot Description	**BASE BID**
Quantity	**250 linear foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 250

Description
JOINT SEALING FILLER

Item	**12666-623--01-20 - BASE BID: Surface Preparation of New Pavement Surfaces (P-620-5.1a)**
Lot Description	**BASE BID**
Quantity	**5400 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 5400

Description
SURFACE PREPARATION OF NEW PAVEMENT SURFACES

Item	**12666-623--01-21 - BASE BID: Surface Preparation of Pavement Markings Prior to Remarking (P-620-5.1b)**
Lot Description	**BASE BID**
Quantity	**7700 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 7700

Description
SURFACE PREPARATION OF PAVEMENT MARKINGS PRIOR TO REMARKING

Item	**12666-623--01-22 - BASE BID: Permanent Markings with Type III Beads (P-620-5.2a)**
Lot Description	**BASE BID**
Quantity	**3300 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 3300

Description
PERMANENT MARKINGS WITH TYPE III BEADS

Item	**12666-623--01-23 - BASE BID: Permanent Markings with no Beads (P-620-5.2b)**
Lot Description	**BASE BID**
Quantity	**2100 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications

Fort Lauderdale FL 33301
Qty 2100

Description
PERMANENT MARKINGS WITH NO BEADS

Item	**12666-623–01-24 - BASE BID: Temporary Markings without Beads (P-620-5.4)**
Lot Description	**BASE BID**
Quantity	**1100 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1100

Description
TEMPORARY MARKINGS WITHOUT BEADS

Item	**12666-623–01-25 - BASE BID: Sodding (With 30-day Irrigation Period) (T-904-5.1)**
Lot Description	**BASE BID**
Quantity	**8800 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 8800

Description
SODDING (WITH 30-DAY IRRIGATION PERIOD)

Item	**12666-623–01-26 - BASE BID: Airport Safety and Maintenance of Traffic (S-102-5.1)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
AIRPORT SAFETY AND MAINTENANCE OF TRAFFIC

Item	**12666-623–01-27 - BASE BID: Wildlife Burrow Protection (S-102-5.2)**
Lot Description	**BASE BID**
Quantity	**6 each**
Unit Price	

Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 6

Description
WILDLIFE BURROW PROTECTION

Item	**12666-623--01-28 - BASE BID: Jet Blast Deflector for Taxi/Breakaway Velocities (S-104-1)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
JET BLAST DEFLECTOR FOR TAXI/BREAKAWAY VELOCITIES

Item	**12666-623--01-29 - BASE BID: Foundation of Jet Blast Deflector for Taxi/ Breakaway Velocities (S-104-2)**
Lot Description	**BASE BID**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
FOUNDATION OF JET BLAST DEFLECTOR FOR TAXI/BREAKAWAY VELOCITIES

Item	**12666-623--01-30 - BASE BID: High Performance Turf Reinforcement Mat (S-105-7.1)**
Lot Description	**BASE BID**
Quantity	**300 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 300

Description
HIGH PERFORMANCE TURF REINFORCEMENT MAT

Item	**12666-623--01-31 - BASE BID: High Density Poly Ethylene (HDPE) Mat (S-106-7.1)**
Lot Description	**BASE BID**

Quantity	**300 square yard**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 300

Description
HIGH DENSITY POLY ETHYLENE (HDPE) MAT

Item	**12666-623--02-01 - ALTERNATE: Jet Blast Deflector for High Power Run-ups (S-103-1)**
Lot Description	**ALTERNATE**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
JET BLAST DEFLECTOR FOR HIGH POWER RUN-UPS

Item	**12666-623--02-02 - ALTERNATE: Foundation of Jet Blast Deflector for High Power Run-ups (S-103-2)**
Lot Description	**ALTERNATE**
Quantity	**1 lump sum**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 1

Description
FOUNDATION OF JET BLAST DEFLECTOR FOR HIGH POWER RUN-UPS

Item	**12666-623--02-03 - ALTERNATE: Concrete Spall Repair (P-101-5.2)**
Lot Description	**ALTERNATE**
Quantity	**500 square foot**
Unit Price	
Delivery Location	**City of Fort Lauderdale** See ITB Specifications See ITB Specifications Fort Lauderdale FL 33301 **Qty** 500

Description
CONCRETE SPALL REPAIR

CITY OF FORT LAUDERDALE
CONTRACT AND SPECIFICATIONS PACKAGE

BID NO. 12666-623

PROJECT NO. 12474

FORT LAUDERDALE EXECUTIVE AIRPORT MIDFIELD RUN-UP EXPANSION

FXE FORT LAUDERDALE EXECUTIVE AIRPORT

FDOT FIN Proj. No.: 434629-1-94-01 (Construction)

KHANT K. MYAT, P.E.
PROJECT MANAGER II

MAUREEN LEWIS, MBA, CPPB
SENIOR PROCUREMENT SPECIALIST
Telephone: (954) 828-5239 E-mail: maureenl@fortlauderdale.gov

TABLE OF CONTENTS

Description **Pages**

I. BID INFORMATION

Invitation to Bid 2
Instruction to Bidders 7
General Conditions 10
Special Conditions 6

II. CONSTRUCTION AGREEMENT (SAMPLE) 43

III. SUPPLEMENTAL CONDITIONS 8

IV. CONSTRUCTION SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

011000 Summary 3
012600 Contract Modification Procedures 6
012900 Payment Procedures 4
013100 Project Management and Coordination 9
013200 Construction Progress Documentation 6
013300 Submittal Procedures 4
015900 Construction Sign 2
017700 Closeout Procedures 4
Punch List 1
Punch List Corrective Action Form 2

V. TECHNICAL SPECIFICATIONS

GENERAL PROVISIONS

Section 10 Definition of Terms 9
Section 20 Proposal Requirements and Conditions 4
Section 30 Award and Execution of Contract 2
Section 40 Scope of Work 3
Section 50 Control of Work 8
Section 60 Control of Materials 3
Section 70 Legal Regulations and Responsibility to Public 8
Section 80 Execution and Progress 5
Section 90 Measurement and Payment 7

TABLE OF CONTENTS (continued)

Description **Pages**

TECHNICAL SPECIFICATIONS (continued)

GENERAL CONSTRUCTION

C-100	Contractor Quality Control Program (CQCP)	7
C-102	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	4
C-105	Mobilization	2
C-110	Method of Estimating Percentage of Material Within Specification Limits (PWL)	7
P-101	Preparation/Removal of Existing Pavements	5
P-151	Clearing and Grubbing	3
P-152	Excavation, Subgrade, and Embankment	8
P-211	Lime Rock Base Course	5
P-154	Subbase Course	5
P-401	Asphalt Mix Pavement	20
P-501	Cement Concrete Pavement	31
P-602	Emulsified Asphalt Prime Coat	3
P-603	Emulsified Asphalt Tack Coat	3
P-605	Joint Sealants for Concrete Pavements	3
P-620	Runway and Taxiway Marking	6
T-904	Sodding	4
T-905	Topsoil	3
S-101	Project Survey	4
S-102	Airport Safety and Maintenance of Air Operations Air Traffic Requirements	2
S-103	Jet Blast Barrier/Deflector for High Power Run-Up Velocities	7
S-104	Jet Blast Barrier/Deflector for Taxi/Breakaway Velocities	7
S-105	High Performance Turf Reinforcement Map	5
S-106	High Density Poly Ethylene (HDPE) Map	5

APPENDICES

Appendix A	Construction Safety and Phasing Plan
Appendix B	Safety and Phasing Plan Checklist
Appendix C	Construction Project Daily Safety Inspection Checklist

The following FAA Advisory Circulars are available on-line at the FAA website

A/C No: 150/5200-18C "Airport Safety Self Inspection"
A/C No: 150/5370-2F "Operational Safety on Airports during Construction"

DRAWINGS BOUND SEPARATELY

TABLE OF CONTENTS (continued)

Note: **The following documents are available electronically for completion and must be returned with your bid along with your bid security, proof of insurance, and proof of required licenses/certifications.**

CITB Specific References Form
CITB Questionnaire Sheet
Non-Collusion Statement
Non-Discrimination Certification Form
Construction Bid Certification Page

INVITATION TO BID

Sealed bids will be received electronically until **2:00 p.m.**, local time, on **TUESDAY, AUGUST 16, 2022,** and opened online immediately thereafter in the 5th Floor Conference Room, City Hall, 100 North Andrews Avenue, Fort Lauderdale, Florida 33301, for **BID NO., 12666-623, PROJECT NO., 12474, FORT LAUDERDALE EXECUTIVE AIRPORT MIDFIELD RUN-UP EXPANSION.**

All openings will be held on the BIDSYNC.COM platform. Once the Procurement Specialist opens the solicitation, the bid tabulations may be viewed immediately on a computer, laptop, cell phone, or any other device with WiFi access.

Anyone requesting assistance or having further inquiry in this matter must contact the Procurement Specialist indicated on the solicitation, via the Question and Answer (Q&A) platform on Bidsync.com before the Last Day for Questions indicated in the Solicitation.

This Project is located at the Fort Lauderdale Executive Airport in the City of Fort Lauderdale. The work includes, but is not limited to, rehabilitation of the existing run-up area apron pad, extension of the run-up area apron pad, grading of stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, construction of jet blast fences and foundation, and application of temporary and permanent pavement marking.

Drawing Plans: This Project consists of Drawing File No., 4-142-90, thirty-six **(36)** sheets. Drawing plans may be obtained **free of charge** at BIDSYNC.COM.

Licensing Requirements: Possession of a State of Florida General Contractor license is required for this Project.

NOTE: Payment on this contract will be made by Check.

Pre-Bid Meeting/Site Visit: There will not be a pre-bid meeting or site visit for this Invitation to Bid.

However, it will be the sole responsibility of the bidder to inspect the City's location(s)/facilities and become familiar with the scope of the City's requirements and systems prior to submitting a proposal. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a proposal will be considered evidence that the proposer has familiarized himself with the nature and extent of the work, equipment, materials, and labor required.

Bid Security: A certified check, cashier's check, bank officer's check or bid bond for **FIVE percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each offer.

Bid Bonds:

Bidders can submit bid bonds for projects **four** different ways.

1) BidSync allows bidders to submit bid bonds electronically directly through their system using **Surety 2000**. For more information on this feature and to access it, contact BIDSYNC customer care department.

INVITATION TO BID (continued)

2) Bidders may **upload** their original executed bid bond on BIDSYNC to accompany their electronic bids and deliver the original, signed and sealed hard copy within **five (5)** business days after bid opening, with the company name, bid number and title clearly indicated.

3) Bidders can **hand deliver** their bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.

4) Bidders can **mail** their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope. NOTE: Bond must be received in Procurement and time stamped before bid opening.

It will be the sole responsibility of the bidder to ensure that his bid is submitted prior to the bid opening date and time listed. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM**

Certified Checks, Cashier's Checks and Bank Drafts:
These **CANNOT** be submitted via BIDSYNC, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that his bid bond or other bid security is received by the Procurement Services Division before time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Q&A platform provided by BIDSYNC at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. (See addendum section of BIDSYNC Site). **Bidders please note:** No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services
For general inquiries, please call (954) 828-5933.

INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding bidders in properly preparing their bids or proposals. These directions have equal force and weight with the specifications, and strict compliance is required with all of these provisions.

QUALIFICATIONS OF BIDDERS – No proposal will be accepted from, nor will any contract be awarded to, any person who is in arrears to the City of Fort Lauderdale, upon any debt or contract, or who has defaulted, as surety or otherwise, upon any obligation to the City, or who is deemed irresponsible or unreliable by the City Commission of Fort Lauderdale.

CONCERNING SUB-CONTRACTORS, SUPPLIERS, AND OTHERS - The amount of work that is sublet by the Bidder shall be limited by the condition that the Bidder shall, with his own organization, perform at least forty percent (40%) of the total dollar amount of the Work to be performed under the Agreement.

PERSONAL INVESTIGATION - Bidders shall satisfy themselves by personal investigation, and by such other means as they may think necessary or desirable, as to the conditions affecting the proposed work and the cost. No information derived from maps, plans, specifications, or from the Engineer, City Manager, or their assistants shall relieve the Contractor from any risk or from fulfilling all terms of the contract.

INCONSISTENCIES – Any seeming inconsistency between different provisions of the plans, specifications, proposal or contract, or any point requiring explanation must be inquired by the bidder, in writing, at least ten (10) days prior to the time set for opening proposals. After proposals are opened, the bidders shall abide by the decision of the Engineer as to such interpretation.

ADDENDA AND INTERPRETATIONS - No interpretations of the meaning of the plans, specifications or other contract documents will be made orally to any bidder. Prospective bidders must request such interpretation in writing as instructed in the bid package. To be considered, such request must be received by the Questions and Answers deadline as indicated in BIDSYNC.COM. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. **It is the bidder's responsibility to verify if addenda have been issued in BIDSYNC.COM.** Failure of any bidder to receive any such addenda or interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become a part of the contract document. **Bidder** shall verify **in BIDSYNC.COM** that he has all addenda before submitting a bid.

LEGAL CONDITIONS - Bidders are notified to familiarize themselves with the provisions of the laws of the State of Florida relating to hours of labor on municipal work, and with the provisions of the laws of the State of Florida and the Charter and the ordinances of the City of Fort Lauderdale.

PUBLIC ENTITY CRIMES - A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

INSTRUCTIONS TO BIDDERS (continued)

FORMS OF PROPOSALS - Each proposal and its accompanying statements must be made on the blanks provided. THE FORMS MUST BE SUBMITTED ELECTRONICALLY, IN GOOD ORDER WITH ALL BLANKS COMPLETED, and must show the name of the bidder and a statement as to its contents.

The proposal must be signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the proposal. No proposal will be accepted, for any reason whatsoever, which is not submitted to the City as stated above, within the specified time.

INSURANCE - Contractor shall provide and shall require all of its sub-contractors to provide, pay for, and maintain in force at all times during the term of the Agreement, such insurance, including Property Insurance (Builder's Risk), Commercial General Liability Insurance, Business Automobile Liability Insurance, Workers' Compensation Insurance, Employer's Liability Insurance, and Umbrella/Excess Liability, as stated below. Such policy or policies shall be issued by companies authorized to do business in the State of Florida and having agents upon whom service of process may be made in the State of Florida.

BID BOND - A certified check, cashier's check or bank officer's check made payable to the City of Fort Lauderdale, or a bid bond in favor of the City of Fort Lauderdale shall accompany each bid as evidence of the good faith and responsibility of the bidder. The amount of the check or bond shall be retained by the City as liquidated damages in the event the bidder whose bid is accepted refuses to or fails to enter into a contract for the execution of the work solicited in this Invitation to Bid.

The bid bond or check shall be a guarantee that the successful bidder will promptly execute a contract satisfactory to the City for the work solicited in this Invitation to Bid and furnish good and sufficient bonds.

Following the full execution of a contract for the work solicited in this Invitation to Bid and the successful bidder's provision of good and sufficient bonds, in the event bid security was provided by check, the amount of the bid security accompanying the successful bidder's bid will be refunded to the successful bidder, or in the event bid security was provided by a bond, the bond accompanying the successful bidder's bid will be returned to the successful bidder. In the event the successful bidder fails to enter into, execute, and deliver a contract and furnish the required bonds within ten (10) days after the City provides notice to the successful bidder to deliver the executed contract and the required bonds, the bid bond shall immediately be payable to the City of Fort Lauderdale, or in the case of a check, the City shall retain the amount of the check, as liquidated damages. The City's retention of such amount shall not be construed as a penalty or forfeiture.

FILLING IN BIDS - All prices must be electronically submitted in the proposal pages, and all proposals must fully cover all items for which proposals are asked and no other. Where more than one person is interested, it is required that all persons interested or their legal representative make all verification and subscribe to the proposal.

PRICES QUOTED: Deduct any discount offered and quote firm net unit prices. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.

INSTRUCTIONS TO BIDDERS (continued)

BIDS FIRM FOR ACCEPTANCE: Bidder warrants, by virtue of bidding, that his bid and the prices quoted in his bid will be firm for acceptance by the City for a period of one hundred and twenty (120) days from the date of bid opening unless otherwise stated in the ITB. The City shall award contract within this time period or shall request to the recommended awarded vendor an extension to hold pricing, until products/services have been awarded.

ADDITIONAL ITEMS OR SERVICES: The City may require additional items or services of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items or services, and shall provide the City prices on such additional items or services. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

DELETION OR MODIFICATION OF SERVICES: The City reserves the right to delete any portion of the Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor will submit a revised budget to the City for approval prior to proceeding with the work.

CANCELLATION FOR UNAPPROPRIATED FUNDS: The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

CAUSES FOR REJECTION - No proposal will be canvassed, considered or accepted which, in the opinion of the City Commission, is informal or unbalanced, or contains inadequate or unreasonable prices for any items; each item must carry its own proportion of the cost as nearly as is practicable. Any alteration, erasure, interlineation, or failure to specify bids for all items called for in the schedule shall render the proposal informal.

REJECTION OF BIDS - The City reserves the right to reject any bid if the evidence submitted by the bidder, or if the investigation of such bidder, fails to satisfy the City that such bidder is properly qualified to carry out the obligations and to complete the work contemplated. Any or all proposals will be rejected, if there is reason to believe that collusion exists among bidders. A proposal will be considered irregular and may be rejected, if it shows serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all proposals and to waive such technical errors as may be deemed best for the interests of the City.

BID PROTEST PROCEDURE: Any proposer or bidder who is not recommended for award of a contract and who alleges a failure by the City to follow the City's procurement ordinance or any applicable law may protest to the Procurement Division – Deputy Director of Finance, by delivering a letter of protest within five (5) days after a Notice of Intent to award is posted on the City's website at the following link: https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services/notices-of-intent-to-award

INSTRUCTIONS TO BIDDERS (continued)

The complete protest ordinance may be found on the City's website at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPRAWINAW

WITHDRAWALS - Any bidder may, without prejudice to himself, withdraw his proposal at any time prior to the expiration of the time during which proposals may be submitted. Such request for withdrawal must be in writing and signed in the same manner and by the same person who signed the proposal. After expiration of the period for receiving proposals, no proposal can be withdrawn, modified, or explained.

CONTRACT - The bidder to whom award is made shall execute a written contract to do the work and maintain the same in good repair until final acceptance by the proper authorities, and shall furnish good and sufficient bonds as specified within ten (10) days after receiving such contract for execution. If the bidder to whom the first award is made fails to enter into a contract as provided, the award may be annulled and the contract let to the next lowest bidder who is reliable, responsible, and responsive in the opinion of the City Commission, and that bidder shall fulfill every stipulation and obligation as if such bidder were the original party to whom award was made.

The contract shall provide that the Contractor agrees to correct any defective or faulty work or material, which may appear within one (1) year after completion of the work and receipt of final payment.

ENFORCEMENT OF SPECIFICATIONS - Copies of the specifications will be placed in the hands of all the assistants to the Engineer and Inspectors employed on the Work, who shall enforce each and every requirement of the contract. Such assistants shall have no authority to vary from such requirements.

DRAWING PLANS - Drawing plans may be obtained **free of charge** at BIDSYNC.COM.

SURETY BOND – The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2021), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

The successful bidder shall furnish a performance and payment bond in compliance with Section 255.05, Florida Statutes (2021), written by a Corporate Surety company, holding a Certificate of Authority from the Secretary of the Treasury of the United States as acceptable sureties on federal bonds, in an amount equal to the total amount payable by the terms of the contract, executed and issued by a Resident Agent licensed by and having an office in the State of Florida, representing such Corporate Surety, conditioned for the due and faithful performance of the work, and providing in addition to all other conditions, that if the Contractor, or his or its subcontractors, fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor, or his or its subcontractor or subcontractors, in performance of the work contracted to be done, the Surety will pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the rate of fifteen percent (15%) per annum, and that they shall indemnify and hold harmless the City of Fort Lauderdale to the extent of any and all payments in connection with carrying out of the contract, which the City may be required to make under the law.

The Contractor is required at all times to have a valid surety bond in force covering the work being performed. A failure to have such bond in force at any time shall constitute a default on the part of the Contractor. A bond written by a surety, which becomes disqualified to do business in the State of Florida, shall automatically constitute a failure on the part of the Contractor to meet the above requirements.

INSTRUCTIONS TO BIDDERS (continued)

Such bond shall continue in effect for one (1) year after completion and acceptance of the work with liability equal to at least twenty-five percent (25%) of contract price, or an additional bond shall be conditioned that the Contractor will correct any defective or faulty work or material which appear within one (1) year after completion of the contract, upon notification by the City, except in contracts which are concerned solely with demolition work, in which cases twenty-five percent (25%) liability will not be applicable.

AUDIT OF CONTRACTOR'S RECORDS - Upon execution of the Contract, the City reserves the right to conduct any necessary audit of the Contractor's records. Such an audit, or audits, may be conducted by the City or its representatives at any time prior to final payment, or thereafter, for a period up to three (3) years. The City may also require submittal of the records from either the Contractor, the Subcontractor, or both. For the purpose of this Section, records shall include all books of account, supporting documents and papers deemed necessary by the City to assure compliance with the contract provisions.

Failure of the Contractor or Subcontractor to comply with these requirements may result in disqualification or suspension from bidding for future contracts or disapproval as a Subcontractor at the option of the City.

The Contractor shall assure that each of its Subcontractors will provide access to its records pertaining to the project upon request by the City.

PERIODIC ESTIMATE FOR PARTIAL PAYMENT - After the Contractor has submitted a periodic estimate for partial payment, approved and certified by the Public Works Department, the City shall make payment in the manner provided in the Contract Documents and in accordance with Florida's Prompt Payment Act, Section 218, Florida Statutes.

RESERVATION FOR AWARD AND REJECTION OF BIDS - The City reserves the right to accept or reject any or all bids, part of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

LOCAL BUSINESS PREFERENCE - Section 2-186, Code of Ordinances of the City of Fort Lauderdale, provides for a local business preference. In order to be considered for a local business preference, a proposer must include the Local Business Preference Certification Statement of this ITB, as applicable to the local business preference class claimed at the time of Proposal submittal.

Upon formal request of the City, based on the application of a Local Business Preference, the Proposer shall, within ten (10) calendar days, submit the following documentation to the Local Business Preference Class claimed:

INSTRUCTIONS TO BIDDERS (continued)

a. Copy of City of Fort Lauderdale current year business tax receipt, or Broward County current year business tax receipt, and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of proposal submittal shall result in the Proposer being found ineligible for the local business preference.

Definitions:

a. The term "Class A business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, and shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

b. The term "Class B business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, or shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

c. The term "Class C business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of Broward County.

c. The term "Class D business" shall mean any business that does not qualify as a Class A, Class B, or Class C business.

The complete local business preference ordinance may be found on the City's web site at the following link:
https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-186LOBUPR

DISADVANTAGED BUSINESS ENTERPRISE PREFERENCE - Section 2-185, Code of Ordinances of the City of Fort Lauderdale, provides for a disadvantaged business preference. In order to be considered for a disadvantaged business preference, a proposer must include a certification from a government agency, as applicable to the disadvantaged business preference class claimed at the time of Proposal submittal.

Upon formal request of the City, based on the application of a Disadvantaged Business Preference the Proposer shall within ten (10) calendar days submit the following documentation to the Disadvantaged Business Enterprise Preference Class claimed:

a. Copy of City of Fort Lauderdale current year business tax receipt, or the Tri-County (Broward, Dade, West Palm Beach) current year business tax receipt, or proof of active Sunbiz status and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or the Tri-County, as the case may be, such as current Florida driver license, residential utility

INSTRUCTIONS TO BIDDERS (continued)

bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of proposal submittal shall result in the Proposer being found ineligible for the Disadvantaged Business Enterprise Preference business preference.

The complete Disadvantaged Business Preference ordinance may be found on the City's website at the following link: https://www.fortlauderdale.gov/home/showpublisheddocument?id=56883

DEBARRED OR SUSPENDED BIDDERS OR PROPOSERS - The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

LOBBYING ACTIVITIES - **ALL CONTRACTORS PLEASE NOTE**: Any contractor submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-11-42 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No., C-11-42, and Resolution No. 07-101, may be obtained from the City Clerk's Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301. The Ordinance may also be viewed on the City's website at https://www.fortlauderdale.gov/home/showdocument?id=6036.

GENERAL CONDITIONS

Unless otherwise modified in the Project's Special Conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a bid for the Work.

"Bonds" –shall mean bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

"City" – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City's authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

"Contractor" – shall mean the successful Bidder who has been employed by the City to perform the construction and related services for the project.

"Contract Work" - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof. In the case of any inconsistency in or between any parts of this Contract, the Project Manager shall determine which shall prevail.

"Design Documents" – shall mean the construction plans and specifications included as part of a Bid/Proposal Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

"Engineer" - shall include the terms "professional engineer" and "licensed engineer" and means a person who is licensed to engage in the practice of engineering under Florida Statute, Chapter 471. An Engineer may be a City employee or a consultant hired by the City.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

GENERAL CONDITIONS (continued)

"Notice" - shall mean written notice sent by certified United States mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

"Owner" - shall mean the City of Fort Lauderdale.

"Project Manager" - shall mean a professional designated by the City to manage the Project under the supervision and direction of the Public Works Director or designee.

"Public Works Director" – shall mean the Public Works Director of the City of Fort Lauderdale.

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Project Manager.

"Sub-contractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, field conditions, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

Any failure by the Contractor to acquaint itself with all the Site conditions shall not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Contractor making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Project Manager will consider reports from

GENERAL CONDITIONS (continued)

reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and

2. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and

3. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and

4. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution.

If a proposed substitution is approved by the Project Manager, an addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC- 04 – CONSTRUCTION RESOURCES – Contractor shall provide all labor and equipment necessary to complete the installation within a timely manner. Contractor shall provide details as to manpower and equipment to be dedicated to the project in its Work Plan. Contractor is responsible for making arrangements, obtaining and purchasing construction water services if required to complete the work.

GC - 05 - CONTROL OF THE WORK - The Project Manager shall have full control and direction of the Work in all respects. The Project Manager and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Project Manager may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Project Manager so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Project Manager, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Project Manager, as will ensure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

GC - 06 - SUB-CONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Project Manager. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Project Manager, a list of all Sub-contractors. No Work shall be done by any sub-contractor until such Sub-contractor has been officially approved by the Project Manager. A sub-contractor not appearing on the original list will not be approved without written request submitted to the Project Manager and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Sub-contractors and the Sub-contractor is liable to be discharged by the Contractor, at the direction of the Project Manager, for neglect of duty, incompetence or misconduct.

Acceptance of any sub-contractor, other person, or organization by the Project Manager shall not constitute a waiver of any right of Project Manager to reject defective Work or Work not in conformance with the Contract Documents.

GENERAL CONDITIONS (continued)

Contractor shall be fully responsible for all acts and omissions of its Sub-contractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any sub-contractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any sub-contractor or other person, or organization, except as may otherwise be required by law.

GC - 07 - QUANTITIES - Contractor recognizes and agrees that the quantities shown on plans and Bid/Price Schedule are estimates only and may vary during actual construction. No change shall be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Project Manager shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract. The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the Public Works Director or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 08 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in, or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 09 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and/or those permits to be obtained by the Contractor, shall be considered directive in nature, and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

Contractor shall secure all permits and licenses required for completing the Project. Contractor will obtain the necessary State, County, and City construction/work permits if required.

The Contractor shall comply with all applicable Codes, Standards, Specifications, etc. related to all aspects of the Project.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given to all affected parties prior to proceeding with the Work.

GENERAL CONDITIONS (continued)

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

GC - 10 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Project Manager may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 11 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, and shall notify the Project Manager of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflictions, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such condition at its own expense.

GC - 12 - MATERIALS AND WORKMANSHIP - All material shall be new and the workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of a dispute, the Project Manager's decision shall be final. Wherever the Plans, Specifications, Contract Documents, or the directions of the Project Manager are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Project Manager, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and benchmarks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed Professional surveyor registered in the State of Florida if disturbed or destroyed during the course of construction.

GC - 14 - RESTROOM FACILITIES - Contractor shall provide portable toilet facilities for employee's use at a location within the Work site to be determined by the City.

GC - 15 - PROGRESS MEETINGS - Weekly Status meetings will be conducted with representatives from the City and the Contractor. Contractor shall budget time to participate in such meetings. A well-run Project should result in short meetings.

GC - 16 - ISSUE RESOLUTION - Should Contractor become engaged in a dispute with a resident or a City employee, the Contractor shall report the situation to the Project Manager immediately. It shall be mandatory that the City participate in any dispute resolution. Failure of Contractor personnel to notify the City shall obligate Contractor to replace the offending employee immediately if requested by the City.

GC - 17 - CITY SECURITY-CONTRACTOR AND SUBCONTRACTOR EMPLOYEE INFORMATION - Prior to commencing work, Contractor shall provide to the City a list of all personnel and sub-contractors on site. The list will include the name, address, birth date and driver's license number for all personnel. All personnel and subcontractors on site will have on their person a company

GENERAL CONDITIONS (continued)

photo ID during all stages of the construction. Contractor shall provide standard required personal information per current City procedures.

GC - 18 - POST-CONSTRUCTION SURVEY - The Contractor shall provide as-built survey, sealed and signed by a registered surveyor in the State of Florida, as a condition of final payment.

GC – 19 - KEY PERSONNEL - Contractor shall provide as part of the Work Plan, resumes for all key project personnel providing supervision and project management functions. Resumes shall include work history and years of experience performing this type of work.

GC - 20 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 21 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over $100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 22 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry bodily injury and property damage insurance in amounts satisfactory to the Florida East Coast Company. This insurance requirement shall be verified by the contractor with the Florida East Coast Company prior to commencing work, and maintained during the life of the Contract.

GC - 23 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aide services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Project Manager every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 24 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

GENERAL CONDITIONS (continued)

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are necessary for the protection of its employees, as well as the public and City employees. All riggings and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 25 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in the cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance the Project Manager may stop the Work until the issue is resolved to the City's satisfaction.

GC - 26 - SITE CLEANUP AND RESTORATION – The Contractor shall remove all debris and unused or discarded materials from the work site daily. Contractor shall clean the work site to remove all directional drilling "Driller's Mud" materials. No "Driller's Mud" residue shall be allowed to remain in the soil or on the surface of the land or vegetation. All debris and drilling materials must be disposed of offsite at an approved location.

The Contractor shall promptly restore all areas disturbed that are outside the Project limits in equal or better condition at no additional cost to the City.

GC - 27 - COURTEOUS BEHAVIOR AND RESPECT FOR RESIDENTS AND PROPERTY – The Contractor and its employees, associates and sub-contractors shall maintain courteous behavior at all times and not engage in yelling, loud music, or other such activities. Contractor's employees shall not leave trash or other discarded items at the Work Site, especially on any private property. In the event complaints arise, Contractor shall immediately remove such offending employees from the project if requested to do so by the Project Manager. Contractor's employees shall not trespass on any private property unless necessary to complete the work but with prior permission from the owner.

Contractor shall notify and obtain permission from the residents 24 hours in advance when planning to work within the resident's property. In addition, Contractor shall notify the resident prior to entering their property to perform work or inspect/investigate the work site. Contractor shall not block residents' driveways unnecessarily. Contractor shall not park equipment on landscaped areas when the vehicle is not needed for the current construction activities. Contractor shall be responsible for repair and/or replacement of all damaged landscaping within 48 hours including repairing vehicle wheel impressions, irrigation systems, lighting systems, structures, or any other items of resident's property. Contractor shall not destroy, damage, remove, or otherwise negatively impact any landscaping within or outside the right-of-way without prior approval from the Project Manager.

GC - 28 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at Contractor's own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or maintain such barricades, warning lights, etc., the Project Manager may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights

GENERAL CONDITIONS (continued)

placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 29 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times and conform to Manual of Uniform Traffic Control Devices (MUTCD), latest edition.

GC - 30 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Project Manager before construction is started and shall coordinate its Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange its Work and dispose of its materials so as to not interfere with the operation of other contractors engaged upon adjacent work, and to join its Work to that of others in a proper manner, and to perform its Work in the proper sequence in relation to that of other contractors as may be directed by the Project Manager.

Each Contractor shall be responsible for any damage done by it or its agents to the work performed by another contractor.

GC - 31 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 32 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed, Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2021), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2021), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2021), as may be amended or revised.

GENERAL CONDITIONS (continued)

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

GC - 33 - USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), the City specifies that lumber, timber, and other forest products used for this Project shall be produced and manufactured in the State of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture.

The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC - 34 - PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the Solicitation purporting to require confidentiality of any portion of the Proposer's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals purporting to be subject to copyright protection in full or in part will be rejected. The proposer authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

GENERAL CONDITIONS (continued)

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Telephone Number: **(954) 828-5002**

Mailing Address: **City Clerk's Office**
100 N. Andrews Avenue
Fort Lauderdale, Florida 33301-1016

E-mail: **prrcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2021), as may be amended or revised, or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

SPECIAL CONDITIONS

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, for construction services in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

02. TRANSACTION FEES

The City uses BidSync (www.bidsync.com) to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation process, nor will any fees be charged to the awarded contractor.

03. SUBMISSION OF BIDS

It is the sole responsibility of the Contractor to ensure that its bid is submitted electronically through BidSync at www.bidsync.com. and that any bid security not submitted via BidSync reaches the City of Fort Lauderdale, Procurement Services Division, 6th floor, Room 619, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301-1016, in a sealed envelope marked on the outside with the ITB solicitation number and Contractor's name, no later than the time and date specified in this solicitation. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. PLEASE SUBMIT YOUR BID RESPONSE ELECTRONICALLY.**

04. INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact **Maureen Lewis, Senior Procurement Specialist**, at (954) 828-5239 or email at maureenl@fortlauderdale.gov. Such contact shall be for clarification purposes only.

For information concerning technical specifications please utilize the Question/Answer platform provided by BidSync at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. (See addendum section of BidSync site). **Bidders please note**: No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, and the equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation. The questions and answers submitted in BidSync shall become part of any contract that is created from this ITB.

05. CONTRACT TIME

5.1 The Contractor recognizes that TIME IS OF THE ESSENCE. The Work shall commence within **60** calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within **234** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

SPECIAL CONDITIONS (continued)

5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within **278** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

06. BID SECURITY

A certified check, cashier's check, bank officer's check or bid bond for **FIVE percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, shall accompany each offer.

07. REQUIRED LICENSES/CERTIFICATIONS

Contractor must possess the following licenses/certifications to be considered for award:

General Contractor License issued by the State of Florida.

Note: Contractor must have proper licensing and shall submit evidence of same with its bid response.

08. SPECIFIC EXPERIENCE REQUIRED

The following expertise is required to be considered for this Contract. Specific references attesting to this expertise must be submitted with the bid response.

The contractor shall have demonstrated successful completion of a minimum of three (3) airfield construction projects completed within the last ten (10) years that are of similar scope and scale (or larger). Bidder shall for each project listed, identify location; dates of construction; project name and overall scope; scope of work that was self-performed by Contractor; and client's name, address, telephone number and e-mail address.

NOTE: REFERENCES SHALL NOT INCLUDE ONLY CITY OF FORT LAUDERDALE EMPLOYEES OR WORK PERFORMED FOR THE CITY. THE CITY IS ALSO INTERESTED IN WORK EXPERIENCE AND REFERENCES FROM ENTITIES OTHER THAN THE CITY OF FORT LAUDERDALE.

By signing this bid solicitation, contractor is affirming that this expertise will be provided for this Contract at no additional charge.

09. **BID ALLOWANCE – N/A**

Allowance for permits: Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The amount indicated is intended to be sufficient to cover the entire project. If the City's permit fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of the City's permit fees required for project completion.

SPECIAL CONDITIONS (continued)

10. INSURANCE REQUIREMENTS *(See Article 10, Bonds and Insurance, of the Contract for details)*

Insurance

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Crane and Rigging Liability (if applicable)
Coverage must be afforded for any crane operations under the Commercial General or Business Automobile Liability policy as necessary, in line with the limits of the associated policy.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

SPECIAL CONDITIONS (continued)

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d. In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

SPECIAL CONDITIONS (continued)

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the proposal to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

11. PERFORMANCE AND PAYMENT BOND: 100%

SPECIAL CONDITIONS (continued)

12. CITY PROJECT MANAGER

The Project Manager is hereby designated by the City as **Khant Myat, P.E.**, whose address is 100 North Andrews, 4th/5th Floor, Fort Lauderdale, Florida 33301-1016, telephone number: **(954) 828-5061**, and e-mail address is kmyat@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

13. LIQUIDATED DAMAGES *(See Article 16, Liquidated Damages, of the Contract for details)*

Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **One Thousand Dollars ($1,000.00)** for each and every calendar day that the completion of the Work is delayed beyond the time specified in this Agreement for completion, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. (See Article 16, Liquidated Damages Clause, of the Contract)

14. PAYMENT (*See Article 7, Payment, of the Contract for other details*)

Payment on this Contract will be made by check.

15. WORK SCHEDULE:

Please refer to the Work Schedule listed on the Plans

16. INSPECTION OVERTIME COST: N/A.

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS Agreement made and entered into this _____ day of _____, 20__, by and between the City of Fort Lauderdale, a Florida municipal corporation (City) and _____, a Florida _____ Company/Corporation (Contractor), ("Party" or collectively "Parties");

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No., _____, Project Number, _____, which was opened on _____; and,

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project.

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents – Advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and sample agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion - Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

1.7 Change Order - A written document ordering a change in the Contract Price or Contract Time or a material change in the Work.

1.8 City – The City of Fort Lauderdale, Florida, including but not limited to its employees, agents, officials, representatives, contractors, subcontractors, volunteers, successors and assigns, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, General Conditions, Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and/or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The amount established in the bid submittal and award by the City's City Commission, its successors and assigns, as may be amended by Change Order.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the work shall be started and shall be completed as stated in the Notice to Proceed.

1.12 Contractor – The person, firm, company, or corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, their subcontractors and their other successors and assigns.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – When modifying the word "Work" refers to work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

1.15 Effective Date of the Agreement – The effective date of the Agreement shall be the date the City Commission approves the work.

1.16 Final Completion Date – The date the Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

1.17 Hazardous Materials (HAZMAT) - Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance - As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

1.19 Hazardous Waste - Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays - Those designated non-work days as established by the City Commission of the City of Fort Lauderdale.

1.21 Inspection – The term "inspection" and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award - The written notice by City to the Contractor stating that upon compliance by the Contractor with the conditions precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice to Contractor authorizing the commencement of the activities identified in the notice or as described in the Contract Documents.

1.24 Plans - The official graphic representations of this Project that are a part of the Contract Documents.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The construction project described in the Contract Documents, including the Work described therein.

1.27 Project Manager - The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.28 Punch List - The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents - A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" - A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the Contractor. These documents will be signed and sealed by a Professional Engineer or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantially Completed Date – A date when the Contractor has requested in writing, stating that the Work is substantially completed and is ready for an inspection and issuance of a final punch list for the Project. If, at the time of inspection, it is determined the project is substantially completed, the City will issue a letter of Substantial Completion along with a punch list of incomplete or deficient items to be completed prior to requesting a Final Completion inspection.

1.32 Work – The construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

FORT LAUDERDALE EXECUTIVE AIRPORT
MIDFIELD RUN-UP EXPANSION
ITB 12666-623 PROJECT 12474

2.2 All Work for the Project shall be constructed in accordance with the approved plans and Specifications. The Work generally involves:

PROJECT DESCRIPTION

This Project is located at Fort Lauderdale Executive Airport in the City of Fort Lauderdale. The work to be accomplished under this contract includes, but is not limited to, rehabilitation of the existing run-up area apron pad, extension of the run-up area apron pad, grading of

stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, construction of jet blast fences and foundation, and application of temporary and permanent pavement marking.

2.3 Within ten (10) days of the execution of this Agreement, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of all personnel employed. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as **Khant Myat, P.E.**, whose address is 100 N. Andrews Avenue, 4th Floor, Fort Lauderdale, FL 33301, telephone number: **(954) 828-5061**, and email address is kmyat@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents, which comprise the entire Agreement between the City and Contractor, are incorporated herein and attached to this Agreement, and consist of the following:

4.1 This Agreement.

4.2 Exhibits to this Agreement: (Plans sheets [ ] to [ ] inclusive).

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

4.5 General Conditions and Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number _____ through _____, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law.

4.11 Invitation to Bid No., _____, Instructions to Bidders, and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No., _____, dated _____.

4.13 Schedule of Completion.

4.14 All amendments, modifications and supplements, change orders and work directive Changes, issued on or after the Effective Date of the Agreement.

4.15 Any additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Approved change orders, addenda or amendments.

b. Specifications and Drawings.

c. Special Conditions.

d. General Conditions.

e. This Agreement dated _____, and any attachments.

f. Invitation to Bid No., _____, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid No., _____, dated _____.

h. Schedule of Values.

i. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five (5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or associations, or to the code of any governmental authority whether such reference be specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties

and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work shall commence within **60** calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within **234** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within **278** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7, subject to additions and deletions by Change Order, as provided for in this Agreement.

6.2 The Parties expressly agree that the Contract Price, which shall not exceed the amount of $_____, constitutes the total maximum compensation payable to Contractor for performing the Work, plus any Work done pursuant to a Change Order. The Contract Price is in accordance with the line items unit prices listed in the Bid. Line items are based on a unit price cost multiplied by a defined quantity. Any additional duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change to the Contract Price.

6.3 The Contract Price constitutes the compensation payable to Contractor for performing the Work plus any Work done pursuant to a Change Order. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract price.

ARTICLE 7 – PAYMENT

7.1 Contractor shall submit Applications for Payment in accordance with the Contract Documents. Applications for Payment will be processed by City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's monthly Applications for Payment, which shall be submitted by the Contractor between the first (1st) and the tenth (10th) day after the end of each calendar month for which payment is requested. All progress payments will be made on the basis of the progress of the Work completed.

7.3 Prior to Final Completion, progress payments will be made in an amount equal to ninety-five percent (95%) of the value of Work completed less in each case the aggregate of payments previously made.

7.4 Final Payment. Upon final completion of the Work in accordance with the General Conditions, as may be supplemented, the City shall pay Contractor an amount sufficient to increase total payments to one hundred percent (100%) of the Contract Price. However, not less than five percent (5%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications and shop drawings, including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.

7.5 City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

7.5.1 Defective work not remedied.
7.5.2 Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
7.5.3 Failure of Contractor to make payments properly to subcontractors or for material or labor.
7.5.4 Damage to another contractor not remedied.
7.5.5 Liquidated damages and costs incurred by Consultant for extended construction administration, if applicable.
7.5.6 Failure of Contractor to provide any and all documents required by the Contract Documents.

When the above grounds are removed or resolved satisfactory to the Project Manager, payment shall be made in whole or in part.

7.6 The City shall make payment to the Contractor in accordance with the Florida Prompt Payment Act, Section 218.70, Florida Statutes (2021), as amended or revised, provided, however, complete and error free pay application is submitted.

7.7 The City shall make payment to the Contractor by check.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

8.2 Contractor has visited the Work Site, has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, water table condition, moisture conditions and all year-round local weather and climate conditions (past and present), and examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted within the Contract Time as defined in this Agreement.

Furthermore, Contractor warrants and confirms that it is totally familiar with, understands and obligates Contractor to comply with all federal, state and local laws, ordinances, rules, regulations and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

8.4 The Contractor has also studied on its own, investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and finds and has further determined that no conditions exist that would in any manner affect the Proposed Price and that the Project can be completed for the Proposed Price submitted.

8.5 Contractor has made or caused to be made, examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work at the Contract Prices, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

8.6 Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution by City is acceptable to the Contractor.

8.8 Labor

8.8.1 The Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the site.

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of the Notice to Proceed. The Contractor understands and agrees that the superintendent's physical presence on the job

site is indispensable to the successful completion of the Work. If the superintendent is frequently absent from the job site, the Project Manager may deliver written notice to the Contractor to stop work or terminate the Agreement in accordance with Article 17.

8.8.4 Where required and necessary, the contractor shall, at all times, have a certified "competent person" assigned to the job site. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to MOT. Any other certifications that may be required by applicable permitting agencies for the Work shall also be complied with by the Contractor. Failure to pursue the Work with the properly certified supervisory staff may result in notice to stop work or terminate the Agreement in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work.

8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 8 a.m. and 5:00 p.m., Monday through Friday.

Unless approved by the City in advance, the Contractor will not perform work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. For any overtime inspection required by City personnel, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. **It shall be noted that the City's Inspector work hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday, and any work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime at a rate of $100.00 per hour.** The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds himself or itself to indemnify and hold harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses.

The Contractor shall pay all government charges which are applicable at the time of opening of proposals. It shall be the responsibility of the Contractor to secure and pay for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days, and any necessary changes shall be adjusted by any appropriate modifications. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules, standards, specifications and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the laws of the City of Fort Lauderdale, County of Broward, and the State of Florida.

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor.

The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for, or will be required to replace or restore at no expense to the City all properties and areas not protected or preserved as required herein that may be destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials and shall leave the site clean and ready for occupancy by the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.
8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

8.17 Project Record Documents and Final As-Builts (Record Drawings): Contractor shall be responsible for maintaining up-to-date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-Builts) and a CD of the electronic drawings files created in AutoCad 2014 or later. All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the project and other persons who may be affected thereby.

8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy-two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

8.21 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entitles claiming by, through or under the Contractor, releases and discharges the City from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, representatives, contractors and subcontractors, successors, and assigns (hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use, handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence or any Hazardous Substance including asbestos located, transported, or present on, undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. Section 9607, as amended or revised, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.23 No Liens: If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the Work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

8.24 Weather Emergencies: Upon issuance of a hurricane watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available, and in the City before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean

up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.25 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, pandemics, war, act of Governmental Authority, state of emergency, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their subcontractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within ninety-six (96) hours after such an occurrence. The Contractor shall use its reasonable efforts to minimize such delays. The Contractor shall promptly provide an estimate of the anticipated additional time required to complete the Project.

8.26 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the Contractor assures that it, the sub-recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate. This additional language must be included in each subcontract the prime Contractor signs with a subcontractor.

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 The City shall provide public rights-of-way and easement, where available, for the installation of conduits, transformers pads and related appurtenances only.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue, with reasonable promptness, such written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event, and written supporting data will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

9.5 Cancellation for Unappropriated Funds: The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2021), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

10.3 Insurance

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of

coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Crane and Rigging Liability (if applicable)
Coverage must be afforded for any crane operations under the Commercial General or Business Automobile Liability policy as necessary, in line with the limits of the associated policy.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d. In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the proposal to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the City that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to the City before the work and testing is done. Testing results shall be submitted to the Project Manager for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Paragraphs 11.2.1 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if it makes a claim therefore as provided in Articles 14 and 15.

11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other Party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If within one (1) year after the date of final acceptance, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If the Contractor does not promptly comply with the terms of such instructions or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contract's Documents, including appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, employees and elected and appointed officials from or on account of all claims, damages, losses, liabilities and expenses, direct, indirect or consequential including but not limited to fees and charges of engineers, architects, attorneys, consultants and other professionals and court costs arising out of or in consequence of the performance of this Agreement at all trial and appellate levels. Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the

work; (i) the violation of any federal, state, county or City laws, ordinances or regulations by Contractor, its subcontractors, agents, servants, independent contractors or employees; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee.

12.2.2 Contractor agrees to indemnify, defend, and hold harmless the City, its officers, agents and employees, from all damages, liabilities, losses, claims, fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06(2), Florida Statutes (2021), as may be amended or revised, controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the Parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, at any time or from time-to-time order additions, deletions or revisions in the Work through the issuance of Change Orders. Upon receipt of a Change Order, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 14 or Article 15 on the basis of a claim made by either Party.

13.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

Change of Contract Price, approved by City, shall be computed as follows:

14.1 Cost of the Work: The term "Cost of the Work" means the sum of all direct costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by the City, these costs shall be in amounts no higher than those prevailing in the City and shall include only the following items and shall not include any of the costs itemized in Paragraph 14.3:

14.1.1 Payroll costs for employees in the direct employ of the Contractor in the performance of the Work under schedules of job classifications agreed upon by the City and the Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work.

Payroll costs shall include, but not be limited to, salaries and wages plus cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and applicable holiday pay.

14.1.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage, and required suppliers and field services. All cash discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they may be obtained.

14.1.3 Supplemental costs including the following:

14.1.3.1 Cost, including transportation and maintenance of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work.

14.1.3.2 Rentals of all construction equipment and machinery and the parts whether rented from the Contractor or others in accordance with rental agreements approved by the City, and the costs of transporting, loading, unloading, installation, dismantling and removal. The rental of any such equipment, machinery or parts shall cease when the use is no longer necessary for the Work.

14.1.3.3 Sales, consumer, use or similar taxes related to the Work and for which the Contractor is liable, imposed by laws and regulations.

14.1.3.4 Royalty payments and fees for permits and licenses.

14.1.3.5 The cost of utilities, fuel and sanitary facilities at the Work site.

14.1.3.6 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

14.1.3.7 Cost of premiums for additional bonds and insurance required because of changes in the Work.

14.2 The Contract Price may only be increased by a Change Order when Work is modified in accordance with Article 13 and approved by the City in writing. Any claim for an increase in the Contract Price resulting from a Change Order shall be based on written notice delivered to the Project Manager within ten (10) days of the occurrence of the Change Order giving rise to the claim. Notice of the amount of the claim with supporting data shall be included in the Change Order and delivered within twenty (20) days of such occurrence unless Project Manager allows an additional period of time to ascertain accurate cost data. Any change in the Contract Price resulting from any such claim shall be incorporated in the Change Order. **IT IS EXPRESSLY AND SPECIFICALLY AGREED THAT ANY AND ALL CLAIMS FOR CHANGES TO THE CONTRACT PRICE SHALL BE WAIVED IF NOT SUBMITTED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.**

14.3 Not Included in the Cost of the Work: The term "Cost of the Work" shall not include any of the following:

14.3.1 Payroll costs and other compensation of the Contractor's officers executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditor, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by the Contractor whether at the site or in the Contractor's principal

or branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 14.1.1, all of which are to be considered administrative costs covered by the Contractor's fee.

14.3.2 Expenses of the Contractor's principal and branch offices other than the Contractor's office at the site.

14.3.3 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work and charges against the Contractor for delinquent payments.

14.3.4 Cost of premiums for all bonds and for all insurance whether or not the Contractor is required by the Contract Documents to purchase and maintain the same.

14.3.5 Costs due to the negligence of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

14.3.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 14.1.

14.4 Basis of Compensation: The Contractor's compensation, allowed to the Contractor for overhead and profit, shall be determined as follows:

14.4.1 A mutually acceptable negotiated fee:

14.4.1.1 For costs incurred under Paragraphs 14.1.1 and 14.1.2, the Contractor's fee shall not exceed five percent (5%).

14.4.1.2 No fee shall be payable on the basis of costs itemized under Paragraphs 14.1.3.1, 14.1.3.2, 14.1.3.3, 14.1.3.4, 14.1.3.5, 14.1.3.6, 14.1.3.7, 14.3.1, 14.3.2, 14.3.3, 14.3.4, 14.3.5 and 14.3.6.

14.4.1.3 The amount of credit to be allowed by the Contractor to the City for any such change which results in a net decrease plus a deduction in the Contractor's fee by an amount equal to five percent (5%) for the net decrease.

14.4.1.4 When both additions and credits are involved in any one change the combined overhead and profit shall be figured on the basis of net increase if any, however, not to exceed five percent (5%) of the agreed compensation. Profit will not be paid on any Work not performed.

14.5 Cost Breakdown Required: Whenever the cost of any Work is to be determined pursuant to this Article, the Contractor will submit in form acceptable to the City an itemized cost breakdown together with supporting documentation. Whenever a change in the Work is to be based upon mutual acceptance of a lump sum, whether the amount is an addition, credit, or no-charge-in-cost, the Contractor shall submit an estimate substantiated by a complete itemized breakdown:

14.5.1 The breakdown shall list quantities and unit prices for materials, labor, equipment and other items of cost.

14.5.2 Whenever a change involves the Contractor and one (1) or more subcontractors and the change is an increase in the agreed compensation, the overhead and profit percentage for the Contractor and each subcontractor shall be itemized separately.

14.6 Time for the City to Approve Extra Work: Any Extra Work in an amount up to and not exceeding a cumulative amount of $25,000 for a specific project can be approved by the City Manager and shall require a written Change Order proposal to be submitted to the Public Works Director for submittal and approval by the City Manager. Extra Work exceeding the cumulative amount of $25,000 for a specific project must be approved by the City Commission and a written Change Order proposal must be submitted to the Public Works Director for submittal and approval by the City Manager and City Commission. No financial or time claim for delay to the project resulting from the Change Order approval process outlined above under Section 14.6 will be allowed.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Project Manager within five (5) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

15.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if a claim is made therefore as provided in Paragraph 15.1. Such delays shall include but not be limited to, acts or neglect by the City, or to fires, floods, labor disputes, epidemics, abnormal weather conditions, pandemics, act of Governmental Authority, state of emergency, or acts of God.

15.3 All time limits stated in the Contract Documents are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.4 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor (non-affiliated Contractors) shall not give rise to a claim by the Contractor for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.5 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Agreement, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the Work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **One Thousand Dollars ($1,000.00)** for each and every calendar day that the completion of the Work is delayed beyond the time specified in this Agreement for completion, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both Parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each portion of the Work for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

In addition, for work beyond the time (hour and minute) established for opening the taxiway/runway, following each closure of that taxiway/runway in accordance with the phasing plans, the City will charge the Contractor a rental fee for the Contractor's use of the taxiway/runway. The parties agree that the sum of $500 for the first minute and $50 for every minute thereafter shall be fixed as the rental rates for continuing a taxiway/runway closure beyond the time provided for opening the taxiway/runway during each phase of work that requires taxiway/runway closure. The Contractor shall pay to the City, or have withheld from monies due the Contractor, the rental sum of $500 per the first minute and $50 for every minute thereafter that the Contractor continues a taxiway/runway closure beyond the specified time provided for opening the taxiway/runway during each phase of work that requires closure. Time for opening of the taxiway/runway and rental fee determinations shall be based upon the City's inspector's time keeping, not the Contractor. Contractor may request the inspector to advise him of remaining time periodically prior to opening, but inspector's time keeping

shall be the sole determining factor as to whether the taxiway/runway reopened as scheduled without appeal.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

17.2 City's Right to Terminate Contract: The City may terminate this Agreement upon fifteen (15) calendar days' written notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor makes a general assignment for the benefit of creditors.

17.2.2 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Contract, whose appointment or authority to take charge of property of the Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the Contractor's creditors.

17.2.3 If Contractor fails to begin the Work within fifteen (15) calendar days after the Project Initiation Date, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.4 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.5 If the Contractor repeatedly disregards proper safety procedures.

17.2.6 If the Contractor disregards any local, state or federal laws or regulations.

17.2.7 If the Contactor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

17.3.1 If after notice of termination of Contractor's right to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth in Section 17.5 below.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the Parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contactor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contactor agrees to waive the notice provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the United States Bankruptcy Court. The Contactor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in additional to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Agreement may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work executed and expenses incurred prior to termination in addition to termination settlement costs reasonably incurred by Contractor relating to commitments which had

become firm prior to the termination. Payment shall include reasonable profit for work/services satisfactorily performed. No payment shall be made for profit for work/services which have not been performed.

17.6 Where the Contractor's service has been so terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under, or by reason of, the Contract Documents which cannot be resolved by mutual agreement of City Project Manager and Contractor shall be submitted to the City Manager or his designee and Contractor's representative for resolution. Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after final completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

18.1.1 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.2 During the pendency of any dispute and after a determination thereof, Contractor and Contract Administrator shall act in good faith to mitigate any potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.3 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies under applicable law. If a Party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said Party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

To the City:

City Manager
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

with copies to the:

Project Manager and City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

To the Contractor:

_____
_____
_____
_____

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes (2021), as may be amended or revised, or to extend the City's liability beyond the limits established in said Section 768.28, Florida Statutes (2021), as may be amended or revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 21 – GOVERNING LAW; WAIVER OF JURY TRIAL

21.1 The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the Parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

22.3 The Contractor and its employees, volunteers and agents shall be and remain as independent contractor and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2021), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2021), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2021), as may be amended or revised.

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2021), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2021), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: If City or Contractor incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing Party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

22.11 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2021), as may be amended or revised, or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City, all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

ARTICLE 23 – FAA REQUIRED CONTRACT PROVISIONS FOR AIRPORT CONTRACTS (NON-AIP CONTRACTS)

23.1 General Civil Rights Provisions: The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subtier contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

23.2 Title VI Clauses for Compliance with Non-Discrimination Requirements:

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this Contract.

2. Non-discrimination: The Contractor, with regard to the work performed by it during the Contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the Contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this Contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.

4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of the Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the Non-discrimination provisions of this Contract, the City will impose such Contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

    a. Withholding payments to the Contractor under the Contract until the Contractor complies; and/or
    b. Cancelling, terminating, or suspending a Contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the City or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the City to enter into any litigation to protect the interests of the City. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

23.3 Title VI List of Pertinent Nondiscrimination Acts and Authorities:

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the

programs or activities of the Federal-aid recipients, sub- recipients and Contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Fort Lauderdale Executive Airport Midfield Run-Up Expansion
(Contractor)
Project 12474

CITY

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY OF FORT LAUDERDALE, a Florida municipal corporation

By: _____
GREG CHAVARRIA
City Manager

Date: _____

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form:
Alain E. Boileau, City Attorney

By: _____
RHONDA MONTOYA HASAN
Assistant City Attorney

CONTRACTOR

WITNESSES:

CONTRACTOR,
a Florida company/corporation.

_____ By:_____

_____ Print Name:_____
Print Name

Title:_____

ATTEST:

_____

_____
Print Name

By:_____
Secretary

(CORPORATE SEAL)

STATE OF _____:

COUNTY OF _____:

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 2022, by _____, (NAME OF AUTHORIZED OFFICER) as _____ (TITLE OF AUTHORIZED OFFICER), for _____ (NAME OF COMPANY), a Florida _____(TYPE OF COMPANY).

_____
(Signature of Notary Public - State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known_____ OR Produced Identification_____
Type of Identification Produced: _____

CONSTRUCTION SPECIFICATIONS

GENERAL REQUIREMENTS

[THIS PAGE INTENTIONALLY LEFT BLANK]

SECTION 011000
SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1. The written specifications package entitled **Fort Lauderdale Executive Airport Midfield Runup Expansion, City Project P12474.**

1.2 INTENT OF DRAWINGS AND SPECIFICATIONS

A. Intent of the drawings and specifications is to cover an installation complete in every respect. It is not necessarily intended to provide every detail on drawings or in the specifications. The City will not be responsible for absence of any detail which the Contractor may require nor for any special construction which may be found necessary as work progresses. If an item is either indicated or specified, it shall be considered sufficient for inclusion of said item in the contract. Contractor shall furnish and install materials and equipment normally furnished with such systems and as needed to complete a fully operational installation, whether mentioned or not, which are customary to the trade.

B. Incidental accessories not usually shown or specified, but which are necessary for the proper installation and operation shall be included in the work without additional cost to the City, as if herein depicted or specified.

C. Any material or work not shown on drawings, but mentioned in specifications, or vice versa, shall be furnished, delivered and installed by the Contractor without additional cost to the City.

D. Drawings are diagrammatic and indicate the general arrangement of systems and work indicated (do not scale drawings).

1.3 SUMMARY

A. This Section includes the following:

1. Project Information
2. Work covered by the Contract Documents
3. Phased construction
4. Use of Premises
5. Work restrictions
6. Mobilization

1.4 PROJECT INFORMATION

A. Project Identification: Project 12474 – FXE Midfield Runup Area Project

1. Project Location: 6000 NW 21st Avenue, Fort Lauderdale, FL 33309

B. Owner: City of Fort Lauderdale
   1. City's Representative: Khant Myat, Airport Engineer/Project Manager II

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work is defined by the Contract Documents and consists of the following:

The work to be accomplished under this contract includes, but is not limited to, rehabilitation of the existing runup area apron pad, extension of the runup area apron pad, grading of stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, construction of jet blast fences and foundation, and application of temporary and permanent pavement marking. Project will be constructed under a single prime contract.

   a. Division of work: The division of work among it's separate Subcontractors is the responsibility of the General Contractor, and the City assumes no responsibility to act as arbitrator to establish subcontract limits between any sections of the work.

1.6 PHASED CONSTRUCTION

A. The Work shall be conducted in phases, with each phase substantially complete as indicated in the construction plans.

B. Before commencing Work of each phase, submit a schedule showing the sequence, commencement and completion dates for all phases of the Work.

1.7 USE OF PREMISES

A. General: Contractor shall have full use of project site for construction operations during construction period.

B. Use of Site: Limit use of project site to areas within the contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

   1. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to City, City's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

      a. Schedule deliveries to minimize use of driveways and entrances.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.8 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations as listed here and in the construction plans.

   1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Work shall be generally performed as indicated in the construction plans.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by City or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify City not less than two working days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without City's written permission.

D. Employee Identification: Owner will provide identification tags for Contractor personnel working on the Project site. Require personnel to utilize identification tags at all times.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

[THIS PAGE INTENTIONALLY LEFT BLANK]

SECTION 012600
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections include the following:
   1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Engineer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form included following the end of Part 3.

1.4 REQUESTS FOR INFORMATION

A. If latent or unforeseen conditions arise that may require changes in the Work, the Contractor may submit a Request for Information to the Project Manager on the form included following the end of Part 3.

1.5 PROPOSAL REQUESTS

A. City-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

   1. Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.
   2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
      b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.

d. Include an updated Contractor's Construction Schedule that indicates the effect of the change.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change.
6. Comply with requirements in General Conditions Section GC-03 "Substitution" if the proposed change requires substitution of one product or system for product or system specified.

1.6 ADMINISTRATIVE CHANGE ORDERS

A. Unit Price Adjustment: Refer to Construction Agreement, Article 14, for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

1.7 CHANGE ORDER PROCEDURES

A. On City's approval of a Proposal Request, Engineer will issue a Change Order for signature of the Contractor on City's standard form. The Change Order will not be official until approved and signed by the appropriate City Officials.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SUPPLEMENTAL INSTRUCTIONS FOR MINOR CHANGES

CITY OF FORT LAUDERDALE

CITY PROJECT NO: **#P** REQUEST NO:

PROJECT: DATE:
OWNER: **City of Fort Lauderdale** CONTRACTOR:
TO: CONTRACT DATED:

The work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor changes to the Work as consistent with the Contract Documents and return a copy to the City.

DESCRIPTION:

ATTACHMENTS:

ENGINEER:

FAXED TO: ( ) Contractor
( ) Site Office
( ) Eng. Insp. (954) 828-5074

CC: Project Inspector
Main File

PROPOSAL REQUEST

CITY OF FORT LAUDERDALE

CITY PROJECT NO: #P REQUEST NO:

PROJECT: DATE:
OWNER: **City of Fort Lauderdale** CONTRACTOR:
TO: CONTRACT DATED:

Please submit an itemized quotation for changes in the **CONTRACT SUM** and/or **TIME** incidental to the proposed modifications to the Contract Documents described herein.

THIS IS NOT A CHANGE ORDER NOR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED HEREIN.

DESCRIPTION:

ATTACHMENTS:

ENGINEER:

FAXED TO: ( ) Contractor
( ) Site Office
( ) Eng. Insp. (954) 828-5074

CC: Project Inspector
Main File

REQUEST FOR SUBSTITUTION
CITY OF FORT LAUDERDALE

CITY PROJECT NO: #P _____ REQUEST NO: _____

PROJECT:
OWNER: **City of Fort Lauderdale**
TO: _____

DATE:
CONTRACTOR:
CONTRACT DATED: _____

NAME AND ADDRESS OF CONTRACTOR:

_____

_____

_____

hereby requests acceptance of the following product or system as an "acceptable substitution".

NAME AND DESCRIPTION OF <u>SPECIFIED PRODUCT</u> OR SYSTEM:

_____

_____

MANUFACTURER:

_____

SPECIFICATION SECTION _____, PAGE(S)_____
PARAGRAPH(S)_____
DRAWING_____ DETAIL NUMBER_____

NAME AND DESCRIPTION OF <u>PROPOSED SUBSTITUTION</u>:

_____

_____

_____

MANUFACTURER:_____
ADDRESS:_____
TELEPHONE:_____
NAME OF VENDOR:_____
NAME AND ADDRESS OF PREVIOUS PROJECT WHERE PROPOSED SUBSTITUTION WAS UTILIZED:

_____

_____

TELEPHONE:_____
REASON FOR PROPOSING SUBSTITUTION: _____

_____

DOES SUBSTITUTION AFFECT OTHER MATERIALS, INSTALLATION OR SYSTEMS?
YES_____ NO_____ IF YES, ATTACHED COMPLETE DATA.
DOES SUBSTITUTION REQUIRE REVISION OR REDESIGN OF ANY COMPONENT OF BUILDING OR ELECTRICAL OR MECHANICAL WORK?
YES_____ NO_____ IF YES, ATTACHED COMPLETE DATA.

THE ATTACHED DATA IS FURNISHED FOR EVALUATION OF THE SUBSTITUTION:
( )CATALOG ( ) DRAWINGS ( ) SAMPLES ( ) TESTS ( ) REPORTS ( ) OTHER

_____

REQUEST FOR SUBSTITUTION

SAVING TO CITY FOR ACCEPTING SUBSTITUTE:
COST OF SPECIFIED ITEM:
_____ DOLLARS
($_____)
COST OF SUBSTITUTION ITEM:
_____ DOLLARS
($_____)

TOTAL SAVINGS (CREDIT) TO CITY FOR ACCEPTING SUBSTITUTE:
_____ DOLLARS
($_____)

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS PROPOSED SUBSTITUTION HAS BEEN FULLY CHECKED AND COORDINATED WITH THE CONTRACT DOCUMENTS, THAT THE PROPOSED SUBSTITUTION MEETS OR EXCEEDS THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THAT ALL INFORMATION IS TRUE AND ACCURATE.

FIRM NAME: _____

BY: _____

DATE SIGNED: _____

PRINT NAME LEGIBLY: _____

FAXED TO:
CC

SECTION 012900
PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Division 01 Section "Unit Prices" for administrative requirements governing use of unit prices.
3. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

C. BASIS OF PAYMENT - The price for each items shall include the furnishing of all labor, materials, equipment and incidentals required to complete the construction and to repair in a manner satisfactory to the Engineer any and all damage, as a result of work under this contract, done to existing structures, pavement, grass, utility pipe lines, conduits, drains, catch basins, and including all above and underground obstructions not specifically named here-in: replacing in a manner satisfactory to the Engineer and or all of the above items which may be damaged beyond repair as a result of work under this contract.

D. Retainage: The City shall retain a portion of each partial payment according to the following schedule:

1. The City will retain ten percent (10%) of all monies earned by Contractor until the work has been accepted by the City as Substantially Complete. Upon Substantial Completion, retainage may be reduced to 5% with approval of the Project Manager.

1.3 APPLICATIONS FOR PAYMENT

A. The General Contractor must meet with the City Representative on or about the 25th of each month. The City Representative will go over the pay items and agree on the quantities and the dollar amounts of the work completed during the month. A copy of the agreed amounts will be signed by the parties and a copy will be left with each representative.

B. The General Contractor will make up a partial pay request using the City-supplied forms and submit the request to the City Representative before the first of the upcoming month.

C. Each pay request must be accompanied by a partial release of lien by the General Contractor and by all Subcontractors, suppliers, and for all labor, as outlined below.

1. Starting with the second (2nd) pay request and for each and every pay request thereafter, the General Contractor shall submit partial release of liens from all Subcontractors, suppliers, and laborers covering the preceding month's request (SEE FOLLOWING EXAMPLE).
2. EXAMPLE: In the first (1st) pay request, payment is requested by General Contractor for the electrician. The General Contractor must attach his partial release of lien.
3. For the second (2nd) pay request, the General Contractor must attach his partial release of lien from the electrician for the amounts billed in the 1st pay request; i.e., the General Contractor will be running one (1) month behind with the releases from the Subcontractors, suppliers, etc., until the final pay request.

D. For the final pay request, the General Contractor will be required to submit FINAL release of liens for ALL Subcontractors, suppliers, etc., and for ALL labor BEFORE FINAL PAYMENT WILL BE MADE.

E. No partial payments, after the first payment, will be made until all partial release of liens are submitted for the preceding month's billing, as described

F. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by City.

G. Payment Application Forms: Use City Form "PERIODIC ESTIMATE FOR PARTIAL PAYMENT" as form for Applications for Payment.

1. Application Preparation: Complete every entry on form. Executed by a person authorized to sign legal documents on behalf of Contractor. City will return incomplete applications without action.
2. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

H. Release of Lien: With each Application for Payment, submit release of lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial release of lien on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final release of lien.
3. City reserves the right to designate which entities involved in the Work must submit release of lien forms.

I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Contractor's Construction Schedule (preliminary if not final).
3. Certificates of insurance and insurance policies.
4. Performance and payment bonds.

J. City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

1. Defective Work not remedied.
2. Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
3. Failure of Contractor to make payments properly to Subcontractors or for material or labor.
4. Damage to another contractor not remedied.
5. Liquidated damages and costs incurred by City and/or Consultant for extended construction administration.
6. Failure of Contractor to provide any and all documents required by the Contract Documents.

K. No partial payment estimate will be processed for any contract which is beyond the contract completion date. After a contract runs past the completion date, only a final payment will be made when all work is complete.

L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Evidence that claims have been settled.
5. Final, liquidated damages settlement statement.

M. The acceptance of final payment shall constitute a waiver of all claims by contractor, except those previously made in strict accordance with the provisions of the Contract and identified by Contractor as unsettled at the time of the application for final payment.

N. If evidence is produced before the final settlement of all or any balance, that the party of the second part has failed to pay to laborers, employed on this work, or failed to pay for the materials used therein, or if the City has reason to suspect the same, the City may withhold such balance and, upon written evidence satisfactory to the City as to the amount due for such labor and materials, settle and pay for the same and charge the amounts to the party of the second part and deduct the same from said balance or balances.

O. Payment for Insurance and Surety/Performance and Payment Bonds can be made upon submittal of the first contractor request for payment, less standard retainage.

P. The work specified in this Section shall consist of the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site; and for the establishment of temporary offices, testing services, safety equipment and first aid supplies, sanitary and other facilities, survey services, site clean-up, restoration of disturbed sodded areas and photographs as required by these Specifications and Special Provisions, and any Federal, State and/or local laws and regulations. The costs of any other pre-construction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included in this Section.

Measurement of mobilization for payment shall be the work under this Section completed and accepted in accordance with Technical Specification Item C-105.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Submittals
3. Special Project Procedures
4. Administrative and supervisory personnel.
5. Project meetings.
6. Requests for Interpretation (RFIs).

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

C. Related Sections include the following:

1. Division 01 Section "Summary of Multiple Contracts" for a description of the division of Work among separate contracts and responsibility for coordination activities not in this Section.
2. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
3. Division 01 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
4. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.
5. Division 01 Section "General Commissioning Requirements" for coordinating the Work with Owner's Commissioning Authority.

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of

attendees at meetings.

1. Prepare similar memoranda for City and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Project closeout activities.
7. Project closeout activities.

1.5 SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.

B. Key Personnel Names: Within 10 days of contract award, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including office and cell phone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 SPECIAL PROJECT PROCEDURES

A. Discrepancies, Errors: Should discrepancies or errors appear in the drawings or specifications concerning materials, workmanship, or quantity of work to be performed, the Contractor will be required to immediately notify the City before proceeding with the work. If the Contractor fails to notify the City and proceeds with the work, Contractor will be required to correct the errors at his/her own expense. In the event of a conflict between the drawings and specifications, the City will decide on the way to perform the work or supply the materials. See also General Conditions, "Contractor to Check Plans and Data," Section GC-10

B. Dimensions and Measurements: The figured dimensions on the drawings or notes including dimensions shall be used for construction instead of measurements of the drawings by scale. No scale measurements shall be used as a dimension for construction. Dimensions on all drawings as well as the detail drawings themselves are subject in every case to measurements of adjacent or previously completed work. All such measurements necessary shall be taken before undertaking any work dependent upon such data. Field verification of

dimensions on plans is mandatory since actual locations, distances, and levels will be governed by actual field conditions.

C. Discrepancies or Inconsistencies: Should any discrepancy or inconsistency appear between larger and smaller scale drawings in any of the divisions of the specifications or in any of the contract documents, such discrepancy shall be immediately submitted to the City for correction before proceeding with the work in question. In no case shall the Contractor make any alterations, erasures, changes or modifications in the drawings or specifications.

1. Should it appear that any of the work as specified or shown by the drawings is not sufficiently detailed or explained, the Contractor shall apply to the City for such further details or information as may be necessary for full understanding of the work in question.
2. The data set forth in these specifications and indicated on the drawings are as accurate as can be obtained, but their extreme accuracy is not guaranteed. Final application thereto shall be determined on the job as conditions may demand and subject to the approval of the City.

D. In the event a Subcontractor or Supplier notes a mistake or details appear incomplete, or if there are questions or concerns with the plans and specifications, the Subcontractor or Supplier will immediately notify the General Contractor. No work will proceed until such conflicts or questions are resolved in writing.

1.7 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. The Contractor shall employ a competent superintendent who can communicate with spoken English, and who shall be in attendance at the site full-time when any work is in progress. The superintendent shall be satisfactory to the City's Engineer and shall not be changed except with the consent of the City's Engineer.

B. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

1.8 PROJECT MEETINGS

A. General: Attend meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Construction Project Manager of scheduled meeting dates and times.

B. Preconstruction Meeting: After the contract(s) has been awarded, executed, and a tentative work schedule has been composed, and prior to the start of the work, the Contractor(s), the Construction Project Manager, the City's Representative, and other persons and/or governmental agencies that are involved shall meet. The minimum agenda is to include but is not limited to the following:

1. Distribute and discuss list of major Subcontractors
2. Tentative construction schedule
3. Phasing
4. Critical work sequencing and long-lead items

5. Relation and coordination of Prime Contractor
6. Designation of key personnel and their duties
7. Procedures for processing field decisions and Change Orders
8. Procedures for RFIs
9. Procedures for testing and inspecting
10. Adequacy of distribution of contract documents
11. Submittal of Shop drawings, project data, and samples
12. Procedures for maintaining Record documents
13. Use of premises
14. Work restrictions
15. Responsibility for temporary facilities and controls
16. Working hours
17. Safety and first-aid procedures
18. Security procedures
19. Housekeeping procedures including progress cleaning.
20. Schedule of values.
21. Processing of payments or contract.

C. Progress Meetings: Attend progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of City and the Construction Project Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

   a. Review and approve minutes of previous Progress Meeting.
   b. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

      1) Review schedule for next period.

   c. Review present and future needs of each entity present, including the following:

      1) Status of submittals.
      2) Deliveries.
      3) Access.
      4) Site utilization.
      5) Temporary facilities and controls.
      6) Work hours.
      7) Quality and work standards.
      8) Status of correction of deficient items.
      9) Field observations.
      10) RFIs.
      11) Status of proposal requests.

12) Pending changes.
13) Status of Change Orders.
14) Pending claims and disputes.
15) Documentation of information for payment requests.

D. Coordination Meetings: Attend Project coordination meetings at bi-weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

1. Attendees: In addition to representatives of City and the Construction Project Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:

1) Status of submittals.
2) Deliveries.
3) Access.
4) Site utilization.
5) Temporary facilities and controls.
6) Work hours.
7) Quality and work standards.
8) Change Orders.

E. Project Closeout Conference: City shall schedule and conduct a project closeout conference, at a time convenient to City and Construction Project Manager, but no later than **30** days prior to the scheduled date of Substantial Completion.

1. Attend the conference to review requirements and responsibilities related to Project closeout.

2. Attendees: Authorized representatives of City, City's Commissioning Authority, Construction Project Manager, and their consultants; Contractor and its

superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

   a. Preparation of record documents.
   b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
   c. Submittal of written warranties.
   d. Requirements for preparing operations and maintenance data.
   e. Preparation of Contractor's punch list.
   f. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
   g. Submittal procedures.
   h. Coordination of separate contracts.
   i. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

1.9 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.

2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. City Project Number
2. City Project Name.
3. Date.
4. Name of Contractor.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

    a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. Hard-Copy RFIs: Form at end of this Section.

1. Identify each page of attachments with the RFI number and sequential page number.

D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above. Word Template is available upon request from the City Engineer's Office.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

E. Construction Project Manager's Action: Construction Project Manager will review each RFI, determine action required, and return it. Allow seven days for Construction Project Manager's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Construction Project Manager's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.

2. Construction Project Manager's action may include a request for additional information, in which case Construction Project Manager's time for response will start again.

3. Construction Project Manager's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Construction Project Manager in writing within 10 days of receipt of the RFI response.

F. On receipt of Construction Project Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Construction Manager within seven days if Contractor disagrees with response.

G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. RFI number including RFIs that were dropped and not submitted.
4. RFI description.
5. Date the RFI was submitted.
6. Date Construction Project Manager's response was received.
7. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
8. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.10 MAINTENANCE OF AIRPORT OPERATIONS TRAFFIC

A. DESCRIPTION:

1. The work specified in this Section consists of maintaining traffic within the limits of the project for the duration of the construction period. It shall include the construction and maintenance of any necessary detour facilities along the project and the furnishing, installing and maintaining of traffic control and safety devices required for safe and expeditious movement of traffic as may be called for on the plans. The term "Maintenance of Traffic" or MOT as used herein shall include all of such facilities, devices and operations as are required for the safety and convenience of the public as well as for minimizing public nuisance; all as specified in this Section. The Section also includes installing temporary orange plastic fencing around any owl or tortoise nests, as directed by the Project Manager or Owner's Representative.

2. When the project plans include or identify a specific Maintenance of Traffic Plan, alternate proposals will be considered when they are found to be equal to or better than the plan specified. In no case may the Contractor begin work until the Project Manager has approved the Maintenance of Traffic Plan in writing. Modifications to the Maintenance of Traffic Plan that become necessary shall also be approved in writing. Except in an emergency, as determined by the Project Manager, no changes to the approved plan will be allowed until approval to change such plan has been received.

3. The Contractor shall conduct their operations in such a manner that no undue hazard will result due to the requirements of this section, and the procedures and policies described therein shall in no way act as a waiver of any of the terms of the liability of the Contractor or their surety.

B. CONSTRUCTION METHODS

1. The contractor shall be responsible for performing daily inspections, including weekends and holidays, with some inspections at nighttime, of the installations on the project and replace all equipment and devices not conforming to the approved standard during that inspection. The project personnel will be advised of the schedule of these inspections and be given the opportunity to join in the inspection as is deemed necessary.

2. The responsibility for installation and maintenance of adequate traffic control devices, warning devices and barriers, for the protection of the traveling public and workers, as well as to safeguard the work area in general shall rest with the Contractor. The required traffic control devices, warning devices and barriers shall be erected by the Contractor prior to creation of any hazardous condition and in conjunction with any necessary rerouting of traffic. The Contractor shall immediately remove, turn or cover any devices or barriers that do not apply to existing conditions.

   The Contractor shall make the Project Manager aware of any scheduled operation which will affect airplane and vehicular traffic patterns or safety sufficiently in advance of commencing such operation to permit their review of the plan for installation of traffic control devices, warning devices, or barriers proposed by the Contractor.

   The Contractor shall assign one of their employees the responsibility of maintaining the position and condition of all traffic control devices, warning devices and barriers throughout the duration of the contract. The Project Manager shall be kept advised at

all times as to the identification and means of contacting this employee on a 24-hour basis.

3. All traffic control devices (including signs), warning devices, barricades and barriers shall be furnished by the Contractor.

4. Traffic control devices, warning devices, and barriers shall be kept in the correct position, properly directed, clearly visible and clean at all times. Damaged, defaced or dirty Devices or barriers shall be immediately repaired, replaced or cleaned as directed.

5. The Contractor shall provide competent flagmen to direct traffic where one-way operation in a single lane is in effect and in other situations as may be required by the standards established.

6. Where a detour changes the lane use or where normal vehicle paths are altered during construction, all existing pavement markings that will be in conflict with the adjusted vehicle paths shall be removed. Over-painting will not be allowed. The removal may be accomplished by any method that will not materially damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions.

   All pavement markings that will be in conflict with "next phase of operation" vehicle paths shall be removed as described above, prior to opening to traffic, when possible. Markings that cannot be removed prior to changing traffic patterns will be removed as soon as practicable. The term "practicable" shall be interpreted as meaning or implying:

   a. Marking removal equipment will be scheduled for use immediately following any change in lanes.

   b. If darkness or inclement weather interferes with removal operations, such operations will be accomplished during the next daylight period or as soon thereafter as weather conditions permit.

   c. If equipment failures occur such equipment will be repaired, replaced, or leased so that the removal can be accomplished by the following day.

7. The Contractor shall provide portable light towers as required for work. The towers shall be trailer mounted, that can be folded for easy transport and storage. The towers shall contain a diesel generator to power a minimum 6000 watts and have fuel capacity to operate at full load for a minimum of 48 hours. It shall be designed to be weather proof. The towers shall be telescoping and capable of rotating over 360 degrees and shall have a minimum of four (4) 1000 watt metal halide floodlights.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

[THIS PAGE INTENTIONALLY LEFT BLANK]

SECTION 013200
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. Site condition reports.
6. Special reports.

B. Related Sections include the following:

1. Division 01 Section "Summary of Multiple Contracts" for preparing a combined Contractor's Construction Schedule.
2. Division 01 Section "Payment Procedures" for submitting the Schedule of Values.
3. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
4. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
5. Division 01 Section "Photographic Documentation" for submitting construction photographs.
6. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either City or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Milestone: A key or critical point in time for reference or measurement.

G. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file in MS Project.
2. PDF electronic file.
3. **Two (2)** paper copies.

B. Startup construction schedule.

1. Approval of startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

D. Daily Construction Reports: Submit **one (1)** copy at **weekly** intervals.

E. Field Condition Reports: Submit **one (1)** copy at time of discovery of differing conditions.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Construction Project Manager's request.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of

subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule and network diagram. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

   a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to proceed to date of Final Completion.

B. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

2. Activity Duration: Define activities so no activity is longer than ten (10) days, unless specifically allowed by Construction Project Manager.

3. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

4. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in

Contractor's construction schedule with submittal schedule.

5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Construction Project Manager's administrative procedures necessary for certification of Substantial Completion.

6. Punch List and Final Completion: Include not more than **thirty (30)** days for completion of punch list items and final completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

2. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

a. Subcontract awards.
b. Submittals.
c. Purchases.
d. Installation.
e. Tests and inspections.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, Final Completion.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and Contract Time.

G. Recovery Schedule: When periodic update indicates the Work is **fourteen (14)** or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and dating by which recovery will be accomplished.

H. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

1. Microsoft Project 2010 for Windows 7 operating system.

2.3 STARTUP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule seven (7) days prior to the date established for the Pre-Construction Conference.

B. Preparation: Indicate each significant construction activity separately. Identify first workday

of each week with a continuous vertical line. Outline significant construction activities for first **ninety (90)** days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within **fourteen (14)** days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer completing, indicate an estimated completion percentage in **ten (10)** percent increments within time bar.

2.5 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events.
10. Orders and requests of authorities having jurisdiction.
11. Change Orders received and implemented.
12. Construction Change Directives received and implemented.
13. Services connected and disconnected.
14. Substantial Completions authorized.

B. Site Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: City may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.

2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Construction Project Manager, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections include the following:

1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
3. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
4. Division 01 Section "Photographic Documentation" for submitting construction photographs
5. Division 01 Section "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer's and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. List those

submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Engineer's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by City for Contractor's use.

1. City will furnish Contractor one set of digital data drawing files of the Contract Drawings.

    a. Engineer makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    b. Digital Drawing Software Program: The Contract Drawings are available in AutoCad 2010 dwg format.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 working days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow ten (10) working days for review of each resubmittal.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Action Submittals: Submit four (4) paper copies of each submittal unless otherwise indicated. Engineer will return three copies.
2. Informational Submittals: Submit four (4) paper copies of each submittal unless otherwise indicated. Engineer will return three copies.

B. Shop Drawings: Prepare Project-specific information. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on City's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.

B. See requirements in Section 017700.

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, and date of Contractor's approval.

3.2 ENGINEER'S ACTION

A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Approved as submitted
2. Approved as noted
3. Revise and resubmit
4. Rejected.

C. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

D. Partial or incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

Construction Sign Request Form

Bid 12666-623

P12474

Title (Bold):

FXE Midfield Runup Expansion Project

Title (Not Bold):

What's Happening?

Fort Lauderdale Executive Airport is expanding the exiting midfield runup area to allow multiple planes to runup their engines at once.

Benefits:

Improve airfield operations and provide more efficiency in airfield traffic.

Number of Neighbors Benefitted:

N/A

Cost:

T.B.D

Month and Year of Expected Completion:

Contractor:

T.B.D

Phone: 954-828-8000

We're Working On:

New Midfield Area for Runup Area Expansion

Project Manager Signature

Date

Senior Project Manager Signature

Date

015900-2

SECTION 01590 – PROJECT SIGN

PART 1 GENERAL

Contractor, at contractor's expense, shall furnish and install a **4' x 8'** sign (with white painted posts) prior to start of construction. A sample sign template is below but is not specific to the project. The exact style and design of the sign will be provided by the CITY to the Contractor during the preconstruction meeting in PDF format.



See Page 2, "Construction Sign Request Form", for information on the sign for this Project.

END OF SECTION

SECTION 017700
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Sections include the following:

1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 01 Section "Photographic Documentation" for submitting Final Completion construction photographs and negatives.
3. Division 01 Section "Execution Requirements" for progress cleaning of Project site.
4. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
5. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
6. Division 01 Section "Demonstration and Training" for requirements for instructing City's personnel.
7. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. As Built Project Record Survey

1. Upon completion of the work, after Substantial Completion and before Final Acceptance, the Contractor will supply to the Engineer a complete "as built" survey of the entire project site. The "as-built" project record survey shall be performed in conjunction with the paving operation, the Contractor will supply to the Engineer a complete "as built" survey of the centerline profile and corresponding cross-section grades at all 50 foot stations in the longitudinal direction. Provide survey points at all profile grade change locations as defined on the proposed profile. Provide survey points at all PC and PT locations as defined on the Geometry Plan. Provide as-built elevations in all additional locations where proposed elevations are given on the plans. All survey points, including horizontal and vertical control, property corners, section corners and references (hereinafter referred to as "survey points") shall be clearly marked and referenced prior to construction. These survey points must be sufficiently referenced so that they can be re-established after construction if they are disturbed.

2. This "as built" survey will be a complete topographic survey of the entire project site surrounded by the limit of construction plus 50-feet in all directions. If any work is done outside the limits of construction for any reason, this limit of survey will be increased to include this area plus 50-feet. This survey shall be certified by a Registered Land Surveyor as meeting the minimum Technical Standards for topographic surveys as set forth in chapter 5J-17, Florida Administrative Code. The survey data must be supplied as a signed and sealed drawing (24" x 36"), PDF file (24" x 36"), and "readable" AutoCAD CADD file. All cogo points in the drawing file are to be Civil 3D point objects. All survey data shall also be supplied in ASCII format. ASCII format shall be comma delimited PNEZD with complete point descriptions. Each point or feature shown on the survey shall have a corresponding point or points in the ASCII file and the descriptions of the points in the ASCII file shall correspond to the call outs and descriptions of the point and features on the survey. The topographic survey shall describe the entire site at the same scale as the construction drawings and will be arranged on the required size sheets in a neat and logical manner. Larger scale details are to be provided to clarify any complicated or complex areas. The horizontal and vertical control and datum established and shown on the project plans shall be the basis of the survey. Work specified herein shall be considered incidental to the project scope and will not be paid as a separate item.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of **ten (10)** days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of **ten (10)** days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Complete startup and testing of systems and equipment.
3. Perform preventive maintenance on equipment used prior to Substantial Completion.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
5. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of **ten (10)** days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Construction Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Construction Project Manager will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of **ten (10)** days prior to date the work will be completed and ready for final inspection and

tests. On receipt of request, Construction Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Construction Project Manager will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Construction Project Manager for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS (N/A)

PART 3 - EXECUTION (N/A)

END OF SECTION 017700

Advancement of Constructio Technology

PUNCH LIST

Project: _____

_____

To (Contractor): _____

_____

From (A/E): _____

Site Visit Date: _____

A/E Project Number: _____

Contract For: _____

The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Item Number	Room Number	Location (Area)	Description	Correction/Completion Date	Verification A/E Check

☐ Attachments

Signed by: Date:

Copies: ☐ Owner ☐ Consultants ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ File

Copyright 1996, Construction Specifications Institute,
601 Madison Street, Alexandria, VA 22314-1791

Public Works Department-Engineering
Final Inspection Punch-List Corrective Action Form

Project Number:_____ **Project Name:**_____ **Inspection Date:**_____
Contractor:_____ **Project Manager:**_____ **Inspector:**_____

Item No.	Description of Deficiency	Date Completed		Comments
		Contractor	PM/CI	

Instructions for completing the *Final Inspection Punch-list Corrective Action Form.*

The Construction Project Manager, in conjunction with the assigned construction inspector is responsible for preparing this form. It shall be completed in cooperation with the project's prime contractor and will be used as the official record for any and all punch-list items. Under no circumstances shall final payment be made until all items identified on this form are corrected to the satisfaction of the Construction Project Manager.

1. Prior to scheduling Substantial Completion/Final Inspection, all permits should be cleared by the building department, all O&M Manuals should be turned over to the city, and all warranty information should be provided in a three ring binder and on CD-ROM.
2. Schedule inspection, coordinating with necessary staff to properly evaluate the completeness of the project.
3. The Final Inspection Punch-list Corrective Action Form is to be used to document discrepancies that are minor in nature (i.e., paint chips, minor blemishes, etc....) if major items of work are not complete, lack required quality, or are not acceptable for any reason, the final inspection should be rescheduled for a time when these items have been completed.
4. Fill in the form completely: Project Number and Name, Date of inspection, the contractor's name, PM and inspector's names should all be filled in.
5. Beginning with item number 1, list the description of the deficiency, and any amplifying information required to fully document the item to be corrected. For instance, Item No. 1; Description of Deficiency - Door entering main office sticks; Notes – Door should be adjusted to open and close properly.
6. Use as many forms as required to fully document the inspection results. In the lower right hand side of the form indicate page number and total number of forms used (for example 1 of 4)
7. If there is any disagreement as to whether or not an item is a deficiency, it should be documented and then
8. When an item is corrected, the Contractor shall initial the form and indicate the date work was completed. If the PM/CI concurs with the acceptance of the work, they will initial and date in the corresponding block.
9. Substantial completion will not be issued if there is a large number of punch list items or if there are major deficiencies with the work. If you have any questions regarding whether or not an item is major, or if there are a large number deficiencies, contact the Senior Project Manager.
10. Under no circumstances will final payment be made without documented completion of the Punch-List.

TECHNICAL SPECIFICATIONS

Table of Contents

PART 1 – GENERAL CONTRACT PROVISIONS 1
Section 10 Definition of Terms 1
Section 20 Proposal Requirements and Conditions 10
Section 30 Award and Execution of Contract 15
Section 40 Scope of Work 18
Section 50 Control of Work 21
Section 60 Control of Materials 29
Section 70 Legal Regulations and Responsibility to Public 32
Section 80 Execution and Progress 40
Section 90 Measurement and Payment 46
PART 2 – GENERAL CONSTRUCTION ITEMS 53
Item C-100 Contractor Quality Control Program (CQCP) 53
Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control 60
Item C-105 Mobilization 64
Item C-110 Method of Estimating Percentage of Material Within Specification Limits (PWL) 67
PART 3 – SITEWORK 75
Item P-101 Preparation/Removal of Existing Pavements 75
Item P-151 Clearing and Grubbing 81
Item P-152 Excavation, Subgrade, and Embankment 84
Item P-154 Subbase Course 92
PART 4 –BASE COURSES 98
Item P-211 Lime Rock Base Course 98
PART 6 – FLEXIBLE PAVEMENTS 103
Item P-401 Asphalt Mix Pavement 103
PART 7 – RIGID PAVEMENT 124
Item P-501 Cement Concrete Pavement 124
PART 9– MISCELLANEOUS 155
Item P-602 Emulsified Asphalt Prime Coat 155
Item P-603 Emulsified Asphalt Tack Coat 159
Item P-605 Joint Sealants for Pavements 163
Item P-620 Runway and Taxiway Marking 166
PART 12 – TURFING 172
Item T-904 Sodding 172
Item T-905 Topsoil 177
PART 13 – NON-FAA SUPPLEMENTAL ITEMS 180
Item S-101 Project Survey 180
Item S-102 Airport Safety and Maintenance of Air Operations Area Traffic Requirements 184
Item S-103 Jet Blast Barrier/Deflector For High Power Run-Up Velocities 186
Item S-104 Jet Blast Barrier/Deflector For Taxi/Breakaway Velocities 193
Item S-105 High Performance Turf Reinforcement Mat 200
Item S-106 Composite Armor Turf Reinforcement Mat 206
PART 14 – SUPPLEMENTAL APPENDICES 211
Appendix A – Construction Safety and Phasing Plan 211

Appendix B – Geotechnical Report 212

Part 1 – General Contract Provisions

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	**AASHTO**	The American Association of State Highway and Transportation Officials.
10-02	**Access Road**	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	**Advertisement**	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	**Airport**	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	**Airport Improvement Program (AIP)**	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	**Air Operations Area (AOA)**	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	**Apron**	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	**ASTM International (ASTM)**	Formerly known as the American Society for Testing and Materials (ASTM).

Paragraph Number	Term	Definition
10-09	**Award**	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	**Bidder**	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	**Building Area**	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	**Calendar Day**	Every day shown on the calendar.
10-13	**Certificate of Analysis (COA)**	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	**Certificate of Compliance (COC)**	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	**Change Order**	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	**Contract**	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	**Contract Item (Pay Item)**	A specific unit of work for which a price is provided in the contract.
10-18	**Contract Time**	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of

Paragraph Number	Term	Definition
		calendar or working days, the contract shall be completed by that date.
10-19	**Contractor**	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	**Contractors Quality Control (QC) Facilities**	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	**Contractor Quality Control Program (CQCP)**	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	**Control Strip**	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	**Construction Safety and Phasing Plan (CSPP)**	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	**Drainage System**	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	**Engineer**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	**Equipment**	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	**Extra Work**	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to

Paragraph Number	Term	Definition
		complete the work within the intended scope of the contract as previously modified.
10-28	**FAA**	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	**Federal Specifications**	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	**Force Account**	**a.** Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. **b.** Owner Force Account - Work performed for the project by the Owner's employees.
10-31	**Intention of Terms**	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	**Lighting**	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	**Major and Minor Contract Items**	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

Paragraph Number	Term	Definition
10-34	**Materials**	Any substance specified for use in the construction of the contract work.
10-35	**Modification of Standards (MOS)**	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	**Notice to Proceed (NTP)**	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	**Owner**	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is City of Fort Lauderdale.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	**Pavement Structure**	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	**Payment bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	**Performance bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	**Plans**	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	**Project**	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	**Proposal**	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work

Paragraph Number	Term	Definition
		and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	**Proposal guaranty**	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	**Quality Assurance (QA)**	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	**Quality Control (QC)**	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	**Resident Project Representative (RPR)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-54	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the

Paragraph Number	Term	Definition
		contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See

Paragraph Number	Term	Definition
		the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	**Work**	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	**Working day**	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	**Owner Defined terms**	***Advisory Circular (AC) - A document issued by the FAA containing informational material and guidance. When referred to in the drawings (plans) and specifications, advisory circulars shall have the same force as supplemental specifications.*** ***Certification - When "certification" is used to describe that which is to be submitted for approval from the Contractor, jointly with a supplier or by himself for his own materials, whether manufactured or purchased by the Contractor, will be construed to mean compliance in individual or completed form with the drawings (plans), specifications and/or intent of the design.*** ***Awarded Contract - The written agreement between the Owner and Contractor, covering the work to be performed. The awarded Contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond and Payment Bond; any required insurance certificates; The General Provisions; The General Requirements, The Special Provisions; The Specifications; Standard Forms; The Drawings (Plans), any addenda issued to bidders, Change Orders, Terms and Conditions, and agreements which are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.***

Paragraph Number	Term	Definition
		Special Provisions - The specific clauses setting forth conditions or requirements peculiar to the project under consideration. ***Subcontractor - The pre-qualified (where required) individual, partnership or corporation, or a combination thereof, undertaking the execution of a part of the work under the terms of the Contract, by virtue of an agreement with the contractor approved by the Owner.***

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). See Advertisement for Bid.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals.*

Mobilization is limited to 10 percent of the total project cost.

A prebid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements. **See Notice to Bidders.**

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. ***The Contractor shall verify all quantities as noted in the plans prior to ordering material or equipment. No additional compensation shall be made for stored materials, re-stocking fees or other fees associated with errors in quantity calculations.*** It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing **or** by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms,* of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than **10 working** days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

Page Intentionally Blank

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals.*

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders.*

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within **120** calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract.*

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals.* Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds.*

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds,* of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract,* of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Page Intentionally Blank

Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work

covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If

any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. Special Provisions and Contract Forms are provided in the Project Manual.

50-05 Cooperation of Contractor. The Contractor shall be supplied with **five** hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **Refer to S-101 for project survey requirements.**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

Construction Staking and Layout includes but is not limited to:

a. Clearing and Grubbing perimeter staking

b. Rough Grade slope stakes at 100-foot (30-m) stations

c. Drainage Swales slope stakes and flow line blue tops at 50-foot (15-m) stations

Subgrade blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

a. Runway – minimum five (5) per station

b. Taxiways – minimum three (3) per station

c. Holding apron areas – minimum three (3) per station

d. Roadways – minimum three (3) per station

Base Course blue tops at 25-foot (7.5-m) stations and 25-foot (7.5-m) offset distance (maximum) for the following section locations:

a. Runway – minimum five (5) per station

b. Taxiways – minimum three (3) per station

c. Holding apron areas – minimum three (3) per station

Pavement areas:

a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot (30-m) stations.

b. Between Lifts at 25-foot (7.5-m) stations for the following section locations:

(1) Runways – each paving lane width

(2) Taxiways – each paving lane width

(3) Holding areas – each paving lane width

c. After finish paving operations at 50-foot (15-m) stations:

(1) All paved areas – Edge of each paving lane prior to next paving lot

d. Shoulder and safety area blue tops at 50-foot (15-m) stations and at all break points with maximum of 50-foot (15-m) offsets.

e. Fence lines at 100-foot (30-m) stations minimum.

f. Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, Visual Approach Slope Indicators (VASIs),

Precision Approach Path Indicators (PAPIs), Runway End Identifier Lighting (REIL), Wind Cones, Distance Markers (signs), pull boxes and manholes.

g. Drain lines, cut stakes and alignment on 25-foot (7.5-m) stations, inlet and manholes.

h. Painting and Striping layout (pinned with 1.5 inch PK nails) marked for paint Contractor. (All nails shall be removed after painting).

i. Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet (120 m) per pass (that is, paving lane).

The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor.

Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the RPR without additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work.*

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor ***(punch list items)*** shall correct the unsatisfactory work. ***The punch list items shall be corrected by the Contractor within 30 calendar days and prior to any request for final inspection or acceptance.*** Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

~~**50-17 Value Engineering Cost Proposal.**~~

~~The provisions of this paragraph will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.~~

~~On projects with original contract amounts in excess of $100,000, the Contractor may submit to the RPR, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The value engineering cost proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.~~

~~Not eligible for value engineering cost proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.~~

~~As a minimum, the following information shall be submitted by the Contractor with each proposal:~~

~~a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each.~~

~~b. An itemization of the contract requirements that must be changed if the proposal is adopted.~~

~~c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes.~~

~~d. A statement of the time by which a change order adopting the proposal must be issued.~~

~~e. A statement of the effect adoption of the proposal will have on the time for completion of the contract.~~

~~f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.~~

~~The Contractor may withdraw, in whole or in part, any value engineering cost proposal not accepted by the RPR, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the RPR to consider any value engineering cost proposal that may be submitted.~~

~~The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the value engineering cost proposal has been issued. If a change order has not been issued by the date upon which the Contractor's value engineering cost proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such value engineering cost proposal shall be deemed rejected.~~

~~The RPR shall be the sole judge of the acceptability of a value engineering cost proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the RPR may disregard the contract bid prices if, in the RPR's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.~~

~~The Owner may require the Contractor to share in the Owner's costs of investigating a value engineering cost proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a value engineering cost proposal from amounts payable to the Contractor under the contract.~~

~~If the Contractor's value engineering cost proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this paragraph. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the value engineering cost proposal or such part of it as has been accepted and shall include any conditions upon which the RPR's approval is based. The change order shall also set forth the estimated net savings attributable to the value engineering cost proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.~~

~~The Contractor's 50% share of the net savings shall constitute full compensation to the Contractor for the value engineering cost proposal and the performance of the work.~~

~~Acceptance of the value engineering cost proposal and performance of the work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.~~

50-18 RETEST OF WORK. When as provided for in the Contract documents, the Owner performs sampling tests of the work and the tests show a failure to meet the requirements of the Contract documents, the expense of retesting, after reworking or substitution by the Contractor will be at the expense of the Contractor and such costs will be deducted from the payments otherwise due to the Contractor.

50-19 CORRECTION OF WORK AFTER FINAL PAYMENT. Neither the final certificate, nor payment, nor any provision in the Contract documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, he shall remedy any defect due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from date of final acceptance. The Owner shall give notice of observed defects

with reasonable promptness. Wherever the word "acceptance" occurs, it shall be understood to mean final acceptance.

50-20 WARRANTY AND GUARANTEE. The Contractor warrants to the Owner that all materials furnished under this Contract shall be new unless otherwise specified and that all Work, including without limitation all materials, will be of good quality, free from faults and defects and in conformance with contract requirements. Any work not so conforming to these standards may be considered defective.

If, within one year after the date of final acceptance of the Work, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract, any of the Work is found to be defective or not in accordance with Contract requirements, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so.

The obligations of the Contractor in this paragraph entitled WARRANTY AND GUARANTEE shall be in addition to and not in limitation of any obligations imposed upon him by special guarantees required by the contract or otherwise prescribed by law.

END OF SECTION 50

Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

Contractor shall supply steel and manufactured products that conform to the Buy American provisions established under 49 USC Section 50101 as follows: "Steel products must be 100% U.S. domestic product. Preference shall be given to products that are 100% manufactured and assembled in the U.S. Manufactured products not meeting the 100% U.S. domestic preference may only be used on the project if the FAA has officially granted a permissible waiver to Buy American Preferences. Submittals for all manufactured products must include certification of compliance with Buy American requirements as established under 49 USC Section 50101. Submittal must include sufficient information to confirm compliance or submittal will be returned with no action."

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR. In the event that any tests show a failure to meet the requirements of the Contract Documents, the expense of retesting, after substitution or modification, shall be paid by the Contractor. ***The Contractor shall furnish the required samples without charge and shall give sufficient notification of the placing of orders for materials to permit testing.***

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP). ***The final quality control report, signed and sealed by an engineer registered in Florida, shall be delivered in hard copy.***

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results. ***Certification alone will not relieve the Contractor from his responsibility to provide materials that comply fully with the provisions of these specifications and that acceptable to the Engineer.***

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to

reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic,* and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations.*

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) [G03-G08] of the project plans ***and in Appendix A of the technical specifications.***

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

Work that is to remain in place which is damaged or defaced by reasons of work performed under this Contract, shall be restored at no additional cost to the Owner.

Items removed, indicated to be salvaged for Owner or reused in new work, which are damaged beyond repair, shall be replaced with equal new materials under this Contract at no additional cost to the Owner.

Existing pavement or other existing work not specified for removal which is temporarily removed, damaged or in any way disturbed or altered by work under this Contract shall be repaired, patched, or replaced to the complete satisfaction of the RPR at no additional cost to the Owner.

Where it is necessary to cut, alter, remove, or temporarily remove and replace existing property or equipment, the cost shall be included in the Contract price for the item creating such work.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims,

of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

The Contractor shall follow the schedule of work in the Construction Safety and Phasing Plan.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the

Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events,

shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport **RPR** a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

Any displaced or relocated FAA facility or cables due to construction will require a signed and executed reimbursable agreement between the Owner and the FAA Tech Ops Division.

The splicing of cables is not be an acceptable form of repair for certain projects. If any FAA cables are damaged, the Contractor shall replace the cables in their entirety.

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor

to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

In the event of conflict between Federal, State or local laws, codes, ordinances, rules and regulations concerning pollution control, the most restrictive applicable ones shall apply.

The Contractor shall pay special attention to the pollution control requirements of the several specifications. Work items, which may cause excessive pollution and shall be closely controlled by the Contractor, are:

a) Clearing, grubbing, burning or other disposal.

b) Stripping, excavation, and embankment.

c) Drainage and ditching.

d) Aggregate production, handling and placing.

e) Cement, lime or other stabilization.

f) Concrete and bituminous materials handling, production and paving.

g) Seeding, fertilizing, mulching and use of herbicides or insecticides.

h) Contractor's own housekeeping items; haul roads; sanitary facilities; water supply; equipment fueling, servicing and cleaning; job clean up and disposal.

When the Contractor submits his tentative progress schedule in accordance with PROSECUTION and PROGRESS, Section 80, he shall also submit for acceptance of the Owner, his schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing, grading, structures at water courses, construction, and paving, and his proposed methods of erosion control on haul roads and borrow pits and his plan for disposal of waste materials. No work shall be started until the erosion control schedules and methods of operations have been accepted by the Owner.

All bituminous and Portland cement concrete proportioning plants shall meet state requirements.

The following listed stipulations shall apply to this Contract unless more restrictive ones are specified by the plans, special provisions, laws, codes, ordinances, etc. Cost of pollution control shall be incidental to the appropriate work items unless otherwise specified.

1. Control of Water Pollution and Siltation.

(a) All work of water pollution and siltation control is subject to inspection by the local and/or state governmental enforcing agent.

(b) All applicable regulations of fish and wildlife agencies and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the Contract.

(c) Construction operations shall be conducted in such manner as to reduce erosion to the practicable minimum and to prevent damaging siltation of water courses, streams, lakes or

reservoirs. The surface area of erodible land, either on or off the airport site, exposed to the elements by clearing, grubbing or grading operations, including gravel pits, waste or disposal areas and haul roads, at any one time, for this Contract, shall be subject to approval of the Owner and the duration of such exposure prior to final trimming and finishing of the areas shall be held to the minimum practical. The Owner shall have full authority to order the suspension of grading and other operations pending adequate and proper performance of finishing and maintenance work or to restrict the trimming of erodible land exposed to the elements.

(d) Materials used for permanent erosion control measures shall meet the requirements of the applicable specifications. Gravel or stone, consisting of durable particles of rock and containing only negligible quantities of fines, shall be used for construction pads, haul roads and temporary roads in or across streams.

(e) Where called for on the plans, a stilling basin shall be constructed to prevent siltation in the stream from construction operations.

(f) The disturbance of lands and waters that are outside the limits of construction as staked is prohibited, except as found necessary and approved by the Owner. 70-20 Archaeological and historical findings.

(g) The Contractor shall conduct his work in such manner as to prevent the entry of fuels, oils, bituminous materials, chemicals, sewage or other harmful materials into streams, rivers, lakes or reservoirs.

(h) Water from aggregate washing or other operations containing sediment shall be treated by filtration, by use of a settling basin or other means to reduce the sediment content to a level acceptable to the local and/or state governmental enforcing agent.

(i) All waterways shall be cleared as soon as practicable of falsework, piling, debris or other obstructions placed during construction operations and not a part of the finished work. Care shall be taken during construction and removal of such barriers to minimize the muddying of a stream.

(j) The Contractor shall care for the temporary erosion and siltation control measures during the period that the temporary measures are required and for the permanent erosion control measures until the Contract has been completed and accepted. Such care shall consist of the repair of areas damaged by erosion, wind, fire or other causes.

(k) Permanent and temporary erosion control work that is damaged due to the Contractor's operations or where the work required is attributed to the Contractor's negligence, carelessness, or failure to install permanent controls at the proper time, shall be repaired at the Contractor's expense.

2. Control of Other Air Pollutants.

(a) Grading areas shall be kept at proper moisture conditions.

(b) Sand or dust blows shall be temporarily mulched, with or without seeding, or otherwise controlled with stabilizing agents.

(c) Temporary roads, haul roads, traffic or work areas shall be stabilized with dust palliative, penetration asphalt, or wood chips or other approved measures to prevent dust pollution.

(d) Cements, fertilizers, chemicals, volatiles, etc., shall be stored in proper containers or with proper coverings to prevent accidental discharge into the air.

(e) Aggregate bins, cement bins, and dry material batch trucks shall be properly covered to prevent loss of material to the air.

(f) Drilling, grinding and sand blasting apparatus shall be equipped with water, chemical, or vacuum dust controlling systems.

(g) Applications of chemicals and bitumens shall be held to recommended rates.

(h) Bituminous mixing plants shall be equipped with dust collectors as noted in the specifications.

(i) Quarrying, batching, and mixing operations and the transfer of materials between trucks, bins, or stockpiles shall be properly controlled to minimize dust diffusion.

(j) When necessary, certain operations shall be delayed until proper wind or climatic conditions exist to dissipate or inhibit potential pollutants to the satisfaction of the Owner.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work,* and Section 90, paragraph 90-05, *Payment for Extra Work.* If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time.*

70-21 Insurance Requirements. Insurance requirements are to be in accordance with the Contractor's contract with the Owner.

END OF SECTION 70

Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **35** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within **30** days of the NTP date. The Contractor shall notify the RPR at least **24 hours** in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least **10 days** prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least **24 hours** in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a ***Bi***-monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least **48 hours** prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as ***indicated on the plans*** ~~follows:~~

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for

consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar days shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

~~The maximum construction time allowed for Schedules Phase 1,1A, and 2 will be the sum of the time allowed for individual schedules but not more than days.~~ Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract. **Liquidated damages will be assessed as provided in the Contractor's contract with the Owner.**

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 km) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this

Term	Description
	purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted.

Term	Description
	In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 *Payment for Extra Work.*
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights.*

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work*

and Quantities, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items,* the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work,* will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand.* No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. From the total of the amount determined to be payable on a partial payment, Ten (10%) percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a

portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment.*

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes,* or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup.*

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

Part 2 – General Construction Items

Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

a. Provide qualified personnel to develop and implement the CQCP.

b. Provide for the production of acceptable quality materials.

c. Provide sufficient information to assure that the specification requirements can be met.

d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.

b. Discussion of the QA program.

c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.

d. Establish regular meetings to discuss control of materials, methods and testing.

e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors.

The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least **10** calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time on-site employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description

(2) Compliance with approved submittals

(3) Proper storage of materials and equipment

(4) Proper operation of all equipment

(5) Adherence to plans and technical specifications

(6) Summary of any necessary corrective actions

(7) Safety inspection.

(8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

(1) Technical specification item number and description

(2) Test designation

(3) Location
(4) Date of test
(5) Control requirements
(6) Test results
(7) Causes for rejection
(8) Recommended remedial actions
(9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 20%.

d. When 75% or more of the original contract is earned, an additional 20%

e. After final inspection and acceptance of project, the final 10%.

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100	Contractor Quality Control Program (CQCP)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

102-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

102-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Silt fence. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Silt fences shall extend a minimum of 16 inches and a maximum of 34 inches above the ground surface. Posts shall be set no more than 10 feet on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch overlap and securely sealed. A trench shall be excavated approximately 4 inches deep by 4 inches wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to

establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be paid as lump sum. ~~measured as follows:~~

~~a. Temporary seeding and mulching will be measured by the square yard (square meter).~~

~~b. Temporary slope drains will be measured by the linear foot (meter).~~

~~c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.~~

~~d. All fertilizing will be measured by the ton (kg).~~

~~e. Installation and removal of silt fence will be measured by Lump sum.~~

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

Item C-102-5.1a	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control - per Lump sum

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

~~Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work.*~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33	*Hazardous Wildlife Attractants on or Near Airports*
AC 150/5370-2	*Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461	*Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

Item C-105 Mobilization

105-1.*1* Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-1.2 The costs for the establishment by the Contractor, if required, of staging areas, temporary offices, temporary fencing and gates, building facilities, all utilities, security elements, temporary access roads, safety equipment and first aid supplies, sanitary and other facilities, as required by these Contract Documents, any Federal, State and local laws and regulations. The preparation, submittal and approval of initial project schedule, construction sequencing plan, shop drawings, submittals, and the cost to maintain and restore project elements to preconstruction condition, including sodding.

105-1.3 The costs, if required, of bonds and any required insurance and other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall be included in this Item.

105-1.4 This item of work will also include, if required, any other item or items of work shown, implied or required for the completion of the project that are not directly paid for under other pay items.

105-1.5 All costs, if required, associated with the required meetings and coordination with the Owner, and Owner's Representative, in addition, all costs associated with the Contractor badging shall be included in this item.

105-1.6 DEMOBILIZATION. The Contractor shall completely de-mobilize all equipment, vehicles, materials, offices, and waste within 30 days of final acceptance. Remaining retainage will not be released until all deficient work is corrected and the Contractor has completely demobilized from the project site.

105-2 Mobilization limit. Mobilization shall be limited to **10** percent of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. An Engineer/RPR field office is not required.

METHOD OF MEASUREMENT

105-5.*1* Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

a. With first pay request, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation,* the final 10%.

105-5.2 Contractor Staging and Storage Area. The establishment by the Contractor, if required, of staging areas, temporary offices, temporary fencing and gates, building facilities, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications and State and local laws and regulations, the preparation and material cost to establish, maintain and restore to the existing conditions, including stabilization of disturbed earth in accordance with the SWPPP, of the Contractor staging area shall be measured under the "Contractor Staging and Storage" lump sum price.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105-6.1	Mobilization – per lump sum
Item C-105-6.2	Contractor Staging and Storage – per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Page Intentionally Blank

Item C-110 Method of Estimating Percentage of Material Within Specification Limits (PWL)

110-1 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-2 Method for computing PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot test values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot test values within a lot

$x_1, x_2, \ldots x_n$ = Individual sublot test values

n = Number of sublot test values

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot test values in the set

$d_1, d_2, \ldots d_n$ = Deviations of the individual sublot test values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X) \ldots d_n = (x_n - X)$

n = Number of sublot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$\mathbf{Q_L = (X - L) / S_n}$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$\mathbf{Q_L = (X - L) / S_n}$$
and
$$\mathbf{Q_U = (U - X) / S_n}$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$\mathbf{PWL = (P_U + P_L) - 100}$$

Where: P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 = 96.60

A-2 = 97.55

A-3 = 99.30

A-4 = 98.35

n = 4

2. Calculate average density for the lot.

$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$

$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$

$X = 97.95\%$ density

3. Calculate the standard deviation for the lot.

$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$

$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$

$S_n = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / S_n$

$Q_L = (97.95 - 96.30) / 1.15$

$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 = 5.00

A-2 = 3.74

A-3 = 2.30

A-4 = 3.25

2. Calculate the average air voids for the lot.

$X = (x_1 + x_2 + x_3 \ldots n) / n$

$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$

$X = 3.57\%$

3. Calculate the standard deviation S_n for the lot.

$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$

$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$

$S_n = 1.12$

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / S_n$

$Q_L = (3.57 - 2.00) / 1.12$

$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with $Q_L = 1.41$ and $n = 4$.

$P_L = 97$

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / S_n$

$Q_U = (5.00 - 3.57) / 1.12$

$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and n = 4.

$P_U = 93$

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

$PWL = (97 + 93) - 100 = 90$

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

A-3 = 99.30
A-4 = 98.35
A-2 = 97.55
A-1 = 96.60

2. From ASTM E178, Table 1, for n=4 an upper 5% significance level, the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:

If (measurement - average)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if (99.30 - 97.95) / 1.15 is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If (average - measurement)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if (97.95 - 96.60) / 1.15 is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than (97.95 + 1.463 × 1.15) = 99.63%

OR

less than (97.95 - 1.463 × 1.15) = 96.27%.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178 Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

Page Intentionally Blank

Part 3 – Sitework

Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of **3 inches**. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. ~~If the material is to be wasted on the airport site, it shall be broken to a maximum size of 3 inches.~~ *Material shall be disposed off the Airport property.*

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Remove all vegetation and debris from cracks to a minimum depth of 1 inch (25 mm). If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch (6 mm) wide) with a crack sealant per ASTM D6690. The crack sealant, preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch (3 mm), not to exceed ¼ inch (6 mm). Any excess joint or crack sealer shall be removed from the pavement surface.

Wider cracks (over 1-1/2 inch wide (38 mm)), along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated in the plans.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay and remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Rotary grinding may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch (3 mm) deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

a. Repair of concrete spalls in areas to be overlaid with asphalt. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches (50 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches (100 mm) in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. *The Contractor shall process asphalt millings such that no individual piece is larger than 2" diameter in any measured distance. Processed asphalt millings shall be placed and compacted as shown on the plans. Any remaining millings at the completion of the project shall be removed and disposed off Airport property.* ~~All millings shall be removed and~~

~~disposed off Airport property~~. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 7 feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch (+0 mm and -6mm) of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to windrow the millings or cuttings. All millings shall be processed *such that no individual piece is larger than 2" diameter in any measured distance. Processed asphalt millings shall be placed and compacted as shown on the plans. Any remaining millings at the completion of the project shall be removed and disposed off Airport property* ~~shall be removed and disposed of off the airport~~.

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.8.1 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch (2 mm) from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8.2 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with Item P-605 *or* Item P-604.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with random crack saw by removing a minimum of 1/16 inch (2 mm) from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

101-3.9.2 Removal of Existing Crack Sealant. Existing sealants will be removed by random crack saw. Following sawing any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.

101-3.9.4 Removal of Pipe and other Buried Structures.

a. **Removal of Existing Pipe Material.** Not used.

b. **Removal of Inlets/Manholes.** Not used.

METHOD OF MEASUREMENT

101-4.1 Full Depth Asphalt Pavement Removal. The unit of measurement for pavement removal including the base material shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

101-4.2 Concrete Spall Repair. The unit of measure for concrete spall repair shall be the number of square feet. The location and average depth of the patch shall be determined and agreed upon by the RPR and the Contractor.

101-4.3 Cold milling. The unit of measure for cold milling shall be variable between **0-3** inches of milling per square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area and will be paid for the total depth of milling. *This price shall be full compensation for processing the removed existing millings to the gradation specified in the plans in addition to stockpiling the millings within the locations specified in the plans to be re-used in the project. The price shall be inclusive of the furnishing of all materials, labor, equipment, tools, and incidentals necessary to complete the pay item.*

101-4.4 Remove Existing Asphalt Pavement Milling Piles and Process for Reuse. *The unit of measure for removal of existing asphalt pavement milling piles and process for reuse shall be made at the contract unit price per cubic yard. This price shall be full compensation for removal by milling or other means to be determined by the contractor, and for processing the removed existing millings to the gradation specified in the construction documents. It shall also include transporting and stockpiling the millings within the contractor staging/storage area specified in the construction documents. The price shall be inclusive of the furnishing of all materials, labor, equipment, tools, and incidentals necessary to complete the pay item.*

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P 101-5.1	Full Depth Asphalt Pavement Removal - per square yard
Item P-101-5.2	Concrete Spall Repair - per square foot (ADD ALTERNATE TWO)
Item P-101-5.3a	Cold Milling, 2-Inches – per square yard
Item P-101-5.3b	Cold Milling, Variable Depth – per square yard
Item P-101-5.4	Remove Existing Asphalt Pavement Milling Piles and Process for Reuse – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

Page Intentionally Blank

Item P-151 Clearing and Grubbing

DESCRIPTION

151-1.1 This item shall consist of ~~clearing or clearing and grubbing~~ *stripping*, including the disposal of materials, for all areas within the limits designated on the plans or as required by the Resident Project Representative (RPR).

~~**a. Clearing** shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, the removal of fences and other loose or projecting material from the designated areas. The grubbing of stumps and roots will not be required.~~

~~**b. Clearing and grubbing** shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, and rubbish of any nature, natural obstructions or such material which in the opinion of the RPR is unsuitable for the foundation of strips, pavements, or other required structures, including the grubbing of stumps, roots, matted roots, foundations, and the disposal from the project of all spoil materials resulting from clearing and grubbing.~~

~~**c. Tree Removal.** Tree Removal shall consist of the cutting and removal of isolated single trees or isolated groups of trees, and the grubbing of stumps and roots. The removal of all the trees of this classification shall be in accordance with the requirements for the particular area being cleared.~~

d. Stripping. *Stripping shall consist of the removal of existing turf where trees and brush are not present.*

CONSTRUCTION METHODS

151-2.1 General. The areas denoted on the plans to be *stripped* shall be staked on the ground by the Contractor as indicated on the plans.

Perform stripping as most appropriate within the following areas:

(a) All areas where excavation is to be done, including borrow pits, lateral ditches, right-of-way ditches, etc.
(b) All areas where roadway or parking embankments will be constructed.
(c) All areas where airfield pavements will be constructed.
(d) All areas where building construction will occur.
(e) All areas where structures will be constructed, including pipe culverts
(f) Other areas as designated in the plans or required by the Engineer.

The removal of existing structures and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the RPR who will notify the proper local authority or owner to secure prompt action.

151-2.1.1 Disposal. All materials removed by clearing or by clearing and grubbing shall be disposed of outside the Airport's limits at the Contractor's responsibility, except when otherwise directed by the RPR. As far as practicable, waste concrete and masonry shall be placed on slopes of embankments or channels. When embankments are constructed of such material, this material shall be placed in accordance with

requirements for formation of embankments. Any broken concrete or masonry that cannot be used in construction and all other materials not considered suitable for use elsewhere, shall be disposed of by the Contractor. In no case, shall any discarded materials be left in windrows or piles adjacent to or within the airport limits. The manner and location of disposal of materials shall be subject to the approval of the RPR and shall not create an unsightly or objectionable view. When the Contractor is required to locate a disposal area outside the airport property limits, the Contractor shall obtain and file with the RPR permission in writing from the property owner for the use of private property for this purpose.

151-2.1.2 Blasting. Blasting shall not be allowed.

~~**151-2.2 Clearing.** The Contractor shall clear the staked or indicated area of all materials as indicated on the plans. Trees unavoidably falling outside the specified clearing limits must be cut up, removed, and disposed of in a satisfactory manner. To minimize damage to trees that are to be left standing, trees shall be felled toward the center of the area being cleared. The Contractor shall preserve and protect from injury all trees not to be removed. The trees, stumps, and brush shall be cut flush with the original ground surface. The grubbing of stumps and roots will not be required.~~

~~Fences shall be removed and disposed of as directed by the RPR. Fence wire shall be neatly rolled and the wire and posts stored on the airport if they are to be used again, or stored at a location designated by the RPR if the fence is to remain the property of a local owner or authority.~~

~~**151-2.3 Clearing and grubbing.** In areas designated to be cleared and grubbed, all stumps, roots, buried logs, brush, grass, and other unsatisfactory materials as indicated on the plans, shall be removed, except where embankments exceeding 3-1/2 feet (105 cm) in depth will be constructed outside of paved areas. For embankments constructed outside of paved areas, all unsatisfactory materials shall be removed, but sound trees, stumps, and brush can be cut off flush with the original ground and allowed to remain. Tap roots and other projections over 1-1/2 inches (38 mm) in diameter shall be grubbed out to a depth of at least 18 inches (0.5 m) below the finished subgrade or slope elevation.~~

~~Any buildings and miscellaneous structures that are shown on the plans to be removed shall be demolished or removed, and all materials shall be disposed of by removal from the site. The cost of removal is incidental to this item. The remaining or existing foundations, wells, cesspools, and like structures shall be destroyed by breaking down the materials of which the foundations, wells, cesspools, etc., are built to a depth at least 2 feet (60 cm) below the existing surrounding ground. Any broken concrete, blocks, or other objectionable material that cannot be used in backfill shall be removed and disposed of at the Contractor's expense. The holes or openings shall be backfilled with acceptable material and properly compacted.~~

~~All holes in embankment areas remaining after the grubbing operation shall have the sides of the holes flattened to facilitate filling with acceptable material and compacting as required in Item P-152. The same procedure shall be applied to all holes remaining after grubbing in areas where the depth of holes exceeds the depth of the proposed excavation.~~

151-2.4 Stripping. *Stripping shall be conducted in the locations shown on the plans where maintained turf exists. Stripping shall consist of blading the area indicated on the plans to a depth as required to remove all organic material present. In order to minimize embankment required do not remove more material than as required to remove organics. Strippings shall be stockpiled separately from suitable excavation and used as topsoil beneath new sod. Strippings used as topsoil shall be spread to a depth of 2-inches. All excess strippings shall be legally disposed of off-site.*

151-2.5 Protection of Property Remaining in Place. *Protect and do not displace property obstructions which are to remain in place, such as buildings, sewers, drains, water or gas pipes, conduits, poles, walls, posts, bridges, etc.*

151-2.6 Demolition of Pavements and Structures. *Pavements and structures called for removal on the plans or as found in the project area shall be demolished in accordance with specification P-101. Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract. The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.*

151-2.7 Hazardous Materials. *If hazardous materials are encountered during clearing, Contractor shall cease operations immediately in the area and notify the Engineer. Handle, transport and dispose of hazardous materials in accordance with all Local, State and Federal requirements. The Contractor shall accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer for all hazardous materials/waste stabilization methods before implementation. Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste. Transport all hazardous materials/waste in accordance with applicable 40 CFR 263 Standards. Provide a copy of all completed Hazardous Materials/Waste manifest/bills of lading to the Engineer within 21 days of each shipment. Furnish two copies of Certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification. The Certification of Compliance shall be attested to by a person having legal authority to bind the company.*

METHOD OF MEASUREMENT

151-3.1 *The quantities of stripping as shown by the limits on the plans shall be the number of acres of land specifically stripped.*

BASIS OF PAYMENT

151-4.1 *Payment shall be made at the contract unit price per acre for stripping. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.*

Payment will be made under:

Item P-151-4.1	*Stripping – per acre*

END OF ITEM P-151

Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature.

b. Muck excavation. Muck excavation shall consist of the removal and disposal of deposits or mixtures of soils and organic matter not suitable for foundation material. Muck shall include materials that will decay or produce subsidence in the embankment. It may consist of decaying stumps, roots, logs, humus, or other material not satisfactory for incorporation in the embankment.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed *off the airport property* ~~in designated waste areas as shown on the plans~~. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed *off the Airport property* ~~in waste areas as shown on the plans~~. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. ~~The surface elevation of waste areas shall be specified on the plans or approved by the RPR.~~

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their

own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder.

Volumetric quantities were calculated using design cross sections which were created for this project using the DTM files of the applicable design surfaces and generating End Area Volume Reports. Paper copies of design cross sections and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.04 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes **as** shown on the plans. All unsuitable material shall be disposed *off Airport property* ~~as shown on the plans~~.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and

compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard for unclassified excavation. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened *under pavement to remain or* beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 15 inches of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. Under all areas to be paved, the embankments shall be compacted to a depth of 15 inches and to a density of not less than 100% percent of the maximum density as determined by ASTM

D1557, *or as indicated in the typical sections*. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 2 inches which shall be prepared for a seedbed in accordance with Item T-904.

The in-place field density shall be determined in accordance with ASTM D1556. Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and After compaction is completed, the subgrade area shall be proof rolled with a Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100 in the presence of the RPR. Apply a minimum of 2 coverages, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 15 inches and to a density of not less than 100 percent of the maximum dry density as determined by ASTMD1557. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch sieve, follow the methods in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles. Tests for moisture content and compaction will be taken at a minimum of 500 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D1556.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No *stabilized subgrade*, subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. **Smoothness.** The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard (cubic meter) shall be computed by the average end areas of design cross sections or the comparison of digital terrain model (DTM) surfaces for computation of neat line design quantities. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

152-3.2 The quantity of unclassified excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed. The compaction of the subgrade in a cut section is incidental to the excavation payment.

***152-3.3** The quantity of placing millings for surface stabilization to be paid shall be per square yard measured in plan view. The location, thickness, grading, and compaction of the millings placement shall be as described in the construction documents.*

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item *and for the compaction of the subgrade in a cut section.*

***152-4.2** For placing millings for surface stabilization, payment shall be made at the contract unit price per square yard in the plan view. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.*

Payment will be made under:

Item P-152-4.1	Unclassified Excavation - per cubic yard
Item P-152-4.2	Placement of Millings for Surface Stabilization - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-154 Subbase Course

DESCRIPTION

154-1.1 This item shall consist of a subbase course composed of granular materials constructed on a prepared subgrade or underlying course in accordance with these specifications, and in conformity with the dimensions and typical cross-section shown on the plans.

MATERIALS

154-2.1 Materials. The subbase material shall consist of hard durable particles or fragments of granular aggregates. The material may be obtained from gravel pits, stockpiles, or may be produced from a crushing and screening plant with proper blending. The materials from these sources shall meet the requirements for gradation, quality, and consistency. The material shall be free from vegetative matter, excessive amounts of clay, and other objectionable substances; uniformly blended; and be capable of being compacted into a dense, stable subbase.

The subbase material shall exhibit a California Bearing Ratio (CBR) value of at least 20 when tested in accordance with ASTM D1883. The subbase material shall meet the gradation specified in the table below.

Subbase Gradation Requirements

Sieve designation	Percentage by weight passing sieves		Contractor's Final Gradation	Job Control Grading Band Tolerances[1] (Percent)
	Subbase Aggregate	Recycled pavement (RAP or RCO)		
3 inch (75 mm)	100			0
1 1/2 inch (37.5 mm)		100		0
3/4 inch (19.0 mm)	70-100	70-100		±10
No. 10 (2.00 mm)	20-100	20-100		±10
No. 40 (425 µm)	5-60	5-60		±5
No. 200 (75 µm)	0-15	0-15		±5

[1]The "Job Control Grading Band Tolerances" shall be applied to "Contractor's Final Gradation" to establish the job control grading band.

The portion of the material passing the No. 40 (425 µm) sieve shall have a liquid limit of not more than 25 and a plasticity index of not more than six (6) when tested in accordance with ASTM D4318.

154-2.2 Sampling and testing.

a. Aggregate base materials. Samples shall be taken by the Contractor per ASTM D75 for initial aggregate subbase requirements and gradation. Material shall meet the requirements in paragraphs 154-2.1. The Contractor shall submit to the Resident Project Representative (RPR) certified test results showing that the aggregate meets the Material requirements of this section. Tests shall be representative of the material to be used for the project.

b. Gradation requirements. The Contractor shall take at least one aggregate subbase sample per day in the presence of the RPR to check the final gradation. Samples shall be taken from the in-place, un-compacted material at sampling locations determined by the RPR on a random basis per ASTM D3665. Sampling shall be per ASTM D75 and tested per ASTM C136 and ASTM C117. Results shall be furnished to the RPR by the Contractor each day during construction. Material shall meet the requirements in paragraph 154-2.1.

154-2.3 Separation Geotextile. Not used.

154-2.4 Geogrid. Not used.

CONSTRUCTION METHODS

154-3.1 General. The subbase course shall be placed where designated on the plans or as directed by the RPR. The material shall be shaped and thoroughly compacted within the tolerances specified.

Granular subbases which, due to grain sizes or shapes, are not sufficiently stable to support the construction equipment without movement, shall be mechanically modified to the depth necessary to provide stability as directed by the RPR. The mechanical modification shall include the addition of a fine-grained medium to bind the particles of the subbase material sufficiently to furnish a bearing strength, so the course will not deform under construction equipment traffic.

154-3.2 Preparing underlying course. Prior to constructing the subbase course, clean the underlying course or subgrade of all foreign substances. The surface of the underlying course or subgrade shall meet specified compaction and surface tolerances in accordance with Item P-152. Correct ruts, soft yielding spots in the underlying courses, and subgrade areas having inadequate compaction and/or deviations of the surface from the specified requirements, by loosening and removing soft or unsatisfactory material, adding approved material, reshaping to line and grade, and recompacting to specified density requirements. ~~For cohesionless underlying courses or subgrades containing sands or gravels, as defined in ASTM D2487, the surface shall be stabilized prior to placement of the overlying course by mixing the overlying course material into the underlying course, and compacting by approved methods.~~ The finished underlying course shall not be disturbed by traffic or other operations and shall be maintained in a satisfactory condition until the overlying course is placed. The underlying course shall be checked and accepted by the RPR before placing and spreading operations are started.

To protect the subgrade and to ensure proper drainage, spreading of the subbase shall begin along the centerline of the pavement on a crowned section or on the high side of pavements with a one-way slope.

154-3.3 Control Strip. The first half-day of subbase construction shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

154-3.4 Placement. The material shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted. The material shall not be placed when the underlying course is soft or yielding.

The material shall meet gradation and moisture requirements prior to compaction. Material may be free-draining and the minimum moisture content shall be established for placement and compaction of the material.

The material shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

154-3.5 Compaction. The subbase material shall be compacted, adjusting moisture as necessary, to be within ±2% of optimum moisture. The field density of the compacted material shall be at least 100% of the maximum density as specified in paragraph 154-3.9a. If the specified density is not attained, the area of the lift represented by the test shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

154-3.6 Weather limitation. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on subbase course shall not be conducted when the subgrade is wet or frozen or the subbase material contains frozen material.

154-3.7 Maintenance. No base or surface course shall be placed on the subbase until the subbase has been accepted by the RPR. The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, the Contractor shall verify that materials still meet all specification requirements before placement of additional material. Equipment may be routed over completed sections of subbase course, provided the equipment does not damage the subbase course and the equipment is routed over the full width of the completed subbase course. Any damage to the subbase course from routing equipment over the subbase course shall be repaired by the Contractor at their expense.

154-3.8 Surface tolerance. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved

continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

154-3.9 Acceptance sampling and testing. The aggregate base course shall be accepted for density and thickness on an area basis. Two test shall be made for density and thickness for each 1200 square yards. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D1556. If the specified density is not attained, the area represented by the failed test shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, use methods in ASTM D1557 and the procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

154-4.1 Subbase course shall be measured by the number of square yards of subbase course material placed and compacted to specified density and plan thickness requirements in the completed course. The quantity of subbase course material shall be measured in final position based upon survey of the completed work computed from elevations to the nearest 0.01 foot. On individual depth measurements, thicknesses more than 1/2 inch in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch in computing the yardage for payment. Subbase materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

154-5.1 Payment shall be made at the contract unit price per square yard for subbase course. This price shall be full compensation for furnishing all materials; for all preparation, hauling, and placing of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-154-5.1	Subbase Course (6-Inch Depth) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4253	Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D4759	Practice for Determining the Specification Conformance of Geosynthetics
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

American Association of State Highway and Transportation Officials (AASHTO)

M 288	Geotextile Specification for Highway Applications

END OF ITEM P-154

Page Intentionally Blank

Part 4 –Base Courses

Item P-211 Lime Rock Base Course

DESCRIPTION

211-1.1 This item shall consist of a base course composed of lime rock constructed on the prepared underlying course per these specifications and shall conform to the dimensions and typical cross-section shown on the plans.

MATERIALS

211-2.1 Materials. The lime rock base course material shall consist of fossiliferous limestone of uniform quality. The material shall not contain hard or flinty pieces that will cause a rough surface containing pits and pockets. The rock shall show no tendency to "air slake" or undergo chemical change when exposed to the weather. The material when watered and rolled shall be capable of compacting to a dense and well-bonded base.

Lime Rock Base Course Material Properties[2]

	Oolitic	Non-Oolitic
Carbonates of calcium and magnesium[1]	70% minimum	75% minimum
Oxides of iron and aluminum[1]	Less than or equal to 2%	Less than or equal to 2%
Liquid limit	NA	Not greater than 35
Plasticity Index	NA	Not greater than 6
Organic or foreign matter	Not more than 0.5%	Not more than 0.5%
Lime Bearing Ratio (LBR)[3] at 0 to +1.5% optimum	125	125

[1] The combined amount of carbonates, oxides, and silica shall be at least 97%. The material shall be non-plastic.

[2] The chemical analysis of lime rock shall consist of determining the insoluble silica, iron oxide, and alumina by solution of the sample in hydrochloric (HCl) acid, evaporating, dehydrating, re-dissolving the residue, and neutralizing with ammonium hydroxide, filtering, washing, and igniting the residue lime rock. The difference between the percentage of insoluble matter and 100% is reported as carbonates of calcium and magnesium.

[3] FM 5-515, Florida Method of Test for Lime Rock Bearing Ratio

Lime Rock Base Course Gradation

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3-1/2 inch (87.5 mm)	100
3/4 inch (19.0 mm)	50-100

All fine material shall consist entirely of dust of fracture (fine portion passing the No. 10 (2.00 mm) sieve).

211-2.2 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 211-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.1. The lot will be consistent with the lot size used for density. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

211-2.3 Separation Geotextile. Not used.

CONSTRUCTION METHODS

211-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

211-3.2 Preparing underlying course. The RPR shall check and accept the underlying course before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed. Material shall not be placed on frozen subgrade.

211-3.3 Placement. The material shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The material shall meet gradation and moisture requirements prior to compaction. The layer shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

211-3.4 Compaction. Immediately upon completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade. The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite. The moisture content of the material during placing operations shall be within ±2

percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

211-3.5 Finishing. After the watering and rolling of the base course, the entire surface shall be scarified to a depth of at least 3 inches (75 mm) and shaped to the exact crown and cross-section with a blade grader. The scarified material shall be rewetted and thoroughly rolled. Rolling shall continue until the base is bonded and compacted to a dense, unyielding mass, true to grade and cross-section. Scarifying and rolling of the surface of the base shall follow the initial rolling of the lime rock by not more than four (4) days. When the lime rock base is constructed in two layers, the scarifying of the surface shall be to a depth of 2 inches.

If cracks or checks appear in the base before the surface course is laid, the Contractor shall rescarifying, reshaping, watering, add lime rock where necessary, and recompact. If the underlying material becomes mixed with the base course material, the Contractor shall, without additional compensation, remove, reshape, and recompact the mixture.

211-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

211-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements until the work is accepted by the RPR. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

211-3.8 Surface tolerance. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade. until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously at half the length of the 12-foot straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +0 and -1/2 inch of the specified grade.

211-3.9 Acceptance sampling and testing. Lime rock base course shall be accepted for density on an area basis. Two tests shall be made for density and thickness for each 1200 square yds. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D1556. If the specified density is not attained, the entire area shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the

specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. *Thickness of lime rock will be determined by Survey. Contractor shall submit a survey before and after the placement of the base in 25' increments in accordance with Specification S-101 and* depth tests shall be made by test holes or cores at least 3 inches in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by Survey ~~depth tests~~ taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

211-4.1 The quantity of lime rock base course shall be the number of square yards of base material placed, bonded, and accepted in the completed base course. The quantity of base course material shall be measured in final position based upon the approved thickness provided from Survey *submitted in accordance with Specification S-101* to the nearest 0.01 foot. On individual depth measurements, thicknesses more than 1/2 inch in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch in computing the yardage for payment.

BASIS OF PAYMENT

211-5.1 Payment shall be made at the contract unit price per square yards for lime rock base course. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

The cost of removing cracks and checks including the labor, and the additional lime rock necessary for crack elimination, will not be paid for separately but shall be included in the contract price per square yard for lime rock base course.

Payment will be made under:

Item P-211-5.1a	Lime Rock Base course (6-Inch Depth) - per square yard
Item P-211-5.1b	Lime Rock Base course (8-Inch Depth) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-211

Part 6 – Flexible Pavements

Item P-401 Asphalt Mix Pavement

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

401-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, , screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face[1]	ASTM D5821
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 [2]	ASTM D4791
Bulk density of slag [3]	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[3]

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	0% to 15% maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) **76-22**.

Asphalt Binder PG Plus Test Requirements

Material Test	Requirement	Standard
Elastic Recovery	75% minimum	ASTM D6084[1]

[1] Follow procedure B on RTFO aged binder.

401-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 Composition of mixture(s). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using the gyratory compactor in accordance with ASTM D6925 .

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of gyrations
- Laboratory mixing and compaction temperatures.
- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of gyrations	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR)[1]	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA)[2,3]	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

1 Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867·

2 AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

3 Where APA not available , use Hamburg Wheel test (AASHTO T-324) 10mm @ 20,000 passes at 50°C.

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve (Gradation 2)
1 inch (25.0 mm)	--
3/4 inch (19.0 mm)	100
1/2 inch (12.5 mm)	90-100
3/8 inch (9.5 mm)	72-88
No. 4 (4.75 mm)	53-73
No. 8 (2.36 mm)	38-60
No. 16 (1.18 mm)	26-48
No. 30 (600 µm)	18-38
No. 50 (300 µm)	11-27
No. 100 (150 µm)	6-18
No. 200 (75 µm)	3-6
Minimum Voids in Mineral Aggregate (VMA)[1]	15.0

Sieve Size	Percentage by Weight Passing Sieve (Gradation 2)
Asphalt Percent:	
Stone or gravel	5.0-7.5
Slag	6.5-9.5
Recommended Minimum Construction Lift Thickness	2 inch

[1]To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

401-3.5 Control Strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 401-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons (227 metric tons) or 1/2 sublot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 401-4.14 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F (71°C). The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 401-5.5a; and Mat density greater than or equal to 94.5%, air voids 3.5% +/- 1%, and joint density greater than or equal to 92.5%.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

The control strip will be considered one lot for payment based upon the average of a minimum of 3 samples (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 401-8.1 using a lot pay factor equal to 100.

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	°F	°C
3 inches (7.5 cm) or greater	40	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

401-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

401-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles used to transfer the material from the hauling equipment to the paver, shall use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.

401-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

401-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

401-4.7 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

401-4.9 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.10 Preparation of Asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 12 feet (m) except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m).On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation or contamination in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. Such areas typically include areas with excessive accumulation of coarse or fine aggregate, bleed spots, dust deposits and or petroleum products. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

401-4.13 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.14 Joints. The formation of all joints shall be made to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

401-4.15 Saw-cut grooving. Saw-cut grooving is not required.

401-4.16 Diamond grinding. Where applicable, diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 Nighttime paving requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

401-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using

either the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally . The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

401-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-5.5 Control charts. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-5.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.

(1) Sampling. Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6925.

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inch (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, and grade.

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally .

Cross-sections of the pavement shall be taken at a minimum 50-foot (15-m) longitudinal spacing, at all longitudinal grade breaks, and at start and end of each lane placed. Minimum cross-section grade points shall include grade at centerline, ± 10 feet of centerline, and edge of pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

401-6.3 Percentage of material within specification limits (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

Table 5. Acceptance Limits for Air Voids and Density

Test Property	Pavements Specification Tolerance Limits	
	L	U
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	-
Base Course Mat Density (%)	92.0	-
Joint density (%)	90.5	--

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

401-6.4 Resampling pavement for mat density.

a. General. Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

METHOD OF MEASUREMENT

401-7.1 Measurement. Asphalt shall be measured by the number of tons of asphalt used in the accepted work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

401-8.1 Payment. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed 100 percent of the product of the contract unit price and the total number of tons (kg) of asphalt used in the accepted work.

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the sublot shall be reduced by 5%.

Table 6. Price adjustment schedule[1]

Percentage of material within specification limits (PWL)	Lot pay factor (percent of contract unit price)
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4 PWL – 12
Below 55	Reject [2]

[1] Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

[2] The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

401-8.1 Payment.

Payment will be made under:

Item P-401-8.1	Asphalt Mix Pavement - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate

ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures

ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T324	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder

Asphalt Institute MS-2 Mix Design Manual, 7th Edition

AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

FAA Orders

5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards

Software

FAARFIELD

END OF ITEM P-401

Page Intentionally Blank

Part 7 – Rigid Pavement

Item P-501 Cement Concrete Pavement

DESCRIPTION

501-1.1 This work shall consist of pavement composed of cement concrete without reinforcement constructed on a prepared underlying surface in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross-sections shown on the plans. The terms cement concrete, hydraulic cement concrete, and concrete are interchangeable in this specification.

MATERIALS

501-2.1 Aggregates.

a. Reactivity. Fine and Coarse aggregates to be used in PCC on this project shall be tested and evaluated by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and ASTM C1567. Tests must be representative of aggregate sources which will be providing material for production. ASTM C1260 and ASTM C1567 tests may be run concurrently.

(1) Coarse aggregate and fine aggregate shall be tested separately in accordance with ASTM C1260, however, the length of test shall be extended to 28 days (30 days from casting). Tests must have been completed within 6 months of the date of the concrete mix submittal.

(2) The combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

(3) If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) Concrete Research Division (CRD) C662 in lieu of ASTM C1567. If lithium nitrate admixture is used, it shall be nominal 30% ±0.5% weight lithium nitrate in water. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

b. Fine aggregate. Grading of the fine aggregate, as delivered to the mixer, shall conform to the requirements of ASTM C33 and the parameters identified in the fine aggregate material requirements below. Fine aggregate material requirements and deleterious limits are shown in the table below.

Fine Aggregate Material Requirements		
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Sand Equivalent	45 minimum	ASTM D2419
Fineness Modulus (FM)	$2.50 \leq FM \leq 3.40$	ASTM C136
Limits for Deleterious Substances in Fine Aggregate for Concrete		
Clay lumps and friable particles	1.0% maximum	ASTM C142
Coal and lignite	0.5% using a medium with a density of Sp. Gr. of 2.0	ASTM C123
Total Deleterious Material	1.0% maximum	

c. Coarse aggregate. The maximum size coarse aggregate shall be 1 inch.

Aggregates delivered to the mixer shall be clean, hard, uncoated aggregates consisting of crushed stone, crushed or uncrushed gravel, air-cooled iron blast furnace slag, crushed recycled concrete pavement, or a combination. The aggregates shall have no known history of detrimental pavement staining. Steel blast furnace slag shall not be permitted. Coarse aggregate material requirements and deleterious limits are shown in the table below; washing may be required to meet aggregate requirements.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 for any size group coarser than 3/8 (9.5 mm) sieve [1]	ASTM D4791
Bulk density of slag [2]	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29

[1] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[2] Only required if slag is specified.

The amount of deleterious material in the coarse aggregate shall not exceed the following limits:

Limits for Deleterious Substances in Coarse Aggregate

Deleterious material	ASTM	Percentage by Mass
Clay Lumps and friable particles	ASTM C142	1.0
Material finer than No. 200 sieve (75 μm)	ASTM C117	1.0[1]
Lightweight particles	ASTM C123 using a medium with a density of Sp. Gr. of 2.0	0.5
Chert[2] (less than 2.40 Sp Gr.)	ASTM C123 using a medium with a density of Sp. Gr. of 2.40)	1.0

[1] The limit for material finer than 75-μm is allowed to be increased to 1.5% for crushed aggregates consisting of dust of fracture that is essentially free from clay or shale. Test results supporting acceptance of increasing limit to 1.5% with statement indicating material is dust of fracture must be submitted with Concrete mix. Acceptable techniques to characterizing these fines include methylene blue adsorption or X-ray diffraction analysis.

[2] Chert and aggregates with less than 2.4 specific gravity.

[3] The limit for chert may be increased to 1.0 percent by mass in areas not subject to severe freeze and thaw.

d. Combined aggregate gradation. This specification is targeted for a combined aggregate gradation developed following the guidance presented in United States Air Force Engineering Technical Letter (ETL) 97-5: Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements. Base the aggregate grading upon a combination of all the aggregates (coarse and fine) to be used for the mixture proportioning. Three aggregate sizes may be required to achieve an optimized combined gradation that will produce a workable concrete mixture for its intended use. Use aggregate gradations that produce concrete mixtures with well-graded or optimized aggregate combinations. The Contractor shall submit complete mixture information necessary to calculate the volumetric components of the mixture. The combined aggregate grading shall meet the following requirements:

(1) The materials selected and the proportions used shall be such that when the Coarseness Factor (CF) and the Workability Factor (WF) are plotted on a diagram as described in paragraph 501-2.1d(4) below, the point thus determined shall fall within the parallelogram described therein.

(2) The CF shall be determined from the following equation:

CF = (cumulative percent retained on the 3/8 in. (9.5 mm) sieve)(100) / (cumulative percent retained on the No. 8 (2.36 mm) sieve)

(3) The WF is defined as the percent passing the No. 8 (2.36 mm) sieve based on the combined gradation. However, WF shall be adjusted, upwards only, by 2.5 percentage points for each 94 pounds (42 kg) of cementitious material per cubic meter yard greater than 564 pounds per cubic yard (335 kg per cubic meter).

(4) A diagram shall be plotted using a rectangular scale with WF on the Y-axis with units from 20 (bottom) to 45 (top), and with CF on the X-axis with units from 80 (left side) to 30 (right side). On this diagram a parallelogram shall be plotted with corners at the following coordinates (CF-75, WF-28), (CF-75, WF-40), (CF-45, WF-32.5), and (CF-45, WF-44.5). If the point determined by the intersection of the computed CF and WF does not fall within the above parallelogram, the grading of each size of aggregate used and the proportions selected shall be changed as necessary. The point determined by the plotting of the CF and WF may be adjusted during production ±3 WF and ±5 CF. Adjustments to gradation may not take the point outside of the parallelogram.

e. Contractors combined aggregate gradation. The Contractor shall submit their combined aggregate gradation using the following format:

Contractor's Combined Aggregate Gradation

Sieve Size	Contractor's Concrete mix Gradation (Percent passing by weight)
2 inch (50 mm)	*
1-1/2 inch (37.5 mm)	*
1 inch (25.0 mm)	*
3/4 inch (19.0 mm)	*
1/2 inch (12.5 mm)	*
3/8 inch (9.5 mm)	*
No. 4 (4.75 mm)	*
No. 8 (2.36 mm)	*
No. 16 (1.18 mm)	*
No. 30 (600 µm)	*
No. 50 (300 µm)	*
No. 100 (150 µm)	*

501-2.2 Cement. Cement shall conform to the requirements of ASTM C150 Type I or II.

501-2.3 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total alkali content less than 3% per ASTM C311. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the Resident Project Representative (RPR).

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

c. Raw or calcined natural pozzolan. Natural pozzolan shall be raw or calcined and conform to ASTM C618, Class N, including the optional requirements for uniformity and effectiveness in controlling Alkali-Silica reaction and shall have a loss on ignition not exceeding 6%. Class N pozzolan for use in mitigating Alkali-Silica Reactivity shall have a total available alkali content less than 3%.

d. Ultrafine fly ash and ultrafine pozzolan. UltraFine Fly Ash (UFFA) and UltraFine Pozzolan (UFP) shall conform to ASTM C618, Class F or N, and the following additional requirements:

(1) The strength activity index at 28 days of age shall be at least 95% of the control specimens.

(2) The average particle size shall not exceed 6 microns.

501-2.4 Joint seal. The joint seal for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type specified in the plans.

501-2.5 Isolation joint filler. Premolded joint filler for isolation joints shall conform to the requirements of ASTM D1751 or ASTM D1752 and shall be where shown on the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint, unless otherwise specified by the RPR. When the use of more than one piece is required for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening means satisfactory to the RPR.

501-2.6 Steel reinforcement. Not applicable

501-2.7 Dowel and tie bars. Dowel bars shall be plain steel bars conforming to ASTM A615 and shall be free from burring or other deformation restricting slippage in the concrete.

a. Dowel Bars. Before delivery to the construction site each dowel bar shall be epoxy coated per ASTM A1078, Type 1, with a coating thickness after curing greater than 10 mils. Patched ends are not required for Type 1 coated dowels. The dowels shall be coated with a bond-breaker recommended by the manufacturer. Dowel sleeves or inserts are not permitted. Grout retention rings shall be fully circular metal or plastic devices capable of supporting the dowel until the grout hardens.

b. Tie Bars. Tie bars shall be deformed steel bars and conform to the requirements of ASTM A615. Tie bars designated as Grade 60 in ASTM A615 or ASTM A706 shall be used for construction requiring bent bars.

501-2.8 Water. Water used in mixing or curing shall be potable. If water is taken from other sources considered non-potable, it shall meet the requirements of ASTM C1602.

501-2.9 Material for curing concrete. Curing materials shall conform to one of the following specifications:

a. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C309, Type 2, Class A, or Class B.

b. White polyethylene film for curing concrete shall conform to the requirements of ASTM C171.

c. White burlap-polyethylene sheeting for curing concrete shall conform to the requirements of ASTM C171.

d. Waterproof paper for curing concrete shall conform to the requirements of ASTM C171.

501-2.10 Admixtures. Admixtures shall conform to the following specifications:

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entraining agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D.

c. Other admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the RPR prior to developing the concrete mix. Retarding admixtures shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating admixtures shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

d. Lithium Nitrate. The lithium admixture shall be a nominal 30% aqueous solution of Lithium Nitrate, with a density of 10 pounds/gallon (1.2 kg/L), and shall have the approximate chemical form as shown below:

Lithium Admixture

Constituent	Limit (Percent by Mass)
LiNO3 (Lithium Nitrate)	30 ±0.5
SO4 (Sulfate Ion)	0.1 (max)
Cl (Chloride Ion)	0.2 (max)
Na (Sodium Ion)	0.1 (max)
K (Potassium Ion)	0.1 (max)

The lithium nitrate admixture dispensing and mixing operations shall be verified and certified by the lithium manufacturer's representative.

501-2.11 Epoxy-resin. All epoxy-resin materials shall be two-component materials conforming to the requirements of ASTM C881, Class as appropriate for each application temperature to be encountered, except that in addition, the materials shall meet the following requirements:

a. Material for use for embedding dowels and anchor bolts shall be Type IV, Grade 3.

b. Material for use as patching materials for complete filling of spalls and other voids and for use in preparing epoxy resin mortar shall be Type III, Grade as approved.

c. Material for use for injecting cracks shall be Type IV, Grade 1.

d. Material for bonding freshly mixed Portland cement concrete or mortar or freshly mixed epoxy resin concrete or mortar to hardened concrete shall be Type V, Grade as approved.

CONCRETE MIX

501-3.1. General. No concrete shall be placed until an acceptable concrete mix has been submitted to the RPR for review and the RPR has taken appropriate action. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

501-3.2 Concrete Mix Laboratory. The laboratory used to develop the concrete mix shall be accredited in accordance with ASTM C1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the concrete mix must be included in the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

501-3.3 Concrete Mix Proportions. Develop the mix using the procedures contained in Portland Cement Association (PCA) publication, "Design and Control of Concrete Mixtures." Concrete shall be proportioned to achieve a 28-day flexural strength that meets or exceeds the acceptance criteria contained in paragraph 501-6.6 for a flexural strength of 650 psi per ASTM C78.

The minimum cementitious material shall be adequate to ensure a workable, durable mix. The minimum cementitious material (cement plus fly ash, or slag cement) shall be 470 pounds per cubic yard (280 kg per cubic meter). The ratio of water to cementitious material, including free surface moisture on the aggregates but not including moisture absorbed by the aggregates shall be between 0.38 – 0.45 by weight.

Flexural strength test specimens shall be prepared in accordance with ASTM C192 and tested in accordance with ASTM C78. At the start of the project, the Contractor shall determine an allowable slump as determined by ASTM C143 not to exceed 2 inches (50 mm) for slip-form placement. For fixed-

form placement, the slump shall not exceed 3 inches (75 mm). For hand placement, the slump shall not exceed 4 inches (100 mm).

The results of the concrete mix shall include a statement giving the maximum nominal coarse aggregate size and the weights and volumes of each ingredient proportioned on a one cubic yard (meter) basis. Aggregate quantities shall be based on the mass in a saturated surface dry condition.

If a change in source(s) is made, or admixtures added or deleted from the mix, a new concrete mix must be submitted to the RPR for approval.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

501-3.4 Concrete Mix submittal. The concrete mix shall be submitted to the RPR at least 30 days prior to the start of operations. The submitted concrete mix shall not be more than 180 days old and must use the materials to be used for production for the project. Production shall not begin until the concrete mix is approved in writing by the RPR.

Each of the submitted concrete mixes (i.e, slip form, side form machine finish and side form hand finish) shall be stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items and quantities as a minimum:

- Certified material test reports for aggregate in accordance with paragraph 501-2.1. Certified reports must include all tests required; reporting each test, test method, test result, and requirement specified (criteria).
- Combined aggregate gradations and analysis; and including plots of the fine aggregate fineness modulus.
- Reactivity Test Results.
- Coarse aggregate quality test results, including deleterious materials.
- Fine aggregate quality test results, including deleterious materials.
- Mill certificates for cement and supplemental cementitious materials.
- Certified test results for all admixtures, including Lithium Nitrate if applicable.
- Specified flexural strength, slump, and air content.
- Recommended proportions/volumes for proposed mixture and trial water-cementitious materials ratio, including actual slump and air content.
- Flexural and compressive strength summaries and plots, including all individual beam and cylinder breaks.
- Correlation ratios for acceptance testing and Contractor QC testing, when applicable.
- Historical record of test results documenting production standard deviation, when applicable.

501-3.5 Cementitious materials.

a. Fly ash. When fly ash is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If fly ash is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement may be used. The slag cement, or slag cement plus fly ash if both are used, may constitute between 25 to 55% of the total cementitious material by weight.

c. Raw or calcined natural pozzolan. Natural pozzolan may be used in the concrete mix. When pozzolan is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If pozzolan is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

d. Ultrafine fly ash (UFFA) and ultrafine pozzolan (UFP). UFFA and UFP may be used in the concrete mix with the RPR's approval. When UFFA and UFP is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 7% and 16% by weight of the total cementitious material.

501-3.6 Admixtures.

a. Air-entraining admixtures. Air-entraining admixture are to be added in such a manner that will ensure uniform distribution of the agent throughout the batch. The air content of freshly mixed air-entrained concrete shall be based upon trial mixes with the materials to be used in the work adjusted to produce concrete of the required plasticity and workability. The percentage of air in the mix shall be 3%. Air content shall be determined by testing in accordance with ASTM C231 for gravel and stone coarse aggregate and ASTM C173 for slag and other highly porous coarse aggregate.

b. Water-reducing admixtures. Water-reducing admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

c. Other admixtures. Set controlling, and other approved admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

d. Lithium nitrate. Lithium nitrate shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements in accordance with paragraph 501-2.10d.

CONSTRUCTION METHODS

501-4.1 Control Strip. The control strip(s) shall be to the next planned joint after the initial 250 feet (75 m) of each type of pavement construction (slip-form pilot lane, slip-form fill-in lane, or fixed form). The Contractor shall demonstrate, in the presence of the RPR, that the materials, concrete mix, equipment, construction processes, and quality control processes meet the requirements of the specifications. The concrete mixture shall be extruded from the paver meeting the edge slump tolerance and with little or no finishing. Pilot, fill-in, and fixed-form control strips will be accepted separately. Minor adjustments to the mix design may be required to place an acceptable control strip. The production mix will be the adjusted mix design used to place the acceptable control strip. Upon acceptance of the control strip by the RPR, the Contractor must use the same equipment, materials, and construction methods for the remainder of concrete paving. Any adjustments to processes or materials must be approved in advance by the RPR. Acceptable control strips will meet edge slump tolerance and surface acceptable with little or no finishing, air content within action limits, strength equal or greater than requirements of P501-3.3. The control strip will be considered one lot for payment (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 501-8.1 using a lot pay factor equal to 100.

501-4.2 Equipment. The Contractor is responsible for the proper operation and maintenance of all equipment necessary for handling materials and performing all parts of the work to meet this specification.

a. Plant and equipment. The plant and mixing equipment shall conform to the requirements of ASTM C94 and/or ASTM C685. Each truck mixer shall have attached in a prominent place a manufacturer's nameplate showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades. The truck mixers shall be examined daily for changes in condition due to accumulation of hard concrete or mortar or wear of blades. The pickup and throwover blades shall be replaced when they have worn down 3/4 inch (19 mm) or more. The Contractor shall have a copy of the manufacturer's design on hand showing dimensions and arrangement of blades in reference to original height and depth.

Equipment for transferring and spreading concrete from the transporting equipment to the paving lane in front of the finishing equipment shall be provided. The equipment shall be specially manufactured, self-propelled transfer equipment which will accept the concrete outside the paving lane and will spread it evenly across the paving lane in front of the paver and strike off the surface evenly to a depth which permits the paver to operate efficiently.

b. Finishing equipment.

(1) Slip-form. The standard method of constructing concrete pavements shall be with an approved slip-form paving equipment designed and operated to spread, consolidate, screed, and finish the freshly placed concrete in one complete pass of the machine so that the end result is a dense and homogeneous pavement which is achieved with a minimum of hand finishing. The paver-finisher shall be a heavy duty, self-propelled machine designed specifically for paving and finishing high quality concrete pavements.

(2) Fixed-form. On projects requiring less than 5,000 cubic yards of concrete pavement or irregular areas at locations inaccessible to slip-form paving equipment, concrete pavement may be placed with equipment specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by the RPR. Hand screeding and float finishing may only be used on small irregular areas as allowed by the RPR.

c. Vibrators. Vibrator shall be the internal type. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation or voids. The number, spacing, and frequency shall be as necessary to provide a dense and homogeneous pavement and meet the recommendations of American Concrete Institute (ACI) 309R, Guide for Consolidation of Concrete. Adequate power to operate all vibrators shall be available on the paver. The vibrators shall be automatically controlled so that they shall be stopped as forward motion ceases. The Contractor shall provide an electronic or mechanical means to monitor vibrator status. The checks on vibrator status shall occur a minimum of two times per day or when requested by the RPR.

Hand held vibrators may only be used in irregular areas and shall meet the recommendations of ACI 309R, Guide for Consolidation of Concrete.

d. Concrete saws. The Contractor shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions. The Contractor shall provide at least one standby saw in good working order and a supply of saw blades at the site of the work at all times during sawing operations.

e. Fixed forms. Straight side fixed forms shall be made of steel and shall be furnished in sections not less than 10 feet (3 m) in length. Forms shall be provided with adequate devices for secure settings so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms with battered top surfaces and bent, twisted or broken forms shall not be used. Built-up forms shall not be used, except as approved by the RPR. The top face of

the form shall not vary from a true plane more than 1/8 inch (3 mm) in 10 feet (3 m), and the upstanding leg shall not vary more than 1/4 inch (6 mm). The forms shall contain provisions for locking the ends of abutting sections together tightly for secure setting. Wood forms may be used under special conditions, when approved by the RPR. The forms shall extend the full depth of the pavement section.

501-4.3 Form setting. Forms shall be set to line and grade as shown on the plans, sufficiently in advance of the concrete placement, to ensure continuous paving operation. Forms shall be set to withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms shall be cleaned and oiled prior to the concrete placement.

501-4.4 Base surface preparation prior to placement. Any damage to the prepared base, subbase, and subgrade shall be corrected full depth by the Contractor prior to concrete placement. The underlying surface shall be entirely free of frost when concrete is placed. The prepared grade shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from concrete.

501-4.5 Handling, measuring, and batching material. Aggregate stockpiles shall be constructed and managed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Store and maintain all aggregates at a uniform moisture content prior to use. A continuous supply of materials shall be provided to the work to ensure continuous placement.

501-4.6 Mixing concrete. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials are placed into the drum until the drum is emptied into the truck. All concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C94 or ASTM C685.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators, or non-agitating trucks. The elapsed time from the addition of cementitious material to the mix until the concrete is discharged from the truck should not exceed 30 minutes when the concrete is hauled in non-agitating trucks, nor 90 minutes when the concrete is hauled in truck mixers or truck agitators. In no case shall the temperature of the concrete when placed exceed 90°F (32°C). Retempering concrete by adding water or by other means will not be permitted. With transit mixers additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements provided the addition of water is performed within 45 minutes after the initial mixing operations and provided the water/cementitious ratio specified is not exceeded.

501-4.7 Weather Limitations on mixing and placing. No concrete shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

a. Cold weather. Unless authorized in writing by the RPR, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40°F (4°C) and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35°F (2°C).

The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50°F (10°C) at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150°F (66°C). The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.

Curing during cold weather shall be in accordance with paragraph 501-4.13d.

b. Hot weather. During periods of hot weather when the maximum daily air temperature exceeds 85°F (30°C), the following precautions shall be taken.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90°F (32°C). The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The concrete placement shall be protected from exceeding an evaporation rate of 0.2 psf (0.98 kg/m^2 per hour) per hour. When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. If the Contractor's measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

Curing during hot weather shall be in accordance with paragraph 501-4.13e.

c. Temperature management program. Prior to the start of paving operation for each day of paving, the Contractor shall provide the RPR with a Temperature Management Program for the concrete to be placed to assure that uncontrolled cracking is avoided. (Federal Highway Administration HIPERPAV 3 is one example of a temperature management program.) As a minimum, the program shall address the following items:

(1) Anticipated tensile strains in the fresh concrete as related to heating and cooling of the concrete material.

(2) Anticipated weather conditions such as ambient temperatures, wind velocity, and relative humidity; and anticipated evaporation rate using Figure 19-9, PCA, Design and Control of Concrete Mixtures.

(3) Anticipated timing of initial sawing of joint.

(4) Anticipated number and type of saws to be used.

d. **Rain.** The Contractor shall have available materials for the protection of the concrete during inclement weather. Such protective materials shall consist of rolled polyethylene sheeting at least 4 mils (0.1 mm) thick of sufficient length and width to cover the plastic concrete slab and any edges. The sheeting may be mounted on either the paver or a separate movable bridge from which it can be unrolled without dragging over the plastic concrete surface. When rain appears imminent, all paving operations shall stop and all available personnel shall begin covering the surface of the unhardened concrete with the protective covering.

501-4.8 Concrete Placement. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet (1 m). The finished concrete product must be dense and homogeneous, without segregation and conforming to the standards in this specification. Backhoes and grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used. All concrete shall be consolidated without voids or segregation, including under and around all load-transfer devices, joint assembly units, and other features embedded in the pavement. Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches a flexural strength of 550 psi (3.8 MPa) , based on the average of four field cured specimens per 2,000 cubic yards (1,530 cubic meters) of concrete placed. The Contractor must determine that the above minimum strengths are

adequate to protection the pavement from overloads due to the construction equipment proposed for the project.

The Contractor shall have available materials for the protection of the concrete during cold, hot and/or inclement weather in accordance with paragraph 501-4.7.

a. Slip-form construction. The concrete shall be distributed uniformly into final position by a self-propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well-defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms. The plastic concrete shall be effectively consolidated by internal vibration with transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 inches (23 cm) for slipform and at the end of the dowels for the fill-in lanes. The spacing of internal units shall be uniform and shall not exceed 18 inches (0.5 m).

The term internal vibration means vibrating units located within the specified thickness of pavement section.

The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without, segregation, voids, or vibrator trails and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit and for a distance of at least one foot (30 cm). The frequency of vibration or amplitude should be adjusted proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible and all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.

Not more than 15% of the total free edge of each 500-foot (150 m) segment of pavement, or fraction thereof, shall have an edge slump exceeding 1/4 inch (6 mm), and none of the free edge of the pavement shall have an edge slump exceeding 3/8 inch (9 mm). (The total free edge of 500 feet (150 m) of pavement will be considered the cumulative total linear measurement of pavement edge originally constructed as nonadjacent to any existing pavement; that is, 500 feet (150 m) of paving lane originally constructed as a separate lane will have 1,000 feet (300 m) of free edge, 500 feet (150 m) of fill-in lane will have no free edge, etc.). The area affected by the downward movement of the concrete along the pavement edge shall be limited to not more than 18 inches (0.5 m) from the edge.

When excessive edge slump cannot be corrected before the concrete has hardened, the area with excessive edge slump will be removed the full width of the slip form lane and replaced at the expense of the Contractor as directed by the RPR.

b. Fixed-form construction. Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars / dowel bars where these are specified.

Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.

Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.

Side forms shall be thoroughly cleaned and coated with a release agent each time they are used and before concrete is placed against them.

Concrete shall be spread, screed, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross-section with a minimum of handwork.

The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery. The equipment must be specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by the RPR.

Concrete for the full paving width shall be effectively consolidated by internal vibrators. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation, voids, or leaving vibrator trails.

Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.

c. Consolidation. Concrete shall be consolidated with the specified type of lane-spanning, gang-mounted, mechanical, immersion type vibrating equipment mounted in front of the paver, supplemented, in rare instances as specified, by hand-operated vibrators. The vibrators shall be inserted into the concrete to a depth that will provide the best full-depth consolidation but not closer to the underlying material than 2 inches (50 mm). Vibrators shall not be used to transport or spread the concrete. For each paving train, at least one additional vibrator spud, or sufficient parts for rapid replacement and repair of vibrators shall be maintained at the paving site at all times. Any evidence of inadequate consolidation (honeycomb along the edges, large air pockets, or any other evidence) or over-consolidation (vibrator trails, segregation, or any other evidence) shall require the immediate stopping of the paving operation and adjustment of the equipment or procedures as approved by the RPR.

If a lack of consolidation of the hardened concrete is suspected by the RPR, referee testing may be required. Referee testing of hardened concrete will be performed by the RPR by cutting cores from the finished pavement after a minimum of 24 hours curing. The RPR shall visually examine the cores for evidence of lack of consolidation. Density determinations will be made by the RPR based on the water content of the core as taken. ASTM C642 shall be used for the determination of core density in the saturated-surface dry condition. When required, referee cores will be taken at the minimum rate of one for each 500 cubic yards (382 m^2) of pavement, or fraction. The Contractor shall be responsible for all referee testing cost if they fail to meet the required density.

The average density of the cores shall be at least 97% of the original concrete mix density, with no cores having a density of less than 96% of the original concrete mix density. Failure to meet the referee tests will be considered evidence that the minimum requirements for vibration are inadequate for the job conditions. Additional vibrating units or other means of increasing the effect of vibration shall be employed so that the density of the hardened concrete conforms to the above requirements.

501-4.9 Strike-off of concrete and placement of reinforcement. Following the placing of the concrete, it shall be struck off to conform to the cross-section shown on the plans and to an elevation that when the concrete is properly consolidated and finished, the surface of the pavement shall be at the elevation shown

on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screed. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.

Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.

501-4.10 Joints. Joints shall be constructed as shown on the plans and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on the plans. Joints shall not vary more than 1/2-inch (12 mm) from their designated position and shall be true to line with not more than 1/4-inch (6 mm) variation in 10 feet (3 m). The surface across the joints shall be tested with a 12-foot (3 m) straightedge as the joints are finished and any irregularities in excess of 1/4 inch (6 mm) shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on the plans.

a. Construction. Longitudinal construction joints shall be slip-formed or formed against side forms as shown in the plans.

Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.

b. Contraction. Contraction joints shall be installed at the locations and spacing as shown on the plans. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans.

c. Isolation (expansion). Isolation joints shall be installed as shown on the plans. The premolded filler of the thickness as shown on the plans, shall extend for the full depth and width of the slab at the joint. The filler shall be fastened uniformly along the hardened joint face with no buckling or debris between the filler and the concrete interface, including a temporary filler for the sealant reservoir at the top of the slab. The edges of the joint shall be finished and tooled while the concrete is still plastic

d. Dowels and Tie Bars for Joints

(1) Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth and within the tolerances in paragraph 501-4.10(f.). When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other

assembled tie bars are specified. Tie bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars, two-piece hook bolts can be installed.

(2) Dowel bars. Dowel bars shall be placed across joints in the proper horizontal and vertical alignment as shown on the plans. The dowels shall be coated with a bond-breaker or other lubricant recommended by the manufacturer and approved by the RPR. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

(3) Placing dowels and tie bars. Horizontal spacing of dowels shall be within a tolerance of ±3/4 inch (19 mm). The vertical location on the face of the slab shall be within a tolerance of ±1/2 inch (12 mm). The method used to install dowels shall ensure that the horizontal and vertical alignment will not be greater than 1/4 inch per feet (6 mm per 0.3 m), except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge. The portion of each dowel intended to move within the concrete or expansion cap shall be wiped clean and coated with a thin, even film of lubricating oil or light grease before the concrete is placed. Dowels shall be installed as specified in the following subparagraphs.

(a) Contraction joints. Dowels and tie bars in longitudinal and transverse contraction joints within the paving lane shall be held securely in place by means of rigid metal frames or basket assemblies of an approved type. The basket assemblies shall be held securely in the proper location by means of suitable pins or anchors. Do not cut or crimp the dowel basket tie wires.

At the Contractor's option, dowels and tie bars in contraction joints may be installed by insertion into the plastic concrete using approved equipment and procedures per the paver manufacturer's design. Approval of installation methods will be based on the results of the control strip showing that the dowels and tie bars are installed within specified tolerances as verified by cores or non-destructive rebar location devices approved by the RPR.

(b) Construction joints. Install dowels and tie bars by the cast-in- place or the drill-and-dowel method. Installation by removing and replacing in preformed holes will not be permitted. Dowels and tie bars shall be prepared and placed across joints where indicated, correctly aligned, and securely held in the proper horizontal and vertical position during placing and finishing operations, by means of devices fastened to the forms.

(c) Joints in hardened concrete. Install dowels in hardened concrete by bonding the dowels into holes drilled into the concrete. The concrete shall have cured for seven (7) days or reached a minimum flexural strength of 450 psi (3.1 MPa) before drilling begins. Holes 1/8 inch (3 mm) greater in diameter than the dowels shall be drilled into the hardened concrete using rotary-core drills. Rotary-percussion drills may be used, provided that excessive spalling does not occur. Spalling beyond the limits of the grout retention ring will require modification of the equipment and operation. Depth of dowel hole shall be within a tolerance of ±1/2 inch (12 mm) of the dimension shown on the drawings. On completion of the drilling operation, the dowel hole shall be blown out with oil-free, compressed air. Dowels shall be bonded in the drilled holes using epoxy resin. Epoxy resin shall be injected at the back of the hole before installing the dowel and extruded to the collar during insertion of the dowel so as to completely fill the void around the dowel. Application by buttering the dowel will not be permitted. The dowels shall be held in alignment at the collar of the hole by means of a suitable metal or plastic grout retention ring fitted around the dowel.

e. Sawing of joints. Sawing shall commence, without regard to day or night, as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs and shall continue without interruption until all joints have been sawn. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing. Curing compound or system shall be reapplied in the initial saw-cut and maintained for the remaining cure period.

Joints shall be cut in locations as shown on the plans. The initial joint cut shall be a minimum 1/8 inch (3 mm) wide and to the depth shown on the plans. Prior to placement of joint sealant or seals, the top of the joint shall be widened by sawing as shown on the plans.

501-4.11 Finishing. Finishing operations shall be a continuing part of placing operations starting immediately behind the strike-off of the paver. Initial finishing shall be provided by the transverse screed or extrusion plate. The sequence of operations shall be transverse finishing, longitudinal machine floating if used, straightedge finishing, edging of joints, and then texturing. Finishing shall be by the machine method. The hand method shall be used only on isolated areas of odd slab widths or shapes and in the event of a breakdown of the mechanical finishing equipment. Supplemental hand finishing for machine finished pavement shall be kept to an absolute minimum. Any machine finishing operation which requires appreciable hand finishing, other than a moderate amount of straightedge finishing, shall be immediately stopped and proper adjustments made or the equipment replaced. Equipment, mixture, and/or procedures which produce more than 1/4 inch (6 mm) of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease. Compensation shall be made for surging behind the screeds or extrusion plate and settlement during hardening and care shall be taken to ensure that paving and finishing machines are properly adjusted so that the finished surface of the concrete (not just the cutting edges of the screeds) will be at the required line and grade. Finishing equipment and tools shall be maintained clean and in an approved condition. At no time shall water be added to the surface of the slab with the finishing equipment or tools, or in any other way. Fog (mist) sprays or other surface applied finishing aids specified to prevent plastic shrinkage cracking, approved by the RPR, may be used in accordance with the manufacturers requirements.

a. Machine finishing with slipform pavers. The slipform paver shall be operated so that only a very minimum of additional finishing work is required to produce pavement surfaces and edges meeting the specified tolerances. Any equipment or procedure that fails to meet these specified requirements shall immediately be replaced or modified as necessary. A self-propelled non-rotating pipe float may be used while the concrete is still plastic, to remove minor irregularities and score marks. Only one pass of the pipe float shall be allowed. Equipment, mixture, and/or procedures which produce more than 1/4 inch (6 mm) of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease. Remove excessive slurry from the surface with a cutting straightedge and wipe off the edge. Any slurry which does run down the vertical edges shall be immediately removed by hand, using stiff brushes or scrapers. No slurry, concrete or concrete mortar shall be used to build up along the edges of the pavement to compensate for excessive edge slump, either while the concrete is plastic or after it hardens.

b. Machine finishing with fixed forms. The machine shall be designed to straddle the forms and shall be operated to screed and consolidate the concrete. Machines that cause displacement of the forms shall be replaced. The machine shall make only one pass over each area of pavement. If the equipment and procedures do not produce a surface of uniform texture, true to grade, in one pass, the operation shall be immediately stopped and the equipment, mixture, and procedures adjusted as necessary.

c. Other types of finishing equipment. Clary screeds, other rotating tube floats, or bridge deck finishers are not allowed on mainline paving, but may be allowed on irregular or odd-shaped slabs, and near buildings or trench drains, subject to the RPR's approval.

Bridge deck finishers shall have a minimum operating weight of 7500 pounds (3400 kg) and shall have a transversely operating carriage containing a knock-down auger and a minimum of two immersion vibrators. Vibrating screeds or pans shall be used only for isolated slabs where hand finishing is permitted as specified, and only where specifically approved.

d. Hand finishing. Hand finishing methods will not be permitted, except under the following conditions: (1) in the event of breakdown of the mechanical equipment, hand methods may be used to

finish the concrete already deposited on the grade and (2) in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical.

e. Straightedge testing and surface correction. After the pavement has been struck off and while the concrete is still plastic, it shall be tested for trueness with a 12-foot (3.7-m) finishing straightedge swung from handles capable of spanning at least one-half the width of the slab. The straightedge shall be held in contact with the surface in successive positions parallel to the centerline and the whole area gone over from one side of the slab to the other, as necessary. Advancing shall be in successive stages of not more than one-half the length of the straightedge. Any excess water and laitance in excess of 1/8 inch (3 mm) thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the smoothness requirements. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross-section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

501-4.12 Surface texture. The surface of the pavement shall be finished as designated below for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. The texture shall be uniform in appearance and approximately 1/16 inch (2 mm) in depth. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the RPR.

a. Brush or broom finish. Not used.

b. Burlap drag finish. Burlap, at least 15 ounces per square yard (555 grams per square meter), will typically produce acceptable texture. To obtain a textured surface, the transverse threads of the burlap shall be removed approximately one foot (30 cm) from the trailing edge. A heavy buildup of grout on the burlap threads produces the desired wide sweeping longitudinal striations on the pavement surface.

c. Artificial turf finish. Not used.

501-4.13 Curing. Immediately after finishing operations are completed and bleed water is gone from the surface, all exposed surfaces of the newly placed concrete shall be cured for a 7-day cure period in accordance with one of the methods below. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or lack of water to adequately take care of both curing and other requirements, shall be cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than 1/2 hour during the curing period.

When a two-saw-cut method is used to construct the contraction joint, the curing compound shall be applied to the saw-cut immediately after the initial cut has been made. The sealant reservoir shall not be sawed until after the curing period has been completed. When the one cut method is used to construct the contraction joint, the joint shall be cured with wet rope, wet rags, or wet blankets. The rags, ropes, or blankets shall be kept moist for the duration of the curing period.

a. Impervious membrane method. Curing with liquid membrane compounds should not occur until bleed and surface moisture has evaporated. All exposed surfaces of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place. The curing compound shall not be applied during rainfall. Curing compound shall be applied by mechanical sprayers under pressure at the rate of one gallon (4 liters) to not more than 150 square feet (14 sq m). The spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application, the compound shall be stirred continuously by mechanical means. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. When hand spraying is approved by

the RPR, a double application rate shall be used to ensure coverage. Should the film become damaged from any cause, including sawing operations, within the required curing period, the damaged portions shall be repaired immediately with additional compound or other approved means. Upon removal of side forms, the sides of the exposed slabs shall be protected immediately to provide a curing treatment equal to that provided for the surface.

b. White burlap-polyethylene sheets. The surface of the pavement shall be entirely covered with the sheeting. The sheeting used shall be such length (or width) that it will extend at least twice the thickness of the pavement beyond the edges of the slab. The sheeting shall be placed so that the entire surface and both edges of the slab are completely covered. The sheeting shall be placed and weighted to remain in contact with the surface covered, and the covering shall be maintained fully saturated and in position for seven (7) days after the concrete has been placed.

c. Water method. The entire area shall be covered with burlap or other water absorbing material. The material shall be of sufficient thickness to retain water for adequate curing without excessive runoff. The material shall be kept wet at all times and maintained for seven (7) days. When the forms are stripped, the vertical walls shall also be kept moist. It shall be the responsibility of the Contractor to prevent ponding of the curing water on the subbase.

d. Concrete protection for cold weather. Maintain the concrete at a temperature of at least 50°F (10°C) for a period of 72 hours after placing and at a temperature above freezing for the remainder of the 7-day curing period. The Contractor shall be responsible for the quality and strength of the concrete placed during cold weather; and any concrete damaged shall be removed and replaced at the Contractor's expense.

e. Concrete protection for hot weather. Concrete should be continuous moisture cured for the entire curing period and shall commence as soon as the surfaces are finished and continue for at least 24 hours. However, if moisture curing is not practical beyond 24 hours, the concrete surface shall be protected from drying with application of a liquid membrane-forming curing compound while the surfaces are still damp. Other curing methods may be approved by the RPR.

501-4.14 Removing forms. Unless otherwise specified, forms shall not be removed from freshly placed concrete until it has hardened sufficiently to permit removal without chipping, spalling, or tearing. After the forms have been removed, the sides of the slab shall be cured in accordance with paragraph 501-4.13.

If honeycombed areas are evident when the forms are removed, materials, placement, and consolidation methods must be reviewed and appropriate adjustments made to assure adequate consolidation at the edges of future concrete placements. Honeycombed areas that extend into the slab less than approximately 1 inch (25 mm), shall be repaired with an approved grout, as directed by the RPR. Honeycombed areas that extend into the slab greater than a depth of 1 inch (25 mm) shall be considered as defective work and shall be removed and replaced in accordance with paragraph 501-4.19.

501-4.15 Saw-cut grooving. If shown on the plans, grooved surfaces shall be provided in accordance with the requirements of Item P-621.

501-4.16 Sealing joints. The joints in the pavement shall be sealed in accordance with Item P-605 .

501-4.17 Protection of pavement. The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by the Contractor's employees and agents until accepted by the RPR. This shall include watchmen to direct traffic and the erection and maintenance of warning signs, lights, pavement bridges, crossovers, and protection of unsealed joints from intrusion of foreign material, etc. Any damage to the pavement occurring prior to final acceptance shall be repaired or the pavement replaced at the Contractor's expense.

Aggregates, rubble, or other similar construction materials shall not be placed on airfield pavements. Traffic shall be excluded from the new pavement by erecting and maintaining barricades and signs until the concrete is at least seven (7) days old, or for a longer period if directed by the RPR.

In paving intermediate lanes between newly paved pilot lanes, operation of the hauling and paving equipment will be permitted on the new pavement after the pavement has been cured for seven (7) days, the joints are protected, the concrete has attained a minimum field cured flexural strength of 450 psi, and the slab edge is protected.

All new and existing pavement carrying construction traffic or equipment shall be kept clean and spillage of concrete and other materials shall be cleaned up immediately.

Damaged pavements shall be removed and replaced at the Contractor's expense. Slabs shall be removed to the full depth, width, and length of the slab.

501-4.18 Opening to construction traffic. The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C31 have attained a flexural strength of 450 pounds per square inch (3100 kPa)] when tested in accordance with ASTM C78. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion.

501-4.19 Repair, removal, or replacement of slabs. New pavement slabs that are broken or contain cracks or are otherwise defective or unacceptable as defined by acceptance criteria in paragraph 501-6.6 shall be removed and replaced or repaired, as directed by the RPR, at the Contractor's expense. Spalls along joints shall be repaired as specified. Removal of partial slabs is not permitted. Removal and replacement shall be full depth, shall be full width of the slab, and the limit of removal shall be normal to the paving lane and to each original transverse joint. The RPR will determine whether cracks extend full depth of the pavement and may require cores to be drilled on the crack to determine depth of cracking. Such cores shall be have a diameter of 2 inches (50 mm) to 4 inches (100 mm), shall be drilled by the Contractor and shall be filled by the Contractor with a well consolidated concrete mixture bonded to the walls of the hole with a bonding agent, using approved procedures. Drilling of cores and refilling holes shall be at no expense to the Owner. Repair of cracks as described in this section shall not be allowed if in the opinion of the RPR the overall condition of the pavement indicates that such repair is unlikely to achieve an acceptable and durable finished pavement. No repair of cracks shall be allowed in any panel that demonstrates segregated aggregate with an absence of coarse aggregate in the upper 1/8 inch (3 mm) of the pavement surface.

a. Shrinkage cracks. Shrinkage cracks which do not exceed one-third of the pavement depth shall be cleaned and either high molecular weight methacrylate (HMWM) applied; or epoxy resin (Type IV, Grade 1) pressure injected using procedures recommended by the manufacturer and approved by the RPR. Sandblasting of the surface may be required following the application of HMWM to restore skid resistance. Care shall be taken to ensure that the crack is not widened during epoxy resin injection. All epoxy resin injection shall take place in the presence of the RPR. Shrinkage cracks which exceed one-third the pavement depth shall be treated as full depth cracks in accordance with paragraphs 501-4.19b and 501-19c.

b. Slabs with cracks through interior areas. Interior area is defined as that area more than 6 inches (150 mm) from either adjacent original transverse joint. The full slab shall be removed and replaced at no cost to the Owner, when there are any full depth cracks, or cracks greater than one-third the pavement depth, that extend into the interior area.

c. Cracks close to and parallel to joints. All full-depth cracks within 6 inches (150 mm) either side of the joint and essentially parallel to the original joints, shall be treated as follows.

(1) Full depth cracks and original joint not cracked. The full-depth crack shall be treated as the new joint and the original joint filled with an epoxy resin.

i. Full-depth crack. The joint sealant reservoir for the crack shall be formed by sawing to a depth of 3/4 inches (19 mm), ±1/16 inch (2 mm), and to a width of 5/8 inch (16 mm), ±1/8 inch (3 mm). The crack shall be sawed with equipment specially designed to follow random cracks. Any equipment or procedure which causes raveling or spalling along the crack shall be modified or replaced to prevent raveling or spalling. The joint shall be sealed with sealant in accordance with P-605 or as directed by the RPR.

ii. Original joint. If the original joint sealant reservoir has been sawed out, the reservoir and as much of the lower saw cut as possible shall be filled with epoxy resin, Type IV, Grade 2, thoroughly tooled into the void using approved procedures.

If only the original narrow saw cut has been made, it shall be cleaned and pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures.

Where a parallel crack goes part way across paving lane and then intersects and follows the original joint which is cracked only for the remained of the width, it shall be treated as specified above for a parallel crack, and the cracked original joint shall be prepared and sealed as originally designed.

(2) Full depth cracks and original joint cracked. If there is any place in the lane width where a parallel crack and a cracked portion of the original joint overlap, the entire slab containing the crack shall be removed and replaced.

d. Removal and replacement of full slabs. Make a full depth cut perpendicular to the slab surface along all edges of the slab with a concrete saw cutting any dowels or tie-bars. Remove damaged slab protecting adjacent pavement from damage. Damage to adjacent slabs may result in removal of additional slabs as directed by the RPR at the Contractor's expense.

The underlying material shall be repaired, re-compacted and shaped to grade.

Dowels of the size and spacing specified for other joints in similar pavement on the project shall be installed along all four (4) edges of the new slab in accordance with paragraph 501-4.10d.

Placement of concrete shall be as specified for original construction. The joints around the new slab shall be prepared and sealed as specified for original construction.

e. Spalls along joints.

(1) Spalls less than one inch wide and less than the depth of the joint sealant reservoir, shall be filled with joint sealant material.

(2) Spalls larger than one inch and/or deeper than the joint reservoir, but less than ½ the slab depth, and less than 25% of the length of the adjacent joint shall be repaired as follows:

i. Make a vertical saw cut at least one inch (25 mm) outside the spalled area and to a depth of at least 2 inches (50 mm). Saw cuts shall be straight lines forming rectangular areas surrounding the spalled area.

ii. Remove unsound concrete and at least 1/2 inch (12 mm) of visually sound concrete between the saw cut and the joint or crack with a light chipping hammer.

iii. Clean cavity with high-pressure water jets supplemented with compressed air as needed to remove all loose material.

iv. Apply a prime coat of epoxy resin, Type III, Grade I, to the dry, cleaned surface of all sides and bottom of the cavity, except any joint face.

v. Fill the cavity with low slump concrete or mortar or with epoxy resin concrete or mortar.

vi. An insert or other bond-breaking medium shall be used to prevent bond at all joint faces.

vii. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints.

(3) Spalls deeper than 1/2 of the slab depth or spalls longer than 25% of the adjacent joint require replacement of the entire slab.

f. Diamond grinding of Concrete surfaces. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding of the hardened concrete should not be performed until the concrete is at least 14 days old and has achieved full minimum strength. Equipment that causes ravels, aggregate fractures, spalls or disturbance to the joints will not be permitted. The depth of diamond grinding shall not exceed 1/2 inch (13 mm) and all areas in which diamond grinding has been performed will be subject to the final pavement thickness tolerances specified.

Diamond grinding shall be performed with a machine specifically designed for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with sufficient number of flush cut blades that create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The Contractor shall determine the number and type of blades based on the hardness of the aggregate. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. All grinding shall be at the expense of the Contractor.

CONTRACTOR QUALITY CONTROL (CQC)

501-5.1 Quality control program. The Contractor shall develop a Quality Control Program in accordance with Item C-100. No partial payment will be made for materials that are subject to specific quality control requirements without an approved quality control program.

501-5.2 Contractor Quality Control (CQC). The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

501-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to this specification and as set forth in the CQCP. The testing program shall include, but not necessarily be limited to, tests for aggregate gradation, aggregate moisture content, slump, and air content. A QC Testing Plan shall be developed and approved by the RPR as part of the CQCP.

The RPR may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of concrete mixture which is rendered unfit for use due to contamination, segregation, or improper slump. Such rejection may be based on only visual inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

a. Fine aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C70 or ASTM C566.

(3) Deleterious substances. Fine aggregate as delivered to the mixer shall be tested for deleterious substances in fine aggregate for concrete as specified in paragraph 501-2.1b, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

b. Coarse Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily for each size of aggregate. Tests shall be made in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C566.

(3) Deleterious substances. Coarse aggregate as delivered to the mixer shall be tested for deleterious substances in coarse aggregate for concrete as specified in paragraph 501-2.1c, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

c. Slump. One test shall be made for each sublot. Slump tests shall be performed in accordance with ASTM C143 from material randomly sampled from material discharged from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

d. Air content. One test shall be made for each sublot. Air content tests shall be performed in accordance with ASTM C231 for gravel and stone coarse aggregate and ASTM C173 for slag or other porous coarse aggregate, from material randomly sampled from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

e. Unit weight and Yield. One test shall be made for each sublot. Unit weight and yield tests shall be in accordance with ASTM C138. The samples shall be taken in accordance with ASTM C172 and at the same time as the air content tests.

f. Temperatures. Temperatures shall be checked at least four times per lot at the job site in accordance with ASTM C1064.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the

straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using either the FAA profile program, ProFAA, or FHWA profile program ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 501-4.19f or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 501-6.6.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade will be evaluated prior to and after placement of the concrete surface.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally. The documentation will be provided by the Contractor to the RPR within 48 hours .

Areas with humps or depression that that exceed grade or smoothness and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. If these areas cannot be corrected with grinding then the slabs that are retaining water must be removed and replaced in accordance with paragraph 501-4.19d. Grinding shall be in accordance with paragraph 501-4.19f. All corrections will be at the Contractors expense.

501-5.4 Control charts. The Contractor shall maintain linear control charts for fine and coarse aggregate gradation, slump, and air content. The Contractor shall also maintain a control chart plotting the coarseness factor/workability factor from the combined gradations in accordance with paragraph 501-2.1d.

Control charts shall be posted in a location satisfactory to the RPR and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and suspension Limits, or Specification limits, applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a potential problem and the Contractor is not taking satisfactory corrective action, the RPR may halt production or acceptance of the material.

a. Fine and coarse aggregate gradation. The Contractor shall record the running average of the last five gradation tests for each control sieve on linear control charts. Superimposed on the control charts shall be the action and suspension limits. Gradation tests shall be performed by the Contractor per ASTM C136. The Contractor shall take at least two samples per lot to check the final gradation. Sampling shall be per ASTM D75 from the flowing aggregate stream or conveyor belt.

b. Slump and air content. The Contractor shall maintain linear control charts both for individual measurements and range (that is, difference between highest and lowest measurements) for slump and air content in accordance with the following Action and Suspension Limits.

c. Combined gradation. The Contractor shall maintain a control chart plotting the coarseness factor and workability factor on a chart in accordance with paragraph 501-2.1d.

Control Chart Limits[1]

Control Parameter	Individual Measurements	
	Action Limit	Suspension Limit
Gradation[2]	*[3]	*[3]
Coarseness Factor (CF)	±3.5	±5
Workability Factor (WF)	±2	±3
Slump	+0.5 to -1 inch (+13 to -25 mm)	+1 to -1.5 inch (+25 to -38 mm)
Air Content	±1.5%	±2.0%

[1] Control charts shall developed and maintained for each control parameter indicated.

[2] Control charts shall be developed and maintained for each sieve size.

[3] Action and suspension limits shall be determined by the Contractor.

501-5.5 Corrective action at Suspension Limit. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of control. The CQCP shall detail what action will be taken to bring the process into control and shall contain sets of rules to gauge when a process is out of control. As a minimum, a process shall be deemed out of control and corrective action taken if any one of the following conditions exists.

a. Fine and coarse aggregate gradation. When two consecutive averages of five tests are outside of the suspension limits, immediate steps, including a halt to production, shall be taken to correct the grading.

b. Coarseness and Workability factor. When the CF or WF reaches the applicable suspension limits, the Contractor, immediate steps, including a halt to production, shall be taken to correct the CF and WF.

c. Fine and coarse aggregate moisture content. Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5%, the scale settings for the aggregate batcher and water batcher shall be adjusted.

d. Slump. The Contractor shall halt production and make appropriate adjustments whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

d. Air content. The Contractor shall halt production and adjust the amount of air-entraining admixture whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

MATERIAL ACCEPTANCE

501-6.1 Quality Assurance (QA) Acceptance sampling and testing. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section, with the exception of coring for thickness determination, will be performed by the RPR. The Contractor shall provide adequate facilities for the initial curing of beams. The Contractor shall bear the cost of providing initial curing facilities and coring and filling operations, per paragraph 501-6.5b(1).

The samples will be transported while in the molds. The curing, except for the initial cure period, will be accomplished using the immersion in saturated lime water method. During the 24 hours after molding, the temperature immediately adjacent to the specimens must be maintained in the range of 60° to 80°F (16° to 27°C), and loss of moisture from the specimens must be prevented. The specimens may be stored in tightly constructed wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or using other suitable methods, provided the temperature and moisture loss requirements are met.

501-6.2 Quality Assurance (QA) testing laboratory. Quality assurance testing organizations performing these acceptance tests will be accredited in accordance with ASTM C1077. The quality assurance laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods will be submitted to the RPR prior to start of construction.

501-6.3 Lot size. Concrete will be accepted for strength and thickness on a lot basis. A lot will consist of the lower of a day's production or 2,000 cubic yards (1530 cubic meters). .

501-6.4 Partial lots. Not applicable

501-6.5 Acceptance Sampling and Testing.

a. Strength.

(1) Sampling. One sample will be taken for each lot from the concrete delivered to the job site. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. The concrete will be sampled in accordance with ASTM C172.

(2) Test Specimens. The contractor will be responsible for the casting, initial curing, transportation, and curing of specimens in accordance with ASTM C31. Two (2) specimens will be made from each sample and slump, air content, unit weight, and temperature tests will be conducted for each set

of strength specimens. Within 24 to 48 hours, the samples will be transported from the field to the laboratory while in the molds. Samples will be cured in saturated lime water.

The strength of each specimen will be determined in accordance with ASTM C78. The strength for each sublot will be computed by averaging the results of the two test specimens representing that sublot.

(3) Acceptance. Acceptance of pavement for strength will be determined by the RPR in accordance with paragraph 501-6.6b(1). All individual strength tests within a lot will be checked for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and the remaining test values will be used to determine acceptance in accordance with paragraph 501-6.5b.

b. Pavement thickness.

(1) Sampling. One core will be taken by the Contractor for each lot in the presence of the RPR. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. Areas, such as thickened edges, with planned variable thickness, will be excluded from sample locations.

Cores shall be a minimum 4 inch (100 mm) in diameter neatly cut with a core drill. The Contractor will furnish all tools, labor, and materials for cutting samples and filling the cored hole. Core holes will be filled by the Contractor with a non-shrink grout approved by the RPR within one day after sampling.

(2) Testing. The thickness of the cores will be determined by the RPR by the average caliper measurement in accordance with ASTM C174. Each core shall be photographed and the photograph included with the test report.

(3) Acceptance. Acceptance of pavement for thickness will be determined by the RPR in accordance with paragraph 501-6.6.

501-6.6 Acceptance criteria.

a. General. Acceptance will be based on the following characteristics of the completed pavement discussed in paragraph 501-6.5b:

(1) Strength

(2) Thickness

(3) Grade

(4) Profilograph smoothness Not used.

(5) Adjustments for repairs

Acceptance for strength, thickness, and grade, will be based on the criteria contained in accordance with paragraph 501-6.6b(1), 501-6.6b(2), and 501-6.6b(3), respectively.

b. Acceptance criteria.

(1) Strength. The strength for each lot shall be computed by averaging the results of that lot. When the lot strength equals or exceeds the strength as specified in paragraph 501-3.3, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(2) Thickness. If lot thickness is not be less than ½ inch (12 mm) from plan thickness, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(3) Grade. The final finished surface of the pavement of the completed project will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically

or 0.1 feet (30 mm) laterally . The documentation, stamped and signed by a licensed surveyor shall be in accordance with paragraph 501-5.3h.

(4) Profilograph roughness for QA Acceptance. Not applicable

Pavement sections that do not meet the acceptance criteria and/or any defective work that cannot be satisfactorily repaired as determined by the RPR shall be removed and replaced at the Contractor's expense.

METHOD OF MEASUREMENT

501-7.1 Concrete pavement shall be measured by the number of cubic yards of plain cement concrete pavement as specified in-place, completed and accepted.

BASIS OF PAYMENT

501-8.1 Payment. Payment for concrete pavement meeting all acceptance criteria as specified in paragraph 501-6.6. Acceptance Criteria shall be based on results of strength and thickness tests.

The total project payment for concrete pavement shall not exceed **100** percent of the product of the contract unit price and the total number of cubic yards of concrete pavement used in the accepted work .

Payment shall be full compensation for all labor, materials, tools, equipment, and incidentals required to complete the work as specified herein and on the drawings.

Payment shall be made under:

Item P-501-8.1	Portland Cement Concrete Pavement - per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars

ASTM A996	Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
ASTM A1035	Standard Specification for Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A1078	Standard Specification for Epoxy-Coated Steel Dowels for Concrete Pavement
ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate
ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C117	Standard Test Method for Materials Finer than 75-μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C123	Standard Test Method for Lightweight Particles in Aggregate
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete

ASTM C173	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C227	Standard Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C295	Standard Guide for Petrographic Examination of Aggregates for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregates by Drying
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C881	Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber and Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Concrete Institute (ACI)

ACI 305R	Guide to Hot Weather Concreting
ACI 306R	Guide to Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

Federal Highway Administration (FHWA)

HIPERPAV 3, version 3.2

Portland Concrete Association (PCA)

PCA	Design and Control of Concrete Mixtures, 16th Edition

U.S. Army Corps of Engineers (USACE) Concrete Research Division (CRD)

CRD C662	Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

United States Air Force Engineering Technical Letter (ETL)

ETL 97-5	Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements

END ITEM P-501

Part 9– Miscellaneous

Item P-602 Emulsified Asphalt Prime Coat

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F or above, and the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than ±5%, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

602-4.1 The emulsified asphalt material for prime coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F in accordance with ASTM D4311. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

602-5.1 Payment shall be made at the contract unit price per gallon for emulsified asphalt prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-602-5.1	Emulsified Asphalt Prime Coat - per gallon

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END OF ITEM P-602

Page Intentionally Blank

Item P-603 Emulsified Asphalt Tack Coat

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F or above; the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or seven (700) feet per minute.

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY (L/square meter)	Emulsion Application Bar Rate, gal/SY (L/square meter)
New asphalt	0.02-0.05 (0.09-0.23)	0.03-0.07 (0.13-0.32)
Existing asphalt	0.04-0.07 (0.18-0.32)	0.06-0.11 (0.27-0.50)
Milled Surface	0.04-0.08 (0.18-0.36)	.0.06-0.12 (0.27-0.54)
Concrete	0.03-0.05 (0.13-0.23)	0.05-0.08 (0.23-0.36)

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

603-4.1 The emulsified asphalt material for tack coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per gallon of emulsified asphalt material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1	Emulsified Asphalt Tack Coat - per gallon

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

Page Intentionally Blank

Item P-605 Joint Sealants for Pavements

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of ASTM D5893 Type NS (non-sag) for concrete pavement joints and ASTM D6690 for asphalt to concrete transition joints.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be 25% ± 5 % larger in diameter than the nominal width of the joint.

CONSTRUCTION METHODS

605-3.1 Time of application. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50°F (10°C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, **30** days prior to use on the project.

a. Tractor-mounted routing tool. Not applicable

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. Sandblasting is not allowed

d. Waterblasting equipment. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

g. Cold-applied, single-component sealing equipment. The equipment for installing ASTM D5893 single component joint sealants shall consist of an extrusion pump, air compressor, following plate, hoses, and nozzle for transferring the sealant from the storage container into the joint opening. The dimension of the nozzle shall be such that the tip of the nozzle will extend into the joint to allow sealing from the bottom of the joint to the top. Maintain the initially approved equipment in good working condition, serviced in accordance with the supplier's instructions, and unaltered in any way without obtaining prior approval. Small hand-held air-powered equipment (i.e., caulking guns) may be used for small applications.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by waterblaster as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/8 inch (3 mm) ±1/16 inch (2 mm) below the top of pavement surface. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the linear foot of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per linear foot. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1	Joint Sealing Filler, per linear foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D5893	Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

END ITEM P-605

Item P-620 Runway and Taxiway Marking

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms "paint" and "marking material" as well as "painting" and "application of markings" are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer's certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer's surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint[1]				Glass Beads[2]	
Type	**Color**	**Fed Std. 595 Number**	**Application Rate Maximum**	**Type**	**Application Rate Minimum**
Waterborne Type II	White	37925	115 ft^2/gal	III	10 lb/gal
Waterborne Type II	Yellow	33538 or 33655	115 ft^2/gal	III	10 lb/gal
Waterborne Type II	Black	37038	115 ft^2/gal	-	-
First Layer Temporary Waterborne Type II	All	N/A	230 ft^2/gal	No beads	No beads

[1] **See paragraph 620-2.2a**

[2] **See paragraph 620-2.2b**

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type III.

~~Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.~~

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

~~Type III glass beads shall not be used in red and pink paint.~~

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. ~~Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.~~

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of **30** days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

Preformed thermoplastic pavement markings are not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Not used

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application

operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 The quantity of surface preparation shall be measured by the number of square feet (square meters) for each type of surface preparation specified in paragraph 620-3.3. Surface preparation for new pavement surfaces shall be measured for the first and only application of the black permanent markings and for the temporary (first layer) white/yellow/red markings as classified under P-620-3.3a. Surface preparation for the second application of the white/yellow/red permanent markings with reflective media and pavement marking refreshing shall be as classified under P-620-3.3c.

620-4.2 The quantity of markings shall be paid for shall be measured by the number of square feet (square meters) of painting.

620-4.3 No separate measurement shall be made for reflective media. ~~The quantity of reflective media shall be paid for by the number of pounds of reflective media.~~

620-4.4 The quantity of temporary markings to be paid for shall be the number of square feet of painting performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, *and* application ~~and complete removal~~ of the temporary marking.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1a Payment for surface preparation of new pavement surfaces shall be made at the contract price for the number of square feet for the surface preparation specified in paragraph 620-3.3a.

620-5.1b Payment for surface preparation of pavement markings prior to remarking shall be made at the contract price for the number of square feet for the surface preparation specified in paragraph 620-3.3c.

620-5.2 Payment for markings shall be made at the contract price for by the number of square feet of painting. *This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.*

620-5.4 Payment for temporary markings shall be made at the contract price for the number of square feet of painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1a	Surface Preparation of New Pavement Surfaces - per square foot
Item P-620-5.1b	Surface Preparation of Pavement Markings prior to Remarking - per square foot
Item P-620-5.2a	Permanent Markings with Type III Beads - per square foot
Item P-620-5.2b	Permanent Markings with no Beads - per square foot
Item P-620-5.4	Temporary Markings without Beads - per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200	Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

Part 12 – Turfing

Item T-904 Sodding

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR. *Any haul routes or other disturbances by the Contractor will be repaired at the Contractor's expense.*

MATERIALS

904-2.1 Sod. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches in height shall be mowed to a height of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions. *Sod species shall be Argentina Bahia as approved by the Engineer.*

904-2.2 Lime. Not required.

904-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of *Federal Spec A-A-1909 and* applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be with slow release of N, no P and 1:1 N:K ratio commercial fertilizer and shall be spread at the rate of 170 lbs/acre.

904-2.4 Water. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 General. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 Preparing the ground surface. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 Applying fertilizer and ground limestone. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches by discing, raking, or other suitable methods. Any stones larger than 2 inches in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 Obtaining and delivering sod. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

The contractor shall, for each loaf of sod, submit a written certification from the sod source certifying the sod sources are tropical soda apple seed source and plants as well as Millet seed. Any Tropical Soda Apple plants or Millet seed that propagate in the areas of new sod shall be controlled by the Contractor, at the Contractor's sole cost without compensation, until all Tropical Soda Apple plants and/or Millet grass have been eradicated in the affected areas. The time frame for eradication or emergence of plant specimens shall be the full and complete Warranty Period or as directed by the Owner.

904-3.5 Laying sod. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes *equal to or* steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches in length and have a cross-sectional area of not less than 3/4 sq inch . The pegs shall be driven flush with the surface of the sod *at intervals sufficient to prevent the sod from being displaced by runoff.*

All sod within the AOA, subject to aircraft jet blast, shall be secured to the ground per methods approved by the RPR and Owner. Contractor shall assume within 50ft of edge of full strength pavement and within 150ft of the edge of full strength pavement at turns and runway ends.

904-3.6 Watering. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface. *Watering shall commence once sod has been installed and shall continue for a thirty (30) day period on a three-day-a-week frequency. Watering days shall not be consecutive. All cost for watering, including supplying the water, shall be included in the unit bid price for the sod. Depending on weather conditions, the need for watering may be waived by the RPR or the Owner if requested by the Contractor in writing. Access to the site for watering shall be coordinated through the Owner. Contractor is solely responsible for sourcing and transporting irrigation water at no extra cost to the Owner.*

904-3.7 Establishing turf. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 Repairing. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

904-3.9 Elevation of Sod. *The top elevation of the sod when placed next to new or existing asphalt or concrete pavement shall have a 1-1/2" drop from the pavement edge. When sod is placed adjacent to new or existing concrete sign bases, light can bases, junction cans, manholes, other concrete slabs, etc., the drop shall be from zero to 1" maximum. The top of the sod mat is assumed to be the top of the root mass.*

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted. *The cost for watering for 30 days, including supplying the water, shall be included in the unit cost.*

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard for sodding, *including 30-day irrigation period,* which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1	Sodding (With 30-day Irrigation Period) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602	Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

Page Intentionally Blank

Item T-905 Topsoil

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh sieve as determined by the wash test in accordance with ASTM C117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches to facilitate bonding of the topsoil to the covered subgrade soil. The

surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches (50 mm) in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 *No measurement will be made for direct payment of any topsoil as the cost shall be considered subsidiary to the items requiring topsoil.* ~~Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.~~

~~905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (meters) computed by the method of end areas.~~

BASIS OF PAYMENT

905-5.1 *No separate payment will be made for this item. All topsoiling shall be incidental to the items requiring topsoiling.* ~~Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~**905-5.2** Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Payment will be made under:~~

~~Item T-905-5.1~~	~~Topsoil (Obtained on Site or Removed from Stockpile - per cubic yard (cubic meter)~~
~~Item T-905-5.2~~	~~Topsoil (Furnished from Off the Site) - per cubic yard (cubic meter)~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

Part 13 – Non-FAA Supplemental Items

Item S-101 Project Survey

DESCRIPTION

101-1.1 Under this item, the Contractor shall do all necessary surveying and project stakeout required to construct all elements of the Project as shown on the Contract Drawings and specified in the Specifications. This shall include but not be limited to stakeout, layout and elevations for pavements, structures, forms and appurtenances as shown and required consistent with the current practices and shall be performed by a State of Florida licensed professional land surveyor. The stakeout survey shall proceed immediately following the Notice to Proceed or as soon as authorized by the Owner in accordance with the phasing of the construction and shall be expeditiously progressed to completion in a manner and at a rate satisfactory of the Owner. The Contractor shall keep the Resident Project Representative (RPR) fully informed as to the progress of the stakeout survey. All survey work shall be provided under the direction of a State of Florida licensed professional land surveyor.

MATERIALS

101-2.1 All instruments, equipment, stakes and any other material necessary to perform the work satisfactorily shall be provided by the Contractor. It shall be the Contractor's responsibility to maintain these stakes in their proper position and location at all times.

CONSTRUCTION METHODS

101-3.1 The Contractor shall trim trees, brush, roots and other interfering objects from survey lines in advance of all survey work to permit accurate and unimpeded work by his stakeout survey crews.

The exact position of all work shall be established from control points, baseline transit points or other points of similar nature which are shown on the Contract Drawings and/or modified by the Engineer. Prior to any layout of works to be constructed, the Contractor shall verify the location and accuracy of all control points provided in the plans. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stakeout survey shall be referred to the RPR and Engineer for interpretation or furnishing when such is observed or required.

The Contractor shall place two offset stakes or references at each centerline full and half station and at such intermediate locations as the RPR may direct. From computations and measurements made by the Contractor, these stakes shall be clearly and legibly marked with the correct centerline full and half station number, offset and cut or fill so as to permit the establishment of the exact centerline location and elevation during construction. If markings become faded or blurred for any reason, the markings shall be restored by the Contractor at the request of the RPR. He shall locate and place all cut, fill, slope, fine grade or other stakes and points, as the engineer may direct, for the proper progress of the work. All control points shall be properly guarded and flagged for easy identification.

Drainage structures shall be staked out by the Contractor at the locations and elevations shown on the Contract Drawings or specified by the Engineer through the RPR.

Reference points, baselines, stakes and benchmarks for stockpiles shall be established by the Contractor.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc., throughout the life of the Contract. Damaged or destroyed points, benchmarks or stakes, or any reference points made inaccessible by the progress of the construction, shall be replaced or transferred by the Contractor. Any of the above points which may be destroyed or damaged shall be transferred by the Contractor before they are damaged or destroyed. All control points shall be referenced by ties to acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the RPR immediately. All stakeout survey work shall be referenced to the centerlines shown on the Contract Drawings. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, survey notes and other records shall be made available to the RPR upon request and shall become the property of the Owner.

The Contractor shall furnish, at his expense, all horizontal and vertical control, all staking and layout of construction work called for on the plans. The RPR, Engineer, and Owner shall not be responsible for such work. However, the Owner and Engineer reserve the right to check all said lines, grades, and measurements with their appointed surveyor. Should the Owner's surveyor detect errors in said lines, grades, and measurements, the contractor shall pay for all said surveying costs and subsequent surveying costs performed to verify correction of errors found in said lines, grades and measurements. Definition of an error shall be a discrepancy of ¼" or more. In the case of a discrepancy between the technical specifications and this defined tolerance, the more severe tolerance shall govern.

During the progress of the construction work, the Contractor will be required to furnish all of the surveying and stakeout incidental to the proper location by line and grade for each phase of the work. For paving and any other operation requiring extreme accuracy, the Contractor will re-stake with pins or other acceptable hubs located directly adjacent to the work at a spacing directed by the RPR.

Any existing stakes, iron pins, survey monuments or other markers defining property lines which may be disturbed during construction shall be properly tied into fixed reference points before being disturbed and accurately reset in their proper position upon completion of the work.

Just prior to completion of the Contract, the Contractor shall reestablish, if necessary, and retie all control points as permanently as possible and to the satisfaction of the RPR.

101-3.2 SURVEY REFERENCE POINTS. Establish, maintain and protect survey control points prior to starting work, using base reference points as shown on Plans. Promptly notify RPR, Engineer, and Owner of any discrepancies discovered.

Promptly report to RPR the loss or destruction of any reference point or relocation required because of changes in grades or other reasons. Replace dislocated survey control points based on original survey control.

101-3.3 SURVEYS FOR MEASUREMENT AND PAYMENT. Contractor shall submit progress surveys in .dwg format for subgrade, sub-base, base, pavement course prior to acceptance of payment per CADD requirements provided in section 101-4.

101-3.4 AS-BUILT SURVEY. Upon completion of the work, after Substantial Completion and before Final Acceptance, the Contractor shall supply to the RPR a complete as-built survey of the entire project site including drainage structures and utilities. All survey points, including horizontal and vertical control, property corners, section corner and reference (hereinafter referred to as "survey point") shall be clearly marked and referenced prior to construction. These survey points must be sufficiently referenced so that they can be reestablished after construction if they are disturbed. All survey data shall be in the same horizontal and vertical datum as the contract documents.

This as-built survey will be a complete topographic and physical features survey of the entire project site surrounded by the limits of construction plus an additional 10' beyond the limits of construction in all

directions. Elevations shall be obtained on all rigid pavement joint intersections and ends. If any work is done outside the limits of construction for any reason, this limit of survey will be increased to include this area plus 25'. This survey shall be certified by a Florida Licensed Professional Land Surveyor as meeting the minimum Technical Standards for topographic surveys as set forth in chapter 5J-17, Florida Administrative Code. The survey data must be supplied as a signed and sealed drawing (24" x 36" maximum size) at a scale matching the scale of the plans and be electronically submitted in AutoCAD .dwg format on a flash drive per requirements stated in section 101-4. Signed and sealed copies of all field notes, sketches and calculations must be submitted concurrently with the as-built survey. Larger scale details shall be provided to clarify any complicated or complex areas.

The as-built survey is to be supplied to the RPR for review and approval not more than thirty (30) calendar days after substantial completion for the project has been given. If the acceptable as-built survey is not supplied within the required time, the Owner reserves the right to perform the required survey and bill the Contractor for this work.

The as-built survey shall include all information needed to complete all project permit (i.e. SFWMD, etc. ...) as required by the permits and/or agencies standard requirements. A minimum of six (6) signed and sealed copies of the as-built survey will be supplied to the Engineer and RPR. One digitally signed/sealed copy will be supplied.

CADD SURVEY DELIVERABLE REQUIREMENTS

101-4.1 DIGITAL SURVEY DELIVERABLE REQUIREMENTS. Unless specifically directed by the engineer, the following specifications shall be applied for all digital survey deliverables to the Engineer that are to be utilized for construction as-builts.

101-4.2 DRAWING COORDINATE SYSTEM. The drawing file is to be in model space utilizing the coordinate system and vertical datum of the contract documents. A separate document should also be supplied with any combined site scale factor and origin needed to convert coordinates from ground to grid if applicable.

101-4.3 PROPERTIES AND DRAWING ENTITIES. Electronic survey to be delivered in AutoCAD Civil 3D release 2020 format or other approved format. The drawing shall be layered in accordance with Owner CAD Standards. National CAD Standards (NCS) shall be met if Owner CAD Standards do not exist. An AutoCAD template file containing layers can be requested by the Contractor to the Engineer.

Separate layer names should be used for all distinct objects surveyed. Do not group dis-similar items together on the same layer. For example, do not place line work and annotation on the same layer. All properties of the AutoCAD entities in the drawing are to be BYLAYER (Absolutely No Exceptions Here). In other words, do not change the properties of individual entities. For example, do not place water items on the sanitary layer and just change the color, linetype, or lineweight of the entity. Any user defined blocks used in the drawing shall have all entities created on layer 0, and all other properties shall be set to BYLAYER.

All blocks, dimensions, mtext, mleaders used in the drawing will use the Annotative property wherever possible. An exception to this will be blocks used as point symbols. These blocks cannot have an annotative property. Points shall not be used to depict physical features. Features shall be depicted using blocks or linework. Points shall only be used for topographic information.

101-4.4 SURFACES. Creating an accurate existing surface model is critical to the overall design process. An accurate model extends past the requirements for the given contour interval stated by the Master Services Agreement. It is the intention of this model to be generated with breaklines. There must be breaklines at all breaks in grade along the site. This should include but not limited to ALL Tops, Toes,

Swales, Crowns, Flow Lines, Face/Back of Curbs, Edge of Pavement and any other linear features. A surface given without breaklines will be a cause for immediate rejection and delay the project schedule.

Surfaces created with Civil 3D shall be created from Survey Points and 3D break lines (with preference to the use of Feature Lines) at a minimum. In the event the number of collected points exceeds 20,000, an external point file may be used for natural ground or spot shots. The external file shall be a separate comma delimited ASCII point file in PNEZD (Point Number, Northing, Easting, Elevation, and Description) format. The point file should then be linked to the existing ground surface and a note placed in the description of the surface giving the external file name.

Surfaces created from other software programs should include Survey Points and 3D Breaklines at a minimum. The drawing should include polylines representing contours, 3D Lines or 3D Faces representing the surface model.

104-4.5 SURVEY OBJECTS. Survey Figures should NOT be used in the drawing for 2D line work.

METHOD OF MEASUREMENT

101-5.1 No separate measurement for payment shall be made for Project Survey and shall be considered incidental to the project items.

END OF ITEM S-101

Item S-102 Airport Safety and Maintenance of Air Operations Area Traffic Requirements

GENERAL

102-1.1 SUMMARY

a. The work specified in this Section consists of airport safety and maintaining traffic within the limits of the project for the duration of the construction period. It shall include the construction and maintenance of any necessary detour facilities along the project and the furnishing, installing and maintaining of traffic control and safety devices required for safe and expeditious movement of traffic as may be called for on the plans. The term "Maintenance of Traffic" or MOT as used herein shall include all of such facilities, devices and operations as are required for the safety and convenience of the Airport users as well as for minimizing public nuisance; all as specified in this Section and Section 40-05. The Section also includes installing temporary wildlife burrow protection around any owl or tortoise nests, as directed by the Engineer or Owner's Representative.

b. The Contractor shall carry out its operations in a manner that will cause a minimum of interference with air traffic, and shall be required to cooperate with the Federal Aviation Administration (FAA), the Fort Lauderdale Executive Airport, airport operations, and other contractors working in the area. All work shall be completed in accordance with the Contract Documents including the Safety Program and FAA Advisory Circular 150/5370-2G, Operational Safety on Airports during Construction or current edition as of bid date.

c. The Contractor shall supply, place, maintain, move and store the items listed herein, as appropriate, to facilitate construction and protect air traffic. The Contractor shall maintain an adequate extra supply of these items on site.

d. The generalized overviews presented in this document are statements of expectations that the Contractor will be measured against. Failure to meet these requirements may be grounds for the removal of the individual employee from the worksite and could also lead to grounds for termination of the Contract by the Owner.

e. The Contractor shall provide an on-site safety coordinator for the duration of the contract if the value of the work to be performed is in excess of $250,000 and requires more than four hundred (400) man-hours to be completed for the duration of any one week. If less than four hundred (400) man-hours are worked in a work week, then a Safety Coordinator shall be appointed, but does not have to be onsite.

f. The Contractor must not interfere with or make more difficult or expensive Airport's compliance with any law, statue, code, ordinance or regulation. The Airport will notify the Contractor, orally or in writing, and the Contractor shall within forty-eight hours of receiving Airport's notification make whatever changes are necessary to remedy the situation, including, without limitation, changes in the work schedule, installation of safety devices. Airport's exercise of its rights under this provision will not be grounds for an increase in the Contract Sum under the Contract.

g. The Fort Lauderdale Executive Airport has the right to monitor (Contractor shall still be responsible for assuring safe work practices) the Contractors' operations for safety performance, workmanship, protection of operations, work progress, housekeeping, and compliance to design specifications. It is a general practice that the Fort Lauderdale Executive Airport will work

through the Contractor's supervision and not directly with the employee. The Fort Lauderdale Executive Airport has the right to participate with and investigate any accident or incident.

102-1.2 DEFINITIONS. Safety Program – The Contractor shall submit its Safety Program to the Fort Lauderdale Executive Airport and obtain approval prior to issuance of the Notice to Proceed. The Safety Program shall be prepared in accordance with the FAA Advisory Circular 150/5370-2, current edition as of bid date, 'Operation Safety on Airports During Construction'.

PRODUCTS

102-2.1 WILDLIFE BURROW PROTECTION. Safety fence shall be furnished and installed at the locations as indicated on the Contract Documents and/or directed by the Resident Project Representative (RPR). The Contractor shall provide materials per the details in the plans at locations identified in the field by the Engineer as burrows for Owls and Tortoises. These areas shall be protected and maintained throughout the construction period and the fencing shall be removed during project demobilization. Disturbances to these areas during installation and deconstruction of fences shall me minimized and prevented.

METHOD OF MEASUREMENT

102-3.1 Measurement for payment shall be the work under this Section completed and accepted in accordance with the Plans and these Specifications airport safety and maintenance of air operations area traffic requirements. Including but not limited to the completed and accepted Safety Plan Compliance Document.

102-3.2 Measurement of wildlife burrow protection for owl/tortoise nests for payment shall be the number of fences completed and accepted in accordance with the Plans and these Specifications.

BASIS OF PAYMENT

102-4.1 Payment for the work measured as described shall be made at the contract lump sum price bid for airport safety and maintenance of traffic, which prices and payments shall be full compensation for the work described in this section and section 40-05. Including but not limited to the completion and acceptance of the Safety Plan Compliance Document. Forty percent of the amount bid will be paid with the first estimate after the item is completely furnished and operational to the Owner's satisfaction. The remaining sixty percent will be prorated and paid with each application for payment based on the percent of contract completion.

102-4.2 Payment for temporary fences for owl/tortoise nests shall be made at the contract price per each fence, which prices and payments shall be full compensation for furnishing all materials, equipment, labor, processes, tools, and incidental costs required to complete the work under this item.

Payment will be made under:

Item S-102-5.1	Airport Safety and Maintenance of Traffic - per lump sum
Item S-102-5.2	Wildlife Burrow Protection – per each

END OF ITEM S-102

Item S-103 Jet Blast Barrier/Deflector For High Power Run-Up Velocities

GENERAL

103-1.1 RELATED DOCUMENTS Drawings and General Provisions of the Contract, including General and Supplementary Conditions Specification Sections, apply to this Section.

SUMMARY

103-2.1 This Section includes the design, fabrication, erection, and certification for a complete Jet Blast Deflector (hereafter referred to as JBD).

103-2.2 The JBD manufacturer shall furnish the final design, material, labor, and equipment to fabricate and erect the JBD.

103-2.3 At project closeout, the JBD manufacturer shall furnish As-Built Drawings of the installation, Operation and Maintenance Guidelines, and a Performance Guarantee/Warranty Certificate approving the materials and installation.

103-2.4 All civil work, including paving and foundations, is specified in other sections.

103-2.5 Electrical work, including any required grounding, lightning protection, or lighting, is specified in other sections.

SUBMITTALS

103-3.1 General. Submit each item in this article according to the conditions of the Contract and Division 01 Specification Sections.

103-3.2 Quality Assurance Documents. JBD manufacturer shall submit all quality assurance requirements listed in Sections 1.4-B and 1.4-C (Quality Assurance) for approval.

103-3.3 Upon execution of contract, the approved JBD manufacturer shall submit the following:

103-3.3a Shop Drawings. Provide assembly and installation drawings detailing location and overall dimensional information, materials, and finish details of the JBD. Drawings shall include details of the structural frame members and major assembly/subassembly details for the JBD structure, including plans, elevations, and sections. Show anchorage and accessory items. Drawings shall be stamped by a qualified Professional Engineer licensed in the State of Florida.

103-3.3b Foundation Design Criteria. JBD manufacturer shall furnish the anchor loads and locations, as well as all miscellaneous requirements for foundation design.

103-3.3c Structural Calculations. Provide structural design calculations for the JBD structure, including structural connections, deflecting surfaces, and anchors, prepared and stamped by a qualified Professional Engineer licensed in the State of Florida or certified by the Structural Engineering Certification Board. Calculations shall be submitted for each major frame system and shall comply with current IBC standards.

103-3.3e Professional Engineer Qualifications. Documentation of past experience in accordance with Section 103-4.2 (Quality Assurance) shall be provided with the submittal package.

103-3.4 At project closeout, the approved JBD manufacturer shall submit the following:

103-3.4a Mill Certificates. Provide mill certificates for all steel used in the manufacturing of the JBD.

103-3.4b Performance Guarantee/Warranty Certificate. Provide a written copy of the manufacturer's guarantee or warranty certifying the workmanship, materials, installation, and performance of the JBD for a period of one (1) year. See Section 104-12 (Erection) for JBD manufacturer supervision requirements.

103-3.4c As-Built Drawings. Submit as-built drawings of completed work in accordance with requirements of the specification as indicated in Division 01.

103-3.4d Operation and Maintenance Manual. Provide an operation and maintenance manual for the JBD and associated components, including inspection intervals and guidelines.

QUALITY ASSURANCE

103-4.1 Single Source Responsibility. The JBD structural members, deflecting surfaces, anchorage, and fasteners shall be procured from a single source responsible for design, manufacture, supply, and issuing a performance guarantee/warranty in accordance with Section 103-3.4 of this specification.

103-4.2 Professional Engineer Qualifications. Drawings and calculations shall be stamped by a Professional Engineer with experience of at least five (5) past jet blast deflector projects rated for high-power run- up (i.e., full test power) operations.

103-4.3 Alternate Manufacturers. To be approved as an alternate manufacturer, the following informationshall be submitted to and approved by the Owner prior to submitting a bid. Approved manufacturer(s) shall include this information with the submittal package as outlined in Section 103-3 (Submittals).

103-4.3a Results of full-scale field proof tests in which the proposed JBD was subjected to the specified aircraft operating at full test power settings. Computer simulations are not an acceptable alternative to full-scale field tests.

103-4.3b Results of full-scale smoke dispersion tests demonstrating that smoke and gases are deflected in an upward direction, with evidence of no smoke dispersal behind the deflector. Video footage and test report shall be provided.

103-4.3c Evidence of satisfactory operation of at least five (5) installations of the proposed model, each with at least five (5) years of actual field service of continued use with similar aircraft, power settings, and engines.

103-4.3d Detailed structural design analysis of the proposed JBD showing loads and stresses in structural members, bolted connections, deflecting surfaces, and anchorage, using the worst-case aircraft velocity profiles as the calculated pressure for load calculations. Structural calculations shall comply with current IBC standards.

103-4.3e Design drawings of the proposed JBD demonstrating that the deflector meets all design and material specifications listed in Parts 1 and 2 of this specification.

103-4.3f Evidence that the JBD designer/manufacturer is ISO 9001:2015 registered.

103-4.3g Evidence that the JBD designer/manufacturer has a combined commercial general

liability and excess coverage of $10 Million (minimum) with products/completed operations coverage. The JBD designer/manufacturer shall also provide evidence of professional liability coverage of $1 Million (minimum).

DESIGN CRITERIA

103-5.1 Aircraft. This JBD shall be designed specifically for business jets aircraft operating at takeoff power settings. Design exhaust velocity is 340 mph and shall be converted to pressure using standard day conditions. The JBD shall be designed to allow operation of specified aircraft, with no aircraft tail closer than 35 feet from the JBD leading edge and no engine nozzle closer than 60 feet from the JBD leading edge.

103-5.2 JBD Description. The JBD deflecting surface shall be a curved (see Note 1), corrugated type with corrugations running in the horizontal direction (see Note 2). Deflecting surfaces may not use concrete or perforated (or expanded) metal (see Notes 3 and 4). Deflecting surfaces shall be rigidly supported by bolted structural steel frame assemblies spaced at 3' (maximum) centers. Deflecting surface panels shall be supported by single-piece, curved steel members with a continuous radius (see Note 5). Welds at joints subjected to tension and/or vibration shall not be used. The JBD shall be LYNNCO Type U19-3EW or an approved equal. Any alternatives shall strictly comply with all of Section 103-4 (Quality Assurance) conditions to qualify as an approved equal and seek approval prior to bidding through the RFI process.

Notes:

a. Vertical, or nearly vertical, blast fences are not recommended due to poor aerodynamic deflection characteristics.

b. Deflecting surfaces composed of flat metal or corrugations of lower section modulus than specified (see Section 103-7.2) shall not be used due to potential 'oil-canning' effects, which may lead to early fatigue failure.

c. Blast deflectors composed of concrete shall not be used due to the potential for surface spalling, which may lead to Foreign Object Debris/Damage (FOD) hazards.

d. Perforated or expanded metal (a.k.a. mesh) deflectors shall not be used since passage of high velocity engine exhaust through the deflector is not conducive to full protection immediately behind the mesh, especially at lower elevations. In the case of expanded metal, there is potential for entrained particulate (sand, stone, etc.) to pass through the deflector near ground level and become airborne.

e. Segmented, or faceted, blast surfaces designed to mimic a singular curved surface are not recommended due to poor aerodynamic performance and the potential for induced turbulence and vibration at joints.

103-5.3 JBD Performance. The JBD shall reduce jet blast velocities at ground level behind the JBD to a maximum of 35 mph. The jet blast envelope shall be deflected upward at a minimum angle of 50° under no wind conditions.

103-5.4 Layout. As shown on Sheet C08.

103-5.5 Height. Nominal 19'.

103-5.6 Foundation. The foundation design shall be shallow slab (raft/mat) type with shear key(s), as necessary, designed to withstand the anchor loads provided by the JBD manufacturer and taking

into consideration the minimum specified anchor bolt clearances. The foundation shall be constructed as a single-plane surface with no breaks in grade unless otherwise arranged with the JBD manufacturer.

103-5.7 Connections. For ease of assembly and to minimize construction time on the active airfield, all field connections shall be bolted. Field-welding is not permitted. The design of the structure shall maintain a reasonable degree of modularity should components require future repair or replacement.

103-5.8 FOD Considerations. Fastener assemblies used in the construction of the JBD shall include adequate locking mechanism(s) to prevent from working loose during continued, normal use of the structure (subject to JBD manufacturer maintenance guidelines).

103-5.9 Loading. The JBD shall be designed to withstand takeoff velocities from all aircraft specified in Section 103-5.1. Engine exhaust velocity shall be converted into pressure using standard day conditions and shall be applied normal to all deflecting surfaces. Code-level wind conditions shall also be assessed to identify governing design criteria for all JBD structural components.

PRODUCTS

103-6.1 NOT USED.

STRUCTURE

103-7.1 Frames. Structural steel shapes shall consist of ASTM A36 (minimum strength) steel and shall be cut, rolled, and punched, as required. All field connections shall be bolted (no field-welding permitted). After shop fabrication, all individual structural steel members shall be hot-dip galvanized to a minimum of 2 oz/ft^2 per ASTM A123.

103-7.2 Deflecting Surface Sheets: Corrugated steel sheets shall be formed from 16-gauge (minimum) ASTM A924 sheet steel with 2 oz/ft^2 hot-dip galvanized coating per ASTM A653. Section modulus of formed sheets shall be a minimum of 0.196 in^3/ft and shall be attached to frames with 3/8"-diameter bolts using half oval washers.

103-7.3 Fastener assemblies shall include adequate locking properties and shall be designed to withstand direct jet blast. Where applicable, the following shall be used as a minimum for strength, locking, and anti-corrosion characteristics:

Fastener Component	Bolt Nom. Diameter ≥ ½"	Bolt Nom. Diameter < ½"
Bolts:	ASTM A449 or SAE J429 Grade 5	ASTM F593G
Flat Washers:	ASTM F436 (Where Applicable)	316 Stainless
Lock Washers:	N/A	N/A
Nuts:	IFI-100/107	ASTM F594G (Nylon-Insert Locking)
Finish:	ASTM F1941	ASTM A380 (Stainless Steel)
Half Oval Washers:	ASTM A36 steel, hot-dip galvanized per ASTM A123 to 2 oz/ft^2	
*Nuts and/or washers shall incorporate locking component to withstand vibrations induced by direct jet blast, thus preventing FOD; configuration shall be determined by the supplier using proven methods. Technical details of locking component shall be submitted within item 1.3-C.3 of these specifications.		

103-7.4 Anchor Bolts: Load capacities for post-installed anchors in concrete shall be based on testing in

accordance with ACI 355.2, ACI 355.4, or ASTM E488. Approved anchors are [zinc-plated LYNNCO type AB34M mechanical anchors]. Anchors shall be supplied by the JBD manufacturer and shall not be installed in concrete that has cured for less than 7 days.

103-7.5 Anchor Bolts: Load capacities for post-installed anchors in concrete shall be based on testing in accordance with ACI 355.2, ACI 355.4, or ASTM E488. Approved anchors are [zinc-plated LYNNCO type AB34M mechanical anchors]. Anchors shall be supplied by the JBD manufacturer and shall not be installed in concrete that has cured for less than 7 days.

103-7.6 Galvanizing Repair Paint: Re-galvanizing damaged areas on hot-dip galvanized steel shall be finished using high-zinc-content paint—greater than 93 percent pure zinc by weight—complying with Mil-P- 21035 and Mil-P-26915.

FABRICATION, GENERAL

103-8.1 Produce metal fabrications from materials of approved size, thickness, and shapes as required. Work to dimensions indicated on approved shop drawings using proven details of fabrication and support.

103-8.2 All fabrications shall be produced with precise angles and straight, sharp edges.

103-8.3 Material shall be cut, sheared, drilled, and/or punched cleanly and accurately. Remove all burrs from edges and holes.

103-8.4 Remove any remaining sharp or rough areas on exposed surfaces prior to galvanizing.

PRODUCT MARKING

103-9.1 JBD manufacturer shall provide signage indicating manufacturer name, model number, power rating, usage restrictions, and project information/identifier. Sign(s) shall be securely-bolted to the back of the completed structure.

SITE CONDITION

103-10.1 The JBD manufacturer shall inspect the site prior to beginning work and notify the Owner of any deficiencies. Installation may not proceed until unsatisfactory conditions have been corrected.

MATERIAL STORAGE AND HANDLING

103-11.1 Store all JBD materials in approved areas, protected from the elements, and in a manner that prevents any damage, distortion, or deterioration. Keep deflecting surface sheets and steel members off ground using pallets, dunnage, platforms, or similar supports. Do not expose nested or stacked materials to water or moisture.

103-11.2 Surfaces showing iron stain or red rust shall be retouched or re-galvanized to the satisfaction of the contracting officer. See Section 103-7.6 (Structure) for details for the galvanizing repair paint.

ERECTION

103-12.1 The JBD manufacturer shall observe and supervise the construction of the JBD and, upon satisfactory completion, the JBD manufacturer shall issue the performance guarantee/warranty (see Section 103-3.4).

103-12.2 Install all post-installed concrete anchors in accordance with anchor manufacturer's written instructions. Use steel templates during drilling/setting of anchors to ensure accurate positions.

103-12.3 Set steel frames accurately at the locations provided on approved shop drawings, and in accordance with applicable American Institute of Steel Construction (AISC) standards.

103-12.4 Provide temporary guys and/or braces, as required, to support structural elements during erection.

103-12.5 Tighten all fasteners to the torques specified by the JBD manufacturer.

103-12.6 Field-executed thermal cutting or welding is not permitted.

103-12.7 Touch up any damaged galvanized surfaces with galvanizing repair paint (see Section 103-7.6 for galvanizing repair paint product requirements). Follow paint manufacturer's written instructions for surface preparation and application.

PERMITS

103-13.1 The general contractor shall be responsible for obtaining approval for the design of the JBD structure and associated foundation, and any required building permits.

INSPECTION

103-14.1 The JBD manufacturer and the Owner, or designated representatives thereof, shall visually inspect the completed installation to ensure that all work has been completed in an acceptable manner. Special care shall be given to the inspection of the JBD for loose material and missing fasteners.

103-14.2 Once any noted issues are corrected to the satisfaction of both parties, an acceptance letter or certificate of completion shall be signed by the representatives of the JBD manufacturer and the Owner who participate in the inspection. Final acceptance/certification by the JBD manufacturer and Owner shall be obtained in order to validate the performance guarantee/warranty for the JBD structure.

CLEANUP

103-15.1 Following completion of construction and related inspections, and prior to any aircraft operation, the JBD manufacturer representative(s) shall remove all associated construction materials, equipment, and debris from the jobsite.

103-15.2 Prior to aircraft operation, the Owner is responsible for thoroughly sweeping the surrounding areas and inspecting for FOD.

TESTING

103-16.1 A representative from the JBD manufacturer and an Owner's representative shall be present for a demonstration of the JBD subjected to full test power operation using an aircraft designated by the Owner.

103-16.2 The JBD manufacturer's standard proof test procedures shall be followed, and are to be provided upon request to the Owner.

103-16.3 The Owner shall provide all aircraft and operating personnel for proof testing. The JBD manufacturer shall provide qualified JBD test personnel, instrumentation, and associated material required for proof testing.

103-16.4 Upon conclusion of the test, the JBD manufacturer shall issue a detailed report summarizing the results of the test.

METHOD OF MEASUREMENT

103-17.1 The quantity of Jet Blast Deflector for High Power Run-ups shall be for the complete design, permitting, and installation of the jet blast fence. Completed and accepted work will be paid as lump sum.

103-17.2 The quantity of Jet Blast Deflector for High Power Run-ups foundation shall be for the complete design, permitting, and installation of the jet blast fence foundation ready to install the jet blast fence structure. Completed and accepted work will be paid as lump sum.

BASIS OF PAYMENT

103-18.1 This price for the Jet Blast Deflector for High Power Run-ups shall be full compensation for design, permitting, furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR and the Owner in accordance with these specifications.

103-18.2 This price for the Foundation of Jet Blast Deflector for High Power Run-ups shall be full compensation for design, permitting, furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

Payment will be made under:

Item S-103-1 Jet Blast Deflector for High Power Run-ups - per lump sum (ADD ALTERNATE ONE)

Item S-103-2 Foundation of Jet Blast Deflector for High Power Run-ups - per lump sum (ADD ALTERNATE ONE)

END OF ITEM S-103

Item S-104 Jet Blast Barrier/Deflector For Taxi/Breakaway Velocities

GENERAL

104-1.1 RELATED DOCUMENTS. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

SUMMARY

104-2.1 This Section includes the design, fabrication, erection, and certification for a complete Jet Blast Deflector (hereafter referred to as JBD).

104-2.2 The JBD manufacturer shall furnish the final design, material, labor, and equipment to fabricate and erect the JBD.

104-2.3 At project closeout, the JBD manufacturer shall furnish As-Built Drawings of the installation, Operation and Maintenance Guidelines, and a Performance Guarantee/Warranty Certificate approving the materials and installation.

104-2.4 All civil work, including paving and foundations, is specified in other sections.

104-2.5 Electrical work, including any required grounding, lightning protection, or lighting, is specified in other sections.

SUBMITTALS

104-3.1 General. Submit each item in this article according to the conditions of the Contract and Division 01 Specification Sections.

104-3.2 Quality Assurance Documents. The JBD manufacturer shall submit all quality assurance requirements listed in Sections 104-4.2 and 104-4.3 (Quality Assurance) for approval.

104-3.3 Upon execution of contract, the approved JBD manufacturer shall submit the following:

104-3.3a Shop Drawings. Provide assembly and installation drawings detailing location and overall dimensional information, materials, and finish details of the JBD. Drawings shall include details of the structural frame members and major assembly/subassembly details for the JBD structure, including plans, elevations, and sections. Show anchorage and accessory items. Drawings shall be stamped by a qualified Professional Engineer licensed in the State of Florida.

104-3.3b Foundation Design Criteria. JBD manufacturer shall furnish the anchor loads and locations, as well as all miscellaneous requirements for foundation design.

104-3.3c Structural Calculations. Provide structural design calculations for the JBD structure, including structural connections, deflecting surfaces, and anchors, prepared and stamped by a qualified Professional Engineer licensed in the State of Florida or certified by the Structural Engineering Certification Board. Calculations shall be submitted for each major frame system and shall comply with current IBC standards.

104-3.3d Professional Engineer Qualifications. Documentation of past experience in accordance with Section 104-4.2 (Quality Assurance) shall be provided with the submittal package.

104-3.4 At project closeout, the approved JBD manufacturer shall submit the following:

104-3.4a Mill Certificates. Provide mill certificates for all steel used in the manufacturing of the JBD.

104-3.4b Performance Guarantee/Warranty Certificate. Provide a written copy of the manufacturer's guarantee or warranty certifying the workmanship, materials, installation, and performance of the JBD for a period of one (1) year. See Section 104-12 (Erection) for JBD manufacturer supervision requirements.

104-3.4c As-Built Drawings. Submit as-built drawings of completed work in accordance with requirements of the specification as indicated in Specification S-101.

104-3.4d Operation and Maintenance Manual. Provide an operation and maintenance manual for the JBD and associated components, including inspection intervals and guidelines.

QUALITY ASSURANCE

104-4.1 Single-Source Responsibility. The JBD structural members, fasteners, deflecting surfaces, and anchorage shall be procured from a single source responsible for design, manufacture, supply, and issuance of performance guarantee/warranty certificate in accordance with Section 104-3.4 (Submittals) of this specification.

104-4.2 Professional Engineer Qualification. Drawings and calculations shall be stamped by a Professional Engineer with experience of at least five (5) past jet blast deflector projects rated for taxi/breakaway operations.

104-4.3 Alternate Manufacturers. To be approved as an alternate manufacturer, the following information shall be submitted-to and approved-by the Owner prior to submitting a bid (see Section 104-3.2).

104-4.3a Results of full-scale field proof tests in which the proposed JBD was subjected to the specified aircraft operating at taxi/breakaway power settings. Computer simulations are not an acceptable alternative to full-scale field tests.

104-4.3b Results of full-scale smoke dispersion tests demonstrating that smoke and gases are deflected in an upward direction, with evidence of no smoke dispersal behind the deflector. Video footage and test report shall be provided.

104-4.3c Evidence of satisfactory operation of at least five (5) installations of the proposed model, each with at least five (5) years of actual field service of continued use with similar aircraft, power settings, and engines.

104-4.3d Detailed structural design analysis of the proposed JBD showing loads and stresses in structural members, bolted connections, deflecting surfaces, and anchorage, using the worst-case aircraft velocity profiles as the calculated pressure for load calculations. Structural calculations shall comply with current IBC standards.

104-4.3e Design drawings of the proposed JBD demonstrating that the deflector meets all design and material specifications listed in Parts 1 and 2 of this specification.

104-4.3f Evidence that the JBD designer/manufacturer is ISO 9001:2015 registered.

104-4.3g Evidence that the JBD designer/manufacturer has a combined commercial general liability and excess coverage of $10 Million (minimum) with products/completed operations coverage. The JBD designer/manufacturer shall also provide evidence of professional liability

coverage of $1 Million (minimum).

DESIGN CRITERIA

104-5.1 Aircraft. This JBD shall be designed specifically for Business jets aircraft operating at taxi/breakaway power settings. Design exhaust velocity is 140 mph and shall be converted to pressure using standard day conditions. The JBD shall be designed to allow operation of specified aircraft, with no aircraft tail closer than 35 feet from the JBD leading edge and no engine nozzle closer than 60 feet from the JBD leading edge.

104-5.2 JBD Description. The JBD deflecting surface shall be a curved (see Note 1), corrugated type with corrugations running in the horizontal direction (see Note 2). Deflecting surfaces may not use concrete or perforated (or expanded) metal (see Notes 3 and 4). Deflecting surfaces shall be rigidly supported by bolted structural steel frame assemblies spaced at 6' (maximum) centers. Deflecting surface panels shall be supported by single-piece, curved steel members with a continuous radius (see Note 5). Welds at joints subjected to tension and/or vibration shall not be used. The JBD shall be LYNNCO Type G14NB-6 or an approved equal. Any alternatives shall strictly comply with all of Section 104-4 (Quality Assurance) conditions to qualify as an approved equal and seek approval prior to bidding through the RFI process.

Notes:

a. Vertical, or nearly vertical, blast fences are not recommended due to poor aerodynamic deflection characteristics.

b. Deflecting surfaces composed of flat metal or corrugations of lower section modulus than specified (see Section 104-7.2) shall not be used due to potential 'oil-canning' effects, which may lead to early fatigue failure.

c. Blast deflectors composed of concrete shall not be used due to the potential for surface spalling, which may lead to Foreign Object Debris/Damage (FOD) hazards.

d. Perforated or expanded metal (a.k.a. mesh) deflectors shall not be used since passage of high velocity engine exhaust through the deflector is not conducive to full protection immediately behind the mesh, especially at lower elevations. In the case of expanded metal, there is potential for entrained particulate (sand, stone, etc.) to pass through the deflector near ground level and become airborne.

e. Segmented, or faceted, blast surfaces designed to mimic a singular curved surface are not recommended due to poor aerodynamic performance and the potential for induced turbulence and vibration at joints.

104-5.3 JBD Performance. The JBD shall reduce jet blast velocities at ground level behind the JBD to a maximum of 35 mph. The jet blast envelope shall be deflected upward at a minimum angle of 50° under no wind conditions.

104-5.4 Layout. As shown on Drawing C09.

104-5.5 Height. Nominal 14'.

104-5.6 Foundation. The foundation design shall be shallow slab (raft/mat) type with shear key(s), as necessary, designed to withstand the anchor loads provided by the JBD manufacturer and taking into consideration the minimum specified anchor bolt clearances. The foundation shall be constructed as a single-plane surface with no breaks in grade unless otherwise arranged with the

JBD manufacturer.

104-5.7 Connections. For ease of assembly and to minimize construction time on the active airfield, all field connections shall be bolted. Field-welding is not permitted. The design of the structure shall maintain a reasonable degree of modularity should components require future repair or replacement.

104-5.8 FOD Considerations. Fastener assemblies used in the construction of the JBD shall include adequate locking mechanism(s) to prevent from working loose during continued, normal use of the structure (subject to JBD manufacturer maintenance guidelines).

104-5.9 Loading. The JBD shall be designed to withstand taxi/breakaway exhaust velocities from all aircraft specified in Section 104-5.1. Engine exhaust velocity shall be converted into pressure using standard day conditions and shall be applied normal to all deflecting surfaces. Code-level wind conditions shall also be assessed to identify governing design criteria for all JBD structural components.

PRODUCTS

104-6.1 NOT USED.

STRUCTURE

104-7.1 Frames. Structural steel shapes shall consist of ASTM A36 (minimum strength) steel and shall be cut, rolled, and punched, as required. All field connections shall be bolted (no field-welding permitted). After shop fabrication, all individual structural steel members shall be hot-dip galvanized to a minimum of 2 oz/ft^2 per ASTM A123.

104-7.2 Deflecting Surface Sheets. Corrugated steel sheets shall be formed from 16-gauge (minimum) ASTM A924 sheet steel with 2 oz/ft^2 hot-dip galvanized coating per ASTM A653. Section modulus of formed sheets shall be a minimum of 0.196 in^3/ft and shall be attached to frames with 3/8"-diameter bolts using half oval washers.

104-7.3 Fastener assemblies shall include adequate locking properties and shall be designed to withstand direct jet blast. Where applicable, the following shall be used as a minimum for strength, locking, and anti-corrosion characteristics:

Fastener Component	Bolt Nom. Diameter ≥ ½"	Bolt Nom. Diameter < ½"
Bolts:	ASTM A449 or SAE J429 Grade 5	SAE J429 Grade 5
Flat Washers:	ASTM F436 (Where Applicable)	Carbon Steel
Lock Washers:	ASME B18.21.1 (Where Applicable)*	ASME B18.21.1 (Where Applicable)*
Nuts:	ASTM A563*	ASTM A563*
Finish:	ASTM A153 or ASTM F2329	ASTM A153 or ASTM F2329
Half Oval Washers:	ASTM A36 steel, hot-dip galvanized per ASTM A123 to 2 oz/ft^2	
*Nuts and/or washers shall incorporate locking component to withstand vibrations induced by direct jet blast, thus preventing FOD; configuration shall be determined by the supplier using proven methods. Technical details of locking component shall be submitted within item 1.3-C.3 of these specifications.		

104-7.4 Anchor Bolts: Load capacities for post-installed anchors in concrete shall be based on testing in accordance with ACI 355.2, ACI 355.4, or ASTM E488. Approved anchors are [zinc-plated LYNNCO type AB34M mechanical anchors]. Anchors shall be supplied by the JBD manufacturer and shall not be installed in concrete that has cured for less than 7 days.

104-7.5 Galvanizing Repair Paint: Re-galvanizing damaged areas on hot-dip galvanized steel shall be finished using high-zinc-content paint—greater than 93 percent pure zinc by weight—complying with Mil-P- 21035 and Mil-P-26915.

FABRICATION, GENERAL

104-8.1 Produce metal fabrications from materials of approved size, thickness, and shapes as required. Work to dimensions indicated on approved shop drawings using proven details of fabrication and support.

104-8.2 All fabrications shall be produced with precise angles and straight, sharp edges.

104-8.3 Material shall be cut, sheared, drilled, and/or punched cleanly and accurately. Remove all burrs from edges and holes.

104-8.4 Remove any remaining sharp or rough areas on exposed surfaces prior to galvanizing.

PRODUCT MARKING

104-9.1 JBD manufacturer shall provide signage indicating manufacturer name, model number, power rating, usage restrictions, and project information/identifier. Sign(s) shall be securely-bolted to the back of the completed structure.

SITE CONDITION

104-10.1 The JBD manufacturer shall inspect the site prior to beginning work and notify the Owner of any deficiencies. Installation may not proceed until unsatisfactory conditions have been corrected.

MATERIAL STORAGE AND HANDLING

104-11.1 Store all JBD materials in approved areas, protected from the elements, and in a manner that prevents any damage, distortion, or deterioration. Keep deflecting surface sheets and steel members off ground using pallets, dunnage, platforms, or similar supports. Do not expose nested or stacked materials to water or moisture.

104-11.2 Surfaces showing iron stain or red rust shall be retouched or re-galvanized to the satisfaction of the contracting officer. See Section 104-7.5 (Structure) for details for the galvanizing repair paint.

ERECTION

104-12.1 The JBD manufacturer shall observe and supervise the construction of the JBD and, upon satisfactory completion, the JBD manufacturer shall issue the performance guarantee/warranty (see Section 104-3.4).

104-12.2 Install all post-installed concrete anchors in accordance with anchor manufacturer's written instructions. Use steel templates during drilling/setting of anchors to ensure accurate positions.

104-12.3 Set steel frames accurately at the locations provided on approved shop drawings, and in accordance with applicable American Institute of Steel Construction (AISC) standards.

104-12.4 Provide temporary guys and/or braces, as required, to support structural elements during erection.

104-12.5 Tighten all fasteners to the torques specified by the JBD manufacturer.

104-12.6 Field-executed thermal cutting or welding is not permitted.

104-12.7 Touch up any damaged galvanized surfaces with galvanizing repair paint (see Section 104-7.5 for galvanizing repair paint product requirements). Follow paint manufacturer's written instructions for surface preparation and application.

PERMITS

104-13.1 The general contractor shall be responsible for obtaining approval for the design of the JBD structure and associated foundation, and any required building permits.

INSPECTION

104-14.1 The JBD manufacturer and the Owner, or designated representatives thereof, shall visually inspect the completed installation to ensure that all work has been completed in an acceptable manner. Special care shall be given to the inspection of the JBD for loose material and missing fasteners.

104-14.2 Once any noted issues are corrected to the satisfaction of both parties, an acceptance letter or certificate of completion shall be signed by the representatives of the JBD manufacturer and the Owner who participate in the inspection. Final acceptance/certification by the JBD manufacturer and Owner shall be obtained in order to validate the performance guarantee/warranty for the JBD structure.

CLEANUP

104-15.1 Following completion of construction and related inspections, and prior to any aircraft operation, the JBD manufacturer representative(s) shall remove all associated construction materials, equipment, and debris from the jobsite.

104-15.2 Prior to aircraft operation, the Owner is responsible for thoroughly sweeping the surrounding areas and inspecting for FOD.

TESTING

104-16.1 Proof testing of taxi/breakaway fences is not required.

METHOD OF MEASUREMENT

104-17.1 The quantity of Jet Blast Deflector for High Power Run-ups shall be for the complete design, permitting, and installation of the jet blast fence. Completed and accepted work will be paid as lump sum.

104-17.2 The quantity of Jet Blast Deflector for High Power Run-ups foundation shall be for the complete design, permitting, and installation of the jet blast fence foundation ready to install the jet blast fence structure. Completed and accepted work will be paid as lump sum.

BASIS OF PAYMENT

104-18.1 This price for the Jet Blast Deflector for Taxi/Breakaway Velocities shall be full compensation for design, permitting, furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR and the Owner in accordance with these specifications.

104-18.2 This price for the Foundation of Jet Blast Deflector for Taxi/Breakaway Velocities shall be full compensation for design, permitting, furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

Payment will be made under:

Item S-104-1 Jet Blast Deflector for Taxi/Breakaway Velocities - per lump sum

Item S-104-2 Foundation of Jet Blast Deflector for Taxi/Breakaway Velocities - per lump sum

END OF ITEM S-104

Item S-105 High Performance Turf Reinforcement Mat

DESCRIPTION

105-1.1 This item shall consist of preparing the ground surface and the installation of the high performance turf reinforcement mat (HPTRM) and associated with the installation of HPTRM, which includes all associated appurtenance shown in the on the contract documents at the locations shown on the plans or as directed by the RPR.

SUBMITTALS

105-3.1 General. Submit each item in this article according to the conditions of the Contract and Division 01 Specification Sections.

105-3.2 Quality Assurance Documents. The CONTRACTOR shall submit all quality assurance for approval.

105-3.3 Upon execution of contract, the CONTRACTOR shall submit the following:

105-3.3a. The CONTRACTOR shall submit, in booklet form, the MANUFACTURER's literature for the product used on the job. The CONTRACTOR shall also submit the MANUFACTURER's ISO 9001 certification or state their quality control is in accordance with ASTM D4354.

105-3.3b. The CONTRACTOR shall provide a certificate from a Geosynthetic Accreditation Institute Laboratory Accreditation Program (GAI-LAP) lab stating the name of the HPTRM MANUFACTURER, product name, style, chemical compositions of filaments yarns, and other pertinent information to fully describe the HPTRM.

105-3.3c. The CONTRACTOR shall submit Shop Drawings including the MANUFACTURER's installation plan to the DISTRICT for approval prior to delivery of the HPTRM to the jobsite. Nontraditional construction methods may be required to perform the installation of HPTRM.

105-3.3d. Prior to placement of the HPTRM, the CONTRACTOR shall notify the DISTRICT who will inspect the soil surfaces for conformance.

105-3.3e. Anchor Load Tests: The CONTRACTOR shall submit earth percussion anchor pullout test reports testing the minimum required pullout resistance as stated in this specification. Load tests shall be performed for every 100 linear feet of embankment on each canal bank installed.

105-3.4 Prior to placing sod over the HPTRM, the CONTRACTOR shall submit the following:

105-3.5a. Submit as-built drawings of completed work in accordance with requirements of the specification as indicated in Specification S-101. As-built drawings are required to indicate the limits of the installed HPTRM.

MATERIALS

105-4.1 High Performance Turf Reinforcement Mat (HPTRM). The contractor shall furnish a HPTRM manufactured for the purpose of protecting the areas shown in the plans from erosion. The HPTRM shall be made of 100% UV-stabilized polypropylene and contain no biodegradable components or materials to ensure long term design life. The HPTRM shall be composed of a

three dimensional matrix, that will maintain its three dimensional stability without laminated or stitched layers. The HPTRM shall not lose its structural integrity, and shall not unravel or separate when it is cut in the field. The following attributes differentiate a HPTRM:

The mat shall meet the following requirements: (range, minimum, or maximum)

Property	Test Method	Test Parameter	Units	Property Requirement
Thickness	ASTM D6525	Range	mm	6.4 – 12.7
Resiliency	ASTM D6524	Minimum	percent	70
Mass Per Unit Area	ASTM D6566	Range	g/m^2	270 - 505
Ultimate Tensile Strength	ASTM D6818	Minimum	kN/m (lbs/ft)	43.8x 43.8 (3,000 x 3,000)
Tensile Elongation	ASTM D6818	Maximum	percent	65
Light Penetration	ASTM D6567	Minimum	percent	10
UV Resistance	ASTM D4355	Minimum	percent	80 @3000 hrs

105-4.2 Anchoring Devices

105-4.2a Pins. The CONTRACTOR shall furnish metal pins with a minimum length of 18 inches with a steel washer located at the head of the pin. The metal pins provide for temporary tie down of the HPTRM to the slope in the locations specified to aid with vegetation establishment. Locations of the pins along the top anchor trench are indicated in the Contract Drawings. Locations of the pins along the vertical overlaps are spaced one (1) foot apart except for where an earth percussion anchor is located. Pin pattern throughout slope face shall be as shown in the Contract Drawings.

PHYSICAL PROPERTIES

Component	Physical Properties
Metal Pin	0.2 in diameter steel
Metal Washer	in. diameter

105-4.2b Earth Percussion Anchors.

a. The CONTRACTOR shall furnish earth percussion anchors with minimum drive depths of 36 inches and minimum pullout resistance of 300 lbs for permanent tie down of the HPTRM to the slope in the locations specified in the Contract Drawings.

b. Percussion anchors shall be placed in a grid pattern throughout the HPTRM at no more than four (4) feet spacing between anchors. Percussion anchor spacing shall include anchors along top and bottom trenches, along each side in the overlap areas and at ends of HPTRM.

c. The earth percussion anchor components shall be made of materials suitable to resist corrosion and UV degradation particularly at the soil/ air interface. The anchor head shall have relatively smooth edges to minimize abrasion and installation damage to the HPTRM. The anchor shall consist of a self-setting wedge grip used to lock and hold the loading applied to an anchor. The anchor shall reside at a minimum depth of 36 inches after it is locked in place.

MATERIAL STORAGE AND HANDLING

105-5.1 Storage. Prior to use, the CONTRACTOR shall store the HPTRM in a clean, dry place, out of direct sunlight, not subject to extremes of either hot or cold and with the manufacturer's protective cover in place. Receiving, storage, and handling at the job site shall be in accordance with the requirements in ASTM D4873.

CONSTRUCTION METHODS

105-6.1 Surface Preparation. The CONTRACTOR shall grade surface on which the HPTRM is to be placed to the neat lines and grades as shown on the Contract Drawings. The surface shall be smooth and free of loose rocks, clods, holes, depressions, projections, muddy conditions, and standing or flowing water. Any irregularities shall be removed so as to insure continuous, intimate contact of the HPTRM with the surface.

105-6.2 Construction Methods. The CONTRACTOR shall place the HPTRM in accordance with the MANUFACTURER's recommendations and the following requirements:

105-6.3 Inspection and tests. The CONTRACTOR shall provide access to the WORK for the RPR as requested for inspection. The CONTRACTOR shall provide at least 48 hours advance notice to the RPR of its intention to begin new WORK activities. Inspections shall be conducted by the RPR for the following portions of the installation of the HPTRM:

a. Install the HPTRM at elevation and alignment indicated in the Contract Drawings in accordance with the approved installation plan.

b. Secure the HPTRM into the bottom anchor trench below the water line at the elevation indicated in the Contract Drawings, ensuring that the HPTRM is permanently anchored with earth percussion anchors spaced 4-feet apart, in between lapped ends and at the lapped ends, whichever is less.

c. Unroll HPTRM up the slope, overlapping adjacent rolls a minimum of six (6) inches (unless otherwise specified by the MANUFACTURER). The HPTRM shall be unrolled along the placement area and loosely laid (not stretched) in such a manner so that it will conform to the placed on or against underlying soils. The upstream HPTRM shall overlap the abutting downstream HPTRM so to shingle panels of the HPTRM in such a manner that works with the flow of water in the canal to reduce undermining of the HPTRM at vertical overlaps. Horizontal overlaps are not permitted.

d. Extend the HPTRM to an elevation one (1) foot below the crest or berm and two (2) feet into the embankment, secure into the top anchor trench with pins spaced one (1) feet apart per MANUFACTURE's installation guidelines. Backfill the top anchor trench with soil material and compact according to Compaction Requirements under Item P-152 Excavation, Subgrade and Embankment.

e. Secure the HPTRM to the slope with pins installed in a pattern of 1.5 pins per square yard or per MANUFACTURER's installation guidelines, whichever is more stringent. Vertical overlaps must be secured using earth percussion anchors starting at the bottom anchor trench

and installed every four (4) feet with two (2) feet long pins spaced one (1) foot apart from and between the percussion anchors to the top anchor trench. Increased anchoring frequency may be required if Site conditions are such that the RPR determines it necessary.

f. Alternate installation methods must be approved by the RPR prior to execution.

g. Should the HPTRM be torn or punctured, or the overlaps or sewn joint disturbed, as evidenced by visible fabric damage, subgrade pumping, intrusion, or grade distortion, the backfill around the damaged or displaced area shall be removed and restored to the original approved condition. The repair shall consist of a patch of the same type of HPTRM being used, overlaying the existing HPTRM. HPTRM panels joined by overlap shall have the patch extend a minimum of two (2) feet from the edge of any damaged area.

h. The earth percussion anchors shall have a minimum pullout resistance of 300 lbs and shall be tested at random locations identified by the RPR in accordance with the **Inspection and tests** under this specification item.

i. Place sod after written approval from the RPR. Sod to be installed and maintained in accordance with item T-904 of these specifications. Sod may require extra time to take root through HPTRM, CONTRACTOR shall account for the extra time as part of their maintenance activities.

j. CONTRACTOR shall account for all material thicknesses to ensure all finished grade elevations between areas with HPTRM, sod and other slope protection materials are flush against each other and no irregular surface conditions are present at the final grade elevations.

105-6.4 Inspection and tests. The CONTRACTOR shall provide access to the WORK for the RPR as requested for inspection. The CONTRACTOR shall provide at least 48 hours advance notice to the RPR of its intention to begin new WORK activities. Inspections shall be conducted by the RPR for the following portions of the installation of the HPTRM:

a. The RPR shall inspect the final grading of canal bank for which the CONTRACTOR proposes to install HPTRM to ensure that it meets the requirements of the contract documents. If a rainfall event occurs that damages the final grading of the canal bank during the HPTRM installation process, the RPR must be present to approve further installation of the HPTRM.

b. The RPR shall inspect the top anchor trench to ensure that the proper geometry is achieved and that pins are provided at the design interval per the plans prior to backfilling the top anchor trench.

c. The RPR shall conduct random pull out tests of the earth percussion anchors. The earth percussion anchors shall have a pullout resistance of 300 lbs and shall be tested at random locations identified by the RPR in accordance with ASTM D 4435. At a minimum, one (1) pull out test shall be conducted per 100 linear feet of installed HPTRM. The CONTRACTOR shall replace all failed percussion anchors at no additional cost to the RPR. Replacement anchors shall be installed to a depth sufficient to meet minimum required pullout resistance.

d. Prior to the installation of sod on the HPTRM, the RPR shall inspect the following:

(1) There are no surface irregularities or damage that could present a potential failure in the system.

(2) All pins and earth percussion anchors are installed per these contract documents.

(3) All excess tendons from installed earth percussion anchors are removed.

METHOD OF MEASUREMENT

105-6.1 This item shall be measured on the basis of the plan view area in square yards of the surface covered with HPTRM and accepted. *The cost for pins, anchors, trenches, overlaps, and all other incidentals of this work item shall be included in the unit cost.*

105-6.2 Sod and all other incidentals to the sodding installation to be measured and paid under item T-904.

BASIS OF PAYMENT

105-7.1 This item will be paid for on the basis of the contract unit price per square yard for HPTRM, including all incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item S-105-7.1	High Performance Turf Reinforcement Mat - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

a) American Society for Testing and Materials (ASTM):

ASTM D123	Standard Terminology Relating to Geotextiles
ASTM D276	Standard Test Method for Identification of Fibers in Textiles
ASTM D 3786	Standard Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics
ASTM D4354	Practice for Sampling of Geosynthetics for Testing.
ASTM D4355	Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
ASTM D4435	Standard Test Method for Rock Bolt Anchor Pull Test
ASTM D4439	Standard Terminology for Geosynthetics.
ASTM D4491	Test Method for Water Permeability of Geotextiles by Permittivity.
ASTM D4533	Test Method for Index Trapezoid Tearing Strength of Geotextiles.
ASTM D4595	Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
ASTM D4632	Test Method for Grab Breaking Load and Elongation of Geotextiles.
ASTM D4751	Test Method for Determining Apparent Opening Size of a Geotextile.
ASTM D4759	Practice for Determining the Specification Conformance of Geosynthetics.
ASTM D4833	Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
ASTM D4873	Guide for Identification, Storage, and Handling of Geotextiles.

ASTM D4873	Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples
ASTM D6818	Test Method for Ultimate Tensile Properties of Turf Reinforcement Mats

b) Geosynthetic Accreditation Institute (GAI) – Laboratory Accreditation Program (LAP)

END OF ITEM S-105

Item S-106 High Density Poly Ethylene (HDPE) Mat

DESCRIPTION

106-1.1 This item shall consist of preparing the ground surface and the installation of the High Density Poly Ethylene (HDPE) mats and all associated appurtenance shown in the on the contract documents at the locations shown on the plans or as directed by the RPR.

SUBMITTALS

106-2.1 General. Submit each item in this article according to the conditions of the Contract and Division 01 Specification Sections.

106-2.2 Quality Assurance Documents. The CONTRACTOR shall submit all quality assurance requirements listed in Sections 104-4.2 and 104-4.3 (Quality Assurance) for approval.

106-2.3 Upon execution of contract, the CONTRACTOR shall submit the following:

106-2.3a. Submit manufacturer's shop drawings including Manufacturer's product data, section layout, connection details, anchorage requirements and product samples.

106-2.3b. Engineering calculations demonstrating the installation will comply with the design criteria.

106-2.3c. The CONTRACTOR shall submit qualifications certifying the installer and field representative are experienced in the installation of the specified products.

106-2.4 Prior to placing sod over the HPTRM, the CONTRACTOR shall submit the following:

106-2.4a. Submit as-built drawings of completed work in accordance with requirements of the specification as indicated in Specification S-101. As-built drawings are required to indicate the limits of the installed HDPE mat.

MATERIALS

106-3.1 High Density Poly Ethylene (HDPE) Mat. The contractor shall furnish a HDPE mats manufactured for the purpose of protecting the areas shown in the plans from erosion. The HDPE mats shall be made of HDPE copolymer and contain no biodegradable components or materials to ensure long term design life. The HDPE mat shall have open space greater than 50% to promote vegetation establishment.

106-3.2 Anchoring Devices

The mat shall meet the following requirements: (range, minimum, or maximum)

Property	Test Method	Test Parameter	Units	Property Requirement
Thickness	ASTM D6525	Minimum	in	0.42
Open space	Calculated	Minimum	percent	50
Mass Per Unit Area	ASTM D6566	Minimum	psf	0.92
Tensile Strength	ASTM D4595	Minimum	lbs/ft	3,000
UV Resistance	ASTM D4355	Minimum	percent	80

106-3.3 Anchoring Devices

106-3.3a Earth Anchors.

1. The CONTRACTOR shall furnish earth anchors with minimum drive depths of 36 inches and minimum pullout resistance of 300 lbs for permanent tie down of the HPTRM to the slope in the locations specified in the Contract Drawings.
2. Earth anchors shall be placed in a grid pattern per Manufacturer's requirements and anchored mats shall be capable of providing a minimum of 50 psf of holding capacity when anchored to resist uplift forces due to high velocity wind; the CONTRACTOR shall include calculations in their submittal signed and sealed by a Professional Engineer registered in the State of Florida..

106-3.4 Turf Reinforcement Mat. Turf Reinforcement Mat (TRM) shall be used as a backing material for the HDPE mats. TRM shall consist of a dense web of polyolefin fibers positioned between two biaxially-oriented nets, mechanically bound by parallel stitching with polyolefin thread that exhibits interlock and reinforcement capacity with both soil and vegetative root systems.

a) TRM shall have the following material properties:

Property	Test Method	Test Parameter	Units	Property Requirement
Thickness	ASTM D6525	Minimum	mm	12.7
Resiliency	ASTM D6524	Minimum	percent	90
Mass Per Unit Area	ASTM D6566	Minimum	g/m^2	339
Tensile Strength	ASTM D6818	Minimum	kN/m (lbs/ft)	6.2x 5.1 (425 x 350)
Tensile Elongation	ASTM D6818	Maximum	percent	50
Light Penetration	ASTM D6567	Minimum	percent	20
UV Resistance	ASTM D4355	Minimum	percent	80 @1000 hrs

b) TRM as backing material for HDPE mats to be installed with securing pins. Securing pins should be a minimum of 0.20 in. (5 mm) diameter steel with a 1.5 in. (38 mm) steel washer at the head of the pin. Pin length to be 12 to 18 inches.

MATERIAL STORAGE AND HANDLING

106-4.1 Storage. Prior to use, the CONTRACTOR shall store the HDPE mats and TRM in a clean, dry place, out of direct sunlight, not subject to extremes of either hot or cold and with the manufacturer's protective cover in place. Receiving, storage, and handling at the job site shall be in accordance with the requirements in ASTM D4873.

CONSTRUCTION METHODS

106-5.1 Surface Preparation. The CONTRACTOR shall grade surface on which the TRM and HDPE mat is to be placed to the neat lines and grades as shown on the Contract Drawings. The surface shall be smooth and free of loose rocks, clods, holes, depressions, projections, muddy conditions, and standing or flowing water. Any irregularities shall be removed so as to insure continuous, intimate contact of the TRM with the surface.

106-5.2 Construction Methods. The CONTRACTOR shall place the TRM in accordance with the MANUFACTURER's recommendations and the following requirements:

106-5.3 Inspection and tests. The CONTRACTOR shall provide access to the WORK for the RPR as requested for inspection. The CONTRACTOR shall provide at least 48 hours advance notice to the RPR of its intention to begin new WORK activities. Inspections shall be conducted by the RPR for the following portions of the installation of the HPTRM:

a. Install the TRM at elevation and alignment indicated in the Contract Drawings in accordance with the approved installation plan.

b. The CONTRACTOR shall excavate an bottom initial trench and a top terminal trench in accordance with the contract drawing details provided for the HPTRM.

c. Secure the TRM into the bottom anchor trench at the elevation indicated in the Contract Drawings, ensuring that the TRM is permanently anchored with earth percussion anchors spaced 4-feet apart, in between lapped ends and at the lapped ends, whichever is less.

d. Unroll TRM up the slope, overlapping adjacent rolls a minimum of six (6) inches (unless otherwise specified by the MANUFACTURER). The TRM shall be unrolled along the placement area and loosely laid (not stretched) in such a manner so that it will conform to the placed on or against underlying soils. The upstream TRM shall overlap the abutting downstream TRM. Horizontal overlaps are not permitted.

e. Extend the TRM to an elevation one (1) foot below the crest or berm and two (2) feet into the embankment, secure into the top anchor trench with pins spaced one (1) feet apart per MANUFACTURE's installation guidelines. Secure TRM at the top terminal trench with earth percussion anchor as shown in the contract drawings. Backfill the top anchor trench with soil material and compact according to Compaction Requirements under Item P-152 Excavation, Subgrade and Embankment.

f. Secure the TRM to the slope with pins installed in a pattern of 1.5 pins per square yard or per MANUFACTURER's installation guidelines, whichever is more stringent. Vertical overlaps must be secured using earth percussion anchors starting at the bottom anchor trench and installed every four (4) feet with two (2) feet long pins spaced one (1) foot apart from and between the percussion anchors to the top anchor trench. Increased anchoring frequency may be required if Site conditions are such that the RPR determines it necessary.

g. Alternate installation methods must be approved by the RPR prior to execution.

h. Should the TRM be torn or punctured, or the overlaps or sewn joint disturbed, as evidenced by visible fabric damage, subgrade pumping, intrusion, or grade distortion, the backfill around the damaged or displaced area shall be removed and restored to the original approved condition. The repair shall consist of a patch of the same type of TRM being used, overlaying the existing TRM. TRM panels joined by overlap shall have the patch extend a minimum of two (2) feet from the edge of any damaged area.

i. Place the HDPE mats on top of the TRM and securing with earth percussion anchors as designed per the CONTRACTOR in the approved calculation submittal.

j. Place sod after written approval from the RPR. Sod to be installed and maintained in accordance with item T-904 of these specifications. Sod may require extra time to take root through HDPE mats and TRM, CONTRACTOR shall account for the extra time as part of their maintenance activities.

k. CONTRACTOR shall account for all material thicknesses to ensure all finished grade elevations between areas with TRM, HDPE mats and sod and other slope protection materials are flush against each other and no irregular surface conditions are present at the final grade elevations.

106-5.4 Inspection and tests. The CONTRACTOR shall provide access to the WORK for the RPR as requested for inspection. The CONTRACTOR shall provide at least 48 hours advance notice to the RPR of its intention to begin new WORK activities. Inspections shall be conducted by the RPR for the following portions of the installation of the HPTRM:

a. The RPR shall inspect the final grading of canal bank for which the CONTRACTOR proposes to install HPTRM to ensure that it meets the requirements of the contract documents. If a rainfall event occurs that damages the final grading of the canal bank during the HPTRM installation process, the RPR must be present to approve further installation of the HPTRM.

b. The RPR shall inspect the top anchor trench to ensure that the proper geometry is achieved and that pins are provided at the design interval per the plans prior to backfilling the top anchor trench.

c. The RPR shall conduct random pull out tests of the earth percussion anchors. The earth percussion anchors shall have a pullout resistance of 300 lbs and shall be tested at random locations identified by the RPR in accordance with ASTM D 4435. At a minimum, one (1) pull out test shall be conducted per 100 linear feet of installed HPTRM. The CONTRACTOR shall replace all failed percussion anchors at no additional cost to the RPR. Replacement anchors shall be installed to a depth sufficient to meet minimum required pullout resistance.

d. Prior to the installation of sod on the HPTRM, the RPR shall inspect the following:

   (1) There are no surface irregularities or damage that could present a potential failure in the system.

   (2) All pins and earth percussion anchors are installed per these contract documents.

   (3) All excess tendons from installed earth percussion anchors are removed.

METHOD OF MEASUREMENT

106-6.1 This item shall be measured on the basis of the area in square yard of the surface covered with HDPE mats and accepted. *The cost for TRM, pins, anchors, trenches, overlaps, and all other incidentals of this work item shall be included in the unit cost.*

106-6.2 Sod and all other incidentals to the sodding installation to be measured and paid under item T-904.

BASIS OF PAYMENT

106-7.1 This item will be paid for on the basis of the contract unit price per square yard for HDPE mats, including all incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item S-106-7.1	High Density Poly Ethylene (HDPE) Mat - per square yard

END OF ITEM S-106

APPENDICES

Part 14 – Supplemental Appendices

Appendix A – Construction Safety and Phasing Plan



FXE FORT LAUDERDALE EXECUTIVE AIRPORT

Construction Safety and Phasing Plan

CITY OF FORT LAUDERDALE

FORT LAUDERDALE EXECUTIVE AIRPORT

MIDFIELD RUNUP EXPANSION

100% Submittal

Fort Lauderdale, Florida

November 9, 2021

Table of Contents

Table of Contents i
1 Introduction 5
1.1 Purpose 5
1.2 Project Background 5
2 Coordination 7
2.1 Project Contacts 7
2.2 Pre-Design Meeting 7
2.3 Pre-Bid Conference 7
2.4 Pre-Construction Conference 8
2.5 Contractor Progress Meetings 9
2.6 Scope or Schedule Changes 10
2.7 FAA ATO Coordination 10
3 Phasing 11
3.1 Phase Elements 12
3.2 Construction Safety Drawings 13
4 Areas and Operations Affected by the Construction Activity 13
4.1 Identification of Affected Areas 14
4.2 Mitigation of Effects 14
5 Protection of Navigation Aids (NAVAIDs) 15
6 Contractor Access 16
6.1 Location of Stockpiled Construction Materials 16
6.2 Vehicle and Pedestrian Operations 16
6.2.1 Construction Site Parking 16
6.2.2 Access and Haul Roads 16
6.2.3 Marking and Lighting of Vehicles: 16
6.2.4 Description of Proper Vehicle Operations on Various Areas under Normal, Lost Communications, and Emergency Conditions: 17
6.2.5 Required Escorts 18
6.2.6 Training Requirements for Vehicles Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations 18
6.2.7 Two-Way Radio Communication Procedures 18
6.2.8 Maintenance of the Secured Area of the Airport 18

7 Wildlife Management 20
7.1 Trash 20
7.2 Standing Water 20
7.3 Tall Grass and Seeds 20
7.4 Poorly Maintained Fencing and Gates 20
7.5 Disruption of Existing Wildlife Habitat 20
8 Foreign Object Debris (FOD) Management 21
9 Hazardous Materials (HAZMAT) Management 21
10 Notification of Construction Activities 22
10.1 Points of Contact 22
10.2 NOTAM 22
10.3 Emergency Notification Procedures 22
10.4 Coordination with ARFF Personnel 22
10.5 Notification to the FAA 22
11 Inspection Requirements 23
11.1 Daily (or more frequent) Inspections 23
11.2 Final Inspections 23
12 Underground Utilities 23
13 Penalties 23
14 Special Conditions 24
15 Runway and Taxiway Visual Aids 24
16 Marking and Signs for Access Routes 24
17 Hazard Marking and Lighting 25
17.1 Purpose 25
17.2 Equipment 25
18 Work Zone Lighting for Nighttime Construction 25
19 Protection of Runway and Taxiway Safety Areas, Object Free Areas, Obstacle Free Zones, and Approach/Departure Surfaces 25
19.1 Runway Safety Area (RSA) 26
19.2 Runway Object Free Area (ROFA) 26
19.3 Taxiway Safety Area (TSA) 26
19.4 Taxiway Object Free Area (TOFA) 27
19.5 Obstacle Free Zone 27

19.6 Runway Approach/Departure Surfaces 27
20 Other Limitations on Construction 28
20.1 Prohibitions 28
20.2 Restrictions 28

List of Figures

Figure 1 - Overall Project Layout Plan 6

List of Tables

Table 1 - Design Contacts 7
Table 2 - Construction, Emergency, and Utility Contacts 10
Table 3 - Critical Airfield Areas 11
Table 4 - Estimated Construction Phases Durations 12
Table 5 - Runway Safety Areas 13
Table 6 - Safety Areas to Runway Threshold 13
Table 7 - Impacts to Airport during Construction 14
Table 8 – RSA Distances from Design Standards 26
Table 9 - ROFA Distances from Design Standards 26
Table 10 – Taxiway Safety Area (TSA) 27
Table 11 – Taxiway Object Free Area (TOFA) 27

Appendices

Appendix A - Project Safety and Phasing Plans

Appendix B - Safety and Phasing Plan Checklist

Appendix C - Construction Project Daily Safety Inspection Checklist

Abbreviations

AC	Advisory Circular
ADO	Airports District Office
AOA	Airport Operations Area
ARFF	Aircraft Rescue and Fire Fighting
ATCT	Air Traffic Control Tower
ATO	Air Traffic Organization
CSPP	Construction Safety and Phasing Plan
DBE	Disadvantaged Business Enterprise
FAA	Federal Aviation Administration
GA	General Aviation
HAZMAT	Hazardous Materials
NAVAID	Navigation Aid
NOTAM	Notice to Airmen
OFA	Obstacle Free Area
OFZ	Obstacle Free Zone
RSA	Runway Safety Area
ROFA	Runway Object Free Area
RWY	Runway
TOFA	Taxiway and Taxilane Object Free Area
TWY	Taxiway
SIDA	Security Identification Display Area
SPCD	Safety Plan Compliance Document

1 Introduction

1.1 Purpose

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's Construction Safety and Phasing Plan (CSPP) and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to aid in ensuring safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard.

This CSPP is a standalone document, and is incorporated into the construction contract by reference, written to correspond with the safety and security requirements set forth in AC 150/5370-2G, the airport safety and security requirements, and local codes and requirements. The CSPP is to be used by all personnel involved in the project. The CSPP covers the actions of not only the construction personnel and equipment, but also the action of inspection personnel and airport staff.

This document has been developed in order to minimize interruptions to airport operations, maximize the performance and safety of construction activity, and reduce construction costs. Strict adherence to the provisions of the CSPP by all personnel assigned to or visiting the construction site is mandatory for AIP funded construction projects.

The Contractor shall be required to submit the SPCD to the City of Fort Lauderdale ('Owner') describing how the Contractor will comply with the requirements set forth in this CSPP. The SPCD must be submitted to the Owner for approval prior to issuance of the Notice to Proceed.

In the event the Contractor's activities are found to be in non-compliance with the provisions of the CSPP or the SPCD, or any activities are deemed unsafe by the Owner, the Construction Manager will direct the Contractor, in writing, to immediately cease those operations in violation. In addition, a safety meeting will be conducted for the purpose of reviewing those provisions in the CSPP/SPCD which were violated. The Contractor will not be allowed to resume any construction operations until conclusion of the safety meeting and all corrective actions required by the Contractor have been implemented.

1.2 Project Background

The City of Fort Lauderdale owns and operates the Fort Lauderdale Executive Airport (FXE). The Airport Master Plan was updated and submitted to the Florida Department of Transportation (FDOT) in December 2018 and Federal Aviation Administration (FAA) in January 2019. Airport tenants and users expressed a strong desire for a larger maintenance run-up area with an entrance and exit taxiway to improve aircraft circulation through the run-up area. Currently, the run-up area can only be accessed through one Taxilane known as 'D1' from Taxiway Delta and the pad only accommodates one aircraft. This project will expand the existing pad by expanding the pavement to the north and south of the existing pad while utilizing the same Taxiway D1 entrance connector. In addition, there will be jet blast fences installed on the west side of the

proposed pads to control jet blast and erosion to the surrounding taxiways and infields. The project layout plan is shown in the figure below (Figure 1).

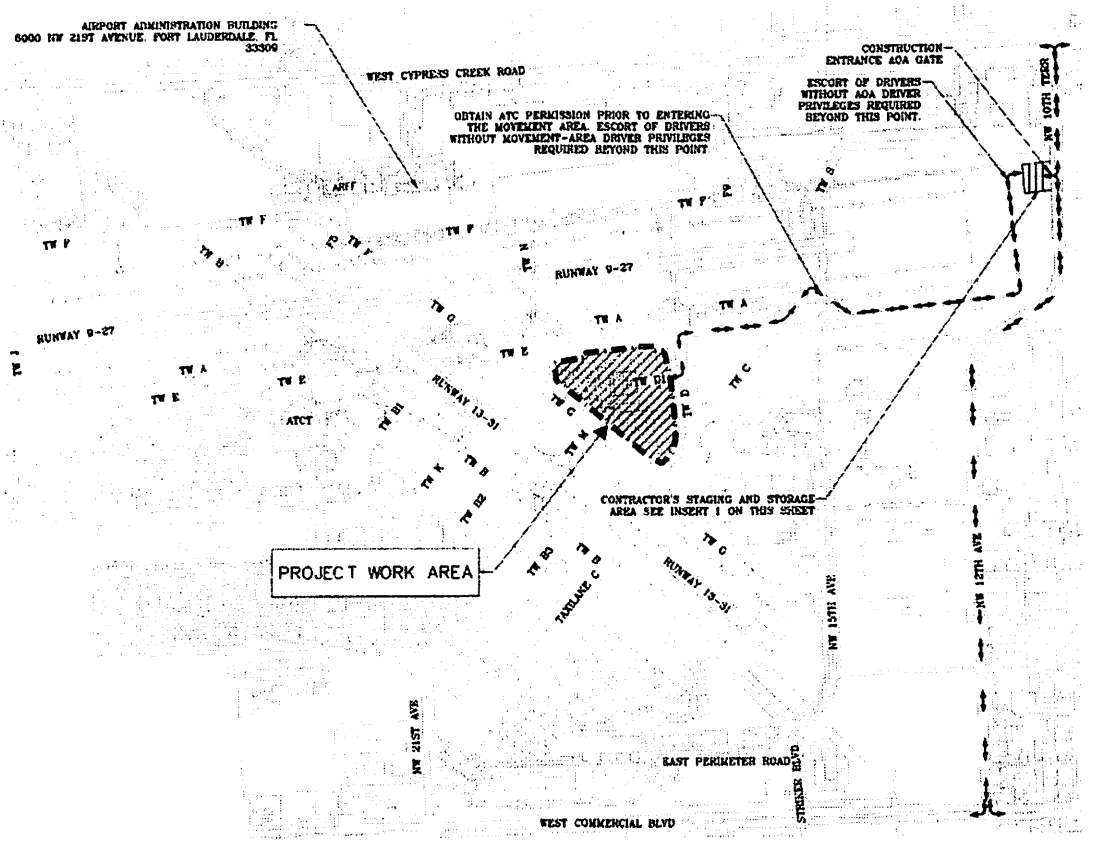


Figure 1 - Overall Project Layout Plan

2 Coordination

Airport operators or tenants conducting construction on their leased properties commonly use pre-design, pre-bid, and pre-construction conferences to introduce the subject of airport operational safety during construction. In addition, construction progress meetings, scope of schedule changes, and meetings with the FAA Air Traffic Organization (ATO) are coordinated as required through the performance of the contract.

2.1 Project Contacts

Below is a comprehensive list of parties associated with design of the project.

Table 1 - Design Contacts

Organization	Role	Point of Contact	Contact Information
HDR Engineering, Inc. (HDR)	Consultant Project Manager	Cody Parham, P.E.	D: (561) 209-6641 M: (786) 886-8491
City of Fort Lauderdale	Sponsor Construction Manager	Khant Myat, P.E.	D: (954) 828-5061 M: (954) 298-0384
City of Fort Lauderdale	Airport Manager	Rufus James	D: (954) 828-4968 M: (954) 931-4232
City of Fort Lauderdale	Assistant Airport Manager	Carlton Harrison	D: (954) 828-4976 M: (786) 714-6037
FAA	FAA-ATO	Sidney Cooley, Jr.	T: (954) 776-1046 ext. 204

2.2 Pre-Design Meeting

A pre-design teleconference was convened and conducted by HDR on April 27, 2021. In attendance were the Airport Manager, the Assistant Airport Manager, and representatives from the Consultant team. This meeting was used to discuss various items relating to airside access and safety parameters, routing of aircraft and equipment, sequencing of construction operations, and other requirements pertinent to the project. This pre-design meeting was essential in identifying and outlining potential affects and/or conflicts to airport operations during construction.

2.3 Pre-Bid Conference

A pre-bid conference will be held prior to the bid opening date to help clarify and explain construction methods, procedures, and safety measures required by the contract. The pre-bid conference will be held for all contractors intending to bid on the project. The FAA will be invited.

Typical agenda items included for this meeting are construction methods, construction procedures, acceptance testing, operational safety requirements, DBE, and other civil rights and labor requirements.

One of the primary focuses of the pre-bid conference will be to cover relevant information concerning the contractor's requirements for developing and submitting an SPCD for review and

approval. This will include both general and specific elements required in the SPCD. In addition, information on how the contractor shall format the document to illustrate its plans for compliance with those provisions detailed within this CSPP will also be provided in the conference.

Any changes or modifications recommended during the conference will be included in an addendum to the bid documents. A copy will be furnished to each prospective bidder who obtains the plans and specifications.

Copies of the proceedings, containing all items discussed, including responses to questions, will be made available to each of the participants.

2.4 Pre-Construction Conference

A pre-construction conference, convened and conducted by the Owner, shall be used to discuss operational safety, testing, quality control, quality acceptance, security, safety, labor requirements, environmental factors, and other issues. This conference, among all parties affected by the construction, should facilitate a better understanding of potential problems and possible solutions for the course of the performance of this contract.

The pre-construction conference shall be conducted as soon as practicable after the contract has been awarded and before issuance of the notice to proceed.

The expected participants for this meeting shall include, but not be limited to, the following invited parties:

- Sponsor's Engineer: HDR
- Sponsor's Project Manager: City of Fort Lauderdale
- Construction Manager: City of Fort Lauderdale
- Airport Management: City of Fort Lauderdale
- Testing laboratory representative: TBD
- Contractor and subcontractor(s): TBD
- Contractor's project superintendent: TBD
- Contractor's project clerk: TBD
- Airport users impacted by the proposed construction: TBD
- Utility companies affected by the proposed construction: TBD
- Federal, state, or local agencies affected by the proposed construction: TBD
- Representative of FAA Airports District Office (ADO): TBD

The FAA ADO will be invited to ensure that all appropriate FAA offices (Air Traffic, Flight Standards, etc.), military installations, and Federal agencies that may have an interest in the project are notified.

The Sponsor Project Manager will prepare an agenda prior to the pre-construction conference. This will include but is not limited to:

- The scope of the project and the sequence and timing of all operations.
- Relationship between the Construction Manager and the Contractor
- Relationship between the FAA and the Owner

- Identification of the contractor's superintendent and a discussion of his/her authority and responsibilities
- Designation of sponsor representative responsible for notifying the Flight Service Station serving the airport of the proposed start and completion dates of construction or of any circumstances requiring a Notice to Airmen (NOTAM). Planned coordination, control, and communications needed for those closures and crossings identified for this project are discussed in detail in Section 10, Notification of Construction Activities.
- Scheduling of work and the need to perform certain items at various stages of the project, including operational safety problems that might arise because of the proposed work
- Notice to proceed date
- Safety during construction, including the responsibility for marking and lighting of closed and hazardous areas. See AC 150/5370-2 *Operational Safety on Airports during Construction* and AC 150/5340-1, *Standards for Airport Markings*, current edition, for detailed information.
- Security requirements
- The need for continuing vigilance for potential or existing hazards relative to any of the items associated with construction operations on an active or closed airfield surface

2.5 Contractor Progress Meetings

It is anticipated that weekly progress meetings will be held with the contractor and the Owner, or its representatives. Additional meeting participants may be asked to attend depending on the planned work or impacts. During the weekly meetings, upcoming phase shifts will be thoroughly discussed prior to shifting construction phases or phases during the project to ensure everyone is fully aware of operational requirements or unique safety issues prior to proceeding to the next phase. These meetings will also address weekly construction issues, administrative issues such as change orders and/or pay estimates, operational safety, and any coordination required with the FAA or the Sponsor in relation to opening/closing sections of airfield pavement, issuing NOTAMs, or impacting NAVAIDs during construction. Any immediate concerns, questions or issues should be brought to the Sponsor Project Manager for investigation/resolution. Below is a list of parties that will be involved during construction. The list will be updated after the contract is awarded to include all necessary contact information.

Table 2 - Construction, Emergency, and Utility Contacts

Organization	Role	Point of Contact	Contact Information
CONSTRUCTION			
City of Fort Lauderdale	Sponsor Project Manager / Construction Manager	Khant Myat, P.E.	D: (954) 828-5061 M: (954) 298-0384
HDR	Consultant Project Manager	Cody Parham, P.E.	D: (561) 209-6641 M: (786) 886-8491
City of Fort Lauderdale	Airport Operations Supervisor	William Ward	D: (954) 828-4963 M: (786) 714-6246
City of Fort Lauderdale	Airport Emergency Contact/Airfield Electrician	Frank Chesser	D: (954) 828-4955
FAA	FAA-ATO Tower Manager	Sidney Cooley	T: (954) 776-1046 | ext. 204
Contractor	Contractor Project Manager	TBD	TBD
EMERGENCY			
			911
ARFF	Aircraft Rescue and Firefighting	Staff on Duty	T: (954) 828-4853
UTILITY			
FAA	FAA-Owned Facilities	Khaleed Noel	T: (954) 921-9254 M: (954) 290-3529
Sunshine 811	Utility Locate	N/A	811
City of Fort Lauderdale Utility	Water and Sewer	Rick Johnson	M: (954) 258-3862
City of Fort Lauderdale Utility	Water and Sewer	24 Hour Support	T: (954) 828-8000
FPL	Power	Pompano Service Center	T: (954) 956-2014 T: (954) 956-2045

2.6 Scope or Schedule Changes

Any changes proposed by the Contractor or the Owner will be fully vetted by all affected parties. Changes requested by the contractor must be noted in the SPCD or an amendment to the previously submitted and approved SPCD. The goal is to keep the project on the schedule that has been agreed upon to minimize unexpected impacts to users. The Owner will work to ensure adequate prosecution of the work.

2.7 FAA ATO Coordination

FXE ATO will be advised via NOTAM and the weekly NOTAM meeting as to current conditions and any changes that may be required in the project area.

3 Phasing

The phasing plan includes a construction schedule and a Maintenance of Traffic (MOT) plan for each project element. This plan will be implemented to limit the impact to existing Airport operations. As the design progresses, extensive coordination will occur between the designer and Airport Operations to review and modify the phases plan, as needed to meet the needs of the stakeholders. The input and consideration will establish the sequencing of construction activities, while minimizing impacts and disruptions to airport operations. Features that will be implemented into the phases plan considerations are expected to include:

- Limiting Runway closure durations
- Assure alternate routes are available during taxiway closures
- Construction work limits to maintain clearances for TOFA, RSA and other airfield safety zones (Exhibits included as Attachment A to this report to show the delineation of project safety areas)
- Limit construction traffic to and from the phase
- Coordinate feasibility of day or night work to Airport Operations

For the development of the construction phases alternatives, access to all parts of the airfield were considered to avoid disruption to airport operations. The table below defines the safety area and object free area widths in the vicinity of the critical airfield areas. The sequenced construction phases established in this CSPP have been incorporated into the project design and are reflected in the contract drawings and specifications. See Phase Elements below for detailed activity in each phase and work hours.

Table 3 - Critical Airfield Areas

Feature	Safety Area Width (ft.)	Object Free Area Width (ft.)
Runway 9-27	500	800
Runway 13-31	200	400
Taxiway D (ADG III)	118	186
Taxiway E (ADG III)	118	186
Taxiway G (ADG III)	118	186

Source: FAA AC 150/5300-13A

The Contractor shall notify FXE Operations prior to commencing with construction within the critical areas listed above. No work, unless shown otherwise, shall commence within any critical area without requiring closure of the affected runway, taxiway, or taxilane.

The Contractor shall complete all of the following prior to commencing construction operations on each area of work:

- Place low-profile barricades, construction signage, and other safety features as shown on the contract drawings. All safety features shall be installed and maintained by the Contractor with the DOA Operations overseeing and approving the installation.

- Turn off edge light circuits for areas being closed and jumper or cover edge light circuits to disable lights in areas not allowed for aircraft access as shown on the drawings.
- Place flaggers and coordinate gate guards at access to construction area.

The construction phases drafted is based on the requirements outlined in the FAA AC 150/5370-2G, Operational Safety on Airports during Construction. In this construction phases option, three main phases are proposed. All closures on the airport for construction shall be coordinated a minimum of two weeks prior to starting activity.

3.1 Phase Elements

The project consists of a base bid that include the following elements:

- Expand midfield pavement
- Mill and overlay existing midfield pavement
- Install jet blast fence
- Grade berms and swales
- Apply permanent markings and refresh existing

The estimated construction duration per phases is broken down in the table below:

Table 4 - Estimated Construction Phases Durations

Construction Activities	Start	Duration (Calendar Days)	Work Hours
Mobilization and Permitting	Contract Notice to Proceed (NTP)	60	N/A
Staging Area and Access Route	Construction NTP and Mobilization Completion	7	M-F: 7am – 4pm
Phase 1	Staging Area and Access Route Completion	160	M-F: 7am – 4pm
Phase 1A	Wholly within Phase 1	22	M-F: 7am –4pm
Phase 2	Phase 1 Completion	7	M-F: 7am –4pm
Punchlist and Closeout (Substantial Completion)	Phase 2 Completion	30	To be coordinated with Airport Operation
Site Restoration	Phase 2 Completion	14	M-F: 7am –4pm
Total Construction Duration		278	

The scope for each phase is summarized as follows:

- **Phase 1:**
  The proposed construction activities for Phase 1 includes the rehabilitation of the existing runup apron pad area, the extension of the runup apron pad, grading of stormwater retention basins, grading of jet blast deflection berms, installation of permanent erosion control, and construction of jet blast fences and foundation.
- **Phase 1A:**

The proposed construction activities for Phase 1A includes the construction of the infields north of the proposed pavement expansion.

- **Phase 2:**
  The proposed construction activities for Phase 2 includes surface preparation for markings, application of temporary markings, application of permanent pavement markings, and refreshing the pavement markings of the adjacent Taxiway D1 to the work limits.

3.2 Construction Safety Drawings

Contract documents specifically indicating operational safety procedures and methods in areas affected by construction activities associated with this project by phase are incorporated into the contract drawings. Pertinent drawings are attached to this CSPP for reference.

4 Areas and Operations Affected by the Construction Activity

The Staging and Access and Phasing Plans depict the areas located on the airfield that will be affected by construction activities as well as details for the methods of maintenance of traffic and safety. This plan sheet has been included in Appendix A for reference. For the scope of work associated with the construction phase and specific information regarding runway and taxiway closures, refer to Section 3, Phasing.

Table 5 - Runway Safety Areas

Runway Number	Aircraft Approach Category	Airplane Design Group	RSA Width from Centerline to Edge of RSA
9-27	D	III	250'
13-31	B	I	100'

Table 6 - Safety Areas to Runway Threshold

Runway End Number	Aircraft Approach Category	Airplane Design Group	RSA Length Beyond RWY End	RSA Length Prior to Landing Threshold
9-27	D	III	1,000'	1,000'
13-31	B	I	1000'	240'

4.1 Identification of Affected Areas

The table below outlines areas closed to aircraft operations during each sub-base from the construction drawings in Attachment A.

Table 7 - Impacts to Airport during Construction

	Phase 1	Phase 1A	Phase 2
RWY 13-31	Open	Open	Open
RWY 9-27	Open	Open	Open
TWY A	Open	Open	Open
TWY C	Open	Open	Open
TWY D	Open	Open	Open
TWY E	Open	Partially Closed	Open
TWY G	Open	Open	Open
TWY M	Open	Open	Open
Midfiled Runup Ramp / TWY D1	Closed	Closed	Closed

4.2 Mitigation of Effects

The project involves construction on an active airfield and may require contractor to operate on an active airfield. In a precaution effort, the following must be enforced for all crossings of active taxiways during this project. Aircraft will have the right of way at all times during the construction project and all construction vehicles will yield to aircraft. The contractor shall set up a specific location to cross the active taxiway outside of the TOFA. This location will be manned with flaggers at all times and a vacuum sweeper truck. When allowed the flaggers will signal the construction crossing of the active taxiway and each crossing will be immediately followed by the vacuum sweeper to collect any FOD that may have been left by the crossing activity of the construction equipment.

Refer to Attachment A for temporary changes to runway and/or taxi operations. Coordination with airport operations for approved procedure and alteration to routes must be completed before commencement of construction within the proposed area.

All coordination pertaining to airport operations during construction will go through the Construction Manager and the Operations Manager. Any required NOTAM's to be issued will be sent through the Construction Manager and issued by the Airport Operations Manager.

5 Protection of Navigation Aids (NAVAIDs)

Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. Strict adherence to the haul routes, stockpile locations, and access points shown on the contract drawings is required. This will be discussed between the Owner Project Manager and the Contractor before commencing construction activities. Any change that causes vehicles, equipment, or storage in the vicinity of a NAVAID will require prior coordination with the FAA to evaluate the effect of construction activity and the required distance and direction from the NAVAID. It is anticipated that closed runway ILS, NAVAIDs, and VISAIDS will need to be deactivated every night prior to starting construction. It is anticipated the following FAA facilities/services will be impacted if the duration of closures is greater than 24 hours or greater in durations of more than 4 hours daily on consecutive days:

- RWY 09
  - MALSR
  - Glide Slope
  - Threshold Lights
- RWY 27
  - Localizer

Contractor shall provide the Owner Operations 45-day minimum notice prior to NAVAIDs shutdown. The Owner Operations will then coordinate with FAA ATO/Technical Operations prior to NAVAIDs shutdown, using Strategic Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15.

6 Contractor Access

6.1 Location of Stockpiled Construction Materials

Stockpiled materials and equipment storage shall not be permitted within the RSA and obstacle free zone (OFZ) and is not to be permitted within the obstacle free area (OFA) of the runways. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. This includes determining and verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material.

Maximum height of stockpiled material shall not exceed the height specified on the Staging and Access Plan. All waste and excess material generated from the project shall be disposed of as shown on the drawings, unless directed otherwise by the Owner Project Manager.

6.2 Vehicle and Pedestrian Operations

6.2.1 Construction Site Parking

Contractor's vehicles and construction equipment shall be parked in the staging areas shown in the plans.

6.2.2 Access and Haul Roads

Refer to Appendix A for access and haul road location. The Contractor is required to maintain all haul routes for the duration of the construction project. The haul routes shall be clearly defined, and no deviation shall be allowed. In the event that any foreign object, spillage, debris, or dust builds up as a result of hauling operations, the Contractor shall be required to immediately clean and remove the material. The Contractor shall obtain approval from the Owner prior to establishing new haul roads within the airport property. Once established, the haul roads shall be utilized for all equipment, and the equipment shall not be allowed to stray or wander away from the established routes. The haul roads are the responsibility of the Contractor and they shall be maintained and kept in good order at all times. The Contractor shall repair any damage caused by the movement of equipment on any of the haul roads, whether in designated or undesignated areas. The performance of any work as specified by this provision, including watering, maintenance, and repair of the haul roads, shall not be measured and paid for directly, but shall be considered as necessary and incidental to the work. Any damage to the utilities or facilities shall be immediately repaired at the Contractor's expense. The Contractor is also responsible for dust control on all haul routes during the project. The Owner Project Manager or Airport Operations Supervisor have authority to stop any and all construction operations if dust interferes with aircraft operations and require the Contractor to mitigate the cause immediately.

6.2.3 Marking and Lighting of Vehicles:

Marking and lighting of vehicles shall be in accordance with AC 150/5210-5 Painting, Marking and Lighting of Vehicles Used on an Airport. Vehicles other than those that routinely traverse any portion of the AOA under the control of ATC, which are not escorted by a vehicle in

constant two-way radio communication with ATC and properly equipped and authorized to operate in the AOA, must be provided with a three foot (3') square orange and white flag on a staff attached to the vehicle so that the flag will be readily visible. Checkered orange and white squares shall be a minimum of 1-ft square. The Contractor's name shall be clearly affixed on each side of such vehicles and equipment, all in accordance with current Owner requirements. Vehicles and mobile equipment shall also be equipped with a revolving yellow beacon light mounted on the top of the vehicle or equipment. Beacon lights shall provide:

- Three-hundred-and-sixty-degree azimuth coverage.
- Effective intensity in the horizontal plane not less than 40 or more than 400 candelas.
- Beam spread measured to 1/10 peak intensity extending from 10 degrees to 15 degrees above the horizontal.
- Sixty to ninety flashes per minute.

6.2.4 Description of Proper Vehicle Operations on Various Areas under Normal, Lost Communications, and Emergency Conditions:

All Contractor vehicles and mobile equipment not individually authorized by the Owner for independent operation in the AOA shall be operated under escort while in the AOA. The escort vehicle and its driver must be authorized by the Owner for escort duty and for operation within the AOA. Radio contact is required at all times while the Contractor has personnel and equipment in the active AOA. The Contractor shall monitor the following frequencies at all times:

- 121.750 – Executive Ground
- 120.900 – Executive Tower

The Contractor's superintendent will be responsible for all personnel on-site at any given time, including all suppliers and subcontractors. As such, the Contractor's superintendent must be on-site at all times during working hours.

During the course of the construction operations, the Contractor will be allowed to utilize the airport access security gates shown on the Staging and Access Plan as entrances to the construction site. All entries and exits through the gate shall be controlled during construction hours. The contractor is required to guard the gate during construction hours to avoid un-allowable access to the airfield. When construction is complete for the day, the Contractor is required to padlock the gates. The gate may be opened only for authorized vehicle traffic flow. No vehicle will be granted access to the site without a flag or a beacon. The Contractor's employees and their subcontractors' employees privately owned vehicles shall be parked at the Contractor staging area or off airport property.

Passengers in any authorized vehicles shall be the responsibility of the Contractor. The Contractor shall be held duly responsible to uphold the above security stipulations at all times during the progress of the construction project. No deviations from these security measures shall be allowed at any time.

Anyone working on the construction site will undergo safety training and be briefed on airfield safety and the requirements of this document prior to entering the construction site.

All flaggers must understand airfield safety rules and regulations.

6.2.5 Required Escorts

Contractor employees requiring access onto the Air Operations Area (AOA) shall be required to obtain photo-type Contractor identification badges from the Owner. Contractor employees wearing non-photo type badges must be accompanied onto the AOA by an employee wearing a photo-type Contractor badge approved as an escort with ramp driving privileges. Badges must be displayed on the outer garment at all times when on the AOA.

All AOA construction vehicles shall have an approved vehicle permit and be operated by a badged employee with ramp driving privileges or be escorted by a vehicle with an approved vehicle permit and operated by a badge's employee with ramp driving privileges. The Contractor shall be responsible for the actions of employees and subcontractors. Haul trucks need to be escorted by the contractor and the haul truck driver does not need to be badged. Personnel who do not abide by Airport rules and regulations are subject to prosecution.

A badged escort can escort 4 non-badged workers. All non-badged Contractor employees shall be within voice and visual range of the badged escort.

6.2.6 Training Requirements for Vehicles Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations

Authorization to operate a vehicle unescorted within the AOA requires the employee to successfully complete the movement area driver training through the Owner Operations Manager at FXE.

6.2.7 Two-Way Radio Communication Procedures

Vehicular traffic crossing active movement areas while placing low-profile barricades and placing RCM's must be controlled either by two-way radio with the ATCT or an escort.

The Contractor shall coordinate with the following frequencies when crossing movement areas for placing barricades:

- 121.750 – Executive Ground
- 120.900 – Executive Tower

6.2.8 Maintenance of the Secured Area of the Airport

Contractor shall be responsible for the security of his equipment and materials. He shall be responsible for the security of all gates utilized by him. Double lock gate with padlocks shall be placed on each gate used by the Contractor. The locks must be marked in a manner showing company ownership and a key or combination provided to the Owner. The gates shall be locked at all times or guards posted at the gates control access through them. If a lock is found unsecured, the company owning the lock is in violation of Airport Rules and Regulations. In addition, unauthorized entry to the Air Operations Area through the gates may result in the responsible party being cited for violating Airport Regulations.

The Federal Aviation Act of 1958, Section 901, 49 USC 1371, gives the FAA authority to place a fine on any airport found to be in breach of a security requirement.

The Contractor shall reimburse the Owner for the full amount of any fines placed on them due to negligence on the part of the Contractor or their Subcontractors. Fines may be placed on the airport for such things as security gates being unlocked, fences torn down, and AOA not being properly secured. These are only examples of items causing fines and not limitations. There could be other related items.

It is the Contractor's responsibility to prevent any breach of security within his area of construction or any route of entry to area of construction.

All personnel having unescorted access to any security restricted area shall wear valid airport and contractor identification badges on their outer garments in such areas at all times to permit ready recognition by Airport Security. The Contractor's employees, whether issued airport security badges or not, must have a valid governmental identification on their person at all times.

Failure to comply with these requirements will result in the employee being escorted off the AOA and fines may be imposed at the Contractor's expense.

Identification badges must be controlled at all times. When personnel are terminated, upon completion of the construction project, and/or when badges expire, the Contractor is responsible for returning identification badges to Airport Security. Before a new badge is issued to any person, their expired or invalid badge must be returned to the Security Department.

The Contractor will be required to comply with the Federal Aviation Administration Amendment to FAR Part 107 prior to commencing work. All personnel hired after November 1, 1985, who have unescorted access to any area on the airport controlled for security reasons shall have background checks to the extent allowable by law, including at a minimum, referenced prior employment histories to the extent necessary to verify representations made by the employee/applicant relative to employment in the preceding ten years. The Contractor shall certify to the Owner that such checks were conducted and are on file in the Contractor's office for inspection by the FAA.

The Contractor will provide to the Owner a list of employees having access to the AOA. The Contractor is responsible for the direct supervision of their employees at all times while in such restricted areas.

Any person found within any security restricted area without proper identification shall be in violation of Federal law and the Airport Rules and Regulations. All such persons shall be escorted off the AOA and may be cited by the Owner in addition, the person may have their identification badge revoked.

7 Wildlife Management

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as the following. Contractor to protect wildlife as shown on the 'Wild Life Protection Plan'

7.1 Trash

Food scraps must be collected from construction personnel and disposed of appropriately. It is the responsibility of the Contractor to make arrangements for trash removal from the project site as well as the contractor's staging area. Trash should be removed from the site on a weekly basis as a minimum requirement. Should this practice prove to be inadequate, the Contractor will be asked to increase the frequency of trash removal.

7.2 Standing Water

Standing water is a potential wildlife hazard that can be created from construction activity or rainfall events. For this project, standing water will not be allowed to stand after a rain event for more than 24 hours. The Contractor will take precautions and have ready, at no additional cost to the Project, a pump to remove standing water from the project area by pumping to the nearest storm inlet.

7.3 Tall Grass and Seeds

Tall grass and seeds represent another wildlife attractant on airfields. The Contractor is responsible for maintaining its staging and parking areas free from tall stands of grass.

7.4 Poorly Maintained Fencing and Gates

The gate shall be maintained, and no gaps shall be in the gate to avoid an animal to entering the airfield.

7.5 Disruption of Existing Wildlife Habitat

In the event of a wildlife encounter within the AOA, the Contractor shall immediately contact Airport Operations. Refer to Table 2 for Airport Operations contact information.

8 Foreign Object Debris (FOD) Management

Construction operations will be limited to the project area. A sweeper truck shall be readily available to clear the designated haul route in the event of tracking or spills. All personnel will be responsible to pick up FOD or report spills/hazards. All loose materials or items subject to being blown by wind shall be secured.

Special care and measures shall be taken to prevent Foreign Object Debris damage (FOD) when working in an airport environment. The Contractor shall be held responsible for implementing an approved FOD Management Plan as a part of the SPCD. The FOD Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA shall be free of any debris that could create a FOD hazard. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain-link enclosures may be required.

Contractors will provide their own equipment for vehicle and equipment washing and clean up.

Immediate access to a power sweeper is required when construction occurs on any pavement area inside the AOA, unless an appropriate alternative has been approved by the Airport Engineer and Construction Manager.

9 Hazardous Materials (HAZMAT) Management

The requirements of the hazardous waste regulations established by the USEPA are presented in 40 CFR 261 through 270. Wastes that are hazardous and regulated under RCRA are classified as either listed or characteristic wastes.

Listed wastes are considered to be hazardous regardless of the concentrations of hazardous chemicals contained in the waste. Please refer to 40 CFR 261.31 through 261.33 for specific information regarding listed wastes. If a waste is not listed the generation should determine if a waste exhibits and of the characteristics of a hazardous waste: ignitability, corrosivity, reactivity, and toxicity. The Contractor shall submit a plan that addresses the management of hazardous and non-hazardous waste in accordance with FAA AC 150/5320-15A, Management of Airport Industrial Waste and include it in the SPCD. The plan should address such issues such as fuel deliveries, spill recovery procedures, the availability of Material Safety Data Sheets (MSDS), and other considerations.

10 Notification of Construction Activities

10.1 Points of Contact

An incomplete list of construction and emergency contacts for the Project can be found in Table 2. Upon award of the project, the Contractor shall provide all appropriate contact information for its staff and subcontractors in its SPCD such as project managers, project superintendents, and safety managers. Once the list is obtained, Table 2 in this document will be updated to provide a comprehensive list of construction and emergency contact information. Should any personnel change during the project, it is the responsibility of that organization to provide revised contact information.

10.2 NOTAM

The NOTAM system provides essential information to personnel concerned with flight and airport operations. NOTAMs provide timely information on unanticipated or temporary changes to components of or hazards in the National Airspace System (NAS) which includes the closure of runways. The construction of this project will require a NOTAM to be issues. A minimum of 72 hours written notes (weekends excluded) of requested closing shall be directed to the Sponsor who will then coordinate the request with the Department of Operations. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operations of FAA owned facilities.

10.3 Emergency Notification Procedures

In the event of an emergency, the Contractor shall call 911.

10.4 Coordination with ARFF Personnel

The contractor shall coordinate, through the Construction Manager, with Aircraft Rescue and Firefighting (ARFF) personnel, mutual aid providers, and other emergency services if construction requires the following:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The re-routing, blocking and restoration of emergency access routes, or
- The use of HAZMATs on the airfield.

Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project shall be established and implemented prior to the start of construction. Contact information for fire department personnel and other emergency contact information can be found in Table 2.

10.5 Notification to the FAA

- Part 77: Requirements of Part 77 Notifications to the FAA will be provided by the Airport with the assistance from the Construction Manager.
- Part 157: It is not anticipated that Part 157 notifications will be required for this project.
- NAVAIDs: See Section 5, Protection of Navigation Aids (NAVAIDs)

11 Inspection Requirements

Airport personnel will make periodic visits to the project during construction to provide construction oversight and observe the safety plan is being followed. The Contractor shall identify a Construction Safety Officer in its SPCD as well as a single point of contact for each subcontractor involved on the project. These contacts will be incorporated into Table 2 in order to provide a comprehensive list of project contacts. The Contractor shall also outline in the SPCD its safety policy and internal inspection requirements to ensure airfield safety compliance.

11.1 Daily (or more frequent) Inspections

All worksites will be inspected daily during the course of the project. Additional inspections will be required and performed during phase shifts. Inspections shall be conducted by the contractor and a member from airport operations at least daily, but more frequently if necessary, to ensure conformance with the CSPP. A sample checklist is provided in Appendix C of this document.

11.2 Final Inspections

Final Inspection/Project Acceptance will be coordinated with all stakeholders at the end of each construction phase.

12 Underground Utilities

Contractor shall coordinate with the applicable utility owner (see Table 2) prior to excavation activities and temporary disruption to services.

The Contractor is responsible for obtaining all utility locations prior to construction as well as potholing each utility within the project limits. Damage to utilities through negligence on the part of the Contractor will require immediate replacement/repair by the Contractor. Any splicing or replacing of damaged FAA or the Owner Airfield cable shall meet current FAA specifications. Attention should be given to preventing unscheduled interruption of utility services and facilities. Coordination shall take place among the Contractor, Construction Manager, the Owner Project Manager, Airport Operations Supervisor, FAA, National Weather Service, utility companies, and any other appropriate entities or organizations. NAVAIDs, Weather Service facilities, electric cables, and other utilities must be fully protected during the construction duration. Power, communication, and control cables leading to and from any FAA NAVAIDs, Weather Service, and other facilities will be coordinated by the Contractor and marked in the field by the appropriate individuals, before any work in their general vicinity is started.

13 Penalties

Failure on the part of the contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the airport. Penalties for non-compliance include the following:

- Failure to follow safety and/or security requirements (proper identification, escorting, controlling security gate access, and unauthorized access to cross active movement

areas) will require the violator and the direct supervisor to re-attend security training class, and/or to pay Civil Violation Notice (CVN) fines. Second infraction will result in revoking the security badge and denied access to the jobsite and CVN fines.

- ✈ Reimbursement for any fines incurred as a result of non-compliance. Fines as high as $10,000 may be assessed for runway incursions, Vehicle Pedestrian Deviation (V/PD).

14 Special Conditions

Airport operations take precedence over all work, especially if a question of safety is involved. Special conditions such as low visibility, aircraft in distress, aircraft accident, security breach, or work being completed by others may require the rescheduling of Project work to accomplish air safety. Full compensation for all costs involved in rescheduling and moving from one phase to another, including work stoppage caused by airport operations, shall be considered as included in the contract prices paid for contract items of work involved and not additional compensation. Should the directive entail a delay in the completion of the Contract or any defined subdivision of the contract, as determined by the Construction Manager or Airport Operations Supervisor, the Contractor may be granted an extension of time.

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The contractor will receive notification from airport operations and/or airport engineering when special conditions require the construction site to be vacated. In any event, extreme care should be exercised should construction personnel identify any ARFF vehicle moving toward the site with emergency lights displayed. This will generally mean that an emergency situation is imminent.

15 Runway and Taxiway Visual Aids

The work limit is inside of the central midfield area. Contractor is to observe work limits provided in the 'Phase Plans' and maintain taxiway open as shown in Attachment A. No temporary markings, lighting, signs, or NAVAIDs will be required.

16 Marking and Signs for Access Routes

No pavement marking or sign installation on airport access routes is anticipated as part of the Project. If such work is added to the contract, all pavement markings and signs for construction personnel shall conform to AC 150/5340-18. To the extent practicable, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or state highway specifications should also be conformed to. Signs within the Runway Object Free Area must meet the airfield general frangibility requirements as required by the airport and subsequent approval by the Owner. Meeting airfield frangibility requirements may require modification to size and height guidance in the MUTCD.

17 Hazard Marking and Lighting

17.1 Purpose

Low-profile barricades and yellow closed taxiway markers will be used as a method of traffic control in the Project. Barricades will be used during construction to prevent aircraft from entering the runway. RCM's will be placed over the runway designation numbers to indicate the runway is closed. The proposed location of low-profile barricades, closed taxiway markers, and closed runway markers is detailed in the project drawings. In addition, the Contractor shall provide hazard marking and lightings for hazardous areas. Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness. The Contractor shall describe additional methods of traffic control, if any, in the SPCD.

17.2 Equipment

- Low-Profile Barricades: The type detailed in the project drawings are with omnidirectional flashing lights. They shall be placed in the locations depicted in the plans.
- Runway Closure Marker: The Contractor shall provide, install, and furnish lighted runway closure marker. Contractor shall be responsible for the maintenance of the lighted runway closure signs throughout the duration of the project. Pavement underneath the RCM shall be protected from dripping oil.
- Safety Fencing: Supplemental airfield fencing shall be provided as shown on the plans to deter excursions from the phase near sensitive areas.

18 Work Zone Lighting for Nighttime Construction

Lighting equipment must adequately illuminate the phase if the construction is to be performed during nighttime hours. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely illuminate the area immediately surrounding their phases. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations.

19 Protection of Runway and Taxiway Safety Areas, Object Free Areas, Obstacle Free Zones, and Approach/Departure Surfaces

Safety area encroachments, improper ground vehicle operations and unmarked or uncovered holes and trenches in the vicinity of aircraft operation surfaces and construction areas are the

three most recurring threats to safety during construction. Protection of runway safety areas, object free areas, obstacle free zones, and approach/departure surfaces shall be a standing requirement for the duration of construction operations. Reference Section 10, Notification of Construction Activities and Section 15, Runway and Taxiway Visual Aids for runway closure requirements. Reference Section 17, Hazard Marking and Lighting. Reference Section 20, Other Limitations on Construction (as required).

19.1 Runway Safety Area (RSA)

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway by aircraft.

Table 8 – RSA Distances from Design Standards

Runway	Safety Area Width (ft.)		RSA Length beyond Runway End (ft.)
	RSA	Runway Hold Position Marking	
9-27	500'	250' from centerline	1,000'
13-31	200'	200' from centerline	240'

19.2 Runway Object Free Area (ROFA)

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA without prior approval. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or ADO for approval. For this project, all phases contain work in the ROFA. The work can only be done when the runway is closed.

Table 9 - ROFA Distances from Design Standards

Runway	ROFA Distance from Centerline (ft.)	ROFA Width (ft.)	ROFA Length beyond Runway End (ft.)
9-27	400'	800'	1,000
13-31	200'	400'	240

19.3 Taxiway Safety Area (TSA)

The TSA is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, no constructions may occur within the TSA while the taxiway is open for aircraft operations.

Table 10 – Taxiway Safety Area (TSA)

Taxiway	TSA Distance from Centerline (ft.)	TSA Width (ft.)
D	59'	118'
E	59'	118'
G	59'	118'

19.4 Taxiway Object Free Area (TOFA)

Construction activity, personnel, equipment or materials shall not be permitted within the TOFA of an active taxiway, taxilane, or apron, except as provided in AC 150/5370-2G. Phase 2 contains work in the TOFA. Contractor shall become familiar with the special operating requirements of work in the TOFA.

Table 11 – Taxiway Object Free Area (TOFA)

Taxiway	TOFA Distance from Centerline (ft.)	TOFA Width (ft.)
D	93'	186'
E	93'	186'
G	93'	186'

19.5 Obstacle Free Zone

Construction personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. It is not anticipated that any construction will occur within the OFZ.

19.6 Runway Approach/Departure Surfaces

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces when the Runway is operational. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or ADO.

Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator and airport users.

20 Other Limitations on Construction

20.1 Prohibitions

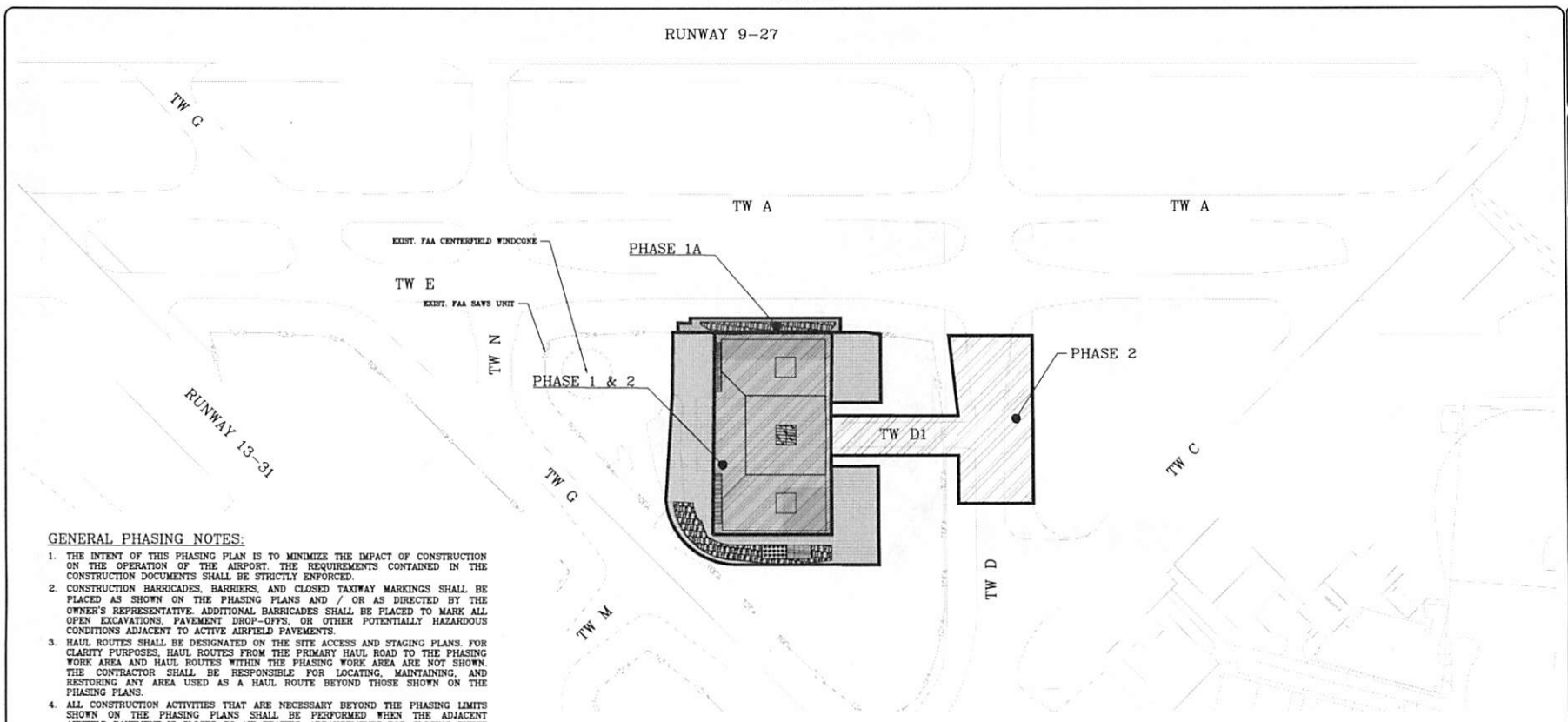
There is no burning or blasting allowed on airport property. A burn permit is required for flame welding or torches. Contractor shall follow all the requirements for this type of operation to include all the necessary notifications.

20.2 Restrictions

- Construction suspension required during specific airport operations:
  - Airport Operations may require construction be suspended during lightning warnings. Contractor will not be compensated for lost time due to lightning warning work suspensions.
- Areas that cannot be worked on simultaneously – See the phasing plans for restrictions on simultaneous work.
- Day or night construction restrictions – See the phasing plans for restrictions on work hours.

APPENDIX A

SAFETY AND PHASING PLANS



GENERAL PHASING NOTES:

1. THE INTENT OF THIS PHASING PLAN IS TO MINIMIZE THE IMPACT OF CONSTRUCTION ON THE OPERATION OF THE AIRPORT. THE REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS SHALL BE STRICTLY ENFORCED.
2. CONSTRUCTION BARRICADES, BARRIERS, AND CLOSED TAXIWAY MARKINGS SHALL BE PLACED AS SHOWN ON THE PHASING PLANS AND / OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ADDITIONAL BARRICADES SHALL BE PLACED TO MARK ALL OPEN EXCAVATIONS, PAVEMENT DROP-OFFS, OR OTHER POTENTIALLY HAZARDOUS CONDITIONS ADJACENT TO ACTIVE AIRFIELD PAVEMENTS.
3. HAUL ROUTES SHALL BE DESIGNATED ON THE SITE ACCESS AND STAGING PLANS. FOR CLARITY PURPOSES, HAUL ROUTES FROM THE PRIMARY HAUL ROAD TO THE PHASING WORK AREA AND HAUL ROUTES WITHIN THE PHASING WORK AREA ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND RESTORING ANY AREA USED AS A HAUL ROUTE BEYOND THOSE SHOWN ON THE PHASING PLANS.
4. ALL CONSTRUCTION ACTIVITIES THAT ARE NECESSARY BEYOND THE PHASING LIMITS SHOWN ON THE PHASING PLANS SHALL BE PERFORMED WHEN THE ADJACENT AIRFIELD PAVEMENT IS CLOSED TO AIR TRAFFIC. ARRANGEMENTS FOR CLOSING THESE PAVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE CSPP. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REFUSE CONTRACTOR'S REQUEST TO WORK OUTSIDE OF THE DESIGNATED WORK ZONE LIMITS.
5. NO CHANGE IN THE PHASING PLAN SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE.
6. FOURTEEN (14) CALENDAR DAYS PRIOR TO THE START OF EACH PHASE OR SUB-PHASE, THE CONTRACTOR SHALL SUBMIT, IN WRITING, A DETAILED WORK PLAN FOR THAT PHASE OR SUB-PHASE. THE PLAN SHALL DETAIL THE DURATIONS OF ALL WORK ITEMS NECESSARY TO COMPLETE THE PHASE OR SUB-PHASE. ALL ITEMS SHALL BE RESOURCE LOADED TO IDENTIFY MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO ACCOMPLISH EACH ITEM. THE PLAN SHALL PRESENT THE SEQUENCING OF ITEMS IN RELATIONSHIP TO ONE ANOTHER TO DEMONSTRATE A CLEAR PATH FOR COMPLETION OF THE PHASE OR SUB-PHASE WITHIN THE SPECIFIED CONTRACTUAL TIME FRAME.
7. THE CONTRACTOR MAY NOT BREACH THE SECURITY FENCE, EXCEPT FOR THOSE AREAS DESIGNATED ON THE PLANS, FOR ANY REASON UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER'S REPRESENTATIVE.
8. PRIOR TO OPENING NEW AIRFIELD FEATURE OR REOPENING RECONSTRUCTED FEATURES, THE ASSOCIATED AIRFIELD GUIDANCE SIGNS SHALL BE INSTALLED AND OPERATIONAL. ANY SIGNAGE LEGEND ASSOCIATED WITH AIRFIELD FEATURES NOT AVAILABLE TO AIRCRAFT SHALL BE COVERED/OBSCURED FROM THE PILOTS' VISION IN ACCORDANCE WITH THE SPECIFICATIONS. PRIOR TO OPENING AND AFTER INSPECTION BY THE OWNER'S REPRESENTATIVE, REMOVE SIGNAGE COVERING.
9. WORK HOURS ARE AS SPECIFIED IN THE PHASING PLANS.
10. CONTRACTOR SHALL HAVE ACCESS TO STAGING AREA 24 HOURS 7 DAYS A WEEK. CONTRACTOR SHALL NOTIFY AIRPORT OPERATIONS TWO WEEKS IN ADVANCE FOR A REQUEST FOR WORK TO BE CONDUCTED OUTSIDE OF WORK HOURS.
11. CONTRACTOR SHALL NOT USE THE STOCKPILE AREA TO STORE EXCAVATED MATERIALS FROM THE CONSTRUCTION SITE. CONTRACTOR SHALL IMMEDIATELY TAKE THE EXCAVATED MATERIAL OFF SITE AND DISPOSE OF IT IN A LEGAL MANNER. STAGING AREA SHALL ONLY BE USED TO STORE NEW MATERIAL FOR THE PROPOSED SCOPE OF WORK.
12. AT THE END OF EACH WORKING DAY, CONTRACTOR MUST FULLY DEMOBILIZE ITS MEN AND MATERIALS FROM THE PHASING WORK AREA AND RESTORE ANY EXCAVATIONS AND PROTRUSIONS ADJACENT TSA TO A SMOOTH SURFACE.
13. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.

PHASING CONSTRUCTION ACTIVITY SUMMARY:

PHASE 1
1. REHABILITATION OF THE EXISTING RUNUP APRON PAD
2. PAVEMENT DEMOLITION
3. EXTENSION OF THE RUNUP AREA APRON PAD
4. GRADING OF STORMWATER RETENTION BASINS
5. GRADING OF JET BLAST DEFLECTION BERMS
6. CONSTRUCTION OF JET BLAST FENCES AND FOUNDATION
7. INSTALLATION OF PERMANENT EROSION CONTROL
8. APPLICATION OF TEMPORARY MARKINGS

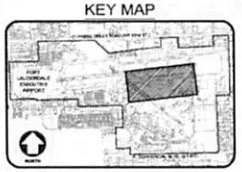
PHASE 1A
1. EARTHWORK LOCATED WITHIN THE TAXIWAY E TOFA
2. INSTALLATION OF PERMANENT EROSION CONTROL

PHASE 2
1. SURFACE PREPARATION FOR MARKING LAYOUT.
2. APPLICATION OF TEMPORARY MARKINGS
3. APPLICATION OF PERMANENT MARKINGS AFTER ASPHALT CURE PERIOD
4. REFRESH PAVEMENT MARKINGS ON TWY D1.

MAJOR MILESTONE BY SEQUENCE OF CONSTRUCTION PHASES

CONSTRUCTION SCHEDULE			
CONSTRUCTION PHASE	START	DURATION	WORK HOURS
MOBILIZATION, SPCD, SUBMITTALS, NOTAMS, PERMITTING, MATERIAL ORDERS	CONTRACT NOTICE TO PROCEED (NTP)	60 CALENDAR DAYS	
STAGING AREA AND ACCESS ROUTE	CONSTRUCITON NTP AND MOBILIZATION	7 CALENDAR DAYS	0700–1600, MONDAY–FRIDAY
1	STAGING AREA AND ACCESS ROUTE	160 CALENDAR DAYS	0700–1600, MONDAY–FRIDAY
1A	CONCURRENT WITH PHASE 1	22 CONTIGUOUS CALENDAR DAYS WHOLLY WITHIN PHASE 1	0700–1600, MONDAY–FRIDAY
2	PHASE 1 COMPLETION	7 CALENDAR DAYS	0700–1600, MONDAY–FRIDAY
PUNCHLIST AND CLOSEOUT	PHASE 2 COMPLETION	30 CALENDAR DAYS	PHASE 2 COMPLETION
SITE RESTORATION	PHASE 2 COMPLETION	14 CALENDAR DAYS	PHASE 2 COMPLETION

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3260 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
OVERALL PHASING PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

REVISIONS

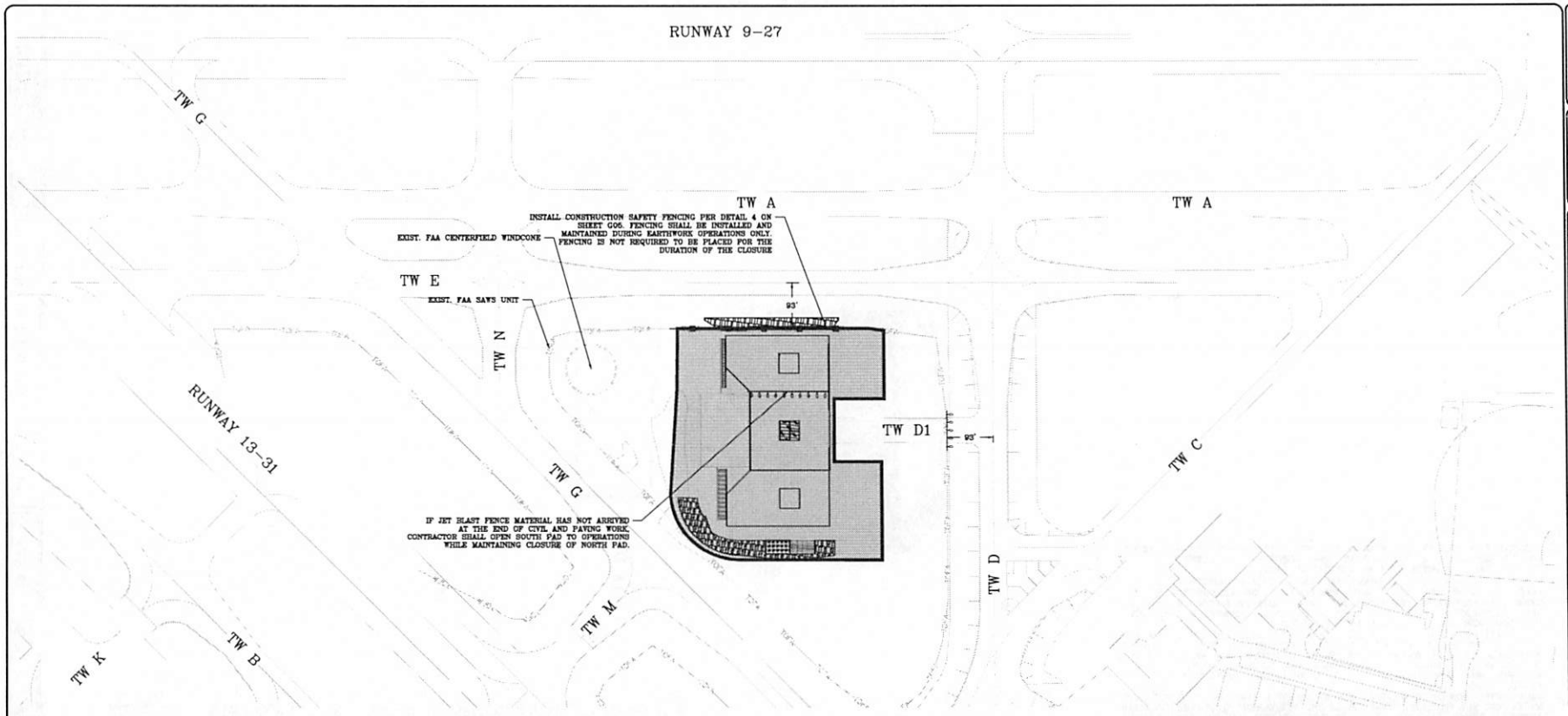
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: M | DATE: 11/09/21
DESIGNED BY: RD | SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

ENGINEER: CODY T. PARHAM REG. No: 75904 DATE: 11/09/21
TEL: (561) 209-6641 FAX: (954) 338-4953

SHEET NO. G06
TOTAL: 36
CAD FILE: 12474-MULTI-PHAS
DRAWING FILE NO. 4-142-90



PHASE 1 AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13-31	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9-27	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	●		
TWY C	●		
TWY D	●		
TWY E	●		
TWY G	●		
TWY M	●		
MIDFIELD RUN UP RAMP/ TWY D1		●	WORK AREA TO REMAIN CLOSED DURING NON-WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAs AND ROFAs. CONTRACTOR SHALL REOPEN THE SOUTH PAD FOR AIRPORT OPERATIONS IF THE CIVIL, PAVING, AND SOIL STABILIZATION WORK HAS BEEN COMPLETED AND THE JET BLAST FENCE MATERIAL HAS NOT ARRIVED. ONCE JET BLAST FENCE MATERIAL ARRIVES ON SITE, CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS FOR CLOSURE OF THE WORK AREA PRIOR TO INSTALLING THE BARRICADES AND COMMENCING WITH THE JET BLAST FENCE INSTALLATION.

● = STATUS CHANGE

● = STATUS CARRYOVER

PHASE 1 NOTES:

1. CONSTRUCTION EQUIPMENT AND MATERIALS STORAGE PERMITTED WITHIN WORK AREA, OUTSIDE OF ADJACENT ACTIVE TAXIWAY OBJECT FREE AREAS.
2. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.
3. CONTRACTOR SHALL REFRESH TAXIWAY PAVEMENT MARKINGS DURING CONSTRUCTION ALONG HAUL ROADS AS REQUIRED BY THE OWNER IF THEY ARE WORN DOWN BY CONSTRUCTION TRAFFIC AND SWEEPER TRUCK BRUSHING.
4. CONTRACTOR SHALL APPLY TEMPORARY MARKINGS AND REOPEN THE SOUTH PAD FOR AIRCRAFT OPERATIONS IF JET BLAST FENCE MATERIAL HAS NOT BEEN DELIVERED ON SITE AT THE COMPLETION OF THE CIVIL, PAVING, AND SOIL STABILIZATION WORK.

PHASE 1 DURATION:

- 180 CALENDAR DAYS

PHASE 1 CONSTRUCTION ACTIVITY (MON-FRI 0700-1600)

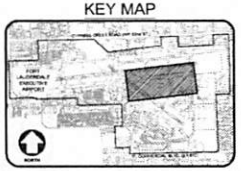
1. INSTALL MAINTENANCE OF TRAFFIC.
2. INSTALL TEMPORARY SWPPP.
3. PERFORM CLEARING AND GRUBBING AND EXCAVATION.
4. MILL AND DEMOLISH EXISTING ASPHALT PAVEMENT.
5. CONSTRUCT EMBANKMENT, SUBGRADE, SUBBASE, AND BASE COURSE.
6. CONSTRUCT JET BLAST FENCE AND FOUNDATION.
7. PAVE ASPHALT AND CONCRETE PAVEMENT SURFACE.
8. SURFACE PREPARATION FOR TEMPORARY MARKINGS (REQUIRED IF THE SOUTH PAD IS REQUIRED TO BE OPEN WHILE JET BLAST FENCE IS BEING DELIVERED).
9. INSTALL TEMPORARY MARKINGS (REQUIRED IF THE SOUTH PAD IS REQUIRED TO BE OPEN WHILE JET BLAST FENCE IS BEING DELIVERED).
10. REMOVE TEMPORARY SWPPP MEASURES AND INSTALL PERMANENT MEASURES.
11. REMOVE MAINTENANCE OF TRAFFIC.

LEGEND

PHASE 1 WORK AREA

LOW PROFILE BARRICADE

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 1
6000 NW 21ST AVE, FORT LAUDERDALE, FL

REVISIONS			
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	MI	DATE: 11/09/21
DESIGNED BY:	RD	SCALE: AS NOTED
CHECKED BY:	WB	
FIELD BOOK:		

ENGINEER: KEITH T. PARHAM
REG. No. 79984
DATE: 11/09/21

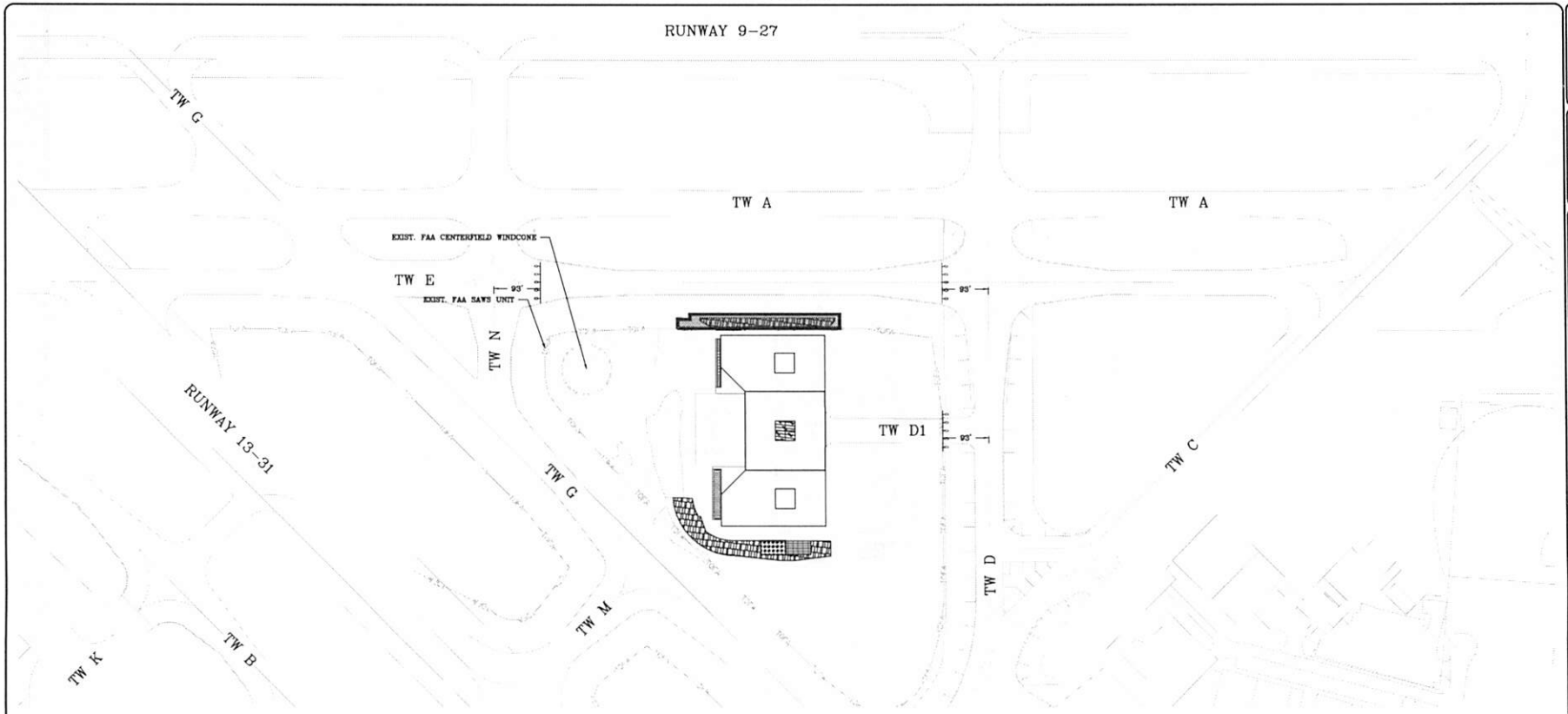
TEL: (561) 209-6641
FAX: (954) 985-4865

SHEET NO.
G07

TOTAL: 36

CAD FILE: 12474-MULTI-PHAS

DRAWING FILE NO. 4-142-90



PHASE 1A AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13–31	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9–27	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	●		
TWY C	●		
TWY D	●		
TWY E		●	BETWEEN TAXIWAY N AND TAXIWAY D. SEGMENT TO REMAIN CLOSED DURING NON–WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAS AND ROFAS.
TWY G	●		
TWY M	●		
MIDFIELD RUN UP RAMP/ TWY D1		●	SEGMENT TO REMAIN CLOSED DURING NON–WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAs AND ROFAs

● = STATUS CHANGE

● = STATUS CARRYOVER

PHASE 1A NOTES:

1. CONSTRUCTION EQUIPMENT STORAGE PERMITTED WITHIN WORK AREA, OUTSIDE OF ADJACENT ACTIVE TAXIWAY OBJECT FREE AREAS.
2. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.
3. CONTRACTOR SHALL REFRESH TAXIWAY PAVEMENT MARKINGS DURING CONSTRUCTION ALONG HAUL ROADS AS REQUIRED BY THE OWNER IF THEY ARE WORN DOWN BY CONSTRUCTION TRAFFIC AND SWEEPER TRUCK BRUSHING

PHASE 1A DURATION:

22 CONTINUOUS CALENDAR DAYS WHOLLY WITHIN PHASE 1. CONTRACTOR SHALL REQUEST OWNER PERMISSION TO BEGIN WORK IN PHASE 1A AT LEAST TWO WEEKS PRIOR TO START OF THIS PHASE.

PHASE 1A CONSTRUCTION ACTIVITY (MON–FRI 0700–1600)

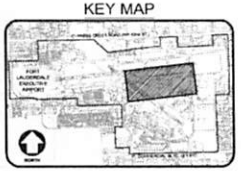
1. INSTALL MAINTENANCE OF TRAFFIC.
2. INSTALL TEMPORARY SWPPP.
3. PERFORM CLEARING AND GRUBBING AND EXCAVATION.
4. CONSTRUCT EMBANKMENT WITHIN THE TAXIWAY E TOFA.
5. REMOVE TEMPORARY SWPPP MEASURES AND INSTALL PERMANENT MEASURES.
6. REMOVE MAINTENANCE OF TRAFFIC.

LEGEND

PHASE 1A WORK AREA

LOW PROFILE BARRICADE

KEY MAP





CALL 48 HOURS BEFORE YOU DIG

811 Know what's below. Call before you dig.

IT'S THE LAW! DIAL 811

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 1A
6000 NW 21ST AVE, FORT LAUDERDALE, FL

NO.	DATE	BY	CHK'D	DESCRIPTION

REVISIONS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	DATE:
MI	11/09/21
DESIGNED BY:	SCALE:
RD	AS NOTED
CHECKED BY:	
WB	
FIELD BOOK:	

ENGINEER
CODY T. PARHAM
REG. No. 75904
DATE 11/09/21
TEL: (561) 209-6641
FAX: (954) 233-4953

SHEET NO.
G08

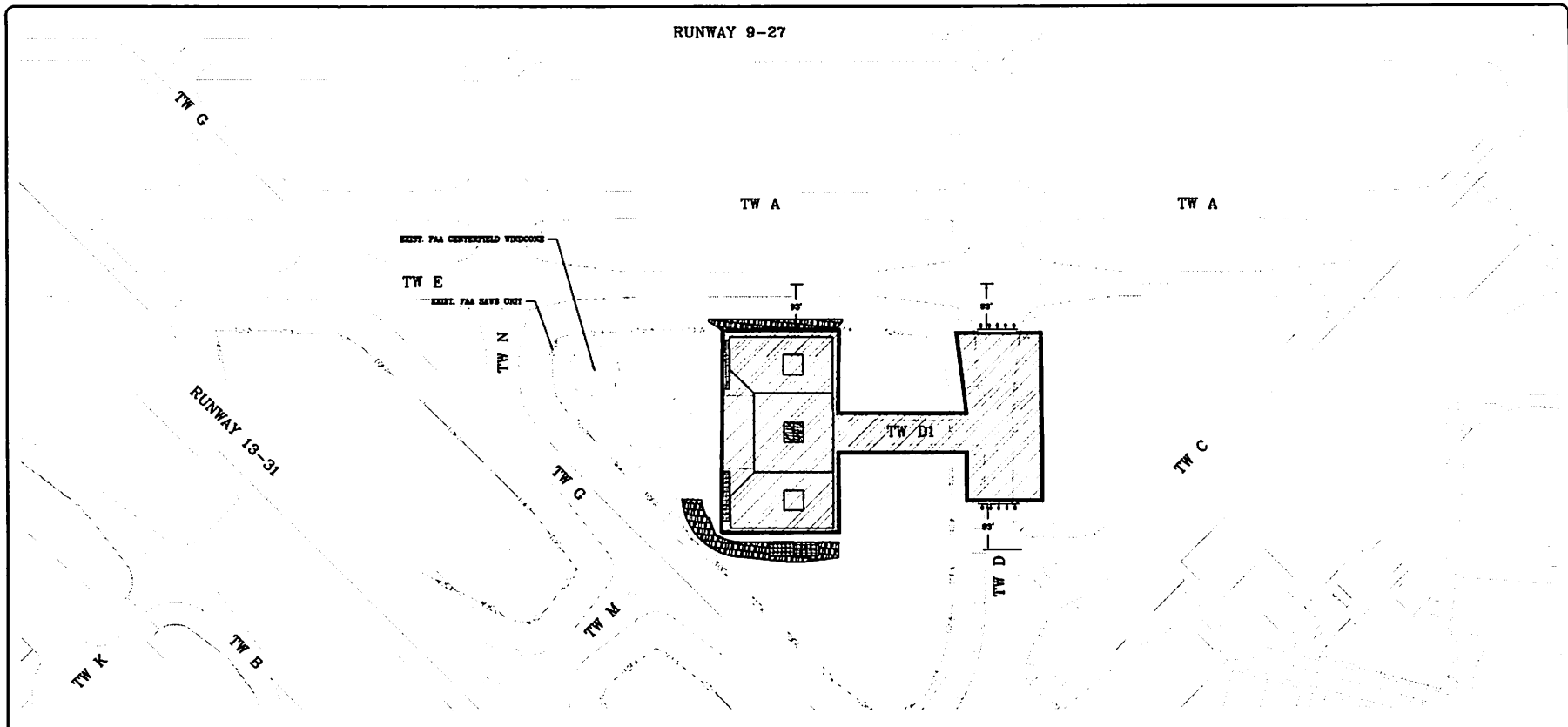
TOTAL: 36

CAD FILE:
12474–MULTI–PHAS

DRAWING FILE NO.
4–142–90

C:\PWWORKING\EAST01\D2070963\12474–MULTI–PHAS.DWG

7/11/2022 7:32 AM Thursday, November 11, 2021 IGNACIO, MIRON EVANS



PHASE 2 AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13-31	O		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9-27	O		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	O		
TWY C	O		
TWY D		●	SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS FOR PAINT CURING ONLY. SEGMENT TO BE OPENED AS SOON AS THE RPR DEEMS THE PREVIOUS NIGHT'S WORK TO BE CURED. EQUIPMENT PARKING AND MATERIAL STOCKPILING ARE NOT ALLOWED WITHIN THIS SEGMENT DURING NON-WORKING HOURS.
TWY E	●		
TWY G	O		
TWY M	O		
MIDFIELD RUN UP RAMP/ TWY D1		O	SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS FOR PAINT CURING ONLY. SEGMENTS TO BE OPENED AS SOON AS THE RPR DEEMS THE PREVIOUS NIGHT'S WORK TO BE CURED. EQUIPMENT PARKING AND MATERIAL STOCKPILING ARE NOT ALLOWED WITHIN THIS SEGMENT DURING NON-WORKING HOURS.

● = STATUS CHANGE

O = STATUS CARRYOVER

PHASE 2 NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE AIRPORT ON THE CLOSURE OF THE WORK AREA PRIOR TO MOBILIZING.

PHASE 2 DURATION:

- 7 CALENDAR DAYS

PHASE 2 CONSTRUCTION ACTIVITY (MON-FRI 0700 - 1600)

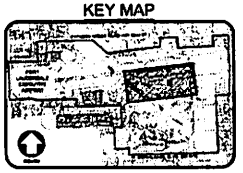
1. INSTALL BARRICADES.
2. APPLICATION OF PERMANENT MARKINGS AFTER ASPHALT CURE PERIOD.
3. REMOVE PAVEMENT MARKINGS ON TWY D1.

LEGEND

PHASE 2 WORK AREA

LOW PROFILE BARRICADE

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T 954.536.1879 F 954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 2
6000 NW 21ST AVE., FORT LAUDERDALE, FL

REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DESIGNED BY: JOSEPH T. PASSERAN
DRAWN BY: MM
CHECKED BY: RD
DATE: 11/09/21
SCALE: AS NOTED
CHECKED BY: WD
FIELD BOOK:

SHEET NO. G09
TOTAL: 36
CAD FILE: 12474-MULTI-PHWS
DRAWING TITLE NO. 4-142-90

C:\PWWORKING\EAST01\D2070943\12474-MULTI-PHASING

APPENDIX B

SAFETY AND PHASING PLAN CHECKLIST

FROM FAA AC 150/5370-2G

OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	2.5				
Operational safety is a standing agenda item for construction progress meetings.	2.5				
Scheduling of the construction phases is properly addressed.	2.6				
Any formal agreements are established.	2.5.3				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	2.7.1				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	2.7.1.1				
Access routes used by ARFF vehicles affected by the project are addressed.	2.7.1.2				
Access routes used by airport and airline support vehicles affected by the project are addressed.	2.7.1.3				
Underground utilities, including water supplies for firefighting and drainage.	2.7.1.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	2.7.1.5				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	2.7.1				
Temporary changes to taxi operations are addressed.	2.7.2.1				
Detours for ARFF and other airport vehicles are identified.	2.7.2.2				
Maintenance of essential utilities and underground infrastructure is addressed.	2.7.2.3				
Temporary changes to air traffic control procedures are addressed.	2.7.2.4				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	2.8				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	2.8				
Protection of NAVAID facilities is addressed.	2.8				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	2.8				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	2.8, 2.13.1, 2.13.5.3.1, 2.18.1				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	2.9				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	2.9				
The location of stockpiled construction materials is depicted on drawings.	2.9.1				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	2.9.1				
Requirements for proper stockpiling of materials are included.	2.9.1				
Construction site parking is addressed.	2.9.2.1				
Construction equipment parking is addressed.	2.9.2.2				
Access and haul roads are addressed.	2.9.2.3				
A requirement for marking and lighting of vehicles to comply with AC 150/5210-5, *Painting, Marking and Lighting of Vehicles Used on an Airport,* is included.	2.9.2.4				
Proper vehicle operations, including requirements for escorts, are described.	2.9.2.5, 2.9.2.6				
Training requirements for vehicle drivers are addressed.	2.9.2.7				
Two-way radio communications procedures are described.	2.9.2.9				
Maintenance of the secured area of the airport is addressed.	2.9.2.10				
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	2.10				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	2.11				
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	2.12				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	2.13				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	2.13.1				
A list of local ATO/Technical Operations personnel is included.	2.13.1				
A list of ATCT managers on duty is included.	2.13.1				
A list of authorized representatives to the OCC is included.	2.13.2				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	2.8, 2.13.2, 2.18.3.3.9				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	2.13.2				
Emergency notification procedures for medical, fire fighting, and police	2.13.3				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	2.13.4				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	2.13.5				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	2.13.5.3.2				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	2.14.1, 2.14.2				
Final inspections at certificated airports are specified when required.	2.14.3				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	2.15				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	2.16				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	2.17				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	2.18.1				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with AC 150/5340-1, *Standards for Airport Markings,* is specified.	2.18.2				
Detailed specifications for materials and methods for temporary markings are provided.	2.18.2				
The requirement for lighting to conform to AC 150/5340-30, *Design and Installation Details for Airport Visual Aids;* AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights;* and AC 150/5345-53, *Airport Lighting Certification Program,* is specified.	2.18.3				
The use of a lighted X is specified where appropriate.	2.18.2.1.2, 2.18.3.2				
The requirement for signs to conform to AC 150/5345-44, *Specification for Runway and Taxiway Signs;* AC 50/5340-18, *Standards for Airport Sign Systems;* and AC 150/5345-53, *Airport Lighting Certification Program,* is specified.	2.18.4				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to AC 150/5340-18 and, to the extent practicable, with the MUTCD and/or State highway specifications.	2.18.4.2				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	2.20.1				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	2.20.1				
The CSPP considers less obvious construction-related hazards.	2.20.1				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	2.20.2.1				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	2.20.2.1				
Red lights meeting the luminance requirements of the State Highway Department are specified.	2.20.2.2				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	2.20.2.3				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	2.20.2.3				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	2.20.2.5				
Markings for temporary closures are specified.	2.20.2.5				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	2.20.2.7				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	2.21				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	2.22.1.1, 2.22.3.1				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	2.22.1.2, 2.22.3.2				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	2.22.3.3				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	2.22.1.4				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	2.22.1.4				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	2.22.1.4				
Grading and soil erosion control to maintain RSA/TSA standards are	2.22.3.5				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	2.22.2				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	2.22.3				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	2.22.4				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	2.22.4.3.6				
Provisions for protection of runway approach/departure areas and clearways are included.	2.22.6				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	2.23.1.2				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	2.23.1.3				

APPENDIX C

CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

FROM FAA AC 150/5370-2G

OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

DRAWING INDEX

G00	COVER SHEET
G01	SIGNATURE SHEET
G02	GENERAL NOTES
G03	SUMMARY OF QUANTITIES
G04	SITE ACCESS AND STAGING PLAN
G05	SAFETY NOTES AND DETAILS
G06	OVERALL PHASING PLAN
G07	PHASING PLAN 1
G08	PHASING PLAN 1A
G09	PHASING PLAN 2
G10	AIRSPACE PLAN
G11	WILDLIFE PROTECTION PLAN
S01	TOPOGRAPHIC SURVEY
S02	TOPOGRAPHIC SURVEY
S03	TOPOGRAPHIC SURVEY
S04	TOPOGRAPHIC SURVEY
B01	BORING LOCATION PLAN
B02	BORING PROFILES
B03	BORING PROFILES
C01	EROSION CONTROL PLAN
C02	EROSION CONTROL NOTES
C03	EROSION CONTROL DETAILS
C04	DEMOLITION PLAN
C05	PAVING DETAILS
C06	TYPICAL SECTIONS
C07	SITE PLAN
C08	TYPICAL JOINT REPAIR DETAILS (1)
C09	TYPICAL JOINT REPAIR DETAILS (2)
C10	FULL POWER JET BLAST DEFLECTOR DETAILS
C11	BREAKAWAY POWER JET BLAST DEFLECTOR DETAILS
C12	SUGGESTED SOIL STABILIZATION DETAILS
C13	GRADING PLAN
C14	GRADING CROSS SECTIONS
C15	ELEVATION PLAN
C16	MARKING PLAN
C17	MARKING DETAILS

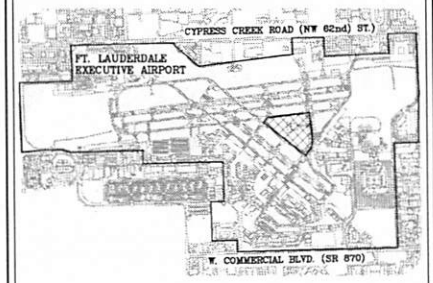
CITY OF FORT LAUDERDALE

PROJECT #12474
MIDFIELD RUN-UP EXPANSION

6000 NW 21ST AVE
FORT LAUDERDALE, FLORIDA

FXE FORT LAUDERDALE EXECUTIVE AIRPORT

ATTENTION, THESE PLANS MAY HAVE REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE TAKEN INTO ACCOUNT WHEN OBTAINING SCALED DATA.



LOCATION SKETCH

PROJECT #P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
6000 NW 21ST AVE, FORT LAUDERDALE, FLORIDA

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
HEATHER MORAITIS	COMMISSIONER - DISTRICT I
STEVEN GLASSMAN	COMMISSIONER - DISTRICT II
ROBERT McKINZIE	COMMISSIONER - DISTRICT III
BEN SORENSEN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.
KHANT MYAT, P.E.	AIRPORT ENGINEER	(954) 828-5061
CODY T. PARHAM, P.E.	CIVIL ENGINEER	(561) 209-6641
MICHAEL M. MOSSEY, PSM	SURVEYOR	(954) 788-3400
HARMON C. BENNETT, P.E.	GEOTECHNICAL ENGINEER	(561) 687-6536

DATE: 11/09/21
CAD FILE: 12474-000-COVR.DWG
DRAWING FILE No.: 4-142-90

BID DOCUMENTS

C:\PWWORKING\EAST01\D2070983\12474-000-COVR.DWG

7/11/2022 7:32 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BOULEVARD, SUITE 100
FORT LAUDERDALE, FLORIDA 33309
CODY TILLMAN PARHAM, P.E. NO 73904

SHEET INDEX	
SHEET NUMBER	SHEET NAME
G00	COVER SHEET
G02	GENERAL NOTES
G03	SUMMARY OF QUANTITIES
G04	SITE ACCESS AND STAGING PLAN
G05	SAFETY NOTES AND DETAILS
G06	OVERALL PHASING PLAN
G07	PHASING PLAN 1
G08	PHASING PLAN 1A
G09	PHASING PLAN 2
G10	AIRSPACE PLAN
G11	WILDLIFE PROTECTION PLAN
C01	EROSION CONTROL PLAN
C02	EROSION CONTROL NOTES
C03	EROSION CONTROL DETAILS
C04	DEMOLITION PLAN
C05	PAVING DETAILS
C06	TYPICAL SECTIONS
C07	SITE PLAN
C08	TYPICAL JOINT REPAIR DETAILS (1)
C09	TYPICAL JOINT REPAIR DETAILS (2)
C13	GRADING PLAN
C14	GRADING CROSS SECTIONS
C15	ELEVATION PLAN
C16	MARKING PLAN
C17	MARKING DETAILS

DESIGNED BY: MI | DATE: 11/09/21
DRAWN BY: JCM/JE | AS NOTED
CHECKED BY: PD | WD
FIELD BOOK:

DESIGNED: CODY T. PARHAM, PE, No. 73904, DATE: 11/09/21

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SIGNATURE SHEET
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G01
TOTAL: 36
CAD FILE: 12474-MULTI-NOTE
DRAWING FILE NO. 4-142-00

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
811
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.535.1676 F 954.233.4853
CA# 4213

C:\PWORKING\ZAST01\D2070943\12474-MULTI-NOTE.DWG

11/9/2021 7:32 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL CITY, COUNTY AND STATE TRAFFIC REGULATIONS CONCERNING THE USE OF STREETS AND ROADWAYS FOR DELIVERIES AND HAULING. ANY DAMAGE DONE TO THE ROADWAYS DUE TO THE CONTRACTOR'S EQUIPMENT OR HAULING OPERATIONS SHALL BE REPAIRED TO THE OWNER'S SATISFACTION, AT NO COST TO THE OWNER. ALL HAULING UNITS TRANSPORTING LOOSE MATERIALS (SOIL, LIMEROCK, ETC.) SHALL BE FULLY COVERED.

3. THE CONTRACTOR SHALL COOPERATE WITH AIRPORT AUTHORITIES, USERS, TENANTS AND FIRE DEPARTMENT WHILE WORKING ON THIS PROJECT.

4. THE CONTRACTOR'S SUPERINTENDENT SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS WHILE THIS PROJECT IS IN PROGRESS. THE CONTRACTOR'S SUPERINTENDENT SHALL BE THE DESIGNATED RESPONSIBLE CONTRACTOR REPRESENTATIVE, AND SHALL BE AVAILABLE IN CASE OF EMERGENCIES ON A 24-HOUR BASIS AND SHALL BE FLUENT IN SPOKEN ENGLISH.

5. REQUESTS FOR FIELD CHANGES OR DEVIATIONS MUST BE SUBMITTED IN WRITING TO THE ENGINEER. ENGINEER WILL HAVE UP TO TWO WEEKS TO RESPOND TO REQUESTED CHANGES. THE ENGINEER'S REVIEW TIME IS NOT PERMITTED TO BE INCLUDED IN REQUEST FOR ADDITIONAL CONTRACT TIME.

6. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC DURING CONSTRUCTION IN ACCORDANCE WITH THESE PLANS AND ALL STATE, COUNTY AND LOCAL REQUIREMENTS.

7. BARRICADES ARE TO REMAIN UNTIL ALL PROJECT CONSTRUCTION IS COMPLETED UNLESS NOTED OTHERWISE BY THE ENGINEER.

8. THE CONTRACTOR SHALL CONDUCT THE FINAL CLEANING OF AFFECTED AIRPORT PAVEMENTS PRIOR TO REOPENING THE PAVEMENTS TO AIRPORT TRAFFIC. THE CONTRACTOR IS RESPONSIBLE FOR CONTINUOUS DAILY CLEAN UP OF THE WORK AREA. THE CONTRACTOR SHALL CONDUCT VACUUM CLEANING OF AFFECTED AIRPORT PAVEMENTS PRIOR TO REOPENING EACH PHASE OF THE PAVEMENTS TO AIRCRAFT. CONTRACTOR SHALL CONDUCT VACUUM CLEANING OF ACTIVE AIRPORT PAVEMENTS IMMEDIATELY FOLLOWING ANY ACCESS ONTO OR CROSSING THE PAVEMENT BY CONSTRUCTION TRAFFIC.

9. ALL LOCATIONS, DIMENSIONS, AND ELEVATIONS MUST BE VERIFIED BY THE CONTRACTOR IN THE FIELD BEFORE COMMENCING WORK. ANY DISCREPANCY MUST BE BROUGHT, IN WRITING, TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

10. CONTRACTOR SHALL NOTE IN THE RECORD DRAWINGS ANY AND ALL PIPES, DUCTS AND CABLES FOUND DURING EXCAVATION. INDICATE EXACT POSITION, ELEVATION, DIRECTION, SIZE, MATERIAL, PURPOSE AND ACTIVE STATUS IF KNOWN.

11. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT EXISTING ABOVE GROUND IMPROVEMENTS THAT ARE TO REMAIN IN PLACE. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED SATISFACTORY TO THE OWNER, AT THE EXPENSE OF THE CONTRACTOR.

12. IT IS THE CONTRACTORS' RESPONSIBILITY TO VERIFY AND CONFIRM THE LOCATION OF ALL UNDERGROUND FACILITIES WITHIN LIMITS OF CONSTRUCTION. ALL EXISTING UTILITIES, CABLES, EQUIPMENT, DEVICES, ETC., DESIGNATED TO REMAIN IN SERVICE WHICH ARE DAMAGED IN THE COURSE OF THE CONTRACT SHALL BE IMMEDIATELY REPAIRED AT THE EXPENSE OF THE CONTRACTOR. AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL CONTACT:

CITY OF FT. LAUDERDALE OPERATIONS	PHONE: (954) 828-4936
FPL	PHONE: (386) 586-6403
FAA REPRESENTATIVE	PHONE: (954) 359-5687

THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL AT 1-800-432-4770 AT LEAST TWO (2) WORKING DAYS PRIOR TO EXCAVATION. EXCAVATION IN AREAS OF EXISTING UTILITIES SHALL BE DONE BY HAND.

13. WHILE PERFORMING THE WORK, THE CONTRACTOR SHALL MAINTAIN ACCESS TO ANY AND ALL EXISTING AIRPORT OPERATIONS AND AIRCRAFT. VEHICULAR TRAFFIC AND PEDESTRIAN TRAFFIC NOT WITHIN THE CONSTRUCTION LIMITS FOR THE CURRENT PHASE OF CONSTRUCTION.

14. CONTRACTOR'S EMPLOYEES VEHICLES SHALL BE PARKED WITHIN THE CONTRACTOR'S STAGING AND STORAGE AREA. PARKING WILL NOT BE ALLOWED ALONG THE RIGHT-OF-WAY OF ANY PUBLIC ROADWAY. EMPLOYEE VEHICLES WILL NOT BE ALLOWED IN THE AIR OPERATIONS AREA (AOA).

15. CONSTRUCTION EQUIPMENT SHALL BE PARKED ONLY WITHIN THE CONTRACTOR'S STAGING AND STORAGE AREA OUTSIDE ESTABLISHED HOURS OF CONSTRUCTION.

16. RUBBER TIRED VEHICLES ONLY SHALL BE ALLOWED ON EXISTING AIRPORT PAVEMENT WHICH IS TO REMAIN.

17. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE SITE FREE OF TRASH. ALL TRASH SHALL BE TOTALLY REMOVED FROM THE WORK AREA BEFORE THE END OF EACH WORK PERIOD.

18. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL CLEAN AND RESTORE THE SITE. ALL RUBBISH AND OTHER MATERIAL SHALL BE DISPOSED OF OFF AIRPORT PROPERTY AT CONTRACTOR'S DISCRETION AND EXPENSE. THE CONTRACTOR SHALL RESTORE ALL GRASSED AND PAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITY TO THEIR PRE CONSTRUCTION CONDITION.

19. COMPENSATION FOR OPERATIONS THAT ARE NECESSARY TO CONTROL EROSION AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION SHALL BE ACCORDING TO SPECIFICATION C-102 UNLESS SPECIFIC PAY ITEMS ARE SPECIFIED HEREIN.

20. ALL CONSTRUCTION STAKEOUT SHALL BE BY A QUALIFIED FLORIDA REGISTERED LAND SURVEYOR, AND IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY DEVIATIONS FROM EXISTING GRADES AS SHOWN ON THE PLANS SHALL IMMEDIATELY BE REPORTED TO THE ENGINEER IN WRITING. EXISTING AIRPORT SURVEY MONUMENTS ARE LOCATED NEAR THE CONSTRUCTION AREA. THE CONTRACTOR SHALL AT THEIR EXPENSE, HAVE A QUALIFIED FLORIDA REGISTERED LAND SURVEYOR REPLACE ANY DISTURBED MONUMENT.

21. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.

22. REFER TO THE CONTRACTOR ACCESS AND STAGING AREA PLAN ON SHEET C04 FOR ACCESS POINTS TO BE USED BY THE CONTRACTOR FOR THIS PROJECT.

23. SPECIFICATIONS ARE PROVIDED WHICH REQUIRE THE CONTRACTOR TO APPLY EITHER WATER, CHEMICALS, VEGETATION OR OTHER MATERIALS TO PREVENT THE OCCURRENCE OF DUST WHICH WILL BE OBJECTIONABLE TO THE OPERATIONS OR USERS OF THE AREA. ALL COST FOR CONTROLLING DUST OR POLLUTANTS OF ANY KIND SHALL BE INCIDENTAL TO THE CONTRACT.

24. THE EXACT LIMITS, LIGHTING AND SECURITY REQUIREMENTS OF THE CONTRACTOR'S STAGING AND STORAGE AREA SHALL BE ESTABLISHED BY THE CONTRACTOR WITH APPROVAL OF THE OWNER IN AREAS GENERALLY AS SHOWN ON THE PLANS. ANY AND ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S OPERATIONS SHALL BE ARRANGED FOR AND PAID FOR BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY AGENCIES. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. THE CONTRACTOR SHALL USE THE STORAGE AND STAGING AREA SHOWN ON THE PLANS FOR ITS SHOP, MATERIAL AND EQUIPMENT STORAGE AND OTHER PROJECT RELATED ACTIVITIES, INCLUDING EMPLOYEE PARKING. ALL COSTS ASSOCIATED WITH PREPARING THE STORAGE AND STAGING AREA SITE SHALL BE BORNE BY THE CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO, CLEARING AND GRADING OF THE SITE, CONSTRUCTION OF ALL TEMPORARY UTILITIES, ACCESS ROADS, ALL SECURITY FENCING, CLEANUP AND RESTORATION OF SITE TO ORIGINAL CONDITION.

25. WHERE SCALE CONTRADICTS DIMENSION GIVE, DIMENSIONS SHALL GOVERN.

26. THE CONTRACTOR SHALL ENDEAVOR TO PROTECT PRIVATE PROPERTY. ANY DAMAGE CAUSED BY THE CONTRACTOR IN THE PERFORMANCE OF THEIR WORK SHALL BE CORRECTED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTORS EXPENSE.

27. ANY UNITED STATES COAST AND GEODETIC SURVEY (U.S.C.&G.S.) MONUMENTATION WITHIN THE CONSTRUCTION LIMITS SHALL BE PROTECTED. IF A MONUMENT IS IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY:

THE NATIONAL GEODETIC SURVEY, INFORMATION SERVICE BRANCH,
NOAA, N/NGS12
1315 EAST-WEST HIGHWAY, ATTENTION SSMC-3 #9202
SILVER SPRING, MARYLAND 20910-3282
TELEPHONE: (301) 713-3242

28. NO ADJUSTMENT FOR ADDITIONAL COMPENSATION AND TIME WILL BE MADE FOR TIME LOST IN WORK AREAS CONTIGUOUS TO TAXIWAYS AND RUNWAYS DUE TO AIRCRAFT TRAFFIC.

29. ALL DEMOLITION WORK AND REMOVAL OF CONSTRUCTION DEBRIS SHALL BE CONDUCTED DURING HOURS APPROVED BY THE OWNER WITHOUT THE INTERRUPTION OF NORMAL AIRPORT DAILY ACTIVITIES.

30. CONTRACTOR SHALL PROVIDE CONSTRUCTION SITE ACCESS TO THE OWNER AND ITS REPRESENTATIVES FOR INSPECTION PURPOSES.

31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE WORK AREA AND COORDINATING THE OVERALL SECURITY OF THE WORK AREA AND MATERIAL STORAGE AND STAGING AREAS WITH THE OWNER.

32. THE CONTRACTOR IS REQUIRED TO PROVIDE LIGHTING FOR CONSTRUCTION DURING THE HOURS OF DARKNESS AS REQUIRED BY THE SPECIFICATIONS.

33. WHENEVER, IN THE CONTRACT DOCUMENTS, THE WORDS "PROVIDE", "FURNISH", "INSTALL", "FURNISH AND INSTALL", OR OTHER WORDS OF LIKE IMPORT ARE USED, IT SHALL BE UNDERSTOOD THAT THE INTENT OF THE CONTRACT DOCUMENTS IS TO PROVIDE FOR THE CONSTRUCTION AND COMPLETION IN EVERY DETAIL OF THE WORK DESCRIBED. IT IS FURTHER INTENDED THAT THE CONTRACTOR SHALL FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, TESTING AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS (PLANS), SPECIFICATIONS AND TERMS OF THE CONTRACT.

34. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, ETC., PRIOR TO COMMENCEMENT OF WORK. THE COST OF PERMITS, LICENSES, ETC., SHALL BE INCIDENTAL TO AND INCLUDED IN THE BID PRICE FOR THE RESPECTIVE PAY ITEMS. PROVIDE AND PAY FOR ALL PERMITS, LICENSES, FEES AND INSPECTIONS REQUIRED FOR THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PAY ALL SALES, CONSUMER, USE AND OTHER TAXES REQUIRED IN ACCORDANCE WITH THE LAW OF THE PLACE OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL REQUIRED LICENSES, FEES AND INSPECTIONS INCLUDING METER INSTALLATION FEE. THE COST FOR SUCH SHALL BE INCLUDED IN THE BID PRICE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE APPLICABLE UTILITY COMPANY(S) TO DETERMINE IF ANY FEES, CHARGES OR COSTS WILL BE DUE THE UTILITY COMPANY(S) AS REQUIRED BY THE UTILITY COMPANY(S) FOR TEMPORARY POWER, INSTALLATIONS, HOOK-UPS, ETC. THIS FEE, CHARGE OR COST SHALL BE INCLUDED IN THIS CONTRACTOR'S PRICE.

35. ITEMS SHOWN IN SCREEN (HALFTONE) ARE EXISTING ITEMS. ITEMS SHOWN IN BOLD (BOLD) ARE NEW TO BE INSTALLED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED.

36. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO DETERMINE THAT ALL AIRFIELD LIGHTING CIRCUITS, EXCEPT THOSE THAT ARE SERVING CLOSED TAXIWAYS OR RUNWAYS, ARE COMPLETELY OPERATIONAL, USING TOWER CONTROLS, AT THE END OF EACH WORK SHIFT AND SHALL SO CERTIFY TO THE OWNER BEFORE THE END OF EACH SHIFT. THE CONTRACTOR SHALL NOT LEAVE THE WORK SITE UNTIL CIRCUIT OPERATION HAS BEEN CONFIRMED BY THE ENGINEER. TEMPORARY CABLE CONNECTIONS SHALL BE MADE IN AIRFIELD LIGHTING CIRCUITS WHEN PERMANENT WIRING CANNOT BE COMPLETED DURING DAYLIGHT HOURS. ALL RUNWAYS AND TAXIWAYS NOT CLOSED FOR CONSTRUCTION (REFER TO PHASING PLAN) SHALL HAVE FULLY OPERABLE AIRFIELD LIGHTING DURING THE HOURS BETWEEN ONE HOUR BEFORE DUSK AND ONE HOUR AFTER DAWN AND AS REQUIRED BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL DISCUSS THE CONTRACTOR'S PROPOSED WIRING WITH THE OWNER AND OBTAIN APPROVAL PRIOR TO COMMENCING WORK IN THAT AREA. ALL ELECTRICAL WIRING SHALL BE COMPLETED AND TESTED ONE (1) HOUR PRIOR TO ELECTRICAL MAINTENANCE DEPARTMENT'S END OF SHIFT, WHICH IS NORMALLY 4 PM.

37. 45 DAY MINIMUM NOTICE REQUIRED FOR ANY WORK INVOLVING A FAA OR AIRPORT COMM MANHOLE OR FAA EQUIPMENT. THE NOTICE IS APPLICABLE ANYTIME THE MANHOLE IS OPENED OR ANY WORK INVOLVING CABLES BETWEEN OR WITHIN THE MANHOLES OR ANY WORK IMPACTING FAA EQUIPMENT.

RECORD DRAWINGS

1. CONTRACTOR SHALL PROVIDE A DIGITAL MARKUP OF THE PDF PLANS WITH THE CONSTRUCTED LOCATION OF ALL LIGHTS, SIGNS, CONDUIT, AND MARKINGS PRIOR TO FINAL ACCEPTANCE. ENGINEER MAY REVIEW AND REQUEST REVISIONS TO ADDRESS DISCREPANCIES. PAYMENT FOR THIS ITEM IS INCIDENTAL TO MOBILIZATION, ITEM C-105-6.1.

ABBREVIATIONS

AB	AGGREGATE BASE COURSE
AC	ADVISORY CIRCULAR OR ASPHALTIC CONCRETE
AOA	AIR OPERATIONS AREA
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	AIR TRAFFIC CONTROL
ATCT	AIR TRAFFIC CONTROL TOWER
B.C.R.	BROWARD COUNTY RECORDS
℄	CENTER LINE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CSPP	CONSTRUCTION SAFETY AND PHASING PLAN
CY	CUBIC YARDS
DIA	DIAMETER
E	EASTING - ELECTRICAL - EAST
EA	EACH
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
EXIST	EXISTING
FAA	FEDERAL AVIATION ADMINISTRATION
FPL	FLORIDA POWER AND LIGHT
FT	FEET
FXE	FT. LAUDERDALE EXECUTIVE AIRPORT
GAL	GALLON
GALV	GALVANIZED
G/L	GREEN LIGHT
ILS	INSTRUMENT LANDING SYSTEM
LB	LICENSED BUSINESS
LF	LINEAR FOOT
LP	LOW POINT
LS	LUMP SUM
LT	LEFT
MALS	MEDIUM INTENSITY AIRPORT LIGHTING SYSTEM
MALSR	MEDIUM INTENSITY AIRPORT LIGHTING SYSTEM RAIL
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTHING - NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO.	NUMBER
NOTAM	NOTICE TO AIRMEN
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NTP	NOTICE TO PROCEED
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PAPI	PRECISION APPROACH PATH INDICATOR
P.B.	PLAT BOOK
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PG	PAGE
PG	PERFORMANCE GRADE
PI	POINT OF INTERSECTION
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
REF	REFERENCE
RP	RADIUS POINT
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
RT	RIGHT
R/W	RUNWAY
RW	RIGHT-OF-WAY
S	SLOPE OR SOUTH
SAWS	STAND ALONE WEATHER SENSORS
SF	SEMI-FLUSH - SQUARE FEET
SPCD	SAFETY PLAN COMPLIANCE DOCUMENT
SPT	STANDARD PENETRATION TEST
STA	STATION
STD	STANDARD
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
SY	SQUARE YARDS
TOFA	TAXIWAY OBJECT FREE AREA
TWY	TAXIWAY
TSA	TAXIWAY SAFETY AREA OR TRANSPORTATION SECURITY ADMINISTRATION
TW	TAXIWAY
TYP	TYPICAL
VERT	VERTICAL
VC	VERTICAL CURVE
W/	WITH

SYMBOLS

●	BLUE LIGHT UNLESS NOTED OTHERWISE
⯁	BENCHMARK
O-O	DOUBLE FLASHING LIGHT
■	ELECTRICAL HAND HOLE
⊕	MONITORING WELL
	MULTI POST SIGN
	SINGLE POST SIGN
●	SOIL BORING LOCATION
	WIND SOCK
—E(B)—	PAINT MARK DESIGNATION LEVEL (B)-BURIED POWER
—UNK(B)—	PAINT MARK DESIGNATION LEVEL (B)-BURIED UNKNOWN UTILITY
—TEL(B)—	PAINT MARK DESIGNATION LEVEL (B)-BURIED TELEPHONE
—TSA—	TAXIWAY SAFETY AREA
—TOFA—	TAXIWAY OBJECT FREE AREA
—RSA—	RUNWAY SAFETY AREA
—ROFA—	RUNWAY OBJECT FREE AREA

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR

HDR ENGINEERING, INC.
3230 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T 954.630.1976 F 954.223.4903
CA# 4213

BID DOCUMENTS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	DATE:
MI	11/09/21
DESIGNED BY:	SCALE:
RD	AS NOTED
CHECKED BY:	
WB	
FIELD BOOK:	

ENGINEER: CODY T. PARHAM
REG. No. 78504
DATE 11/09/21
TEL (561) 299-0641
FAX (954) 223-4903

NO.	DATE	BY	CKD	DESCRIPTION

REVISIONS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
GENERAL NOTES
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. G02
TOTAL: 36
CAD FILE: 12474-MULTI-NOTE
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\02070963\12474-MULTI-NOTE.DWG

Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

BASE BID

ITEM No.	Spec	DESCRIPTION	QUANTITY	UNIT
1	C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	1	LS
2	C-102-5.1a	TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL	1	LS
3	C-105-6.1	MOBILIZATION	1	LS
4	C-105-6.2	CONTRACTOR STAGING AND STORAGE	1	LS
5	P-101-5.1	FULL DEPTH ASPHALT PAVEMENT REMOVAL	700	SY
6	P-101-5.3a	COLD MILLING, 2-INCHES	3,000	SY
7	P-101-5.3b	COLD MILLING, VARIABLE DEPTH	400	SY
8	P-101-5.4	REMOVE EXISTING ASPHALT PAVEMENT MILLING PILES AND PROCESS FOR REUSE	1,000	CY
9	P-151-2.4	STRIPPING	3	AC
10	P-152-4.1	UNCLASSIFIED EXCAVATION	10,100	CY
11	P-152-4.2	PLACEMENT OF MILLINGS FOR SURFACE STABILIZATION	1,900	SY
12	P-154-5.1	SUBBASE COURSE (8-INCH DEPTH)	5,400	SY
13	P-211-5.1a	LIME ROCK BASE COURSE (6-INCH DEPTH)	5,400	SY
14	P-211-5.1b	LIME ROCK BASE COURSE (8-INCH DEPTH)	500	SY
15	P-401-8.1	ASPHALT MIX PAVEMENT	2,000	TON
16	P-501-8.1	PORTLAND CEMENT CONCRETE PAVEMENT	150	CY
17	P-602-5.1	EMULSIFIED ASPHALT PRIME COAT	1,100	GAL
18	P-603-5.1	EMULSIFIED ASPHALT TACK COAT	500	GAL
19	P-605-5.1	JOINT SEALING FILLER	250	LF
20	P-620-5.1a	SURFACE PREPARATION OF NEW PAVEMENT SURFACES	5,400	SF
21	P-620-5.1b	SURFACE PREPARATION OF PAVEMENT MARKINGS PRIOR TO REMARKING	7,700	SF
22	P-620-5.2a	PERMANENT MARKINGS WITH TYPE III BEADS	3,300	SF
23	P-620-5.2b	PERMANENT MARKINGS WITH NO BEADS	2,100	SF
24	P-620-5.4	TEMPORARY MARKINGS WITHOUT BEADS	1,100	SF
25	T-904-5.1	SODDING (WITH 30-DAY IRRIGATION PERIOD)	8,800	SY
26	S-102-5.1	AIRPORT SAFETY AND MAINTENANCE OF TRAFFIC	1	LS
27	S-102-5.2	WILDLIFE BURROW PROTECTION	6	EA
28	S-104-1	JET BLAST DEFLECTOR FOR TAXI/BREAKAWAY VELOCITIES	1	LS
29	S-104-2	FOUNDATION OF JET BLAST DEFLECTOR FOR TAXI/BREAKAWAY VELOCITIES	1	LS
30	S-105-7.1	HIGH PERFORMANCE TURF REINFORCEMENT MAT	300	SY
31	S-106-7.1	HIGH DENSITY POLY ETHYLENE (HDPE) MAT	300	SY

ADD ALTERNATE 1

ITEM No.	Spec	DESCRIPTION	QUANTITY	UNIT
1	S-103-1	JET BLAST DEFLECTOR FOR HIGH POWER RUN-UPS	1	LS
2	S-103-2	FOUNDATION OF JET BLAST DEFLECTOR FOR HIGH POWER RUN-UPS	1	LS

ADD ALTERNATE 2

ITEM No.	Spec	DESCRIPTION	QUANTITY	UNIT
1	P-101-5.2	CONCRETE SPALL REPAIR	500	SF

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.838.1979 F: 954.233.4953
CA#:4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SUMMARY OF QUANTITIES
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G03
TOTAL: 36
CAD FILE: 12474--MULTI--NOTE
DRAWING FILE NO. 4--142--90

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DESIGNED: SCOTT T. PARHAM, ENGR. No. 72904, DATE: 11/09/21
DRAWN BY: IM | CHECKED BY: RD | DATE: 11/09/21 | SCALE: AS NOTED | CHECKED BY: WB | FIELD BOOK:
TEL: (954) 335-4644 FAX: (954) 335-4680

LEGEND

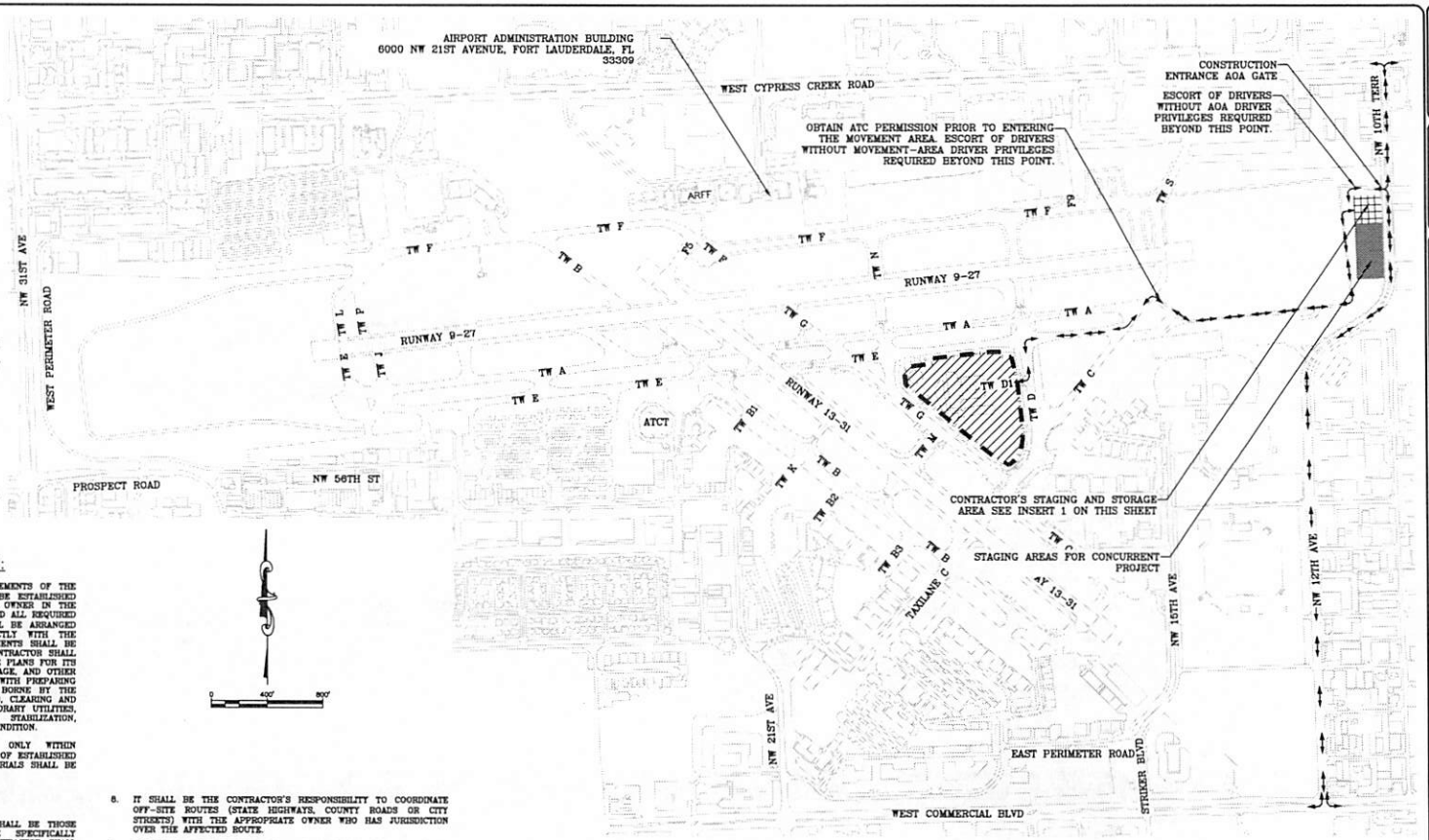
ACCESS/ HAUL ROUTE

CONTRACTOR STAGING AND PARKING AREA WITH TEMPORARY SECURITY FENCED PERIMETER

PROJECT BOUNDARY AREA

KEYNOTES

1. STAGING AREA: CONTRACTOR'S STAGING AND STORAGE AREA STAGING AREAS SHALL BE CONSTRUCTED AS TO AVOID OWL/GOPHER TORTOISE BURROWS. EMPLOYEE VEHICLES SHALL NOT GO BEYOND CONTRACTORS FENCED STAGING AREA. STAGING AREA MAX ELEVATION = 47' MAX STOCKPILE HEIGHT = ±35' FROM GROUND
2. CONTRACTOR'S ACCESS GATE PER DETAIL 3 ON SHEET G05. CONTRACTOR TO REMOVE EXISTING GATES PRIOR TO CONSTRUCTION. TEMPORARY GATE TO BE REMOVED AND ORIGINAL GATES RESTORED AFTER CONSTRUCTION IS COMPLETE. INSTALLATION AND REMOVAL OF TEMPORARY GATE ARE TO BE INCLUDED IN STAGING AND STORAGE PAY ITEM (C-105-6.2) IF AT THE END OF CONSTRUCTION THE ADJACENT PROJECTS ARE STILL ONGOING. THE CONTRACTOR SHALL TURN OVER THE ORIGINAL GATE TO THE AIRPORT.
3. TEMPORARY SECURITY FENCE PER DETAIL 2 ON SHEET G05. INSTALLATION AND REMOVAL OF TEMPORARY SECURITY FENCE ARE TO BE INCLUDED IN CONTRACTOR STAGING AND STORAGE PAY ITEM (C-105-6.2).
4. TIE TO EXISTING AOA FENCE
5. TIE INTO PROPOSED STAGING AREA FENCE
6. CONTRACTOR FOR ADJACENT STAGING AREA SHALL EXTEND THE FENCE TO THE LIMITS OF THEIR STAGING AREA

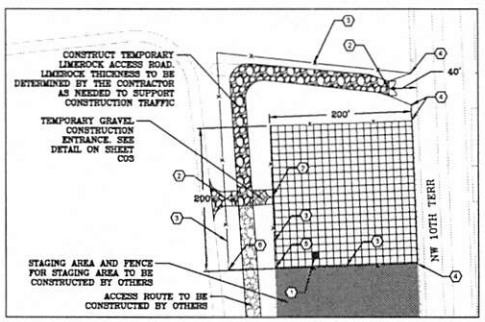


CONTRACTOR STAGING AREA NOTES:

1. THE EXACT LIMITS, LIGHTING AND SECURITY REQUIREMENTS OF THE CONTRACTOR'S STAGING AND STORAGE AREA SHALL BE ESTABLISHED BY THE CONTRACTOR WITH THE APPROVAL OF THE OWNER IN THE AREAS GENERALLY AS SHOWN ON THE PLANS. ANY AND ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S OPERATIONS SHALL BE ARRANGED FOR AND PAID FOR BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY AGENCIES. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. THE CONTRACTOR SHALL USE THE STORAGE AND STAGING AREA SHOWN ON THE PLANS FOR ITS FIELD OFFICE, SHOP, MATERIAL AND EQUIPMENT STORAGE, AND OTHER PROJECT RELATED ACTIVITIES. ALL COSTS ASSOCIATED WITH PREPARING THE STORAGE AND STAGING AREA SITE SHALL BE BORNE BY THE CONTRACTOR. THIS INCLUDES BUT IS NOT LIMITED TO, CLEARING AND GRADING OF THE SITE, CONSTRUCTION OF ALL TEMPORARY UTILITIES, ACCESS ROADS, ALL SECURITY FENCING, SOIL STABILIZATION, CLEAN-UP AND RESTORATION OF SITE TO ORIGINAL CONDITION.
2. CONSTRUCTION EQUIPMENT SHALL BE PARKED ONLY WITHIN CONTRACTOR'S STAGING AND STORAGE AREA OUTSIDE OF ESTABLISHED HOURS OF CONSTRUCTION. NO STOCKPILING OF MATERIALS SHALL BE ALLOWED OUTSIDE THE STAGING AND STORAGE AREA.

ACCESS AND HAUL ROAD NOTES:

1. HAUL ROADS TO BE USED UNDER THIS PROJECT SHALL BE THOSE INDICATED ON THE DRAWINGS OR OTHERWISE SPECIFICALLY AUTHORIZED BY THE OWNER. IN GENERAL, THE CONTRACTOR SHALL CONFINE EQUIPMENT AND HAULING TO THE AREAS UNDER CONSTRUCTION. NO DEBRIS SHALL BE ALLOWED ON THE ROADWAYS OR AIRPORT PAVED SURFACES. ACTIVE TAXIWAYS SHALL BE KEPT FREE OF DEBRIS AT ALL TIMES. CONTRACTOR SHALL MAINTAIN VACUUM SWEEPERS ON SITE FOR THAT USE. OTHER PAVEMENTS SHALL BE CLEANED BY THE CONTRACTOR DAILY, AND AS REQUIRED, USING VACUUM SWEEPERS TO KEEP ALL ACCESS AND CONSTRUCTION AREAS CLEAR OF SOILS, CLODS OR OTHER DEBRIS.
2. THE ACCESS POINTS TO THE PROJECT SITE ARE SHOWN ON THE PLANS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AIRPORT SERVICE ROADS TO THEIR PRECONSTRUCTION CONDITION WHERE SUCH ROADS ARE USED BY THE CONTRACTOR FOR HAULING OPERATIONS.
4. THE CONTRACTOR SHALL RESTORE ALL TURFED AND PAVED AREAS USED FOR HAUL ROADS TO THEIR ORIGINAL CONDITION, INCLUDING THE ESTABLISHMENT OF TURF. ALL COSTS FOR CONSTRUCTING, REMOVING AND RESTORING OF HAUL ROADS REQUIRED FOR THE COMPLETION OF THE WORK SHALL BE BORNE BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED PERSONNEL OR TRAFFIC ON THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEAN-UP OF ANY DEBRIS DEPOSITED AT THE PROJECT SITE AND ALONG ANY ROAD AS A RESULT OF HIS/HER CONSTRUCTION TRAFFIC. DIRECTIONAL SIGNAGE AT THE ACCESS GATE AND ALONG THE DELIVERY ROUTE TO THE STORAGE AREA OR WORK SITE SHALL BE APPROVED BY THE OWNER. ALL CONTRACTOR'S MATERIAL DELIVERIES FOR DELIVERY TO THE SITE SHALL BE DIRECTED TO THE ACCESS POINTS IDENTIFIED.
6. RUBBER TIRED VEHICLES ONLY SHALL BE ALLOWED ON EXISTING AIRPORT PAVEMENT WHICH IS TO REMAIN.
7. THE CONTRACTOR, THROUGH THE CONTRACTOR SECURITY OFFICER, SHALL ESTABLISH AND MAINTAIN A LIST OF CONTRACTOR AND SUBCONTRACTOR VEHICLES AUTHORIZED TO OPERATE ON THE SITE. VEHICLE PERMITS SHALL BE ASSIGNED IN ACCORDANCE WITH AIRPORT SECURITY PROCEDURES.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE.
9. ALL CONTRACTOR VEHICLES AND TRAFFIC SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION AREAS, STAGING AREAS OR HAUL ROUTES.
10. ALL CONTRACTOR VEHICLES SHALL DISPLAY IN FULL VIEW LOGOS CONSPICUOUSLY PLACED ON EACH SIDE OF THE VEHICLE WITH 4" MINIMUM LETTER HEIGHT . ALL VEHICLES OPERATING IN THE ACTIVE AOA SHALL BE EQUIPPED WITH A FLASHING AMBER (YELLOW) DOME-TYPE OR BAR-TYPE LIGHT MOUNTED ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO AIRPORT CODES FOR MAINTENANCE AND EMERGENCY VEHICLES.
11. NO CONTRACTOR VEHICLES ARE TO CROSS ACTIVE RUNWAYS, NAVAID CRITICAL AREAS, TAXIWAYS AND APPROACH CLEAR ZONES UNLESS THE ESCORT IS UNDER THE DIRECT CONTROL OF THE AIRPORT GROUND CONTROLLER. IT SHALL BE UNDERSTOOD BY THE CONTRACTOR THAT AIRPORT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL HAVE PRIORITY OVER CONTRACTOR'S TRAFFIC.
12. CONTRACTOR ACCESS GATES SHALL BE GUARDED OR LOCKED. CONTRACTOR SHALL PROVIDE GATE GUARDS. COST OF GUARDS SHALL BE INCIDENTAL TO THE AIRPORT SAFETY AND SECURITY PAY ITEM.
13. CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE ANY PERMITS, INCLUDING BUT NOT LIMITED TO DRIVEWAY PERMITS, FOR CONSTRUCTION AND USE OF ACCESS GATE.
14. ACCESS GATE LOCATION IS SUBJECT TO APPROVAL BY OWNER.
15. COVER EXISTING UTILITIES IN AREAS OF TRUCK TRAFFIC WITH MINIMUM 12" OF LIMEROCK. INCLUDE IN PAY ITEM FOR MOBILIZATION.
16. CONTRACTOR PARKING:
    - A. ALL CONTRACTOR VEHICLES SHALL BE PARKED IN THE DESIGNATED PARKING AREA AS SHOWN ON THE PLANS.
    - B. CONTRACTOR SHALL NOT PARK IN ANY OTHER LOCATION UNLESS APPROVED IN WRITING BY THE OWNER.
    - C. CONTRACTOR ASSUMES ALL LIABILITY FOR VEHICLES AND EQUIPMENT IN THE CONTRACTOR PARKING AREAS.



INSERT 1: CONTRACTOR STAGING AND STORAGE AREA



CONTRACTOR SHALL REFRESH PAVEMENT MARKINGS OUTSIDE THE PROJECT AREA DURING CONSTRUCTION IF THE OWNER OR RPR DETERMINES THAT THE MARKINGS HAVE BEEN DEGRADED BY CONTRACTOR'S CONSTRUCTION TRAFFIC AND SWEEPING OPERATIONS. THERE IS NO SEPARATE PAYMENT FOR THIS WORK.

CALL 48 HOURS BEFORE YOU DIG DIAL 811
IT'S THE LAW!
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3256 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T 954.536.1876 F 954.233.4953
CA# 4213

BID DOCUMENTS

DESIGNED: P. PARHAM
DRN: MI
CHK: PP
APP: MI
DATE: 11/09/21
SCALE: AS NOTED
CHECKED BY: MB
FIELD BOOK:
ENGINEER OF RECORD: P. PARHAM
REG. No: 72904
DATE: 11/09/21
TEL: (561) 208-9541
FAX: (954) 288-4666

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS			
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SITE ACCESS AND STAGING PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G04

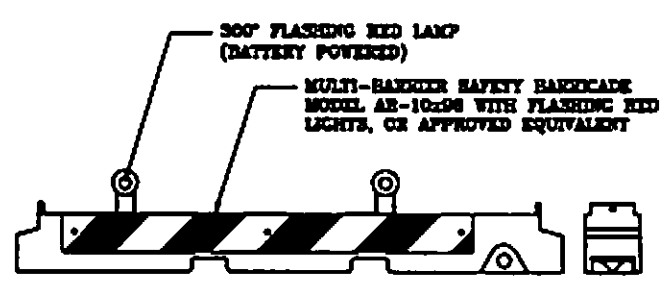
TOTAL: 36
CAD FILE: 12474-G04-STAG
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D20709631\12474-G04-STAG.DWG

7/11/2022 7:32 AM Wednesday, November 10, 2021 IGNACIO, MIRON EVANS

CONSTRUCTION SAFETY NOTES:

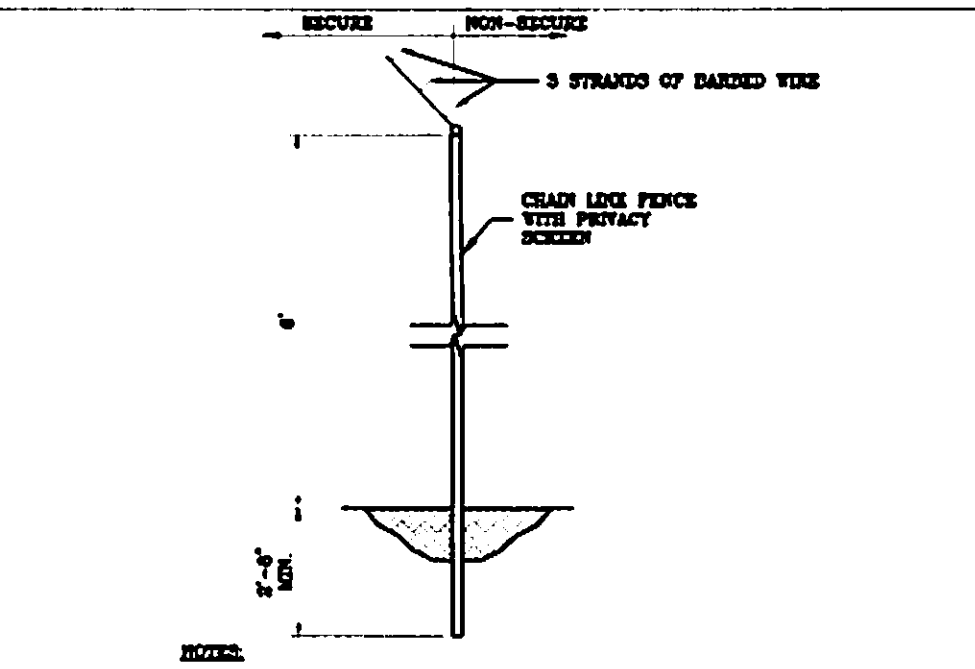
1. ALL CONSTRUCTION FOR THIS PROJECT SHALL CONFORM TO THE GUIDELINES SET FORTH IN FEDERAL AVIATION ADMINISTRATION (FAA) AC150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION", AND THESE PLANS AND SPECIFICATIONS.
2. CONSTRUCTION ACTIVITIES ARE NOT PERMITTED WITHIN THE ROFA OF ANY RUNWAY WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER.
3. CONSTRUCTION ACTIVITIES ARE NOT PERMITTED WITHIN THE TOFA OF AN ACTIVE TAXIWAY OR AN ON- APRON TAXILANE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER.
4. NO CONSTRUCTION TRAFFIC SHALL ENTER OR CROSS ANY ACTIVE AIRPORT OPERATIONAL AREA EXCEPT UPON AUTHORIZATION BY THE OWNER. THIS SPECIFICALLY INCLUDES THE RUNWAY PROTECTION ZONES AND THE RUNWAY AND TAXIWAY CONSTRUCTION SAFETY LIMITS.
5. NO CONSTRUCTION TRAFFIC SHALL ENTER OR CROSS ANY LOCALIZER OR GLIDE SLOPE CRITICAL AREA EXCEPT UPON AUTHORIZATION BY THE OWNER AND ATCT.
6. IN ORDER FOR THE CONTRACTOR TO OPERATE WITHIN THE AIR OPERATIONS AREA, APPROPRIATE NOTICES TO AIRMEN (NOTAMS) MUST BE ISSUED BY THE OWNER THROUGH THE FAA FLIGHT SERVICE STATION. THESE NOTICES PROVIDE INFORMATION ON CLOSED, LIMITED, OR HAZARDOUS CONDITIONS TO AIRMEN AND USERS OF THE AIRPORT. A 72-HOUR NOTICE IS REQUIRED FOR ISSUANCE OF THE NOTAM. ALL CONSTRUCTION OPERATIONS MUST BE CLOSELY COORDINATED WITH THE OWNER FOR NOTAM ISSUANCE.
7. AIRCRAFT OPERATIONS SHALL AT ALL TIMES HAVE PRIORITY OVER ALL VEHICLES, EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL EMPLOY STRICT MEASURES TO PREVENT ANY CONFLICT BETWEEN HIS PERSONNEL AND AIRCRAFT ON ANY ACTIVE AIRFIELD PAVEMENT. THE CONTRACTOR SHALL REMAIN CLEAR OF ACTIVE RUNWAYS AND TAXIWAYS.
8. ALL CONTRACTOR VEHICLES, INCLUDING HAULING VEHICLES, THAT ARE AUTHORIZED TO OPERATE WITHIN THE SECURITY FENCE ON THE AIRPORT WITHIN THE DESIGNATED LIMITS OF CONSTRUCTION OR HAUL ROUTES AS DEFINED HEREIN, SHALL DISPLAY IN FULL VIEW ABOVE THE VEHICLE A 3'x3' OR LARGER ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1' SQUARE. CONTRACTOR'S VEHICLES SHALL BE EQUIPPED WITH ROTATING OR FLASHING AMBER LIGHTS. HAULING VEHICLES NOT SO EQUIPPED SHALL BE ESCORTED BY A VEHICLE SO EQUIPPED.
9. CONTRACTOR SHALL CONTROL THE ON-AIRPORT MOVEMENT AND ACTIVITIES OF ITS EMPLOYEES AND SUBCONTRACTORS.
10. OPEN-FLAME WELDING OR TORCH-CUTTING OPERATIONS ARE PROHIBITED UNLESS ADEQUATE FIRE AND SAFETY PRECAUTIONS ARE PROVIDED AND HAVE BEEN APPROVED BY THE OWNER.
11. OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIALS AT THE CONSTRUCTION SITE SHALL BE PROMINENTLY MARKED WITH ORANGE FLAGS AND LIGHTED WITH FLASHING AMBER LIGHT UNITS (ACCEPTABLE TO THE OWNER) DURING HOURS OF RESTRICTED VISIBILITY OR DARKNESS.
12. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT AS A RESULT OF AIRCRAFT, WIND, AND/OR OTHER REASON.
13. ANY DAMAGE TO THE EXISTING AIRPORT LIGHTING SYSTEM CAUSED BY CONSTRUCTION OPERATIONS SHALL BE IMMEDIATELY NOTED TO THE OWNER AND REPAIRED BY THE CONTRACTOR AT ITS OWN EXPENSE.
14. CONTRACTOR GENERATED DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEAR, PROPELLERS AND ROTORS, OR OF BEING INGESTED BY JET ENGINES SHALL NOT BE LEFT ON ACTIVE AIRCRAFT MOVEMENT AREAS. MATERIAL DROPPING WITHIN THESE AREAS SHALL BE REMOVED IMMEDIATELY AND CONTINUOUSLY DURING WORKING HOURS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMING ALL PERSONS UNDER ITS CONTROL THAT UNAUTHORIZED CONSTRUCTION PERSONNEL FOUND IN RESTRICTED AREAS OF THE AIRPORT SHOWN ON THE SAFETY PLAN ARE SUBJECT TO ARREST FOR A PUNISHABLE FEDERAL OFFENSE AND WILL PROMPTLY AND PERMANENTLY BE REMOVED FROM THE JOB.
16. CONTRACTOR ACCESS GATES SHALL BE MANNED BY A CONTRACTOR SUPPLIED GATE GUARD OR REMAIN LOCKED AT ALL TIMES. APPROVED GATE GUARD SHALL CONTROL ACCESS TO ALLOW ONLY AUTHORIZED CONSTRUCTION TRAFFIC TO ENTER THE SITE.
17. CONTRACTOR SHALL PROVIDE TRAINED FLAGMEN TO COORDINATE AND CONTROL CONSTRUCTION TRAFFIC WHEN OPERATING ACROSS ANY ACTIVE TAXIWAY OR RUNWAY. FLAGMEN SHALL ALSO BE PROVIDED FOR CONTROLLING EQUIPMENT ENTERING AND LEAVING THE PROJECT AREA.
18. CONTRACTOR SHALL CONTROL AND ESCORT ALL CONSTRUCTION TRAFFIC ENTERING THE SECURED AREA OF THE AIRPORT TO PREVENT CONFLICTS WITH AIRCRAFT OPERATIONS. NO PRIVATE VEHICLES WILL BE ALLOWED ON THE AIRPORT, EXCEPT IN STAGING AREA.
19. SPECIAL ACCESS REQUIREMENTS AND OPERATING LIMITATIONS ARE REQUIRED INSIDE THE AOA FENCE. THE CONTRACTOR SHALL DELINEATE WORK LIMITS WITHIN THESE AREAS USING SAFETY FENCING. CONFINE MEN, EQUIPMENT AND MATERIALS OUTSIDE OF THE TAXIWAY OBJECT FREE AREA (TOFA) WHEN TAXIWAY IS ACTIVE.
20. THE CONTRACTOR SHALL HAVE ACCESS TO THE SECURED AREA OF THE AIRPORT ONLY AT THE LOCATION DESIGNATED ON THE PLANS OR APPROVED BY THE OWNER. ALL OTHER ACCESS SHALL BE BY SPECIAL REQUEST AND SUBJECT TO APPROVAL BY THE OWNER. THE CONTRACTOR SHALL PROVIDE FLAGMEN TO COORDINATE AND CONTROL CONSTRUCTION TRAFFIC WHEN OPERATING ACROSS ANY ACTIVE TAXIWAY OR APRON.
21. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN FLASHING LIGHTS AND BARRICADES ALONG TAXIWAY EDGES WHENEVER OPEN EXCAVATIONS OR IRREGULAR GRADES ARE LEFT WITHIN THE SAFETY AREA OF AN ACTIVE TAXIWAY OR WHERE TEMPORARY PAVEMENT CLOSURES OR AIRCRAFT LIMITATIONS ARE REQUIRED. BARRICADES SHALL BE PLACED IN A CONTINUOUS LINE OR AS NOTED ALONG THE AFFECTED PAVEMENT EDGE OR ACROSS THE PAVEMENT OF A CLOSED TAXIWAY. THE CONTRACTOR SHALL DAILY MAINTAIN THE LIGHTS AND BARRICADES IN AN OPERABLE CONDITION FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL FURNISH THE OWNER A CONTACT NUMBER FOR 24-HOUR MAINTENANCE OF LIGHTS AND BARRICADES.
22. THE CONTRACTOR SHALL PERFORM CONSTRUCTION OPERATIONS AS NECESSARY TO PREVENT ATTRACTION OF BIRDS CAUSED BY PONDED WATER AND GRASS SEED.
23. REFER TO THE GENERAL NOTES FOR REQUIREMENTS PERTAINING TO STORAGE OF CONSTRUCTION EQUIPMENT AND MATERIALS WHEN NOT IN USE.
24. THE CONTRACTOR SHALL COMPLY WITH ALL SECURITY REQUIREMENTS SPECIFIED HEREIN OR MANDATED BY FAA OR TSA. THE CONTRACTOR SHALL DESIGNATE IN WRITING TO THE OWNER THE NAME OF ITS "CONTRACTOR SECURITY OFFICER". THE CONTRACTOR SECURITY OFFICER SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS OF THE CONTRACT.
25. THE CONTRACTOR'S SECURITY OFFICER SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR PERSONNEL ON THESE REQUIREMENTS. CONTRACTOR EMPLOYEES WHO REQUIRE ACCESS TO THE SECURE AREA OF THE AIRPORT SHALL ATTEND THE OWNER'S SECURITY TRAINING SESSION AND SHALL BE BRIEFED ON THESE REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREAS.
26. ALL CONTRACTOR PERSONNEL WHO REQUIRE ACCESS TO THE SECURE AREA OF THE AIRPORT SHALL HAVE OWNER ISSUED IDENTIFICATION BADGES DISPLAYED AT ALL TIMES WHEN WORKING INSIDE THE AIRCRAFT OPERATIONS AREA. THE AIRPORT ID PROGRAM IS UNDER CONSTANT REVIEW BY THE FAA AND THE AUTHORITY AND ALL CONTEMPORARY REQUIREMENTS WILL GOVERN. THE CONTRACTOR SHALL ASSIGN THE CONTRACTOR SECURITY OFFICER DESCRIBED ABOVE AS THE SINGLE POINT CONTACT FOR ALL IDENTIFICATION BADGING REQUIREMENTS.
27. THE CONTRACTOR SHALL ACQUAINT ITS SUPERVISORS AND EMPLOYEES WITH THE AIRPORT ACTIVITIES AND OPERATIONS THAT ARE INHERENT AT THIS AIRPORT AND SHALL CONDUCT ITS CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND TO THE GUIDELINES ON SAFETY.
28. ITEMS FOR CONTROL OF SAFETY DURING CONSTRUCTION SUCH AS VEHICLE LIGHTING, ETC. SHALL BE PAID FOR AS DESCRIBED IN THE SPECIFICATIONS.
29. SEE SHEETS G06 - G08 FOR BARRICADE LOCATIONS.
30. SCHEDULING
    - 30.1. CONTRACTOR SHALL SUBMIT A ONE-MONTH AND FULL CONSTRUCTION SCHEDULE PRIOR TO NTP AND WITH EVERY PAY APPLICATION.
    - 30.2. CONTRACTOR SHALL SUBMIT A TWO-WEEK LOOK AHEAD SCHEDULE BY FRIDAY AT 5 PM THE WEEK BEFORE.
31. CONTRACTOR SHALL COMPLY WITH FAA AC 150/5210-5D "PAINTING, MARKING, AND LIGHTING OF VEHICLES USED ON AN AIRPORT".
32. TAXIWAY EDGE LIGHTS FOR CLOSED SEGMENTS MUST BE COVERED WITH A PVC SLEEVE OR BE TURNED OFF.



NOTES:

1. BARRICADES SHALL BE PLACED AS SHOWN IN THE PHASING PLAN SHEETS TO DELINEATE THE CONTRACTOR'S WORK AREAS.
2. BARRICADE SECTIONS CAN BE WHITE OR ORANGE WITH ORANGE RETRO REFLECTIVE MARKING OR STICKERS. BARRICADES WILL BE LIGHTED AND FLAGGED. ALL INCIDENTAL CONNECTORS, SPACERS, SPLICE PLATES, ETC., SHALL BE PAINTED ORANGE.
3. ALL BARRICADES SHALL BE CHECKED VISUALLY FOR SIGNS OF WEAR AND TEAR ON A WEEKLY BASIS AND SHALL BE REPAINTED WHEN DEEMED APPROPRIATE BY THE ENGINEER. THE CONDITIONS OF LIGHTING UNITS SHALL BE CHECKED DAILY. ALL LIGHT FIXTURES SHALL BE VERIFIED OPERATING BY THE CONTRACTOR ON A DAILY BASIS BEFORE THE CONTRACTOR CEASES OPERATION FOR THE DAY. THE AREAS AROUND ALL BARRICADES SHALL BE CLEANED AS DIRECTED IN THE GENERAL NOTES AND THE SAFETY NOTES.
4. ALTERNATE FORMS OF BARRICADES MAY BE PROPOSED BY THE CONTRACTOR WHICH MEET THESE FUNCTIONAL REQUIREMENTS. APPROVALS OF ANY SUCH SUBSTITUTION (IF GRANTED) SHALL BE BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. THE FINAL LOCATION FOR THE BARRICADES SHALL BE ESTABLISHED IN THE FIELD WITH CONCURRENCE FROM THE OWNER.
6. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, RELOCATE AND REMOVE ALL BARRICADES. ALL WORK SHALL BE INCIDENTAL TO MAINTENANCE OF TRAFFIC IN THE A.O.A.
7. THE CONTRACTOR SHALL MAINTAIN DAILY THE LIGHTS AND THE BARRICADES IN OPERABLE CONDITION. THE CONTRACTOR SHALL HAVE REPLACEMENT LIGHTS AND BATTERIES ON SITE AND SHALL REPLACE LIGHTS AND/OR BATTERIES WITHIN ONE HOUR OF NOTIFICATION BY THE ENGINEER OR AIRPORT PERSONNEL.
8. FLASHING LIGHTS SHALL BE PLACED AT THE ENDS AND AT CORNERS OF EACH LINE OF BARRICADES. ALL OTHER LIGHTS ON BARRICADES SHALL BE STEADY-BURN.
9. FOR EXCLUDING AIRCRAFT ACCESS, BARRICADE SPACING SHALL BE 4' END TO END. FOR EXCLUDING PEDESTRIAN AND CONSTRUCTION STAFF, BARRICADE SPACING SHALL BE INTERLOCKED.
10. BARRICADES SHALL BE PROVIDED WITH FLASHING RED LIGHTS AND WEIGHTED TO PREVENT MOVEMENT FROM JET BLAST OR PROP WASH. BARRICADES SHALL MEET FAA AC 150/5370-2G GUIDELINES AND BE WEIGHTED AT A MINIMUM 32.5 LBS/LF

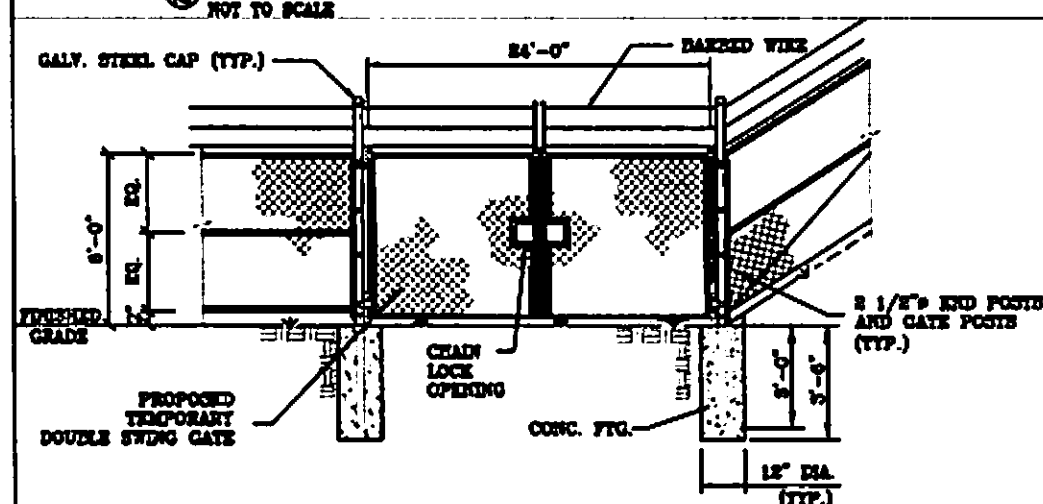
① LOW PROFILE AIRFIELD BARRICADE DETAIL
NOT TO SCALE



NOTES:

1. BARBED WIRE IS TO BE PROVIDED WHERE THE SECURITY FENCE IS OUTSIDE THE AOA.

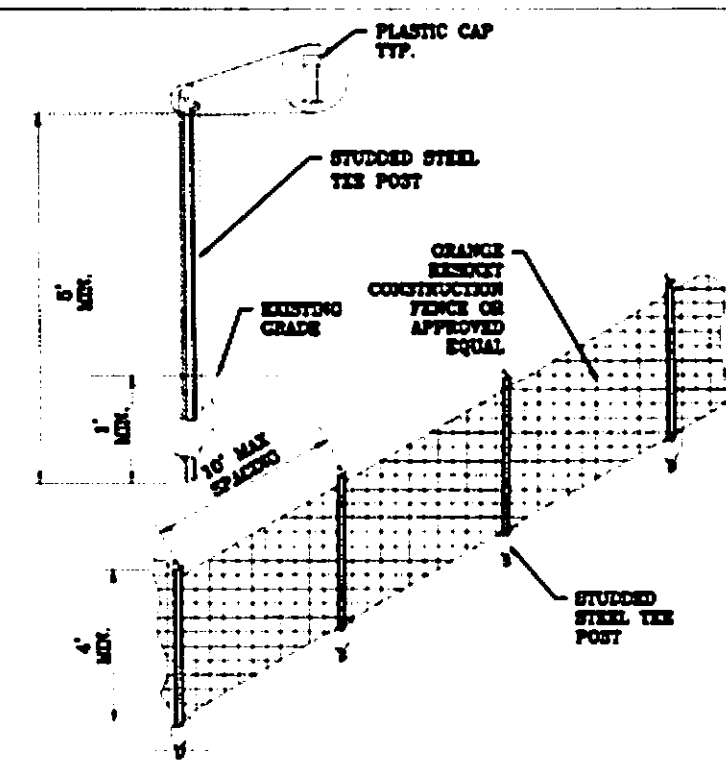
② TEMPORARY SECURITY FENCE DETAIL
NOT TO SCALE



TEMPORARY ACCESS DOUBLE SWING GATE NOTES:

1. TEMPORARY GATES TO BE REMOVED AFTER CONSTRUCTION IS COMPLETE. CONTRACTOR TO RE-INSTALL ORIGINAL GATES AFTER CONSTRUCTION IS COMPLETED.
2. TEMPORARY GATE DETAIL SHOWS MAX WIDTH. CONTRACTOR TO MEASURE ACTUAL DIMENSIONS IN FIELD PRIOR TO FABRICATION.

③ TEMPORARY ACCESS DOUBLE SWING GATE DETAIL
NOT TO SCALE



CONSTRUCTION FENCE INSTALLATION NOTES:

1. SEE PLAN VIEW FOR:
   - LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH METAL POSTS. SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POST SHALL BE 10'
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES:

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

④ CONSTRUCTION SAFETY FENCE
NOT TO SCALE

BID DOCUMENTS

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T. 954.535.1576 F. 954.233.4853
CA# 4213

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CKD	DESCRIPTION

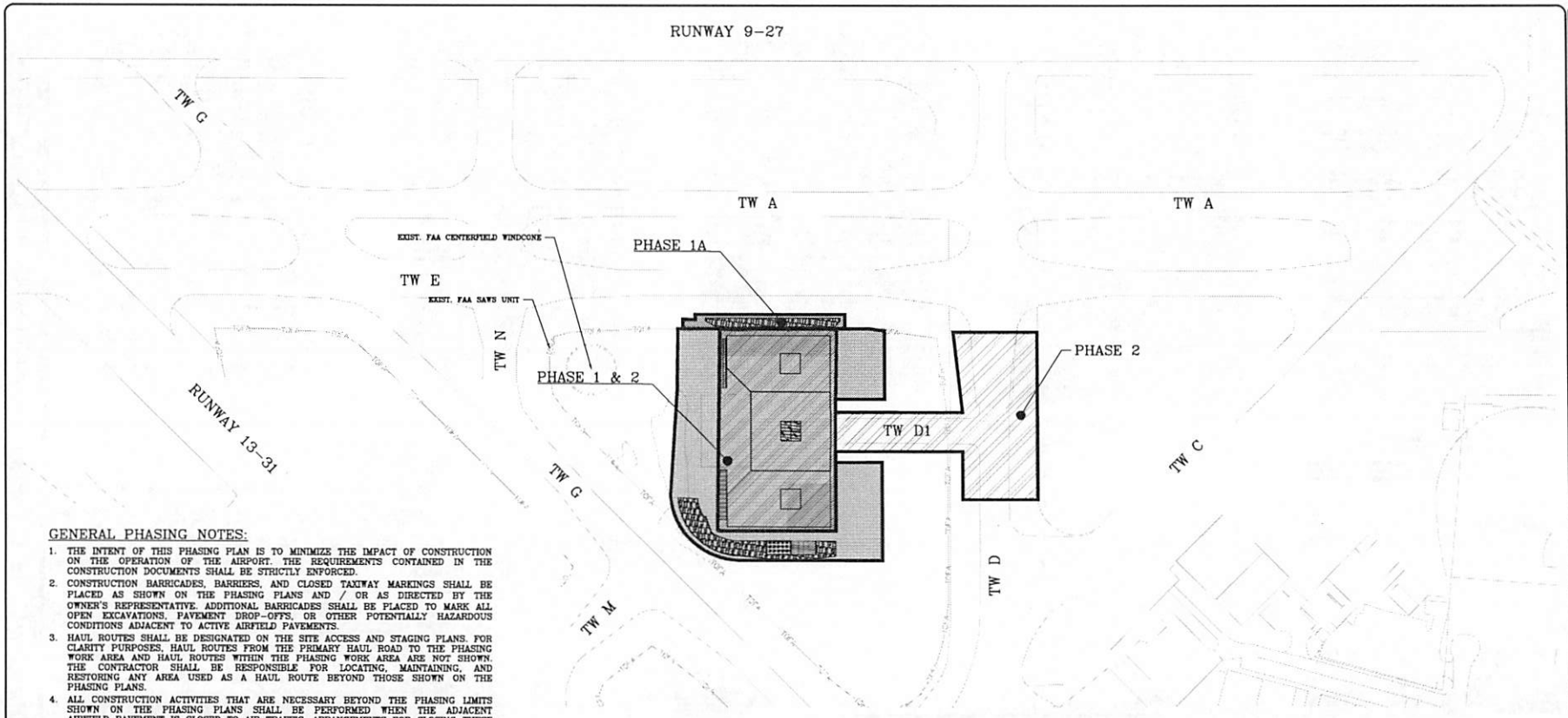
DRAWN BY: MI	DATE: 11/08/21
DESIGNED BY: CO	SCALE: AS NOTED
CHECKED BY: WB	
FIELD BOOK:	

ENGINEER: CODY T. PAREAN
REG. No 75904
SEAL 11/08/21
TEL: (561) 889-0641
FAX: (954) 233-4853

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SAFETY NOTES AND DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. G05
TOTAL: 36
CAD FILE: 12474-G05-DETL
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070983\12474-G05-DETL.DWG
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



GENERAL PHASING NOTES:

1. THE INTENT OF THIS PHASING PLAN IS TO MINIMIZE THE IMPACT OF CONSTRUCTION ON THE OPERATION OF THE AIRPORT. THE REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS SHALL BE STRICTLY ENFORCED.
2. CONSTRUCTION BARRICADES, BARRIERS, AND CLOSED TAXIWAY MARKINGS SHALL BE PLACED AS SHOWN ON THE PHASING PLANS AND / OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ADDITIONAL BARRICADES SHALL BE PLACED TO MARK ALL OPEN EXCAVATIONS, PAVEMENT DROP-OFFS, OR OTHER POTENTIALLY HAZARDOUS CONDITIONS ADJACENT TO ACTIVE AIRFIELD PAVEMENTS.
3. HAUL ROUTES SHALL BE DESIGNATED ON THE SITE ACCESS AND STAGING PLANS. FOR CLARITY PURPOSES, HAUL ROUTES FROM THE PRIMARY HAUL ROAD TO THE PHASING WORK AREA AND HAUL ROUTES WITHIN THE PHASING WORK AREA ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND RESTORING ANY AREA USED AS A HAUL ROUTE BEYOND THOSE SHOWN ON THE PHASING PLANS.
4. ALL CONSTRUCTION ACTIVITIES THAT ARE NECESSARY BEYOND THE PHASING LIMITS SHOWN ON THE PHASING PLANS SHALL BE PERFORMED WHEN THE ADJACENT AIRFIELD PAVEMENT IS CLOSED TO AIR TRAFFIC. ARRANGEMENTS FOR CLOSING THESE PAVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE CSPP. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REFUSE CONTRACTOR'S REQUEST TO WORK OUTSIDE OF THE DESIGNATED WORK ZONE LIMITS.
5. NO CHANGE IN THE PHASING PLAN SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE.
6. FOURTEEN (14) CALENDAR DAYS PRIOR TO THE START OF EACH PHASE OR SUB-PHASE, THE CONTRACTOR SHALL SUBMIT, IN WRITING, A DETAILED WORK PLAN FOR THAT PHASE OR SUB-PHASE. THE PLAN SHALL DETAIL THE DURATIONS OF ALL WORK ITEMS NECESSARY TO COMPLETE THE PHASE OR SUB-PHASE. ALL ITEMS SHALL BE RESOURCE LOADED TO IDENTIFY MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO ACCOMPLISH EACH ITEM. THE PLAN SHALL PRESENT THE SEQUENCING OF ITEMS IN RELATIONSHIP TO ONE ANOTHER TO DEMONSTRATE A CLEAR PATH FOR COMPLETION OF THE PHASE OR SUB-PHASE WITHIN THE SPECIFIED CONTRACTUAL TIME FRAME.
7. THE CONTRACTOR MAY NOT BREACH THE SECURITY FENCE, EXCEPT FOR THOSE AREAS DESIGNATED ON THE PLANS, FOR ANY REASON UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER'S REPRESENTATIVE.
8. PRIOR TO OPENING NEW AIRFIELD FEATURE OR REOPENING RECONSTRUCTED FEATURES, THE ASSOCIATED AIRFIELD GUIDANCE SIGNS SHALL BE INSTALLED AND OPERATIONAL. ANY SIGNAGE LEGEND ASSOCIATED WITH AIRFIELD FEATURES NOT AVAILABLE TO AIRCRAFT SHALL BE COVERED/OBSCURED FROM THE PILOTS' VISION IN ACCORDANCE WITH THE SPECIFICATIONS. PRIOR TO OPENING AND AFTER INSPECTION BY THE OWNER'S REPRESENTATIVE, REMOVE SIGNAGE COVERING.
9. WORK HOURS ARE AS SPECIFIED IN THE PHASING PLANS.
10. CONTRACTOR SHALL HAVE ACCESS TO STAGING AREA 24 HOURS 7 DAYS A WEEK. CONTRACTOR SHALL NOTIFY AIRPORT OPERATIONS TWO WEEKS IN ADVANCE FOR A REQUEST FOR WORK TO BE CONDUCTED OUTSIDE OF WORK HOURS.
11. CONTRACTOR SHALL NOT USE THE STOCKPILE AREA TO STORE EXCAVATED MATERIALS FROM THE CONSTRUCTION SITE. CONTRACTOR SHALL IMMEDIATELY TAKE THE EXCAVATED MATERIAL OFF SITE AND DISPOSE OF IT IN A LEGAL MANNER. STAGING AREA SHALL ONLY BE USED TO STORE NEW MATERIAL FOR THE PROPOSED SCOPE OF WORK.
12. AT THE END OF EACH WORKING DAY, CONTRACTOR MUST FULLY DEMOBILIZE ITS MEN AND MATERIALS FROM THE PHASING WORK AREA AND RESTORE ANY EXCAVATIONS AND PROTRUSIONS ADJACENT TSA TO A SMOOTH SURFACE.
13. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.

PHASING CONSTRUCTION ACTIVITY SUMMARY:

PHASE 1
1. REHABILITATION OF THE EXISTING RUNUP APRON PAD
2. PAVEMENT DEMOLITION
3. EXTENSION OF THE RUNUP AREA APRON PAD
4. GRADING OF STORMWATER RETENTION BASINS
5. GRADING OF JET BLAST DEFLECTION BERMS
6. CONSTRUCTION OF JET BLAST FENCES AND FOUNDATION
7. INSTALLATION OF PERMANENT EROSION CONTROL
8. APPLICATION OF TEMPORARY MARKINGS

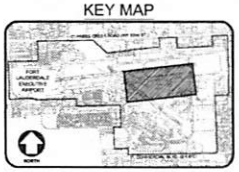
PHASE 1A
1. EARTHWORK LOCATED WITHIN THE TAXIWAY E TOFA
2. INSTALLATION OF PERMANENT EROSION CONTROL

PHASE 2
1. SURFACE PREPARATION FOR MARKING LAYOUT.
2. APPLICATION OF TEMPORARY MARKINGS
3. APPLICATION OF PERMANENT MARKINGS AFTER ASPHALT CURE PERIOD
4. REFRESH PAVEMENT MARKINGS ON TWY D1.

MAJOR MILESTONE BY SEQUENCE OF CONSTRUCTION PHASES

CONSTRUCTION SCHEDULE			
CONSTRUCTION PHASE	START	DURATION	WORK HOURS
MOBILIZATION, SPCD, SUBMITTALS, NOTAMS, PERMITTING, MATERIAL ORDERS	CONTRACT NOTICE TO PROCEED (NTP)	60 CALENDAR DAYS	
STAGING AREA AND ACCESS ROUTE	CONSTRUCITON NTP AND MOBILIZATION	7 CALENDAR DAYS	0700-1600, MONDAY-FRIDAY
1	STAGING AREA AND ACCESS ROUTE	160 CALENDAR DAYS	0700-1600, MONDAY-FRIDAY
1A	CONCURRENT WITH PHASE 1	22 CONTIGUOUS CALENDAR DAYS WHOLLY WITHIN PHASE 1	0700-1600, MONDAY-FRIDAY
2	PHASE 1 COMPLETION	7 CALENDAR DAYS	0700-1600, MONDAY-FRIDAY
PUNCHLIST AND CLOSEOUT	PHASE 2 COMPLETION	30 CALENDAR DAYS	PHASE 2 COMPLETION
SITE RESTORATION	PHASE 2 COMPLETION	14 CALENDAR DAYS	PHASE 2 COMPLETION

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
OVERALL PHASING PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G06
TOTAL: 36
CAD FILE: 12474-MULTI-PHAS
DRAWING FILE NO. 4-142-90

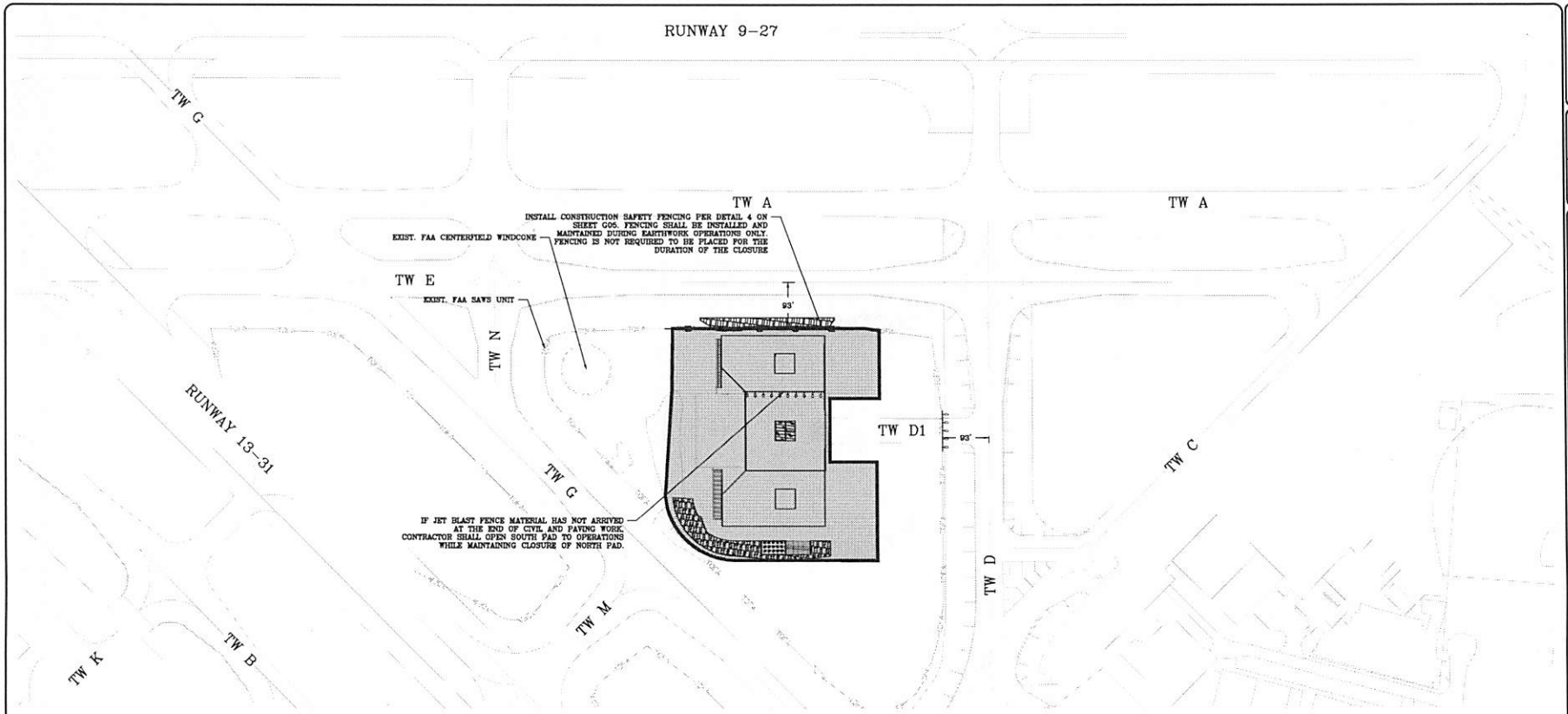
DESIGNED CODY T. PARHAM REG. No 75004 DATE 11/09/21
TEL: (561) 209-6641 FAX: (954) 233-1888

DRAWN BY: LK DATE: 11/09/21
DESIGNED BY: RD SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION



PHASE 1 AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13–31	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9–27	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	●		
TWY C	●		
TWY D	●		
TWY E	●		
TWY G	●		
TWY M	●		
MIDFIELD RUN UP RAMP/ TWY D1		●	WORK AREA TO REMAIN CLOSED DURING NON–WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAs AND ROFAs. CONTRACTOR SHALL REOPEN THE SOUTH PAD FOR AIRPORT OPERATIONS IF THE CIVIL, PAVING, AND SOIL STABILIZATION WORK HAS BEEN COMPLETED AND THE JET BLAST FENCE MATERIAL HAS NOT ARRIVED. ONCE JET BLAST FENCE MATERIAL ARRIVES ON SITE, CONTRACTOR SHALL COORDINATE WITH AIRPORT OPERATIONS FOR CLOSURE OF THE WORK AREA PRIOR TO INSTALLING THE BARRICADES AND COMMENCING WITH THE JET BLAST FENCE INSTALLATION.

● = STATUS CHANGE

● = STATUS CARRYOVER

PHASE 1 NOTES:

1. CONSTRUCTION EQUIPMENT AND MATERIALS STORAGE PERMITTED WITHIN WORK AREA, OUTSIDE OF ADJACENT ACTIVE TAXIWAY OBJECT FREE AREAS.
2. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.
3. CONTRACTOR SHALL REFRESH TAXIWAY PAVEMENT MARKINGS DURING CONSTRUCTION ALONG HAUL ROADS AS REQUIRED BY THE OWNER IF THEY ARE WORN DOWN BY CONSTRUCTION TRAFFIC AND SWEEPER TRUCK BRUSHING.
4. CONTRACTOR SHALL APPLY TEMPORARY MARKINGS AND REOPEN THE SOUTH PAD FOR AIRCRAFT OPERATIONS IF JET BLAST FENCE MATERIAL HAS NOT BEEN DELIVERED ON SITE AT THE COMPLETION OF THE CIVIL, PAVING, AND SOIL STABILIZATION WORK.

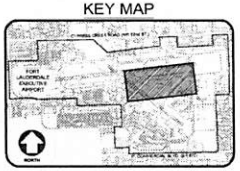
PHASE 1 DURATION:

- 160 CALENDAR DAYS

PHASE 1 CONSTRUCTION ACTIVITY (MON–FRI 0700–1600)

1. INSTALL MAINTENANCE OF TRAFFIC.
2. INSTALL TEMPORARY SWPPP.
3. PERFORM CLEARING AND GRUBBING AND EXCAVATION.
4. MILL AND DEMOLISH EXISTING ASPHALT PAVEMENT.
5. CONSTRUCT EMBANKMENT, SUBGRADE, SUBBASE, AND BASE COURSE.
6. CONSTRUCT JET BLAST FENCE AND FOUNDATION.
7. PAVE ASPHALT AND CONCRETE PAVEMENT SURFACE.
8. SURFACE PREPARATION FOR TEMPORARY MARKINGS (REQUIRED IF THE SOUTH PAD IS REQUIRED TO BE OPEN WHILE JET BLAST FENCE IS BEING DELIVERED).
9. INSTALL TEMPORARY MARKINGS (REQUIRED IF THE SOUTH PAD IS REQUIRED TO BE OPEN WHILE JET BLAST FENCE IS BEING DELIVERED).
10. REMOVE TEMPORARY SWPPP MEASURES AND INSTALL PERMANENT MEASURES.
11. REMOVE MAINTENANCE OF TRAFFIC.

KEY MAP



LEGEND

PHASE 1 WORK AREA

LOW PROFILE BARRICADE

0 100' 200'

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD. SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

ENGINEER
CODY T. PARHAM
REG. No: 75004
DATE: 11/09/21
TEL: (561) 209-6541
FAX: (954) 233-4953

DRAWN BY: MI
DATE: 11/09/21
DESIGNED BY: RD
SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 1
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G07

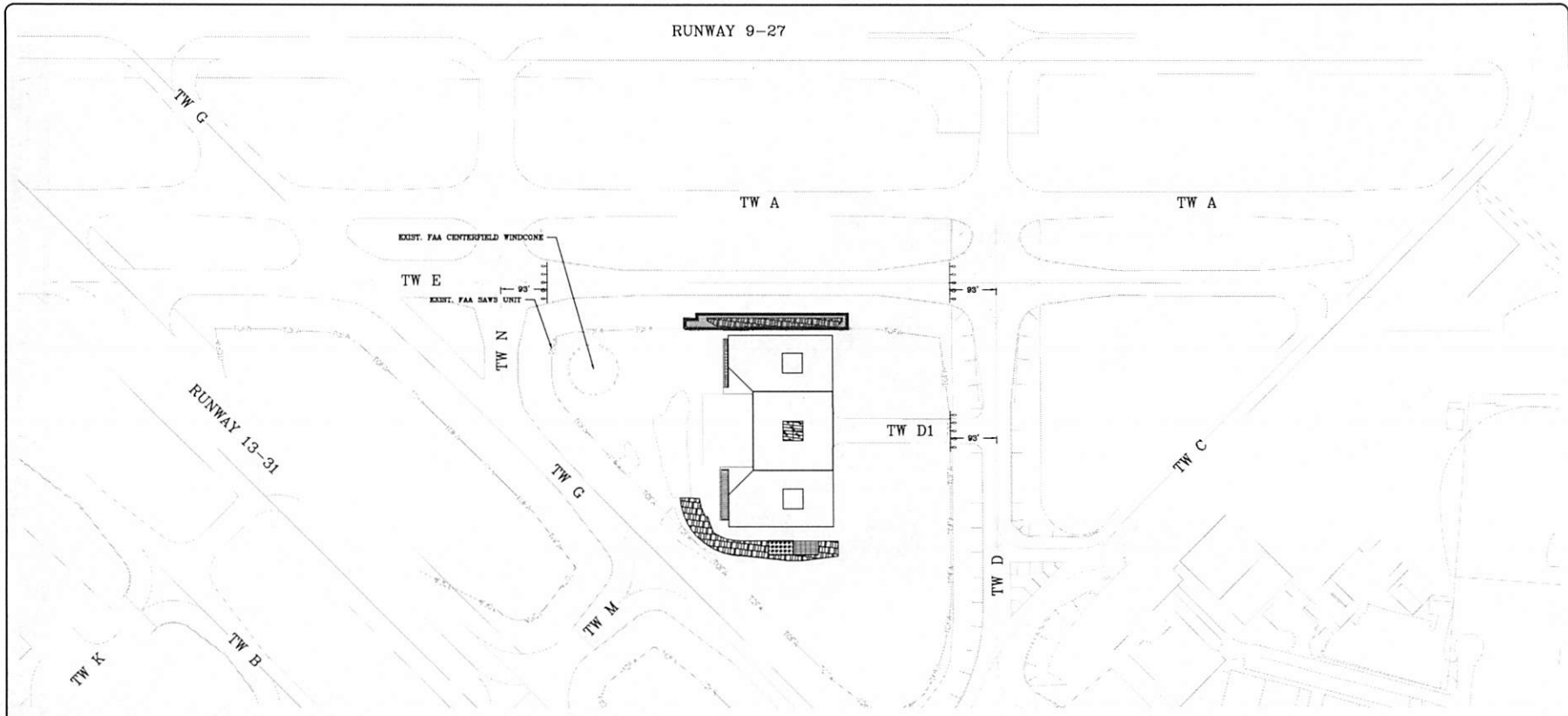
TOTAL: 36

CAD FILE:
12474–MULTI–PHAS

DRAWING FILE NO.
4–142–90

C:\PWWORKING\EAST01\D2070963\12474–MULTI–PHAS.DWG

7/11/2022 7:32 AM Thursday, November 11, 2021 IGNACIO, MIRON EVANS



PHASE 1A AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13-31	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9-27	●		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	●		
TWY C	●		
TWY D	●		
TWY E		●	BETWEEN TAXIWAY N AND TAXIWAY D. SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAS AND ROFAS.
TWY G	●		
TWY M	●		
MIDFIELD RUN UP RAMP/ TWY D1		●	SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS. EQUIPMENT PARKING AND MATERIAL STOCKPILING ALLOWED OUTSIDE ADJACENT ACTIVE TOFAs AND ROFAs

● = STATUS CHANGE

● = STATUS CARRYOVER

PHASE 1A NOTES:

1. CONSTRUCTION EQUIPMENT STORAGE PERMITTED WITHIN WORK AREA, OUTSIDE OF ADJACENT ACTIVE TAXIWAY OBJECT FREE AREAS.
2. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAY.
3. CONTRACTOR SHALL REFRESH TAXIWAY PAVEMENT MARKINGS DURING CONSTRUCTION ALONG HAUL ROADS AS REQUIRED BY THE OWNER IF THEY ARE WORN DOWN BY CONSTRUCTION TRAFFIC AND SWEEPER TRUCK BRUSHING

PHASE 1A DURATION:

22 CONTINUOUS CALENDAR DAYS WHOLLY WITHIN PHASE 1. CONTRACTOR SHALL REQUEST OWNER PERMISSION TO BEHIN WORK IN PHASE 1A AT LEAST TWO WEEKS PRIOR TO START OF THIS PHASE.

PHASE 1A CONSTRUCTION ACTIVITY (MON-FRI 0700-1600)

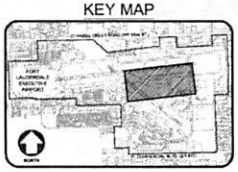
1. INSTALL MAINTENANCE OF TRAFFIC.
2. INSTALL TEMPORARY SWPPP.
3. PERFORM CLEARING AND GRUBBING AND EXCAVATION.
4. CONSTRUCT EMBANKMENT WITHIN THE TAXIWAY E TOFA.
5. REMOVE TEMPORARY SWPPP MEASURES AND INSTALL PERMANENT MEASURES.
6. REMOVE MAINTENANCE OF TRAFFIC.

LEGEND

PHASE 1A WORK AREA

LOW PROFILE BARRICADE

KEY MAP



0 100' 200'

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F: 954.233.4953
CA# 4213

BID DOCUMENTS

ENGINEER: CODY T. PARHAM
REG. No: 73904
DATE: 11/09/21
TEL: (561) 209-6641
FAX: (954) 233-4953

DRAWN BY: MI
DATE: 11/09/21
DESIGNED BY: RD
SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 1A
6000 NW 21ST AVE, FORT LAUDERDALE, FL

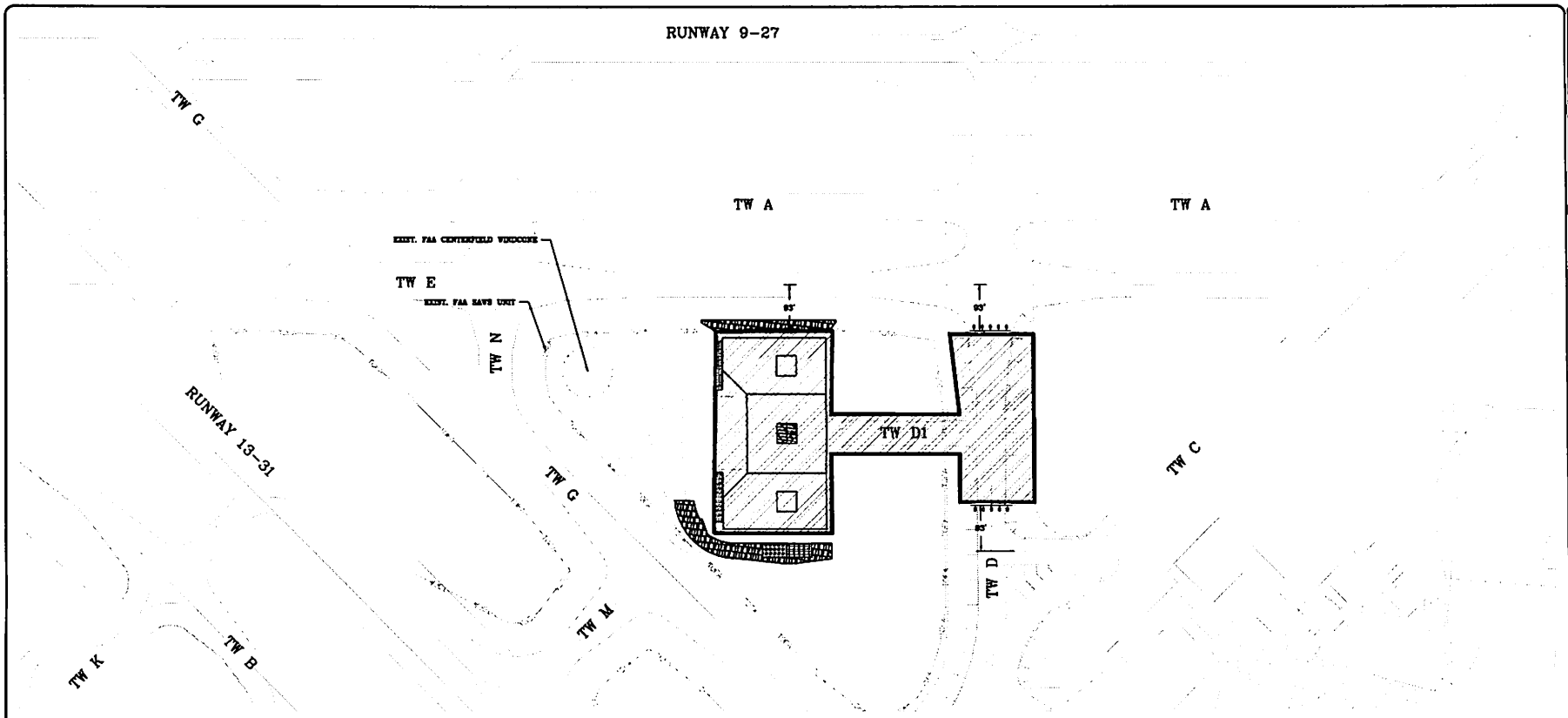
SHEET NO. G08

TOTAL: 36

CAD FILE: 12474-MULTI-PHAS

DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-MULTI-PHAS.DWG



PHASE 2 AIRFIELD NETWORK STATUS			
SEGMENT	OPEN	CLOSED	NOTES
RWY 13-31	ⓞ		RUNWAY TO REMAIN OPEN AT ALL TIMES
RWY 9-27	ⓞ		RUNWAY TO REMAIN OPEN AT ALL TIMES
TWY A	ⓞ		
TWY C	ⓞ		
TWY D		●	SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS FOR PAINT CURING ONLY. SEGMENT TO BE OPENED AS SOON AS THE RPR DEEMS THE PREVIOUS NIGHT'S WORK TO BE CURED. EQUIPMENT PARKING AND MATERIAL STOCKPILING ARE NOT ALLOWED WITHIN THIS SEGMENT DURING NON-WORKING HOURS.
TWY E	●		
TWY G	ⓞ		
TWY M	ⓞ		
MIDFIELD RUN UP RAMP/ TWY D1		●	SEGMENT TO REMAIN CLOSED DURING NON-WORKING HOURS FOR PAINT CURING ONLY. SEGMENTS TO BE OPENED AS SOON AS THE RPR DEEMS THE PREVIOUS NIGHT'S WORK TO BE CURED. EQUIPMENT PARKING AND MATERIAL STOCKPILING ARE NOT ALLOWED WITHIN THIS SEGMENT DURING NON-WORKING HOURS.

● = STATUS CHANGE

ⓞ = STATUS CARRYOVER

PHASE 2 NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE AIRPORT ON THE CLOSURE OF THE WORK AREA PRIOR TO MOBILIZING.

PHASE 2 DURATION:

- 7 CALENDAR DAYS

PHASE 2 CONSTRUCTION ACTIVITY (MON-FRI 2200 - 0700)

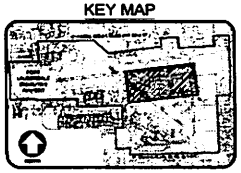
1. INSTALL BARRICADES.
2. APPLICATION OF PERMANENT MARKINGS AFTER ASPHALT CURE PERIOD.
3. REFRESH PAVEMENT MARKINGS ON TWY D1.

LEGEND

PHASE 2 WORK AREA

LOW PROFILE BARRICADE

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811
Know what's below. Call before you dig.
Sunshine State One Call of Florida, Inc.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.535.1676 F 954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PHASING PLAN 2
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
G09
TOTAL: 36
CAD FILE: 12474-MULTI-PHAS
DRAWING FILE NO. 4-142-90

REVISIONS

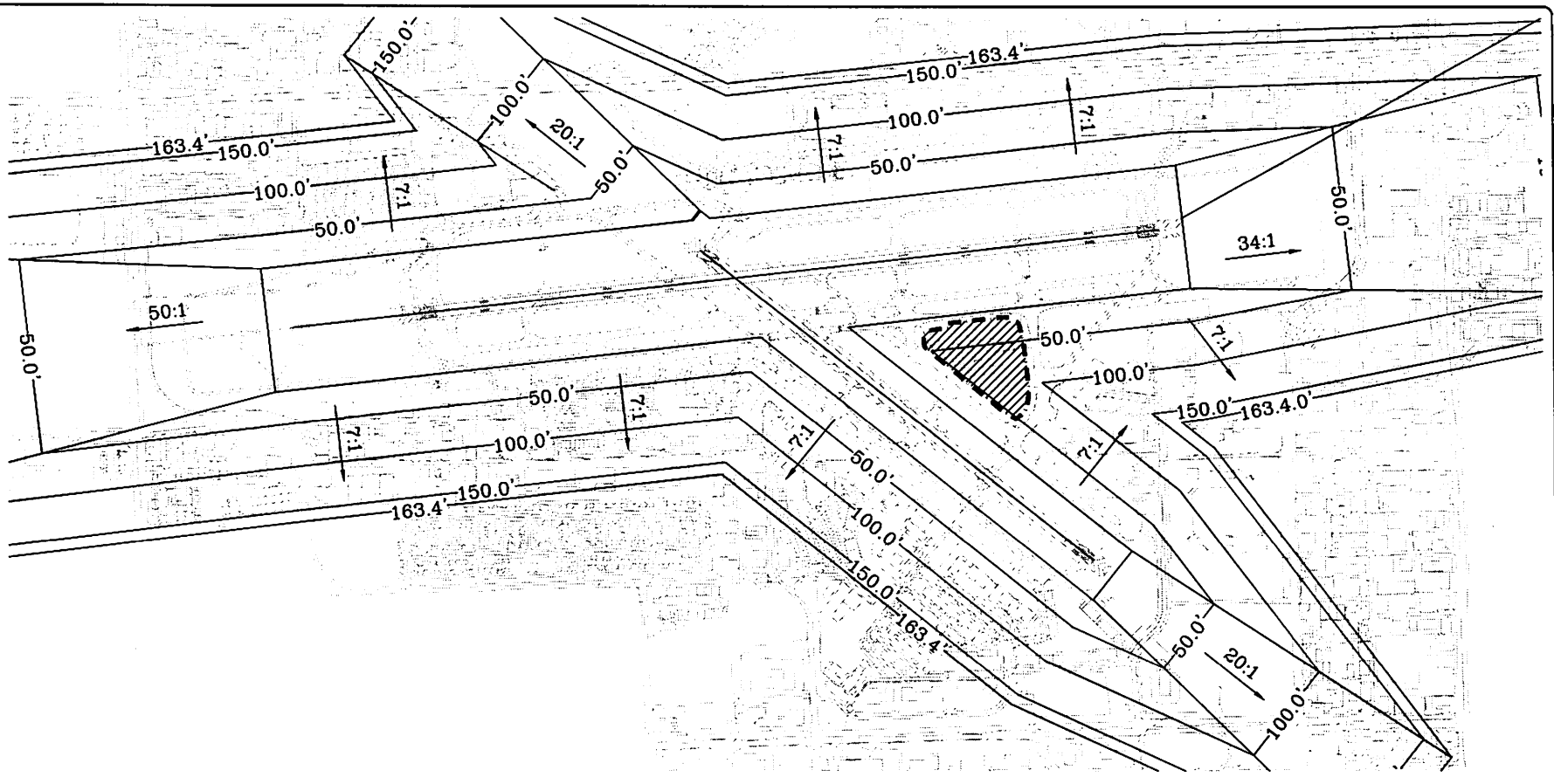
NO.	DATE	BY	DESCRIPTION

DESIGNED: SCOTT T. FARZAM, ENG. No 70994, DATE 11/09/21
DRAWN BY: M | DATE: 11/09/21
DESIGNED BY: FO | SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

C:\PWWORKING\JASTO1\D2070RAS\12474-MULTI-PHAS.DWG

Thursday, November 11, 2021 IGNACIO, MIRON EVANS



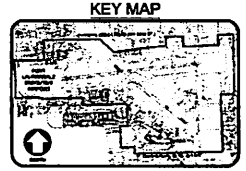
LEGEND

PROJECT BOUNDARY AREA

AIRSPACE PLAN NOTES:

1. THE PART 77 SURFACE SHOWN INDICATES THE MAXIMUM HEIGHT OF ANY EQUIPMENT OR MATERIAL IN A GIVEN AREA WHEN ALL RUNWAYS ARE OPEN.
2. FOR PERMANENT OBSTRUCTIONS (EQUIPMENT NOT IN USE, STOCKPILES, BOOMS, ETC.) SHALL BE SUBJECT TO PART 77 RESTRICTIONS.
3. ANY BOOMS AND CONSTRUCTION EQUIPMENT SHALL BE LOWERED TO THE RESPECTIVE EQUIPMENT MINIMUM HEIGHT WHEN NOT IN USE AND/OR AT THE END OF EACH WORK SHIFT. NOT IN USE IS DEFINED AS NO OPERATOR BEING AVAILABLE TO MOVE A PARTICULAR PIECE OF EQUIPMENT FOR 15 MINUTES OR MORE.
4. THE MAXIMUM ELEVATIONS FOR CONSTRUCTION EQUIPMENT ARE INDICATED FOR THE CONTRACTOR AND REFERS TO ALL CONSTRUCTION EQUIPMENT.
5. CONTRACTOR SHALL NOTIFY THE AIRPORT 7 DAYS PRIOR TO USING ANY EQUIPMENT OVER 50 FEET IN HEIGHT FOR COORDINATION WITH FXE OPERATIONS AND AIR TRAFFIC CONTROL.
6. STOCKPILES TO BE LOCATED WITHIN THE DESIGNATED CONTRACTOR STOCKPILE AREAS ONLY.
7. CONTRACTOR SHALL NOT ENTER ANY TAXIWAY OBJECT FREE AREA, RUNWAY SAFETY AREA, OR ANY MOVEMENT AREA WITHOUT PRIOR APPROVAL FROM THE OWNER AND AIR TRAFFIC CONTROL.

KEY MAP



CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3230 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T: 954.535.1576 F: 954.233.4953
CAF 4213

BID DOCUMENTS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

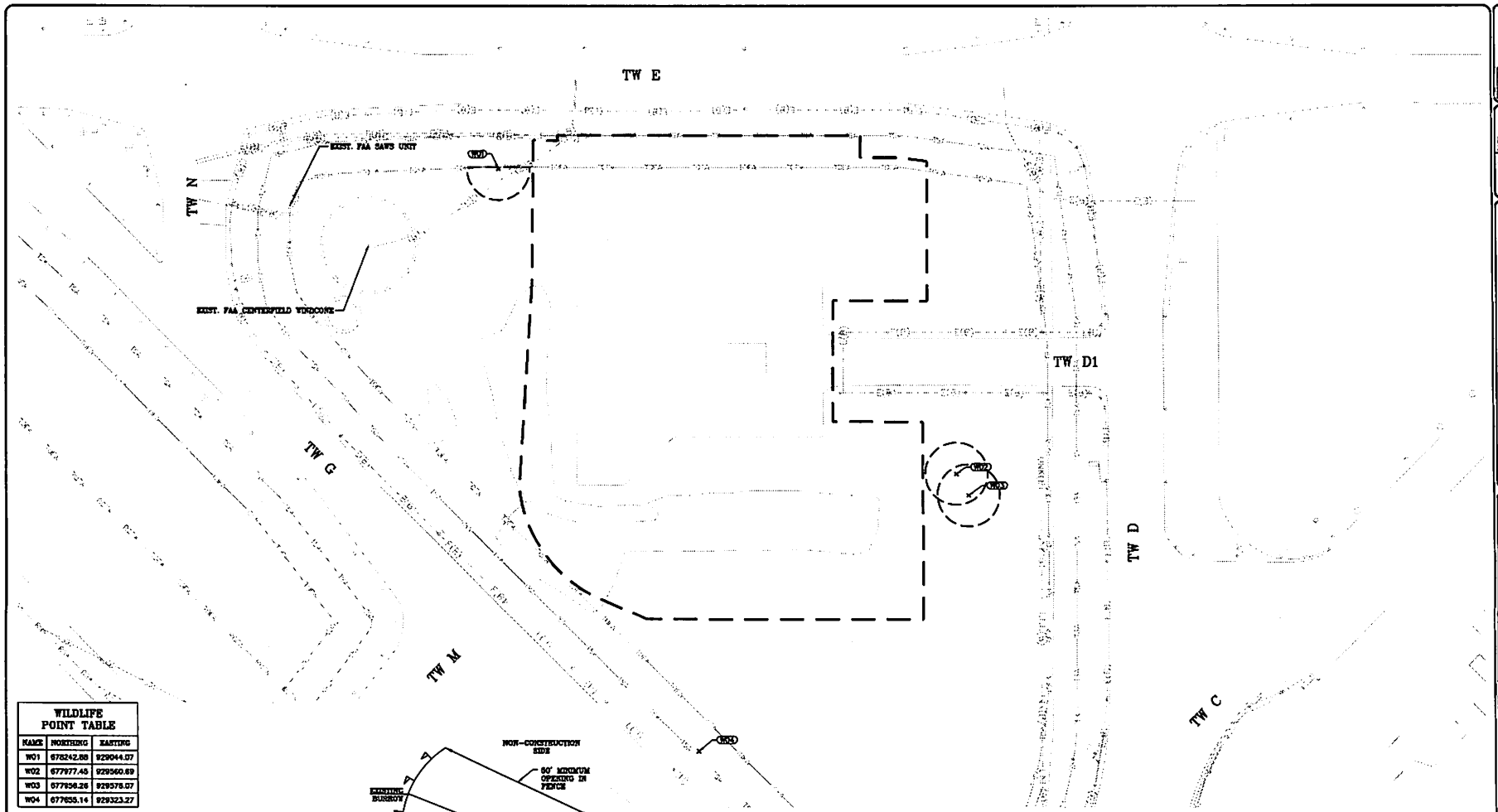
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
AIRSPACE PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. G10
TOTAL: 36
CAD FILE: 12474-G10-CTRL
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-G10-CTRL.DWG

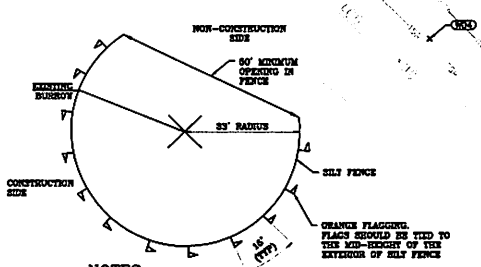
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



WILDLIFE POINT TABLE		
NAME	NORTHING	EASTING
W01	678242.88	929044.07
W02	677977.45	929560.69
W03	677656.26	929578.07
W04	677655.14	929323.27

LEGEND

- EXISTING BURROW
- PROJECT LIMITS
- 33' BUFFER ZONE (SEE DETAIL 1)

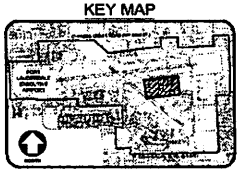


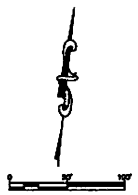
NOTES:

1. BURROW PROTECTION MEASUREMENT AND PAYMENT PER SPECIFICATION S-102-5.2
2. ANTICIPATED LOCATIONS OF BURROWS REQUIRING PROTECTION ARE DEPICTED ON THIS SHEET. RFP TO CONFIRM THE LOCATIONS OF PROTECTED BURROWS PRIOR TO CONTRACTOR'S MOBILIZATION INTO EACH PHASE WORK AREA.

1 WILDLIFE BURROW PROTECTION DETAIL
N.T.S.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3240 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

DESIGNED	DRAWN BY:	CHECKED BY:
CODY T. FARNUM	M	MB
REG. No. 79904	DATE: 11/09/21	
DATE 11/09/21	DESIGNED BY: RO	CHECKED BY: MB
	SCALE: AS NOTED	
	FIELD BOOK:	

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

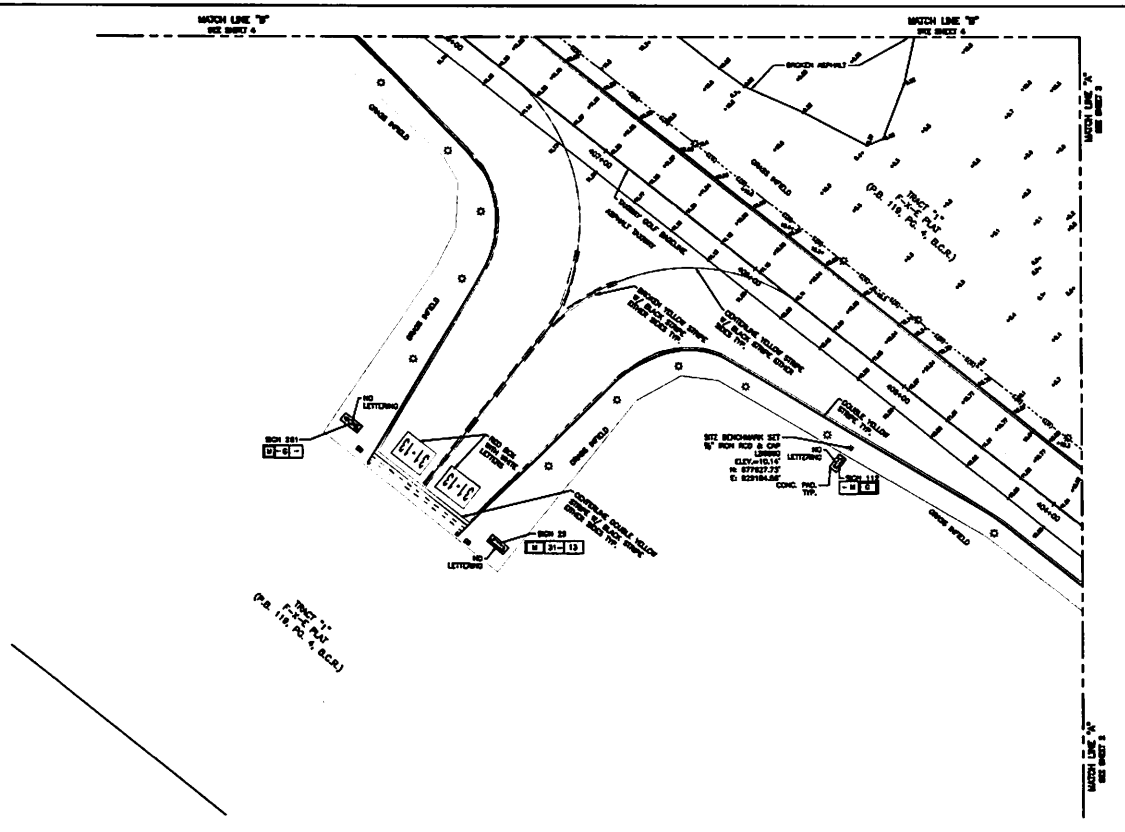
REVISIONS			
NO.	DATE	BY	DESCRIPTION

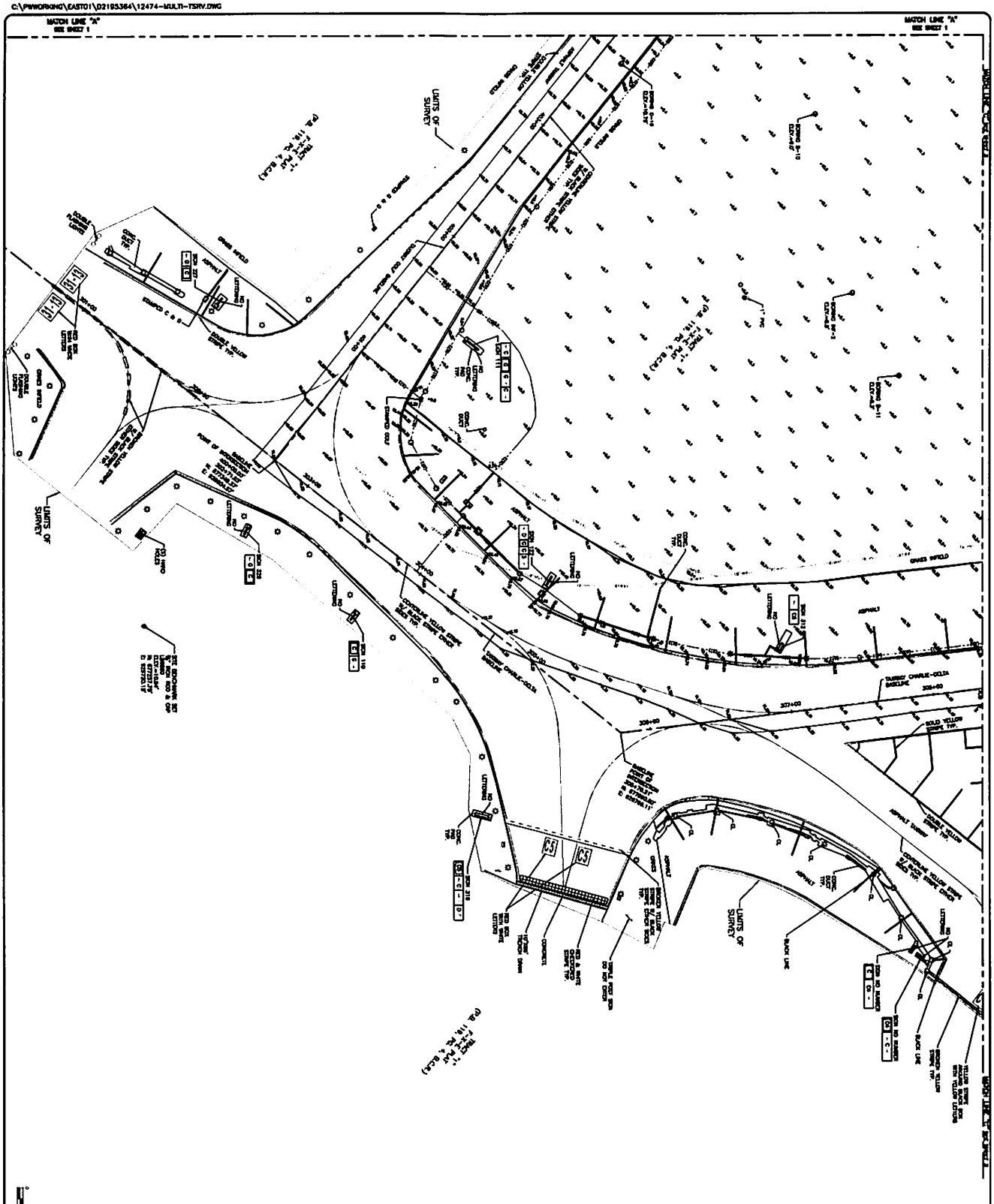
PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
WILDLIFE PROTECTION PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

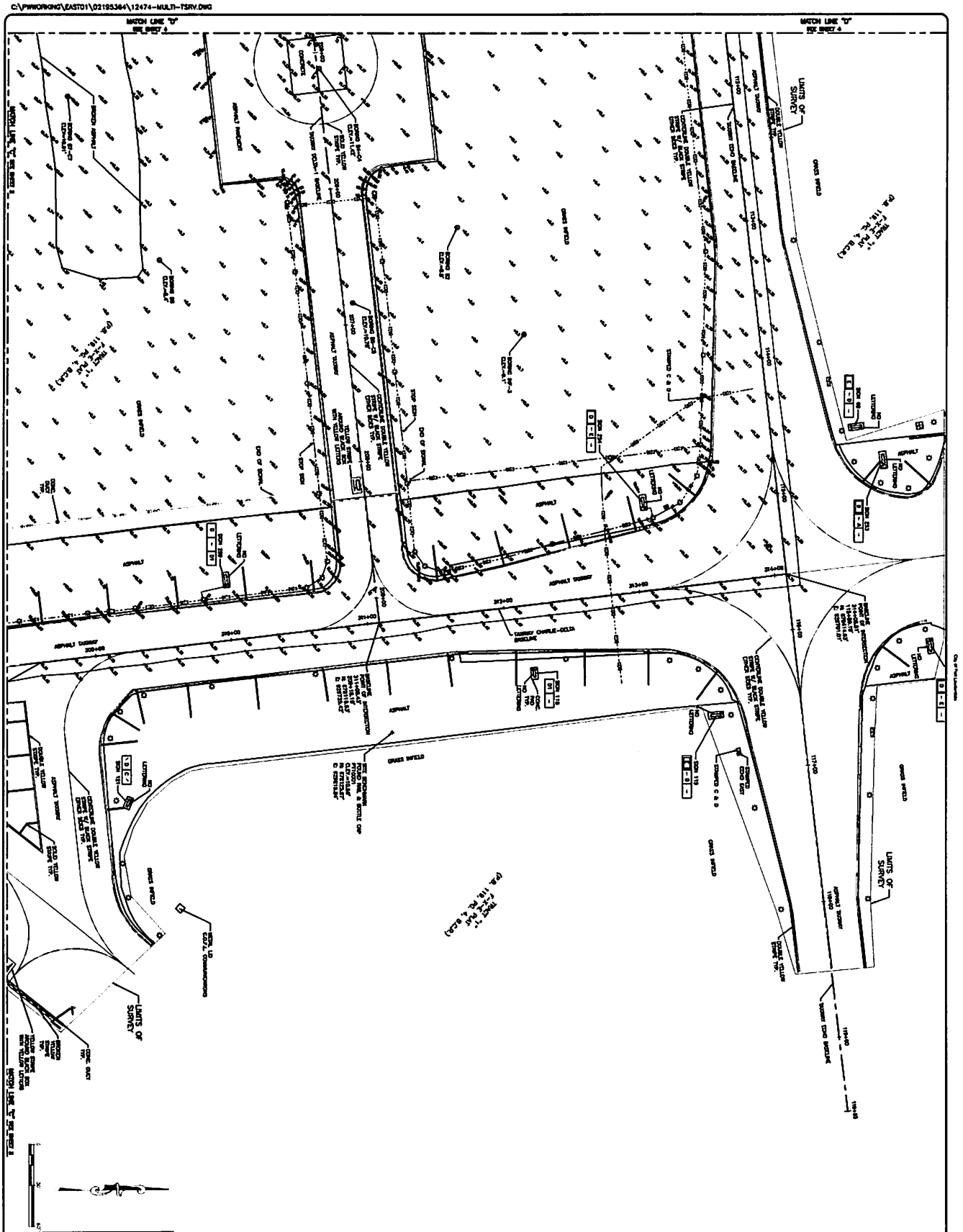
SHEET NO.
G11
TOTAL 36
CAD FILE:
12474-C11-WLD
DRAWING FILE NO.
4-142-90

C:\PWWORKING\EAST01\D2070953\12474-C11-WLD.DWG

Tuesday, November 09, 2021 IGNACIO, MERON EVANS


MATCH LINE "B"
SEE SHEET 4
MATCH LINE "B"
SEE SHEET 4
MATCH LINE "A"
SEE SHEET 3
MATCH LINE "A"
SEE SHEET 3
BROKEN ASPHALT
GRASS INFILL
TRACT "I"
(P.B. 119, PG. 4, B.C.R.)
CONCRETE WALKWAY
CONCRETE WALKWAY
GRASS INFILL
GRASS INFILL
GRASS INFILL


C:\PWWORKING\EAST01\D2185364\12474-MULTI-TSRV.DWG
MATCH LINE "A"
SEE SHEET 1
MATCH LINE "A"
SEE SHEET 1
LIMITS OF SURVEY
LIMITS OF SURVEY
LIMITS OF SURVEY
SOLID YELLOW STRIPE TYP.
SOLID WHITE STRIPE TYP.
BROKEN WHITE STRIPE TYP.
ASPHALT
CONCRETE
GRASS FIELD
TAXIWAY CHARLIE-DELTA
TAXIWAY CHARLIE-DELTA
CENTERLINE
BLACK LINE
RUNWAY 10-28
RUNWAY 10-28
RUNWAY 10-28



KEITH
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
EMAIL: mail@KEITHteam.com LB NO. 6909

PROJECT # P12474
TOPOGRAPHIC SURVEY
FORT LAUDERDALE EXECUTIVE AIRPORT
TOPOGRAPHIC SURVEY
PLAT BOOK 119, PAGE 4, B.C.R.

S03

REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION
1	07/09/21	DB	MMM	PER COMMENTS

CITY FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: DB | DATE: 07/09/21
DESIGNED BY: | SCALE: 1"=30'
CHECKED BY: MMM
FIELD BOOK: 884

C:\PWWORKING\EAST01\D21553364\12474-MULTI-TSRV.DWG

KEITH
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
EMAIL: mail@KEITHcm.com LB NO. 0900

SHEET NO.	S04
TOTAL SHEETS	34
CAD FILE	12747-001-MULTI-TSRV
REVISED SEE NO.	1-14-20

PROJECT # P12474
TOPOGRAPHIC SURVEY
FORT LAUDERDALE EXECUTIVE AIRPORT
TOPOGRAPHIC SURVEY
PLAT BOOK 119, PAGE 4, B.C.R.

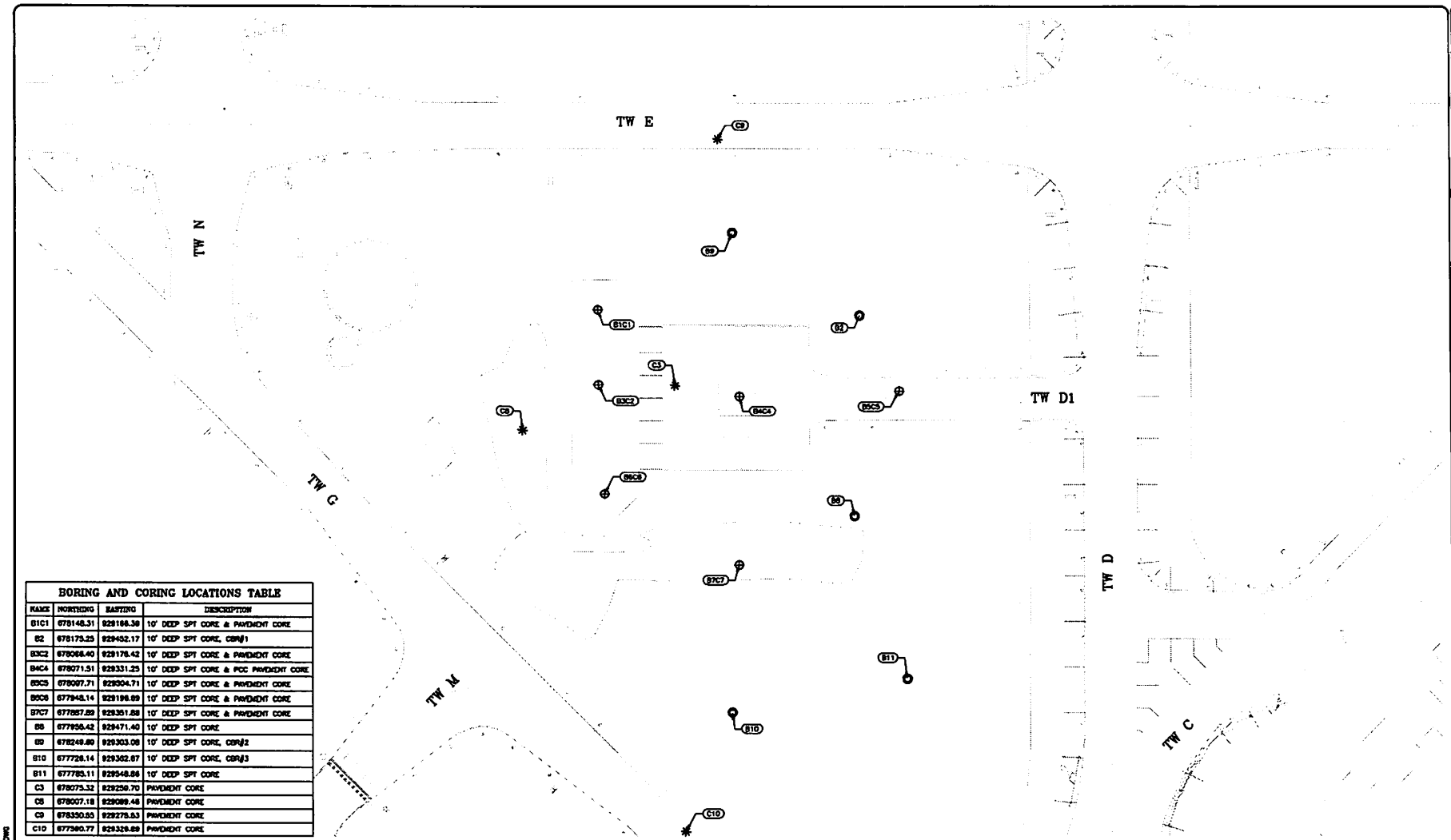
REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION
1	07/09/21	DB	MMM	PER COMMENTS

CITY FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	DATE: 07/09/21
DB	
CHECKED BY:	SCALE: 1"=30'
MMM	
FIELD BOOK:	994

DESIGNED BY: N/A
REG. No. (PE) NO.
DATE: N/A

TSK: N/A
FED. N/A



BORING AND CORING LOCATIONS TABLE			
NAME	NORTHING	EASTING	DESCRIPTION
B1C1	678148.31	929166.38	10' DEEP SPT CORE & PAVEMENT CORE
B2	678175.25	929452.17	10' DEEP SPT CORE, CBR#1
B3C2	678066.40	929176.42	10' DEEP SPT CORE & PAVEMENT CORE
B4C4	678071.51	929331.25	10' DEEP SPT CORE & PCC PAVEMENT CORE
B5C5	678097.71	929504.71	10' DEEP SPT CORE & PAVEMENT CORE
B6C6	677948.14	929196.89	10' DEEP SPT CORE & PAVEMENT CORE
B7C7	677857.89	929351.88	10' DEEP SPT CORE & PAVEMENT CORE
B8	677956.42	929471.40	10' DEEP SPT CORE
B9	678249.89	929303.08	10' DEEP SPT CORE, CBR#2
B10	677726.14	929362.87	10' DEEP SPT CORE, CBR#3
B11	677785.11	929548.86	10' DEEP SPT CORE
C3	678075.32	929259.70	PAVEMENT CORE
C8	678007.18	929089.48	PAVEMENT CORE
C9	678350.55	929275.53	PAVEMENT CORE
C10	677590.77	929329.89	PAVEMENT CORE

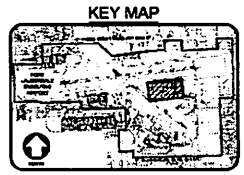
LEGEND

- ✳ PAVEMENT CORE LOCATION
- ⊕ SPT BORING & PAVEMENT CORE LOCATION
- ○ SPT BORING LOCATION

GENERAL NOTES

1. BORING AND CORE LOCATIONS ARE APPROXIMATE. SEE GEOTECHNICAL REPORT COMPLETED BY TIERRA SOUTH FLORIDA, INC. ON JUNE, 2021 ADDITIONAL INFORMATION.

KEY MAP



0 50' 100'

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW!
DIAL 811
811
Know what's below. Call before you dig.
BURBINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.835.1876 F:954.233.4953
CAR 4213

BID DOCUMENTS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
BORING LOCATION PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

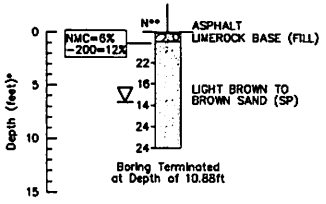
SHEET NO. B01
TOTAL: 36
CAD FILE: 12474-B01-BORE
DRAWING FILE NO. 4-142-90

DRAWN BY: MR DATE: 11/08/21
DESIGNED BY: RD SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:
ENGINEER:

C:\PWWORKING\EAST01\D2070963\12474-B01-BORE.DWG

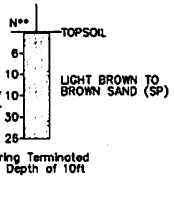
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

BOR # B1C1
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196946
***LONGITUDE -80.167449
NORTHING 678148.31
EASTING 929166.39



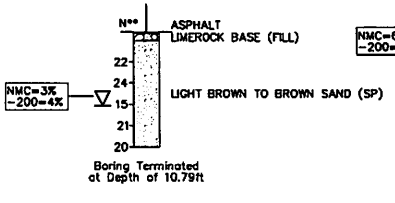
Boring Terminated at Depth of 10.88ft

BOR # B2
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.197015
***LONGITUDE -80.166578
NORTHING 678175.25
EASTING 929452.17



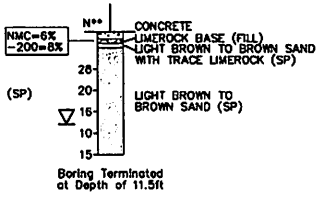
Boring Terminated at Depth of 10ft

BOR # B3C2
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196721
***LONGITUDE -80.167421
NORTHING 678066.4
EASTING 929176.42



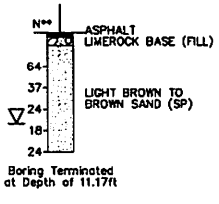
Boring Terminated at Depth of 10.79ft

BOR # B4C4
DATE 5/20/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196732
***LONGITUDE -80.166948
NORTHING 678071.51
EASTING 929331.25

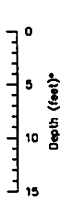


Boring Terminated at Depth of 11.5ft

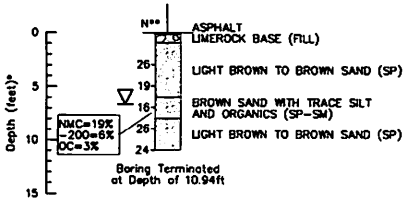
BOR # B5C5
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196801
***LONGITUDE -80.166419
NORTHING 678097.71
EASTING 929504.71



Boring Terminated at Depth of 11.17ft

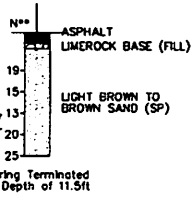


BOR # B6C6
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196395
***LONGITUDE -80.167361
NORTHING 677948.14
EASTING 929196.69



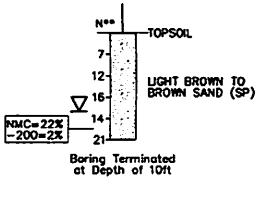
Boring Terminated at Depth of 10.94ft

BOR # B7C7
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.196226
***LONGITUDE -80.166689
NORTHING 677887.69
EASTING 929351.88



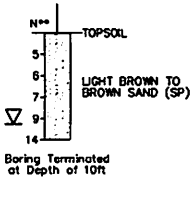
Boring Terminated at Depth of 11.5ft

BOR # B8
DATE 5/20/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.19641
***LONGITUDE -80.166523
NORTHING 677955.42
EASTING 929471.4



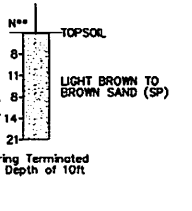
Boring Terminated at Depth of 10ft

BOR # B9
DATE 5/18/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.197223
***LONGITUDE -80.167031
NORTHING 678249.69
EASTING 929303.08

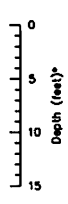


Boring Terminated at Depth of 10ft

BOR # B10
DATE 5/20/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.195781
***LONGITUDE -80.166859
NORTHING 677726.14
EASTING 929362.67

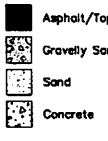


Boring Terminated at Depth of 10ft



Legend

- ▽ Encountered Groundwater Table
- GNE Groundwater Not Encountered
- NMC= Natural Moisture Content (%)
- -200= Fines Passing #200 Sieve (%)
- OC= Organic Content (%)



NOTES

* DENOTES DEPTH IN FEET FROM EXISTING GROUND SURFACE

** SPT N-VALUES SHOWN ABOVE WERE OBTAINED USING AUTOMATIC HAMMERS. GENERALLY DESIGN CORRELATIONS AND PROGRAMS USE SAFETY HAMMER N-VALUES. HENCE, THE ABOVE N-VALUES NEED TO BE MULTIPLIED BY 1.24 TO OBTAIN EQUIVALENT SAFETY HAMMER N-VALUES FOR DESIGN PURPOSE.

*** LATITUDE AND LONGITUDE ARE APPROXIMATE, BASED ON HANDHELD GPSMap GARMIN 78s. ACTUAL BORING LOCATIONS COULD VARY

CORE/BORING PROFILES PROVIDED BY:
[illegible]

CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3200 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1878 F 954.233.4933
CA# 4213

BID DOCUMENTS

APPROVED

ISSUE BY	DATE	SCALE
M	11/09/21	AS NOTED
DESIGNED BY: RD	DRAWN BY: MB	CHECKED BY: FIELD BOOK

CITY OF FORT LAUDERALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

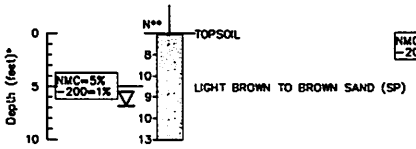
NO.	DATE	BY	DATE	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
BORING PROFILES
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. B02
TOTAL: 36
CAD FILE: 12474-MULTI-DET1
DRAWING FILE NO. 4-142-90

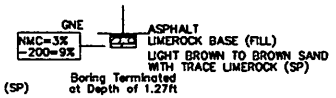
C:\PWORKING\EAST01\D2070963\12474-MULTI-DET1.DWG
Tuesday, November 09, 2021 IGNACIO, MERON EVANS

BOR # B11
DATE 5/20/2021
HAMMER AUTO
RIG CME-45
***LATITUDE 26.19594
***LONGITUDE -80.16629
NORTHING 677785.11
EASTING 929548.86



Boring Terminated at Depth of 10ft

BOR # C3
DATE 5/18/2021
RIG CME-45
***LATITUDE 26.196744
***LONGITUDE -80.167168
NORTHING 678075.32
EASTING 929259.7



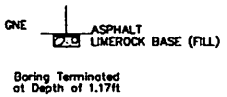
Boring Terminated at Depth of 1.27ft

BOR # C8
DATE 5/18/2021
RIG CME-45
***LATITUDE 26.196559
***LONGITUDE -80.167656
NORTHING 678007.18
EASTING 929099.46



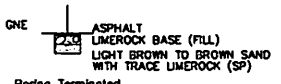
Boring Terminated at Depth of 3.83ft

BOR # C9
DATE 5/20/2021
RIG CME-45
***LATITUDE 26.197501
***LONGITUDE -80.167113
NORTHING 678350.55
EASTING 929275.53

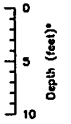


Boring Terminated at Depth of 1.17ft

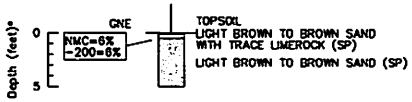
BOR # C10
DATE 5/20/2021
RIG CME-45
***LATITUDE 26.195409
***LONGITUDE -80.166971
NORTHING 677590.77
EASTING 929326.69



Boring Terminated at Depth of 1.87ft

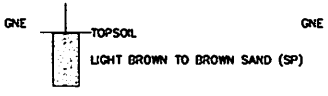


BOR # INF-1
DATE 5/19/2021
RIG CME-45
***LATITUDE 26.196978
***LONGITUDE -80.167908
NORTHING 678159.08
EASTING 929015.87



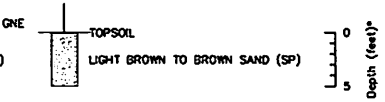
Boring Terminated at Depth of 5ft

BOR # INF-2
DATE 5/19/2021
RIG CME-45
***LATITUDE 26.195853
***LONGITUDE -80.166473
NORTHING 677752.96
EASTING 929489.06



Boring Terminated at Depth of 5ft

BOR # INF-3
DATE 5/20/2021
RIG CME-45
***LATITUDE 26.197142
***LONGITUDE -80.166347
NORTHING 678221.9
EASTING 929527.57



Boring Terminated at Depth of 5ft

Legend

- ▽ Encountered Groundwater Table
- GNE Groundwater Not Encountered
- NMC= Natural Moisture Content (%)
- -200= Fines Passing #200 Sieve (%)
- OC= Organic Content (%)
- Asphalt/Topsoil
- Gravelly Sand
- Sand
- Concrete

NOTES

* DENOTES DEPTH IN FEET FROM EXISTING GROUND SURFACE

** SPT N-VALUES SHOWN ABOVE WERE OBTAINED USING AUTOMATIC HAMMERS. GENERALLY DESIGN CORRELATIONS AND PROGRAMS USE SAFETY HAMMER N-VALUES. HENCE, THE ABOVE N-VALUES NEED TO BE MULTIPLIED BY 1.24 TO OBTAIN EQUIVALENT SAFETY HAMMER N-VALUES FOR DESIGN PURPOSE.

*** LATITUDE AND LONGITUDE ARE APPROXIMATE, BASED ON HANDHELD GPSMap GARMIN 78s. ACTUAL BORING LOCATIONS COULD VARY

BORING/BORING PROFILES PREPARED BY:

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW!
DIAL 811
811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3230 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.825.1278 F 954.233-6953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
BORING PROFILES
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. B03
TOTAL: 36
CAD FILE: 12474-MULTI-DET1
DRAWING FILE NO. 4-142-90

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

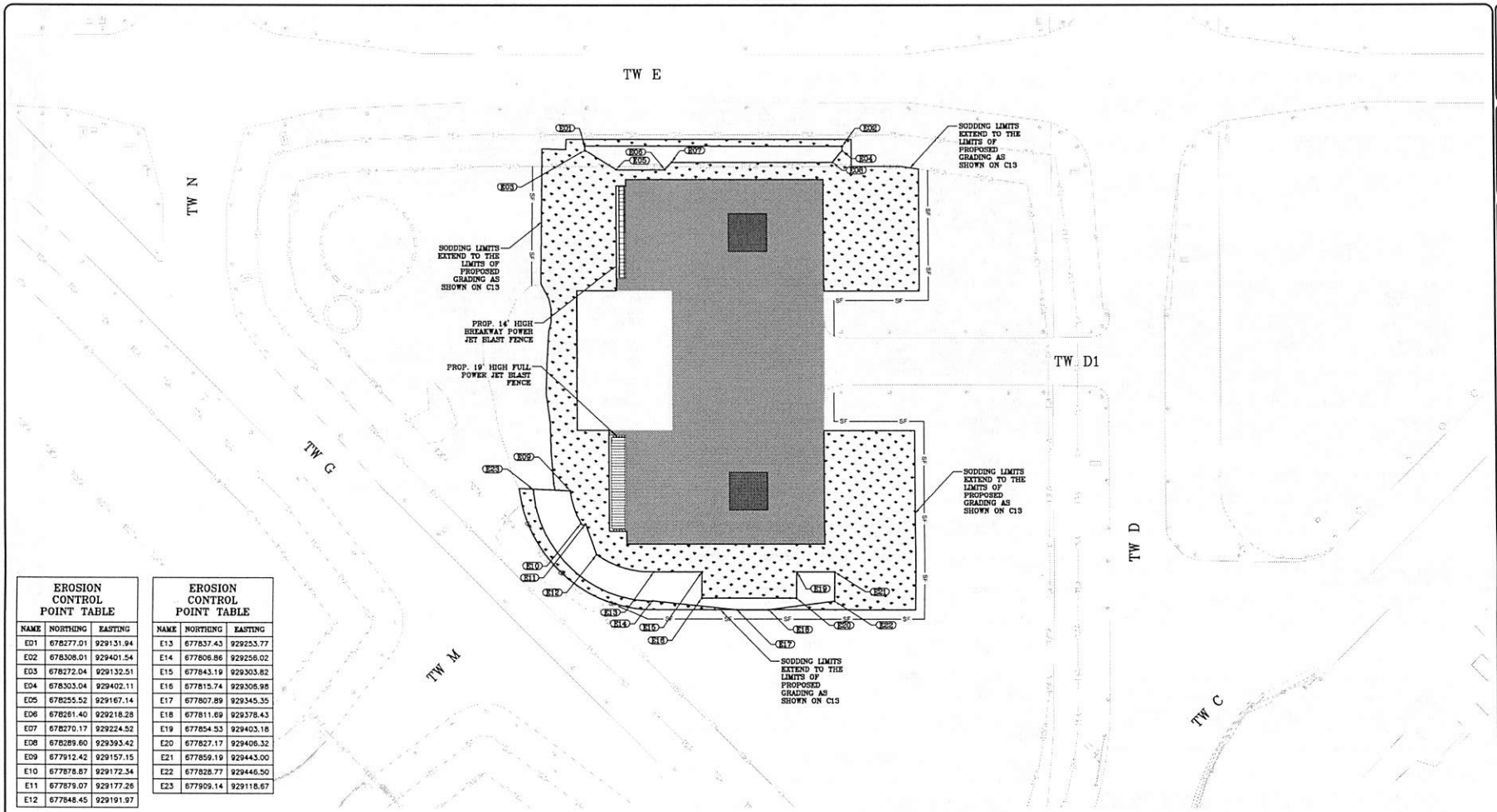
DESIGNED BY: M
DRAWN BY: RD
CHECKED BY: WB
FIELD BOOK:
DATE: 11/09/21
SCALE: AS NOTED

REVISIONS

NO.	DATE	BY	DESCRIPTION

C:\PWWORKING\LAST01\D0270985\12474-MULTI-DET1.DWG

Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



EROSION CONTROL POINT TABLE		
NAME	NORTHING	EASTING
E01	678277.01	929131.94
E02	678308.01	929401.54
E03	678272.04	929132.51
E04	678303.04	929402.11
E05	678255.52	929167.14
E06	678261.40	929218.28
E07	678270.17	929224.52
E08	678289.60	929393.42
E09	677912.42	929157.15
E10	677878.87	929172.34
E11	677879.07	929177.26
E12	677848.45	929191.97

EROSION CONTROL POINT TABLE		
NAME	NORTHING	EASTING
E13	677837.43	929253.77
E14	677806.86	929256.02
E15	677843.19	929303.82
E16	677815.74	929306.98
E17	677807.89	929345.35
E18	677811.69	929378.43
E19	677854.53	929403.18
E20	677827.17	929406.32
E21	677859.19	929443.00
E22	677828.77	929446.50
E23	677909.14	929118.67

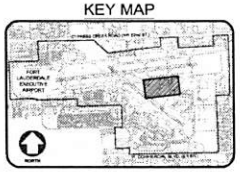
LEGEND

- PROPOSED SOD PER SPEC T-904
- LIMITS OF NEW ASPHALT PAVEMENT
- LIMITS OF NEW CONCRETE PAVEMENT
- SF — SILT FENCING PER DETAIL 3 SHEET C03

EROSION CONTROL NOTES

1. SEE SHEET C03 FOR EROSION CONTROL DETAILS.
2. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN NECESSARY SYSTEMS THROUGHOUT THE DURATION OF THE CONTRACT AND PROVIDE ADDITIONAL BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED TO MEET REGULATORY CRITERIA AT NO ADDITIONAL COST TO OWNER
4. CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCE PRIOR TO BEGINNING ANY WORK. REFER TO SHEET G04 FOR TEMPORARY CONSTRUCTION ENTRANCE LOCATION.
5. CONTRACTOR WILL SUBMIT A PLAN FOR DUST CONTROL PRIOR TO ANY LAND DISTURBING ACTIVITIES PER ITEM C-102. THE PLAN MUST INCLUDE BUT NOT BE LIMITED TO, PROVIDING WATER TRUCK ON 24/7 BASIS CAPABLE OF BEING ON SITE WITHIN 30 MINUTES TO WATER DISTURBED AND UNPROTECTED SURFACES.
6. SWEEPER TRUCK SHALL FOLLOW ALL WORKING VEHICLES TO PREVENT FOREIGN OBJECT DEBRIS (FOD) ON OPEN TAXIWAYS. CONTRACTOR SHALL PROVIDE VACUUM TRUCKS IF RPR DEEMS THE SWEEPERS TO BE INSUFFICIENT FOR FOD PREVENTION.
7. THE LOCATION AND LIMITS OF SILT FENCE SHOWN ON THESE DRAWINGS ARE APPROXIMATE. THE ACTUAL LOCATION AND LIMITS WILL BE DETERMINED IN THE FIELD BASED ON CONTRACTOR CONSTRUCTION OPERATIONS AND WORK AREAS IN ACCORDANCE WITH APPROVED SWPPP AND AS AUTHORIZED BY THE CONSTRUCTION MANAGER.
8. ALL GRADED UNPAVED AREAS SHALL BE PERMANENTLY STABILIZED BY SODDING. LIMITS OF SODDING ARE APPROXIMATE BASED ON THE BEST ESTIMATE OF AREA TO BE IMPACTED BY THE PROJECT WORK.
9. CONTRACTOR MAY BE REQUIRED TO INSTALL/UNINSTALL AND/OR ADJUST EROSION CONTROL ITEMS BASED ON WORK AREA SEQUENCING BEYOND WHAT IS SHOWN ON THIS DRAWING.
10. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ANY SEDIMENT THAT LEAVES THE SITE AND CHANGES ANY DOWNSTREAM CONDITION BY RAISING CHANNEL BOTTOM AND/OR OUTFALL CULVERTS.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
EROSION CONTROL PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
C01
TOTAL: 36
CAD FILE: 12474-C01-EROS
DRAWING FILE NO. 4-142-90

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: MI | DATE: 11/09/21
DESIGNED BY: RD | SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

ENGINEER: CODY T. PARNHAM REG. No: 75904 DATE: 11/09/21
TEL: (561) 209-6641 FAX: (954) 233-4953

C:\PWWORKING\EAST01\D2070963\12474-C01-EROS.DWG

7/13/2022 7:32 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

SHEET FLOW APPLICATION: SILT FENCE

1. THIS SEDIMENT BARRIER USES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
2. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
3. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED AS DESCRIBED IN ITEM NO. 8 BELOW.
4. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES. WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
5. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
8. WHEN ATTACHING TWO SILT FENCES TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES ON A CLOCKWISE DIRECTIONS TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTH POSTS INTO THE GROUND AND BURY THE FLAP.
9. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
10. WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.
11. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED AND PRIOR TO ADJACENT AIRFIELD PAVEMENTS BEING OPENED TO TRAFFIC.

CHANNEL FLOW APPLICATIONS

1. IF A FILTER BARRIER IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE BOTTOM OF THE END SECTIONS OF THE FENCE ARE HIGHER IN ELEVATION THAN THE TOP OF THE CENTER SECTION TO ELIMINATE END FLOW. THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.
2. USE FDOT STANDARD INDEX 102, CHART 1 AS A GUIDE FOR SPACING.

MAINTENANCE

1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

GENERAL STORMWATER PREVENTION NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) NPDES PERMIT. IN PARTICULAR, SEDIMENT AND EROSION CONTROLS, STORMWATER MANAGEMENT MEASURES, DUST CONTROL, WASTE MANAGEMENT MEASURES SHALL BE STRICTLY FOLLOWED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL EROSION SEDIMENTATION AND STORMWATER MANAGEMENT MEASURES FOR THE DURATION OF THE PROJECT UNTIL FINAL STABILIZATION. ONCE THE PROJECT HAS BEEN COMPLETED, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY STORMWATER, EROSION AND SEDIMENT MEASURES AND SHALL DISPOSE OF THEM IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS.
3. THE CONTRACTOR SHALL SUBMIT AN FDEP NOTICE OF INTENT (NOI) CONSTRUCTION GENERAL PERMIT (CGP) TO THE FDEP AND PROVIDE CONFIRMATION OF COVERAGE PRIOR TO COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE RECORD KEEPING, UPDATING OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTENANCE OF ALL MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION UNTIL FINAL STABILIZATION AND COMPLETION OF THE PROJECT. TEMPORARY MEASURES IMPLEMENTED AS PART OF THE PROJECT SWPPP SHALL BE IN ACCORDANCE WITH APPLICABLE REGULATORY CRITERIA AND THE FLORIDA EROSION AND SEDIMENTATION CONTROL INSPECTORS MANUAL.
5. TO ENSURE THAT OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST IS MINIMIZED, CONTRACTOR IS TO PUT INTO PRACTICE THE METHODS DETAILED IN THE SOIL TRACKING PREVENTION DEVICE OF THE FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST VERSION).
6. DUST GENERATED FROM CONSTRUCTION WILL BE MINIMIZED BY WATERING OF THE SITE AS NECESSARY WITH A MINIMUM FREQUENCY OF ONCE DAILY.
7. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
8. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
9. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
10. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
11. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
12. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
13. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT.
14. TEMPORARY PARKING AREAS SHOULD BE LOCATED ON NATURALLY FLAT AREAS TO MINIMIZE GRADING. GRADES SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE BUT SHOULD NOT EXCEED 4 PERCENT.
15. ROADBEDS SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 20 FEET WIDE FOR TWO-WAY TRAFFIC.
16. ALL CUTS AND FILLS SHALL HAVE SIDE SLOPES THAT ARE STABLE FOR THE PARTICULAR SOIL. SLOPES OF 2:1 OR FLATTER ARE RECOMMENDED FOR CLAY SOILS, AND SLOPES OF 3:1 OR FLATTER ARE RECOMMENDED FOR SANDY SOILS.
17. STORMWATER SYSTEM SHALL BE PROVIDED AS NEEDED AND SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO APPLICABLE REGULATIONS.
18. THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
19. A 6 INCH COURSE OF FDOT NO. 1 AGGREGATE SHALL BE APPLIED IMMEDIATELY AFTER GRADING OR THE COMPLETION OF UTILITY INSTALLATION WITHIN THE RIGHT-OF-WAY. FILTER FABRIC MAY BE APPLIED TO THE ROADBED FOR ADDITIONAL STABILITY ACCORDING TO THE FABRIC MANUFACTURER'S SPECIFICATIONS.
20. WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.

CONTRACTOR'S NPDES PERMIT REQUIREMENTS

1. CONTRACTOR SHALL OBTAIN COVERAGE UNDER AN NPDES STORMWATER PERMIT AND IMPLEMENT APPROPRIATE POLLUTION PREVENTION TECHNIQUES TO MINIMIZE EROSION AND SEDIMENTATION AND PROPERLY MANAGE STORMWATER. A GENERIC PERMIT IS A GENERAL PERMIT ISSUED BY DEP UNDER THE AUTHORITY OF SECTION 403.0885, FLORIDA STATUTES (F.S.), WHICH IS THE PROVISION AUTHORIZING THE STATE TO IMPLEMENT THE NPDES PROGRAM.
2. CONTRACTOR SHALL SUBMIT A CGP NOTICE OF INTENT (NOI) TO THE NPDES STORMWATER NOTICES CENTER TO OBTAIN PERMIT COVERAGE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY.
3. CONTRACTOR SHALL DEVELOP A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TO BE IN COMPLIANCE WITH THE PERMIT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY.
4. CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) TO THE NPDES STORMWATER NOTICES CENTER TO DISCONTINUE PERMIT COVERAGE. PERMIT COVERAGE SHALL BE TERMINATED WHEN THE ELIGIBILITY REQUIREMENTS FOR TERMINATION SPECIFIED IN THE CGP ARE MET.
5. CONTRACTOR SHALL RENEW COVERAGE EVERY FIVE YEARS IF THE CONSTRUCTION ACTIVITY EXTENDS BEYOND A 5-YEAR PERIOD.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3230 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1878 F:954.233.4053
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
EROSION CONTROL NOTES
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C02
TOTAL: 36
CAD FILE: 12474-MULTI-DET2
DRAWING FILE NO. 4-142-90

REVISIONS

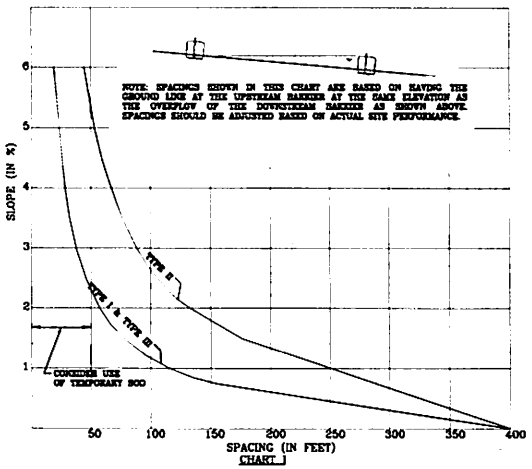
NO.	DATE	BY	CHK'D	DESCRIPTION

DESIGNED BY: M — DATE: 11/09/21
DRAWN BY: RD — AS NOTED
CHECKED BY: WS
FIELD BOOK:

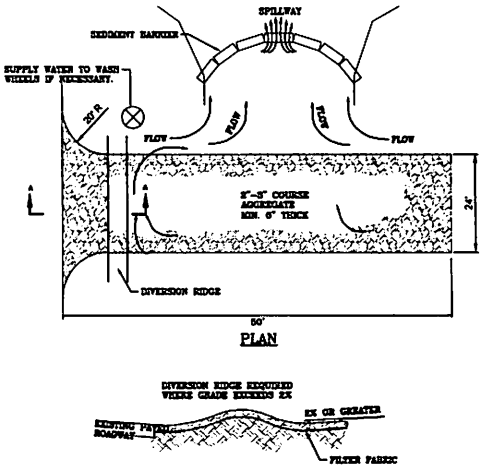
CITY OF FORT LAUDERALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

GEOTECH: PARSONS
DRWG No. 72804
DATE: 11/09/21

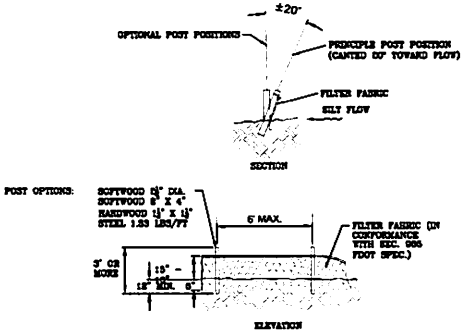
TEL: (561) 395-0844
FAX: (561) 395-6466



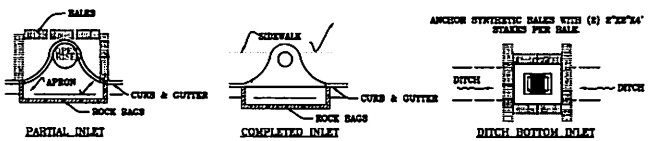
① RECOMMENDED SPACING FOR SYNTHETIC BALE TYPE BARRIERS AND TYPE III SILT FENCE
NOT TO SCALE



② TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE

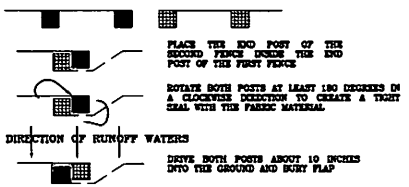


③ TYPE III SILT FENCE
NOT TO SCALE

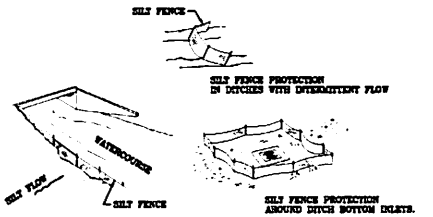


FOR ADDITIONAL INFORMATION REFERENCE FDOT INDEX 102

④ TEMPORARY INLET PROTECTION
NOT TO SCALE



⑤ SILT FENCE ATTACHMENT
NOT TO SCALE



⑥ SILT FENCE APPLICATIONS
NOT TO SCALE

ALL BALES SHALL BE SYNTHETIC, NO HAY BALES WILL BE ALLOWED WITHIN AIRPORT PROPERTY.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
BUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33308
T: 954.535.1876 F:954.233.4853
CA# 4213

BID DOCUMENTS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

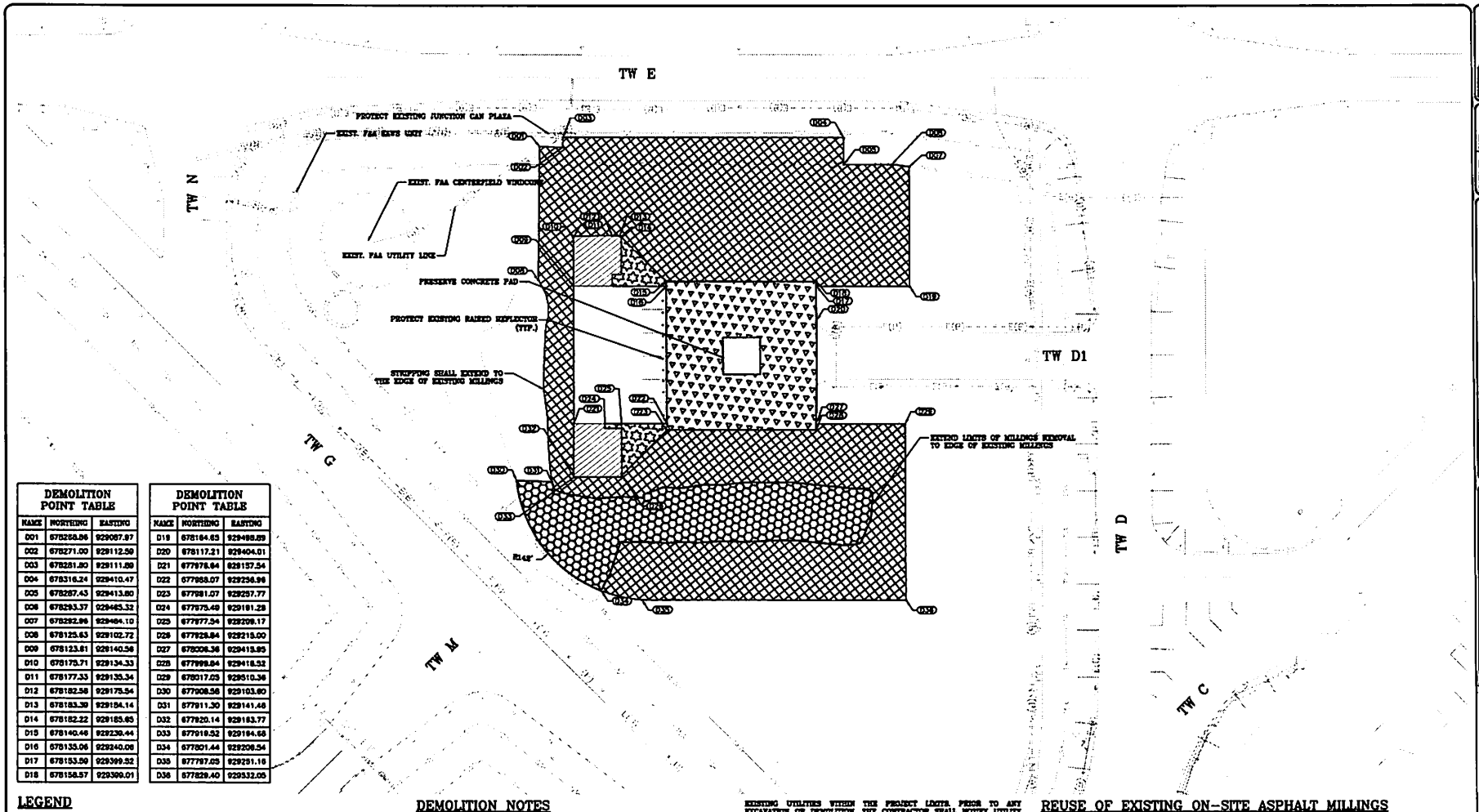
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
EROSION CONTROL DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C03
TOTAL: 36
CAD FILE: 12474-MULTI-DET2
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-MULTI-DET2.DWG

Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



DEMOLITION POINT TABLE		
NAME	NORTHING	EASTING
001	678258.86	929087.97
002	678271.00	929112.59
003	678281.80	929111.89
004	678316.24	929410.47
005	678287.43	929413.80
006	678293.37	929465.32
007	678292.96	929484.10
008	678125.63	929102.72
009	678123.81	929140.56
010	678173.71	929134.33
011	678177.33	929135.34
012	678182.56	929175.54
013	678183.39	929184.14
014	678182.22	929185.65
015	678140.46	929239.44
016	678133.06	929240.06
017	678153.59	929399.52
018	678158.57	929399.01

DEMOLITION POINT TABLE		
NAME	NORTHING	EASTING
D19	678184.63	929498.89
D20	678117.21	929404.01
D21	677978.64	929157.54
D22	677958.07	929256.96
D23	677981.07	929257.77
D24	677975.49	929181.28
D25	677977.54	929209.17
D26	677926.84	929215.00
D27	678006.36	929413.85
D28	677998.84	929418.52
D29	678017.03	929510.36
D30	677908.56	929103.80
D31	677911.30	929141.48
D32	677920.14	929183.77
D33	677918.52	929184.68
D34	677801.44	929208.54
D35	677797.05	929251.16
D36	677829.40	929332.05

LEGEND

- STRIPPING PER SPEC P-151
- FULL DEPTH ASPHALT PAVEMENT REMOVAL SEE DETAIL 4 ON SHEET C08
- COLD MILLING, 8-INCHES
- COLD MILLING, VARIABLE DEPTH. MILL 8" BELOW PROPOSED SURFACE. ANTICIPATE SOME LOCKBOCK REMOVAL WITH MILLING. REFER TO SHEET C10 FOR SPOT ELEVATION PLAN.
- REMOVE EXISTING ASPHALT PAVEMENT MILLING STOCKPILED AND PROCESS FOR REUSE BY MILLING. REMOVE COMPACTED ASPHALT PAVEMENT MILLINGS DOWN TO EXISTING SUBGRADE.

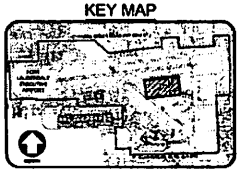
DEMOLITION NOTES

1. CONTRACTOR WILL PROTECT ALL EXISTING CONCRETE OR ASPHALT PAVEMENT TO REMAIN IN PLACE DURING MILLING AND FULL DEPTH PAVEMENT REMOVAL. ALL CONCRETE OR ASPHALT PAVEMENT DAMAGED DURING MILLING AND REMOVAL SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE BY A METHOD SATISFACTORY TO THE ENGINEER.
2. CONTRACTOR SHALL USE A METHOD OF MARKING REMOVAL THAT DOES NOT DAMAGE EXISTING PAVEMENT AND JOINT SEALS. ANY DAMAGE CAUSED TO THE EXISTING PAVEMENT JOINT SEALS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PROTECT ALL MARKINGS TO REMAIN. ANY MARKINGS THAT ARE DAMAGED OR INADVERTENTLY REMOVED SHALL BE REPAINTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL PROTECT ALL EDGE LIGHTS AND CABLES AT ALL TIMES DURING CONSTRUCTION.
5. STRIPPING SHALL INCLUDE SHADING GRASS, AND REMOVAL OF VEGETATION, AND TOPSOIL FROM THE SURFACE DOWN TO 4" BELOW THE EXISTING GRADE. THE STRIPPING DEPTH SHALL BE MINIMIZED AS TO MINIMIZE THE QUANTITY OF EXCAVATION REQUIRED.
6. STRIPPED MATERIAL SHALL BE STOCKPILED SEPARATE FROM SUITABLE EXCAVATED MATERIAL TO PREVENT CONTAMINATION OF SUITABLE EXCAVATED MATERIAL. STRIPPING MAY BE USED AS TOP SOIL PROVIDED STRIPPING MEET REQUIREMENTS OF SPECIFICATION T-905.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS. PRIOR TO ANY EXCAVATION OR DEMOLITION, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AND FLORIDA SUNSHINE ONE CALL AS PRESCRIBED BY STATE LAW. REQUIREMENT IS IN ADDITION TO ANY OTHER STATE LAW REGARDING PUBLIC NOTIFICATION PRIOR TO EXCAVATION.
8. THERE ARE EXISTING AIRFIELD LIGHTING AND NAVIGATIONAL AID POWER SUPPLY, GROUNDING AND COUNTERPOISE SYSTEMS EXISTING IN THE AREAS OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH AIRPORT FACILITIES PRIOR TO DIGGING. THESE ITEMS ARE LOCAL TO THE AIRPORT AND ARE NOT IDENTIFIED BY FLORIDA SUNSHINE ONE CALL.
9. PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REQUEST FAA UTILITIES LOCATES.

REUSE OF EXISTING ON-SITE ASPHALT MILLINGS

1. CONTRACTOR SHALL STOCKPILE ALL MILLINGS AND DEMOLISHED ASPHALT PAVEMENT WITHIN THE WORK AREA OR THE STAGING AREA DEPICTED ON SHEET G04.
2. PROCESSED ASPHALT MILLINGS SHALL BE PLACED AS DIRECTED ON SHEET C07 AND DETAIL 1 ON SHEET C08.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW!
DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
2320 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.535.1676 F 954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
DEMOLITION PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

REVISIONS

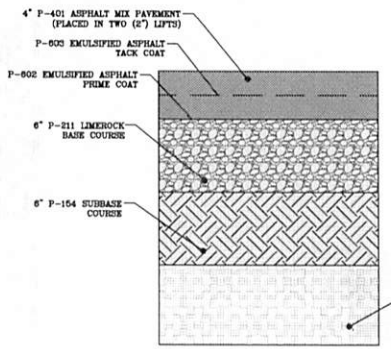
NO.	DATE	BY	CHKD	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DESIGNED: CODY T. PARHAM FL No. 79564 DATE: 11/09/21
DRAWN BY: M
CHECKED BY: PD
QA/QC BY: MK
DATE: 11/09/21
AS NOTED
FIELD BOOK:

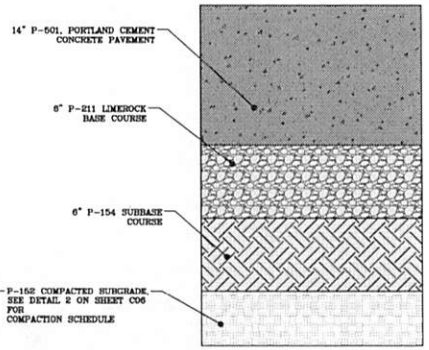
SHEET NO. C04
TOTAL: 36
CAD FILE: 12474-C04-DEMO
DRAWING FILE NO. 4-142-90

C:\PWORKING\EASTON\D0270043\12474-C04-DEMO.DWG



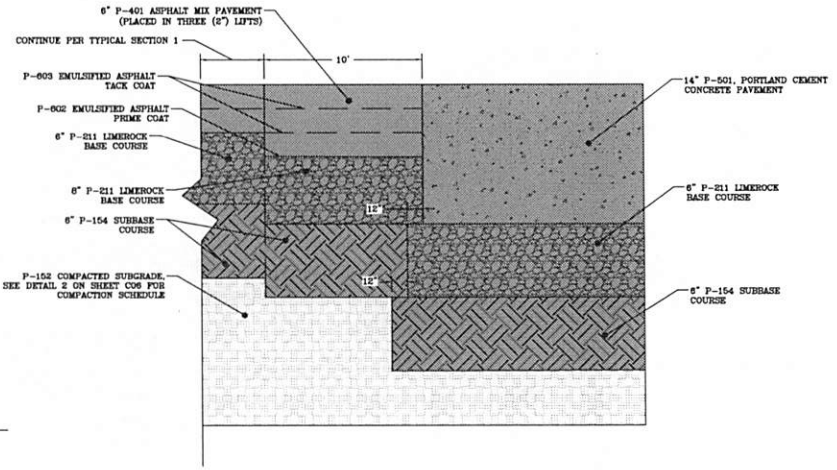
1 FULL DEPTH ASPHALT PAVEMENT TYPICAL SECTION

NOT TO SCALE



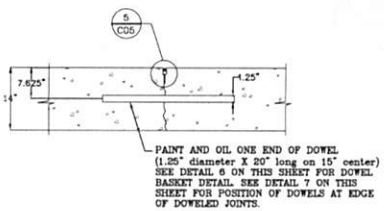
2 FULL DEPTH CONCRETE PAVEMENT TYPICAL SECTION

NOT TO SCALE



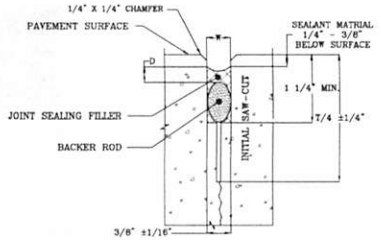
3 ASPHALT TO CONCRETE PAVEMENT TIE IN

NOT TO SCALE



4 CONTRACTION JOINT – DOWEL DETAIL

NOT TO SCALE



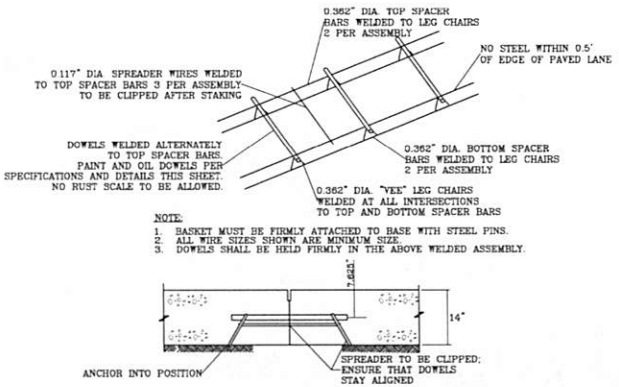
5 CONTRACTION JOINT DETAIL

NOT TO SCALE

NOTES:

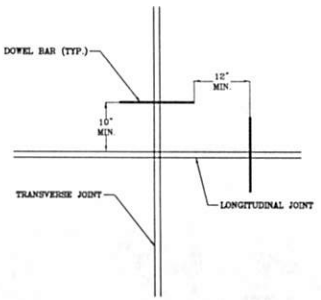
1. ALL JOINT CONSTRUCTION AND MATERIALS AS WELL AS ALL CONCRETE PAVEMENT METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION P-501, OR AS NOTED.
2. ALL MATERIALS AND WORK REQUIRED FOR JOINTS, INCLUDING JOINT SEALING, ARE INCIDENTAL TO PAY ITEM FOR JOINT SEALING FILLER (P-605-5.1).
3. THE MATERIALS AND METHODS SHOWN ON THIS SHEET ARE THE MINIMUM REQUIREMENTS. OTHER MATERIALS AND METHODS MAY BE USED IF APPROVED BY THE ENGINEER.
4. ALL JOINTS SHALL BE SEALED IN ACCORDANCE WITH SPECIFICATION P-605.
5. PLANS AND SPECIFICATIONS CONFORM TO MOST RECENT EDITIONS OF FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR 150/5370-10H, STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORT AND FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR 150/5320-6G, AIRPORT PAVEMENT DESIGN AND EVALUATION.
6. FOR ALL JOINTS, FORMED GROOVES WILL NOT BE ALLOWED.
7. DOWELS DIAMETER, LENGTH AND SPACING SHALL BE AS SHOWN IN THE BELOW TABLE. ALL MATERIALS SHALL MEET THE REQUIREMENTS REFERENCED IN THE SPECIFICATION. DOWELS SHALL BE CENTERED ON THE JOINT UNLESS OTHERWISE NOTED. DOWEL BARS SHALL BE EPOXY COATED.

THICKNESS	DIAMETER (d) (MIN.)	LENGTH	SPACING
14"	1.25"	20"	15"



6 DOWEL BASKET DETAIL

NOT TO SCALE



7 POSITION OF DOWELS AT EDGE OF DOWELED JOINTS

NOT TO SCALE

CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1878 F:954.233.4953
CA#:4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
PAVING DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

NO.	DATE	BY	CHK'D	DESCRIPTION

REVISIONS

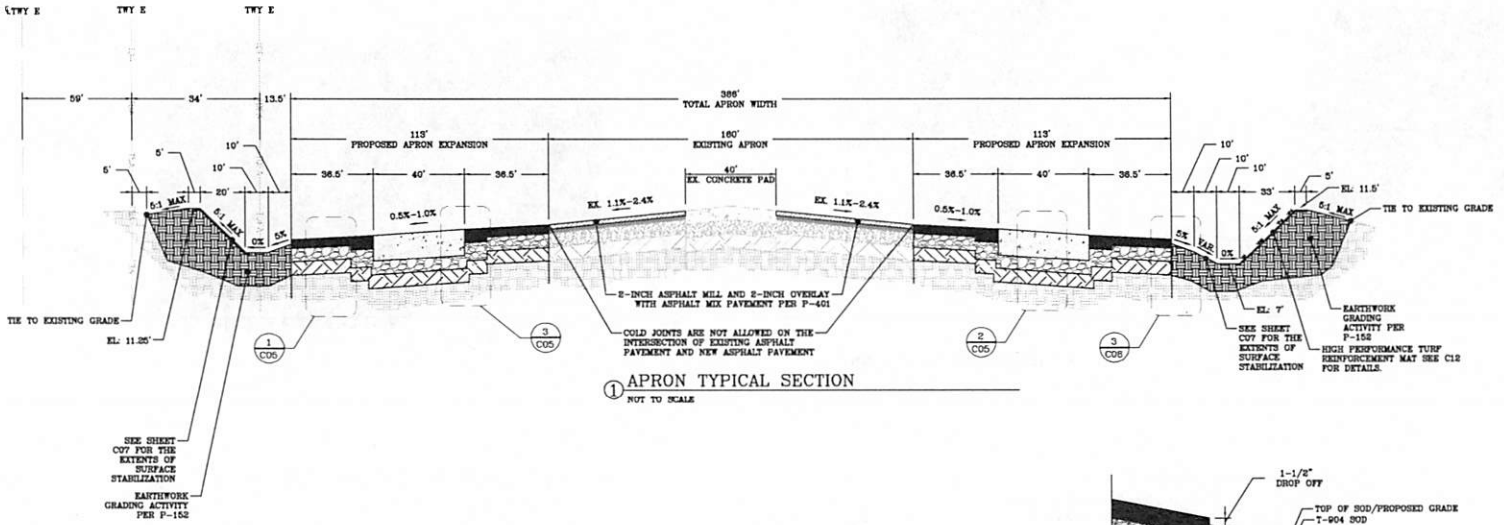
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: MI
DATE: 11/09/21
DESIGNED BY: FD
SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

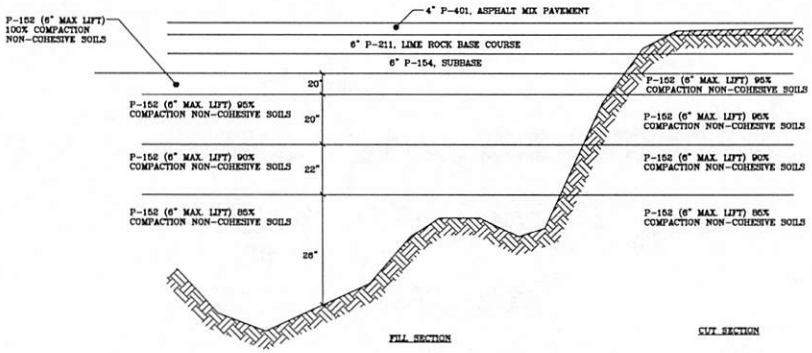
CHECKED BY: EDDY T. FARHAN
REG. No. 73904
DATE: 11/09/21

TEL: (561) 209-6641
FAX: (954) 233-4953

SHEET NO. C05
TOTAL: 36
CAD FILE: 12474-MULTI-DET3
DRAWING FILE NO. 4-142-90



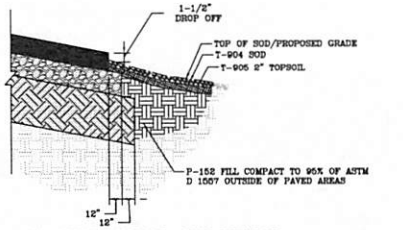
① APRON TYPICAL SECTION
NOT TO SCALE



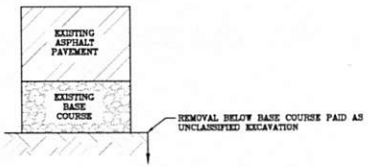
COMPACTION SCHEDULE NOTES:

1. THE SUBGRADE IN CUT AREAS SHALL HAVE NATURAL DENSITIES SHOWN, SHALL BE COMPACTED FROM THE SURFACE TO ACHIEVE THE REQUIRED DENSITIES, OR SHALL BE REMOVED AND REPLACED IN WHICH CASE THE MINIMUM DENSITIES FOR FILLS APPLY. SEE SPECIFICATION P-152 FOR OVER EXCAVATION REQUIREMENTS.
2. NON COHESIVE SOILS, FOR THE PURPOSE OF DETERMINING COMPACTION, ARE THOSE WITH A P.I. < 3.
3. UNDER AREAS THAT WILL NOT BE PAVED, ROLLING OPERATIONS SHALL BE CONTINUED UNTIL THE EMBANKMENT IS COMPACTED TO NOT LESS THAT 95% OF MAXIMUM DENSITY FOR NON COHESIVE SOILS AND 90% OF MAXIMUM DENSITY FOR COHESIVE SOILS PER ITEM P-152.

② COMPACTION SCHEDULE
NOT TO SCALE



③ PAVEMENT EDGE DROP OFF DETAIL
NOT TO SCALE



NOTES:

1. SEE GEOTECHNICAL REPORT AND SHEET B01-B03 FOR PAVEMENT SECTION THICKNESSES.

④ FULL DEPTH ASPHALT PAVEMENT REMOVAL
NOT TO SCALE

BID DOCUMENTS

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F 954.233.4953
CA# 4213

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
TYPICAL SECTIONS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C06
TOTAL: 36
CAD FILE: 12474-MULTI-DET3
DRAWING FILE NO. 4-142-90

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

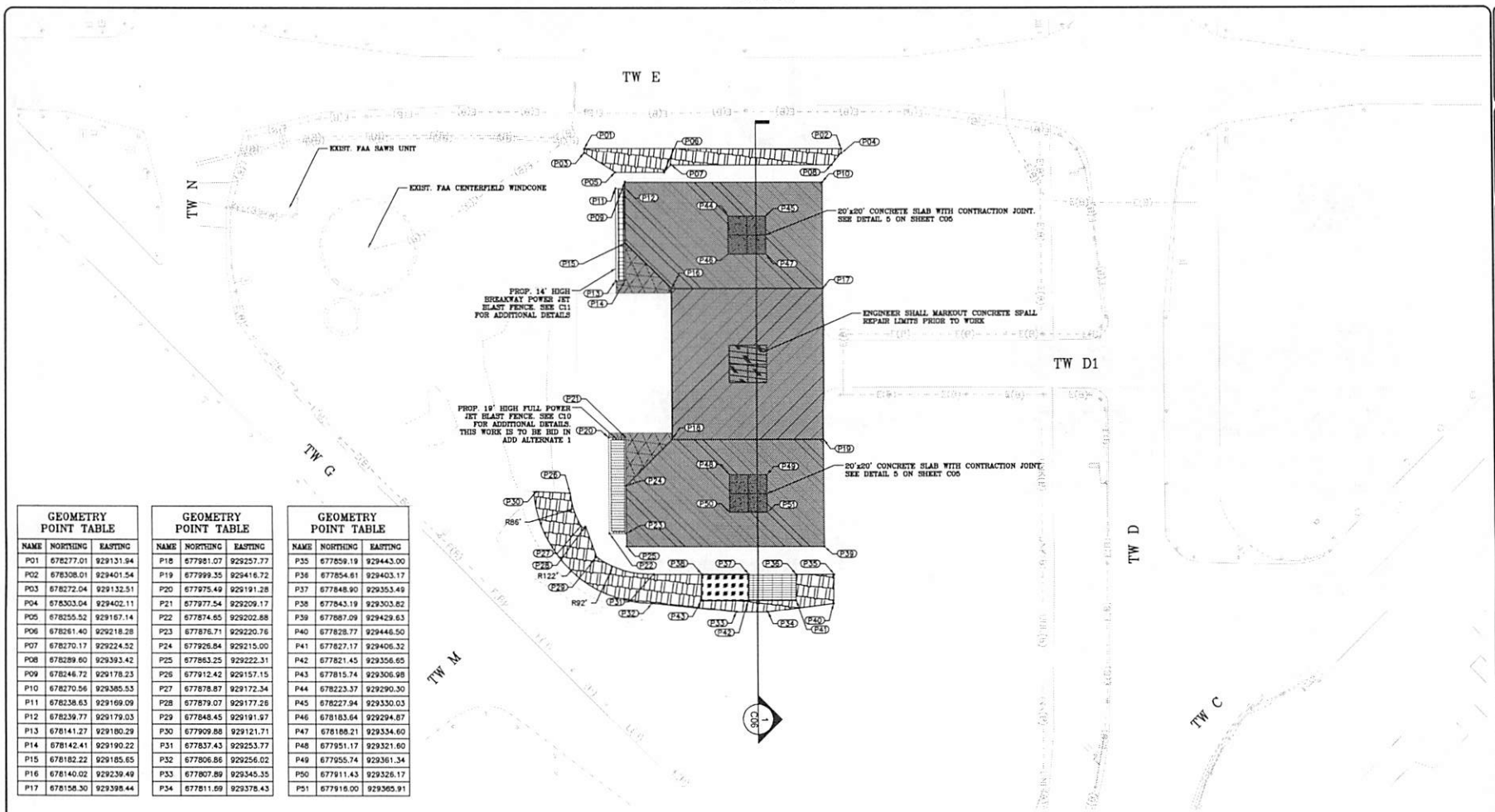
DRAWN BY: MI
DESIGNED BY: RD
CHECKED BY: WB
DATE: 11/09/21
SCALE: AS NOTED
FIELD BOOK:

RECEIVED
CINDY E. PARHAM
REG. No. 73964
DATE: 11/09/21

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

TEL: (954) 828-8441
FAX: (954) 828-4885

C:\PWWORKING\EAST01\D2070983\12474-MULTI-DET3.DWG



GEOMETRY POINT TABLE		
NAME	NORTHING	EASTING
P01	678277.01	929131.94
P02	678308.01	929401.54
P03	678272.04	929132.51
P04	678303.04	929402.11
P05	678255.52	929167.14
P06	678261.40	929218.28
P07	678270.17	929224.52
P08	678289.60	929393.42
P09	678246.72	929178.23
P10	678270.56	929385.53
P11	678238.63	929169.09
P12	678239.77	929179.03
P13	678141.27	929180.29
P14	678142.41	929190.22
P15	678182.22	929185.65
P16	678140.02	929239.49
P17	678158.30	929398.44

GEOMETRY POINT TABLE		
NAME	NORTHING	EASTING
P18	677981.07	929257.77
P19	677999.35	929416.72
P20	677975.49	929191.28
P21	677977.54	929209.17
P22	677874.65	929202.88
P23	677876.71	929220.76
P24	677926.84	929215.00
P25	677863.25	929222.31
P26	677912.42	929157.15
P27	677878.87	929172.34
P28	677879.07	929177.26
P29	677848.45	929191.97
P30	677909.88	929121.71
P31	677837.43	929253.77
P32	677806.86	929256.02
P33	677807.89	929345.35
P34	677811.59	929378.43

GEOMETRY POINT TABLE		
NAME	NORTHING	EASTING
P35	677859.19	929443.00
P36	677854.61	929403.17
P37	677848.90	929353.49
P38	677843.19	929303.82
P39	677887.09	929429.63
P40	677828.77	929446.50
P41	677827.17	929406.32
P42	677821.45	929356.65
P43	677815.74	929306.98
P44	678223.37	929290.30
P45	678227.94	929330.03
P46	678183.64	929294.87
P47	678188.21	929334.60
P48	677951.17	929321.60
P49	677955.74	929361.34
P50	677911.43	929326.17
P51	677916.00	929365.91

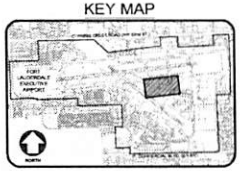
LEGEND

- CONSTRUCT NEW ASPHALT PAVEMENT SECTION TO PROPOSED GRADE. SEE TYPICAL SECTION NO. 1 ON SHEET C06
- 2" P-401 ASPHALT OVERLAY TO EXISTING GRADE
- 2" P-401 ASPHALT OVERLAY TO PROPOSED GRADE.
- CONSTRUCT NEW CONCRETE PAVEMENT SECTION SEE TYPICAL SECTION NO. 2 ON SHEET C05
- CONCRETE SPALL REPAIR. REFER TO SHEET C08 AND C09 FOR REPAIR PROCEDURES. THIS WORK IS TO BE BID IN ADD ALTERNATE 2.
- HIGH PERFORMANCE TURF REINFORCEMENT MAT. PER SPEC S-105
- COMPOSITE ARMOR TURF REINFORCEMENT MAT. PER SPEC S-106
- PLACEMENT OF MILLINGS FOR SURFACE STABILIZATION. PLACE STOCKPILED MILLINGS 2-INCHES THICK. ROLL/COMPACT TO A CONSISTENT AND SMOOTH FINISH. PROOF ROLL WITH UNLOADED DUMP TRUCK UNTIL NO MOVEMENT IS OBSERVED

NOTES:

1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO OBTAIN UNDERGROUND UTILITY LOCATION AS REQUIRED BY LAW. SEE GENERAL NOTES SHEET C01. ALL FACILITIES ARE TO REMAIN EXCEPT WHERE OTHERWISE SHOWN. TAKE CARE DURING CONSTRUCTION TO AVOID DAMAGE TO EXISTING ABOVE GROUND AND UNDERGROUND FACILITIES.
2. CONTRACTOR WILL PROTECT ALL TAXIWAY EDGE LIGHTS DURING CONSTRUCTION.
3. IN CASE WHERE GEOMETRY IS NOT DELINEATED BY STATION/OFFSET OR NORTHING/EASTING, IT SHALL MATCH THE EXISTING LAYOUT OF THE MILLED EDGE OF PAVEMENT.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

ENGINEER
GEOFF T. PARHAM
REG. No. 73904
DATE: 11/09/21

DRAWN BY: MI
DESIGNED BY: RD
CHECKED BY: WB
DATE: 11/09/21
SCALE: AS NOTED
FIELD BOOK

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301
TEL: (954) 828-8541
FAX: (954) 828-4963

REVISIONS

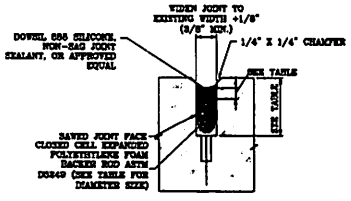
NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SITE PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C07
TOTAL: 36
CAD FILE: 12474-C07-SITE
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-C07-SITE.DWG

11/12/2022 7:32 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



DETAIL VIEW

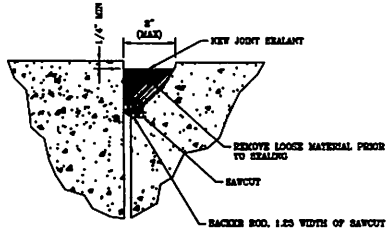
NOTES:

1. CONTRACTOR SHALL VISIT SITE TO DETERMINE EXISTING JOINT WIDTHS PRIOR TO ORDERING MATERIAL AND COMMENCING WORK.
2. THE EXISTING TYPE OF MATERIAL TO BE REMOVED FROM THE JOINTS IS EITHER SILICONE SEALANT, HOT POUR SEALANT, AND/OR PREFORMED SEALANT. THE COST PER LINEAR FOOT FOR REMOVING THE VARIOUS TYPES OF SEALANT IS INCIDENTAL TO THE RESPECTIVE JOINT SEAL REPLACEMENT BID ITEM.
3. REMOVE EXISTING SEALANT BY WET SAW CUT WITH CHAMFER AS SHOWN ABOVE TO CLEAN FACE OF EXISTING JOINT.
4. IMMEDIATELY AFTER FINAL SAW CUTTING, THE RESULTING CEMENT SLURRY, LAITANCE, CURING COMPOUND AND OTHER FOREIGN MATERIAL SHALL BE COMPLETELY REMOVED FROM THE JOINT BY WATER BLASTING. AFTER CLEANING IS COMPLETE THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR USING 90PSI MINIMUM UNT OIL FREE COMPRESSED AIR.
5. INSTALL BACKER ROD AS SHOWN IN DETAIL ABOVE AND SEAL JOINT PER MANUFACTURER'S RECOMMENDATION WITH COLD APPLIED, SINGLE COMPONENT SILICONE SEALANT IN ACCORDANCE WITH ASTM D5893, NON-SAG (TOOLED).
6. ADJUST SILICONE THICKNESS AND SIZE AND DEPTH OF BACKER ROD PER TABLE BELOW. DEPTH OF SAWCUT TO BE ADJUSTED ACCORDINGLY. MANUFACTURER'S RECOMMENDATIONS, IF DIFFERENT, SHALL SUPERSEDE THE INSTRUCTIONS BELOW.

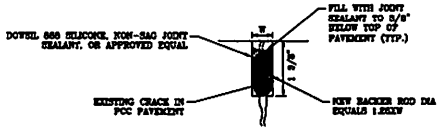
JOINT DIMENSION TABLE

REPAIRED JOINT WIDTH	3/8"	1/2"	3/4"	1"	>1"
RECESSED BELOW SURFACE	3/8"	3/8"	3/8"	3/8"	1/2"
THICKNESS OF SEALANT	1/4"	1/4"	3/8"	1/2"	1/2"
BACKER ROD DIAMETER	1/2"	5/8"	7/8"	1 1/4"	AS NEEDED
TOTAL DEPTH OF JOINT	1 1/4"	1 1/4"	1 1/4"	2 1/4"	AS NEEDED

① PCC JOINT SEALANT REPLACEMENT DETAIL
NOT TO SCALE



② 2-INCH WIDE MAX JOINT SPALL
NOT TO SCALE



NOTES:

1. CRACK SHALL BE WIDENED WITH A RANDOM CRACK SAW TO REMOVE 1/16" FROM EACH SIDE OF THE CRACK.
2. IMMEDIATELY BEFORE SEALING, CRACKS SHALL BE BLOWN OUT WITH AIR IN ACCORDANCE WITH SPECIFICATION P-101.

③ PCC SAW AND SEAL CRACK DETAIL
NOT TO SCALE

BID DOCUMENTS

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.535.1676 F 954.233.4953
CA# 4213

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
TYPICAL JOINT REPAIR DETAILS (1)
6000 NW 21ST AVE, FORT LAUDERDALE, FL

NO.	DATE	BY	CHK'D	DESCRIPTION

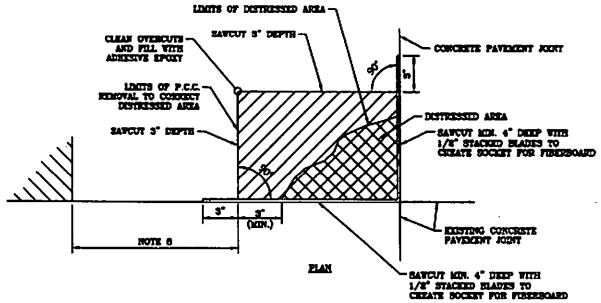
REVISIONS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DESIGNED BY:	M
DRAWN BY:	PD
CHECKED BY:	WB
DATE:	11/09/21
SCALE:	AS NOTED
FIELD BOOK:	

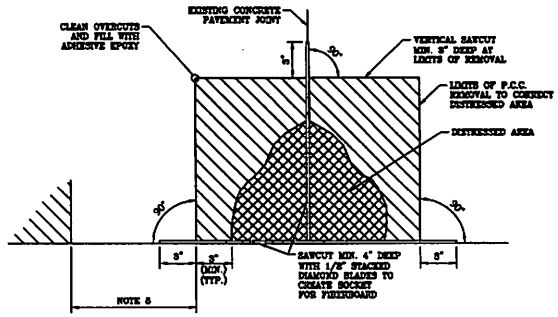
ENGINEER
CODY T. PARHAM
REG. No. 79994
DATE 11/09/21
TEL: (561) 899-8641
FAX: (954) 233-4953

SHEET NO.
C08
TOTAL: 36
CAD FILE:
12474-MULTI-DET4
DRAWING FILE NO.
4-142-90



④ PARTIAL DEPTH SPALL REPAIR

NOT TO SCALE



⑤ PARTIAL DEPTH SPALL REPAIR SPANNING ACROSS JOINTS

NOT TO SCALE

NOTES:

1. MAKE VERTICAL SAW CUT A MINIMUM OF 3" DEEP APPROXIMATELY 3" FROM THE EDGE OF THE DISTRESSED AREA. SAW CUTS MUST BE SQUARE WITH ADJACENT JOINTS, FORMING A RECTANGULAR PATCH AREA.
2. REMOVE ALL CONCRETE AND LOOSE MATERIAL AS NECESSARY TO EXPOSE ¼" SOUND CONCRETE (3" MINIMUM DEPTH OF REPAIR) WITHIN THE AREA TO BE REPAIRED.
3. APPLY PRIMER TO THE ENTIRE SURFACE OF THE AREA TO BE REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. INSERT FIXEDBOARD WITH EXPANSION JOINT CAP INTO SOCKET ALONG EXISTING JOINT LINES. APPLY HEAD OF SILICONE CAULK IN SOCKET TO SEAL TOP OF CRACK AND HOLD FIXEDBOARD IN POSITION.
5. FILL AREA WITH PATCH MATERIAL AND ALLOW PATCH TO CURE.
6. REMOVE EXPANSION JOINT CAP AND SEAL JOINT.
7. SAW CUT OVERCUTS SHALL BE THOROUGHLY CLEANED AND COMPLETELY FILLED WITH EPOXY.
8. MINIMUM DISTANCE BETWEEN ADJACENT EDGE SPALL PATCHES IS 8 FEET. IF LESS SPACE IS EXISTANT, PATCHES SHOULD BE COMBINED AND CONTINUOUS.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
Sunshine State One Call of Florida, Inc.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
2202 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T: 954.633.1676 F:954.233.4953
CA# 4213

BID DOCUMENTS

DESIGNED
CODY T. FARNAM
FBPE, No. 79044
DATE 11/09/21
DRAWN BY: MA
CHECKED BY: MD
DATE: 11/09/21
SCALE: AS NOTED
CHECKED BY: MD
FIELD BOOK:
TEL: (561) 395-0551
FAX: (561) 832-4282

CITY OF FORT LAUDERALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

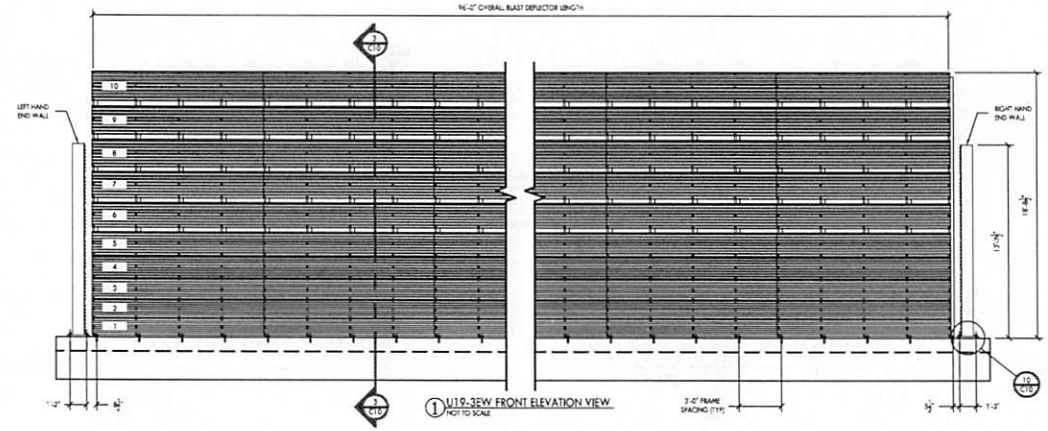
REVISIONS

NO.	DATE	BY	CHKD	DESCRIPTION

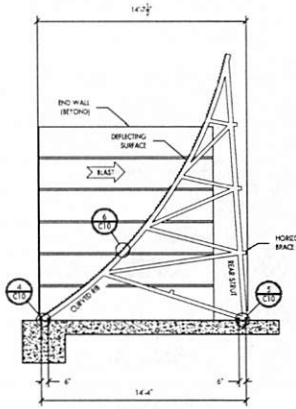
PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
TYPICAL JOINT REPAIR DETAILS (2)
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
C09
TOTAL: 36
CAD FILE: 12474-MULTI-DET4
DRAWING FILE NO. 4-142-90

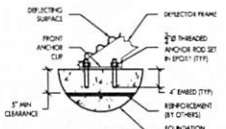
C:\PWORKING\EAST01\D2070963\12474-MULTI-DET4.DWG
Tuesday, November 09, 2021 IGNACIO, MERON EVANS



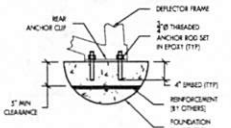
1 U19-3EW FRONT ELEVATION VIEW
NOT TO SCALE



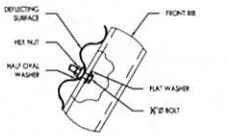
3 U19-3EW SECTION VIEW
NOT TO SCALE



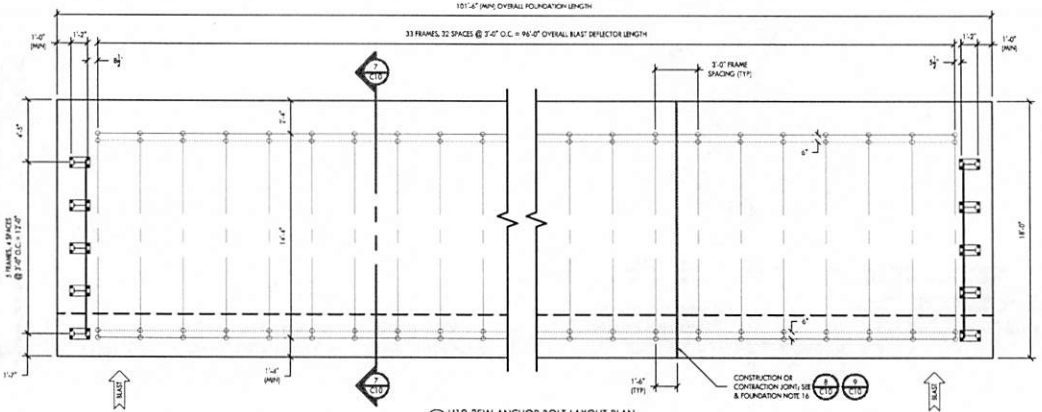
4 DETAIL
NOT TO SCALE



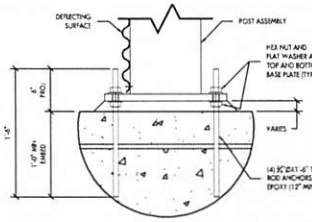
5 DETAIL
NOT TO SCALE



6 DETAIL
NOT TO SCALE



2 U19-3EW ANCHOR BOLT LAYOUT PLAN
NOT TO SCALE



10 DETAIL
NOT TO SCALE

BLAST DEFLECTOR NOTES:

BLAST DEFLECTOR SHALL WITHSTAND FULL-POWER EXHAUST VELOCITIES OF ALL BUSINESS JET AIRCRAFT. BLAST DEFLECTOR NOT SUITABLE FOR WING-ENGINE AIRCRAFT DUE TO OVERALL DEFLECTOR LENGTH. DESIGN LOADS ARE AS FOLLOWS AND ARE CALCULATED PER FAA GUIDELINES UNLESS NOTED OTHERWISE.

GROUP III TAIL-ENGINE LEGACY AIRCRAFT	265 MPH = 180 PSF (NOM.)
167 MPH WIND PER 2017 FBC / ASCE 7-16	114.7 PSF (ULT.) = 68.9 PSF (NOM.)

2. THE DESIGN LOADS NOTED ABOVE ARE PREDICATED ON THE FOLLOWING AIRCRAFT MINIMUM OFFSETTING DISTANCES WITH RESPECT TO THE LEADING EDGE OF THE BLAST DEFLECTOR.

TAIL-ENGINE AIRCRAFT	60' (MIN.) FROM ENGINE NOZZLE
ALL AIRCRAFT	35' (MIN.) FROM AIRCRAFT TAIL

3. THE BLAST DEFLECTOR HAS A NOMINAL HEIGHT OF 19' WITH A GREATER EFFECTIVE HEIGHT.
4. FRAME MEMBERS SHALL BE ASTM A36 STEEL AND HOT-DIP GALVANIZED TO 2 OZ. PT PER ASTM A123.
5. DEFLECTING SURFACES SHALL BE CORRUGATED STEEL SHEETS DESIGNED TO SUPPORT LOADS IN A MINIMUM TWO-SPAN CONDITION. SHEET THICKNESS SHALL BE 16 GA WITH A MINIMUM 2.10 OZ/FT (G210) HOT-DIP GALVANIZED FINISH PER ASTM A653. SHEET SECTION MODULUS SHALL BE A MINIMUM OF 0.196 IN³/FT.
6. ALL FIELD CONNECTIONS SHALL BE BOLTED (NO FIELD WELDING PERMITTED). FASTENERS SHALL BE SAE J429 GRADE 5, ASTM A449, OR ASTM F593 (ALLOY GROUP 2) WITH AN APPROPRIATE COATING FOR CORROSION RESISTANCE (WHERE APPLICABLE), ADEQUATE LOCKING PROPERTIES SHALL BE PROVIDED TO PREVENT FASTENERS FROM WORKING LOOSE DURING NORMAL OPERATION (SUBJECT TO MANUFACTURER MAINTENANCE GUIDELINES).
7. ALL ANCHORAGE SHALL BE SUPPLIED BY THE BLAST DEFLECTOR MANUFACTURER AND SHALL BE INSTALLED INTO THE COMPLETED FOUNDATION DURING THE ERECTION OF THE BLAST DEFLECTOR.
8. BLAST DEFLECTOR MANUFACTURER ONSITE SUPERVISION IS REQUIRED DURING INSTALLATION FOR PRODUCT GUARANTEE.
9. ELECTRICAL LIGHTING, SECURITY ATTACHMENTS, ETC. (IF REQUIRED) SHALL BE BY OTHERS.

CONSTRUCTION NOTES:

10. CONTRACTOR SHALL SUBMIT A BLAST FENCE DESIGN WHICH DOES NOT REQUIRE THE USE OF FIXED OR MOBILE CRANES TO CONSTRUCT. CRANES ARE NOT ALLOWED ON THE PROJECT SITE.

FOUNDATION NOTES:

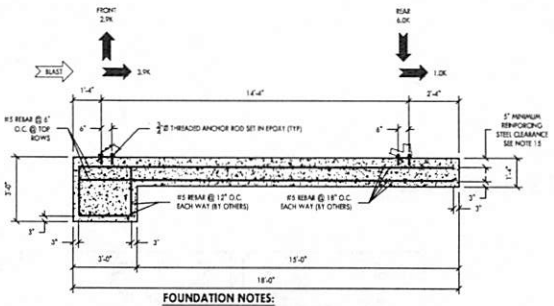
11. FOUNDATION DESIGN SHOWN IS SUGGESTED ONLY. FINAL FOUNDATION/SUBGRADE DESIGN AND APPROVALS ARE BY OTHERS AND SHALL BE BASED ON SERVICE ANCHOR LOADS SHOWN, SITE SOIL CONDITIONS, AND GOVERNING CODES. DESIGN SHOWN CONSIDERS JET EXHAUST CHARACTERISTICS AND INCORPORATES LOAD REDUCTIONS AT FRAMES ADJACENT TO THE ENGINE CENTERLINES. THIS SUGGESTED DESIGN IS BASED ON THE FOLLOWING ASSUMPTIONS.

ALLOWABLE SOIL BEARING CAPACITY	1200 PSF
SOIL LATERAL (PASSIVE) PRESSURE	250 PSF/FT DEPTH
STATIC FRICTION COEFFICIENT	0.40

12. PROJECT DESIGNER SHALL VERIFY FOUNDATION SUITABILITY AND DESIGN.
13. GENERAL CONTRACTOR SHALL VERIFY CORRECT LOCATION AND ELEVATION OF THE FOUNDATION.
14. FINISHED FOUNDATION SURFACE SHALL BE A SINGLE PLANE AND MAY SLOPE UP TO 2% IN ANY SINGLE DIRECTION TO ACCOMMODATE DRAINAGE OR TO MATCH EXISTING GRADES. THE FOLLOWING TOLERANCES SHALL APPLY:

FINISHED FOUNDATION ELEVATION	±1/4"
FOUNDATION DIMENSIONS	±1/2"

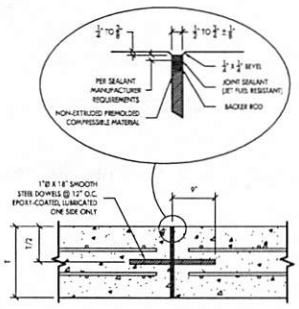
15. PORTLAND CEMENT CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS.
16. REINFORCING STEEL OR ANY OTHER EMBEDDED COMPONENTS, SHALL NOT BE PLACED WITHIN THE TOP 5" OF THE FINISHED FOUNDATION SURFACE FOR ANCHOR BOLT CLEARANCE.
17. CONSTRUCTION AND CONTRACTION JOINTS SHALL BE PLACED 18' O.C. (MAX.) OR PER APPROVED DESIGN, BUT NOT WITHIN 12" OF ANY BLAST DEFLECTOR ANCHOR LOCATION.
18. BLAST DEFLECTOR MANUFACTURER SHALL FURNISH, LOCATE, AND SUPERVISE THE INSTALLATION OF ALL ANCHORAGE AFTER FOUNDATION CONSTRUCTION HAS BEEN COMPLETED.
19. FOUNDATION CONSTRUCTION, CIVIL WORKS, GROUNDING, AND ELECTRICAL (IF REQUIRED) ARE PROVIDED BY THE CONTRACTOR.



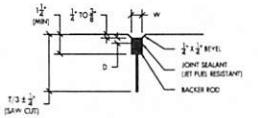
FOUNDATION NOTES:

1. FOUNDATION DESIGN SHOWN IS FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT A SIGNED AND SEALED FOUNDATION DESIGN FOR REVIEW

7 U19-3EW SUGGESTED FOUNDATION SECTION VIEW
NOT TO SCALE



8 SUGGESTED CONSTRUCTION JOINT DETAIL
NOT TO SCALE



9 SUGGESTED CONTRACTION JOINT DETAIL
NOT TO SCALE

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR
HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T 954.535.1878 F 954.233.4953
CA#4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
FULL POWER JET BLAST DEFLECTOR DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

REVISIONS			
NO.	DATE	BY	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

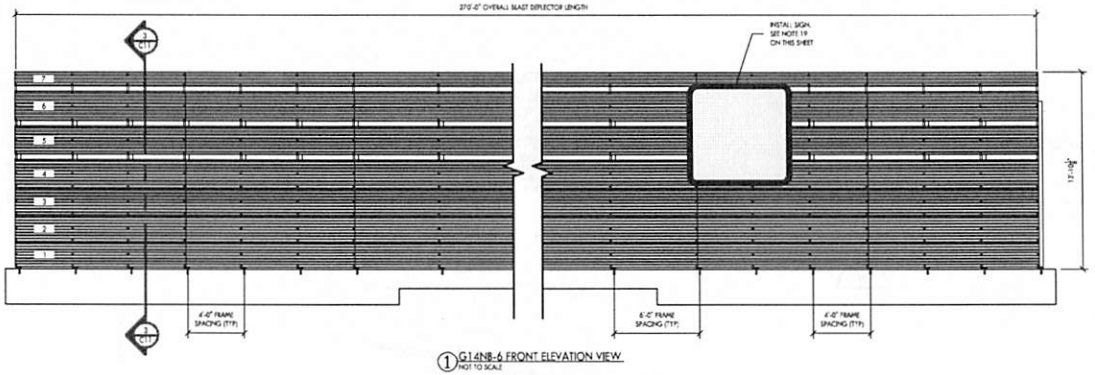
DRAWN BY:	M
DESIGNED BY:	RD
CHECKED BY:	WS
FIELD BOOK:	
DATE:	11/09/21
SCALE:	AS NOTED

PROGRESS: CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL

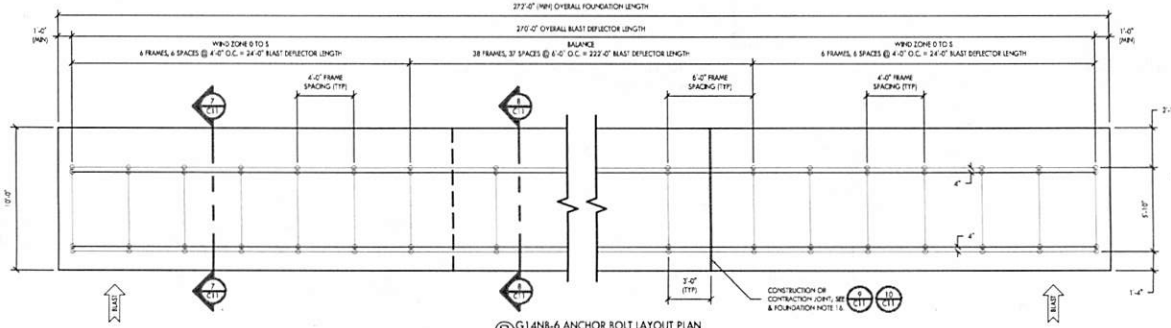
SHEET NO.
C10

TOTAL: 36
CAD FILE: 12474-MULTI-DET5
DRAWING FILE NO. 4-142-90

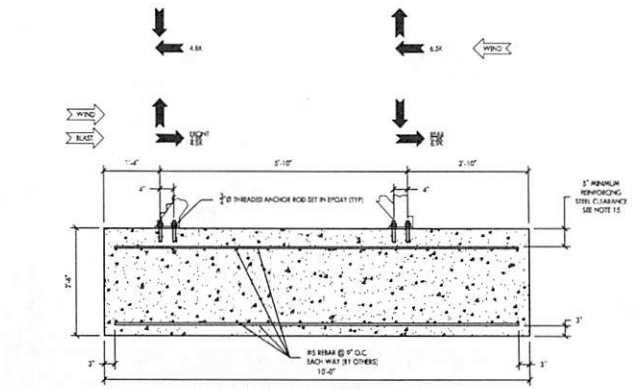
C:\PWWORKING\EAST01\D2070961\12474-MULTI-DET5.DWG
7/13/2022 7:32 AM
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



1 G14NB-6 FRONT ELEVATION VIEW
NOT TO SCALE



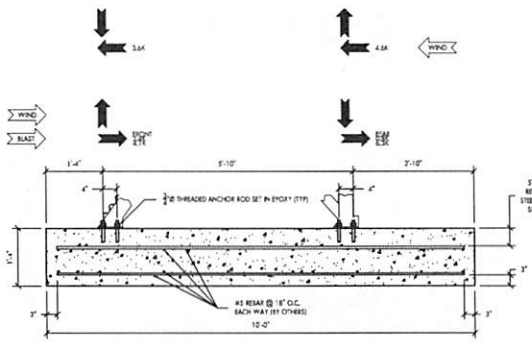
2 G14NB-6 ANCHOR BOLT LAYOUT PLAN
NOT TO SCALE



FOUNDATION NOTES:

1. FOUNDATION DESIGN SHOWN IS FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT A SIGNED AND SEALED FOUNDATION DESIGN FOR REVIEW

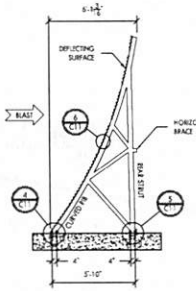
7 G14NB-6 SUGGESTED FOUNDATION SECTION VIEW (WIND ZONE 0 TO 5)
NOT TO SCALE



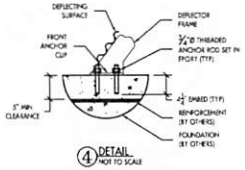
FOUNDATION NOTES:

1. FOUNDATION DESIGN SHOWN IS FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT A SIGNED AND SEALED FOUNDATION DESIGN FOR REVIEW

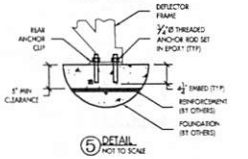
8 G14NB-6 SUGGESTED FOUNDATION SECTION VIEW (BALANCE)
NOT TO SCALE



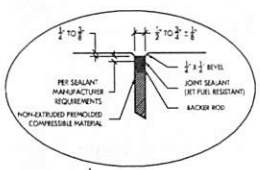
3 G14NB-6 SECTION VIEW
NOT TO SCALE

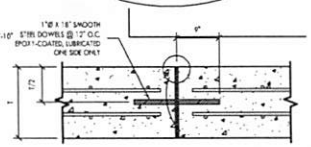


4 DETAIL
NOT TO SCALE

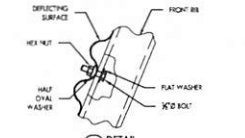


5 DETAIL
NOT TO SCALE



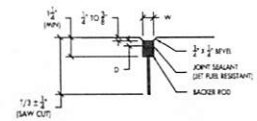


9 SUGGESTED CONSTRUCTION JOINT DETAIL
NOT TO SCALE



6 DETAIL
NOT TO SCALE

DIMENSIONS D AND W ARE PER SEALANT MANUFACTURER REQUIREMENTS



10 SUGGESTED CONTRACTION JOINT DETAIL
NOT TO SCALE

BLAST DEFLECTOR NOTES:

1. BLAST DEFLECTOR SHALL WITHSTAND TAXI/BREAKAWAY EXHAUST VELOCITIES OF ALL COMMERCIAL AND MILITARY AIRCRAFT. DESIGN LOADS ARE:
   - 140 MPH JET BLAST PER FAA GUIDELINES — 50 PSF (NOM.)
   - 167 MPH WIND PER 2017 FBC / ASCE 7-16 — 139.0 PSF (ULT.) = 83.4 PSF (NOM.), ZONES 0 TO 25; 68.1 PSF (ULT.) = 40.9 PSF (NOM.), BALANCE
2. NO AIRCRAFT SHALL BE OPERATED WITH ENGINE NOZZLE CLOSER THAN 60' AND NO TAIL CLOSER THAN 35' TO THE LEADING EDGE OF THE BLAST DEFLECTOR.
3. THE BLAST DEFLECTOR HAS A NOMINAL HEIGHT OF 14' WITH A GREATER EFFECTIVE HEIGHT.
4. FRAME MEMBERS SHALL BE ASTM A36 STEEL AND HOT-DIP GALVANIZED TO 2 OZ./FT² PER ASTM A123.
5. DEFLECTING SURFACES SHALL BE CORRUGATED STEEL SHEETS DESIGNED TO SUPPORT LOADS IN A TWO-SPAN CONDITION. SHEET THICKNESS SHALL BE 16 GA WITH A MINIMUM 2.10 OZ./FT² (G210) HOT-DIP GALVANIZED FINISH PER ASTM A653. SHEET SECTION MODULUS SHALL BE A MINIMUM OF 0.196 IN³/FT.
6. ALL FIELD CONNECTIONS SHALL BE BOLTED (NO FIELD WELDING PERMITTED). FASTENERS SHALL: BE SAE J429 GRADE 5, ASTM A449, OR ASTM F593 (ALLOY GROUP 2) WITH AN APPROPRIATE COATING FOR CORROSION RESISTANCE (WHERE APPLICABLE); ADEQUATE LOCKING PROPERTIES SHALL BE PROVIDED TO PREVENT FASTENERS FROM WORKING LOOSE DURING NORMAL OPERATION (SUBJECT TO MANUFACTURER MAINTENANCE GUIDELINES).
7. ALL ANCHORAGE SHALL BE SUPPLIED BY THE BLAST DEFLECTOR MANUFACTURER AND SHALL BE INSTALLED INTO THE COMPLETED FOUNDATION DURING THE ERECTION OF THE BLAST DEFLECTOR.
8. BLAST DEFLECTOR MANUFACTURER ONSITE SUPERVISION IS REQUIRED DURING INSTALLATION FOR PRODUCT GUARANTEE.
9. ELECTRICAL, LIGHTING, SECURITY ATTACHMENTS, ETC. (IF REQUIRED) SHALL BE BY OTHERS.

CONSTRUCTION NOTES:

10. CONTRACTOR SHALL SUBMIT A BLAST FENCE DESIGN WHICH DOES NOT REQUIRE THE USE OF FIXED OR MOBILE CRANES TO CONSTRUCT. CRANES ARE NOT ALLOWED ON THE PROJECT SITE.

FOUNDATION NOTES:

11. FOUNDATION DESIGN SHOWN IS SUGGESTED ONLY. FINAL FOUNDATION/SUBGRADE DESIGN AND APPROVALS ARE BY OTHERS AND SHALL BE BASED ON SERVICE ANCHOR LOADS SHOWN, SITE SOIL CONDITIONS, AND GOVERNING CODES. DESIGN SHOWN CONSIDERS JET EXHAUST CHARACTERISTICS AND INCORPORATES LOAD REDUCTIONS AT FRAMES ADJACENT TO THE ENGINE CENTERLINES. THIS SUGGESTED DESIGN IS BASED ON THE FOLLOWING ASSUMPTIONS:
   - ALLOWABLE SOIL BEARING CAPACITY — 1200 PSF
   - SOIL LATERAL (PASSIVE) PRESSURE — 220 PSF/FT DEPTH
   - STATIC FRICTION COEFFICIENT — 0.40
12. PROJECT DESIGNER SHALL VERIFY FOUNDATION SUITABILITY AND DESIGN.
13. GENERAL CONTRACTOR SHALL VERIFY CORRECT LOCATION AND ELEVATION OF THE FOUNDATION.
14. FINISHED FOUNDATION SURFACE SHALL BE A SINGLE PLANE AND MAY SLOPE UP TO 2% IN ANY SINGLE DIRECTION TO ACCOMMODATE DRAINAGE OR TO MATCH EXISTING GRADES. THE FOLLOWING TOLERANCES SHALL APPLY:
   - FINISHED FOUNDATION ELEVATION — ±1/4"
   - FOUNDATION DIMENSIONS — ±1/2"
15. PORTLAND CEMENT CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS.
16. REINFORCING STEEL OR ANY OTHER EMBEDDED COMPONENTS, SHALL NOT BE PLACED WITHIN THE TOP 5" OF THE FINISHED FOUNDATION SURFACE FOR ANCHOR BOLT CLEARANCE.
17. CONSTRUCTION AND CONTRACTION JOINTS SHALL BE PLACED 12' O.C. (MAX.) OR PER APPROVED DESIGN, BUT NOT WITHIN 12" OF ANY BLAST DEFLECTOR ANCHOR LOCATION.
18. BLAST DEFLECTOR MANUFACTURER SHALL FURNISH, LOCATE, AND SUPERVISE THE INSTALLATION OF ALL ANCHORAGE AFTER FOUNDATION CONSTRUCTION HAS BEEN COMPLETED.
19. FOUNDATION CONSTRUCTION, CIVIL WORKS, GROUNDING, AND ELECTRICAL (IF REQUIRED) ARE PROVIDED BY THE CONTRACTOR.
20. INSTALL SIGN ON THE FACE SHEETS 6-10 FEET HIGHT. SIGN WILL HAVE 24" YELLOW LETTERING WITH A BLACK PANEL BACKGROUND. SIGN TEXT: "NOT RATED FOR ENGINE RUN-UPS, TAXI/BREAKAWAY THRUST ONLY". SIGN SHALL BE INCLUSIVE WITH THE JET BLAST FENCE PRICE

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROGRESS: CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL

DRAWN BY: M | DATE: 11/08/21
DESIGNED BY: RD | SCALE: AS NOTED
CHECKED BY: MS
FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

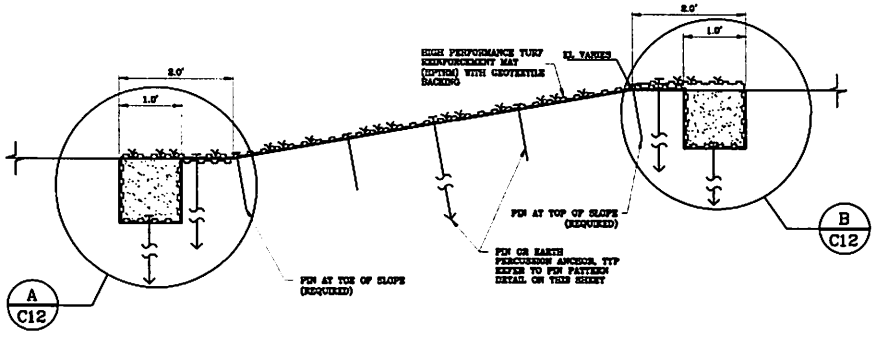
REVISIONS

NO.	DATE	BY	DESCRIPTION

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
BREAKAWAY POWER JET BLAST DEFLECTOR DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C11
TOTAL: 36
CAD FILE: 12474-MULTI-DET5
DRAWING FILE NO. 4-142-90

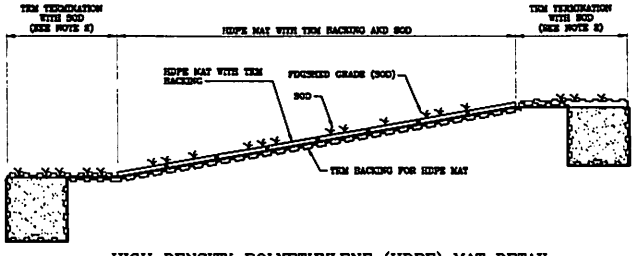
C:\PWWORKING\EAST01\D2070983\12474-MULTI-DETS.DWG



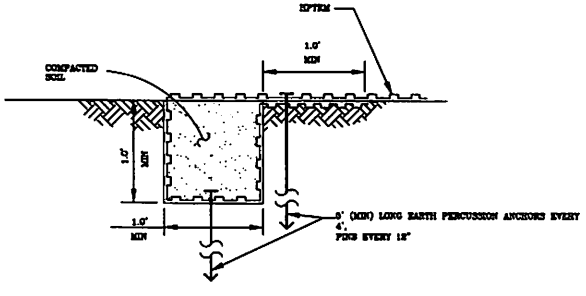
① HIGH PERFORMANCE TURF REINFORCEMENT MAT (HPTRM) DETAIL
NOT TO SCALE

SOIL STABILIZATION NOTES:

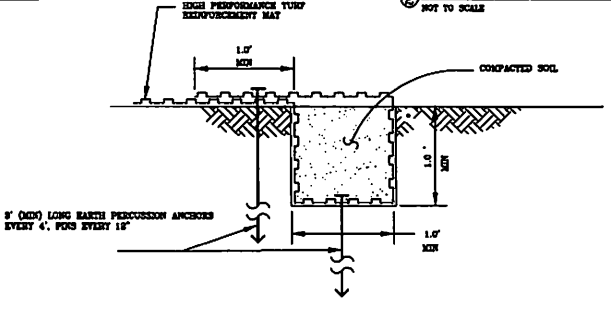
1. CONTRACTOR TO ENSURE ALL FINISHED GRADE ELEVATIONS (AFTER SOD PLACEMENT) BETWEEN TRANSITIONS IN LOCATIONS WITH HDPE MATS WITH SOD, HPTRM WITH SOD, AND SOD ONLY AREAS ARE FLUSH AND NO IRREGULAR SURFACE CONDITIONS ARE PRESENT.
2. TRM BACKING FOR HDPE MATS TO BE TERMINATED IN ACCORDANCE WITH BOTTOM INITIAL TRENCH AND TOP TERMINAL TRENCH DETAILS SHOWN IN THIS DRAWING (INCLUDING ANCHORING SYSTEM AT TRENCH TERMINATION TRENCHES).
3. HDPE MAT ANCHORING TO BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATIONS.



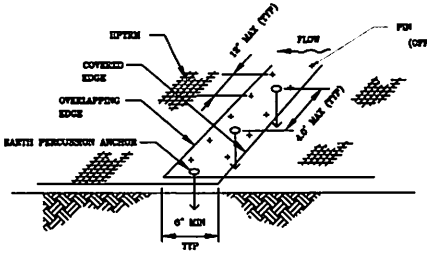
② HIGH DENSITY POLYETHYLENE (HDPE) MAT DETAIL
NOT TO SCALE



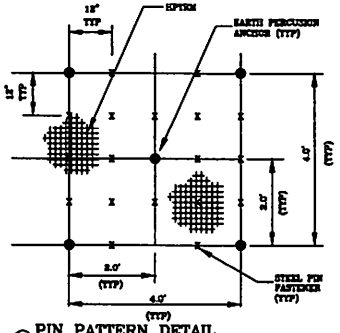
Ⓐ BOTTOM INITIAL TRENCH DETAIL
NOT TO SCALE



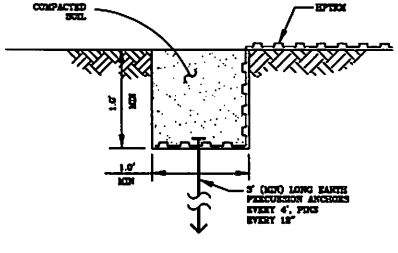
Ⓑ TOP TERMINAL TRENCH DETAIL
NOT TO SCALE



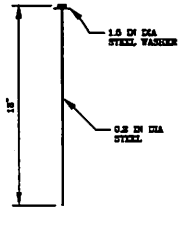
Ⓒ TURF REINFORCEMENT MAT OVERLAP JOINT
NOT TO SCALE



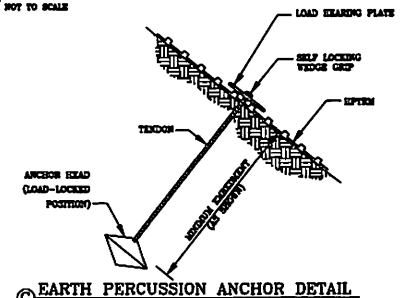
Ⓓ PIN PATTERN DETAIL
NOT TO SCALE



Ⓔ LONGITUDINAL EDGE TRENCH DETAIL
NOT TO SCALE



Ⓕ STEEL PIN FASTENER DETAIL
NOT TO SCALE



Ⓖ EARTH PERCUSSION ANCHOR DETAIL
NOT TO SCALE

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
FLORIDA STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING
FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
2320 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA 33309
T 954.233.1676 F 954.233.4853
CA# 4213

BID DOCUMENTS

PROCESS: CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR APPROVAL

PROJECT MANAGER: M | DESIGNED BY: RD | DRAWN BY: | CHECKED BY: MB | DATE: 11/09/21 | SCALE: AS NOTED | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

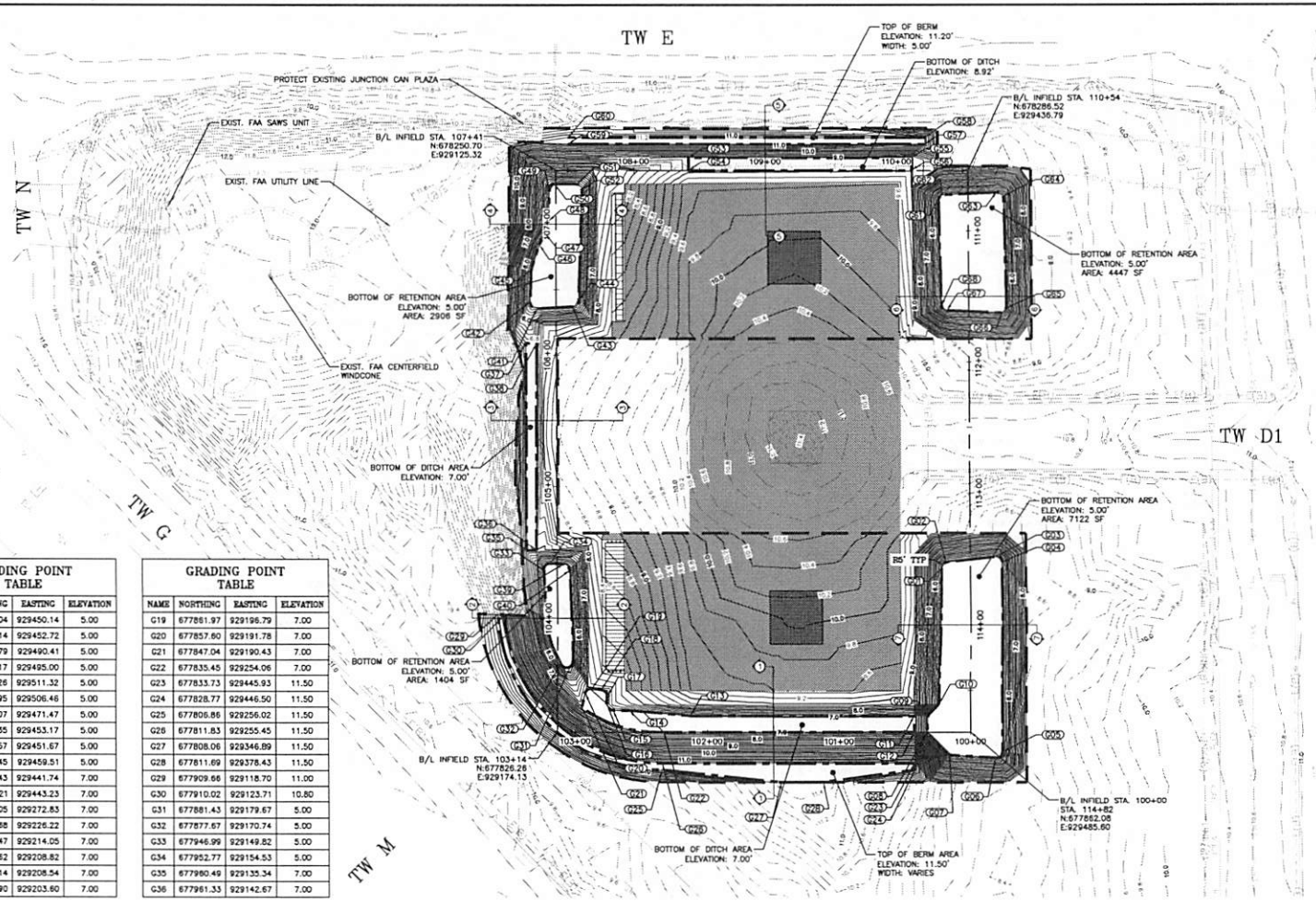
NO.	DATE	BY	DESCRIPTION

REVISIONS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
SUGGESTED SOIL STABILIZATION DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C12
TOTAL: 36
CAD FILE: 12474-C12-DETL
DRAWING FILE NO. 4-142-90

C:\PWORKING\EAST01\D2070363\12474-C12-DETL.DWG



GRADING POINT TABLE			
NAME	NORTHING	EASTING	ELEVATION
G01	677983.04	929450.14	5.00
G02	677988.14	929452.72	5.00
G03	677996.79	929490.41	5.00
G04	677993.17	929495.00	5.00
G05	677850.26	929511.32	5.00
G06	677844.95	929506.46	5.00
G07	677843.07	929471.47	5.00
G08	677858.35	929453.17	5.00
G09	677870.57	929451.67	5.00
G10	677880.45	929459.51	5.00
G11	677869.43	929441.74	7.00
G12	677857.21	929443.23	7.00
G13	677850.05	929272.83	7.00
G14	677848.88	929226.22	7.00
G15	677847.47	929214.05	7.00
G16	677851.62	929208.82	7.00
G17	677857.14	929208.54	7.00
G18	677861.90	929203.60	7.00

GRADING POINT TABLE			
NAME	NORTHING	EASTING	ELEVATION
G19	677861.97	929196.79	7.00
G20	677857.60	929191.78	7.00
G21	677847.04	929190.43	7.00
G22	677835.45	929254.06	7.00
G23	677833.73	929445.93	11.50
G24	677828.77	929446.50	11.50
G25	677806.86	929256.02	11.50
G26	677811.83	929255.45	11.50
G27	677808.06	929346.89	11.50
G28	677811.69	929378.43	11.50
G29	677909.66	929118.70	11.00
G30	677910.02	929123.71	10.80
G31	677881.43	929179.67	5.00
G32	677877.67	929170.74	5.00
G33	677946.99	929149.82	5.00
G34	677952.77	929154.53	5.00
G35	677960.49	929135.34	7.00
G36	677961.33	929142.67	7.00

GRADING POINT TABLE			
NAME	NORTHING	EASTING	ELEVATION
G37	678117.31	929117.42	7.00
G38	678118.25	929125.59	7.00
G39	677953.22	929164.28	5.00
G40	677948.97	929169.46	5.00
G41	678144.35	929122.91	5.00
G42	678148.91	929117.09	5.00
G43	678148.87	929149.49	5.00
G44	678154.19	929153.64	5.00
G45	678173.44	929115.25	5.00
G46	678193.00	929119.03	5.00
G47	678201.63	929122.62	5.00
G48	678211.75	929124.03	5.00
G49	678235.08	929122.07	5.00
G50	678240.32	929125.00	5.00
G51	678242.18	929142.62	5.00
G52	678238.62	929146.92	5.00
G53	678272.16	929224.29	8.92
G54	678262.23	929225.43	8.92

GRADING POINT TABLE			
NAME	NORTHING	EASTING	ELEVATION
G55	678291.59	929393.19	8.92
G56	678281.65	929394.33	8.92
G57	678303.04	929402.11	11.20
G58	678308.01	929401.54	11.20
G59	678272.04	929132.51	11.20
G60	678277.01	929131.94	11.20
G61	678261.50	929417.01	5.00
G62	678266.18	929419.66	5.00
G63	678272.69	929460.43	5.00
G64	678270.48	929465.80	5.00
G65	678185.91	929477.31	5.00
G66	678181.86	929474.30	5.00
G67	678178.60	929432.51	5.00
G68	678181.78	929428.08	5.00

LEGEND

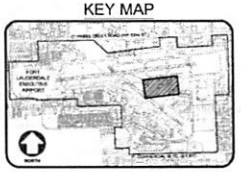
- LIMITS OF NEW ASPHALT PAVEMENT
- LIMITS OF NEW CONCRETE PAVEMENT
- LIMITS OF PROPOSED GRADING
- PROPOSED CONTOUR (11.0)
- EXISTING CONTOUR (10.0)

GRADING NOTES:

1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO OBTAIN UNDERGROUND UTILITY LOCATION AS REQUIRED BY LAW. SEE DEMOLITION NOTES SHEET C04 NOTE 7. ALL FACILITIES ARE TO REMAIN EXCEPT WHERE OTHERWISE SHOWN. TAKE CARE DURING CONSTRUCTION TO AVOID DAMAGE TO EXISTING ABOVE GROUND AND UNDERGROUND FACILITIES.
2. CONTRACTOR SHALL GRADE AROUND ALL EXISTING STRUCTURES TO REMAIN, INCLUDING BUT NOT LIMITED TO TAXIWAY AND RUNWAY SIGNAGE, WIND SOCKS, DRAINAGE INLETS AND ELECTRICAL MANHOLES.
3. CONTRACTOR WILL PROTECT ALL TAXIWAY EDGE LIGHTS DURING CONSTRUCTION.
4. IN CASE WHERE GEOMETRY IS NOT DELINEATED BY STATION/ OFFSET, IT SHALL MATCH THE EXISTING LAYOUT OF THE MILLED EDGE OF PAVEMENT.
5. SEE SHEET C14 FOR CROSS SECTIONS REFERENCED ON THIS SHEET.
6. POND AND DITCH BOTTOM RADIUS TYPICALLY 5'

THE ELEVATION SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) TO CONVERT THE ELEVATIONS HEREON TO NATIONAL GEODETIC VERTICAL DATUM (NGVD29) ADD 1.585 FEET.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3260 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

CHECKED BY: CODY T. PARHAM REG. No: 73904 DATE: 11/09/21
TEL: (561) 805-8641 FAX: (954) 255-1468

DRAWN BY: M | DATE: 11/09/21
DESIGNED BY: RD | SCALE: AS NOTED
CHECKED BY: WB | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS			
NO.	DATE	BY	DESCRIPTION

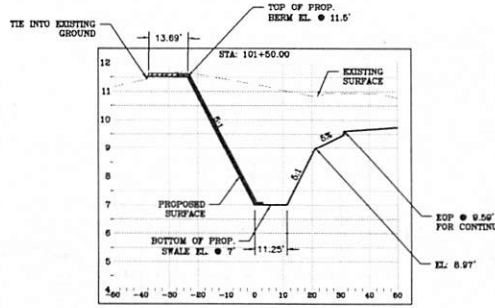
PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
GRADING PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C13
TOTAL: 36
CAD FILE: 12474-MULTI-GRAD
DRAWING FILE NO. 4-142-90

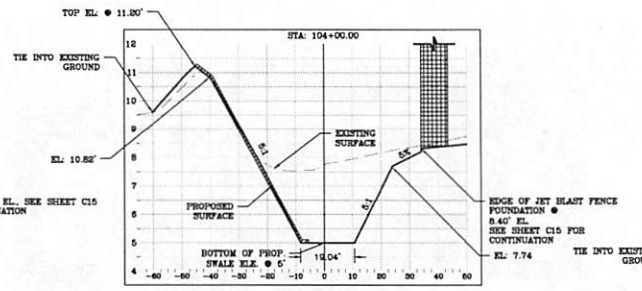
C:\PWWORKING\EAST01\D2070963\12474-MULTI-GRAD.DWG

F:\110\D22 7:32 AM

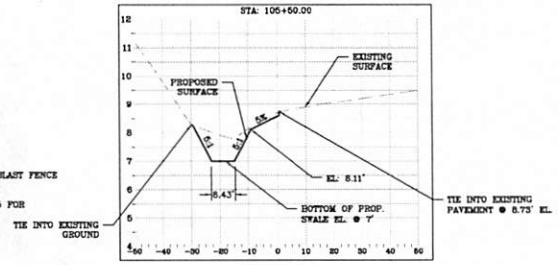
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



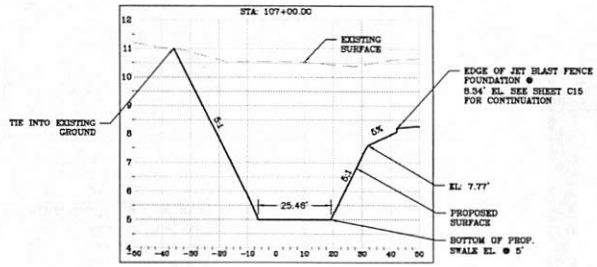
① SECTION 1
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



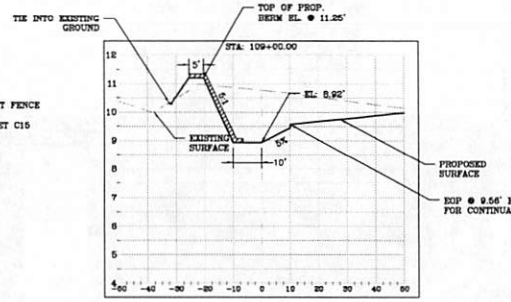
② SECTION 2
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



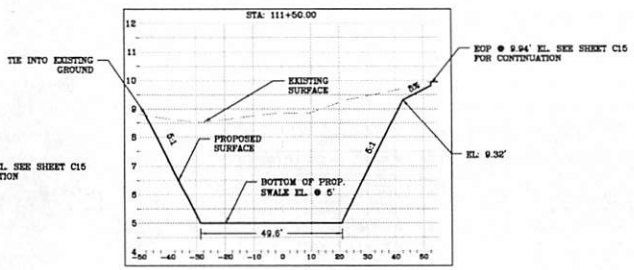
③ SECTION 3
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



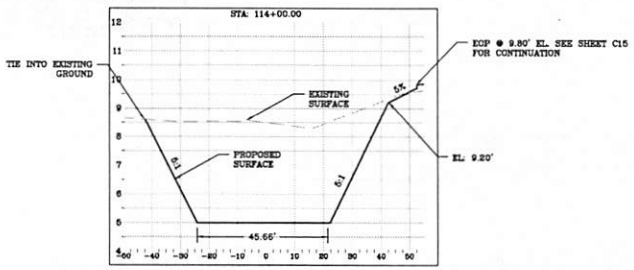
④ SECTION 4
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



⑤ SECTION 5
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



⑥ SECTION 6
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'



⑦ SECTION 7
VERTICAL SCALE 1" = 2' HORIZONTAL SCALE 1" = 20'

THE ELEVATION SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) TO CONVERT THE ELEVATIONS HEREON TO NATIONAL GEODETIC VERTICAL DATUM (NGVD29) ADD 1.585 FEET.

GRADING NOTES:

1. DIMENSIONS SHOWN ARE NOT TYPICAL.

LEGEND

PROPOSED COMPACTED ASPHALT MILLINGS. SEE SHEET C07 FOR EXTENTS OF PLACEMENT.

PROPOSED HIGH PERFORMANCE TURF REINFORCEMENT (HPTRM) MAT SEE SHEET C12.

PROPOSED FULL POWER JET BLAST FENCE SEE SHEET C10 FOR DETAILS.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW!
DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
GRADING CROSS SECTIONS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

NO.	DATE	BY	CHK'D	DESCRIPTION

REVISIONS

PROGRESS
CODY T. PARHAM
REG. No: 75004
DATE: 11/09/21
TEL: (561) 209-6641
FAX: (954) 233-1888

DRAWN BY: MI
DATE: 11/09/21
DESIGNED BY: RG
SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

SHEET NO.
C14

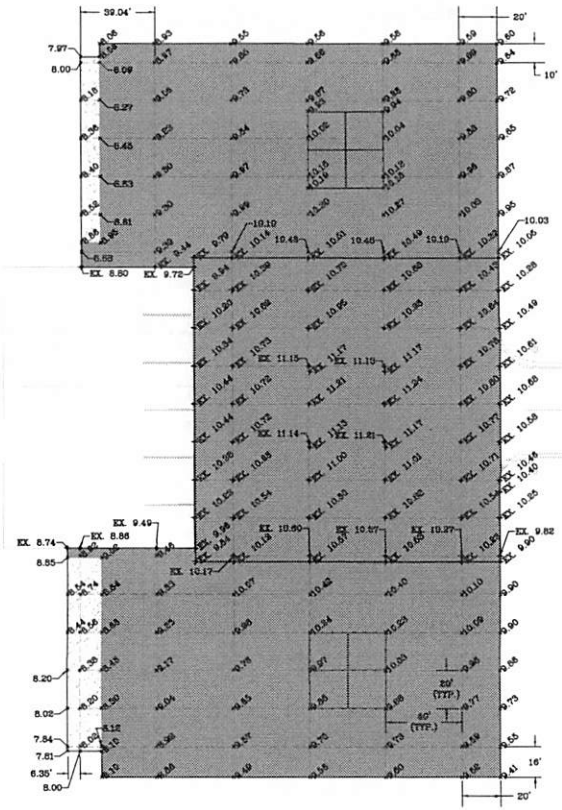
TOTAL: 36

CAD FILE: 12474-MULTI-GRAD

DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-MULTI-GRAD.DWG

7/13/2022 7:52 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



LEGEND

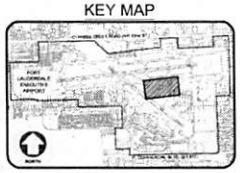
- ASPHALT PAVEMENT
- CONCRETE FOR JET BLAST FOUNDATION
- XXX.XX — PROP. SPOT ELEVATION
- XX.XX — EXIST. SPOT ELEVATION

NOTES

1. MATCH EXISTING ELEVATION WHEREVER PAVEMENT TIES BACK TO THE EXISTING PAVEMENT.

2. CONTRACTOR SHALL PROVIDE ASBUILT TOPOGRAPHIC SURVEY OF THE FINAL BASE COURSE SURFACE FOR ENGINEER REVIEW AND ACCEPTANCE 3 WORKING DAYS PRIOR TO COMMENCEMENT OF PAVING. SURVEY SHALL BE IN AUTOCAD .DWG FORMAT. SURVEY DATA POINTS SHALL MATCH THE GRID POINTS DEPICTED IN THIS PLAN.

KEY MAP





CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3250 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
ELEVATION PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO.
C15

TOTAL: 36

CAD FILE:
12474-C15-ELEV

DRAWING FILE NO.
4-142-90

REVISIONS

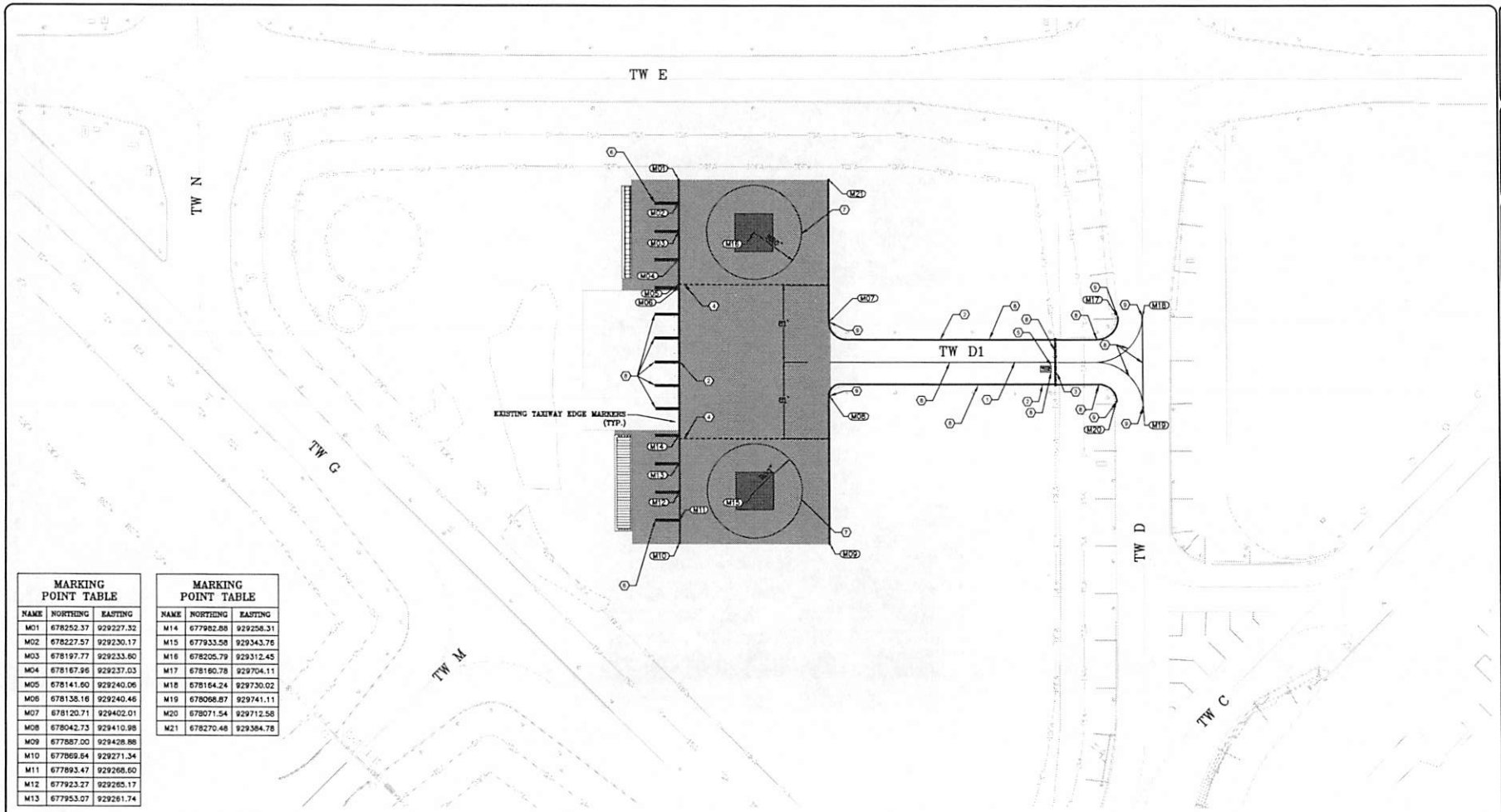
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: M
DATE: 11/09/21
DESIGNED BY: RD
SCALE: AS NOTED
CHECKED BY: WB
FIELD BOOK:

PROGRESS
CODY T. PARHAM
REG. No: 73004
DATE: 11/09/21
TEL: (561) 208-4641
FAX: (954) 233-4053

C:\PWWORKING\EAST01\D2070963\12474-C15-ELEV.DWG



MARKING POINT TABLE		
NAME	NORTHING	EASTING
M01	678252.37	929227.32
M02	678227.57	929230.17
M03	678197.77	929233.60
M04	678167.96	929237.03
M05	678141.60	929240.06
M06	678138.16	929240.46
M07	678120.71	929402.01
M08	678042.73	929410.98
M09	677887.00	929428.88
M10	677869.64	929271.34
M11	677893.47	929268.60
M12	677923.27	929265.17
M13	677953.07	929261.74

MARKING POINT TABLE		
NAME	NORTHING	EASTING
M14	677982.88	929256.31
M15	677933.58	929343.76
M16	678205.79	929312.45
M17	678160.78	929704.11
M18	678164.24	929730.02
M19	678068.87	929741.11
M20	678071.54	929712.58
M21	678270.48	929384.78

LEGEND

LIMITS OF NEW ASPHALT PAVEMENT

LIMITS OF NEW CONCRETE PAVEMENT

KEYNOTES

(7) TAXIWAY CENTERLINE MARKING (DETAIL 1 SHEET C17)

(2) TAXIWAY EDGE MARKING (DETAIL 2, SHEET C17)

(3) NON-MOVEMENT AREA MARKING (DETAIL 3, SHEET C17)

(4) INTERMEDIATE HOLDING POSITION MARKING (DETAIL 4, SHEET C17)

(5) SURFACE PAINTED TAXIWAY LOCATION SIGN (DETAIL 5, SHEET C17)

(6) TAXIWAY SHOULDER MARKING (DETAIL 6, SHEET C17)

(7) 6" YELLOW MARKING WITH 6" BLACK BORDER

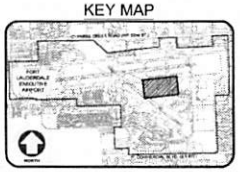
(8) REPLACE MARKING PER EXISTING TO THE LIMITS SHOWN. MARKING TOLERANCES SPECIFIED IN P-620 DO NOT APPLY TO RE-APPLICATION OF EXISTING MARKING

(9) MATCH EXISTING MARKING AT ENDPOINT

MARKING NOTES:

1. PREPARE SURFACES IN ACCORDANCE WITH SPECIFICATION P-620 PRIOR TO APPLYING MARKINGS.
2. TEMPORARY MARKINGS ARE REQUIRED ONLY IN LOCATIONS WHERE THE EXISTING MARKINGS WERE DESTROYED OR NEW MARKING CONFIGURATION IS PROPOSED.
3. TEMPORARY MARKINGS ARE NOT REQUIRED WHERE EXISTING MARKINGS ARE BEING REAPPLIED.
4. BLACK BORDERS ARE NOT TO BE APPLIED AS PART OF THE TEMPORARY MARKINGS.
5. MARKING DETAILS ARE PROVIDED ON SHEETS C17
6. FOR MARKINGS SPECIFIED TO BE RE-APPLIED IN THE SAME LAYOUT AS THE EXISTING CONDITION. CONTRACTOR MUST PROVIDE SUFFICIENT FIELD SURVEY TO RE-ESTABLISH THE MARKING LAYOUT AFTER THE MARKING IS REMOVED DURING CONSTRUCTION.
7. CONTRACTOR SHALL LAYOUT ALL MARKINGS FOR RPR APPROVAL PRIOR TO PROCEEDING WITH THE MARKING APPLICATION.

KEY MAP



0 50' 100'

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR ENGINEERING, INC.
3200 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:964.233.4953
CA# 4213

BID DOCUMENTS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
MARKING PLAN
6000 NW 21ST AVE, FORT LAUDERDALE, FL

REVISIONS			
NO.	DATE	BY	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	MI
DATE:	11/09/21
DESIGNED BY:	RD
SCALE:	AS NOTED
CHECKED BY:	WB
FIELD BOOK:	

ENGINEER: CODY T. PAULSEAM FL. NO. 75044 DATE: 11/09/21

TEL: (561) 220-9541 FAX: (954) 233-4953

SHEET NO. C16

TOTAL: 36

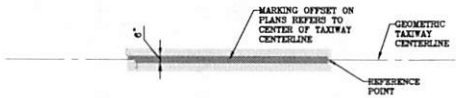
CAD FILE: 12474-C16-MARK

DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-C16-MARK.DWG

11/9/2021 7:32 AM

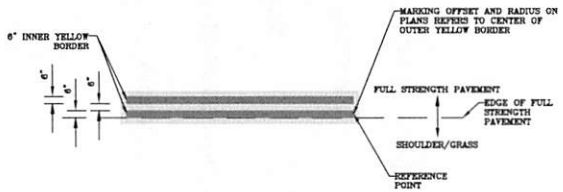
Tuesday, November 09, 2021 IGNACIO, MIRON EVANS



① TAXIWAY CENTERLINE MARKING DETAIL

NOT TO SCALE

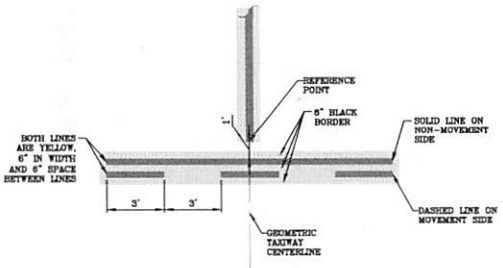
NOTES:
1. ALL TAXIWAY CENTERLINE MARKINGS SHALL BE YELLOW WITH TYPE III REFLECTIVE MEDIA.
2. A 6" BLACK BORDER OR BACKGROUND SHALL BE APPLIED TO FINAL MARKINGS AS SHOWN.
3. DIMENSIONS SHOWN DO NOT INCLUDE 6" NON-REFLECTIVE BLACK OUTLINE.



② CONTINUOUS TAXIWAY EDGE MARKING DETAIL

NOT TO SCALE

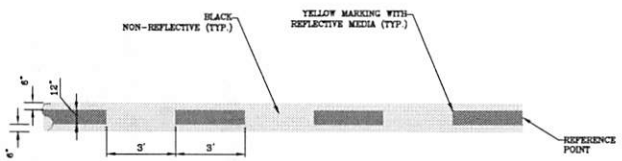
NOTES:
1. RADIUS MEASUREMENTS ON CURVED TAXIWAY REFERS TO OUTER YELLOW BORDER.
2. ALL CONTINUOUS TAXIWAY EDGE MARKINGS SHALL BE YELLOW WITH TYPE III REFLECTIVE MEDIA.
3. CONTINUOUS TAXIWAY EDGE MARKING SHALL NOT CONFLICT WITH RUNWAY HOLD BAR MARKING DETAILS INCLUDING 6" NON-REFLECTIVE BLACK OUTLINE.
3. A 6" BLACK BORDER OR BACKGROUND SHALL BE APPLIED TO FINAL MARKINGS AS SHOWN.
4. TEMPORARY MARKING INSTALLATION SHALL NOT INCLUDE A 6" BLACK BORDER.



③ NON-MOVEMENT AREA MARKING

NOT TO SCALE

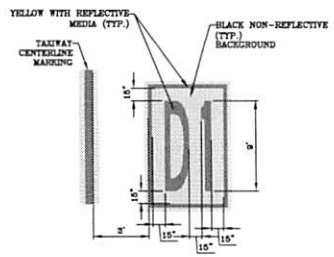
NOTES:
1. DIMENSIONS PROVIDED FOR GENERAL GUIDANCE ONLY. CONTRACTOR SHALL MATCH EXISTING LAYOUT.
2. FINAL NON-MOVEMENT AREA MARKINGS SHALL BE YELLOW WITH TYPE III REFLECTIVE MEDIA.
3. A 6" BLACK BORDER OR BACKGROUND SHALL BE APPLIED TO FINAL MARKINGS AS SHOWN.



④ INTERMEDIATE HOLDING POSITION MARKING

NOT TO SCALE

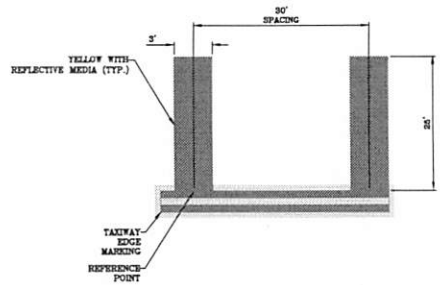
NOTES:
1. ALL INTERMEDIATE HOLDING POSITION MARKINGS SHALL BE YELLOW WITH TYPE III REFLECTIVE MEDIA.
2. A 6" BLACK BORDER OR BACKGROUND SHALL BE APPLIED TO FINAL MARKINGS AS SHOWN.
3. DIMENSIONS SHOWN DO NOT INCLUDE 6" NON-REFLECTIVE BLACK OUTLINE.
4. TEMPORARY MARKING INSTALLATION SHALL NOT INCLUDE A 6" BLACK BORDER.



⑤ SURFACE PAINTED TAXIWAY LOCATION SIGN

NOT TO SCALE

NOTES:
1. DIMENSIONS PROVIDED FOR GENERAL GUIDANCE ONLY. CONTRACTOR SHALL MATCH EXISTING LAYOUT
2. THE MARKINGS SHALL BE REFRESHED PER EXISTING LAYOUT. CHARACTERS SHALL BE PER AC 150/5340-1M
3. A 6" BLACK BORDER SHALL BE APPLIED TO MARKINGS AS SHOWN.



⑥ TAXIWAY SHOULDER MARKING

NOT TO SCALE

NOTES:
1. CONTRACTOR SHALL MATCH EXISTING LAYOUT ON AREAS WHERE SHOULDER MARKINGS ARE TO BE REFRESHED.

BID DOCUMENTS

CALL 48 HOURS BEFORE YOU DIG
811
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
CALL 48 HOURS BEFORE DIGGING FAA FACILITIES 954-356-7212

HDR
HDR ENGINEERING, INC.
3260 WEST COMMERCIAL BLVD., SUITE 100
FORT LAUDERDALE, FLORIDA, 33309
T: 954.535.1876 F:954.233.4953
CA# 4213

DRAWN BY: M | DATE: 11/09/21 | DESIGNED BY: PID | SCALE: AS NOTED | CHECKED BY: WB | FIELD BOOK:

ENGINEER: CODY T. PARHAM REG. No: 73004 DATE: 11/09/21
TEL: (561) 809-6441 FAX: (954) 233-4953

CITY OF FORT LAUDERALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	DATE	BY	CHK'D	DESCRIPTION

REVISIONS

PROJECT # P12474
MIDFIELD RUN-UP EXPANSION
FORT LAUDERDALE EXECUTIVE AIRPORT
MARKING DETAILS
6000 NW 21ST AVE, FORT LAUDERDALE, FL

SHEET NO. C17
TOTAL: 36
CAD FILE: 12474-C17-DETL
DRAWING FILE NO. 4-142-90

C:\PWWORKING\EAST01\D2070963\12474-C17-DETL.DWG

7/11/2022 7:32 AM Tuesday, November 09, 2021 IGNACIO, MIRON EVANS

BID NO. 12666-623 SPECIFIC REFERENCES FORM

Bidder shall submit proof of successful completion of a minimum of three (3) airfield construction projects completed within the last ten (10) years in accordance with the requirements of the solicitation specifications/scope of work. Include the owner's name, address, phone number, and current e-mail address.

Note: Do not include proposed team members or parent/subsidiary companies as references in your submittals.

A. PRIME BIDDER'S NAME:

CLIENT NO.1 - Name of firm to be contacted:

Address:

Contact Person:

Phone No:

Contact E-Mail Address:

Project Performance Period: to Dates should be in mm/yy format

Project Name:

Location of Project:

Description of the overall scope:

Description of work that was self-performed by Bidder:

CLIENT NO.2 - Name of firm to be contacted:

Address:

Contact Person:

Phone No:

Contact E-Mail Address:

Project Performance Period: to Dates should be in mm/yy format

Project Name:

Location of Project:

Description of the overall scope:

Description of work that was self-performed by Bidder:

CLIENT NO.3 - Name of firm to be contacted:

Address:

Contact Person:

Phone No:

Contact E-Mail Address:

Project Performance Period: to Dates should be in mm/yy format

Project Name:

Location of Project:

Description of the overall scope:

Description of work that was self-performed by Bidder:

QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name:

President

Business Address:

Telephone: Fax:

E-Mail Address:

What was the last project of this nature which you completed? Include the year, description, and contract value.

The following are named as three corporations and representatives of those corporations for which you have performed work similar to that required by this contract, and which the City may contact as your references (include addresses, telephone numbers and e-mail addresses). Include the project name, year, description, and contract value.

How many years has your organization been in business?

Have you ever failed to complete work awarded to you; if so, where and why?

The name of the qualifying agent for the firm and his position is:

Certificate of Competency Number of Qualifying Agent:

Effective Date: Expiration Date:

Licensed in: Engineering Contractor's License #

(County/State)

Expiration Date:

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor must have proper licensing and shall provide copy of same with his proposal.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?

//

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a)

b)

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?

//

4. What equipment will you purchase for the proposed work?

//

5. What equipment will you rent for the proposed work?

//

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature Title

Name (Printed) Date

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Authorized Signature Print Name and Title

Date

CONSTRUCTION BID CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the Department of State, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration)

Address:

City: State: Zip:

Telephone No.: FAX No.: Email:

Check box if your firm qualifies for MBE / SBE / WBE: ☐

If a corporation, state the name of the President, Secretary and Resident Agent. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name.

Name	**Title**	**Name**	**Title**
Name	**Title**	**Name**	**Title**

ADDENDUM ACKNOWLEDGEMENT - Bidder acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued

---

VARIANCES: If you take exception or have variances to any term, condition, specification, or requirement in this bid you must specify such variance in the space provided below or reference in the space provided below all variances contained on other pages within your bid. Additional pages may be attached if necessary. No variances will be deemed to be part of the bid submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**

The below signatory affirms that he has or will obtain all required permits and licenses from the appropriate agencies, and that his firm is authorized to do business in the State of Florida. The below signatory agrees to furnish all labor, tools, material, equipment and supplies, and to sustain all the expense incurred in doing the work set forth in strict accordance with the bid plans and contract documents at the unit prices indicated if awarded a contract. The below signatory has not divulged to, discussed, or compared this bid with other bidders, and has not colluded with any other bidder or parties to this bid whatsoever. Furthermore, the undersigned guarantees the truth and accuracy of all statements and answers contained in this bid. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a bid, that in no event shall the City's liability for bidder's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Name (printed) Signature

Date Title

Revised 4/28/2020

Question and Answers for Bid #12666-623 - Fort Lauderdale Executive Airport Midfield Run-up Expansion (P12474)

Overall Bid Questions

There are no questions associated with this bid.

DOCUMENT ROUTING FORM

NAME OF DOCUMENT: FXE AIRPORT MIDFIELD RUN-UP EXPANSION (BID #12666-623; P12474)

1C

CONTRACTOR'S NAME: WEEKLEY ASPHALT PAVING INC.

SURETY BOND REQUIRED? X Yes ____ No

Approved Comm. Mtg. on: **2/21/2023** CAM#: **23-0131** ITEM: ☒ **M-3**

Item: ☐ M - ☐ PH-____ ☐ O - _____ ☐ CR- _____ ☐ R- _____

Routing Origin: **PUBLIC WORKS DEPARTMENT/ENGINEERING**

ATTACHED: ☐ Copy of CAR ☒ ACM Form ☒ 2 originals

Capital Improvements defined as having a life of at least 10 years and a cost of at least $50,000 and shall mean improvements to real property (land, buildings, fixtures) that add value and/or extend useful life, inc. major repairs such as roof replacement, etc. Term "Real Property" include: land, real estate, realty, real.

Funding Source:

Amount Required by Contract/Agreement: $2,384,660 Dept./Div: PW/ENG

Index/Sub-object: 10-468-9100-542-60-6599-P12474 - $476,932 & 10-468-9100-542-60-6599-P12474A - $1,907,728 Project #: P12474

Please Check the proper box: CIP FUNDED ☒ YES ☐ NO Signature Shannon Barrett Date: 5/11/2023

1.) Approved as to Content: by _____ (Public Works Director) Date: 5/18/23

2.) Approved as to Procurement: by _____ (Procurement Manager or designee) Date: 5/15/23

3.) Approved as to Funds Available: by _____ (Finance Director or designee) Date: 5/19/23

4.) City Attorney's Office: Approved as to Form:# 1 original to City Mgr. By: 5/25/23

Shari C. Wallen SCW/JL

Rhonda Hasan	____	Paul G. Bangel	____
Lynn Solomon	____	Kimberly Cunningham Mosley	____

5.) Approved as to content: Assistant City Manager: MA 1/12

by: _____ Assistant City Manager

by: _____ Christopher Lagerbloom, City Manager

6.) City Manager: Please sign as indicated and forward : 1 original to City Clerk

7.) To City Clerk for attestation and City seal. 1 original to Clerk.

INSTRUCTIONS TO CLERK'S OFFICE

8.) **City Clerk**: Date first page with last date signed, and forward 1 original document with routing form to **Maureen Lewis, x5239.**