Putnam and Marion types (Bullen 1975). As the Archaic population became more sedentary, a variety of site types evolved, including base camps, short-term camps, procurement camps, and cemeteries (Milanich 1994:75-85). By about 6,500 BC, the Florida populace had developed a more sedentary, or semi-sedentary, settlement system wherein groups seem to have established permanent habitation sites of larger size than had been utilized previously. Dependence on large mammals for subsistence had waned by Archaic times, and the populace had turned to riverine, lacustrine, and coastal resources to supply their subsistence needs.

Past researchers have postulated that Middle Archaic (5,000-3,000 BC) peoples of Florida lived almost exclusively in the interior of the state and made only occasional ventures to the Atlantic coast. As an outcome of recent surveys and test excavations along the northern Atlantic coast of Florida, however, it has become clear that preceramic groups were occupying the Atlantic coast on a regular basis during the Middle Archaic period (Russo 1988; 1992; Bond 1992). These coastal peoples were exploiting the abundant aquatic estuarine resources of the Atlantic seaboard.

Two important sites with Middle Archaic components are Gauthier (8BR193) and Windover (8BR246). Both are cemeteries that were used over an extended period of time. The Gauthier site was located in a low hammock adjacent to a wetland. Use of this terrestrial cemetery is believed to have spanned the Middle and Late Archaic periods (Jones 1981). In contrast, the Windover site includes a Middle Archaic pond cemetery. Primary burials, initially placed in the subaqueous zone of a peat pond, were interred during the period ca. 7,000-6,000 BC (Doran and Dickel 1988a, 1998b). Neither cemetery site was associated with a nearby and contemporaneous village or base settlement. Archaic period pond cemeteries located within south Florida include the Bay West site and the Republic Grove site. Within southeast Florida, the West Ridge site (8BD1119) remains the only discovered Middle Archaic site. The West Ridge site is a black earth midden situated on Pine Island, and this site produced faunal remains, debitage, and Middle Archaic projectile points (Carr et al. 1991:90).

Late Archaic Period

Around the end of the Middle Archaic period, Lake Okeechobee had formed, and this in turn stimulated the formation of the Everglades (Brooks 1984). Peace Camp and Taylor's Head, two Late Archaic sites in the Everglades, have been dated to 1050 $\pm$ 140 BC (Mowers and Williams 1972:18) and 2840 $\pm$ 210 BC (Masson et al. 1988:346) respectively. Several Late Archaic mortuary sites also occur in southeast Florida. The Cheetum site in Dade County produced 21 burials; charcoal associated with these cemetery burials produced radiocarbon dates of 2020 $\pm$ 370 BC and 3120 $\pm$ 160 BC (Newman 1993:41). The East Midden site (8BD1113), another Late Archaic cemetery with an associated earth midden, is located on Pine Island Ridge in Broward County (Carr 1990).

Late Archaic peoples possessed essentially the same material culture as their predecessors, with the addition of fired-clay pottery occurring around 2,000 BC (Milanich 1994). This distinct ceramic type, known as Orange pottery, was tempered with Spanish moss or palmetto fibers

(Milanich 1994:86) and was molded by hand into bowls of various sizes and shapes (Griffin 1945; Bullen 1972). Orange ceramics are widespread in Florida and are represented by two dominant styles: Orange Plain and Orange Incised.

During the Orange period, population density in the inland marshes is thought to have been low and environmental circumscription seems to have been a guiding factor in Orange period settlement. Because water levels were lower, wetland communities were reduced in size and probably less productive, suggesting that groups were frequently on the move (Russo 1988; Sigler-Eisenberg 1988). This is reflected in the archaeological record, with Orange period sites manifested as small middens distributed in a linear pattern within the upper basin. Seasonal movements from the inland marshes to the coast may have occurred at this time.

The Glades Period (500 BC – 1750 AD)

As with other areas of Florida, ceramics in the southeast Florida make a transition from fiber-tempering to sand-tempering. This would serve as a transitional marker from the Late Archaic to the Glades Period. Griffin (1988) accentuates the period is defined by technological and stylistic changes in ceramics manufacture as well as other cultural traits. At the same time, corner- notching, basal-notching, and stemmed projectile points begin to appear in southeast Florida sites (Bullen 1968). The shift in ceramic styles and projectile point manufacture suggest interaction between culture areas. Like previous time periods, major settlements were found along the coast with shell middens. Inland sites occurred typically on what little elevation the region provides in close proximity to water sources. Just as the case with other cultures such as the St. Johns in the northeast, the populations in this time period are far larger than their predecessors (Milanich 1994).

The Glades period is divided into three major divisions, while those divisions are broken down further into smaller periods. The early Glades I period (500 BC – 500 AD) marks the transition from fiber-tempered pottery to sand-tempered pottery. All pottery in this time range was plain. After 500 AD, which at this time is referred to as the late Glades I, decorated pottery featuring incised and punctated surface treatment would appear. All decoration was focused either just under the lip of the vessel or on the lip itself (Milanich 1994). Typologies typical of this period include Fort Drum, both incised and punctated, Cane Patch incised, Gordon's Pass incised, Sanibel incised, and Opa Locka incised.

Throughout Glades IIa and Glades IIb (750 AD – 900 AD, 900 AD- 1100 AD, respectively), more decorated ceramics would appear along with rim modification. But by the start of the Glades IIc (1100 AD – 1200 AD), ceramic manufacture would leave out surface decoration all together. It would remain that way for the next one hundred years until the start of the Glades III when Surfside incised and St. Johns Check Stamped appear in the archaeological record of southeast Florida (Griffin 1988).

The Glades III (1200 AD – 1750 AD) marked the reemergence of decorated pottery and the continuation of rim modification. Eventually, Surfside incised's manufacture would stop during the Glades IIIb (1400 AD – ca. 1513 AD). St. Johns Check Stamped and sand-tempered plain ceramics would persist through the contact period and to the end of the Glades IIIc (Griffin 1988).

Historic Period (1513 - 1817)

Ponce de Leon, the first recorded Spanish explorer to set out from the Indies, landed near present day Palm Beach in 1513 (Fagan 1991:23). During this expedition Ponce de Leon also visited an area he called Rio de la Cruz, now believed to be Jupiter Inlet (Janus Research 1997:160). These Spanish explorers encountered several different Native American groups.

The natives inhabiting the Indian River area at the time of later Spanish contact (1565) were the Ais (Rouse 1951; Milanich 1995). The Ais were descendants of Malabar II peoples and resided in a series of small communities along the Indian River and in the interior along the Upper St. Johns River. While each town had its own leader, the Spanish reported that all towns were under the control of a paramount chief referred to as Ais (Milanich 1995:66). Efforts by the Spanish to Christianize the Ais and fortify the area were apparently unsuccessful, and the Spanish instead concentrated themselves to the north in St. Augustine. The Jeaga (aka Hobe) occupied the area south of the Ais, primarily near the coastal lagoons. The Jonathan Wayne Dickinson party encountered the Jeaga after their vessel, the *Barkentine Reformation*, was cast ashore in 1696 (Fryman et al. 1980:22). Dickinson's journal states that the Jeaga were allies of the Spanish and lived in palmetto thatch structures; their subsistence was based upon spear fishing, oysters, and palmetto berries. Dickinson's party of Englishmen was allowed to proceed to St. Augustine after they convinced the Jeaga they were actually Spaniards.

The Tequesta occupied the coastal zone from Pompano Beach to Cape Sable. They were the immediate descendants of the Glades III culture, and their main village was described by Lopez de Velasco (Hann 1991:314). This village was located on the Miami River in Dade County, and may have been located at or very near the Granada site (Griffin et al. 1985). The Tequesta were led by a head chief, but their material culture does not indicate their society was as complex as the Calusa; this may have been the result of a smaller population due to a less productive subsistence base (Milanich 1994:55). The Calusa occupied the southwestern coastal zone from Charlotte Harbor to Cape Sable. According to Spanish accounts, the Calusa were the dominant tribe to which the chiefs of other Native American groups paid tribute.

Although north Florida was very involved in the mission system, missionization never achieved the same success in south Florida. There, the absence of precious metals and the successful defensive efforts of Native American groups discouraged Spanish efforts. In 1565, Pedro Menendez de Aviles established outposts in Ais, Tequesta, Calusa, and Tocobaga territory. These outposts also served as coast guard stations which aided the survivors of shipwrecked Spanish plate fleet vessels. One of these outposts, Santa Lucia, may have been

located at Jupiter Inlet (Hutchinson 1998). These outposts were soon abandoned, as were other attempts to establish outposts in southeast Florida. Joseph Maria Monaco and Joseph Xavier Alana established a Jesuit mission, Santa Maria, near the mouth of the Miami River (Milanich 1995:230). This mission served 180 members of the Santaluces and Boca Ratones for the one year it was in operation. As late as 1748 Briton Hammond, a shipwreck survivor reported the area around present-day Miami to be occupied by Indians (Sturtevant 1978:146).

However, by the mid-18th century the indigenous population of this area and other parts of Florida had been greatly reduced by introduced disease and European induced hostilities. Some 15 years later, the Spanish transferred the remnants of the south Florida tribes to Cuba when they transferred the control of La Florida to the English. This transfer marked the beginning of the British Period (1763-1783); little activity appears to have occurred in southeast Florida during the British period, though surveys were conducted in the Broward County area. As a result of these surveys, one land grant around Jupiter Narrows was given to the Grenville family (Carr et al. 1995:32).

During the Second Spanish period (1783-1819), the Spanish government awarded Don Eusebio Maria Gomez of St. Augustine a 12,000-acre land grant in return for transporting military supplies from Havana to St. Augustine (U. S. WPA 1940: Con. G27, III: 186-187). The Gomez grant lies at Hobe Sound in Martin County and may actually encompass part of the Grenville grant. Also, during this period Bahamia natives Surles and Frankie Lewis established a family farmstead on the New River as well as a later farmstead on the Miami River. One of the few non- Seminole families in the region before the 1830s, the Lewises served as harbor and river pilots for travelers visiting the area (Scott 1994). The end of the Second Spanish period occurred in February of 1819 when the Adams-Onís Treaty was signed between the United States and Spain. The terms of the treaty took effect on July 17, 1821 when the United States acquired Florida in exchange for its claims to Texas.

Territorial and Statehood Periods (1821-1860)

In 1821, the United States government created the Territory of Florida and named Andrew Jackson military governor. Jackson initiated the Americanization of Florida, naming Tallahassee the seat of the territorial government and providing for county courts and trials by jury. St. Augustine lost its political influence as capital of the province of East Florida, and instead became the seat of government for St. Johns County. Using the Suwannee River as the dividing line, Jackson created Escambia County out of the former West Florida province and St. Johns County out of the former East Florida province. In 1822, responding to political and practical needs, the Territorial Legislature began reducing the size of the two counties. That year, the body created Duval County, a relatively large political jurisdiction that initially extended from the Atlantic Ocean, Gulf of Mexico, St. Mary's River, and Suwannee River. The creation of Alachua County and Mosquito County in 1824 significantly reduced the sizes of the older county jurisdictions. A large geographic region that extended from south of Lake Okeechobee and Charlotte Harbor to just south of St. Augustine, Mosquito County was organized in 1824.

In the 1820s, the federal government initiated the process of surveying the public lands and reviewing private claims throughout Florida; essentially legalizing grants issued during Spanish rule. In 1822, the Congress appointed a board of land commissioners, who reviewed and either confirmed or rejected private claims in Florida. A process that often-included translating Spanish documents, obtaining old surveys from archives, and deposing witnesses, the reviewing of claims slowed the public survey and land sales by the state and federal governments. Still, by the end of 1825, the East Florida commissioners had confirmed 325 claims and rejected sixty-one others. Surveying began in Tallahassee in 1824, and public land offices-initiated sales at the territorial capital in 1825 and from St. Augustine in 1826. Surveyors laid out the parallel basis, range and township lines, then subdivided those areas with sections and private claims associated with Spanish land grants. The Congress furnished final adjudication for eighty-eight other claims that consisted of 3,000 or more acres. Several large grants were adjudicated in the courts during the 1830s (Tebeau 1980).

Between 1821-1845, Florida was the scene of numerous hostilities between transplanted Creek Indians (Seminoles) and white settlers. The Seminole culture began as a series of migrations of Lower Creek Indians into north Florida during the early to middle eighteenth century (Fairbanks 1978:166). These Creeks occupied the lower Chattahoochee River and fall line areas of the Oconee and Ocmulgee rivers in central Georgia. British retaliation for their role in the Yamassee War of 1715 and the invitation of the Spanish spurred this migration (Fairbanks 1978:164-166).

Early Seminole settlements centered upon present day Tallahassee, Lake Cuscowilla, and Lake Miccosukee (Covington 1993:12-13, 26; Fairbanks 1978:167). During the "Period of Separation," the Creeks in Florida eventually became severed from the Creeks of Alabama and Georgia due to treaties and the great distances involved (Fairbanks 1978:170).

The First Seminole War erupted in 1817 when Andrew Jackson ordered Major David E. Twiggs to attack the village of Fowltown and remove the Seminoles from American territory. Neamathla of the Red Stick led the villagers to Lake Miccosukee, where they regrouped and ambushed a boat under the command of Lieutenant Robert W. Scott on the Appalachicola River (Covington 1993:41-42). This conflict ended with the occupation of Pensacola by the forces of General Andrew Jackson in 1821. In 1823 the Seminoles signed the Treaty of Moultrie Creek; this treaty mandated the relocation of the Seminoles to a reservation in central Florida.

By the end of the First Seminole War, Seminole groups had established large settlements in the region, including a village at Snake Warrior’s Island (8BD1867) in the present-day city of Miramar (Gannon 1996). This particular village later welcomed escaped African-American slaves into their community. In 1825, Colonel James Gadsden surveyed southeast Florida, recording only two non-Seminole families in the Broward County area. In 1830, South Carolina native Richard Fitzpatrick purchased the Lewis family’s land holdings located along the New River and Miami River. By early 1836, several white slaveholding families had settled adjacent to Fitzpatrick’s New River farm (Black N.D.). Due to the outbreak of the Second

Seminole War in late 1835 which resulted in the killing of a local family, the fledgling settlements were mostly abandoned.

The Second Seminole War broke out in 1835 due to border tensions, Georgian aggressions against free blacks among the Seminoles, United States Indian agent mismanagement, and the terms of the Treaty of Moultrie Creek (Fairbanks 1978:185-186). The Second Seminole War was marked by several major engagements. On December 28, 1835 a force of Seminoles destroyed a company of men under the command of Major Francis Dade (Covington 1993:79- 80). Another engagement occurred in January of 1837 when General Jesup overtook the Seminole stronghold at Lake Tohopekaliga in present day Polk County (Sprague 1964:172, 258). The largest battle of the war occurred on Christmas Day, 1837, on the north shore of Lake Okeechobee; the forces of Colonel Zachary Taylor executed a successful frontal assault upon a fortified Seminole position.

Another engagement, the Battle of Loxahatchee, was fought in nearby Palm Beach County. By early 1838, the presence of Seminoles within the Loxahatchee area was confirmed by Lieutenant Levin M. Powell when his small naval detachment was ambushed. In response, a force under the command of General Jesup advanced into the area. On January 24, 1838 a force of 600 dragoons, 400 artillerymen, and 500 militia encountered a group of Seminoles "strongly posted in a dense hammock" at "the Indian crossing place on the Loxahatchee" (Carr et al. 1995:46). After a preliminary artillery bombardment, the troops forced the Seminoles from the hammock in an hour-long battle. At total of eleven soldiers were killed, and 27 were wounded (Carr et al. 1995:47). As a result of this battle, large numbers of Seminoles later surrendered to General Jesup.

In January of 1838 Fort Lauderdale was established as a United States stockade on the New River. A detachment of Tennessee Volunteers and army regulars, commanded by Major William Lauderdale, established the stockade in an effort to capture Seminole agricultural lands and establish a presence on the coast. This fort (8BD102), located on the north bank near the convergence of the north and south forks, was the first of three forts to bear Lauderdale's name. It was abandoned in April of the same year. In the same year, American troops under Colonel James Bankhead skirmished with Seminoles at Pine Island. In February of 1839 the Second Fort Lauderdale was established by United States Army at Tarpon Bend on the New River in today's Rio Vista neighborhood in the City of Fort Lauderdale. In September of the same year, the third and final Fort Lauderdale (8BD1) was constructed on a barrier island facing the New River Sound. By 1842 the Second Seminole War was at an end and the fort was decommissioned. It was not reactivated during the Third Seminole Indian War (1855-1858).

Following the Second Seminole War, generous land policies such as the Swamps and Overflowed Lands Act and the Armed Occupation Act began to attract settlers to south Florida. By 1849, settlers were living in the New River area. This in turn precipitated the Third Seminole War (1855-1857). While this war was fought predominantly in other parts of Florida, troops did visit the New River area.

Within Broward County, Seminole components have been identified at 8BD10, 8BD12, 8BD19, 8BD51, 8BD52, 8BD60, 8BD74, 8BD82, 8BD92, 8BD95, 8BD96, 8BD98, 8BD99, 8BD183, 8BD202, 8BD207, 8BD259, 8BD1114, 8BD1115, 8BD1118, 8BD1119,8BD1442, 8BD1867, 8BD2112, 8BD2124, 8BD2125, 8BD2126, 8BD2129, 8BD2563, 8BD2564, 8BD2903, 8BD2906, 8BD2915, 8BD2126, 8BD2589, 8BD3205, 8BD4564, 8BD4978, and 8BD4980. In addition, site 8BD1867 in Miramar may be Snake Warrior's Island, which was described in 1837 by John Lee Williams (Williams 1962). Within Martin County, two U.S. military encampments, a war canoe, and a military road (8MT34, 8MT38, 8MT39, and 8MT370) associated with the Seminole Wars have been reported (Carr et al 1995:30).

Civil War and Reconstruction (1861-1903)

In March 1845, Florida gained statehood, entering the Union as a slave state, paired against Iowa to maintain a balance of representation between free and slave states in the U.S. Senate. At the beginning of the Civil War, Florida's population was only about 140,000, with population concentrations between Tallahassee and St. Augustine. In the same way that few farming or development activities have been documented in the project area in the 1850s, few military actions appear to have occurred there during the Civil War. Although the Civil War curtailed economic growth of plantations and the nascent tourist trade initiated by steamboats during the 1850s, the conflict appears to have made little impact on Broward County Area. The third state to secede from the Union, Florida joined the Confederate States of America in January 1861. Within months of that action, the Confederate government requested that Florida supply 5,000 troops. Many male residents abandoned their farms to join the army, leaving the rural economy with only half of its work force. Federal steamships patrolled the coastline and gunboats sailed into ports at Jacksonville and St. Augustine in 1862 to accept the surrender of those cities by civilian authorities. Union troops made little effort to extend their control beyond the limits of those towns initially, in part, because the region east of the St. Johns River, and north of Matanzas Inlet became known as "Lincoln's congressional district in East Florida" (Buker 1986:3-9, 18).

In the decade following Lee's surrender at Appomattox, Florida and the rest of the South endured a turbulent period of Federal Reconstruction. Although the state did not suffer the extensive destruction that occurred in other areas of the South, most of its cities had been occupied by Federal troops and some interior settlements were abandoned. Floridians faced the daunting task of rebuilding their society. The war decimated the state's economy and compelled Floridians to develop a labor system that did not depend on bondsmen for labor. Throughout the state property values plummeted, and agricultural and industrial production declined. The state's financial institutions collapsed. Punctuated by violence, lawlessness, and unscrupulous politics, Reconstruction proved in some ways as difficult as the war (Donald et al 2001).

With the end of the war, non-Indian settlers began to again move into the Broward County area. Various individuals of all types contributed to the influx of newcomers over the next twenty-five years. Hog farmer John J. Brown who settled on New River with his family in 1868, ran for

state legislature and was defeated by Miami "carpetbagger" William H. Gleason in 1872 (www.broward.org). In 1876 Brown was elected to the Florida legislature, moved to Tallahassee and never returned to the area. In the same year, the United States Life Saving Service established a number of Houses of Refuge along the eastern coastline for ship-wrecked sailors. Washington Jenkins, keeper of the House of Refuge that was built for these sailors in the vicinity of today's Birch State Park, was one of the area's first permanent white post-war settlers. Those Seminoles who had escaped removal after the Third Seminole War had lived in relative isolation since that time. By 1880 the Seminole population center of Pine Island, which is located west of present-day Davie, reported between 25-30 families living at the site.

While the Broward County area had been surveyed in 1845, the potential for economic development spurred further surveys in the 1870s. By the 1880s the State of Florida was in a state of financial difficulties regarding debt owed on the title to public lands. The Disston Land Purchase and Disston Drainage Contract of 1881 resulted in the sale of four million acres of State-owned swamp and overflowed land, thereby allowing the distribution of large land subsidies to railroad companies. With economic development reliant on the railroad for the transport of freight, emigrant poor farmers and cattle ranchers began to migrate south. While many homesteaders found that they could not build within these areas and in many cases lost their properties, the transaction enticed companies to begin extensive railroad construction through Florida (Grismer 1946). While Disston's companies began their extensive drainage project, Florida State legislature granted a state charter to the Florida Coast Line Canal and Transportation Company to begin the construction of what would be later known as Florida's Intracoastal Waterway.

During the last decade of the nineteenth century development and settlement of Broward County continued to increase. By 1891 there were enough residents to validate a post office. In 1893 the Bay Stage Line began operation of a transportation line between Lake Worth and Lemon City. While an important avenue for economic development in the area, the stage line was short-lived. The freezes of 1894 and 1895 devastated the agricultural industries north of Broward County. Alerted to the fact that the freeze had not affected Miami, Henry M. Flagler decided to extend the Florida East Coast Railway (FEC) a further 70 miles south from Palm Beach. The completion of the line in 1896 was instrumental in the development of the region. On February 22, 1896, the first train reached New River.

Twentieth-Century Development of Broward County

In 1904, Governor Napoleon Bonaparte Broward put forth a plan to drain the Everglades. Two years later, dredging had begun for the construction of the North New River Canal and the South New River Canal (Broward 2008). The extensive drainage project opened up much of present-day Broward County for agricultural land development. Later, much of this land was further developed and became residential. The first incorporated communities in the area all predated the creation of Broward County; Dania in 1904, Pompano in 1908, and Fort Lauderdale in 1911 (McGoun 1978). By 1912, the North New River Canal was completed (Webster 1998). During

that same year, workers from the Panama Canal established the town of Zona, which is modern day Davie (Broward 2008). Broward County, named for former Florida governor Napoleon Bonaparte Broward, was formed from portions of Dade and Palm Beach counties in 1915. The South New River Canal was completed the same year (Webster 1997).

The First World War in Europe increased levels of domestic tourism which prompted the construction of hotels and railroads for those Americans wishing to vacation in Florida. Bridges constructed in 1917 offered easy access between the mainland and the beaches of Hallandale, Pompano, and Fort Lauderdale. Henry Flagler and Henry Plant invested in the promotion of Florida as a tourist destination in order to bring in more tourist dollars therefore creating further economic improvements.

By the early 1920s, Florida experienced a land boom, whereby upscale real estate developments became more common. One prominent Broward County developer was Joseph W. Young, a transplant to the area who had previously planned the city of Long Beach, California. Young brought his vision to Broward with his dream of Hollywood-by-the-Sea; a low-lying parcel of land then located between Hallandale and Dania. This community was intended to develop as an east coast version of Hollywood, California. Young heavily marketed throughout the eastern United States, bring prospective buyers to the area to sell them on Hollywood in person. By 1925, Hollywood was incorporated with Young elected as the city's mayor. The land boom also resulted in the incorporation of Davie, Floranada, and Deerfield in the same year (McGoun 1978).

By August 1925 the boom had begun to decline with an FEC embargo on shipments to South Florida. Unable to access the needed construction materials needed to feed the development fueled by over exuberant land speculation, a lack of access to the area again resulted in a pause of economic growth. The hurricane of September 1926 which struck Hollywood and Fort Lauderdale did much more than cause numerous deaths and the destruction of thousands of buildings. Northern headlines depicting this hurricane, as well as another in 1928, frightened people away from relocating to South Florida; the boom was over.

Broward County's economy did not bounce back after the disaster, experiencing economic depression years earlier than the rest of the United States (Webster 1997). The stock market crash of 1929 destroyed the American Banking Industry, which was soon to be followed by the Great Depression of the early 1930's. Broward County had not reached complete economic fallout; however, it did not prosper either. Eventually, county's growth stabilized (McGoun 2008). In an effort to pull the country out of the depression, Roosevelt enacted several federal programs. The Works Progress Administration as well as the Federal Writer's Program helped revive the economy (Rauch 1980). The programs were also instrumental in the construction of roads, bridges, parks, buildings, and infrastructure.

During World War II, the development of related auxiliary military facilities promoted development in Broward County. Broward County's flat topography and the availability of undeveloped land provided a perfect location for training bases. The County became the leading training location for the Army, Navy and Air Force during the war. The incursion of military personnel resulted in an economic boost to local economy. After the war, many servicemen stationed in Florida returned after the war with their families and established permanent residence. The State also began to attract a growing number of retirees from the North and Midwest. Relatively inexpensive housing and low property taxes appealed to retired Americans who relied on a fixed income. This influx resulted in the creation of new cities within the county.

Between 1940 and 1970 there was an increase in construction due to a massive population expansion. Fort Lauderdale's population rose from 17,996 to 139,590; Hollywood's residents increased from 6,239 to a staggering 106,873; Pompano Beach's inhabitants rose from 4,427 to 38,587; and Hallandale increased from 1,827 to 23,849 (www.browardcounty.org). Housing and development would continue to increase until the county felt the nationwide recession in the 1970s (McGoun 2008). By 1976 Broward County had begun to experience a revitalized building industry. Due to the considerable population growth experienced after the Vietnam War, County government sought to ensure that future development would be controlled. The 1977 Land Use Plan, a new county charter which was put in place to allow County governors power to monitor and control development and its effect on the environment, helped to limit urban sprawl in the county.

The 1949 USGS map for the area (**Figure 3.1**) indicates the project tract and the surrounding area was not developed at that time.

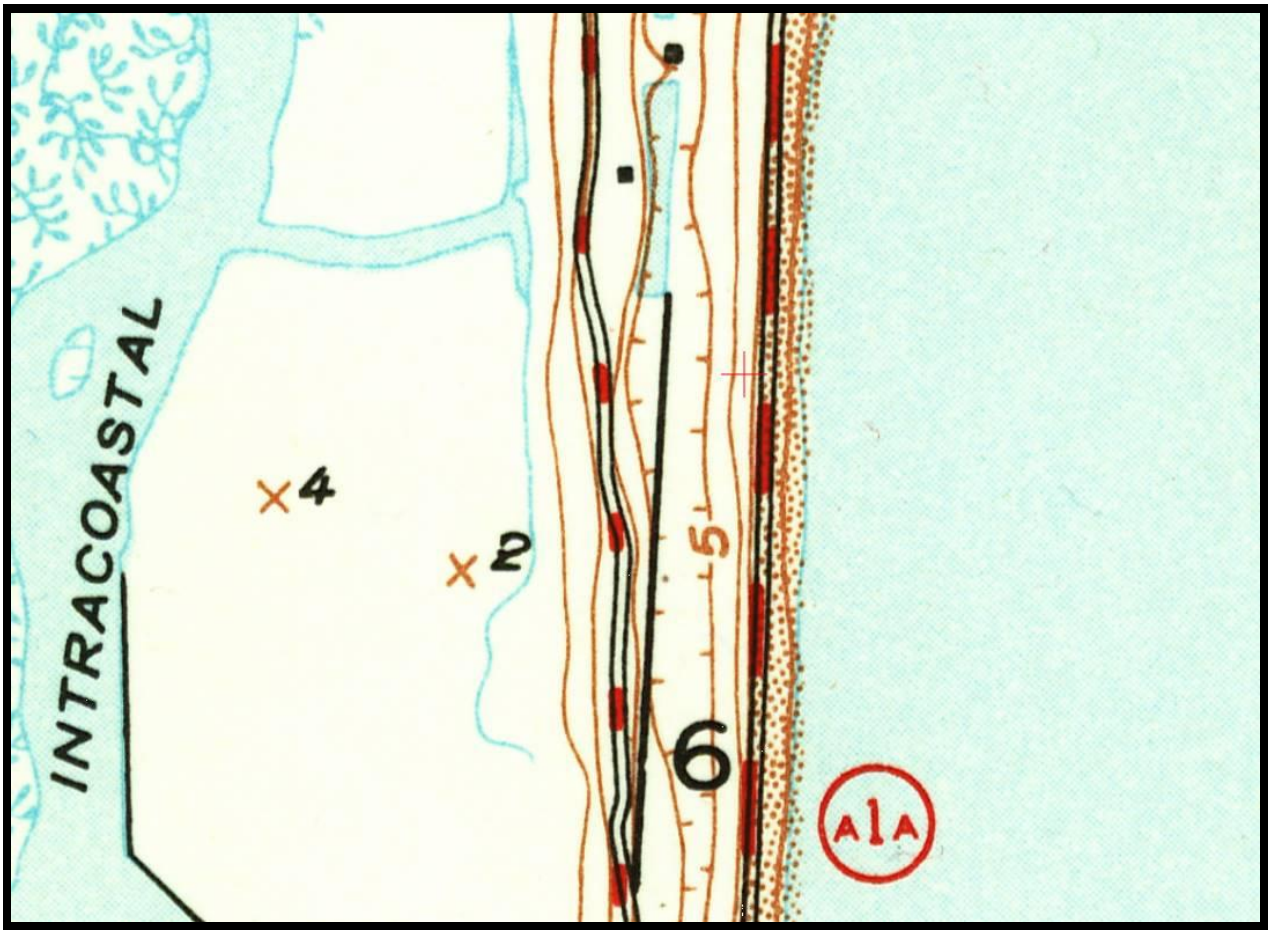


Figure 3.1. 1949 USGS Topographical Map, Project tract Indicated by red cross

IV. PREVIOUS RESEARCH

ESI consulted the Florida Master Site File (FMSF) to investigate the possibilities of previously recorded cultural resources within or near the study area. According to state records, no known cultural resources have been recorded within the current project area. Expanding the search to include the general vicinity revealed 127 historical structures, six resource groups and two historical bridges have been recorded nearby (**Figure 4.1, Table 4.1**). In addition, 24 professional surveys have been conducted nearby, most of which resulted in the recording of the above referenced resources.

Table 4.1 Previously Recorded Resource Groups Within One Mile

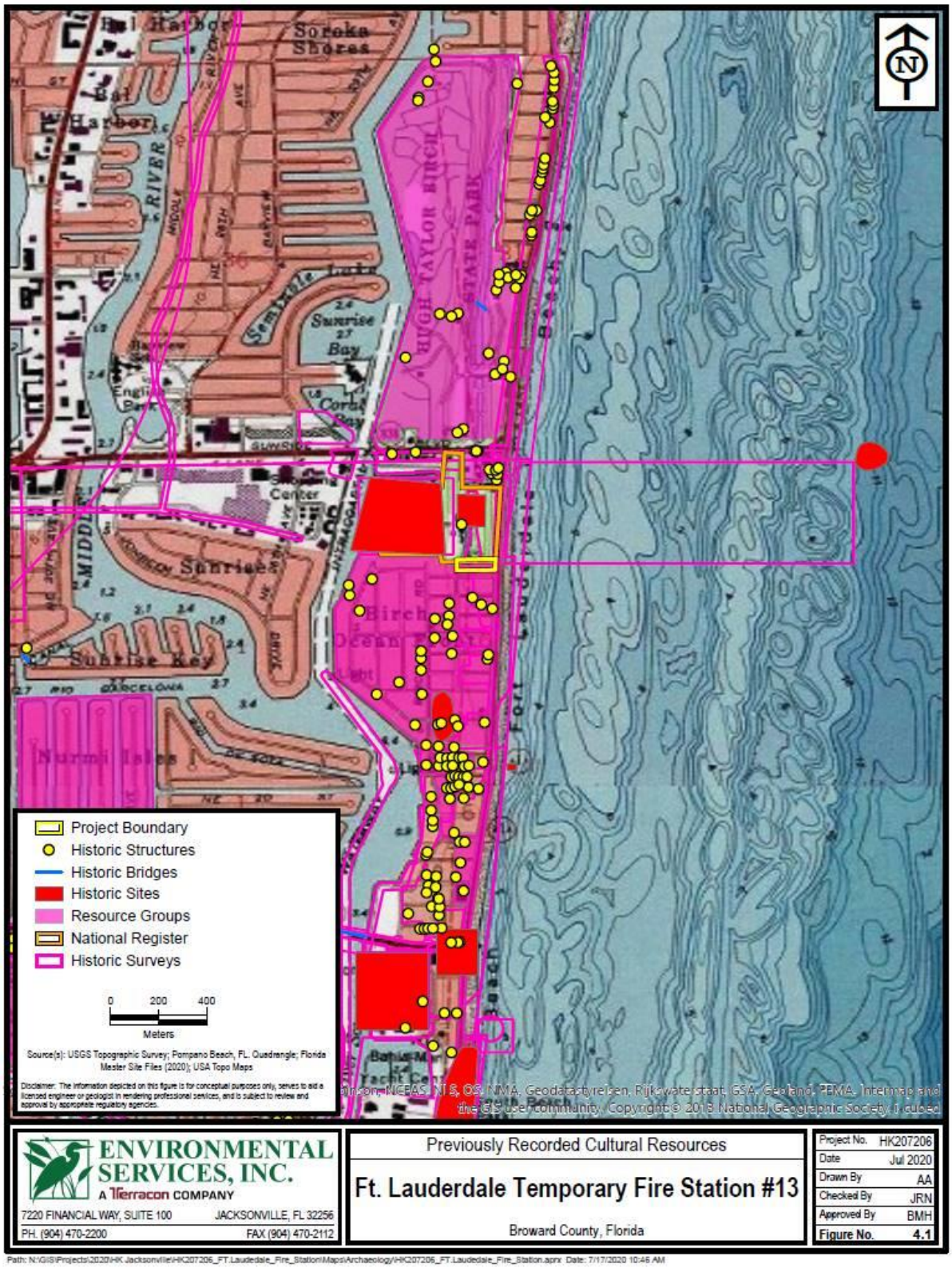
Site ID	Site Name	Resource Type	Cultural Period/Year Built	SHPO Evaluation
BD04410	Nurmi Isles	Designed Historic Landscape	Boom Times, 1921-1929	Eligible for NRHP
BD04461	Sunrise Lane	Historical District	1951-60, mid-twentieth century, Post WWII	Eligible for NRHP
BD04462	Birch Estates Historic District	Historical District	1951-60, mid-twentieth century, Post WWII	Eligible for NRHP
BD04464	Lauderdale Del-Mar Historic District	Historical District	First quarter of the 20th century to 1951	Eligible for NRHP
BD04520	Hugh Taylor Birch State Park	Historical District	American 1821-present	Not Evaluated
BD04776	SR-A1A	Linear Resource	Boom Times, 1921-1929	Ineligible for NRHP

The closest resource to the current study tract is resource group 8BD04776, SR-A1A, which forms the eastern boundary.

Resource group 8BD04462 forms the southern project boundary and is the Birch Estates Historic District. This Post-WWII community extends south from Vistamar Street to Granada Street and has been deemed eligible for NRHP listing.

To the north of the project area is the Bonnet House site (8BD01099), a NRHP listed property since the 1990s. This early 1920s estate is known for its unique style and decorations.

Figure 4.1 Previously Recorded Cultural Resource Map



V. RESEARCH DESIGN AND METHODOLOGY

The goals of the survey were to locate, delineate, identify, and evaluate all cultural resources within the project area, as well as to assess the significance of cultural resources within the tract, including prehistoric and historic archaeological sites and historic structures. Development of the research design was preceded by a review of the Florida Master Site Files (FMSF) for the presence of previously recorded archaeological sites within or near the study area; an examination of soil maps; historic aerials; a review of the Fort Lauderdale North, Fla (1983) Quadrangle map; and an investigation of previous archaeological research pertaining to the region.

Expected Results

The study tract has been developed in the recent past, therefore intact cultural remains are not expected at this location.

Methodology

Field methods used during the present investigation included a pedestrian inspection combined with subsurface testing. Shovel tests (n=4) were dug in a row from east to west in order to cover much of the property. As recommended by the Florida Division of Historical Resources (DHR), shovel tests were 50 cm in diameter and were dug to the depth of one meter whenever possible. Soil was screened through 6.35 mm (1/4") hardware mesh; the only materials immediately discarded after screening were roots and modern debris. Upon completion, each shovel test was backfilled, and the location was marked with flagging tape and plotted on a map of the tract. Pertinent field data, including shovel test locations, soil stratigraphy, environmental setting, topography, etc., were recorded for each test. All field notes, forms, and maps were transported to the ESI laboratory, where they will be curated until a permanent repository is selected. Locational accuracy was maintained through the use of aerial photograph and a GPS unit.

Local Informants

Locating archaeological sites and gaining familiarity with the history of a project tract is often facilitated through interviewing local citizens that live or spend time within close proximity to the parcel. No such person was identified during the current study.

Unexpected Discoveries

Archaeologists frequently encounter unanticipated features or sites that require efforts that exceed the scope of project expectations. In such cases it is sometimes necessary to reevaluate the research design and/or seek additional funding to address unexpected discoveries. Unexpected findings could occur during project development and might include the discovery of human remains, which would require additional coordination with the state archaeologist in compliance with Chapter 872.05, Florida Statutes, or a medical examiner if the remains appear less than 75 years old.

It is our policy to amend a project research design as needed to ensure that proper treatment and evaluation are afforded to unexpected findings. Coordination with the office of the SHPO is a necessary step in such an approach.

Site Significance

In order for a site to be considered a significant resource, it must meet one or more of four specific criteria established in 36 CFR Part 60, National Register of Historic Places, nominations by state and federal agencies, and 36 CFR Part 800, Advisory Council on Historic Preservation, Protection of Historic Properties. The evaluation of a prehistoric or historic cultural resource for inclusion on the National Register of Historic Places rests largely on its research potential, that is, its ability to contribute important information through preservation and/or additional study.

The National Register criteria for evaluation are stated as follows:

> *The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and;*
>
> ***Criterion A:*** *Properties that are associated with events that have made a significant contribution to broad patterns of our history;*
>
> ***Criterion B:*** *Properties that are associated with lives of persons significant in our past;*
>
> ***Criterion C:*** *Properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and*
>
> ***Criterion D:*** *Properties that have yielded, or may be likely to yield, important information in prehistory or history.*

While many archaeological sites are recommended as eligible to the NRHP under Criterion D, the potential to "yield information important in prehistory and history," this criterion is rather ill-defined. In order to clarify the issue of site importance, the following attribute evaluations add a measure of specificity that can be used in assessing site significance and NRHP eligibility:

a). <u>Site Integrity</u> - Does the site contain intact cultural deposits or is it disturbed?

b). <u>Preservation</u> - Does the site contain material suited to in-depth analysis and/or absolute dating such as preserved features, botanical material, faunal remains, or human skeletal remains?

c). Uniqueness - Is the information contained in the site redundant in comparison to that available from similar sites, or do the remains provide a unique or insightful perspective on research concerns of regional importance?

d). Relevance to Current and Future Research - Would additional work at this site contribute to our knowledge of the past? Would preservation of the site protect valuable information for future studies? While this category is partly a summary of the above considerations, it also recognizes that a site may provide valuable information regardless of its integrity, preservation, or uniqueness.

VI. RESULTS

In July 2020, Environmental Services, Inc. performed a cultural resource assessment survey of the Temporary Fire Station #13 tract in Broward County, Florida. The survey consisted of a pedestrian inspection combined with subsurface testing (n=4) (**Figure 6.1**). The goals of the survey were to locate, delineate, identify, and evaluate any cultural deposits discovered within the area.

The project tract is located at the intersection of Vistamar Street and North Atlantic Blvd A1A in Ft. Lauderdale, Broward County, Florida. According to historic maps and aerials, the project tract has been the site of several mobile homes on the western half of the property until they were removed by 2002. Three buildings with two swimming pools occupied the eastern half of the tract until the land was cleared in 2008. The project area has remained vacant since 2008.

Pedestrian Inspection: During the current study, the entire project tract was walked over with special focus on areas of surface disturbance such as ditches. The walkover revealed that much of the tract had been paved for parking or building pads, especially the western half. In addition, disturbed soils were encountered throughout.

Shovel Testing: As mentioned previously, 4 shovel tests were dug during the fieldwork phase of the current study. These tests were placed judgmentally around paved areas and severely disturbed soils; these tests were mostly dug in the central portion of the study area. The shovel testing revealed layers of fill and disturbed soils throughout the project tract, with the majority only being dug to 20 cm below surface due to water and/or spodic soils. No intact soils were detected anywhere within the project area.

As a result of the CRAS, no archaeological sites, isolated artifacts or historic structural remains were encountered.

Figure 6.1. Shovel Testing Results Map

VII. SUMMARY AND CONCLUSIONS

During July 2020, ESI, A Terracon Company conducted a cultural resource survey of the Temporary Fire Station #13 tract in Broward County, Florida. The goals of the survey were to locate, delineate, identify, and evaluate any cultural deposits associated with the property, and to assess their significance and potential eligibility for listing in the *National Register of Historic Places*. The archaeological survey was conducted on behalf of The City of Fort Lauderdale in anticipation to comply with local and state permitting requirements.

The investigation included background research that focused on previous investigations near the property, as well as a review of cultural resources in the vicinity. In addition, the property was subjected to a thorough pedestrian inspection coupled with subsurface testing of 4 shovel tests. All shovel tests were negative for cultural material older than 50 years. Paved areas were encountered throughout much of the study tract, and most of the areas appear to have been disturbed by past earthmoving and development activities.

The Bonnet House site (8BD01099) is located to the north of the project area. This resource has been listed on the NRHP, but will not be adversely affected visually by the proposed temporary fire station due to dense trees between the house and the study tract.

As a result of the survey, no archaeological sites, isolated artifacts, or historical structural remains were encountered. It is the opinion of ESI that the proposed project proceeds without further concern of impacts to significant cultural resources.

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APPENDIX A

Survey Log Sheet

Page 1

Clear Form Values

Ent D (FMSF only) _____

Survey Log Sheet

Florida Master Site File
Version 5.0 3/19

Survey # (FMSF only) _____

Consult *Guide to the Survey Log Sheet* for detailed instructions.

Manuscript Information

Survey Project (name and project phase)

Phase I CRAS of Fire Station #13

Report Title (exactly as on title page)

A PHASE I CULTURAL RESOURCE ASSESSMENT SURVEY OF
TEMPORARY FIRE STATION #13, BROWARD COUNTY, FLORIDA

Report Authors (as on title page) 1. Brian McNamara 3. _____
2. Brent Handley 4. _____

Publication Year 2020 **Number of Pages in Report** (do not include site forms) _____

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)

ESI Report of Investigations No.

Supervisors of Fieldwork (even if same as author) Names Brent Handley

Affiliation of Fieldworkers: Organization Environmental Services, Inc. City Jacksonville, FL

Key Words/Phrases (Don't use county name, or common words like *archaeology*, *structure*, *survey, architecture, etc.*)

1. Fort Lauderdale 3. _____ 5. _____ 7. _____
2. Broward County 4. _____ 6. _____ 8. _____

Survey Sponsors (corporation, government unit, organization, or person funding fieldwork) Clear Sponsor Values

Name City of Fort Lauderdale Organization _____

Address/Phone/E-mail 100 N Andrews Ave, Fort Lauderdale FL 33301

Recorder of Log Sheet Brian McNamara **Date Log Sheet Completed** 8-7-2020

Is this survey or project a continuation of a previous project? ☐No ☐Yes: **Previous survey #s (FMSF only)** _____

Project Area Mapping

Clear Mapping Values

Counties (select every county in which field survey was done; attach additional sheet if necessary)

1. Broward 3. _____ 5. _____
2. _____ 4. _____ 6. _____

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)

1. Name POMPANO BEACH Year 2020 4. Name _____ Year _____
2. Name _____ Year _____ 5. Name _____ Year _____
3. Name _____ Year _____ 6. Name _____ Year _____

Field Dates and Project Area Description

Fieldwork Dates: Start 7-1-2020 End 7-31-2020 **Total Area Surveyed** (fill in one) _____ hectares 0.40 acres

Number of Distinct Tracts or Areas Surveyed _____

If Corridor (fill in one for each) **Width:** _____ meters _____ feet **Length:** _____ kilometers _____ miles

Page 2 **Survey Log Sheet** Survey #_____

Research and Field Methods

Types of Survey (select all that apply): ☒archaeological ☒architectural ☒historical/archival ☐underwater
☐damage assessment ☐monitoring report ☐other(describe): _____

Scope/Intensity/Procedures

Phase I pedestrian inspection coupled with subsurface testing.

Preliminary Methods (select as many as apply to the project as a whole)

☐Florida Archives (Gray Building)	☐library research- *local public*	☒local property or tax records	☒other historic maps	☐LIDAR
☐Florida Photo Archives (Gray Building)	☐library-special collection	☐newspaper files	☒soils maps or data	☐other remote sensing
☒Site File property search	☒Public Lands Survey (maps at DEP)	☐literature search	☒windshield survey	
☒Site File survey search	☒local informant(s)	☒Sanborn Insurance maps	☒aerial photography	

☐other (describe): _____

Archaeological Methods (select as many as apply to the project as a whole)

☐Check here if **NO** archaeological methods were used.

☒surface collection, controlled	☐shovel test-other screen size	☐block excavation (at least 2x2 m)	☐metal detector
☐surface collection, **un**controlled	☐water screen	☐soil resistivity	☐other remote sensing
☒shovel test-1/4"screen	☒posthole tests	☐magnetometer	☒pedestrian survey
☐shovel test-1/8" screen	☐auger tests	☐side scan sonar	☐unknown
☐shovel test 1/16"screen	☐coring	☐ground penetrating radar (GPR)	
☐shovel test-unscreened	☐test excavation (at least 1x2 m)	☐LIDAR	

☐other (describe): _____

Historical/Architectural Methods (select as many as apply to the project as a whole)

☐Check here if **NO** historical/architectural methods were used.

☐building permits	☐demolition permits	☐neighbor interview	☒subdivision maps
☐commercial permits	☒windshield survey	☐occupant interview	☒tax records
☐interior documentation	☒local property records	☐occupation permits	☐unknown

☐other (describe): _____

Survey Results

Resource Significance Evaluated? ☐Yes ☒No Clear Check Boxes

Count of Previously Recorded Resources_____ **Count of Newly Recorded Resources**_____

List Previously Recorded Site ID#s with Site File Forms Completed (attach additional pages if necessary)

List Newly Recorded Site ID#s (attach additional pages if necessary)

Site Forms Used: ☐Site File Paper Forms ☐Site File PDF Forms

REQUIRED: Attach Map of Survey or Project Area Boundary

SHPO USE ONLY **SHPO USE ONLY** **SHPO USE ONLY**

Origin of Report: ☐872 ☐Public Lands ☐UW ☐1A32 #_____ ☐Academic ☐Contract ☐Avocational
☐Grant Project #_____ ☐Compliance Review: CRAT #_____

Type of Document: ☐Archaeological Survey ☐Historical/Architectural Survey ☐Marine Survey ☐Cell Tower CRAS ☐Monitoring Report
☐Overview ☐Excavation Report ☐Multi-Site Excavation Report ☐Structure Detailed Report ☐Library, Hist. or Archival Doc
☐Desktop Analysis ☐MPS ☐MRA ☐TG ☐Other: _____

Document Destination: Plottable Projects **Plotability:** _____

REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION

FOR:
CRAVEN THOMPSON & ASSOCIATES, INC.
3563 NW 53rd ST., FORT LAUDERDALE, FLORIDA 33309
ATTN: MR. MATTHEW J. CIGALE P.E.

PROJECT:
FORT LAUDERDALE TEMPORARY FIRE STATION #13 & PARKING LOT
BROWARD COUNTY, FLORIDA

FOLIO NO.
504201040070, 504201040030, 504201040020

LOCATION:
525 N FORT LAUDERDALE BEACH BOULEVARD, FORT LAUDERDALE, FL 33304

PROPERTY BOUNDED BY:
NORTH FORT LAUDERDALE BEACH BOULEVARD TO THE EAST,
VISTAMAR STREET TO THE SOUTH,
BREAKERS AVENUE TO THE WEST, AND
VACANT PARCEL FOLLOWED BY WINDAMAR STREET TO THE NORTH
CITY OF FORT LAUDERDALE, BROWARD, FLORIDA

ACES PROJECT NUMBER: 2019-106

PREPARED BY:

Absolute Civil Engineering Solutions LLC

4121 SW 47TH AVENUE, SUITE 1319
DAVIE, FLORIDA 33314

December 11, 2019

Table of Contents

ATTACHMENTS:

1 INTRODUCTION:

In response to the authorization of Mr. Matthew J. Cigale of Craven Thompson & Associates, Inc. (CTA), **Absolute Civil Engineering Solutions, LLC (ACES)** is pleased to submit this Geotechnical Engineering Report for the Fort Lauderdale Temporary Fire Station #13 & Parking Lot project to be located in the vicinity of 525 North Fort Lauderdale Beach Boulevard, Fort Lauderdale, Florida (see site and test location sketch - Attachment 3.0).

2 PROJECT INFORMATION:

Our work consisted of performing a subsurface investigation for the proposed Fort Lauderdale Temporary Fire Station #13 & Parking Lot project to be located to be located in the vicinity of 525 North Fort Lauderdale Beach Boulevard, Fort Lauderdale, Florida. The purpose of the investigation was primarily to collect and analyze information regarding the subsurface conditions existing at the proposed site in order to evaluate site preparation and foundation construction alternatives. The investigation consisted of performing a Standard Penetration Test (SPT) boring at one (1) location and Usual Open Hole Constant Head Percolation Tests at two (2) locations within the area of the proposed project.

3 PROPOSED STRUCTURES:

It is our understanding that the proposed structures shall be typical of:

- Fire station building with rolling shutters and emergency generator;
- Parking lot.

4 SCOPE OF WORK:

ACES proposed to test the site's soils for foundation support and to assess the site's subsurface conditions as they pertain to the presence of organic materials, loose or otherwise unsuitable soils, and the groundwater.

We have determined that the standard penetration test (SPT) and percolation test data collected is sufficient to evaluate soil strength and load carrying capability. All drilling, sampling and testing on this project were conducted in general accordance with ASTM procedures or other applicable standards and practices.

ACES conducted one (1) standard penetration test (SPT) borings to a depth of fifty (50) feet at the subject property. The test location was measured in the field by taping and pacing from site features and landmarks. The SPT boring was drilled using a truck-mounted drill and rotary wash drilling procedures. The boring log is provided in Attachment 1.0.

Samples from the SPT boring were collected at selected depth intervals via the Standard Penetration Test method (ASTM D-1586). The "N-value" was recorded at each sample location for subsequent use in the engineering evaluation. The N-value provides an empirical indication of soil strength and is determined by the cumulative number of blows required by a 140-lb. hammer, operating freely over a 30-inch drop, to advance a 2-inch O.D. split-barrel sampler one foot into the soils, after initial penetration of 6-inches. Upon completion of the boring, the depth to groundwater was measured.

In addition, two (2) Usual Open Hole Constant Head Percolation Tests were conducted at two (2) locations at the project site. The percolation test results and logs are provided in Attachment 2.0.

Groundwater was encountered and its depth measured at the three boring and test locations.

ACES evaluated the data obtained from the subsurface exploration and prepared this written report for the site summarizing the findings, along with our conclusions and recommendations. Our written report includes the following:

- A description of the site, fieldwork, laboratory testing and general soil conditions encountered, as well as a Test Location Plan, and individual Boring Records;
- Percolation test results;
- Site preparation considerations that include geotechnical discussions regarding site stripping and sub-grade preparation, and engineered fill/backfill placement;
- The field measured groundwater level;

- Foundation system recommendations for the proposed structures, including allowable foundation capacity;
- Recommended quality control measures and
- Suitability of on-site soils for re-use as structural fill and backfill.

ACES did not observe any obvious odors or stains during the performance of our subsurface investigation. However, the assessment of site environmental conditions, the detection of pollutants in the soil, rock or groundwater, or laboratory-testing of samples, wetlands evaluation, or a site-specific environmental study are beyond the scope of this exploration.

5 LABORATORY TESTING:

Our laboratory-testing program includes visual classification of the soil samples collected during the drilling process in accordance with the Unified Soil Classification system (USCS). In accordance with the General Terms and Conditions outlined in our proposal, soil samples will be disposed of 30-days after submittal of the final report, unless requested otherwise by the client.

6 GENERAL SUB-SURFACE CONDITIONS:

6.1 General sub-surface conditions

The general subsurface conditions encountered in the soil borings are as follows:

DEPTH	MATERIAL DESCRIPTION
0'-0" to 0'-4"	Asphalt or top soil
0'-4" to 6'-0"	Backfill Brown Medium Sand with Rocks
6'0" to 9'6"	Tan Medium Sand with Some Rocks
9'6" to 12'6"	Peat
12'6" to 33'6"	Gray Medium Beach Sand with Shells
33'6" to 50'0"	Tan Cemented Lime Sand with Some Rocks and Shells

Test boring records should be consulted for a detailed description of the soil and rock conditions encountered at each boring or test location. When reviewing the boring records and the subsurface profiles, it should be understood that the soil conditions may vary between boring locations, therefore, special consideration should be given to the boring with the worst conditions encountered. The boring log is provided in Attachment 1.0, and the percolation test results are in Attachment 2.0.

6.2 Soil Classification

The soil classification, dry densities, and angles of internal friction data conservatively estimated from the soil conditions encountered are given in the table below:

Soil Properties						
Soil Type	Soil Description	USCS Classification	Average "N" Value for Layer	Soil Dry Density (pcf)	Internal Angle of Friction	Skin Friction for Layer (k/sf)
1	Brown Medium Sand with Rocks	SP	14	107-112	25°-27°	0.6
2	Tan Medium Sand with Some Rocks	SP	14	107-112	25°-27°	0.6
3	Peat	CH	4	90-95	Correlations unreliable for organic clays	
4	Gray Medium Beach Sand with Shells	SP	>20	115-120	30°-35°	0.8
5	Tan Cemented Lime Sand with Some Rocks and Shells	SP	>50	120-130	35°-40°	1.0

The lowest N-value recorded was 4, which was observed in the only boring B-1 at 10' depth, in the peat layer that extends from 9'6" to 12'6". This N-value indicates the peat material identified, is very soft and unsuitable for supporting standard shallow foundation systems. The peat material is characterized as organic soil material that typically exibit very high water contents. Test boring log should be consulted for detailed information about N-values at different depths.

6.3 Groundwater

The ground water level was encountered at each boring or test location at the time of drilling. The ground water depths ranged from 13 ft. to 14 ft., with an average depth of thirteen (13) feet six (6) inches below the existing surface. Fluctuations in the observed ground water level should be expected due to tidal fluctuations, seasonal climatic changes, rainfall variation, surface water run-off and other specific factors related to the site in question.

7 FOUNDATION RECOMMENDATIONS:

7.1 General foundation notes

Based on the sub-surface conditions encountered, ACES evaluated a number of foundation systems for providing support for structures typically associated with important structures such as fire stations. Special consideration in the analysis was given to the following:

- The presence of relatively loose layers of soil material of varied thickness, which makes the site less appropriate for supporting heavily loaded structural components using regular spread footings and single-column pads at the existing grade without implementing some site preparation and soil improvement techniques.
- Existence of a very soft nearly 3-ft-thick peat layer starting at a considerable depth of 9'6".
- The location of the proposed structure and the backfill material used to raise the site to grade.
- Height to width ratio of the proposed structure with special emphasis on overturning moments and lateral support, and
- The depth of the groundwater below the existing grade.

Given the above, the following site preparation and foundation system alternatives were selected:

7.2 Alternative I: Standard Shallow Foundation System

7.2.1 Site preparation for standard shallow foundation system

Our site preparation recommendations are based on information provided by the client as to the type of structure planned as well as on our subsurface investigation performed at the subject property. Therefore, our site preparation recommendations are as follows:

- Excavate the entire building area plus 10 feet outside the perimeter of construction of the proposed temporary fire structure and remove all peat and unsuitable subsurface material to the necessary depth. We anticipate an average excavation depths of approximately thirteen (13) feet below the existing grade.
- Compact the bottom of the excavated area (if necessary) to a minimum compaction of 98% of the optimum dry density as per AASHTO T-180 (ASTM D-1557). Verify densification procedures by taking an adequate number of field compaction tests. The excavated area should be inspected prior to the commencement of any backfilling or other construction activity to ensure that all unsuitable material has been removed from the area and the existing material at the bottom of the proposed structure is suitable. An adequate dewatering system may have to be installed to achieve the desired goal where applicable.
- Backfill the excavated area with a clean mixture of sand, lime sand and lime rock material (approved clean fill material with LBR > 40) to the proposed finished floor elevation in compacted lifts each not to exceed 12 inches in compacted thickness. Compact each lift to achieve a minimum compaction of 98% of the optimum dry density as per AASHTO T-180 (ASTM D-1557). Verify densification procedures by taking an adequate number of field compaction tests.

7.2.2 Design recommendations for standard foundation system

The above site preparation for standard shallow foundation system having been achieved and verified, the proposed temporary structure can be designed using a standard shallow foundation system such as a mat foundation, spread footings or single column pads. We anticipate that the foundation and footings may be appropriately proportioned for a safe soil bearing capacity not to exceed 3,000 Pounds per Square Foot (PSF). The area of construction plus ten (10) feet outside the perimeter of construction should be compacted to achieve a minimum dry density of 98% of the optimum dry density as per AASHTO T-180 (ASTM D-1557). Backfill material required to raise the building pad to grade should be performed using a clean mixture of sand, lime sand and lime rock fill in compacted lifts not to exceed 12 inches thickness each lift and compacted to achieve a minimum compaction of 98% of the optimum dry density as per AASHTO T-180 (ASTM D-1557).

7.3 Alternative II: Auger-Cast (Pressure-Grouted) Piles

Auger-cast (pressure-grouted) piles are also a technically feasible foundation solution for the proposed structure. The bearing capacities of these piles are essentially developed in tip-bearing and side friction. When these piles are installed or socketed into place, they will bypass the unsuitable material and "lock into" the underlying rock and sand strata, thereby providing adequate bearing capacity.

The relationship obtained for this foundation system is as follows:

Size (Dia.)	Below Existing Grade Length (Ft.)	Allowable Lateral Load	Allowable Tensile Capacity	Allowable Compressive Bearing Capacity	Remarks
14"	25	5 kips	20 kips	60 kips	No Pile Load Test Required
14"	35	10 kips	60 kips	140 kips	Pile Load Test Required

*** Given the soil conditions encountered, ACES utilized a minimum Factor of Safety of 2.5 when calculating allowable loads.**

Large grout volumes, possibly up to twice (or more) of the theoretical pile volume, may be required for proper auger cast pile installation. The entire pile driving (installation) operation should be monitored and performed in accordance with relevant local and state requirements. The proposed length is based on the existing surface at the time of drilling. The allowable loading capacities noted above should be confirmed by the appropriate pile load testing prior to construction as deemed necessary.

7.4 Recommendations for temporary water and sanitary sewer mains and paved areas

7.4.1 Preparation for temporary paved areas

- CLEARING AND GRUBBING: All trees, top soil, organic material, bush, stumps, roots, grass, weeds and all other obstructions shall be removed from within the limits of the areas to be paved to the necessary depth. Backfill the cleared/excavated area, plus 5'-0" outside the perimeter of the

structure to the desired bottom of the subgrade elevation with a clean mixture of sand and lime rock fill (or approved fill material) in compacted layers not to exceed twelve (12) inches in thickness. Compact each layer to a minimum of 98% of the optimum dry density as per AASHTO T180. Verify densification procedures by taking an adequate number of field density tests.

- SUBGRADE: The soil material in all traffic areas shall consist of 12" compacted thickness of clean mixture of sand, lime sand and lime rock. The material used shall have a lime rock bearing ratio (LBR) greater than or equal to 40. The entire area where rock base is to be constructed shall be thoroughly compacted to a minimum density of 98% of the optimum dry density as per AASHTO T-180 (modified proctor). Typically, the material shall exhibit moisture contents within +/- 2% of the modified proctor optimum moisture contents during the compaction operation.
- PREPARATION OF BASE:

Material: In normal traffic areas, the base shall consist of six (6) inches of compacted lime rock base course conforming to the following specifications:

The minimum percentage of carbonates shall be 70%. The liquid limit shall not exceed 35 and the material shall be non-plastic. At least 97% (by weight) of the material shall pass a 3¾ inches sieve and the material shall be uniformly graded down to dust. Lime rock material used in construction of lime rock base shall have an average LBR value of not less than 100.

In areas receiving repeated heavy traffic (trucks, etc.) the thickness requirements shall be a minimum of eight (8) inches of compacted lime rock conforming to the foregoing criteria for lime rock base.

Compacting Base: After spreading is completed, the entire surface shall be scarified and shaped so as to produce the exact grade and cross section after compaction. The full depth of base shall be compacted to a minimum density of ninety-eight percent (98%) of the optimum dry density, as determined by AASHTO T-180 (modified proctor). Where the base is constructed in two (2) courses, the bottom course need only be bladed to secure a uniform thickness.

Wearing Course: The wearing course in normal traffic areas shall consist of a one and one-half inch (1.5") minimum layer of asphaltic concrete as specified by the Florida Department of

Transportation Standard Specifications, except where a "Job Formula" is required. In heavy traffic areas, the wearing course shall consist of a 2 inch (minimum) layer of asphaltic concrete as specified by the Florida Department of Transportation Standard Specifications.

7.4.2 General notes

Fill/Backfill Placement

Fill used to raise the site should consist of clean sand and/or sand and gravel (ASTM D 2487), with a maximum of 5 percent passing the U.S. Standard No. 200 sieve. The structural fill should be placed in thin lifts (12-inch thick loose measure), near the optimum moisture content for compaction, and be compacted to at least 98 percent of maximum dry density (AASHTO T-180/ASTM D1557). If necessary, storm sewer lines should be installed over at least 4 inch of granular bedding material (preferably lime-rock).

Excavations

Subsoils found at the proposed site consist of layers of relatively loose to medium sand or silica sand with rocks and medium to hard sand as noted in the boring log. The loose to medium soils can be excavated with a hydraulically controlled backhoe in good working order to the hard layers. Excavations in the hard layers should be made with an excavator or backhoe with welded plate teeth. The welded plate teeth will enable a smooth excavation and minimize over-excavation of the hard material. Unsuitable material or organic soils (if any) at foundation bottoms should be removed and replaced with structural fill.

ACES expects that unbraced cut slopes made in the granular soils at an inclination of 1.5 horizontal to 1 vertical will remain stable for short periods of time provided they are not subjected to seepage, surcharge loads (e.g., from stockpiled soil or equipment) and excessive vibration. Furthermore, open-cut excavations exceeding 10 feet in depth should be properly dewatered and sloped 2H:1V or flatter or be benched using a bracing plan approved by a professional engineer

licensed in the State of Florida. Excavated materials should not be stockpiled at the top of the slope within a horizontal distance equal to the excavation depth.

Dewatering will be required for in-the-dry construction over those sections of the site where the invert elevations of the pipelines/catch basin fall below the water table. In such areas we anticipate that groundwater control can be accomplished through open pumping in those 33areas where draw down requirements are 1 foot or less. Open pumping dewatering can most positively be accomplished by over-excavating by 6 to 12 inches and backfilling the over cut section with coarse gravel. Water which flows through the gravel should be directed to a sump where it can be collected and pumped to a suitable discharge point. Precautions should be taken during open pumping to assure that fines are not withdrawn from the surrounding soils since this could result in undesirable settlement occurring. In the event where the draw down requirement is greater than 1 foot, well point dewatering shall be required.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person shall evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations.

8 CLOSING REMARKS:

Regardless of the thoroughness of our geotechnical exploration there is always a possibility that the general conditions on the subject property (site) may be different from those at the test locations. Therefore, ACES is not responsible for any sub-soil conditions different from those reported in our boring logs.

This report was prepared exclusively for the use of Craven Thompson & Associates Inc. The conclusions provided by ACES are based solely on the information presented in this report. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

We appreciate the opportunity to have been of service to your company. Please feel free to contact us if there are any questions or comments pertaining to this report.

Respectfully submitted,

Absolute Civil Engineering Solutions, LLC

12/11/19

WAYNE E. WEBB LICENSE No. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

12/11/19

Wayne Webb, P.E.
Project Engineer

Sai Kakuturu, P. E.
Geotechnical Engineer

Attachment 1.0: Boring Log

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-8797 / Fax: 866-283-9007

SPT SOIL BORING REPORT

CLIENT:	Craven Thompson and Associates INC.	**Page:**	1 of 2
CLIENT ADDRESS:	3536 NW 53rd Street, Fort Lauderdale, FL 33309	**Report #:**	1
PROJECT:	Fort Lauderdale Temporary Fire Station #13 & Parking Lot	**Boring #:**	B-1
PROJECT ADDRESS:	Fort Lauderdale, FL	**Drilled on:**	12/6/19
BORING LOCATION:	As Shown on Site Location Map	**Driller:**	Michael

DEPTH (FEET)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler		"N" Value
1	0'0" to 0'4" Topsoil with Asphalt		22	15	33
2		2	18	13	
3	0'4" to 6'0" Backfill Brown Medium Sand with Rocks		10	9	17
4		4	8	6	
5			4	5	11
6		6	6	8	
7	6'0" to 9'6" Tan Medium Sand with Some Rocks		10	9	17
8		8	8	6	
9			10	6	11
10		10	5	3	
11	9'6" to 12'6" Peat		2	1	2
12		12	1	1	
13			4	8	23
14	12'6" to 26'0" Gray Medium Beach Sand with Shells	14	15	18	
15			17	19	39
16		16	20	26	
17			28	29	60
18		18	31	36	
19			38	43	84
20		20	41	48	
21			45	53	99
22		22	46	40	
23			48	49	95
24		24	46	46	
25			48	53	104
26		26	51	50	

End of the Boring: 50'0"

Water Table: 13'6"

WAYNE E. WEBB LICENSE No. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

Respectfully Submitted:

Wayne Webb, P.E. Lic. #56701
Absolute Civil Engineering Solutions, LLC

12/10/19

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-0797 / Fax: 866-283-9007

SPT SOIL BORING REPORT

CLIENT:	Craven Thompson and Associates INC.	**Page:**	2 of 2
CLIENT ADDRESS:	3536 NW 53rd Street, Fort Lauderdale, FL 33309	**Report #:**	1
PROJECT:	Fort Lauderdale Temporary Fire Station #13 & Parking Lot	**Boring #:**	B-1
PROJECT ADDRESS:	Fort Lauderdale, FL	**Drilled on:**	12/6/19
BORING LOCATION:	As Shown on Site Location Map	**Driller:**	Michael

DEPTH (FEET)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler		"N" Value
27	26'0" to 33'6" Gray Medium Beach Sand with Shells		45	56	104
28		28	48	45	
29			46	41	89
30		30	48	46	
31			48	46	91
32		32	45	53	
33			51	66	127
34		34	61	63	
35	33'6" to 50'0" Tan Cemented Lime Sand with Some Rocks and Shells		62	60	128
36		36	68	66	
37			61	49	102
38		38	53	57	
39			56	58	115
40		40	57	63	
41			68	66	135
42		42	69	67	
43			73	71	141
44		44	70	78	
45			79	69	147
46		46	78	83	
47			81	86	174
48		48	88	69	
49			67	63	114
50		50	51	69	

End of the Boring: 50'0"
Water Table: 13'6"

Respectfully Submitted:

WAYNE E. WEBB LICENSE NO. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

12/10/19

Wayne Webb, P.E. Lic. #56701
Absolute Civil Engineering Solutions, LLC

Attachment 2.0: Percolation Test Results

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-8797 / Fax: 866-283-9007

USUAL OPEN HOLE CONSTANT HEAD PERCOLATION TEST

DATE:	12/6/2019		
CLIENT:	Craven Thompson and Associates INC. 3536 NW 53rd Street, Fort Lauderdale, FL 33309		
PROJECT LOCATION:	Fort Lauderdale Temporary Fire Station #13 & Parking Lot, Fort Lauderdale, FL		
TEST #	P-1		
LOCATION OF TEST:	As Shown on Site Location Map		
DIA. OF AUGER:	6 INCHES	**DIA. OF PERFORATED CASING:**	6 IN.

TOTAL TIME (minutes)	ELASPED TIME (minutes)	GALLONS PER MINUTE (GPM)
1	1	9.00
2	1	9.00
3	1	9.00
4	1	8.00
5	1	8.00
6	1	8.00
7	1	7.00
8	1	7.00
9	1	7.00
10	1	6.00

DEPTH OF HOLE: 15 FT **PERCOLATION RATE:** 6.00 G.P.M.

WATER TABLE BELOW GROUND SURFACE: 14.0 FT

K-VALUE: 7.48E-05 cfs/ft^2 per ft of head

Remark: The Stabilized Percolation Rate (6.00 G.P.M.) was maintained for more than 10 minutes.

SUBSURFACE INVESTIGATION

From 0'-0" to 0'-2"	Topsoil
From 0'-2" to 0'-4"	Asphalt
From 0'-4" to 9'-6"	Backfill Brown Medium Sand with some Rock and Shells
From 9'-6" to 11'-0"	Peat
From 11'-0" to 15'-0"	Gray Medium Beach Sand with Shells

Respectfully Submitted,

WAYNE E. WEBB LICENSE No. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

Wayne Webb, P.E.
Project Manager
State of Florida
Registered Professional Engineer: 56701

12/10/19

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-8797 / Fax: 866-283-9007

USUAL OPEN HOLE CONSTANT HEAD PERCOLATION TEST

DATE:	~~9/12/2019~~ 12/06/2019		
CLIENT:	Craven Thompson and Associates INC. 3536 NW 53rd Street, Fort Lauderdale, FL 33309		
PROJECT LOCATION:	Fort Lauderdale Temporary Fire Station #13 & Parking Lot, Fort Lauderdale, FL		
TEST #	P-2		
LOCATION OF TEST:	As Shown on Site Location Map		
DIA. OF AUGER:	6 INCHES	**DIA. OF PERFORATED CASING:**	6 IN.

TOTAL TIME (minutes)	ELASPED TIME (minutes)	GALLONS PER MINUTE (GPM)
1	1	10.00
2	1	9.00
3	1	9.00
4	1	8.00
5	1	7.00
6	1	7.00
7	1	7.00
8	1	6.00
9	1	6.00
10	1	6.00

DEPTH OF HOLE: 15 FT **PERCOLATION RATE:** 6.00 G.P.M.

WATER TABLE BELOW GROUND SURFACE: 13.0 FT

K-VALUE: 7.59E-05 cfs/ft^2 per ft of head

Remark: The Stabilized Percolation Rate (6.00 G.P.M.) was maintained for more than 10 minutes.

SUBSURFACE INVESTIGATION

From 0'-0" to 0'-2"	Topsoil
From 0'-2" to 4'-6"	Brown Medium Sand with Some Rocks and Shells
From 4'-6" to 12'-6"	Tan Medium Sand With Some Rocks and Brown Medium Sand with Shells
From 12'-6" to 15'-0"	Gray Medium Beach Sand

Respectfully Submitted,

WAYNE E. WEBB LICENSE NO. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

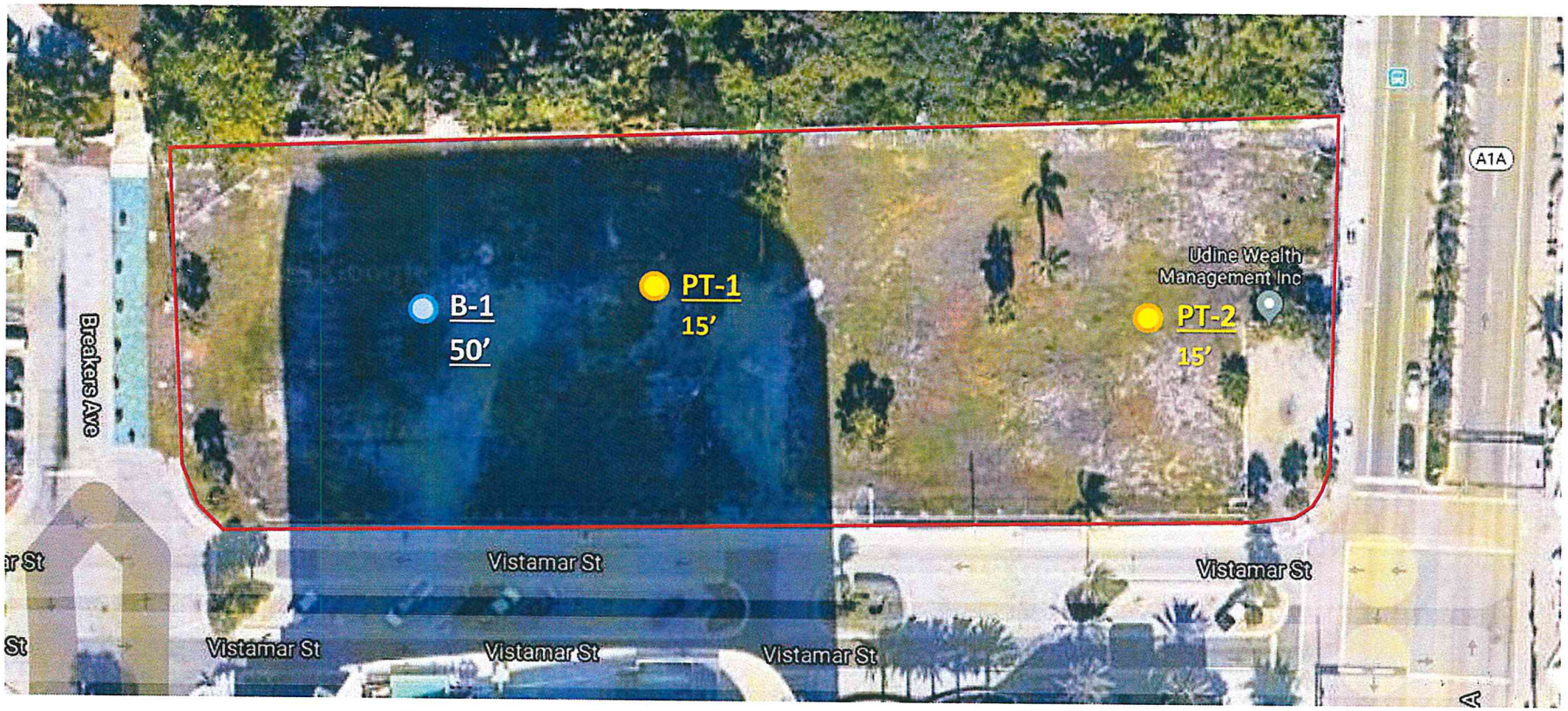
Wayne Webb, P.E.
Project Manager
State of Florida
Registered Professional Engineer: 56701

12/10/19

Attachment 3.0: Site and Test location Sketch

725 N FORT LAUDERDALE BEACH BOULEVARD, FORT LAUDERDALE, FL 33304

Site and Test Location Sketch



Percolation Test Location

Boring Test Location

Site Boundary

N
W E
S

Absolute Civil Engineering Solutions,LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL SERVICES

December 14, 2020

Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Attn: Alex Sheffer, P.E.

Subject: Usual Open Hole Constant Head (UOHCH) Percolation Test Results
Fort Lauderdale Temporary Fire Station #13 & Parking Lot Project
725 N Fort Lauderdale Beach Boulevard, Fort Lauderdale, Fl. 33304

Dear Mr. Sheffer:

In response to your request, **Absolute Civil Engineering Solutions, LLC (ACES)** conducted two (2) Usual Open Hole Constant Head (UOHCH) percolation test at the above referenced project. The tests were performed on December 8, 2020. Enclosed with this letter are the percolation test results (Attachment 1.0) along with a site location map containing the corresponding test locations (Attachment 2.0).

Please feel free to contact me if there are any questions or comments regarding this report. I would like to thank you for considering ACES for your professional service needs and look forward to being of further assistance to you in the future.

Respectfully submitted,

Absolute Civil Engineering Solutions, LLC

WAYNE ERRINGTON WEBB LICENSE No. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER
12/14/20

Wayne Webb, P.E.
Project Engineer
P.E. # 56701

4121 SW 47th Avenue, Suite 1319, Davie, Florida 33314. Phone 954-232-5680 Fax 866-283-9007

Percolation Test Results
725 N Fort Lauderdale Beach Boulevard, Fort Lauderdale, Fl 33304 *December 14, 2020*

ATTACHMENT 1.0: PERCOLATION TEST RESULTS

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-8797 / Fax: 866-283-9007

USUAL OPEN HOLE CONSTANT HEAD PERCOLATION TEST

DATE:	12/8/2020		
CLIENT:	Craven Thompson and Associates INC. 3536 NW 53rd Street, Fort Lauderdale, FL 33309		
PROJECT LOCATION:	725 N. Fort Lauderdale Beach, Temporary Fire Station		
TEST #	P-1		
LOCATION OF TEST:	As Shown on Site Location Map		
DIA. OF AUGER:	6 INCHES	**DIA. OF PERFORATED CASING:**	6 IN.

TOTAL TIME (minutes)	ELASPED TIME (minutes)	GALLONS PER MINUTE (GPM)
1	1	10.00
2	1	10.00
3	1	10.00
4	1	10.00
5	1	9.00
6	1	9.00
7	1	8.00
8	1	8.00
9	1	8.00
10	1	8.00

DEPTH OF HOLE: 15 FT **PERCOLATION RATE:** 8.00 G.P.M.

WATER TABLE BELOW GROUND SURFACE: 11.6 FT

K-VALUE: 1.05E-04 cfs/ft^2 per ft of head

Remark: The Stabilized Percolation Rate (8.00 G.P.M.) was maintained for more than 10 minutes.

SUBSURFACE INVESTIGATION

From 0'-0" to 0'-2"	Topsoil
From 0'-2" to 7'-6"	Backfill Brown Medium Sand with some Rock Mixed with Beach Sand and Shells
From 7'-6" to 10'-6"	Tan Medium Beach Sand with Shells
From 10'-6" to 15'-0"	Gray Medium Beach Sand with Shells

Respectfully Submitted,

WAYNE ERRINGTON WEBB LICENSE No. 56701 STATE OF FLORIDA PROFESSIONAL ENGINEER

Wayne Webb, P.E.
Project Manager
State of Florida
Registered Professional Engineer: 56701

12/14/20

Absolute Civil Engineering Solutions, LLC
ENGINEERING TESTING-ENGINEERING INSPECTION SERVICES-GEOTECHNICAL-ENVIRONMENTAL
4121 SW 47th Ave, Suite 1319, Davie, FL, 33314 / Phone: 954-349-8797 / Fax: 866-283-9007

USUAL OPEN HOLE CONSTANT HEAD PERCOLATION TEST

DATE:	12/8/2020		
CLIENT:	Craven Thompson and Associates INC. 3536 NW 53rd Street, Fort Lauderdale, FL 33309		
PROJECT LOCATION:	725 N. Fort Lauderdale Beach, Temporary Fire Station		
TEST #	P-2		
LOCATION OF TEST:	As Shown on Site Location Map		
DIA. OF AUGER:	6 INCHES	**DIA. OF PERFORATED CASING:**	6 IN.

TOTAL TIME (minutes)	ELASPED TIME (minutes)	GALLONS PER MINUTE (GPM)
1	1	9.00
2	1	9.00
3	1	9.00
4	1	8.00
5	1	8.00
6	1	8.00
7	1	8.00
8	1	8.00
9	1	8.00
10	1	8.00

DEPTH OF HOLE: 15 FT **PERCOLATION RATE:** 8.00 G.P.M.

WATER TABLE BELOW GROUND SURFACE: 11.6 FT

K-VALUE: 1.05E-04 cfs/ft^2 per ft of head

Remark: The Stabilized Percolation Rate (8.00 G.P.M.) was maintained for more than 10 minutes.

SUBSURFACE INVESTIGATION

From 0'-0" to 0'-2"	Topsoil
From 0'-2" to 7'-6"	Backfill Brown Medium Sand with some Rock Mixed with Beach Sand and Shells
From 7'-6" to 15'-0"	Gray Medium Beach Sand with Shells

WAYNE ERRINGTON WEBB ★ LICENSE No. 56701 ★ STATE OF FLORIDA ★ PROFESSIONAL ENGINEER

Respectfully Submitted,

Wayne Webb, P.E.
Project Manager
State of Florida
Registered Professional Engineer: 56701

12/14/20

Percolation Test Results
725 N Fort Lauderdale Beach Boulevard, Fort Lauderdale, Fl 33304 *December 14, 2020*

ATTACHMENT 2.0: SITE AND TEST LOCATION MAP

725 N FORT LAUDERDALE BEACH BOULEVARD, FORT LAUDERDALE, FL 33304

Site and Test Location Sketch

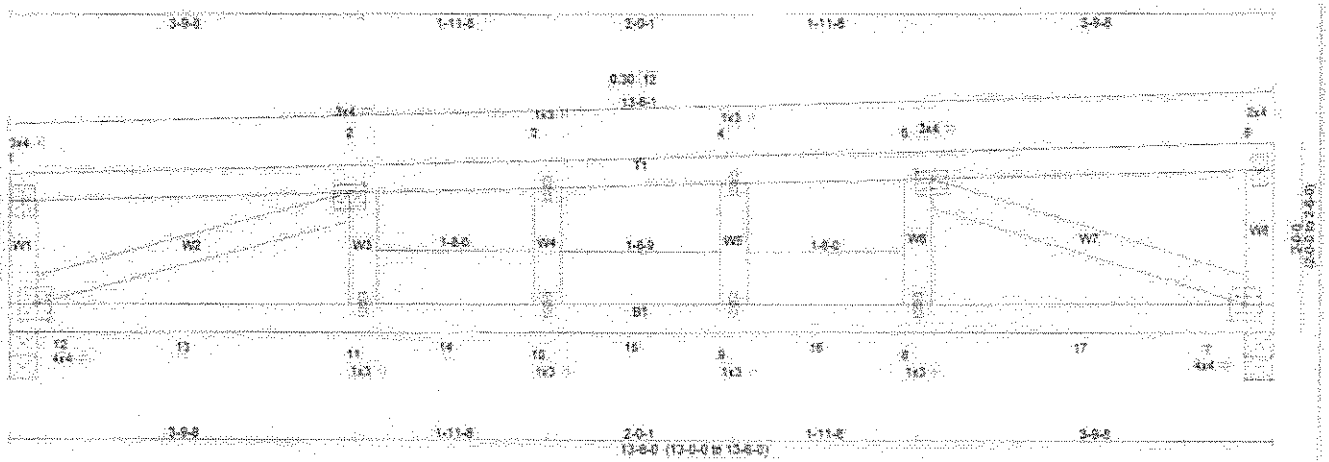
Percolations Test Locations

Site Boundary

N
W E
S

Job	Truss	Truss Type	Qty	Ply	First String Space 316
67776	SF060608	SLOPING FLAT	1	1	Ref. # 3163179

Universal Forest Products Inc., Grand Rapids, MI 49525, Peggy Beckett — 7.350 s Sep 27 2012 MiTek Industries, Inc. Mon May 13 12:59:29 2013 Page 1 of 1



High Wind Speed Truss
Exercise caution to ensure all field connections and reaction supports are properly specified by a design professional to transmit the required forces

Plate Offsets (X,Y): [2:0-2-0,0-1-8], [5:0-2-0,0-1-0], [12:0-1-12,0-2-0]

LOADING (psf)		SPACING	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	30.0	Plates Increase	1.25	TC	0.47	Vert(LL)	0.19	9-10	>816	240	MT20	197/144
TCDL	15.0	Lumber Increase	1.25	BC	0.54	Vert(TL)	-0.22	9-10	>717	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.50	Horz(TL)	0.04	7	n/a	n/a		
BCDL	10.0	Code FBC2010/TPI2007		(Matrix)							Weight: 48 lb	FT = 0%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF Stud

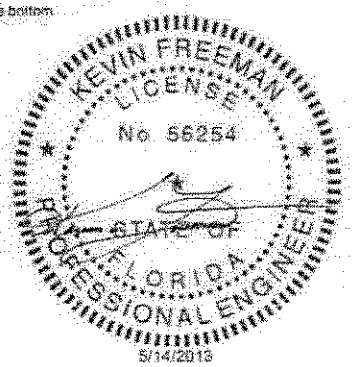
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 5-4-2 oc bracing.

REACTIONS (lb/size) 12=627/0-3-8 (min. 0-1-8), 7=627/0-3-8 (min. 0-1-8)
Max Horz 12=167(LC 6)
Max Uplift 12=-533(LC 5), 7=-523(LC 7)
Max Grav 12=726(LC 2), 7=726(LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-187/201, 1-2=-155/163, 2-3=-1391/1267, 3-4=-1387/1270, 4-5=-1385/1273, 5-6=-94/103, 6-7=-123/157
BOT CHORD 12-13=-1127/1386, 11-13=-1127/1386, 11-14=-1127/1386, 10-14=-1127/1386, 10-15=-1127/1386, 9-15=-1127/1386, 9-16=-1127/1386, 8-16=-1127/1386, 8-17=-1127/1386, 7-17=-1127/1386
WEBS 2-11=-16/224, 3-10=-55/95, 4-9=-63/95, 5-8=-84/271, 2-12=-1360/1178, 5-7=-1479/1292

NOTES (7-8)
1) This truss has been checked for uniform roof live load only, except as noted.
2) Wind: ASCE 7-10; Vult=190mph (3-second gust) Vasd=138mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; and vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 533 lb uplift at joint 12 and 523 lb uplift at joint 7.
6) This truss has been designed for a moving concentrated load of 200 lb live located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
7) When adjusting the variable span dimension, adjust the post placement dimensions proportional to the change in span.
8) Based on SF060607, increased spacing from 16" o/c.

E-signed by Kevin Freeman



5/14/2013

APPROVED **RADCO** APPROVED
Aug 15, 2013

The professional engineering seal indicates that a licensed professional has reviewed the design under the standards referenced within this document, not necessarily the current state building code. The engineering seal is not an approval to use in a specific state. The final determination on whether a truss design is acceptable under the locally adopted building code rest with the building official or designated appointee.

WARNING - *Verify design parameters and READ NOTES*

Universal Forest Products, Inc. 2801 EAST BELTLINE RD, NE.
PHONE (616)-364-6161 FAX (616)-365-0060 GRAND RAPIDS, MI 49525

This building component has only been designed for the loads noted on this drawing. Construction and lifting forces have not been considered. The builder is responsible for lifting methods and system design. Builder responsibilities are defined under TPI1. This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. Applicability of design parameters and proper incorporation of component is responsibility of building designer - not truss designer. Bracing shown is for lateral support of individual web members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication, quality control, storage, delivery, erection and bracing, consult BCSI 1-09 from the Wood Truss Council of America and Truss Plate Institute Recommendation available from WTCA, 6300 Enterprise LN, Madison, WI 53719. J:\support\MiteiSupp\templates\ufp.tpl ©copyright 2013 by: Universal Forest Products, Inc.

FORM 405-10

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS: PERMIT #:
, FL,

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402.4	To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0.30 cfm/sq.ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air. Must complete envelope leakage report or visually verify Table 402.4.2.	
Thermostat & controls	403.1	At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load.	
Ducts	403.2.2	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2.7.2 of this code.	
	403.3.3	Building framing cavities shall not be used as supply ducts.	
Water heaters	403.4	Heat trap required for vertical pipe risers. Comply with efficiencies in Table 403.4.3.2. Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch.	
Mechanical ventilation	403.5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas.	
Swimming Pools & Spas	403.9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4.0.	
Cooling/heating equipment	403.6	Sizing calculation performed & attached. Minimum efficiencies per Tables 503.2.3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages.	
Ceilings/knee walls	405.2.1	R-19 space permitting.	

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	PTAC and Room Unit	SPVAC	EER: 9	36 kBtu/hr	1080 cfm	0.75	1	sys#1
_____	2	PTAC and Room Unit	SPVAC	EER: 9	36 kBtu/hr	1080 cfm	0.75	2	sys#2

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Module A	0.92	80 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	---- Supply ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
_____	1	Module A	6	350 ft²	Module A	350 ft²	Default Leakage	Module A	(Default)	(Default)			1	1
_____	2	Module B	6	350 ft²	Module B	350 ft²	Default Leakage	Module B	(Default)	(Default)			2	2

TEMPERATURES

Programable Thermostat: Y Ceiling Fans:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X]	[X]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]
Venting	[ ]	[ ]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[ ]

Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

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CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
____	1	Cathedral/Single Assembly (Unvented	Module A	30	956.9 ft²	0.11	Wood
____	2	Cathedral/Single Assembly (Unvented	Module B	30	956.9 ft²	0.11	Wood

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
____	1	N	Exterior	Frame - Wood	Module A	13	13	8	8	0	109.3 ft²	0.55	0.23	0.75	0
____	2	S	Exterior	Frame - Wood	Module A	13	13	8	8		109.3 ft²	0.55	0.23	0.75	0
____	3	W	Exterior	Frame - Wood	Module A	13	70		8		560.0 ft²	0.55	0.23	0.75	0
____	4	N	Exterior	Frame - Wood	Module B	13	13	8	8		109.3 ft²	0.55	0.23	0.75	0
____	5	S	Exterior	Frame - Wood	Module B	13	13	8	8		109.3 ft²	0.55	0.23	0.75	0
____	6	E	Exterior	Frame - Wood	Module B	13	70		8		560.0 ft²	0.55	0.23	0.75	0
____	7	E	Module B	Interior Wall	Module A	0	70		8		560.0 ft²	0	0	0.75	0
____	8	W	Module A	Interior Wall	Module B	0	70		8		560.0 ft²	0	0	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
____	1	N	Wood	Module A	None	.46	3		6	8	20 ft²
____	2	E	Wood	Module B	None	.46	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
____	1	W	3	Vinyl	Double (Tinted)	Yes	0.35	0.33	15.5 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
____	2	W	3	Vinyl	Double (Tinted)	Yes	0.35	0.33	5.6 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
____	3	E	6	Vinyl	Double (Tinted)	Yes	0.35	0.3	62.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	.0005	2510.2	137.81	259.17	.365	9.8363

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
____	1	Electric Strip Heat	None	COP: 1	34 kBtu/hr	1	sys#1
____	2	Electric Strip Heat	None	COP: 1	34 kBtu/hr	2	sys#2

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Aug 15, 2013

PROJECT

Title:	TMS 222 AB	Bedrooms:	3	Address Type:	Street Address
Building Type:	User	Conditioned Area:	1914	Lot #	
Owner:		Total Stories:	1	Block/SubDivision:	
# of Units:	1	Worst Case:	Yes	PlatBook:	
Builder Name:	Titan Modular Systems	Rotate Angle:	0	Street:	
Permit Office:		Cross Ventilation:		County:	Broward
Jurisdiction:	Broward County	Whole House Fan:		City, State, Zip:	, FL ,
Family Type:	Multi-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Orlando	FL_ORLANDO_INTL_AR	2	41	91	70	75	526	44	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	957	7656
2	Block2	957	7656

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Module A	957	7656	Yes	5	1	1	Yes	Yes	Yes
2	Module B	957	7656	No	5	2	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	1	Crawlspace	Module A	100 ft	0	956.9 ft²	30	1	0	0
_____	2	Crawlspace	Module B	100 ft	0	956.9 ft²	30	1	0	0

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Flat	Composition shingles	1920 ft²	80 ft²	White	0.96	No	0.9	No	0	4.8

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	No attic	Unvented	0	1913 ft²	N	N

APPROVED **RADCO** APPROVED
Aug 15, 2013

FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING (

Florida Department of Business and Professional Regulation - Residential P

KENNETH A. GODFREY LICENSED PROFESSIONAL ENGINEER No. 40131 STATE OF FLORIDA

Project Name:	TMS 222 AB	Builder Name:	Titan Modular Systems
Street:		Permit Office:	
City, State, Zip:	, FL ,	Permit Number:	
Owner:		Jurisdiction:	Broward County
Design Location:	FL, Orlando		

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Multi-family
3. Number of units, if multiple family	1
4. Number of Bedrooms	3
5. Is this a worst case?	Yes
6. Conditioned floor area above grade (ft²)	1914
Conditioned floor area below grade (ft²)	0

7. Windows(83.1 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.35	62.00 ft²
SHGC:	SHGC=0.30	
b. U-Factor:	Dbl, U=0.35	21.13 ft²
SHGC:	SHGC=0.33	
c. U-Factor:	N/A	ft²
SHGC:		
d. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		0.000 ft.
Area Weighted Average SHGC:		0.308

8. Floor Types (1913.8 sqft.)	Insulation	Area
a. Crawlspace	R=30.0	1913.80 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types (2677.3 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1557.30 ft²
b. Interior Wall, Interior	R=0.0	1120.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types (1913.8 sqft.)	Insulation	Area
a. Cathedral/Single Assembly (Unvented)	R=30.0	1913.80 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Module A, Ret: Module A, AH: Module A	6	350
b. Sup: Module B, Ret: Module B, AH: Module B	6	350

12. Cooling systems	kBtu/hr	Efficiency
a. PTAC and Room Unit	36.0	EER:9.00
b. PTAC and Room Unit	36.0	EER:9.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Strip Heat	34.0	COP:1.00
b. Electric Strip Heat	34.0	COP:1.00

14. Hot water systems
a. Electric — Cap: 80 gallons, EF: 0.920
b. Conservation features: None

15. Credits — Pstat

Glass/Floor Area: 0.043

Total Proposed Modified Loads: 40.88
Total Standard Reference Loads: 51.44

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: .....
DATE: 08-15-2013

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: .....
DATE: .....

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

GREAT SEAL OF THE STATE OF FLORIDA IN GOD WE TRUST

BUILDING OFFICIAL: .....
DATE: .....

- **Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with 403.2.2.1.1.**
- **Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist**

REVIEWED BY:
MICHAEL A FREY
Michael A Frey
FLORIDA MODULAR PLANS EXAMINER
NO. SMP 37

APPROVED **RADCO** APPROVED
Aug 15, 2013

ACCESSIBILITY NOTES:

1. ACCESS TO BUILDING FOR PERSONS IN WHEELCHAIRS IS DESIGNED BY AND FIELD BUILT BY OTHERS AND SUBJECT TO LOCAL JURISDICTION. THE PRIMARY ENTRANCE AND REQUIRED EXITS MUST BE ACCESSIBLE. ALL BUILDING ELEMENTS AND FACILITIES SHALL BE ACCESSIBLE IN ACCORDANCE WITH THE REFERENCE ACCESSIBILITY STANDARD(S) EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE SCOPING REQUIREMENTS OF THE APPLICABLE CODE.

2. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGN SHALL BE DISPLAYED AT ALL ACCESSIBLE RESTROOM FACILITIES AND AT ACCESSIBLE BUILDING ENTRANCES UNLESS ALL ENTRANCES ARE ACCESSIBLE. INACCESSIBLE ENTRANCES SHALL HAVE DIRECTIONAL SIGNS INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE ENTRANCE. AT LEAST 60% OF ALL PUBLIC ENTRANCES MUST BE ACCESSIBLE.

3. ALL SIGNS REQUIRED TO BE ACCESSIBLE BY THE SCOPING REQUIREMENTS OF THE APPLICABLE CODE SHALL COMPLY WITH THE APPLICABLE PORTIONS OF SECTION 703 OF THE ACCESSIBILITY CODE. ALL SUCH SIGNS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO THE APPROVAL OF THE JURISDICTION HAVING AUTHORITY.

4. ACCESSIBLE DRINKING FOUNTAINS SHALL HAVE A SPOUT OUTLET HEIGHT NO HIGHER THAN 36 INCHES ABOVE THE FLOOR AND SPOUT SHALL BE LOCATED 15 INCHES MINIMUM FROM THE VERTICAL SUPPORT AND 5 INCHES MAXIMUM FROM THE FRONT EDGE OF THE UNIT, INCLUDING BUMPERS. SPOUT SHALL PROVIDE A FLOW OF WATER 4 INCHES HIGH MINIMUM. ANGLE OF WATER STREAM SHALL BE IN ACCORDANCE WITH THE APPLICABLE ACCESSIBILITY CODE. DRINKING FOUNTAINS FOR STANDING PERSONS SHALL HAVE A SPOUT OUTLET HEIGHT 38 INCHES MINIMUM AND 43 INCHES MAXIMUM ABOVE THE FLOOR.

5. WHERE STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS, AND DRAWERS ARE PROVIDED AT LEAST ONE OF EACH TYPE PROVIDED SHALL CONTAIN STORAGE SPACE COMPLYING WITH THE FOLLOWING: DOORS, ETC. TO SUCH SPACES SHALL BE ACCESSIBLE (i.e. TOUCH LATCHES, U-SHAPED PULLS); FOR AREAS WITH UNOBSTRUCTED REACH THE SPACE SHALL BE WITHIN 15 INCHES MINIMUM AND 48 INCHES MAXIMUM OF THE FLOOR; FOR HIGH FORWARD REACH AREAS WITH OBSTRUCTIONS THE CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION AND THE HEIGHT OF THE SPACE SHALL BE 48 INCHES MAXIMUM AND THE DEPTH OF THE SPACE SHALL BE 20 INCHES MAXIMUM EXCEPT THE DEPTH MAY BE 25 INCHES MAXIMUM IF THE HEIGHT IS 44 INCHES MAXIMUM; FOR HIGH SIDE REACH AREAS WITH OBSTRUCTIONS THE HEIGHT OF THE OBSTRUCTION SHALL BE 34 INCHES MAXIMUM AND THE DEPTH OF THE OBSTRUCTION SHALL BE 24 INCHES MAXIMUM AND IF THE REACH DEPTH EXCEEDS 10 INCHES THEN THE MAXIMUM REACH HEIGHT IS 46 INCHES; EXCEPT THE HEIGHT OF WASHING MACHINES AND DRYERS MAY BE 36 INCHES MAXIMUM.

6. CONTROLS, DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE NO HIGHER THAN THE REACH HEIGHTS SPECIFIED IN NOTE 5 ABOVE AND NO LESS THAN 15 INCHES ABOVE THE FLOOR. EXCEPTION: HEIGHT LIMITATIONS DO NOT APPLY WHERE THE USE OF SPECIAL EQUIPMENT DICTATES OTHERWISE OR WHERE ELECTRICAL RECEPTACLES ARE NOT NORMALLY INTENDED FOR USE BY BUILDING OCCUPANTS.

7. WHERE EMERGENCY WARNING SYSTEMS ARE PROVIDED, THEY SHALL INCLUDE BOTH AUDIBLE AND VISUAL ALARMS. THE VISUAL ALARMS SHALL BE LOCATED THROUGHOUT, INCLUDING RESTROOMS, AND PLACED IN ACCORDANCE WITH NFPA 72.

8. DOORS TO ALL ACCESSIBLE SPACES SHALL HAVE ACCESSIBLE HARDWARE (i.e. LEVER-OPERATED, PUSH-TYPE, U-SHAPED) MOUNTED NO HIGHER THAN 48 INCHES ABOVE THE FLOOR.

9. FLOOR SURFACES SHALL BE STABLE, FIRM, AND SLIP-RESISTANT. CHANGES IN LEVEL BETWEEN 0.25 INCH AND 0.5 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2. CHANGES IN LEVEL GREATER THAN 0.5 INCH REQUIRE RAMPS. CARPET PILE THICKNESS SHALL BE 0.5 INCH MAX. GRATINGS IN FLOOR SHALL BE SPACES NO GREATER THAN 0.5 INCH WIDE IN ONE DIRECTION. DOORWAY THRESHOLDS SHALL NOT EXCEED 0.5 INCH IN HEIGHT.

10. ALL DOORS SHALL BE OPENABLE BY A SINGLE EFFORT. THE MAXIMUM FORCE REQUIRED TO OPEN A DOOR SHALL NOT EXCEED 8.5 LBS. FOR EXTERIOR SWINGING DOORS AND 5 LBS. FOR ALL SLIDING, FOLDING, AND INTERIOR SWINGING DOORS.

11. DOORS AND SIDELITES ADJACENT TO DOORS CONTAINING ONE OR MORE GLAZING PANELS THAT PERMIT VIEWING THROUGH THE PANELS SHALL HAVE THE BOTTOM OF AT LEAST ONE PANEL ON EITHER THE DOOR OR AN ADJACENT SIDELITE 43 INCHES MAXIMUM ABOVE THE FLOOR. VISION LITES WITH THE LOWEST PART MORE THAN 66 INCHES ABOVE THE FLOOR ARE EXEMPT FROM THIS REQUIREMENT.

12. THIS BUILDING IS DESIGNED FOR PRIVATE USE ONLY AND IS NOT INTENDED FOR USE BY OR SERVICE TO THE GENERAL PUBLIC.

13. ACCESSIBLE WATER CLOSETS SHALL BE 17 INCHES TO 19 INCHES FROM THE FLOOR TO THE TOP OF THE SEAT. GRAB BARS SHALL BE 36 INCHES LONG MINIMUM WHEN LOCATED BEHIND WATER CLOSET AND 42 INCHES MINIMUM WHEN LOCATED ALONG SIDE OF WATER CLOSET, AND SHALL BE MOUNTED AT 33 INCHES TO 36 INCHES FROM THE FLOOR TO THE CENTERLINE OF THE BAR. SIDE WALL GRAB BARS SHALL BE MOUNTED WITH THE FAR END LOCATED A MAXIMUM OF 12 INCHES FROM THE WALL BEHIND THE WATER CLOSET AND WITH THE OPPOSITE END LOCATED AT LEAST 54 INCHES FROM THE WALL BEHIND THE WATER CLOSET. THE REAR GRAB BAR IS PERMITTED TO BE 24 INCHES LONG MINIMUM, CENTERED BEHIND THE WATER CLOSET, WHERE WALL SPACE DOES NOT PERMIT A GRAB BAR 36 INCHES LONG DUE TO LOCATION OF A RECESSED FIXTURE ADJACENT TO THE WATER CLOSET. THE CENTERLINE OF WATER CLOSETS SHALL BE 16 INCHES MINIMUM AND 18 INCHES MAXIMUM FROM THE SIDE WALL OR PARTITION, EXCEPT THE WATER CLOSET SHALL BE 17 INCHES MINIMUM AND 19 INCHES MAXIMUM FROM THE SIDE WALL OR PARTITION IN AMBULATORY ACCESSIBLE TOILET COMPARTMENTS.

14. IF 03 OR 09 ANSI A117.1 IS SHOWN UNDER ACCESSIBILITY IN THE CODE SUMMARY, A VERTICAL GRAB BAR 18 INCHES MINIMUM IN LENGTH SHALL BE LOCATED ON THE SIDE WALL ADJACENT TO THE WATER CLOSET DIRECTLY ABOVE THE 42 INCH LONG HORIZONTAL GRAB BAR. THE VERTICAL BAR SHALL BE MOUNTED WITH THE BOTTOM OF THE BAR LOCATED BETWEEN 39 INCHES AND 41 INCHES ABOVE THE FLOOR, AND WITH THE CENTERLINE OF THE BAR LOCATED BETWEEN 39 INCHES AND 41 INCHES FROM THE REAR WALL.

15. ACCESSIBLE URINALS SHALL BE STALL-TYPE OR WALL HUNG WITH ELONGATED RIMS AT A MAXIMUM OF 17 INCHES ABOVE THE FLOOR AND 13.5 INCHES FROM THE WALL.

16. ACCESSIBLE LAVATORIES AND SINKS SHALL BE MOUNTED WITH THE RIM NO HIGHER THAN 34 INCHES ABOVE THE FLOOR AND A CLEARANCE OF AT LEAST 27 INCHES HIGH AND 30 INCHES WIDE. KNEE CLEARANCE SHALL BE 11 INCHES MINIMUM IN DEPTH AT 9 INCHES ABOVE THE FLOOR, AND 8 INCHES MINIMUM IN DEPTH AT 27 INCHES ABOVE THE FLOOR. BETWEEN 9 INCHES AND 27 INCHES ABOVE THE FLOOR, KNEE CLEARANCE SHALL BE PERMITTED TO BE REDUCED AT A RATE OF 1 INCH IN DEPTH FOR EACH 6 INCHES IN HEIGHT.

17. HOT WATER AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. INSULATION OR PROTECTION MATERIALS MAY BE SITE INSTALLED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER ACCESSIBLE LAVATORIES AND SINKS.

18. ACCESSIBLE LAVATORIES AND SINKS SHALL HAVE ACCESSIBLE FAUCETS (i.e. LEVER-OPERATED, PUSH-TYPE, ELECTRONICALLY CONTROLLED).

19. WHERE MIRRORS ARE LOCATED ABOVE LAVATORIES, A MIRROR SHALL BE LOCATED OVER THE ACCESSIBLE LAVATORY AND SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 40 INCHES MAXIMUM ABOVE THE FLOOR. WHERE MIRRORS ARE LOCATED ABOVE COUNTERS THAT DO NOT CONTAIN LAVATORIES, THE MIRROR SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 40 INCHES MAXIMUM ABOVE THE FLOOR.

20. GRAB BARS REQUIRED FOR ACCESSIBILITY SHALL BE 1.25 INCH TO 2 INCHES IN DIAMETER WITH 1.5 INCHES OF CLEAR SPACE BETWEEN THE BAR AND THE WALL.

21. TOILET PAPER DISPENSERS SHALL BE INSTALLED 7 INCHES MINIMUM AND 9 INCHES MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE 18 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISH FLOOR AND SHALL NOT BE LOCATED BEHIND GRAB BARS. WHERE DISPENSER IS LOCATED ABOVE THE GRAB BAR, THE OUTLET OF THE DISPENSER SHALL BE LOCATED WITHIN AN AREA 24 INCHES MINIMUM AND 36 INCHES MAXIMUM FROM THE REAR WALL, AND THE DISPENSER SHALL BE 12 INCHES CLEAR FROM THE TOP OF THE GRAB BAR. WHEN THE DISPENSER IS LOCATED BELOW THE GRAB BAR, THE OUTLET OF THE DISPENSER SHALL BE LOCATED IN AN AREA 24 INCHES MINIMUM AND 42 INCHES MAXIMUM FROM THE REAR WALL AND THE DISPENSER SHALL BE 1.5 INCHES CLEAR FROM THE BOTTOM OF THE GRAB BAR. DISPENSERS THAT CONTROL DELIVERY, OR THAT DO NOT PERMIT CONTINUOUS FLOW, SHALL NOT BE USED.

22. WATER CLOSET FLUSH CONTROL SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREA.

23. A TOWEL DISPENSER SHALL BE LOCATED ADJACENT TO ALL ACCESSIBLE LAVATORIES.

24. THE SHOWER SEAT SHALL BE MOUNTED 17 INCHES TO 19 INCHES FROM THE BATHROOM FLOOR AND SHALL EXTEND THE FULL DEPTH OF THE STALL.

25. A SHOWER SPRAY UNIT WITH A HOSE AT LEAST 60 INCHES LONG THAT CAN BE USED BOTH AS A FIXED SHOWER HEAD AND AS A HAND-HELD SHOWER SHALL BE PROVIDED. SHOWER SPRAY CONTROL SHALL BE EQUIPPED WITH AN ON/OFF SWITCH AND SHALL LIMIT TEMPERATURE TO 110°F (43°C).

26. CURBS IN SHOWER STALLS BE NO HIGHER THAN 1/2 INCH.

27. ENCLOSURES FOR SHOWER STALLS SHALL NOT OBSTRUCT CONTROLS OR OBSTRUCT TRANSFER FROM WHEELCHAIRS ONTO SHOWER SEATS.

28. WASHING MACHINE AND DRYER SHALL BE ACCESSIBLE. TOP LOADING MACHINES SHALL HAVE DOOR TO LAUNDRY COMPARTMENT LOCATED 36 INCHES MAXIMUM ABOVE THE FINISH FLOOR. FRONT LOADING MACHINES SHALL HAVE THE BOTTOM OF THE OPENING TO THE LAUNDRY COMPARTMENT LOCATED 15 INCHES MINIMUM AND 36 INCHES MAXIMUM ABOVE THE FINISH FLOOR. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM. OPERABLE PARTS SHALL BE LOCATED WITHIN THE REACHING RANGES SPECIFIED ABOVE.

ELECTRICAL NOTES:

1. ALL EQUIPMENT SHALL BE LISTED BY UL FOR THE APPLICATION FOR WHICH IT IS USED AND ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE LISTING.

2. ALL CIRCUITS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES OF THE NATIONAL ELECTRICAL CODE (NEC). ALL EQUIPMENT SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C OR 90°C CONDUCTORS UNLESS OTHERWISE SPECIFIED.

3. WHEN LIGHT FIXTURES ARE INSTALLED IN CLOSETS THEY SHALL BE SURFACE MOUNTED OR RECESSED. INCANDESCENT AND LED LUMINAIRE FIXTURES SHALL HAVE COMPLETELY ENCLOSED LAMPS. SURFACE MOUNTED INCANDESCENT AND LED LUMINAIRE FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 12 INCHES AND ALL OTHER FIXTURES SHALL BE A MINIMUM CLEARANCE OF 6 INCHES FROM "STORAGE AREA" AS DEFINED BY NEC 410.2.

4. ALL WATER HEATERS SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE WATER HEATERS SERVED. THE BRANCH CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS ONLY WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE WATER HEATER OR IS CAPABLE OF BEING LOCKED IN THE OPEN POSITION.

5. HVAC EQUIPMENT SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE EQUIPMENT SERVED. A UNIT SWITCH WITH A MARKED "OFF" POSITION THAT IS A PART OF THE HVAC EQUIPMENT AND DISCONNECTS ALL UNGROUNDED CONDUCTORS SHALL BE PERMITTED AS THE DISCONNECTING MEANS WHERE OTHER DISCONNECTING MEANS ARE ALSO PROVIDED BY A READILY ACCESSIBLE CIRCUIT BREAKER.

6. PRIOR TO ENERGIZING THE ELECTRICAL SYSTEM THE INTERRUPTING RATING OF THE MAIN BREAKER MUST BE DESIGNED AND VERIFIED AS BEING IN COMPLIANCE WITH SECTION 110-9 OF THE NEC BY LOCAL ELECTRICAL CONSULTANT.

7. THE MAIN ELECTRICAL PANEL AND FEEDERS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL.

8. ALL CIRCUITS CROSSING OVER MODULE MATING LINE(S) SHALL BE SITE CONNECTED WITH APPROVED ACCESSIBLE JUNCTION BOXES OR CABLE CONNECTORS.

9. FIRE ALARM PULL STATION OPERABLE DEVICE SHALL BE LOCATED 42 TO 48 INCHES ABOVE FINISHED FLOOR. TOP OF FIRE ALARM HORN DEVICE SHALL BE LOCATED 90 INCHES MINIMUM ABOVE FINISED FLOOR AND 6 INCHES MINIMUM BELOW CEILING, WHERE CEILING HEIGHT PERMITS. BOTTOM OF STROBE DEVICE SHALL BE LOCATED 80 INCHES MINIMUM AND 96 INCHES MAXIMUM ABOVE FINISHED FLOOR.

10. ALL RECEPTACLES INSTALLED IN WET LOCATIONS (EXTERIOR) SHALL HAVE WEATHER PROOF (WP) ENCLOSURES, THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN AN ATTACHMENT PLUG CAP IS INSERTED OR REMOVED. IN ADDITION NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER-RESISTANT TYPE WHEN COMPLIANCE WITH THE 2008 AND/OR 2011 NEC ARE REQUIRED (SEE CODE SUMMARY ON COVER SHEET).

11. ALL EXTERIOR LIGHTS SHALL BE EQUIPPED WITH PHOTOCELLS FOR AUTOMATIC SHUT-OFF WHEN DAYLIGHT IS AVAILABLE.

12. EMERGENCY LIGHTING SHALL BE CAPABLE OF PROVIDING INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOT-CANDLE (fc) AND A MINIMUM OF 0.1 fc MEASURED ALONG THE PATH OF EGRESS AT THE FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 fc AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 fc AT THE END OF THE EMERGENCY LIGHT TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES.

13. WHEN A SINGLE RECEPTACLE IS INSTALLED ON AN INDIVIDUAL BRANCH CIRCUIT THE RECEPTACLE SHALL HAVE AN AMPERE RATING NOT LESS THAN THAT OF THE BRANCH CIRCUIT.

14. ELECTRICAL PANELS SHALL BE EQUIPPED WITH A MAIN BREAKER OF THE SAME SIZE AS THE PANEL UNLESS OTHERWISE SPECIFIED.

15. SMOKE DETECTORS SHALL BE WIRED SO THAT THE OPERATION OF ANY ONE SMOKE DETECTOR WILL CAUSE SIMULTANEOUS ACTIVATION OF ALL OTHERS. IF THE DWELLING CONTAINS FOSSIL FUEL APPLIANCES, FIREPLACES, OR AN ATTACHED GARAGE THE DETECTORS LOCATED OUTSIDE SLEEPING AREAS (WITHIN 10 FEET) SHALL BE COMBINATION SMOKE/CARBON MONOXIDE TYPE. ALL DETECTORS SHALL RECEIVE PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH BATTERY BACK-UP.

16. ALL SMOKE DETECTORS LOCATED WITHIN 20 FEET OF A COOKING APPLIANCE SHALL BE PHOTO-ELECTRIC TYPE.

17. ALL 15 AND 20 AMP OUTLETS (RECEPTACLES, LIGHTS, SMOKE DETECTORS, ETC.) INSTALLED IN SOCIAL ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY COMBINATION-TYPE ARC-FAULT CIRCUIT INTERRUPTERS (AFCI).

18. A MINIMUM OF ONE COMMUNICATIONS OUTLET SHALL BE INSTALLED WITHIN THE DWELLING AND CABLED TO THE SERVICE PROVIDER DEMARCATION POINT.

19. ALL 120-VOLT 15 AND 20 AMP RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT TYPE.

GENERAL NOTES:

1. ALL CONSTRUCTION, MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CODES SPECIFIED ON THESE DRAWINGS.

2. THESE PLANS INCLUDE DESIGN FOR THE FACTORY BUILT PORTION OF THE MODULAR STRUCTURE AND PORTIONS OF THE SITE BUILT CONSTRUCTION. THESE PLANS AND DESIGN PLANS FOR ALL ELEMENTS DESIGNATED TO BE DESIGNED BY OTHERS AND/OR SITE INSTALLED MUST BE SUBMITTED TO AND REVIEWED BY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DESIGNER OF RECORD) FOR COMPATIBILITY WITH THE DESIGN OF THE OVERALL BUILDING PROJECT AS REQUIRED BY THE APPLICABLE CODES AND LAWS.

3. ALL PARTIES RESPONSIBLE FOR DESIGN WORK SHALL BE QUALIFIED AND LICENSED AS REQUIRED BY THE JURISDICTIONS HAVING AUTHORITY OR SHALL RETAIN SUCH QUALIFIED AND LICENSED ENTITIES TO PERFORM SUCH WORK.

4. TRANSPORTATION AND ERECTION OF THIS BUILDING IS DESIGNED BY OTHERS. ANY TRANSPORTATION AND/OR LIFTING ELEMENTS SHOWN IN THESE PLANS MUST BE EVALUATED BY TRANSPORTATION AND ERECTION DESIGNER FOR SUITABILITY.

5. REFER TO MANUFACTURER'S APPROVED SYSTEMS PACKAGE FOR ADDITIONAL CONSTRUCTION DETAILS AND SPECIFICATIONS NOT INCLUDED IN THESE PLANS.

6. REFER TO ATTACHED ENERGY CODE COMPLIANCE FORM AND/OR HEAT LOSS AND GAIN CALCULATIONS FOR ADDITIONAL ENERGY CODE CONSTRUCTION REQUIREMENTS NOT INCLUDED IN THESE PLANS.

7. ALL DOORS SHALL BE OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR EFFORT. MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS SHALL NOT BE USED.

8. WHEN NOT SHOWN ON THE PLANS PROVISIONS FOR EXIT DISCHARGE LIGHTING (INCLUDING DUAL ELEMENT EXIT DISCHARGE EMERGENCY LIGHTING) ARE DESIGNED BY OTHERS AND THE RESPONSIBILITY OF THE BUILDING OWNER AND SUBJECT TO LOCAL JURISDICTION APPROVAL.

9. PORTABLE FIRE EXTINGUISHERS SHALL BE PROVIDED BY OTHERS AS REQUIRED BY THE IFC.

10. ALL GLAZING WITHIN A 24 INCH ARC OF DOORS WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR AND ALL GLAZING IN DOORS SHALL BE SAFETY, TEMPERED, OR ACRYLIC PLASTIC SHEET.

11. DOORS THAT OPEN INTO THE PATH OF EGRESS TRAVEL SHALL PARTIALLY OR FULLY OPEN IN SUCH A MANNER THAT THE CODE REQUIRED PATH OF EGRESS WIDTH IS NOT REDUCED TO LESS THAN ONE-HALF DURING THE COURSE OF THE SWING. WHEN FULLY OPEN, THE DOOR SHALL NOT PROJECT MORE THAN 7 INCHES INTO THE CODE REQUIRED WIDTH.

12. WHERE THE LIVE LOADS FOR WHICH EACH FLOOR OR PORTION THEREOF IS DESIGNED TO EXCEED 50 PSF, SUCH DESIGN LIVE LOAD SHALL BE CONSPICUOUSLY POSTED BY THE BUILDING OWNER IN THAT STORY WHERE THEY APPLY, USING DURABLE SIGNS.

13. INTERIOR NON-LOADBEARING PARTITIONS SHALL BE MINIMUM 2X4 SPF#3 STUDS AT 16 INCHES ON CENTER.

14. IF THIS BUILDING IS LOCATED IN A WIND BORNE DEBRIS REGION ALL EXTERIOR GLAZING SHALL BE IMPACT RESISTANT OR PROTECTED WITH AN IMPACT RESISTANT COVERING MEETING THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTANT STANDARD OR THE REQUIREMENTS OF SSTD 12, ASTM E 1886 AND ASTM E 1996 INCLUDING THE LARGE MISSILE TEST OF ASTM E 1996. EXTERIOR GLAZING SHALL ALSO DESIGNED TO RESIST THE APPLICABLE WIND PRESSURES. IMPACT RESISTANT COVERINGS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL.
WIND BORNE DEBRIS REGIONS INCLUDE THE FOLLOWING:
A. AREAS WITHIN ONE MILE OF THE COASTAL MEAN HIGH WATER LINE WHERE THE ULTIMATE DESIGN WIND SPEED IS EQUAL TO OR GREATER THAN 130 MPH, OR
B. AREAS WHERE THE ULTIMATE DESIGN WIND SPEED IS EQUAL TO OR GREATER THAN 140 MPH.
NOTE: FOR RISK CATEGORY II BUILDINGS AND RISK CATEGORY III BUILDINGS, EXCEPT HEALTH CARE FACILITIES, THE WIND BORNE DEBRIS REGION SHALL BE BASED ON FBC FIGURE 1609A. FOR RISK CATEGORY IV BUILDINGS AND RISK CATEGORY III HEALTH CARE FACILITIES, THE WIND BORNE DEBRIS REGION SHALL BE BASED ON FBC FIGURE 1609B.

15. STRAPPING MUST BE TESTED AND/OR CERTIFIED TO VERIFY THE STRUCTURAL CAPACITY. APPROPRIATE DOCUMENTATION MUST BE ON FILE AT THE MODULAR BUILDING FACTORY.

16. ALL MATERIALS USED IN THE CONSTRUCTION OF THE BUILDING WHICH REQUIRE PRODUCT APPROVAL SHALL COMPLY WITH FAC 61G20-3.

17. PLAN REVIEW AND INSPECTION REQUIRED BY CHAPTER 633 F.S. SHALL BE DONE ON SITE BY LOCAL FIRE SAFETY INSPECTOR.

18. THE FLOOR AND ROOF DESIGN OF THIS PLAN IS "LIGHT FRAME TRUSS-TYPE CONSTRUCTION" AS REFERENCED IN FAC RULE 69A-3.012. POSTING OF NOTICE SIGN(S) AS REQUIRED BY FAC RULE 69A-3.012(6) IS THE RESPONSIBILITY OF THE BUILDING OWNER.

19. THE RAISED SEAL SET OF PLANS SHALL BE ON FILE IN THE THIRD PARTY AGENCY'S OFFICE AS DIRECTED BY DBPR.

20. WHERE CORRIDORS ARE PROVIDED THE MINIMUM CORRIDOR WIDTH SHALL BE AS SHOWN ON THESE PLANS OR 44 INCHES, WHICHEVER IS GREATER.

21. WHERE CORRIDORS ARE PROVIDED THE MINIMUM CORRIDOR FINISH SHALL BE CLASS B.

ADDITIONAL REQUIREMENTS FOR BUILDINGS LOCATED IN HIGH VELOCITY HURRICANE ZONES:

1. WINDOWS WITH SILLS LESS THAN 36 INCHES ABOVE THE NEAR SIDE WALKING SURFACE AND WITH A DROP OF MORE THAN 48 INCHES ON THE FAR SIDE MUST BE PROTECTED WITH SAFEGUARDS WHICH ARE NOT LESS THAN 42 INCHES IN HEIGHT IN ACCORDANCE WITH FBC SECTION 1618.4.

2. ALL GLAZING WITHIN A 48 INCH ARC OF DOORS WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR AND ALL GLAZING IN DOORS SHALL BE SAFETY, TEMPERED, OR ACRYLIC PLASTIC SHEET.

3. STORM SHUTTERS FOR DOORS AND WINDOWS ARE SITE INSTALLED BY OTHERS, SUBJECT TO THE APPROVAL OF THE LOCAL JURISDICTION AND MUST COMPLY WITH FBC SECTION 2413.

4. ALL WINDOWS AND DOORS SHALL HAVE DETAILED ENGINEERED SHOP DRAWINGS SEALED BY THE MANUFACTURER'S PROFESSIONAL ENGINEER AND APPROVED BY THE DESIGNER OF RECORD PRIOR TO APPLICATION FOR PERMIT. THE SHOP DRAWINGS ALONG WITH NOTICES OF PRODUCT APPROVAL SHALL IDENTIFY ROUGH OPENINGS, SUPPORTING FRAMEWORK, METHOD OF ATTACHMENT AND WATERPROOFING PROCEDURES.

5. FOR THE PURPOSE OF DOOR AND WINDOW TESTING THE COMPONENT LOADS SHOWN IN THE STRUCTURAL LOAD LIMITATIONS SHALL BE INCREASED BY A FACTOR OF 1.5

6. ALL BEARING WALL TOP PLATES SHALL BE DOUBLED, WITH JOINTS STAGGERED 48 INCHES APART MINIMUM, AND LAPPED AT ALL INTERSECTING WALLS.

7. FLOOR JOISTS SUPPORTING CONCRETE OR GROUT FOR TILE FLOORS SHALL HAVE A MAXIMUM SPACING OF 12 INCHES ON CENTER.

8. DOUBLE FLOOR JOIST SHALL BE INSTALLED UNDER ALL PARTITIONS PARALLEL TO FLOOR JOIST SPANS. DOUBLE JOISTS MAY BE SPACED TO ALLOW PASSAGE OF VERTICAL PIPES IN WALLS OR PARTITIONS CONTAINING PIPING.

9. WHERE VERTICAL PIPE POSITIONS NECESSITATE THE CUTTING OF PLATES, A METAL PLATE TIE NOT LESS THAN ONE INCH X 1/8 INCH SHALL BE PLACED ON EACH SIDE OF PLATE ACROSS THE OPENING AND NAILED WITH NOT LESS THAN (2) 8d NAILS AT EACH END.

PLUMBING NOTES:

1. WHEN REQUIRED RESTROOM FACILITIES ARE NOT PROVIDED WITHIN THE BUILDING THEY SHALL BE LOCATED IN AN ADJACENT BUILDING OR SITE INSTALLED AND ARE SUBJECT TO THE APPROVAL AND INSPECTION BY THE JURISDICTION HAVING AUTHORITY. ALL SITE INSTALLED FACILITIES ARE DESIGNED BY OTHERS. THIS SHALL BE NOTED ON THE BUILDING DATA PLATE.

2. BUILDING OWNER ASSUMES ALL RESPONSIBILITY FOR DRINKING WATER FACILITIES, SERVICE SINK AND ALL OTHER REQUIRED PLUMBING FACILITIES NOT SHOWN ON FLOOR PLAN. ALL BUILDING OWNER PROVIDED FACILITIES ARE DESIGNED BY OTHERS.

3. TOILETS SHALL BE ELONGATED WITH NONABSORBENT OPEN FRONT SEATS.

4. RESTROOM WALLS SHALL BE COVERED WITH NONABSORBENT MATERIAL TO A MINIMUM HEIGHT OF 48 INCHES A.F.F. (70 INCHES MINIMUM IN SHOWERS). TOILET, BATHING AND SHOWER ROOM FLOORS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 4 INCHES.

5. FULL-OPEN VALVE SHALL BE INSTALLED ON THE WATER DISTRIBUTION SUPPLY PIPE AT THE ENTRANCE INTO THE STRUCTURE AND ON THE DISCHARGE SIDE OF THE WATER METER. FULL-OPEN VALVE(S) SHALL BE SITE INSTALLED WHEN NOT FACTORY INSTALLED. ALL PLUMBING FIXTURES SHALL HAVE SEPARATE SHUTOFF VALVES.

6. WATER HEATER SHALL HAVE A T & P RELIEF VALVE WITH DRAIN TO EXTERIOR, AND A SHUTOFF VALVE WITHIN 3 FEET ON THE COLD WATER SUPPLY LINE.

7. DWV SYSTEM SHALL BE EITHER ABS OR PVC - DWV.

8. WATER SUPPLY LINES SHALL BE CPVC OR COPPER.

9. ALL PIPE HANGERS SHALL BE NON-METALLIC OR OF THE SAME METAL AS THE PIPE BEING SUPPORTED. ALL SUPPORTS FOR PLASTIC PIPES SHALL PERMIT FREE MOVEMENT AND/OR THERMAL EXPANSION OF THE PIPE. PIPING SUPPORTS SHALL BE SPACED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

10. WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED ATTIC SHALL BE INSULATED WITH AN INSULATION OF R-6.5 MINIMUM. WHERE SUBJECT TO TEMPERATURES LESS THAN 32° F. WATER, SOIL OR WASTE PIPES SHALL BE INSULATED WITH AN INSULATION OF R-6.5 MINIMUM.

11. WATER CLOSETS ARE TANK TYPE AND URINALS ARE FLUSH TANK TYPE UNLESS OTHERWISE SPECIFIED.

12. BUILDING DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.

13. THERMAL EXPANSION DEVICE, IF REQUIRED BY WATER HEATER INSTALLED, AND IF NOT SHOWN ON PLUMBING PLAN, IS DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL APPROVAL.

14. WATER HEATER STORAGE TANKS SHALL HAVE THE FIRST 8 FEET OF OUTLET PIPING AND THE INLET PIPE BETWEEN THE TANK AND THE HEAT TRAP COVERED WITH 1 INCH THICK INSULATION FOR PIPE DIAMETERS OF 2 INCH OR LESS, AND 1.5 INCH THICK INSULATION FOR PIPE DIAMETERS GREATER THAN 2 INCH.

15. WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NON-CIRCULATION SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH THE EQUIPMENT.

16. A WATER-HAMMER ARRESTOR SHALL BE INSTALLED WHERE QUICK-CLOSING VALVES ARE UTILIZED, UNLESS OTHERWISE APPROVED. WATER-HAMMER ARRESTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. WATER-HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.

17. TEMPERED WATER SHALL BE DELIVERED FROM LAVATORIES IN PUBLIC TOILET FACILITIES. TEMPERED WATER SHALL BE DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 AND SHALL LIMIT THE TEMPERED WATER TO A MAXIMUM OF 110°F (43°C).

18. SHOWERS SHALL BE CONTROLLED BY AN APPROVED MIXING VALVE WITH A MAXIMUM WATER OUTLET TEMPERATURE OF 110°F (43°C)

SITE INSTALLED ITEMS:

NOTE THAT THIS LIST DOES NOT NECESSARILY LIMIT THE ITEMS OF WORK AND MATERIALS THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SITE RELATED ITEMS ARE SUBJECT TO LOCAL JURISDICTION APPROVAL.

1. THE COMPLETE FOUNDATION SUPPORT AND TIE DOWN SYSTEM.
2. RAMPS, STAIRS AND GENERAL ACCESS TO THE BUILDING.
3. PORTABLE FIRE EXTINGUISHER(S).
4. BUILDING DRAINS, CLEANOUTS, AND HOOK-UP TO THE PLUMBING SYSTEM.
5. ELECTRICAL SERVICE HOOK-UP (INCLUDING FEEDERS) TO THE BUILDING.
6. THE MAIN ELECTRICAL PANEL AND SUB-FEEDERS.
7. ALL METAL FRAMING MEMBERS SHALL BE BONDED TO THE BUILDINGS ELECTRICAL SYSTEM. THE BUILDING OWNER IS RESPONSIBLE FOR RETAINING APPROPRIATELY QUALIFIED AND LICENSED ENTITIES TO DESIGN AND INSTALL REQUIRED BONDING.
8. DUAL ELEMENT EXTERIOR EXIT DISCHARGE LIGHTING WHEN NOT SHOWN ON PLANS.
9. EXTERIOR GLAZING PROTECTION.
10. GUTTERS & DOWN SPOUTS WHEN REQUIRED.
11. WATER HEATER THERMAL EXPANSION DEVICE WHEN REQUIRED.
12. PROGRAMMABLE THERMOSTATS IF NOT INSTALLED AT FACTORY.
13. DRINKING FOUNTAIN & SERVICE SINK WHEN NOT SHOWN ON FLOOR PLAN.
14. ALL SIGNS, INCLUDING TACTILE SIGNS, UNLESS OTHERWISE SPECIFIED.
15. CONNECTIONS OF ELECTRICAL CIRCUITS CROSSING OVER MODULE MATING LINE(S) - (MULTI-UNITS ONLY).
16. STRUCTURAL AND AESTHETIC INTERCONNECTIONS BETWEEN MODULES (MULTI-UNITS ONLY).
17. ANY AIR GAPS BETWEEN MODULES AT FLOOR AND CEILING LINES AND ANY OTHERS PENETRATIONS THROUGH THE BUILDING ENVELOPE SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED, WRAPPED OR OTHERWISE SEALED TO LIMIT UNCONTROLLED AIR MOVEMENT.
18. AUTOMATIC SPRINKLER SYSTEM AND FIRE ALARM SYSTEM.

FOUNDATION NOTES:

1. THESE PLANS DO NOT CONTAIN FOUNDATION SUPPORT AND TIE DOWN SYSTEM DETAILS & SPECIFICATIONS. THE BUILDING ENGINEER SHOULD BE CONTACTED TO OBTAIN APPROPRIATE FOUNDATION PLANS. IF FOUNDATION PLANS ARE DESIGNED BY OTHERS, THE BUILDING ENGINEER SHALL NOT BE HELD RESPONSIBLE OR LIABLE FOR THE FOUNDATION DESIGN & THE CONSEQUENTIAL PERFORMANCE OF THE SUPERSTRUCTURE'S STRUCTURAL COMPONENTS AND SYSTEMS RELATING THERETO.

2. GRAVITY SUPPORT SHALL BE PROVIDED WITHIN ONE FOOT OF EACH END OF EACH I-BEAM AND AT 10 FOOT ON CENTER MAXIMUM IN BETWEEN END SUPPORTS. GRAVITY SUPPORT SHALL BE PROVIDED UNDER ALL INTERIOR COLUMN LOCATIONS. THE FOUNDATION DESIGNER IS RESPONSIBLE FOR DETERMINING THE APPLICABLE DESIGN GRAVITY LOADS.

3. NET UPLIFT WIND LOAD ON EACH SIDE OF EACH MATE LINE IS 250 PLF IN END ZONES AND 175 PLF IN INTERIOR ZONES. EACH COLUMN SHALL BE TIE DOWN TO THE FOUNDATION WITH ANCHORAGE HAVING A CAPACITY EQUAL TO THE MATE LINE TRIBUTARY LENGTH TIMES THE APPLICABLE UPLIFT LOAD SPECIFIED ABOVE.

4. EXTERIOR SIDE WALL I-BEAMS (70' WALLS) SHALL BE FASTENED TO FOUNDATION SO AS TO RESIST A NET HORIZONTAL WINDWARD LOAD PERPENDICULAR TO THE WALL OF 425 PLF IN THE END ZONES AND 275 PLF IN THE INTERIOR ZONES AND A NET VERTICAL WIND LOAD OF 500 PLF IN THE END ZONES AND 325 PLF IN THE INTERIOR ZONES.

5. I-BEAMS AT ALL MODULE END WALLS SHALL BE FASTENED TO FOUNDATION SO AS TO RESIST A NET WINDWARD HORIZONTAL LOAD PERPENDICULAR TO THE WALL OF 2800 POUNDS PER I-BEAM IN THE END ZONES AND 2100 POUNDS PER I-BEAM IN THE INTERIOR ZONES.

6. EXTERIOR END WALLS SHALL BE FASTENED TO FOUNDATION SO AS TO RESIST A HORIZONTAL WIND LOAD OF 225 PLF PARALLEL TO THE END WALLS.

7. FOUNDATION DESIGNER MUST VERIFY THAT TIE DOWN METHODS AND SPACING DO NOT OVER STRESS ANY FRAMING MEMBERS OF THE BUILDING.

8. ALL EXTERIOR WALLS SHALL BE TREATED AS SHEAR WALLS AND SHALL BE TIED DOWN TO THE FOUNDATION ACCORDINGLY (TIE DOWN DESIGNED BY OTHERS).

9. END ZONES ARE ALL AREAS LOCATED WITHIN 6'-0" OF BUILDING CORNERS.

10. PLF = POUNDS PER LINEAR FOOT.

11. DEAD LOADS OF THE MODULES HAVE ALREADY BEEN DEDUCTED FROM THE NET LOADS SPECIFIED ABOVE. HORIZONTAL AND VERTICAL WIND LOADS SHOULD BE ASSUMED TO ACT IN EITHER DIRECTION UNLESS OTHERWISE SPECIFIED.

12. FOUNDATION DESIGNER MUST DESIGN FOUNDATION FOR APPLICABLE SEISMIC LOADING BASED ON ACTUAL SITE CONDITIONS.

MECHANICAL NOTES:

1. ALL SUPPLY AIR REGISTERS SHALL BE 10 INCHES X 10 INCHES ADJUSTABLE WITH 10 INCHES X 20 INCHES (INSIDE) OVERHEAD FIBERGLASS DUCT, UNLESS OTHERWISE SPECIFIED. DUCTS LOCATED OUTSIDE THE BUILDING ENVELOPE INCLUDING ATTIC DUCTS LOCATED ABOVE CEILING INSULATION SHALL HAVE R-8 MINIMUM INSULATION VALUE. DUCTS LOCATED IN UNCONDITIONED SPACES INCLUDING ATTIC DUCTS LOCATED BELOW CEILING OR ROOF INSULATION SHALL HAVE R-6 MINIMUM INSULATION VALUE WHERE 2012 IMC IS ENFORCED AND R-5 MINIMUM INSULATION VALUE OTHERWISE.

2. ALL RETURN AIR REGISTERS SHALL BE 14 INCHES X 14 INCHES ADJUSTABLE WITH 10 INCHES X 20 INCHES (INSIDE) OVERHEAD FIBERGLASS DUCT, UNLESS OTHERWISE SPECIFIED. DUCTS LOCATED OUTSIDE THE BUILDING ENVELOPE INCLUDING ATTIC DUCTS LOCATED ABOVE CEILING INSULATION SHALL HAVE R-8 MINIMUM INSULATION VALUE. DUCTS LOCATED IN UNCONDITIONED SPACES INCLUDING ATTIC DUCTS LOCATED BELOW CEILING OR ROOF INSULATION SHALL HAVE R-5 MINIMUM INSULATION VALUE. WHERE ATTIC DUCTS STUB DOWN INTO WALL PLENUMS THE STUB DOWN OPENING SIZE SHALL BE THE LONG DIMENSION OF THE DUCT BY 8 INCHES MINIMUM OR THE FULL WIDTH OF THE PLENUM, WHICHEVER IS GREATER. ALL RETURN AIR WALL PLENUMS SHALL BE LINED WITH 1/2 INCH GYPSUM BOARD.

3. FIBERGLASS DUCTS SHALL BE CONSTRUCTED WITH CLASS 0 OR CLASS 1 DUCT MATERIAL IN ACCORDANCE WITH UL 181. FIBERGLASS DUCT CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS OR NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS. METAL DUCTS SHALL BE CONSTRUCTED AS SPECIFIED IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. FLEXIBLE AIR DUCTS, BOTH FIBERGLASS AND METAL, SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND SHALL BE LISTED AND LABELED AS CLASS 0 OR CLASS 1 FLEXIBLE AIR DUCT. ALL DUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

4. RESTROOM VENT FANS SHALL PROVIDE 75 CFM OR MORE EXHAUST PER WATER CLOSET UNLESS OTHERWISE SPECIFIED ON PLANS.

5. VENT FANS SHALL BE DUCTED TO THE EXTERIOR AND TERMINATE AT AN APPROVED VENT CAP.

6. HVAC SYSTEM SHALL COMPLY WITH NFPA 90B.

7. THERMOSTATS SHALL BE PROGRAMMABLE AS REQUIRED BY THE APPLICABLE ENERGY CODE. IF PROGRAMMABLE THERMOSTATS ARE NOT INSTALLED IN THE FACTORY THEY SHALL BE PROVIDED BY THE BUILDING OWNER AND SITE INSTALLED BY OTHERS.

8. MECHANICAL ATTIC VENTILATION SHALL BE USED AS FOLLOWS:
INSTALL FAN(S) CAPABLE OF EXHAUSTING AT LEAST 0.02 CFM PER SQUARE FOOT OF HORIZONTAL ATTIC AREA. EACH FAN SHALL EXHAUST 100 CFM MINIMUM. IN ADDITION, INSTALL GABLE AND/OR ROOF VENTS WITH AT LEAST 50 SQUARE INCHES OF NET FREE AREA PER FAN. THE FAN(S) AND GABLE OR ROOF VENTS SHALL BE POSITIONED SO AS TO ALLOW CROSS VENTILATION OF ALL ATTIC SPACES. EACH FAN SHALL BE AUTOMATICALLY CONTROLLED TO OPERATE WHEN THE RELATIVE HUMIDITY IN THE ATTIC EXCEEDS 60%. EACH FAN SHALL OPERATE ON 120 VOLT, 1ø POWER, 50 WATTS MAXIMUM. EACH BRANCH CIRCUIT SERVING A FAN SHALL BE EQUIPPED WITH A "SWD" TYPE BREAKER AT THE ELECTRICAL PANEL.

BUILDING DATA NOTES:

1. CONSTRUCTION IS TYPE V-B.

2. OCCUPANCY IS RESIDENTIAL (R-2), FIRE STATION DORMITORY USE.

3. MEANS OF EGRESS IS DESIGNED FOR AN OCCUPANT LOAD OF 1 PERSON PER 200 SQUARE FEET OF GROSS FLOOR AREA.

4. FIRE RATING OF EXTERIOR WALLS IS 0 HOURS.

5. THIS BUILDING REQUIRES A FIRE SEPARATION DISTANCE OF 10 FEET OR MORE IN ACCORDANCE WITH TABLE 602 OF THE FBC AND IS SUBJECT TO LOCAL JURISDICTION APPROVAL.

6. THIS BUILDING SHALL HAVE AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH NFPA-13R. THE SPRINKLER SYSTEM IS DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO THE APPROVAL OF THE LOCAL JURISDICTION HAVING AUTHORITY.

7. THIS BUILDING SHALL HAVE A FIRE ALARM SYSTEM (PROTECTIVE SIGNALING SYSTEMS, FIRE DETECTION SYSTEMS, ETC.) INSTALLED IN ACCORDANCE WITH NFPA-72. THE FIRE ALARM SYSTEM IS DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO THE APPROVAL OF THE LOCAL JURISDICTION HAVING AUTHORITY. THE FIRE ALARM CONTROL PANEL MUST BE INSTALLED IN A HIGHLY VISIBLE LOCATION ACCEPTABLE TO THE LOCAL JURISDICTION HAVING AUTHORITY. (THE FACP CANNOT BE INSTALLED IN A CLOSET OR BATHROOM).

FLORIDA HVHZ STRUCTURAL LOAD LIMITATIONS:

FLOOR LIVE LOAD:
A. 40 PSF.

ROOF LIVE LOAD:
A. 30 PSF.

ROOF SNOW LOAD:
NOT APPLICABLE.

WIND LOAD: ASCE 7-10
A. ULTIMATE WIND SPEED (3-SEC GUST): Vult = 180 MPH
B. NOMINAL WIND SPEED (3-SEC GUST): Vasd = 140 MPH
C. RISK CATEGORY IV
D. WIND EXPOSURE CATEGORY: EXP. = C
E. INTERNAL PRESSURE COEFFICIENT: GCpi = 0.18
F. COMPONENT & CLADDING ULTIMATE DESIGN PRESSURES (NOMINAL DESIGN PRESSURE) FOR ROOF ANGLES 0 TO 7 DEGREES:
WALL ZONE 5: Pult = +/-94.4 PSF (Pasd = +/-56.6 PSF)
WALL ZONE 4: Pult = +/-76.5 PSF (Pasd = +/-45.9 PSF)
ROOF ZONE 3: Pult = -178.1 PSF (Pasd = -106.9 PSF)
ROOF ZONE 2: Pult = -118.3 PSF (Pasd = -71.0 PSF)
ROOF ZONE 1: Pult = -70.5 PSF (Pasd = -42.3 PSF)
G. THIS BUILDING IS NOT DESIGNED FOR PLACEMENT ON THE UPPER HALF OF A HILL OR ESCARPMENT EXCEEDING 15 FEET IN HEIGHT.
H. BUILDING DESIGN IS BASED ON "ENCLOSED" CLASSIFICATION.
I. BUILDING MEAN ROOF HEIGHT SHALL NOT EXCEED 15 FEET.
J. THIS BUILDING IS DESIGNED FOR PLACEMENT IN A HIGH VELOCITY HURRICANE ZONE AS DEFINED BY THE FBC.
K. THIS BUILDING IS NOT DESIGNED FOR PLACEMENT ON THE SEAWARD SIDE OF A COASTAL CONSTRUCTION LINE.

SEISMIC LOAD:
NOT APPLICABLE.

FLOOD LOAD:
THIS BUILDING IS NOT DESIGNED TO BE LOCATED IN A FLOOD HAZARD AREA.

FLORIDA PRODUCT APPROVAL AND OTHER LISTINGS/TESTS:

WINDOWS	ATRIUM	FL 13232.1-R1
DOORS	PREMIER PRODUCTS	FL 6378-R3
SIDING	HARDIPANEL	FL 13223-R1
ROOFING	FIRESTONE	NOA 09-0323.01
26 GA. STRAPS	LIPPERT COMPONENTS	RADCO LISTING #1235

REVIEWED BY:
MICHAEL A FREY
Michael A Frey
FLORIDA MODULAR PLANS EXAMINER
NO. SMP 37

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA

CONST. TYPE	VB
OCCUPANCY	R-2
FLOOR LL	40 PSF
WIND VELOCITY(ult)	180 MPH
FIRE RATING OF EXT. WALLS	0 HRS
ALLOWABLE NO. OF FLOORS	1
MANUFACTURER	TMS
PLAN NUMBER	222
APPROVAL DATE	Aug 15, 2013
HIGH VELOCITY HURRICANE ZONE	YES

RADCO

APPROVED RADCO Aug 15, 2013 APPROVED

CODE SUMMARY:						
STATE	BUILDING	ELECTRICAL	MECHANICAL	PLUMBING	ACCESSIBILITY	ENERGY
FLORIDA	2010 FBC-B W/2012 SUPP. **	2008 NEC	2010 FBC-M	2010 FBC-P W/2012 SUPP.	2012 FL ACCESSIBILITY CODE & 2010 ADA	2010 FL ENERGY CODE

** ALSO 2010 FL FIRE PREVENTION CODE (FFPC) 2009 NFPA 101 WITH 2010 FFPC REVISIONS

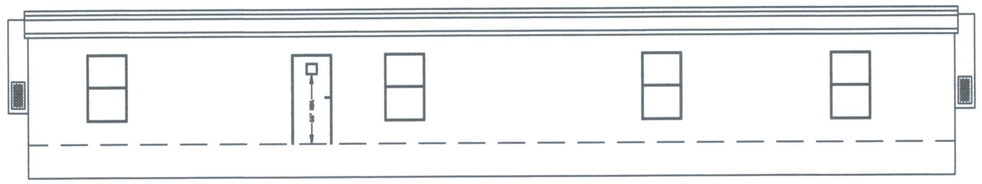
INDEX:

KENNETH A. GODFREY LICENSE No. 40131 STATE OF FLORIDA PROFESSIONAL ENGINEER

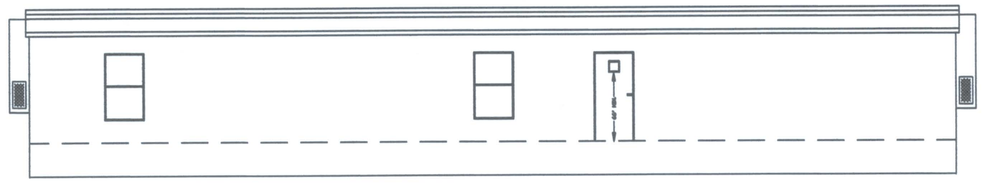
08-15-2013

TITAN MODULAR SYSTEMS, INC.
162 INDUSTRIAL DRIVE
ALMA, GEORGIA 31510 (912) 632-3344

DATE: 08/06/2013	KENNETH A. GODFREY, P.E. 490 RUSTIC BARN TRAIL MORGANTON, GA 30560 FL PE#40131	
SCALE : N/A		
CODES: SEE SUMMARY	REVISIONS:	BY: KAG.
LABELS: RADCO., FL.		
BUILDING DESTINATION: BROWARD COUNTY, FL		SHEET
TMS 222 A/B 28 X 70 RESIDENTIAL R-2		1 OF 4
COVER SHEET	KAG. NO. 071913TMS	

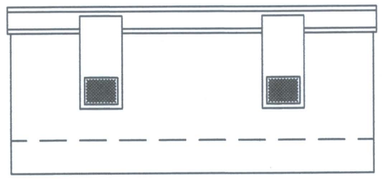


FRONT ELEVATION



REAR ELEVATION

LEFT ELEVATION



RIGHT ELEVATION

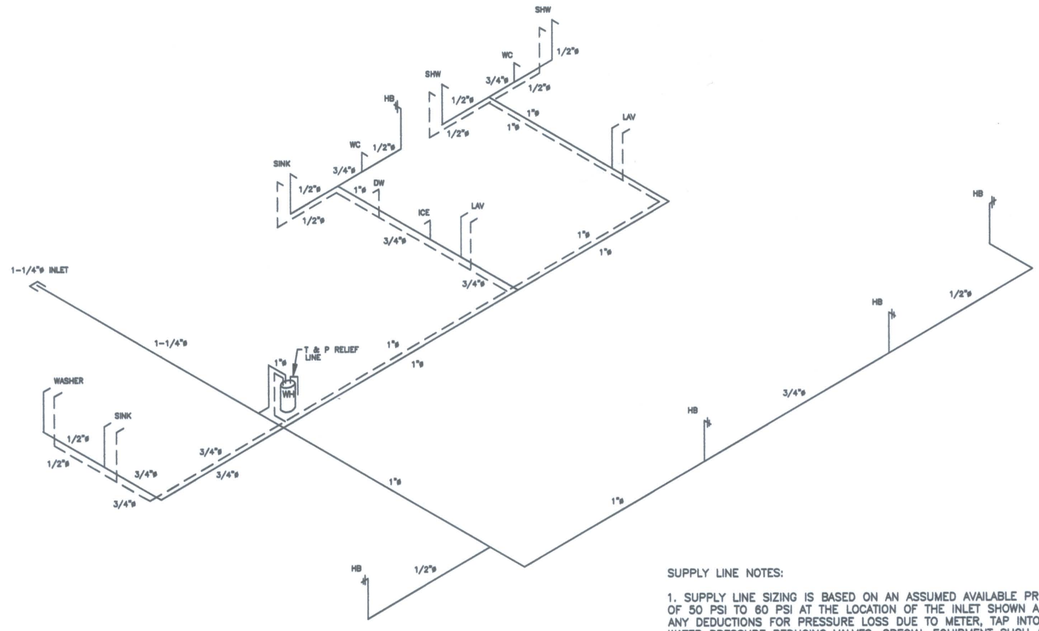
TYPICAL ELEVATION NOTES:

1. ALL SITE INSTALLED ITEMS ARE SUBJECT TO THE APPROVAL OF THE JURISDICTION HAVING AUTHORITY.

2. ACCESSIBLE RAMP(S), STAIR(S), AND HANDRAILS ARE DESIGNED BY OTHERS AND SITE INSTALLED.

3. FOUNDATION ENCLOSURE (IF PROVIDED) IS DESIGNED BY OTHERS AND SITE INSTALLED. ENCLOSURE MUST HAVE A MINIMUM NET AREA OF VENTILATION OPENINGS OF NOT LESS THAN ONE SQUARE FOOT FOR EACH 150 SQUARE FEET OF CRAWL SPACE AREA. LOCATE OPENINGS TO PROVIDE CROSS VENTILATION OF ENTIRE CRAWL SPACE. INSTALL AN 18" X 24" MINIMUM OPENING FOR CRAWL SPACE ACCESS.

4. SEE MECHANICAL NOTES AND/OR CROSS SECTION FOR METHOD OF ATTIC VENTILATION.



SUPPLY RISER
-NTS.-

SUPPLY LINE NOTES:

1. SUPPLY LINE SIZING IS BASED ON AN ASSUMED AVAILABLE PRESSURE OF 50 PSI TO 60 PSI AT THE LOCATION OF THE INLET SHOWN AFTER ANY DEDUCTIONS FOR PRESSURE LOSS DUE TO METER, TAP INTO MAIN, WATER PRESSURE REDUCING VALVES, SPECIAL EQUIPMENT SUCH AS BACKFLOW PREVENTOR, FILTER, SOFTENER, ETC. THIS AVAILABLE PRESSURE MUST BE VERIFIED PRIOR TO CONSTRUCTION.

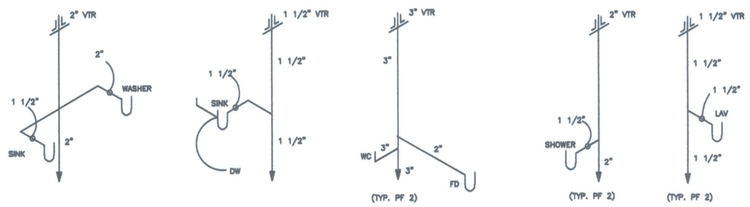
2. SUPPLY LINE INLET(S) SHOWN ON THESE PLANS ARE ASSUMED TO EXTEND ONLY TO EXTERIOR WALL. ALL SERVICE SUPPLY LINES UP TO THE INLET(S) ARE DESIGNED BY OTHERS AND SITE INSTALLED UNLESS OTHERWISE SPECIFIED.

3. SUPPLY LINE SIZING MUST BE REDESIGNED IF THE BUILDING DOES NOT COMPLY WITH ANY OF THE ABOVE ASSUMPTIONS.

4. UNLESS OTHERWISE SPECIFIED ALL SUPPLY LINES ARE 3/4"ø AND ALL STUB-UPS ARE 1/2"ø.

5. HOSE BIBB'S (HB) SHALL BE EQUIPEED WITH FROST PROTECTION AND BACKFLOW PREVENTORS.

HOT WATER --------
COLD WATER ————



DWV RISERS
-NTS.-

ALL P-TRAPS SHALL BE SLIP JOINT TYPE TO ALLOW DRAIN LINE CLEANOUT.

FD = FLOOR DRAIN W/TRAP GUARD AND REMOVABLE STRAINER (ICC REPORT PMG-1091)

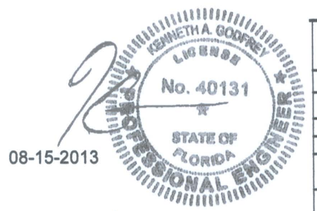
LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA

CONST. TYPE	VB	
OCCUPANCY	R-2	
FLOOR LL	40	PSF
WIND VELOCITY(ult)	180	MPH
FIRE RATING OF EXT. WALLS	0	HRS
ALLOWABLE NO. OF FLOORS	1	
MANUFACTURER	TMS	
PLAN NUMBER	222	
APPROVAL DATE	Aug 15, 2013	
HIGH VELOCITY HURRICANE ZONE	YES	

RADCO

APPROVED RADCO Aug 15, 2013 APPROVED



08-15-2013

TITAN MODULAR SYSTEMS, INC.
182 INDUSTRIAL DRIVE
ALMA, GEORGIA 31510 (912) 632-3344

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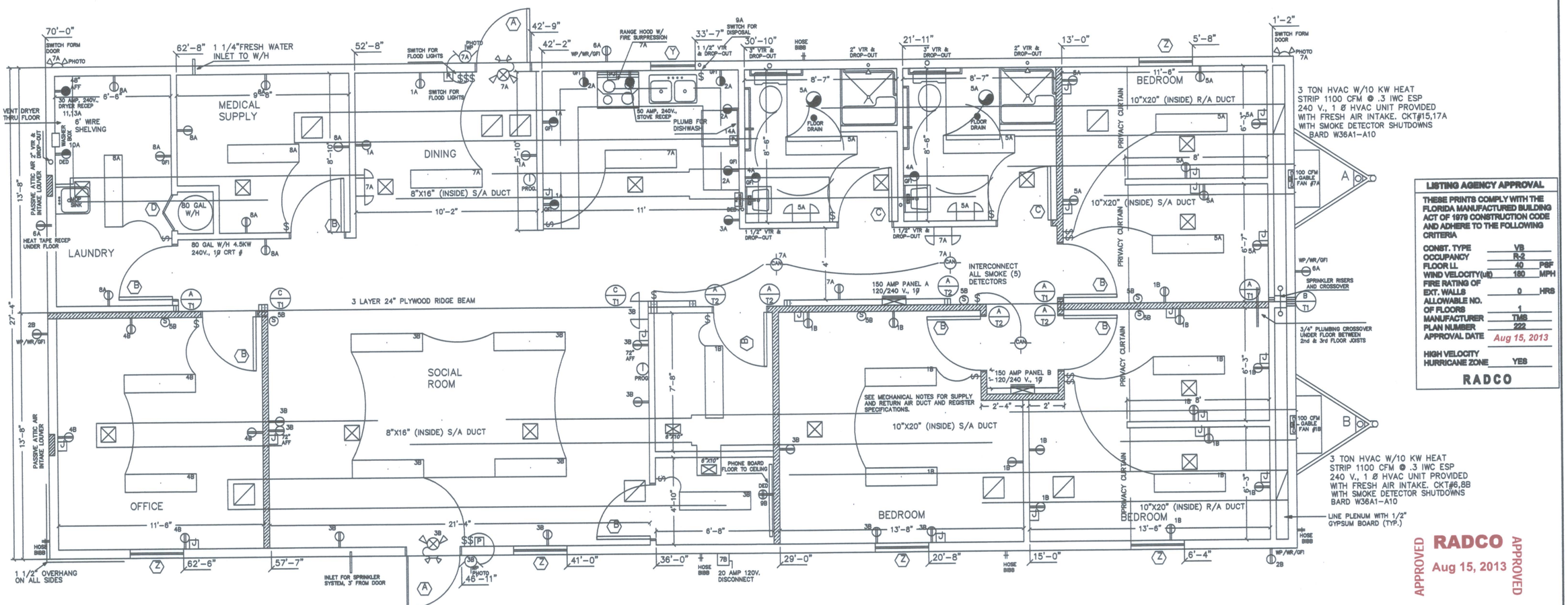
SCALE : NTS		
CODES: SEE SUMMARY	REVISIONS:	BY: KAG.
LABELS: RADCO., FL.		
TMS 222 A/B 28 X 70 RESIDENTIAL R-2		SHEET 2 OF 4
ELEVATIONS & PLUMBING RISERS	KAG. NO. 071913TMS	



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RADCO

APPROVED RADCO Aug 15, 2013 APPROVED

COLUMN & COLUMN STRAPPING LEGEND

- (A / T1) — INDICATES TYPE OF STUD / INDICATES TYPE OF TIE DOWN STRAP
- ✳ — INDICATES WITH RIDGE BEAM BEARING STIFFENER (SEE RIDGE BEAM NOTES FOR SPECIFICATIONS)

COLUMN DESCRIPTIONS

A (2) 2x4 SYP #2 THIS HALF.

B (2) 2x6 SYP #2 EACH HALF

C (3) 2x4 SYP #2 EACH HALF.

NOTES:
1. ALL COLUMN STUDS SHALL BE NAILED TOGETHER PER NDS AND FASTENED TOGETHER WITH 100% PVA GLUE COVERAGE.
2. COLUMN STUDS SHALL NOT BE NOTCHED OR BORED.
3. INSTALL ONE TIE DOWN STRAP FROM RIDGE BEAM TO COLUMN AND FROM COLUMN TO FLOOR RIM JOIST FOR EACH STUD OF COLUMN. (ie: 4 STUD COLUMN WILL REQUIRE 4 TIE DOWN STRAPS)
4. STRAPS SHALL NOT BE OVERLAPPED OR DOUBLED UNLESS SPECIFIED OTHERWISE.

TIE DOWN STRAP DESCRIPTIONS

T1 20 GA X 1-1/2" GALV. STEEL STRAP WITH (8) 0.148"ø X 3" NAILS EACH END. TWO 26 GA X 1.5" GALV. STEEL STRAPS MAY BE SUBSTITUTED FOR ONE 20 GA X 1-1/2" STRAP. NAILS MUST PENETRATE 2" MINIMUM INTO ALL MEMBERS. PENETRATION MAY BE REDUCED TO 1-1/2" IF 8 NAILS ARE USED IN LIEU OF 6. IN NO CASE SHALL SPLITTING OF WOOD BE PERMITTED.

T2 26 GA X 1-1/2" GALV. STEEL STRAP WITH (8) 14 GA X 7/16" X 1" STAPLES EACH END. 15 GA STAPLES MAY BE USED IF QUANTITY IS INCREASED TO (7) STAPLES.

SPECIAL NOTES:
1. FLOOR COVERING IS ARMSTRONG SHEET VINYL THROUGHT
2. BUILDING REQUIRES AN AUTOMATIC SPRINKLER SYSTEM.
3. ALL RECEPTACLES AND J-BOXES NOT LABEL WILL BE MOUNTED AT 18" ABOVE THE FINISHED FLOOR

DOOR SCHEDULE

(A)	3680 – STEEL DOOR W/10'X10' SAFETY GLASS VIEW BLOCK – STEEL JAMB – IMPACT RATED – KEYED LEVERS
(B)	3680 – SOLID CORE – FLAT PANEL DOOR 20 MIN. RATED ASSEMBLY W/SELF CLOSING HINGES – STEEL JAMB – LEVER PASSAGE
(C)	3680 – SOLID CORE – FLAT PANEL DOOR 20 MIN. RATED ASSEMBLY W/SELF CLOSING HINGES – STEEL JAMB – LEVER PRIVACY
(D)	2480 – RAISED PANEL – BI- FOLD DOORS WOOD JAMB – PULL KNOBS

WINDOW SCHEDULE

(Y)	3027 – VERTICAL SLIDER DP 50 INSULATED LOW-E TINTED GLASS IMPACT RESISTANT- (MIAMI, FL) WHITE VINYL FRAMES
(Z)	3082 – VERTICAL SLIDER DP 50 INSULATED LOW-E TINTED GLASS IMPACT RESISTANT & SAFETY GLASS EGRESS TYPE – WHITE VINYL FRAMES

SMOKE PARTITION

SMOKE TIGHT PARTITION NOTES

1. ALL SMOKE TIGHT WALLS MUST EXTEND FULL HEIGHT TO UNDERSIDE OF 5/8 INCH GYPSUM CEILING MATERIAL.

2. THE SPACE AROUND PENETRATING ITEMS AND IN JOINTS SHALL BE FILLED WITH AN APPROVED MATERIAL TO LIMIT THE FREE PASSAGE OF SMOKE.

3. NO AIR TRANSFER OPENINGS OR DUCTS SHALL PENETRATE THROUGH SMOKE PARTITIONS.

4. DOORS IN SMOKE PARTITIONS SHALL HAVE CLEARANCES LIMITED IN ACCORDANCE WITH NFPA 80 (1/8 INCH MAXIMUM BETWEEN DOOR AND FRAME AT TOP & SIDES AND 3/4 INCH MAXIMUM BETWEEN DOOR AND FLOOR AT BOTTOM).

5. DOORS SHALL BE PROVIDED WITH LATCHES.

ELECTRICAL SCHEDULE A — PANEL 'A' SIZING

BRKR.	NO.	NOMENCLATURE	VOLTS	WIRE CU. NM	DESCRIPTION	KVA
20	1	PORTABLE APPLIANCE	120	12/2 GFCI	FLOOR AREA (957 SF x 3 VA.) /1000 =	2.90 KVA
20	2	PORTABLE APPLIANCE	120	12/2 GFCI	(3) SMALL APPLIANCES AT 1500 VA./1000 =	4.50 KVA
20	3	PORTABLE APPLIANCE	120	12/2	RANGE AT 8.0 KW. (NAMEPLATE) =	8.00 KVA
20	4	BATH CIRCUIT	120	12/2 GFCI	WATER HEATER AT 4.5 KW. =	4.50 KVA
20	5	GENERAL LIGHTING	120	12/2 AFCI	DISHWASHER AT 1.4 KW. =	1.40 KVA
20	6	EXT. RECEPTACLES	120	12/2 GFCI	DRYER AT 5.0 KW. =	5.00 KVA
20	7	GENERAL LIGHTING	120	12/2 AFCI	WASHER AT 1500 VA. / 1000 =	1.50 KVA
20	8	GENERAL LIGHTING	120	12/2 AFCI	GARBAGE DISPOSAL AT 1.9 KW. =	1.90 KVA
20	9	GARBAGE DISP.	120	12/2 GFCI		___ KVA
20	10	WASHER	120	12/2		___ KVA
30 (2P)	11,13	DRYER	240	10/3		___ KVA
15	14	DISHWASHER	120	12/2		___ KVA
60 (2P)	15,17	HVAC	240	6-6-10 *	TOTAL LOAD	29.70 KVA
25 (2P)	16,18	WATER HEATER	240	10/3	FIRST 10 KVA AT 100%	10.00 KVA
–	20	SPARE	–	–	REMAINDER AT 40%	7.88 KVA
50 (2P)	19,21	RANGE	240	6/3 *	HVAC AT 100%	10.80 KVA
					TOTAL	TOTAL 28.68
						TOTAL ÷ 240
						x 1000 = 119.5
						INSTALL 150 AMP PANEL 120/240 V., 1ø

* SE CABLE WITH ALL CONDUCTORS INSULATED (THHN)

ELECTRICAL SCHEDULE B — PANEL 'B' SIZING

BRKR.	NO.	NOMENCLATURE	VOLTS	WIRE CU. NM	DESCRIPTION	KVA
20	1	GENERAL LIGHTING	120	12/2 AFCI	FLOOR AREA (957 SF x 3 VA.) /1000 =	2.90 KVA
20	2	EXT. RECEPTACLES	120	12/2 GFCI	(4) OFFICE RECEPT'S AT 180 VA./1000 =	0.72 KVA
20	3	GENERAL LIGHTING	120	12/2 AFCI	2 DEDICATED (NONCONTINUOUS) RECEPT. =	3.84 KVA
20	4	OFFICE	120	12/2	HVAC AT 100% =	10.80 KVA
20	5	SMOKE DETECTORS	120	12/3 AFCI		___ KVA
60 (2P)	6,8	HVAC	240	6-6-10 *		___ KVA
20 (2P)	7	DEDICATED	120	12/2		___ KVA
20 (2P)	9	DEDICATED	120	12/2		___ KVA
					TOTAL	TOTAL 18.26
						TOTAL ÷ 240
						x 1000 = 76.1
						INSTALL 150 AMP PANEL 120/240 V., 1ø

* SE CABLE WITH ALL CONDUCTORS INSULATED (THHN)

SYMBOLS LEGEND

- P — FIRE ALARM PULL STATION, 2"X4" J-BOX MOUNTED 44" TO BOTTOM OF BOX OFF FIN. FLOOR w-3/4" CONDUIT STUBBED THRU FLOOR
- HS — FIRE ALARM HORN/STROBE, 2"X4" J-BOX MOUNTED 88" TO BOTTOM OF BOX OFF FIN. FLOOR w-3/4" CONDUIT STUBBED THRU FLOOR
- S — FIRE ALARM STROBE, 2"X4" J-BOX MOUNTED 88" TO BOTTOM OF BOX OFF FIN. FLOOR w-3/4" CONDUIT STUBBED THRU FLOOR
- J — 2"X4" J-BOX MOUNTED 18" ABOVE FINISHED FLOOR w-3/4" CONDUIT STUBBED THRU FLOOR
- PJ — 2"X4" J-BOX MOUNTED 18" ABOVE FINISHED FLOOR W/ELECTRIC WIRE INSTALLED, VOLTAGE NOTED
- S — SMOKE DETECTOR, 2"X4" J-BOX MOUNTED 88" TO BOTTOM OF BOX OFF FIN. FLOOR w-3/4" CONDUIT STUBBED THRU FLOOR
- DUPLEX RECEPS MOUNTED 18" ABOVE FINISHED FLOOR (AFF)
- QUAD RECEPTACLE MOUNTED 18" ABOVE FINISHED FLOOR (AFF)
- DUPLEX RECEPS MOUNTED 48" ABOVE FINISHED FLOOR (AFF)
- 240V RECEPTACLES, VOLTAGE & HEIGHT AS SHOWN
- DUPLEX RECEPTACLE MOUNTED IN FLOOR OR CEILING (AS SHOWN)
- QUAD RECEPTACLE MOUNTED IN FLOOR OR CEILING (AS SHOWN)
- DUPLEX RECEPTACLE & J-BOX MOUNTED IN FLOOR OR CEILING (AS SHOWN)
- $ LIGHT SWITCH
- $3 LIGHT SWITCH (3-WAY)
- $$ DUAL SWITCH
- $3 DUAL SWITCH (3-WAY)
- LIGHTED EXIT SIGN W/DUAL HEAD EMERGENCY LIGHT
- DUAL REMOTE EXTERIOR EMERGENCY HEAD (ATTACHMENT TO EXIT LIGHT OPTIONAL)
- EXHAUST FAN (CFM AS SHOWN)
- EXHAUST FAN/LIGHT COMBO (CFM AS SHOWN)
- DUAL HEAD EMERGENCY LIGHT (INTERIOR) W/BATTERY BACKUP
- EXTERIOR PORCH LIGHT W/PHOTOELECTRIC CELL
- RECESSED CAN LIGHTS FOR HARD OR T-GRID CEILING, WATTAGE VARIES
- FLORECENT LIGHT FOR HARD CEILING SIZE & WATTAGE VARY
- HVAC SUPPLY GRILLE
- HVAC SUPPLY GRILLE W/FIRE DAMPER
- HVAC RETURN GRILLE
- HVAC RETURN GRILLE W/ FIRE DAMPER
- PROGRAMABLE THERMOSTAT
- ATTIC VENT FANS (SIZES VARY) T-STAT & H-STAT CONTROLLED
- DIFFERENT GRILLES, RETURN , PASSIVE VARIOUS SIZES AND SHAPES
- 2X STUDS OR SUPPORT COLUMNS (MAY BE MULTIPLES)
- ✳ RIDGE BEAM BEARING STIFFENER

KENNETH A. GODFREY LICENSE No. 40131 STATE OF FLORIDA PROFESSIONAL ENGINEER

08-15-2013

TITAN MODULAR SYSTEMS, INC. 182 INDUSTRIAL DRIVE ALMA, GEORGIA 31510 (912) 632-3344	
DATE: 08/06/2013	KENNETH A. GODFREY, P.E. 490 RUSTIC BARN TRAIL MORGANTON, GA 30560 FL PE#40131
SCALE : 1/4" = 1'-0"	
CODES: SEE SUMMARY	REVISIONS: BY: KAG.
LABELS: RADCO., FL.	
TMS 222 A/B 28 X 70 RESIDENTIAL R-2	SHEET 3 OF 4
FLOOR PLAN	KAG. NO. 071913TMS

APPROVED TRUSS DESIGN:

TRUSS MFG. UNIVERSAL FOREST PRODUCTS

TRUSS DWG. NO. SFO60808

SEE MECHANICAL NOTES AND FLOOR PLAN FOR METHOD OF REQUIRED ATTIC VENTILATION.

SEE MECHANICAL NOTES FOR CEILING DUCT SPECIFICATIONS

RIM MEMBER 2X4 SYP#2 MINIMUM (TOP & BOTTOM). TOP RAIL SPLICE REQUIRED TENSION CAPACITY OF 480#. SEE APPROVED PACKAGE FOR RAIL TO TRUSS FASTENING REQUIREMENTS.

SEE APPROVED PACKAGE FOR CEILING TO WALL FASTENING REQUIREMENTS.

DOUBLE 26 GA. X 1.5" STEEL STRAP FROM RAIL TO WALL STUD AT EACH TRUSS LOCATION, FASTENED WITH (3) 0.148"ø X 1.5" NAILS EACH END. WHERE TRUSSES DO NOT FALL DIRECTLY OVER WALL STUDS RAIL SHALL BE STRAPPED TO TOP PLATE AND TOP PLATE SHALL BE STRAPPED TO NEAREST ADJACENT STUD WITH EQUIVALENT FASTENING AT EACH TRUSS LOCATION.

CRIPPLE STUDS 2x6 SYP#2 @ 16" O.C.

2x HEADER PER APPROVED STRUCTURAL PACKAGE

SILL PLATE 2x6 SYP#2

CRIPPLE STUDS 2x6 SYP#2 @ 16" O.C.

3/4" PLYWOOD STURD-I-FLOOR, EXP.-1, 24" O.C. FASTENED WITH 100% PVA GLUE COVERAGE AND APPROVED MECHANICAL FASTENERS.

BOTTOM PLATE 2x6 SYP#3

DOUBLE 26 GA. X 1.5" STEEL STRAP FROM EACH WALL STUD TO RIM JOIST, FASTENED WITH (5) 0.148"ø X 1.5" NAILS EACH END. TYPICAL SIDE WALLS AND END WALLS.

LAG SCREWS INSTALLED IN ACCORDANCE WITH APPROVED STATE PACKAGE

OUTRIGGERS AND CROSS MEMBERS INSTALLED IN ACCORDANCE WITH APPROVED STATE PACKAGE

FASTEN RIDGE BEAM TO EACH TRUSS WITH NO LESS THAN (10) 15 GA. X 7/16" CROWN STAPLES WITH 1" MINIMUM PENETRATION INTO TRUSS KING POST OR EQUIVALENT FASTENING.

APPROVED TRUSSES AT 16" O.C. EXCEPT TRUSSES NOT LOCATED WITHIN 4 FEET OF END WALLS MAY BE SPACED 24" O.C.
ROOF DESIGN LOADS:
LIVE LOAD 30 PSF TOP CHORD
DEAD LOAD 15 PSF TOP CHORD
DEAD LOAD 10 PSF BOTTOM CHORD

WHERE RIDGE BEAM DOES NOT EXTEND TO ROOF SHEATHING INSTALL 2X3 SYP#3 MINIMUM RAIL, DOUBLE OR ADD PLYWOOD FILLERS TO MATCH RIDGE BEAM WIDTH WHEN RIDGE BEAM IS WIDER THAN RAIL. FASTENED RAIL IN CONTACT WITH TRUSSES WITH (3) 0.131"ø X 3" NAILS INTO EACH TRUSS. FASTEN ADDED RAILS AND FILLERS TOGETHER WITH 0.131"ø X 3" NAILS AT 6" O.C. TAPER RAIL WHEN SPACE ABOVE BEAM IS LESS THAN 2-1/2". WHERE RAIL HEIGHT IS LESS THAN 2" FASTEN EACH RAIL TO TOP OF RIDGE BEAM WITH 0.131"ø X 3" NAILS 4" O.C. ALSO INSTALL EQUIVALENT RAIL(S) AT BOTTOM OF TRUSSES OVER MATE LINE WALLS WHERE RIDGE BEAM IS NOT REQUIRED. TYPICAL EACH SIDE OF MATE LINE.

SITE INSTALL 3/8" LAG SCREWS STAGGERED FROM SIDE TO SIDE AT 16" O.C. OR CLOSER. LAG SCREWS MUST PENETRATE 1.75" MINIMUM INTO ADJACENT MODULE RIDGE BEAM OR TRUSS.

LESS THAN 24"

CEILING INTERIOR FINISH

DOUBLE TOP PLATE 2x6 SYP#2.

DOUBLE TOP PLATE 2x6 SYP#3.

SEE FLOOR PLAN FOR MATE LINE WALL LOCATIONS (IF APPLICABLE)

WALL INTERIOR FINISH

TYPICAL WINDOW, SEE FLOOR PLAN FOR SPECIFICATIONS

MODULE ℄

8'-0"

47-3/4"

95-1/2"

48" (TYP.)

T & G JOINT

ROUT OFF EXCESS FLOOR SHEATHING

DBL. 26 GA. X 1-1/2" STEEL STRAP FROM RIDGE BEAM TO EACH WALL STUD, FASTENED WITH (5) 0.148"ø X 1.5" NAILS EACH END. AT LOCATIONS WITHOUT RIDGE BEAMS INSTALL STRAP FROM RAIL TO WALL STUD AT EACH TRUSS LOCATION. WHERE TRUSSES DO NOT FALL DIRECTLY OVER WALL STUDS RAIL SHALL BE STRAPPED TO TOP PLATE AT EACH TRUSS LOCATION AND TOP PLATE SHALL BE STRAPPED TO NEAREST ADJACENT STUD WITH EQUIVALENT FASTENING. SEE FLOOR PLAN FOR STRAPPING REQUIRED AT COLUMNS. (TYPICAL AT EACH MATE LINE WALL)

MATE LINE WALL STUDS 2x4 SYP#2 @ 16" O.C.

DBL. 26 GA. X 1-1/2" STEEL STRAP FROM EACH WALL STUD TO RIM JOIST, FASTENED WITH (5) 0.146"ø X 1.5" NAILS EACH END. SEE FLOOR PLAN FOR STRAPPING REQUIRED AT COLUMNS. (TYPICAL AT EACH MATE LINE WALL)

BOTTOM PLATE 2x4 SYP#3

INSTALL BEARING BLOCK BETWEEN FLOOR JOISTS UNDER ALL COLUMNS HAVING A TRIBUTARY LOAD DISTANCE OF GREATER THAN 12 FEET MEASURED ALONG MATE LINE. BEARING BLOCK SHALL BE THE SAME SIZE, SPECIE & GRADE AS RIM JOIST.

VENTILATED BOTTOM BOARD

SITE INSTALL 3/8" LAG SCREWS STAGGERED FROM SIDE TO SIDE @ 48" O.C. MAXIMUM. LAG SCREWS MUST PENETRATE 1.75" MINIMUM INTO ADJACENT MODULE RIM JOIST

I-BEAM - M12x11.8 (TYPICAL)

FOUNDATION DESIGNED BY OTHERS

NOTE: MATE LINE AND SIDE WALL PIERS NOT SHOWN, SEE FOUNDATION PLAN FOR REQUIRED PIER LOCATIONS.

ROOF COVERING OVER 1/2" DENSDECK PRIME OVER 5/8" APA PLYWOOD RATED SHEATHING, EXP 1, 32/16 INDEX - SEE EXTERIOR FINISH MATERIAL NOTES AND ROOF SHEATHING DETAIL.

ADD FRAMING AS NEEDED AT ROOF FOR SUPPORT OF WALL SHEATHING MATERIAL.

(2) #12 X 4 1/2" WOOD SCREWS FROM EACH TRUSS TO TOP PLATE AT EXTERIOR SIDE WALLS. SEE APPROVED PACKAGE FOR INSTALLATION REQUIREMENTS.

EXTERIOR WALL FINISH

EXTERIOR WALL STRUCTURAL BRACING - SEE NOTES

R-30 INSULATION W/ KRAFTBACK

EXTERIOR WALL STUDS 2x6 SYP#2 @ 16" O.C. UNLESS OTHERWISE SPECIFIED ON PLANS

R-13 INSULATION W/ KRAFTBACK

RIM JOIST 2x8 SYP#2

FLOOR JOISTS 2x8 SYP#2 @ 16" O.C. (DOUBLE FLOOR JOIST SHALL BE INSTALLED UNDER ALL WALLS PARALLEL TO FLOOR JOISTS)

R-30 UNFACED INSULATION (R-25 EFFECTIVE AFTER COMPRESSION)

FLORIDA'S DADE/BROWARD COUNTY REQUIREMENT
INSTALL CONTINUOUS 3" WIDE PLYWOOD BEARING STRIP OVER TOP PLATE AT ALL BEARING WALLS (TYPICAL). (THE SAME THICKNESS AS CEILING FINISH).

GENERAL CROSS SECTION NOTES:

1. UNLESS OTHERWISE SPECIFIED ALL STEEL SHALL COMPLY WITH ASTM A36, YIELD STRENGTH 36 KSI.
2. ALL LAG SCREWS SHALL COMPLY WITH ANSI/ASME B18.2.1. Fyb = 60 KSI MINIMUM.
3. SEE FOUNDATION PLAN FOR PIER, WALL AND TIE DOWN ANCHORAGE LOCATIONS, ORIENTATIONS AND SPECIFICATIONS.
4. WHERE 1" STAPLES ARE SPECIFIED THIS SHALL MEAN 1" PENETRATION INTO HOLDING MEMBER.
5. WHERE KRAFTBACK OR OTHER VAPOR RETARDERS ARE SPECIFIED THEY SHALL BE INSTALLED ON THE INTERIOR SIDE OF THE ASSEMBLIES UNLESS OTHERWISE SPECIFIED.
6. ALL EXPOSED INSULATION SHALL HAVE FOIL FACING VAPOR RETARDER WITH A FLAMESPREAD RATING < 25 AND SMOKE DEVELOPED RATING < 450.
7. INTERIOR FINISH MATERIALS SHALL HAVE A MINIMUM CLASS 'C' FINISH RATING PER ASTM E 84 UNLESS OTHERWISE SPECIFIED.
8. SEE FBC TABLE 2324.1 FOR BASIC FASTENING REQUIREMENTS.

GENERAL FINISH NOTE:

1. ALL ROOFING AND SIDING MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCTS MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ROOFING AND SIDING MATERIALS AND THEIR FASTENINGS SHALL BE DESIGNED TO RESIST THE COMPONENT WIND LOAD SHOWN ON THE COVER SHEET.
3. ALL ROOF COVERINGS SHALL MEET CLASS A OR BETTER REQUIREMENTS.
4. WALL FINISH SHALL BE INSTALLED OVER APPROVED WEATHER-RESISTIVE BARRIER AND BRACING MATERIAL.
5. WEATHER-RESISTIVE BARRIER BEHIND WALL COVERING SHALL BE A MINIMUM OF ONE LAYER OF NO. 15 ASPHALT FELT COMPLYING WITH ASTM D 226 FOR TYPE I FELT OR OTHER APPROVED MATERIALS. BARRIER SHALL BE ATTACHED TO STUDS, SHEATHING AND PLYWOOD STRIPS, WHATEVER IS LOCATED DIRECTLY BEHIND WALL COVERING, WITH FLASHING AS DESCRIBED IN SECTION 1406.3 OF 2006 IBC AND SECTION 1405.4 OF 2009 & 2012 IBC IN SUCH A MANNER AS TO PROVIDE A CONTINUOUS WEATHER-RESISTIVE BARRIER. THE WEATHER-RESISTIVE BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL FINISH MANUFACTURER'S SPECIFICATIONS.

INTERIOR FINISH MATERIALS:

CEILING - 5/8 INCH TYPE 'X' GYPSUM INSTALLED PER MANUFACTURER'S SPECIFICATIONS. (POPCORN FINISH)

WALL - 5/8 INCH TYPE 'X' VINYL COVERED GYPSUM BOARD.

FLOOR - VINYL BLOCK TILE.

EXTERIOR FINISH MATERIALS:

ROOF - 60 MIL FIRESTONE RUBBERGARD ECO WHITE EPDM INSTALLED IN ACCORDANCE WITH MIAMI-DADE NOA 09-0323.01.

WALL - 5/16 INCH HARDIPANEL FASTENED THROUGH BRACING MATERIAL TO WALL FRAMING WITH 0.113"ø X 2" GALV. NAILS AT 4" O.C. EDGES AND 4" O.C. FIELD.

EXTERIOR WALL STRUCTURAL BRACING:

END WALLS AND SIDE WALLS:
BRACING INSTALLATION:
STRUCTURAL SHEATHING SHALL EXTEND CONTINUOUS FROM TOP OF TRUSS TOP CHORD TO BOTTOM OF FLOOR RIM JOIST WITH ALL SHEATHING EDGES SUPPORTED BY 2" NOMINAL LUMBER OF THE SAME SIZE AND SPECIE AS EXTERIOR WALL FRAMING.
BRACING MATERIAL:
5/8" APA PLYWOOD RATED SHEATHING, EXP-1, 32/16 INDEX, 4-PLY OR 5-PLY, FASTENED WITH 0.131"ø x 2-1/2" GALV. NAILS AT 6" O.C. EDGES AND 6" O.C. IN THE FIELD.

DENSDECK FASTENING:

DENSDECK FASTENERS SHALL BE SELECTED IN ACCORDANCE WITH NOA 09-0323.01.

DENSDECK FASTENER PATTERN NOTES:

1. ZONE 1 = FIELD = ALL AREAS NOT DEFINED AS ZONE 2 OR ZONE 3.

2. ZONE 2 = PERIMETER ZONE = ALL AREAS WITHIN 4 FEET OF ROOF EDGES.

3. ZONE 3 = CORNERS = AREAS WHERE PERIMETER ZONES OVERLAP.

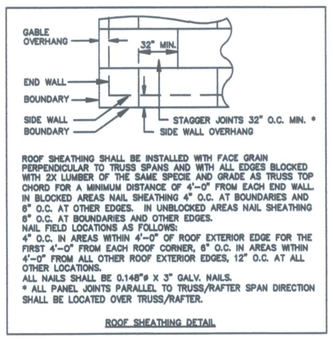
4. ALL FASTENER ROWS SHALL START 4" FROM EDGE OF DENSDECK SHEETS, TYPICAL ON ALL 4 SIDES OF SHEETS. THIS APPLIES TO SHEETS OF ALL SIZES.

DENSDECK FASTENER DENSITY REQUIRED:

ZONE 1 (FIELD)
1 FASTENER PER 1.6 SF
10 FASTENERS PER 4' X 4' SHEET
20 FASTENERS PER 4' X 8' SHEET

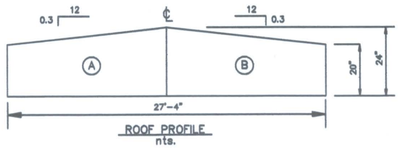
ZONE 2 (PERIMETER)
1 FASTENER PER 1.0 SF
16 FASTENERS PER 4' X 4' SHEET
32 FASTENERS PER 4' X 8' SHEET

ZONE 3 (CORNERS)
1 FASTENER PER 0.67 SF
24 FASTENERS PER 4' X 4' SHEET
48 FASTENERS PER 4' X 8' SHEET



ROOF SHEATHING SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO TRUSS SPANS AND WITH ALL EDGES BLOCKED WITH 2X LUMBER OF THE SAME SPECIE AND GRADE AS TRUSS TOP CHORD FOR A MINIMUM DISTANCE OF 4'-0" FROM EACH END WALL. IN BLOCKED AREAS NAIL SHEATHING 4" O.C. AT BOUNDARIES AND 6" O.C. AT OTHER EDGES. IN UNBLOCKED AREAS NAIL SHEATHING 6" O.C. AT BOUNDARIES AND OTHER EDGES.
NAIL FIELD LOCATIONS AS FOLLOWS:
4" O.C. IN AREAS WITHIN 4'-0" OF ROOF EXTERIOR EDGE FOR THE FIRST 4'-0" FROM EACH ROOF CORNER, 6" O.C. IN AREAS WITHIN 4'-0" FROM ALL OTHER ROOF EXTERIOR EDGES, 12" O.C. AT ALL OTHER LOCATIONS.
ALL NAILS SHALL BE 0.148"ø X 3" GALV. NAILS.
* ALL PANEL JOINTS PARALLEL TO TRUSS/RAFTER SPAN DIRECTION SHALL BE LOCATED OVER TRUSS/RAFTER.

ROOF SHEATHING DETAIL

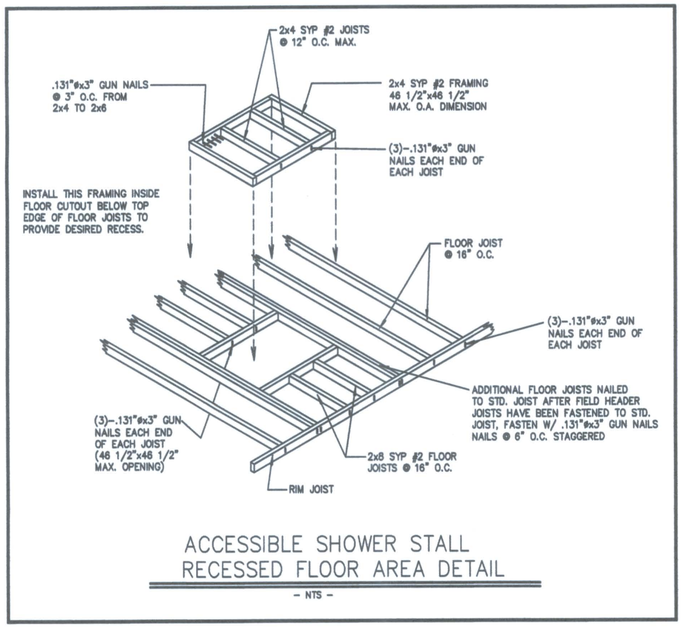


ROOF PROFILE
nts.

PLYWOOD RIDGE BEAM CONSTRUCTION:

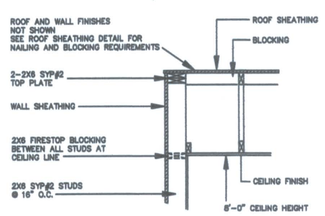
3 LAYERS 3/4" X 24" PLYWOOD RATED SHEATHING, EXP. 1, STRUCTURAL. I, 5 PLY/5 LAYER, 48/24 INDEX, EACH SIDE OF MATE LINE CONTINUOUS OVER ALL CLEAR SPANS AND OVER ALL SUPPORT COLUMNS.

NOTES:
1. PLYWOOD FACE GRAIN MUST BE PARALLEL TO DIRECTION OF RIDGE BEAM SPAN.
2. ALL PLYWOOD BUTT JOINTS MUST BE STAGGERED 24" APART MINIMUM.
3. ALL RIDGE BEAM LAMINATIONS MUST BE THE SAME DEPTH, THICKNESS AND GRADE OF PLYWOOD. NO LUMBER OR PLYWOOD FLANGES ARE PERMITTED.
4. PLYWOOD MUST BE MANUFACTURED IN ACCORDANCE WITH PS 1-95.
5. PLYWOOD LAMINATIONS ON EACH SIDE OF THE MATE LINE MUST BE GLUE-NAILED TO ADJACENT LAYERS IN ACCORDANCE WITH PDS SUPPLEMENT #5, WITH AN ADHESIVE COMPLYING WITH ASTM D2559 OR CA25-4.
6. PLYWOOD MUST NOT BE TREATED WITH A FIRE RETARDANT PROCESS.
7. MOISTURE CONTENT MUST BE LESS THAN 16%.
8. RIDGE BEAMS MUST EXTEND CONTINUOUS OVER ENTIRE LENGTH OF ALL SUPPORT COLUMNS.
9. INSTALL 2X4 SPF#3 MINIMUM RIDGE BEAM BEARING STIFFENER OVER SUPPORT COLUMNS WHEN SPECIFIED ON FLOOR PLAN. STIFFENER HEIGHT SHALL NOT BE LESS THAN RIDGE BEAM HEIGHT MINUS 4 INCHES. FASTEN THE FACE OF THE STIFFENER TO THE RIDGE BEAM WITH 100% GLUE COVERAGE AND (6) 16 GA. X 2-1/2" STAPLES.

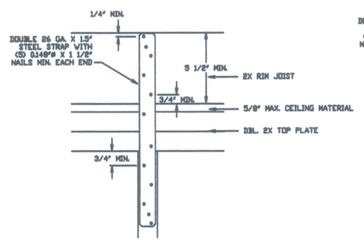


ACCESSIBLE SHOWER STALL
RECESSED FLOOR AREA DETAIL

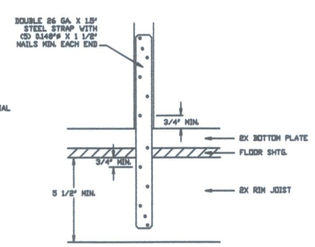
- NTS -



END WALL SECTION AT ROOF
-NTS-



ROOF RIM TO STUB TIE DOWN DETAIL



STUB TO FLOOR RIM JOIST TIE DOWN DETAIL

APPROVED RADCO APPROVED
Aug 15, 2013

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA

CONST. TYPE	VB
OCCUPANCY	R-2
FLOOR LL	40 PSF
WIND VELOCITY(mid)	180 MPH
FIRE RATING OF EXT. WALLS	0 HRS
ALLOWABLE NO. OF FLOORS	1
MANUFACTURER	TMS
PLAN NUMBER	222
APPROVAL DATE	Aug 15, 2013
HIGH VELOCITY HURRICANE ZONE	YES

RADCO

KENNETH A. GODFREY LICENSE No. 40131 STATE OF FLORIDA PROFESSIONAL ENGINEER

08-15-2013

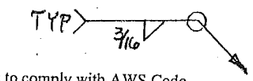
TITAN MODULAR SYSTEMS, INC.
162 INDUSTRIAL DRIVE
ALMA, GEORGIA 31510 (912) 632-3344

DATE: 08/06/2013	KENNETH A. GODFREY, P.E. 490 RUSTIC BARN TRAIL MORGANTON, GA 30560 FL PE#40131	
SCALE : NTS		
CODES: SEE SUMMARY	REVISIONS:	BY: KAG.
LABELS: RADCO., FL.		
TMS 222 A/B 28 X 70 RESIDENTIAL R-2		SHEET 4 OF 4
CROSS SECTION & DETAILS	KAG. NO. 071913TMS	

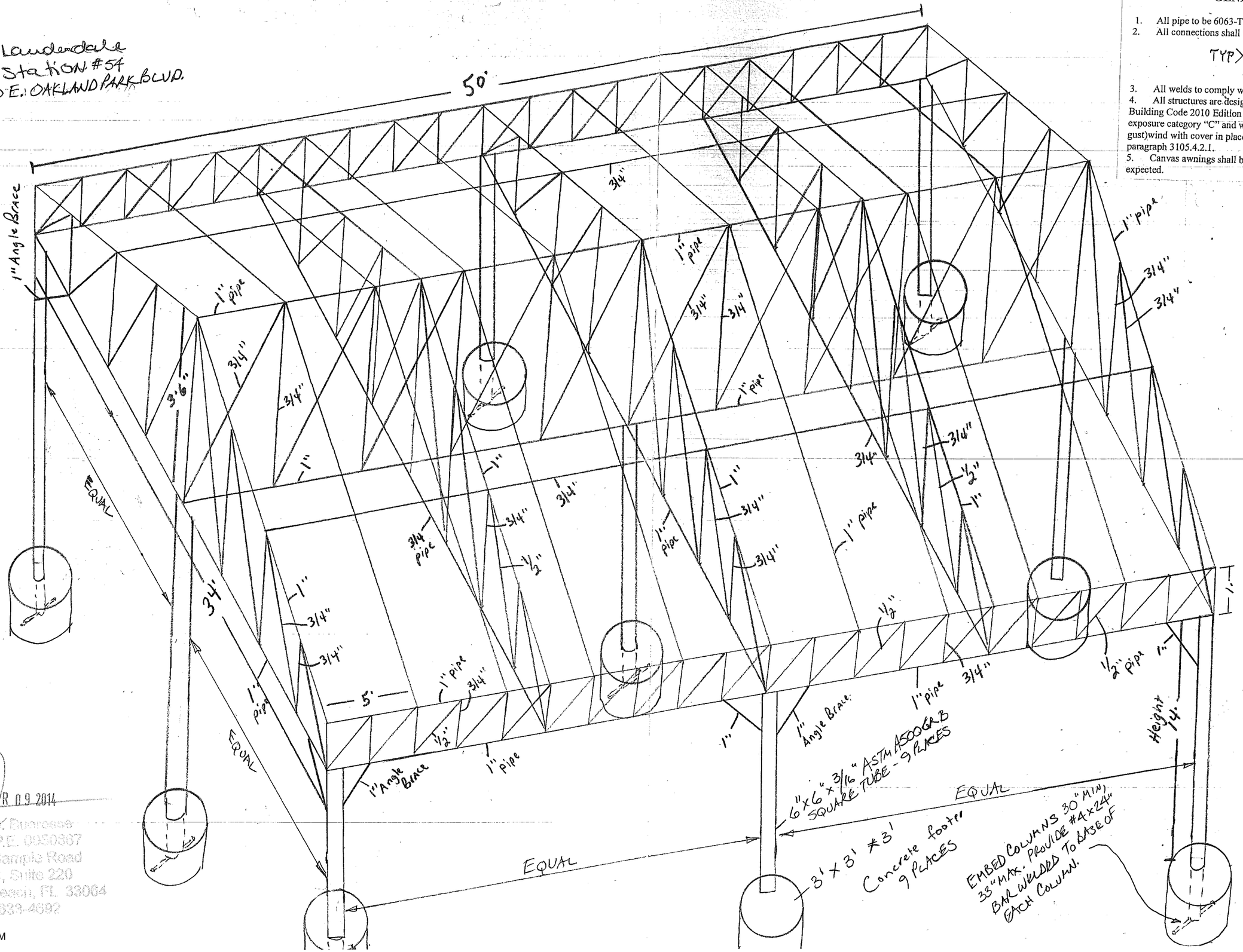
Fort Lauderdale
Fire Station #54
3100 E. OAKLAND PARK BLVD.

GENERAL NOTES

1. All pipe to be 6063-T5 aluminum Sch. 40 aluminum.
2. All connections shall be fully welded. Thus:



3. All welds to comply with AWS Code.
4. All structures are designed in accordance with Florida Building Code 2010 Edition and ASCE7-10 with risk category II, exposure category "C" and will withstand 105 mi/hr (3 second gust)wind with cover in place to conform to FBC – Building paragraph 3105.4.2.1.
5. Canvas awnings shall be removed when 75 mph winds are expected.



APR 09 2014

John D. Buresse
Florida P.E. 0050867
750 E. Sample Road
Bldg. 3, Suite 220
Pompano Beach, FL 33064
954-633-4692

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

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No:

Project Description:

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

(a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

(b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name:

Authorized Company Person's Signature:

Authorized Company Person's Title:

Date:

9/15/2020

Question and Answers for Bid #12523-113 - Temporary Fire Station 13 and Parking Area

Overall Bid Questions

Question 1
What is the anticipated start date of the project? **(Submitted: May 14, 2021 9:57:07 AM EDT)**

Answer

- The anticipated construction start date is July 2021. **(Answered: May 14, 2021 10:02:42 AM EDT)**

Question 2
Is there an estimated budget for this project? **(Submitted: May 14, 2021 3:12:58 PM EDT)**

Question 3
What is the prospective budget for this project? **(Submitted: May 17, 2021 9:54:06 AM EDT)**

Question 4
Sheet C-6, Detail 2.1, note 1. Will this project be considered "commercial" in nature and therefore require 6" concrete for all the sidewalks? **(Submitted: May 17, 2021 1:49:50 PM EDT)**

Question 5
Plan Sheet P-1.1: Is it the contractors responsibility to purchase and install the ice maker? If so, can a make and model be provided or some simple specs to establish size and quantity? **(Submitted: May 17, 2021 2:03:28 PM EDT)**

Question 6
Will we be able to shut Vistamar Street down in order to install the waterlines and sanitary sewer clean out? **(Submitted: May 17, 2021 2:07:09 PM EDT)**

Question 7
LP-2, detail 9: This detail shows a "structural soil" beneath the proposed parking lot with a depth of 36". It also says that this is imported material (Note 2). Are we supposed to dig down beneath the parking lot an additional 36" below subgrade and install imported material? **(Submitted: May 17, 2021 2:29:28 PM EDT)**

Question 8
Can a call out on one of the sheets, or an additional plan sheet showing the fence gate locations be provided? **(Submitted: May 17, 2021 2:30:53 PM EDT)**