THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

DEVELOPMENT REVIEW

Property Information

Property address or Location: 5340 S. US HWY. 1, FORT PIERCE, FL

Parcel ID #(s): 3403-433-008-000-2

Project description: 4,930 SF AUTOMATED CARWASH WITH VACUUMS

Application Type

☐Site Plan ☐Conditional Use w/New Construction ☐Conceptual Development Plan

☐Minor Amendment ☐Major Amendment

Site Information

Non-Residential: Proposed Sq. Ft.: 4,930 Site Acreage:_____

Residential: Proposed Units: _____ Proposed Sq. Ft.:_____ Site Acreage:_____

DAN BRAINARD, TWINS CARWASH LLC	RAVI ALUR, AUTHORIZED AGENT, ASPIRE ENGINEERING, INC.
Property Owner(s)	**Applicant/Representative, Title, Company**
500 SE 18th Court	1023 PROFESSIONAL PARK DRIVE
Street Address	Street Address
FORT LAUDERDALE FL 33316	BRANDON FL 33511
City State Zip	City State Zip
8136499561	(813) 571-2850
Phone Number	Phone Number
rcaito@creativeconvenience.com	aspireeng@yahoo.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

_____

Property Owner(s) Signature(s)

APPOINTMENTS ARE REQUIRED FOR APPLICATION SUBMITTALS

CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM

For more information, please refer to the website:

https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

General Information

- **Incomplete application packets will not be accepted.**
- In-take meetings are required for application submittals.
- Site plan approval is valid for one (1) year following City Commission approval. To maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date.
- Fee Schedule - https://www.cityoffortpierce.com/DocumentCenter/View/2620/Fee-Schedule-
- Public Notice Fees - https://www.cityoffortpierce.com/DocumentCenter/View/8818/Public-Notice-Fees-



Site Plan submittal requirements:

Submit one (1) original & three (3) hard copies and one (1) CD or Flash Drive of the following. Additional copies will be required of subsequent submittals.

- [x] Complete application
- [x] Warranty Deed
- [x] SLC Property Record Card
- [x] Detailed project description
- [x] General location map (see Section 125-313)
- [x] Survey (see Section 125-313)
- [x] Site Plan (see Section 125-313)
- [x] Landscaping Plan (see Section 123-37)
- [x] Conceptual Drainage Plan (see Section 125-313)
- [ ] Environmental Impact Report
- [ ] Beach/Dune System protection plan, if applicable (see Section 125-313)
- [x] Lighting Plan (see Section 125-313)
- [x] Design Review submittals (see Design Review application)
- [ ] Traffic Impact Report
- [x] Concurrency Review submittals (see Concurrency Review application)

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	**COMMERICAL**	**GC**	**C-3**
South	**COMMERICAL**	**GC**	**C-3**
East	**NSLWCD CANAL**	**NSLWCD CANAL**	**NSLWCD CANAL**
West	**US 1**	**US 1**	**US 1**

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	**GC**	**C-3**	**4,930**	**2.25**	**X**
****Proposed**					N/A

II. Public Facilities Information:

A. Potable Water:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.125 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning/FLU	Total gallons per day **SEE PLAN SHEET C-6 FOR WATER AND WASTEWATER DEMAND**
**Proposed Zoning/FLU	Total gallons per day
**Change in Demand	Total gallons per day

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning/FLU	Total gallons per day **SEE PLAN SHEET C-6 FOR WATER AND WASTEWATER DEMAND**
**Proposed Zoning/FLU	Total gallons per day
**Change in Demand	Total gallons per day

C. Parks and Recreation (Residential Classifications Only):
(Du x 2.6 = persons + 44,227 = population /LOS)

Park Type	LOS	Existing Population Park Demand	Proposed Population Park Demand	Change in Demand
Regional	20 acres per 1,000 people	**NA**		
Urban District	5 acres per 1,000 people		**NA**	
Community	2.5 acres per 1,000 people			
Neighborhood	1.36 acres per 1,000 people			

D. Public Schools (Residential Classifications Only):
Single Family: (du x 0.405 = students/70% K-8/30% High)
Multi-family: (du x 0.207 = students/70% K-8/30% High)

	K-8	High
School Name		
City	**NA**	**NA**
Distance		
Current Zoning/FLU Enrollment Demand		
****Proposed Zoning/FLU Enrollment Demand**		
****Change in Demand**		

E. Solid Waste: Residential (2 yard serves 15 units, 4 yard serves 30 units, 6 yard serves 45 units, 8 yard serves 60 units)	
Demand Analysis	Maximum
Current Zoning/FLU	**8 YDS/WEEK**
****Proposed Zoning/FLU**	
***Change in Demand**	

F. Stormwater:
Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

Impact	**STORM POST PEAK FLOW (CFS)** **10 YR – 1 HR -3.1** **10 YR -1 DAY -0.05** **25 YR -3 DAY -0** **100 YR -3 DAY -0**

III. Transportation Analysis: *Complete ITE Trip Generation Form (Attached)*

G. Transportation Analysis: Complete ITE Trip Generation Data Form Most recent ITE Code for use; HCM Roadway Capacity		
	AADT	**AM/PM Peak Hour Trips**
Demand Analysis	Maximum	Maximum
Current Zoning/FLU	**117**	**33**
****Proposed Zoning/FLU**		
***Change in Demand**	Trips	Trips
Impact to Capacity		

IV. Project Description

PHASING
Is this project (phase) part of a larger project? ☐ Yes ☑ No
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.
Total Project: Residential Units: Single Family: Multifamily:
Non-residential (square footage): **4930**
Mixed-use (describe use):
(If this is a single phase project, name it Phase I – Total)

RESIDENTIAL DATA					
Type	**Phase**	**Number of Units**	**Acres**	**Expected beginning date**	**Expected completion date**
Single-family, detached					
Single-family, attached					
Multi-family					
Other (specify)					

NON-RESIDENTIAL DATA					
Type(s) specify	**Phase**	**Square footage**	**Acres**	**Expecting beginning date**	**Expected completion date**
AUTOMATED CARWASH	**1**	**4930**	**2.25**	**FEB 2023**	**OCT 2023**

A. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated. ☐ Yes ☑ No

B. 1. Does this application involve demolition or re-use of any structure(s)? ☐ Yes ☑ No
If yes, what is the size of the structure(s) to be demolished or re-used? _____
2. What is the current use of the structure to be demolished or re-used? _____
3. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site? ☐ Yes ☑ No
If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

C. Exemptions Requested:

** Complete section if requesting a change in zoning, future land use, or expanding

TWIN'S CAR WASH
5340 S. US HIGHWAY 1 FORT PIERCE, FLORIDA 34982
ST. LUCIE COUNTY, FLORIDA



ENVIRONMENTAL IMPACT REPORT

Prepared for:
City of Fort Pierce
Planning Department
100 N. U.S. Highway 1
Fort Pierce, FL 34950

Creative Convenience Corporation
6544 N. Hwy 41, Suite 208 B
Apollo Beach, FL 34736

Prepared by:
Stillwater Environmental, Inc.
971 Smokerise Blvd.
Port Orange, Florida 32127
File No. 1069.01.22

September 26, 2022

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TWIN'S CAR WASH
5340 S. US HIGHWAY 1 FORT PIERCE, FLORIDA 34982
ST. LUCIE COUNTY, FLORIDA

ENVIRONMENTAL IMPACT REPORT

1.0 INTRODUCTION

The Twin's Car Wash Property project site is approximately 2.25 +/- acres in size. The St. Lucie County Property Appraiser's website lists the Parcel ID No. as 3403-433-0008-000-2. The property is located on S. US Highway 1, 0.3 miles north of the intersection of US Highway 1 and Tropical Isle Way, in Section 3, Township 36 South, Range 40 East at latitude 27.367873 North and longitude -80.324829 West, Fort Pierce, St. Lucie County, Florida (Figure 1). An aerial image of the property is provided on Figure 2.

Review of historical and current aerial photography, the Natural Resources Conservation Service/National Cooperative Soil Report for St. Lucie County, National Wetland Inventory map, and examination of existing site conditions revealed that the site historically has remained undeveloped. Historic aerials were researched back to 1984 and USGS topographic maps were researched back to 1950. In the 1984 aerial what appears to be a mobile/manufactured unit and possible storage container can be seen on the western portion of the property, while hardwood forested areas are visible throughout the remainder of the site. Little change occurred leading up to the 1999 aerial, however by the 2007 aerial, the previously mentioned mobile units are no longer visible and the majority of the hardwoods on site have been cleared. Today, the property appears much like it did then, vacant and undeveloped.

The project site was reviewed to determine the geological features of the landscape (e.g. soils and topography), to identify the vegetative communities that occur within the project boundary, and to determine the occurrence of threatened and endangered flora and fauna within the project boundary.

2.0 NATURAL RESOURCE ANALYSIS

2.1 Topography

According to the U.S.G.S. 7.5 Minute Topographic Map, "Fort Pierce, Florida" Quadrangle 2018, the project area elevations range from approximately 15' feet msl to 18' msl (Figure 3). The higher elevations are found in the western portion of the site and the lower elevations are found in the eastern portion of the site.

2.2 Soils

Soil composition information for the subject property was obtained from the U.S. Department of Agriculture Natural Resource Conservation Service Web Soil Survey for St. Lucie County (Figure 4). Three (3) soil types lie within the subject property boundary. A brief description of each soil type is presented below.

2) Ankona and Farmton sands (1.59ac/70.67%)

The Ankona and Farmton series consists of very deep, very poorly and poorly drained, very slowly or slowly permeable soils on broad flats and in depressional areas of central and southern Florida. They formed in sandy and loamy marine sediments. Most areas are in native woodland. A few areas are planted to tame pasture or used for urban development. The vegetation consists of longleaf pine (*Pinus palustrus*), slash pine (*Pinus elliottii*), saw palmetto (*Serenoa repens*), wax myrtle *(Myrica cerifera),* gallberry (*Ilex glabra*), fetterbush *(Lyonia lucida)*, creeping bluestem *(Schizachyrium scoparium)*, chalky bluestem *(Andropogon virginicus)*, lopsided Indiangrass *(Sorghastrum secundum)*, and pineland threeawn (*Aristita stricta*). Depressional areas are dominated by marsh vegetation consisting of maidencane (*Panicum hemitomon*), cutgrass *(Leersia Sw.)*, sand cordgrass *(Spartina bakeri)*, and St. Johns wort (*Hypericum sp*.). This soil type covers the majority of the western and central portions of the subject property.

43) Susanna and Wauchula sands (0.03 ac/1.33%)

The Susanna series consists of very deep, poorly drained, very slowly permeable soils on broad flats of central and southern Florida. They formed in sandy and loamy marine sediments. A water table is within depths of 10 inches for 1 to 4 months and within a depth of 40 inches for about 6 months in most years. It is perched above the spodic horizon early in the summer rainy season and after heavy rainfall in other seasons. During prolonged dry seasons, the water table recedes to below a depth of 40 inches. Some areas of Susanna soils are planted to citrus and improved pasture grasses. Other areas are used for community development. Natural vegetation consists of open forest of longleaf pine and slash pine with ground cover of saw palmetto, running oak *(Quercus pumila),* pineland threeawn, inkberry (*Scaevola plumieri*), and fetterbush. This soil type is found in the southwest corner of the project site.

54) Wabasso sand, 0 to 2 percent slopes (0.63 ac/28.00%)

Wabasso fine sand consists of very deep, very poorly and poorly drained, slowly permeable soils found on flatwoods, flood plains and depressions in the Southern Florida Flatwoods and to a lesser extent in the South Central Florida Ridge, Southern Florida Lowlands, and the Florida Everglades and associated areas. They formed in sandy and loamy marine sediments. The water table is at depths of 10 to 40 inches for more than 6 months in most years. It is at depths of less than 10

inches for less than 60 days in wet seasons and is at depths of more than 40 inches during very dry seasons. Most areas of Wabasso soils are in natural vegetation and used for native range. Areas with adequate water control measures are used for citrus, truck crops, and tame pasture. The natural vegetation consists of longleaf pine, slash pine, cabbage palm *(Sabal palmetto)*, live oak *(Quercus virginiana)*, with an understory of saw palmetto, laurel oak *(Quercus laurifolia)*, wax myrtle, chalky bluestem, creeping bluestem, Indian grass (Sorghastrum nutans), Florida paspalum (Paspalum floridanum), running oak, and pineland three-awn. This soil type is found in the eastern portion of the subject property.

2.3 Vegetative Community Analysis – Habitat Characterizations

Pedestrian surveys of the subject property were conducted on September 15, 2022 to qualitatively document the existing vegetation and to assess the present land-use patterns according to the *Florida Land Use, Cover and Forms Classification System, Department of Transportation* (FLUCFCS; DOT). Two (2) land-use types were determined for the subject property (Figure 5). A brief description of these FLUCFCS communities follows. Photographs are provided in Appendix C:

FLUCFCS No. 190 – Open Land (2.15 ac/95.56%)

This category includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open Land normally does not appendix any structures or any indication of intended use. Often, urban inactive land may be in a transitional state and ultimately will be developed into one of the typical urban land-uses although at the time of inventory, the intended use may be impossible to determine from aerial photo interpretation alone. This community type encompasses the majority of central and western portions of the subject property. The vegetative species observed in this area include sub species consisting of caesarweed (Urena lobata), and Madagascar periwinkle *(Catharanthus roseus)*. The ground cover consists of bahiagrass (Paspalum notatum), Bermuda grass (Cynodon dactylon).

FLUCFCS No. 645 – Wet Prairie (0.10 ac/4.44%)

This community is located in the eastern portion of the property. This classification is composed predominantly of grassy vegetation on hydric soils and usually distinguished from marshes by having less water and shorter herbage. The vegetative component consists of sundew *(Drosera sp*.), yellow-eyed grass (*Xyris spp*.), pennywort (*Hydrocotyle umbellata*), centella (*Centella asiatica*), and beaksedge (*Rhynchopsora plumose*).

3.0 THREATENED AND ENDANGERED SPECIES

Preliminary ecological investigations included review of published and unpublished literature concerning the subject property and surrounding areas, solicitation of databases on protected species, field investigations to generally delineate and characterize the habitats, and a preliminary field survey for the occurrence of protected flora and fauna.

The following is a list of all wildlife species identified during the evaluation of the site:

Reptiles and Amphibians
Eastern black racer (*Coluber constrictor*)
Green anole (*Anolis carolinensis*)

Birds
Black Vulture (*Strix varia*)
Northern Mockingbird ((*Agelaius phoeniceus*)

Mammals
Eastern Gay Squirrel (*Sciurus carolinensis*)

Using methodologies outlined in the *Florida's Fragile Wildlife (Wood,2001)*; *Measuring and Monitoring Biological Diversity Standard Methods for Mammals (Wilson, et al., 1996); and Florida Fish and Wildlife Conservation Commission's (FFWCC) Gopher Tortoise Permitting Guidelines (April 2008 – revised January 2017*); an assessment for "listed" floral and faunal species was most recently conducted on the subject property on September 15, 2022 (Figure 6). This assessment included direct observations and indirect evidence, such as tracks, burrows, tree markings, and birdcalls. The assessment focused on species that are "listed" by the *FFWCC's Official Lists - Florida's Endangered Species, Threatened Species, and Species* of *Special Concern (May 2017)* that have the potential to occur in St. Lucie County (Table 1).

Pedestrian transects were established throughout the site to assess the occurrence, or potential for occurrence of flora and fauna listed as a species of special concern (SSC), threatened, or endangered by the Florida Fish and Wildlife Conservation Commission (FFWCC), the United State Fish and Wildlife Service (USFWS) and the Florida Department of Agriculture (FDA) (Figure 6). The results of these surveys are presented in the following sections.

Table No. 1 and Table No. 2 list those species that were surveyed for based on their probability of occurrence in St. Lucie County.

3.1 Regulatory Review

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is the federal agency responsible for protecting the nation's fish and wildlife resources through implementation of the Endangered Species Act of 1973, as amended ("ESA"), 16 U.S.G. 1531-1543. The USFWS has the responsibility for terrestrial and freshwater species. The Department of Commerce, National Marine Fisheries Service has the responsibility for marine and estuarine species. In Florida, approximately 60 species of animals and 65 species of plants are federally listed by the USFWS as threatened or endangered.

Florida Fish and Wildlife Conservation Commission

Article IV, Section 9 of the Florida Constitution authorizes the FFWCC to "exercise the regulatory and executive powers in the state with regard to wild animal life and fresh water aquatic life." In addition, the FFWCC regulates the taking of species listed as endangered, threatened, or of special concern and their nests through Rules listed in 68A-27 Florida Administrative Code. The FFWCC also provides technical assistance to other agencies that have regulatory authority over activities, which may affect fish and wildlife, and their habitat. The FFWCC's direct regulatory role is currently restricted to protecting animals, not their habitats. However, current FFWCC policies allow for habitat protection as compensation for the "taking" of individuals of the species. The FFWCC Office of Environmental Services (OES) provides technical assistance to other agencies that regulate development activities. These agencies include the Department of Community Affairs, The Department of Environmental Protection, the U.S. Army Corps of Engineers, the state of Florida Water Management Districts, regional planning councils and local governments.

Florida Department of Agriculture and Consumer Services

In Section 581.185, F.S. the Florida Legislature delegated to the Florida Department of Agriculture and Consumer Service (FDACS) authority to designate and regulate plants listed as "endangered", "commercially exploited", and "threatened". FDACS protection of listed plant species centers around preventing the illegal collection, transport and sale of "listed species". FDACS only issues a permit for collection purposes and neither regulates nor prohibits the destruction of state-listed flora species as a result of development activities. With respect to the USFWS, an endangered/threatened plant on private property belongs to the landowner so long as it continues to grow on his land.

The only exception is if the landowner uses federal funds to develop the land. Then the federal agency participation in the action must ensure that federal funds

are not being used to destroy a federally listed plant. If private money is being utilized, there is no such requirement. Otherwise, the endangered species law means little unless/until the plant is moved from the land to be sold, or traded. At that point the plant is no longer part of the land and may be protected by the endangered species law. Additionally, it is illegal to collect or maliciously harm listed plants on Federal land.

3.2 Avian Species

A survey to indicate the presence of listed wading birds such as little blue heron (*Egretta caerulea*), wood stork (*Mycteria americana*), tricolored heron (*Egretta tricolor*), and the Florida sandhill crane (*Grus Canadensis pratensis*) was performed on the project site. There is no habitat available for foraging or nesting located on the project site. During the field surveys none of these species were observed.

Red-cockaded Woodpecker (Leuconotopicus borealis)
Federally listed as "Endangered" by the USFWS

No suitable habitat for red-cockaded woodpeckers (*Picoides borealis*) (RCW's) was identified on the project site during the field surveys. The property is considered to be unsuitable for RCW's because of the lack of old growth pine trees necessary for nest cavity construction. The general onsite conditions preclude the establishment of RCW's. No further action is required pertaining to the red-cockaded woodpecker.

Sandhill Crane (Grus Canadensis pratensis)
State Listed as "Threatened" by the FFWCC

FFWCC developed the *Imperiled Species Management Plan* to address the needs of state listed species that did not already have a management plan or specific program in place. These species also have Commission approved Species *Conservation Measures and Permitting Guidelines* that have been developed to clarify what is needed for conservation and permitting of these species. Cranes typically nest from February through April. A survey during this time would be conducted to confirm that no breeding pairs of this species are nesting within the project site boundaries or the adjacent properties. There is no nesting habitat in the form of a freshwater marsh located on the project site. If there had been a survey of these areas would need to be initiated in February and continued through April including pedestrian transects and aerial reconnaissance conducted by drone if construction activities are to occur during the nesting season. The survey methodology prescribed by the FFWCC would be employed. No sandhill cranes were observed during the surveys for this report. No further action is required pertaining to the Florida sandhill crane at this time.

Bald Eagle (Haliaeetus leucocephalus)
Protected Under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.3

In August of 2007, the USFWS removed the Bald Eagle from the list of federally endangered and threatened species. Additionally, the Bald Eagle was removed from FFWCC's imperiled species list in April of 2008. Although the Bald Eagle is no longer protected under the Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and FFWCC's Bald Eagle rule (F.A.C. 68A-16.002 Bald Eagle (*Haliaeetus leuchocephalus*).

In May of 2007, the USFWS issued the National Bald Eagle Management Guidelines. In April of 2008, the FFWCC adopted a new Bald Eagle Management Plan that was written to closely follow the federal guidelines. Under FFWCC's new management plans, buffer zones are recommended based on the nature and magnitude of the project or activity. The recommended buffer zone is 660 feet or less from the nest tree, depending on what activities or structures are already near the nest. A FFWCC Eagle permit is not needed for any activity occurring outside of the 660-foot buffer zone. No activities are permitted within 330 feet of a nest during the nesting season, October 1 through May 15 or when eagles are present at the nest.

The Southeastern American kestrel (*Falco sparverius paulus*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*) or other birds of prey were not observed on the project site. Two sources were used to identify any bald eagle nests in the vicinity of the project site. They included the FFWCC Historical Bald Eagle Nesting Areas, which has information for the years of the first observation and last, and the Audubon Florida Eagle Watch Nest App which includes the nesting number and the Latitude and Longitude information. The closest nest located to the subject property that has been located by these sources is nest No: SLO16 located approximately 1.9 miles to the east, southeast at latitude 27.370487 and longitude -80.302861 (Figure 7). It was first observed in 2016. It was listed "Inactive" during the 2022 nesting season. Current USFWS Bald Eagle Management Guidelines state that if there is sufficient natural or man-made landscape buffers between the proposed construction site and the nest preventing a visual connection between the two and the clearing and external construction that is to occur is more than 660 feet from the location of the nest, then there are no restrictions during breeding season (October 1 through March 15). Nest No. SLO16 is more than 1.5 miles from the proposed project, in addition to the natural vegetative buffer that exists. As a result, it is not necessary to submit a Bald Eagle Management Plan for this nest.

Wood Stork (Mycteria Americana)
Federally Listed as "Threatened" by USFWS and the FFWCC

Wood Storks are also listed as Threatened by FFWCC and USFWS. According to the *FWC Wood Stork Introduction*, due to loss of wetlands, which the storks rely on for foraging, a decline in range and numbers was evident in the early to mid 1990's. Based on statewide surveys conducted by FFWCC personnel, stork colonies increased from 32 colonies during 1976-78 to 52 colonies during 1986-87, but decreased to 34 colonies in 1999. The most recent survey indicated about 7,216 nesting pairs in Florida during 2005. According to the *Wood Stork Nesting Colonies and Core Foraging Areas Active Within 2009-2018 in Florida*, the subject property is located within a core foraging area for this species and inside the USFWS consultation area (Figure 8). No wood storks were observed foraging on the subject property and there is no nesting habitat on the project site. No further action pertaining to the wood stork is required at this time.

Everglade Snail Kite (Rostrhamus socialbilis)
Federally Listed as "Endangered" by USFWS and FFWCC

The Everglade Snail Kite (*Rostrhamus socialbilis*) is listed as Endangered by the USFWS and the FFWCC. The subject property falls inside the USFWS Consultation Area for the Everglade Snail Kite. Everglade Snail Kites are similar in size to Red-Shouldered Hawks. They have deep red eyes and a white rump patch. Males are slate gray, and females and juveniles vary in amounts of white, light brown, and dark brown. The females always have white on their chin. Kites vocalize mainly during courtship and nesting. Snail kites nest year round in shallow marshes and along grassy shorelines of lakes. They typically nest over water to reduce opportunities for predators to sneak up on them. A survey of any suitable habit is necessary to confirm no nesting activities are present within the project sites boundaries. At the time of the survey, there was no suitable habitat for nesting and foraging. No individual Snail Kites were observed. No further action is required pertaining to the Everglade Snail Kite.

Florida Scrub-Jay (Aphelocoma coerulescens)
Federally Listed as "Threatened" by USFWS and FFWCC

Currently the Florida scrub-jay (*Aphelocoma c. coerulescens*) is listed as "threatened" at state and federal levels. Florida scrub-jays are largely restricted to scattered, often small and isolated patches of sand pine scrub, xeric oak, scrubby flatwoods, and scrubby coastal stands in peninsular Florida (Woolfenden 1978a, Fitzpatrick et al. 1991). They avoid wetlands and forests, including canopied sand pine stands. Optimal scrub-jay habitat is dominated by shrubby scrub, live oaks, myrtle oaks, or scrub oaks from 1 to 3 m (3 to 10 ft.) tall, covering 50% to 90% of the area; bare ground or sparse vegetation less than 15 cm (6 in)

tall covering 10% to 50% of the area; and scattered trees with no more than 20% canopy over (Fitzpatrick et al. 1991).

Habitat suitable for scrub jay nesting and foraging activities does not exist on the subject property. The subject property falls inside the known distribution area for scrub-jays in St. Lucie County as mapped by the USFWS, however as a result of no habitat present, surveys will not need to be conducted for this species per the guidelines outlined in the *Ecology and Development – Related Habitat Requirements of the Florida Scrub Jay, Nongame Wildlife Program, Technical Report No. 8*. No further action is required pertaining to the Florida scrub-jay.

Audubon's Crested Caracara (Polyborus plancus audubonii)
Federally Listed as "Threatened" by USFWS and FFWCC

The subject site falls inside the USFWS Consultation Areas for the species Audubon's Crested Caracara (*Polyborus planeus auduconii*). Currently the Audubon's Crested Caracara is listed as threatened by the USFWS and the FFWCC primarily due to habitat loss. The Audubon's Crested Caracara commonly occurs in dry or wet prairie areas with scattered cabbage palm, lightly wooded areas with saw palmetto, scrub-oaks, and cypress. The Audubon's Crested Caracara also uses improved or semi-improved pasture with seasonal wetlands. Audubon's Crested Caracaras construct new nest each nesting season, often in the same tree as the previous year. The subject property falls inside the USFWS Audubon's Crested Caracara consultation area, however no crested caracaras were observed during the field surveys. Suitable foraging habitat for this species does not exist within the project boundaries. No further action is required pertaining to this species.

Florida Grasshopper Sparrow (Ammodramus savannarum floridanus)
Federally Listed as "Endangered" by USFWS and FFWCC

The subject property falls inside the USFWS Consultation Areas for the Florida grasshopper sparrow *(Ammodramus savannarum floridanus)*. This species is currently listed endangered by the USFWS and FFWCC. The Florida grasshopper sparrow is a small bird that can reach a length of five inches (13 centimeters) with a wingspan of eight inches (20 centimeters) *(Smithsonian National Zoological Park, n.d.)*. This species is drab colored with a pale median stripe on top of its flattened head, and a light brown breast. Florida grasshopper sparrows inhabit dry open prairies that contain bunch grasses, low shrubs, and saw palmetto. Adults are sedentary, using the same territory during successive years. Nests are made of grass, dome shaped and are usually located in a slight depression in the ground, well-concealed by clumps of dwarf live oak, wire grass, or saw palmetto. Grasshopper sparrows are bimodal breeders – they breed throughout the year *(Vickery 1996)*. Suitable foraging and nesting habitat for this species does not exist

within the project boundaries. No further action is required pertaining to this species.

3.3 Amphibians, Reptiles, and Mammals

About thirty (30) species of Florida's amphibians and reptiles are protected. Only a few could occur on this site. A survey was conducted for the presence of these species throughout the habitat of their known distribution (Figure 6). On September 15, 2022 SEI biologists surveyed linear transects throughout portions of the upland habitats in the project area. The project site was surveyed in accordance with the guidelines set forth by the FFWCC and the USFWS. Mr. Timothy Talbot, of Stillwater Environmental, Inc. FWC Authorized Gopher tortoise Agent Permit No. GTA-14-00053D and Ms. Jessica Azpurua FWC Authorized Gopher Tortoise Permit No. GTA-20-00077B, participated in all of the surveys including the gopher tortoise surveys. There were no "potentially occupied" gopher tortoise burrows located within the project boundary. The lack of gopher tortoise burrows decreases the potential for the commensal species, the Florida mouse (*Podomys floridanus*), the gopher frog (*Rana areolata*), and the Eastern indigo snake (*Drymarchon corais couperi*), federally listed as "Threatened", to occur on the property.

3.3.1 Gopher Tortoises

Gopher Tortoise (Gopherus polyphemus)
State Listed as "Threatened" by the FFWCC
Gopher tortoises are listed as threatened by the FFWCC and are protected by state law Chapter 68A-27 and Chapter 39-27.002(4) Florida Administrative Code. The gopher tortoise is found throughout Florida and is generally associated with longleaf pine and xeric oak sand hills but is also found in scrub, xeric hammock, pine flatwoods, dry prairie, coastal grasslands, and dunes. If the gopher tortoise is observed, or signs of the tortoise such as burrows are observed, their presence must be addressed prior to on-site construction activities. The FFWCC is the state agency responsible for overseeing the management of this species.

At the time of the surveys conducted for this report there were no "potentially occupied" burrows located (Figure 6). It is recommended that a more thorough survey be performed before the initiation of any construction activities to ensure that no gopher tortoise burrows exist on the subject property.

Currently there are four (4) options to conduct activities that may adversely impact tortoises and they are as follows:

1. Avoid developing the areas occupied by the tortoises.

2. Avoid individual burrow entrances to ensure the protection of the burrow. A radius of 25' surrounding each burrow is required.
3. Capture and relocate each tortoise to a FFWCC Long Term Protected Recipient Site.
4. If ten (10) or fewer burrows are affected and some habitat will exist on the site following construction, tortoises may be captured and released back onto the site.

Based on the proposed use of the property, option no. 3 is the most viable option should any tortoise burrows be located prior to the initiation of construction activities.

3.3.2 Florida Sand Skink

Sand Skink (Plestiodon reynoldsi)
Federally Listed as "Threatened" by USFWS
The sand skink was listed as "Threatened" under the Endangered Species Act (ESA) in 1987. St. Lucie County falls outside the USFWS Consultation Area Map for the Florida sand skink. The three most important factors in determining the presence of sand skinks are location, elevation, and suitable soils. The subject property occurs outside the USFWS consultation area. Skinks are found typically at elevations of 80 feet or more above sea level, in excessively drained, well-drained, and moderately well-drained sandy soils. Suitable soil types that support the presence of this species do not exist on the subject site. Based on the USFWS criteria, a survey for sand skinks will not be required by the USFWS.

3.4 Flora

There were no protected plant species found on the project site. Currently, there are no technical reports available by the USFWS mentioned in this report for the survey of protected plant species. None of the agencies require relocation or mitigation for protected plant species. Please see Table 2 for a list of plant species that are "listed" for St. Lucie County.

4.0 REGULATORY CONSIDERATIONS

4.1 South Florida Water Management District

The South Florida Water Management District (SFWMD) regulates wetlands that are isolated and those considered within or connected to "Waters of the State" pursuant to Chapter 403 of the Florida Statutes, Rules 62-302 and 62-330 of the Florida Administrative Code (F.A.C.). Development activities altering wetlands and/or drainage will require an Environmental Resource Permit (ERP) from the South Florida Water Management District. Different ERP Permits for various activities, General Permits, and exemptions can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume I*. Specific design

standards, basin specific criteria and procedures can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume II*.

The U.S Environmental Protection Agency (EPA) requires coverage under the National Pollutant Discharge Elimination System (NPDES) generic permit for discharge from large and small construction activities for any project that results in the clearing of one or more acres, pursuant to 40 CFR parts 122 and 124. The EPA has delegated responsibility to the SFWMD to administer the NPDES permits for the State of Florida. The primary functions of the NPDES requirements are to ensure that sediment and erosion during construction of the project is controlled. The NPDES usually requires the use of Best Management Practices to ensure compliance with water quality standards. In addition, coverage under the generic permit for discharge of produced ground water from a non-contaminated site activity must be secured for any construction-related dewatering activity pursuant to Rule 62-621.302.

4.2 U.S. Army Corps of Engineers-Florida Department of Environmental Protection

The U.S. Army Corps of Engineers (ACOE) formerly regulated wetlands connected to "Water of the United States" and "Adjacent Waters" pursuant to Section 404 of the Clean Water Act. Based on the U.S. Supreme Court decision Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January 9, 2001) (SWANCC) isolated wetlands are considered non-jurisdictional for the ACOE. Based on the U.S. Supreme Court decision consolidated cases Rapanos v. United States and Carabell v. United States, 126 S. Ct. 2208 (2006) (RAPNOS) the ACOE was required to establish a physical, biological, or chemical nexus of connection to traditional navigable water (TNW) of the United States to claim jurisdiction.

However, on December 17, 2020, the Environmental Protection Agency (EPA) approved the State of Florida's request to assume administration of a portion of the Clean Water Act Section 404 program. State Assumption became effective as of December 22, 2020. Therefore, the U.S. Army Corps of Engineers transferred all of their pending Section 404 permit applications and requests for jurisdictional determination proposing discharges into State 'assumed' waters to the Florida Department of Environmental Protection (FDEP) for processing. Consultation with the FDEP will be necessary in order to verify if there are any Waters of the United States (WOTUS) that occur on the subject property.

5.0 WETLAND/SURFACE WATER ANALYSIS

One wetland/surface water classification, FLUCFCS No. 643 – Wet Prairie, occurs on the subject property. This wetland is isolated and appears to be less than 0.50 acres in size. The landward limits of the wetland associated with the project site will need to be

delineated by biologists from Stillwater Environmental, Inc. and will need to be approved by staff with the South Florida Water Management District and the FDEP. This wetland does not appear in the National Wetland Inventory Map. (Appendix B)

Any proposed development in the future that would include impacting these wetlands will need to be accounted for in the Environmental Resource Permit (ERP) issued for this project with the South Florida Water Management District, including both direct and secondary impacts. Impacts to the project's wetlands and/or other surface water communities would be permittable by the SFWMD as long as the issues of elimination and reduction of wetland impacts have been addressed and as long as the mitigation offered is sufficient to offset the functional losses incurred via the proposed impacts. If any impacts are proposed, the most economical form of mitigation will be the purchase of credits in a wetland mitigation bank. There is at least one (1) wetland mitigation bank that services this area and includes the Bluefield Ranch Mitigation Bank. Credit prices range from $120,000.00/credit to $200,000.00/credit depending upon the type of credits required. For any remaining wetlands that are not proposed to be impacted, an upland buffer with a minimum width of 15' and an average width of 25' will be required to be established between the wetlands and the uplands. Secondary and Cumulative impacts will also need to be addressed in the ERP. Once a final site plan has been developed and the proposed wetland impacts are known, a UMAM (Unified Mitigation Assessment Method) analysis can be accurately performed to determine the amount of bank credits that will need to be purchased to offset the proposed impacts.

6.0 SUMMARY AND RECOMMENDATIONS

The Twin's Car Wash Property project site is approximately 2.25 +/- acres in size. The St. Lucie County Property Appraiser's website lists the Parcel ID No. as 3403-433-0008-000-2. The property is located on S. US Highway 1, 0.3 miles north of the intersection of US Highway 1 and Tropical Isle Way, in Section 3, Township 36 South, Range 40 East at latitude 27.367873 North and longitude -80.324829 West, Fort Pierce, St. Lucie County, Florida (Figure 1). An aerial image of the property is provided on Figure 2.

According to the wetland delineation methodologies outlined in the *Corps of Engineers Wetland Delineation Manual (1987)* and the State of Florida Unified Wetland Delineation Methodology, habitats classified as wetlands or surface waters do exist on the subject property and were observed during the field investigations conducted on September 15, 2022. Located on the eastern portion of the property, sits one wetland/surface water classification FLUCFCS 645 – Wet Prairie. The landward limits of the wetland associated with the project site will need to be delineated by biologists from Stillwater Environmental, Inc. and approved by staff with the South Florida Water Management District and the FDEP. Any proposed development in the future that would include impacting these wetlands will need to be accounted for in the Environmental Resource Permit (ERP) issued for this project with the South Florida Water Management District.

On September 15, 2022, the Twin's Car Wash project site was surveyed for the presence of flora and fauna protected by county, state, and federal government agencies as well as any protected wetland habitats. Targeted fauna species included the gopher tortoise and commensal species, as well as the avian species discussed in Sections 3.2. The surveys did not result in the location of any "potentially occupied" gopher tortoise burrows. Prior to the initiation of any construction activities, it is recommended that a 100% survey be conducted for gopher tortoises to determine if any tortoises have migrated onto the property and the type of permitting that may be necessary with the FFWCC. The survey is good for 90 days but can be revisited anytime after the 90-day period. In addition, there is no available habitat for foraging or nesting for any of the listed avian species.

The three most important factors in determining the presence of sand skinks are location, elevation, and suitable soils. Suitable surface soils which support this species do not exist within the limits of the project site. No further action pertaining to this species is required.

The environmental limitations described in this document are based on observations and technical information on the date of the on-site evaluation. Failure to detect a listed species does not necessarily infer species absence as wildlife is mobile and exhibit seasonality of occurrence. It is recommended that the subject property be revisited prior to the initiation of construction activities to determine if there have been any changes related to the listed flora and fauna species found in St. Lucie County.

FIGURES



Source: OpenStreetMap

Stillwater Environmental
971 Smokerise Blvd, Port Orange, FL 32127
Ph: (407) 489-6898
Website: www.stillwaterenvironmental.com

Twin's Car Wash
5340 S. US Highway 1
Fort Pierce, Florida 34982

Figure #1

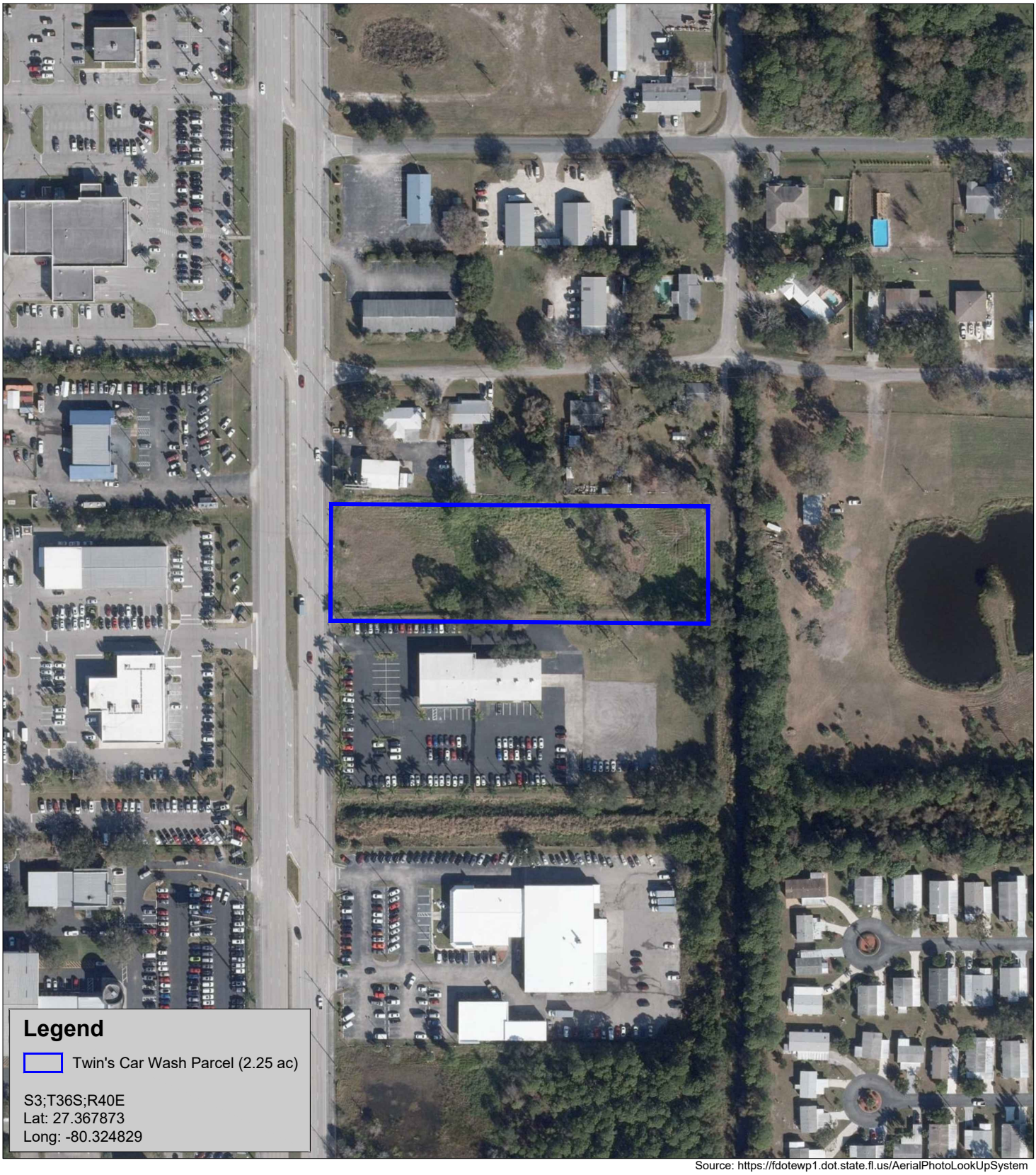
Location Map

Environmental Impact Report

800 Feet

N

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022



Source: https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem

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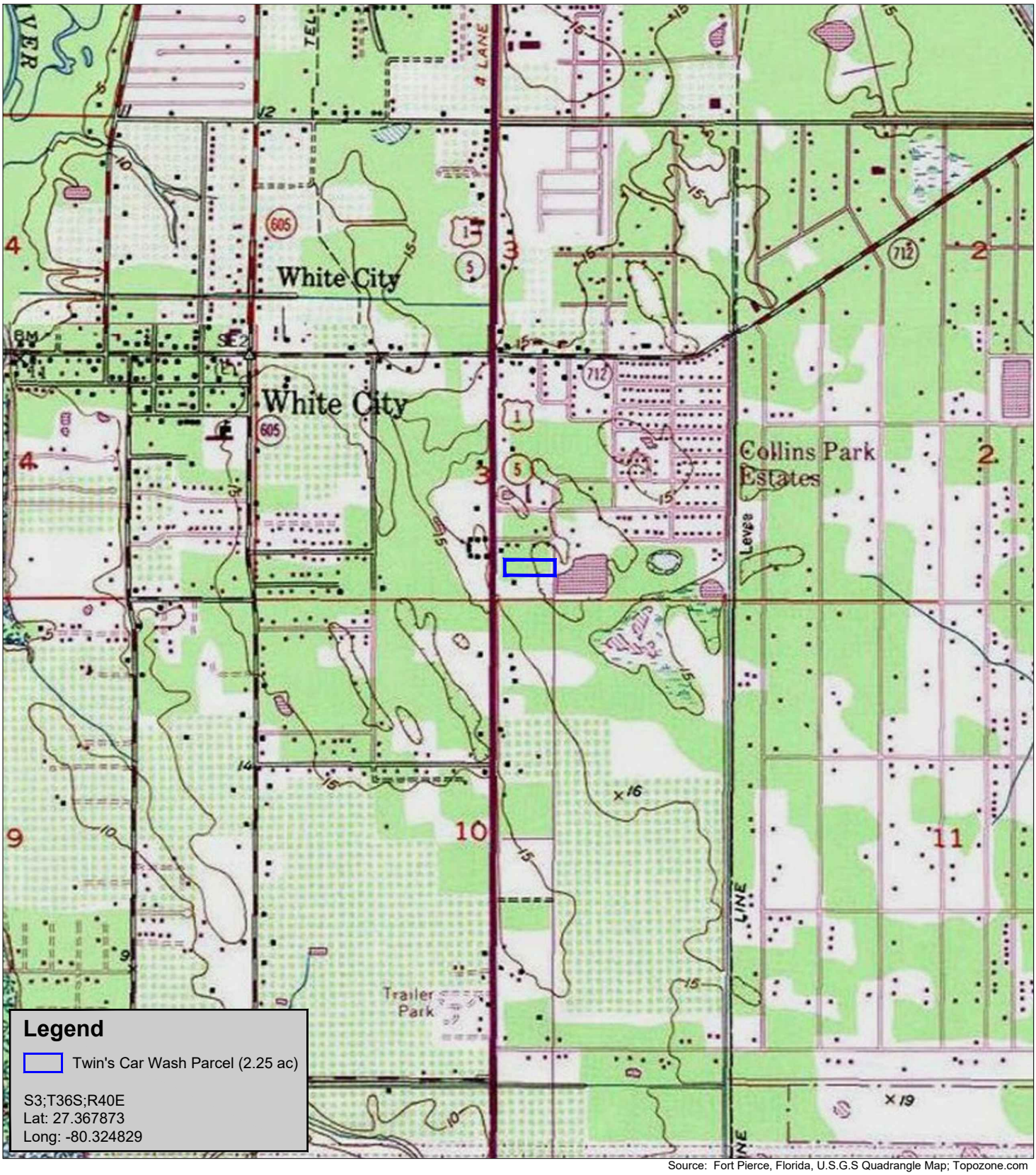
Figure #2

Aerial Photograph (2021)

Environmental Impact Report

200 Feet

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022



Source: Fort Pierce, Florida, U.S.G.S Quadrangle Map; Topozone.com

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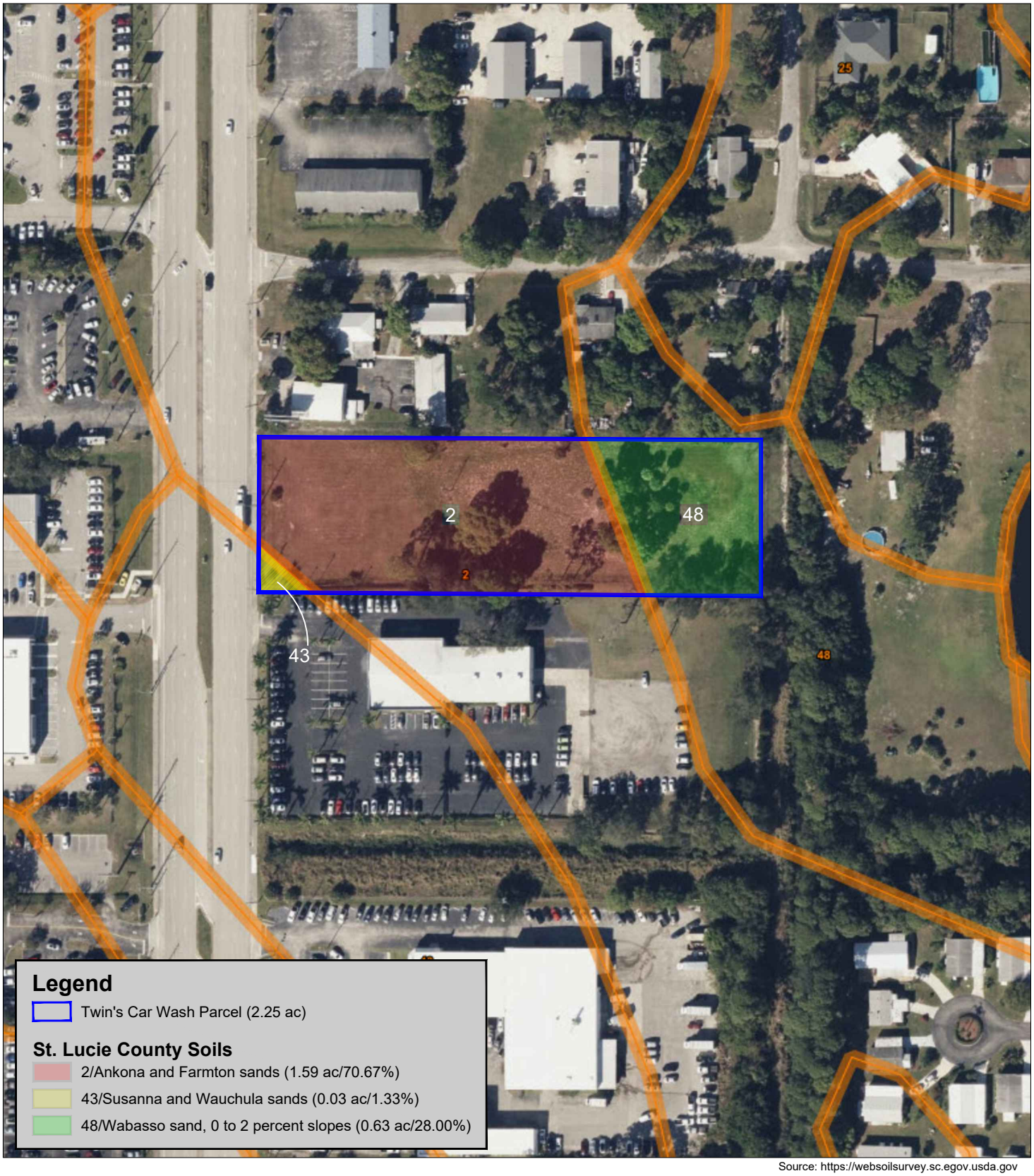
Figure #3

U.S.G.S. Topographic Map

Environmental Impact Report

1500 Feet

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022



Source: https://websoilsurvey.sc.egov.usda.gov

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Figure #4

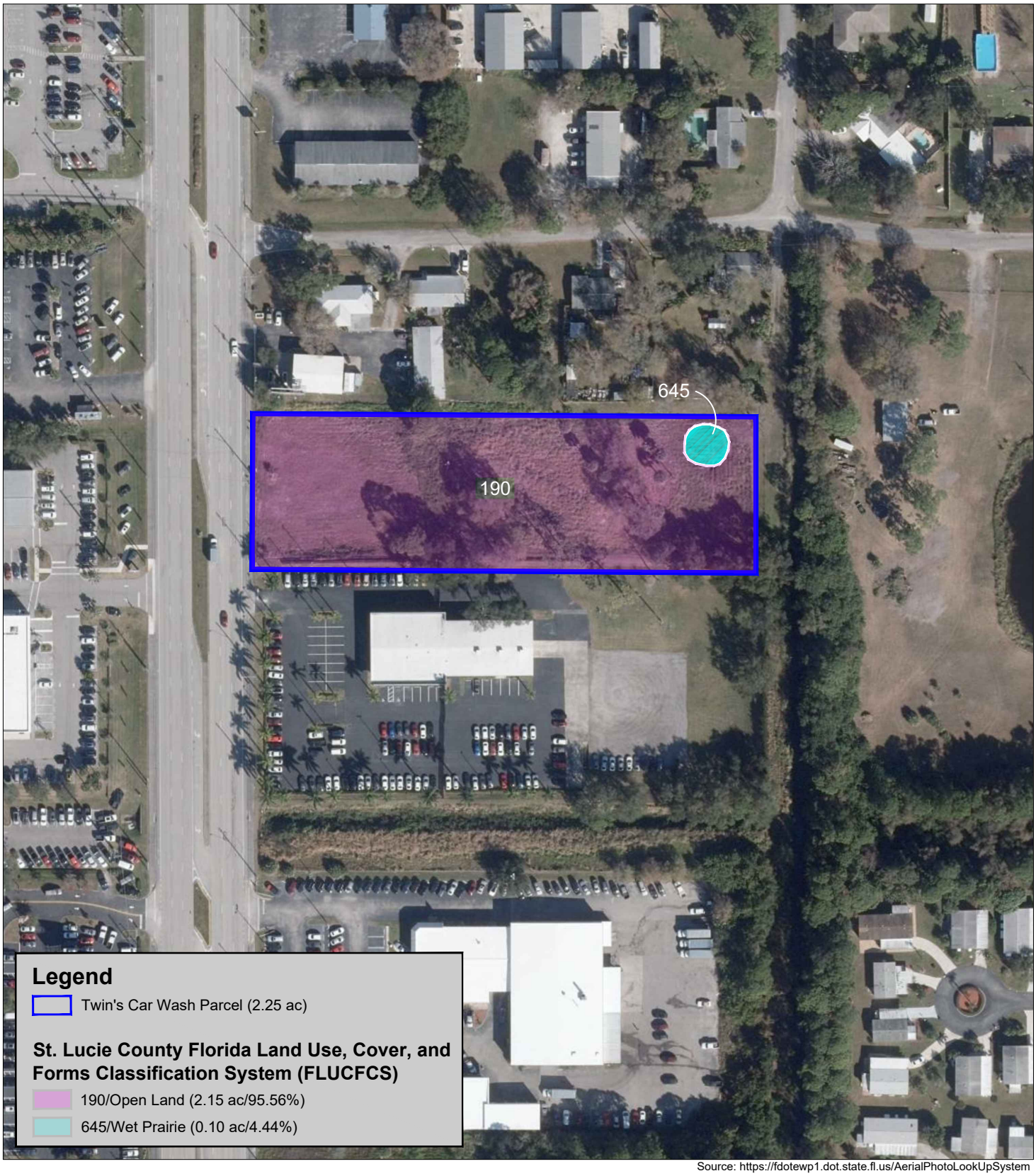
USDA - NRCS Soil Map

Environmental Impact Report

150 Feet

N

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022



Source: https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem

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Figure #5

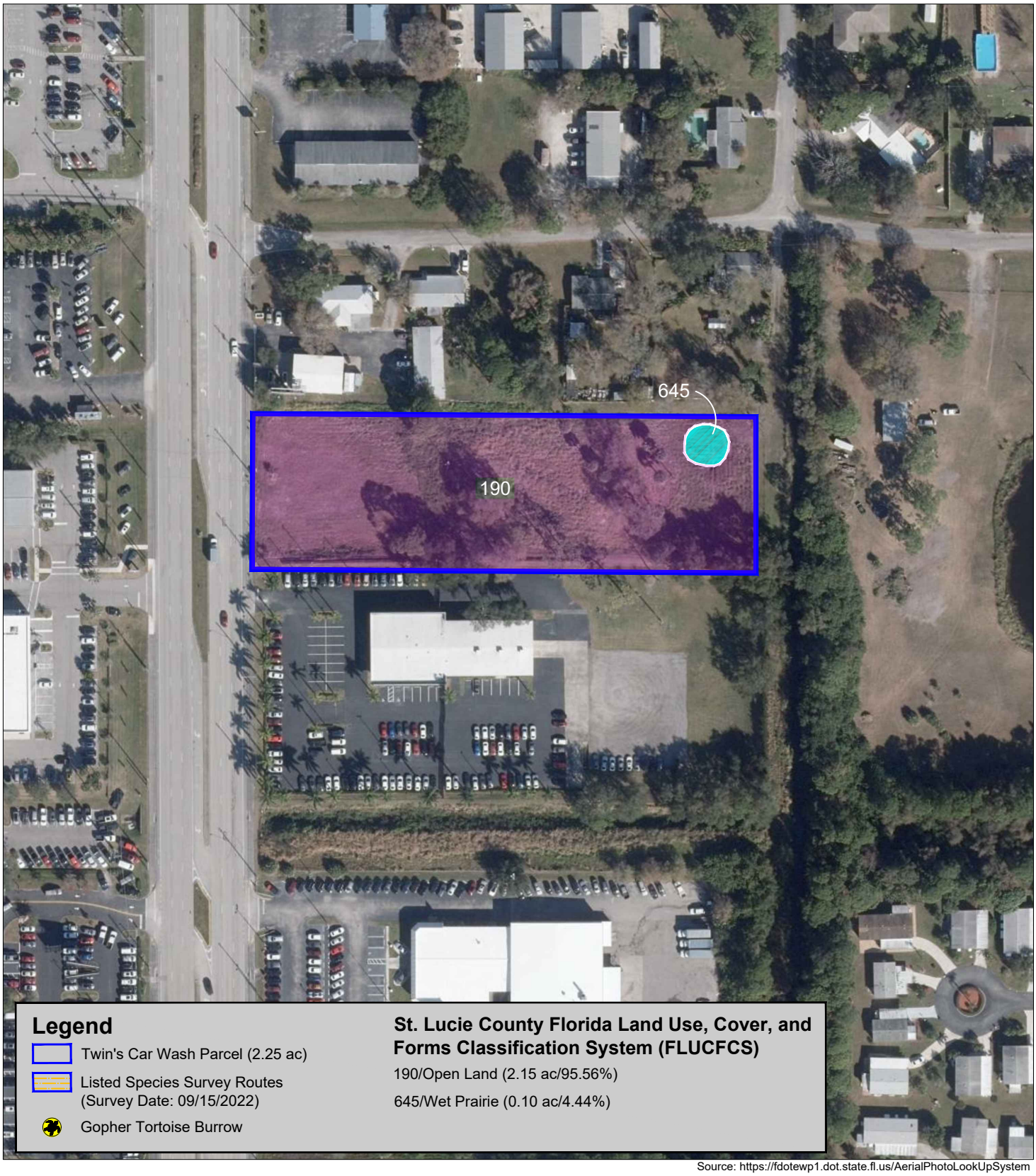
FLUCFCS Map

Environmental Impact Report

150 Feet

N

Project # 1069.01.22
Produced By: MLP
Date: 09/22/2022



Legend

- Twin's Car Wash Parcel (2.25 ac)
- Listed Species Survey Routes (Survey Date: 09/15/2022)
- Gopher Tortoise Burrow

St. Lucie County Florida Land Use, Cover, and Forms Classification System (FLUCFCS)

190/Open Land (2.15 ac/95.56%)

645/Wet Prairie (0.10 ac/4.44%)

Source: https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem

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Figure #6

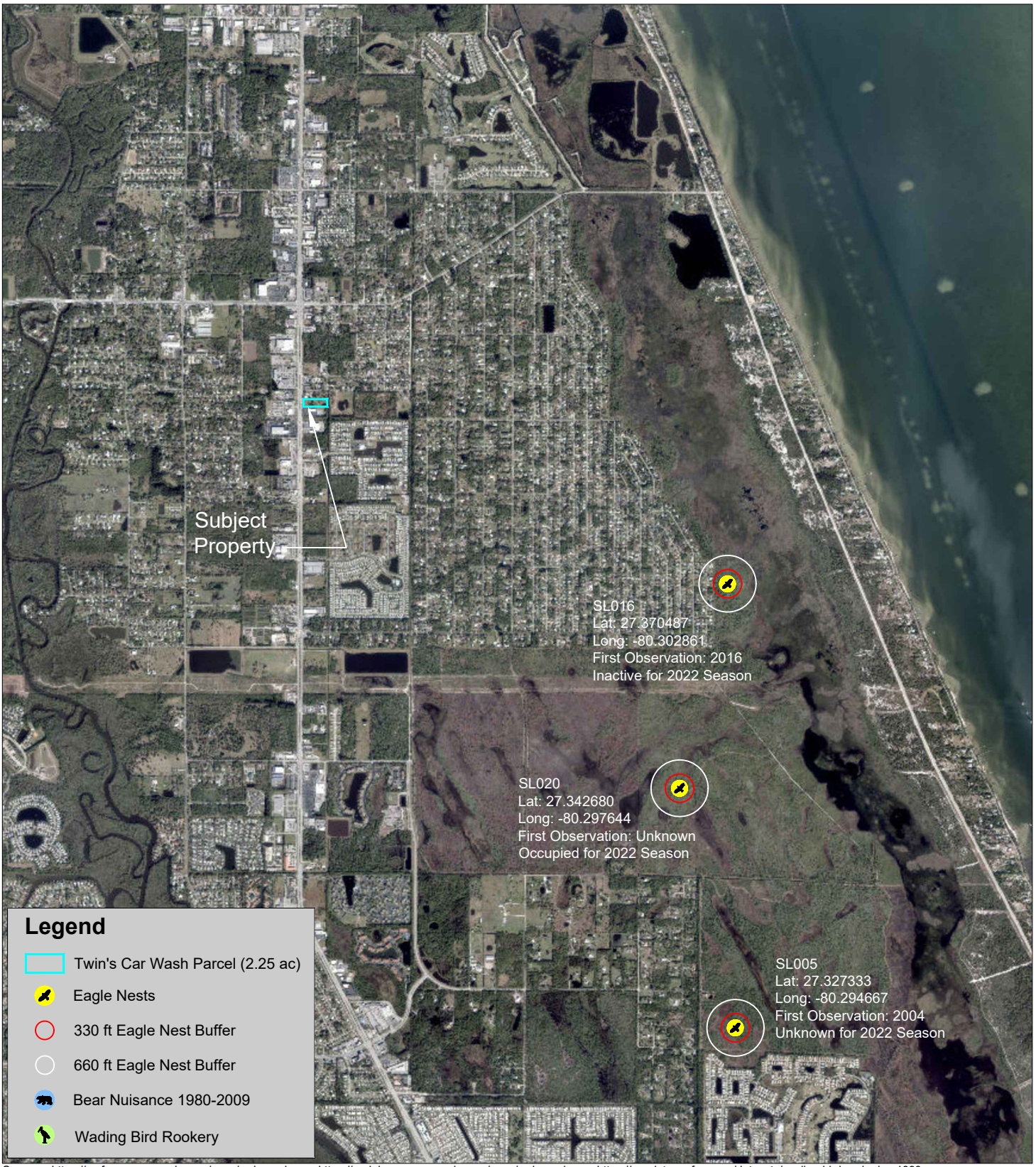
Listed Species Survey Routes

Environmental Impact Report

400 Feet

N

Project # 1069.01.22
Produced By: MLP
Date: 09/22/2022



Sources: https://myfwc.maps.arcgis.com/apps/webappviewer; https://audubon.maps.arcgis.com/apps/webappviewer; https://geodata.myfwc.com/datasets/wading-bird-rookeries-1999; https://myfwc.maps.arcgis.com/apps/webappviewer/index.html?id=0c634d5ba4cc47baa82de0ed2782426c

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Figure #7

Wildlife Proximity Map

Environmental Impact Report

0.6 Miles

N

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022



Source: WOST colonies update 2019 USFWS Jacksonville, FL https://www.fws.gov/northflorida/

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Twin's Car Wash
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Figure #8

Wood Stork Foraging Areas

Environmental Impact Report

58 Miles

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022

TABLES

TABLE 1

TABLE 1: PROTECTED FAUNA FOUND IN ST. LUCIE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE TWIN'S CAR WASH PROJECT SITE

SPECIES	FWC STATUS	USFWS STATUS	PREFERRED HABITAT	PROBABLILITY OF OCCURANCE
REPTILES				
Alligator mississippiensis American alligator	FT(S/A)	T	Vegetated lakes and deepwater swamps	Low: No habitat available, none sighted
Drymarchon corais couperi Eastern indigo snake	FT	T	Dry habitats bordered by water; often occupy *G. polyphemus* burrows	Low: No habitat available, none sighted
Gopherus polyphemus Gopher tortoise	ST	_	Well drained soil; xeric pine-oak hammocks and scrub; pine flatwoods	Low: No habitat available, no burrows located
Pituophis melanoleucus mugitus Florida pine snake	ST	_	Dry, sandy barrens in xeric oak and pine-wooded sandhills	Low: No habitat available, none sighted
Plestiodon reynoldsi Sand skink	FT	T	Xeric habitats along sandy Florida ridges. Found in Osceola, Polk, Lake, Highlands, Putnam, Orange and Marion counties.	Low: No habitat available, no tracks or skinks observed.
Stilosoma extenuatum Short-tailed snake	ST	_	Sandy upland ridges; xeric oak pine woods; xeric oak hammocks	Low: No habitat available, none sighted
AMPHIBIANS				
Rana capito Florida gopher frog	SSC	_	Dry, xeric habitats with wetlands such as isolated permanent ponds and cypress domes	Low: No habitat available, no gopher tortoise burrows observed
BIRDS				
Aphelocoma coerulescens Florida scrub jay	FT	T	Level, sterile, white sand with low, xeric oak scrub	Low: No xeric habitat available, none sighted.
Athene cunicularia floridana Florida Burrowing Owl	ST	_	These areas include golf courses, airports, pastures, agriculture fields, and vacant lots.	Low: No habitat available, none sighted.
Egretta caerulea Little blue heron	ST	_	Lake littorus; shallow ponds and marshes	Low: No habitat available, no birds sighted.

TABLE 1: PROTECTED FAUNA FOUND IN ST. LUCIE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE TWIN'S CAR WASH PROJECT SITE

SPECIES	FWC STATUS	USFWS STATUS	PREFERRED HABITAT	PROBABLILITY OF OCCURANCE
BIRDS (cont.)				
Egretta tricolor Tricolored heron	ST	_	Lake littorus; shallow ponds and marshes	Low: No habitat available, no birds sighted
Falco sparverius paulus Southeastern American kestrel	ST	_	Forest edges, and clearings; nests in mature pines	Low: No habitat available, none sighted
Grus canadensis pratensis Florida sandhill crane	ST	_	Marshes, wet prairies, pastures, and open herbaceous rangeland	Low: No habitat available, no birds sighted
Haliaeetus leucocephalus * Bald eagle	_	_	Open (<60% canopy cover), mature pine forests <2 km from expansive open waters	Low: No habitat available, no nests or birds sighted
Mycteria Americana Wood stork	FT	T	Nests in cypress swamps; forage sites range from shallow marshes to roadway borrow pits	Medium: Minimal habitat available, none sighted
Picoides borealis Red-cockaded Woodpecker	FE	E	Old-growth pine flatwoods with regular fire occurrence are required for nesting	Low: No habitat available, none sighted
Rostrhamus sociabilis plumbeus Everglade snail kite	FE	E	Shallow freshwater marshes; shallow grassy shorelines of lakes.	Low: No habitat available, inside of known range, none sighted
MAMMALS				
Trichechus manatus West Indian manatee (Florida manatee)	FT	T	Coastal waters, rivers and springs.	Low: No habitat available

*Protected under the Bald and Golden Eagle Protection Act (BGEPA), and the Migratory Bird Treaty Act (MBTA).

KEY TO ABBREVIATIONS

FWC Florida Fish and Wildlife Conservation Commission

- FE Federally-designated Endangered
- FT Federally-designated Threatened
- FXN Federally-designated Threatened Nonessential Experimental Population
- FT(S/A) Federally-designated Threatened species due to similarity of appearance
- ST State-designated Threatened
- SSC State Species of Special Concern

TABLE 2

TABLE 2: PROTECTED FLORA FOUND IN ST. LUCIE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE TWIN'S CAR WASH PROJECT SITE

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABLILITY OF OCCURANCE (4)
Calopogon barbatus – Bearded grass pink	T	-	Damp pinelands	Low: no habitat available, none found
Calopogon multiflorus – Many flowered grass pink	E	-	Open, damp, occasionally recently burned pinelands and meadows	Low: no habitat available, none found
Deerinfothamnus rugelii – Rugel's pawpaw	E	E	Mesic flatwoods	Low: no habitat available, none found
Dennstaedtia bipinnata – Hayscented Fern	E	-	Rare on mucky soil in shaded forests in Seminole, Dunal, and Palm Beach counties	Low: not found in the area; none found
Encyclia tampensis – Butterfly orchid	CE	-	Cypress swamps, hardwood swamps and hammocks	Low: no habitat available, none found
Epidendrum conopseum – Greenfly orcid	CE	_	Cypress swamps, hardwood swamps, and hammocks	Low: no habitat available, none found
Hartwrightia floridiana – Florida Hartwrightia	T	-	Wet, open areas, moist grasslands, and sphagnum bogs	Low: no habitat available, none found
Lilium catesbael – Southern red lily	T	_	Mesic flatwoods, wet prairies, usually in graminoid systems	Low: Minimal habitat available on site, none found
Listera australis – southern tway blade	T	_	Hammocks, low moist woods in deep humus, ravines, shady stream banks, sphagnum	Low: no habitat available, none found
Nemastylis floridana	E	_	Marshes, grassy openings of wet hammocks moist flatwoods	Low: No habitat available, none found

TABLE 2: PROTECTED FLORA FOUND IN ST. LUCIE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE TWIN'S CAR WASH PROJECT SITE

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABLILITY OF OCCURANCE (4)
Platanthera blephariglottis – Large white fringed orchid	T	_	Inhabits sphagnum bogs, meadows, damp fields and woods	Low: no habitat available, none found
Platanthera cristata – Golden fringed orchid	T	_	Low moist meadows and damp pine woods	Low: no habitat available, none found
Platanthera flava – Southern tubercled orchid	T	_	Very wet habitats such as swamps, bogs and wet forests with thick black mud	Low: no habitat available, none found
Platanthera integra – Southern yellow fringeless orchid	E	_	Marshes and wet pine flatwoods	Low: no habitat available, none found
Platanthera nivea – Snowy orchid	T	_	Open bogs and sunny, wet meadows	Low: no habitat available, none found
Pogonia ophioglossoides – Rose pogonia	T	-	Open, wet meadows and sphagnum bogs, poorly drained roadside ditches	Low: no habitat available, none found
Polygala lewtonii – Scrub (Lewtons's) milkwort	E	E	Dry oak woodlands and scrub	Low: no habitat available, none found
Rhapidophyluum hystrix – Needle palm	CE	-	Wet to mesic woods and hammocks; spring fed stream bottoms	Low: no habitat available, none found
Spiranthes breyilabris floridana – Florida Ladies' tresses	E	_	Open meadows and damp pinelands, road shoulders, ditches	Low: no habitat available, none found
Spiranthes laciniata – Lace-tip ladies tresses	T	_	Marshes and cypress swamps; road banks and ditches	Low: no habitat available, none found
Spiranthes longilabirs – Long-tip ladies tresses	T	_	Marshes and prairies	Low: no habitat available, none sighted

APPENDICES

APPENDIX A

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: 5340 S US HIGHWAY 1
Sec/Town/Range: 03/36S/40E
Parcel ID: 3403-433-0008-000-2
Jurisdiction: Fort Pierce

Use Type: 1000
Account #: 38810
Map ID: 34/03S
Zoning: General Co

Ownership

Sue-Ellen G Mosler (TR)
PO Box 530127
Lake Park, FL 33403



Legal Description

3 36 40 S 175 FT OF N 357 FT OF SW 1/4 OF SW 1/4 OF SE 1/4-LESS RD (2.25 AC) (OR 2270-2108: 3047-2006)

Current Values

Just/Market Value:	$459,800
Assessed Value:	$431,200
Exemptions:	$0
Taxable Value:	$431,200

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	2.25
Land Size (SF):	98,162

Building Design Wind Speed

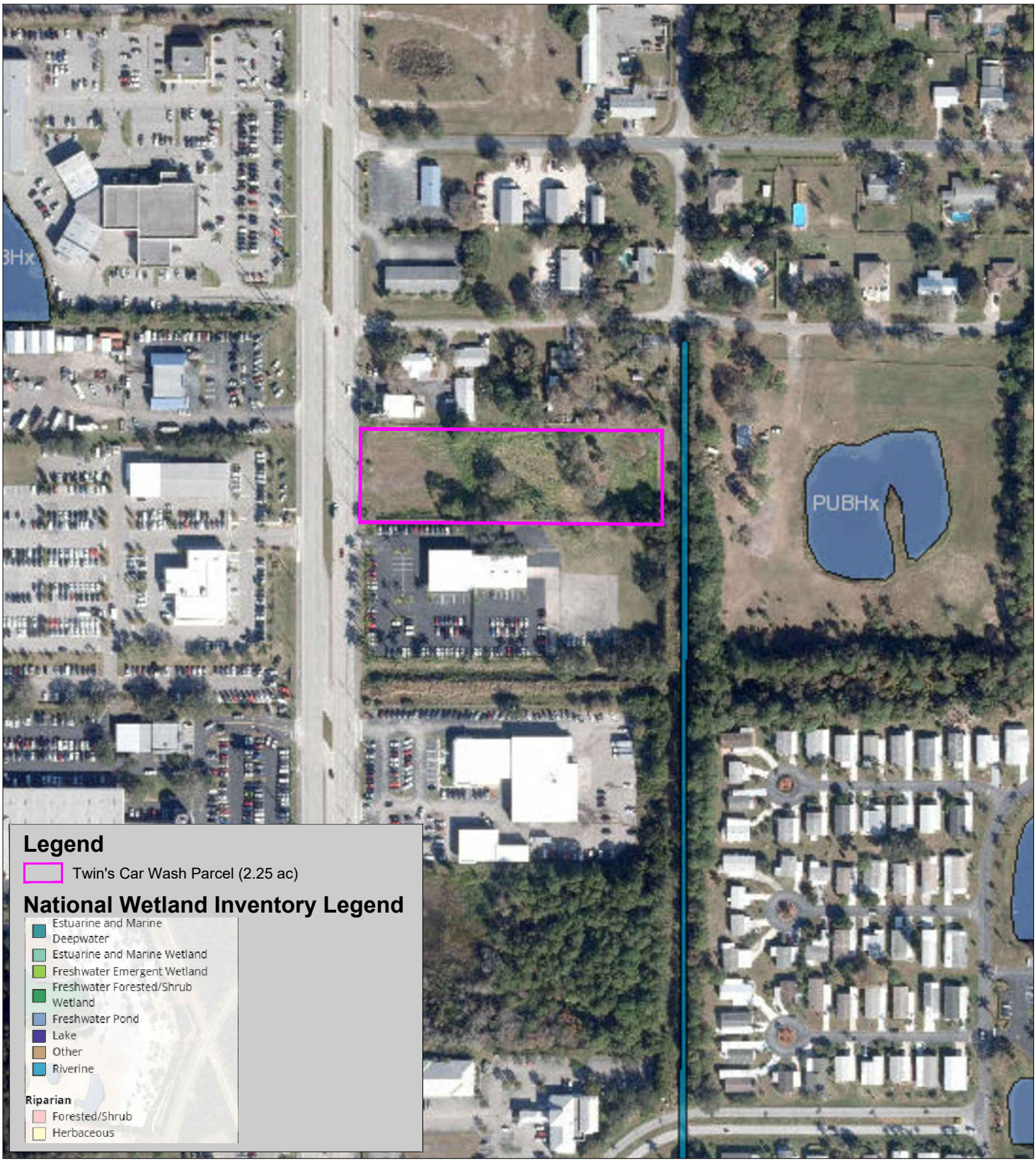
Occupancy Category	I	II	III
Speed	140	160	170

Sources/links:

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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S US Highway 1
S US Highway 1
S 3rd St
Smallwood Ave
Old Key West P

APPENDIX B



Stillwater Environmental
971 Smokerise Blvd, Port Orange, FL 32127
Ph: (407) 489-6898
Website: www.stillwaterenvironmental.com

Twin's Car Wash
5340 S. US Highway 1
Fort Pierce, Florida 34982

Appendix B

National Wetland Inventory Map

Environmental Impact Report

300 Feet

Project # 1069.01.22
Produced By: MLP
Date: 09/14/2022

APPENDIX C



Subject Property – Open Land (FLUCFCS 190)



Subject Property – Looking west



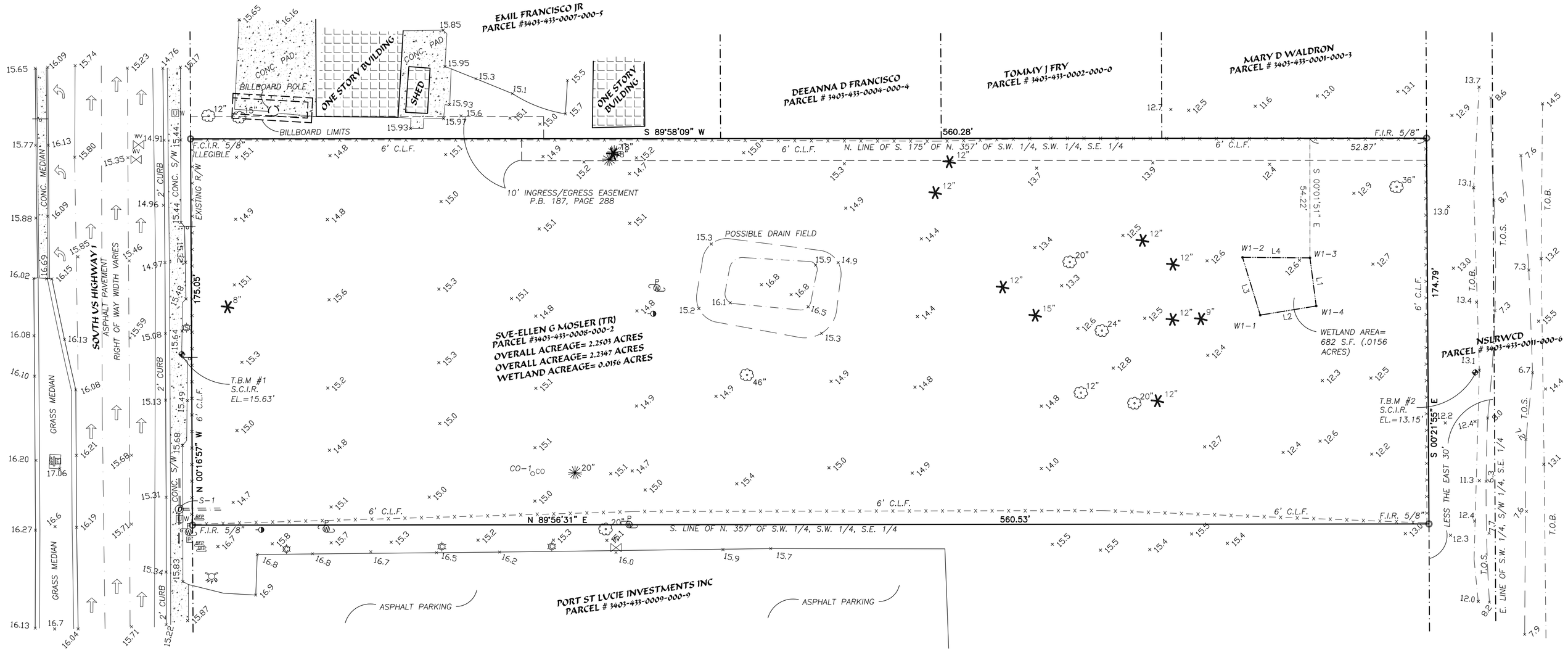
Subject Property – Wet Prairie (FLUCFCS 645)



Subject Property – Call Station (Typical)

SECTION 03, TOWNSHIP 36 SOUTH, RANGE 40 EAST
SAINT LUCIE COUNTY, FLORIDA

1"=30'



WETLAND LINE TABLE

LINE	BEARING	DISTANCE
L1	S 07°24'30" E	21.97'
L2	S 80°44'36" W	25.72'
L3	N 17°01'36" W	27.38'
L4	S 89°31'13" E	30.57'

LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
CONC. CONCRETE
EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
WELL
GUY WIRE
SIGN
PHONE BOX
CABLE BOX

UGS UNDERGROUND SANITARY
(T) TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCY PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SEWER VALVE
MONITOR WELL
SIGNAL SUPPORT POLE
IRRIGATION CONTROL VALVE
IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UNDERGROUND ELECTRIC
UNDERGROUND WATER MARKER
ELECTRIC MANHOLE
W1-4 WETLAND LINE & NUMBER

UC UNDERGROUND CABLE MARKER
(S) SANITARY MANHOLE
WATER METER
WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UG UNDERGROUND GAS MARKER
ELECTRIC BOX
TRAFFIC BOX
UP UNDERGROUND PHONE MARKER
RR RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CROSS WALK SIGNAL
CO CLEANOUT
STORM MANHOLE
GAS VALVE

TREE LEGEND

12" OAK TREE AND SIZE
6" MISCELLANEOUS TREE AND SIZE
12" PALM TREE AND SIZE
4" PINE TREE AND SIZE

STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
36" N. RCP INV. EL.= 9.10'
12" E. RCP INV. EL.= 9.15

SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

DESCRIPTION:

THE SOUTH 175 FEET OF THE NORTH 357 FEET OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 3, TOWNSHIP 36 SOUTH, RANGE 40 EAST, LESS AND EXCEPT THE EAST 30 FEET THEREOF AND THE RIGHT OF WAY FOR HIGHWAY U.S. NO.1, ST. LUCIE COUNTY, FLORIDA

SURVEYOR'S NOTES:

1) THIS IS AN ALTA/BOUNDARY AND TOPOGRAPHIC SURVEY OF THE ABOVE DESCRIBED TRACT OF LAND ONLY, MADE ON THE GROUND UNDER THE SUPERVISION OF A FLORIDA REGISTERED LAND SURVEYOR AND MAPPER, AND EXCEEDS THE MINIMUM TECHNICAL STANDARD FOR HORIZONTAL AND VERTICAL ACCURACY FOR THIS PROPERTY'S EXPECTED USE.

2) BEARINGS REFERENCED TO EAST RIGHT OF WAY LINE OF U.S. HIGHWAY 1 AS BEING N 00°16'57" W. PER GEODETIC BEARINGS, ZONE EAST.

3) THIS SURVEY WAS CONDUCTED FOR THE PURPOSE OF AN ALTA/BOUNDARY, TOPOGRAPHIC SURVEY ONLY, AND IS NOT INTENDED TO DELINEATE THE REGULATORY JURISDICTION OF ANY FEDERAL, STATE, REGIONAL OR LOCAL AGENCY, BOARD, COMMISSION OR OTHER SIMILAR ENTITY.

4) SURVEYOR RELIED ENTIRELY UPON THE TITLE COMMITMENT PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, ORDER NO. 10483631, DATED 05-01-2022 AT 8:00 A.M. THERE MAY BE OTHER EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, RESTRICTIONS, OR OTHER SIMILAR MATTERS OF PUBLIC RECORD, NOT DEPICTED ON THIS SURVEY. THE SURVEY SUBJECT TO THE FOLLOWING ITEMS IN SCHEDULE B-II OF THE REFERENCED COMMITMENT:

ITEMS 1-5: NOTHING APPLICABLE/PLOTTABLE AS TO MATTERS OF SURVEY.

ITEM 6: TERMS, CONDITIONS, AND PROVISIONS OF RECIPROCAL EASEMENT AGREEMENT, RECORDED IN OFFICIAL RECORDS BOOK 187, PAGE 288. (DEPICTED HEREON)

ITEM 7: AGREEMENT TO FORT PIERCE UTILITIES AUTHORITY FOR WATER SERVICE AND/OR SEWER SERVICE AS RECORDED IN OFFICIAL RECORDS BOOK 698, PAGE 772. (NO PLOTTABLE EASEMENT)

ITEMS 8: TERMS, CONDITIONS, AND PROVISIONS OF ORDINANCE NO 15-043, ESTABLISHING ZONING DESIGNATION & LAND USE, RECORDS IN OFFICIAL RECORDS BOOK 3757, PAGE 2633. (NO PLOTTABLE EASEMENT.)

ITEMS 9-10: NOTHING APPLICABLE/PLOTTABLE AS TO MATTERS OF SURVEY.

5) NO UNDERGROUND UTILITIES, UNDERGROUND ENCROACHMENTS, BUILDING FOUNDATIONS WERE OBSERVED AS A PART OF THIS SURVEY, UNLESS OTHERWISE SHOWN. SHRUBS WERE NOT LOCATED, UNLESS OTHERWISE SHOWN.

6) THIS SURVEY NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

7) THE PROPERTY SHOWN HEREON APPEARS TO FALL WITHIN FLOOD ZONE "X", AS SHOWN ON THE FLOOD INSURANCE RATE MAP 12111C, COMMUNITY PANEL NUMBER 0277 K, MAP REVISED 02/19/2020.

8) ELEVATIONS, DEPICTED HEREON, BASED UPON N.A.V.D. 88 PER NGS CONTROL POINT "X 403", ELEVATION 12.71'. SITE BENCHMARKS, DEPICTED HEREON, ARE REFERENCED TO N.A.V.D. 88.

9) THE TREE TYPES AND SIZES DEPICTED HEREON, IF ANY, HAVE NOT BEEN VERIFIED BY A LICENSED ARBORIST.

10) THE WETLAND LINE DEPICTED HEREON BASED UPON FLAGS SET BY STILLWATER ENVIRONMENTAL ON 10/11/2022.

Alex B. Thompson Jr., P.S.M.
State of Florida No. 5318
Registered Land Surveyor and Mapper

Date Signed: 11-7-22

Last Date of Field Survey: 8/2/22

EXTREME SURVEYING OF FLORIDA, INC.
LB No. 7437
29340 RHODIN PLACE
WESLEY CHAPEL, FLORIDA 33545
PH. (813) 973-2092
FAX. (813) 973-2122
EMail: alex@extreme-surveying.com
PROFESSIONAL SURVEYING AND MAPPING SERVICES



No.	DESCRIPTIONS	DATE	BY
1	ADD WETLAND	11-7-22	ABT

REVISIONS

ALTA/BOUNDARY TOPOGRAPHIC SURVEY

5340 SOUTH US HIGHWAY ONE
SAINT LUCIE COUNTY, FLORIDA

DESIGNED BY:	N/A
DRAWN BY:	RWB
CHECKED BY:	ABT
SCALE:	1"=30'
DATE:	8/4/22
PARTY CHIEF:	RB
FIELD BOOK:	--
PAGE:	ZZ-ZZ
CAD FILE:	2207-100-53Z
JOB NUMBER:	2207-100-53
SHEET	1 of 1

Sofarelli & Associates Architecture, Inc.
6365 142nd Avenue N
Clearwater, FL 33760

Project: Twin's Car Wash
5340 S Highway 1
Ft. Pierce, FL

Index:

Project Narrative

Context Photos

Architectural Site Plan

Floor Plan

Elevations

Renderings

Color Board

Site Photometrics

Signage

Project Narrative:

Project Overview:
It is the Owner's intent to construct a free-standing express car wash including self-service vacuum stations.

Design Intent:
It is the Owner's intent to utilize the established corporate image which is a modern interpretation of prairie design with some craftsman detailing. The use of earthtone colors and stone is an attempt to blend with natural settings in lieu of "Pop Culture" coloring schemes.

Conformity:
In accordance with the city design guidelines and code ordinances 125-314, the building is a single-story masonry structure with a linear organization.

The rectangular footprint is flanked by towers at the entry and exit sides of the building. The towers are capped off with pitched metal roofs and false shutters.

The elongated center portion of the structure is articulated with a protruding center area featuring a stone façade, windows, and awnings. The balance of the façade is finished with stucco, accent banding, and awnings.

The business entry is located at the east tower and the vehicular entry at the east end is recessed from the façade. The overhead door beyond is recessed 8'-0" from the exterior. The exit side of the car wash at the west elevation is protected by flat awning and flanked by another tower. A colored roll down door with an awning at the exit side of the tunnel that shields the view of the tunnel during off hours.

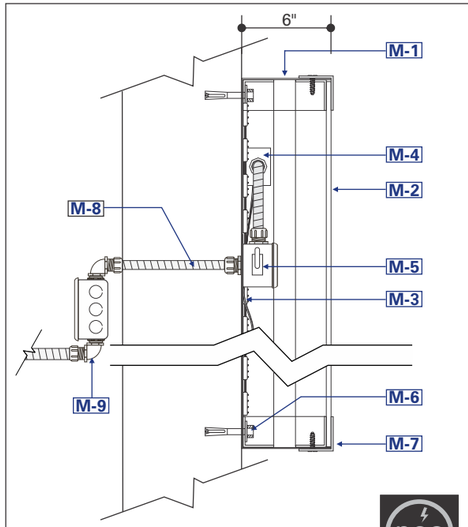
The majority of the roof is a flat system with a raised parapet screening all equipment.

The overall paint color scheme is that of a natural tan body color with white and dark brown accents including stone and metal elements.



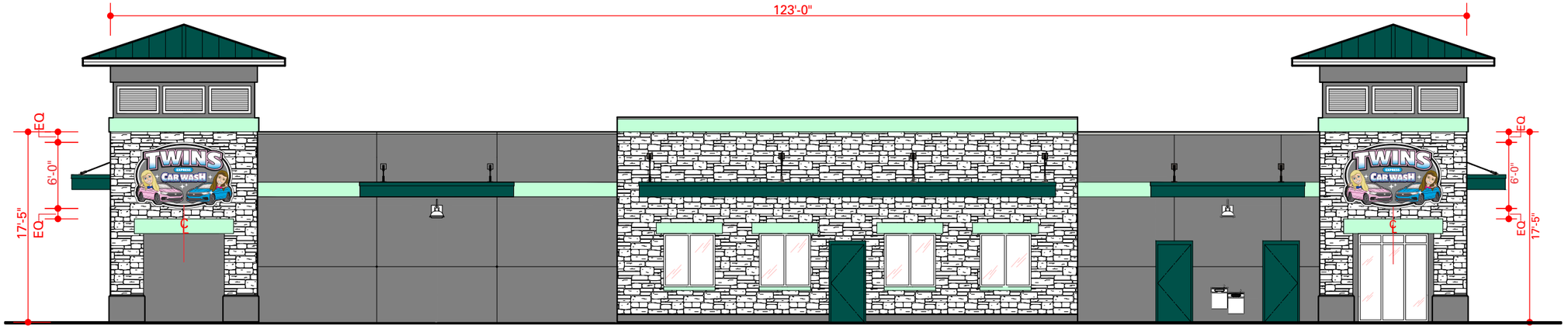
1 *CABINET DETAIL*
SCALE: 1/2"=1'-0"

TWO (2) SINGLE FACE, INTERNALLY ILLUMINATED WALL SIGNS.
54.0 SQUARE FEET EACH (108.0 SQUARE FEET TOTAL).
123.0 SQUARE FEET ALLOWED.



2 *CABINET SECTION*
SCALE: N.T.S.

MATERIAL	DESCRIPTION
M1	CABINET TO HAVE ALUMINUM SIDES & BACK OVER INTERNAL ANGLE, ALL WELDED FRAME. FINISH TO BE SPRAYED WHITE. INSIDE OF CABINET TO BE WHITE.
M2	3/16" WHITE FLAT PLASTIC FACE. DIGITALLY PRINTED TRANSLUCENT VINYL APPLIED TO FIRST SURFACE.
M3	INDIVIDUAL L.E.D. MODULARS MOUNTED ON INSIDE OF CABINET. COLOR TO BE WHITE.
M4	120 VOLT L.E.D. POWER SUPPLIES.
M5	DISCONNECT SWITCH ON SIDE OF CABINET.
M6	MOUNTING HARDWARE (TYPE TO BE DETERMINED BY WALL CONSTRUCTION).
M7	2" ALUMINUM ANGLE FACE RETAINERS. FINISH TO BE SPRAYED WHITE.
M8	½" CONDUIT.
M9	J-BOX AND PRIMARY ELECTRICAL LEADS, POWER TO SIGN BY OTHERS.



3 *FRONT BUILDING ELEVATION*
SCALE: 3/32"=1'-0"

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Largo, FL 33777
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Fax: 1-727-544-7745
LIC. #ES 12000419
www.IntlSign.com

Client:
TWINS CAR WASH
2230 N. COURTENAY PKWY
BREVARD COUNTY, FL.

Date:
JANUARY 19, 2022

Drawing Number:
A22132-50-BREVARD CO FL

Revisions:

	DATE:	DESCRIPTION:
1	00-00	NR
2	00-00	NR
3	00-00	NR
4	00-00	NR
5	00-00	NR
6	00-00	NR
7	00-00	NR
8	00-00	NR

Sales Person:
WILL GRIFFIN

Scale:
AS NOTED

Drawn by:
O. BARNITZ

CLIENT/LANDLORD APPROVAL
☐ APPROVED
☐ APPROVED AS NOTED
☐ REVISE AND RESUBMIT
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Title: _____
Date: _____
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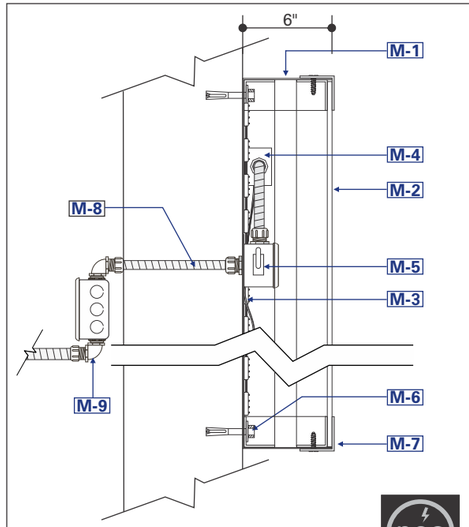
SIGNS WILL COMPLY TO FLORIDA BUILDING CODE 2020 (7TH EDITION)
PRIMARY ELECTRICAL POWER TO SIGN TO BE BY OTHERS. ALL POWER TO BE 120 VOLT UNLESS OTHERWISE STATED.
ELECTRICAL TO USE U.L. LISTED COMPONENTS AND SHALL MEET ALL N.E.C. STANDARDS
E212429
2017
SIGN MUST BE GROUNDED IN COMPLIANCE WITH ARTICLE 600 OF THE NATIONAL ELECTRIC CODE.

SHEET NO. 101



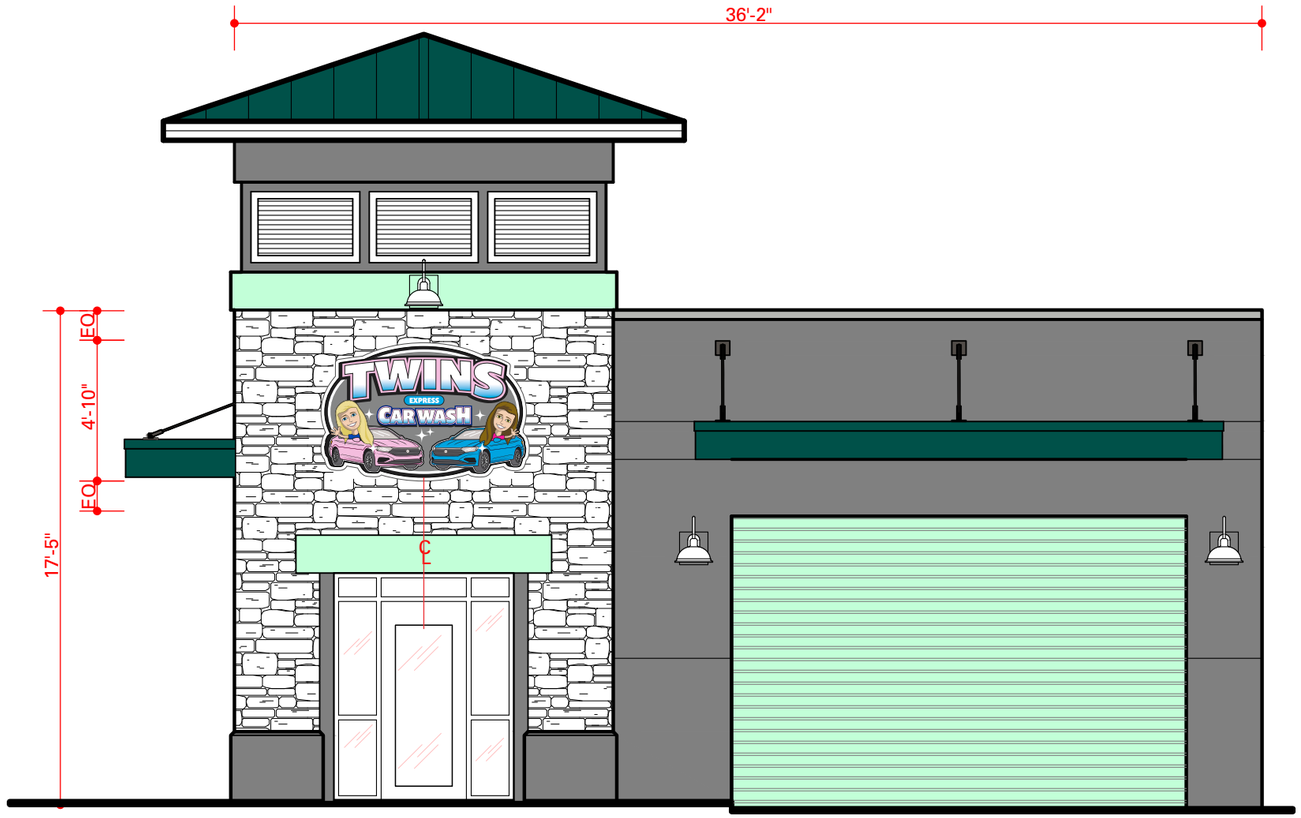
1 CABINET DETAIL
SCALE: 3/4"=1'-0"

ONE (1) SINGLE FACE, INTERNALLY ILLUMINATED WALL SIGN.
35.44 SQUARE FEET
36.16 SQUARE FEET ALLOWED.



2 CABINET SECTION
SCALE: N.T.S.

MATERIAL	DESCRIPTION
M1	CABINET TO HAVE ALUMINUM SIDES & BACK OVER INTERNAL ANGLE, ALL WELDED FRAME. FINISH TO BE SPRAYED WHITE. INSIDE OF CABINET TO BE WHITE.
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3 STREET FRONT BUILDING ELEVATION
SCALE: 3/16"=1'-0"

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8	00-00	NR

Sales Person:
WILL GRIFFIN

Scale:
AS NOTED

Drawn by:
O. BARNITZ

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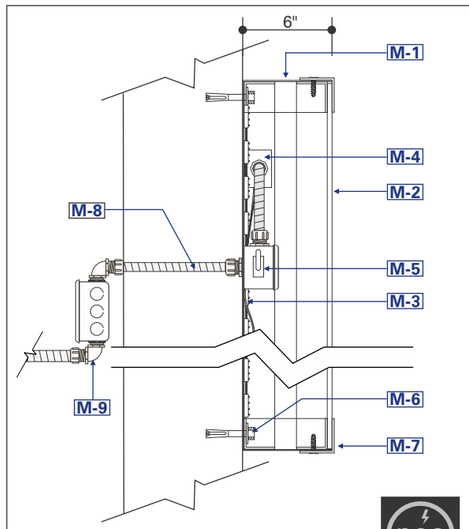
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SHEET NO. 102



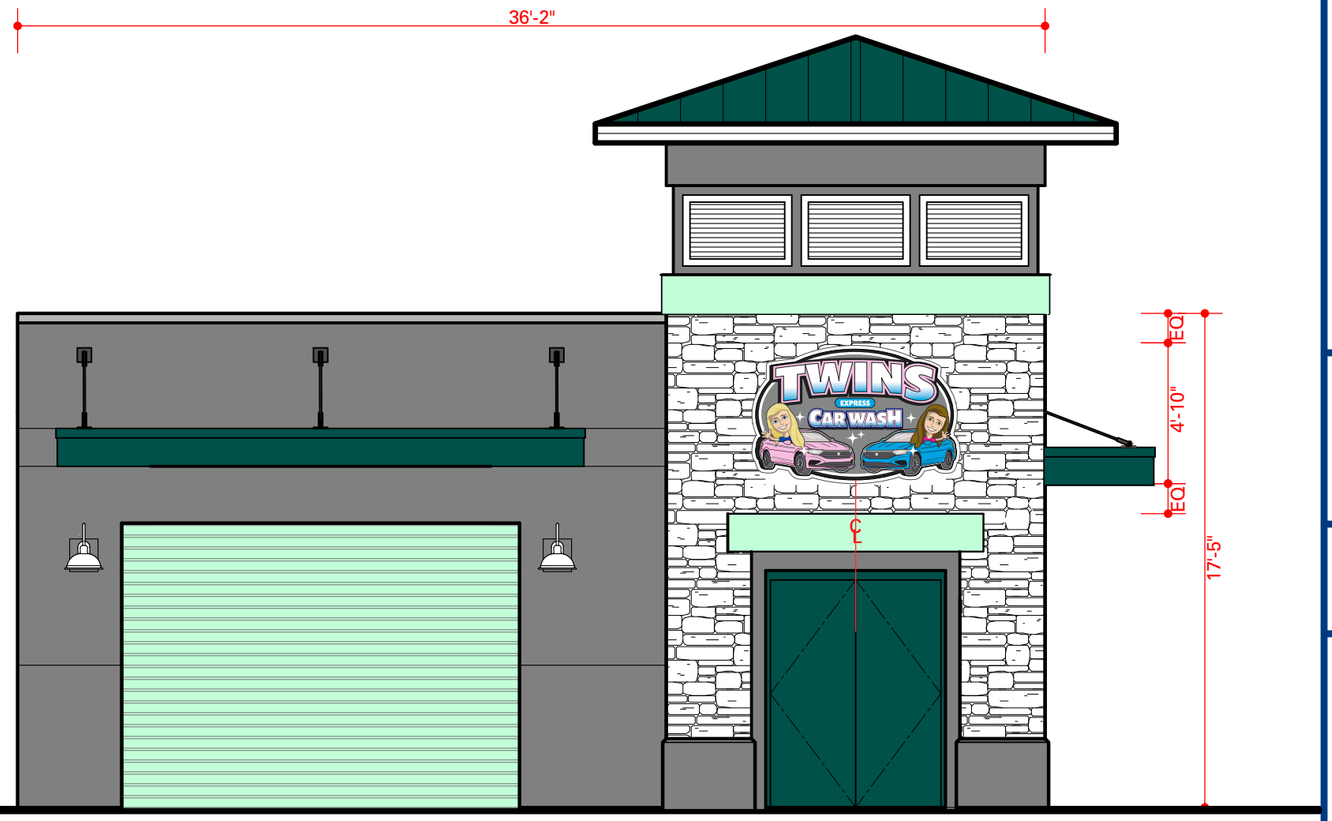
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SCALE: 3/4"=1'-0"

ONE (1) SINGLE FACE, INTERNALLY ILLUMINATED WALL SIGN.
35.44 SQUARE FEET
36.16 SQUARE FEET ALLOWED.



2 CABINET SECTION
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M8	½" CONDUIT.
M9	J-BOX AND PRIMARY ELECTRICAL LEADS, POWER TO SIGN BY OTHERS.



3 BACKSIDE BUILDING ELEVATION
SCALE: 3/16"=1'-0"

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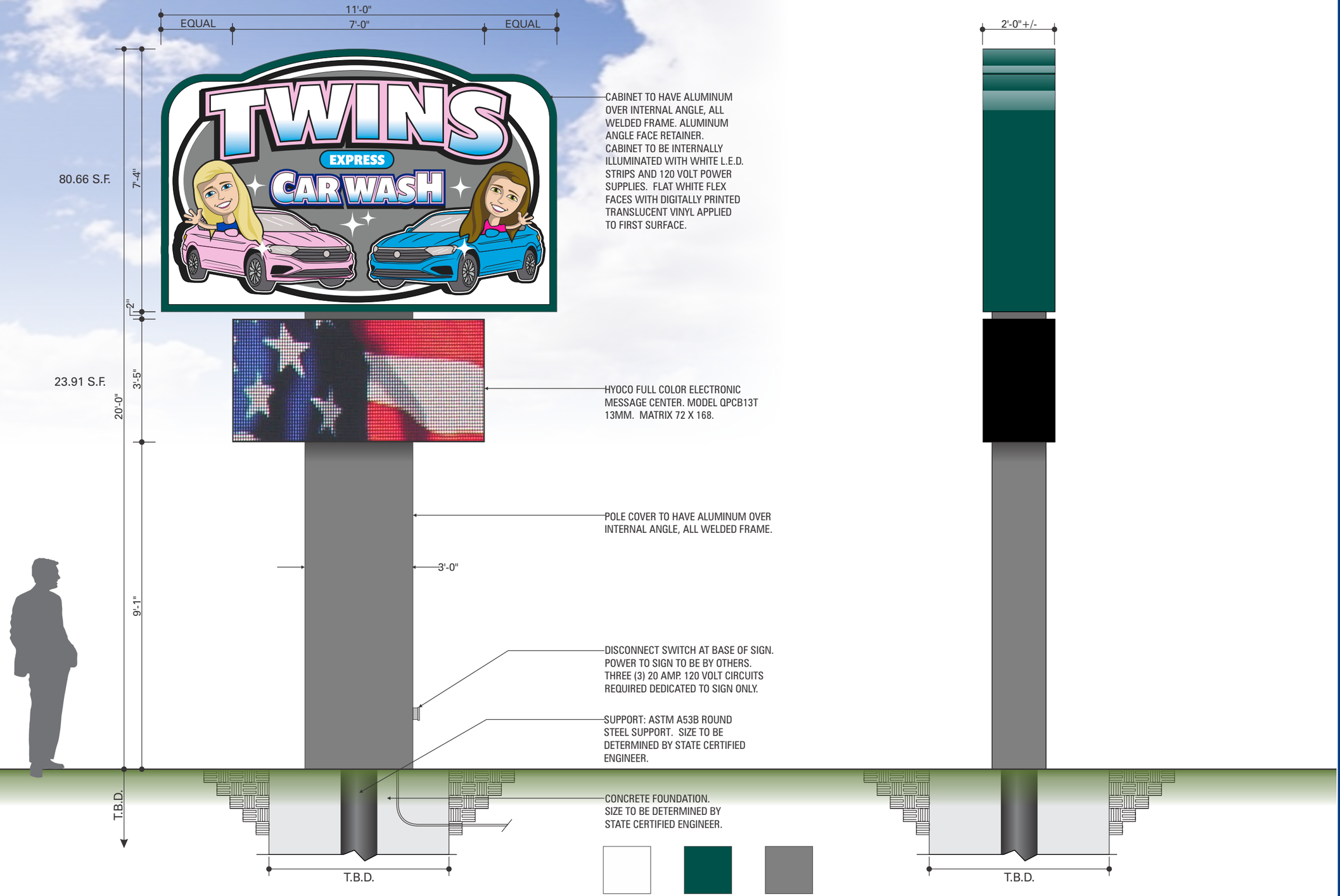
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O. BARNITZ

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LISTED MET US E:212429
2017
SIGN MUST BE GROUNDED IN COMPLIANCE WITH ARTICLE 600 OF THE NATIONAL ELECTRIC CODE.

SHEET NO. 103



1 *PYLON FRONT ELEVATION*
SCALE: 3/8"=1'-0"

2 *PYLON SIDE ELEVATION*
SCALE: 3/8"=1'-0"

ONE (1) NEW DOUBLE FACE, INTERNALLY ILLUMINATED PYLON SIGN.
104.57 SQUARE FEET.

INTERNATIONAL C & C CORPORATION
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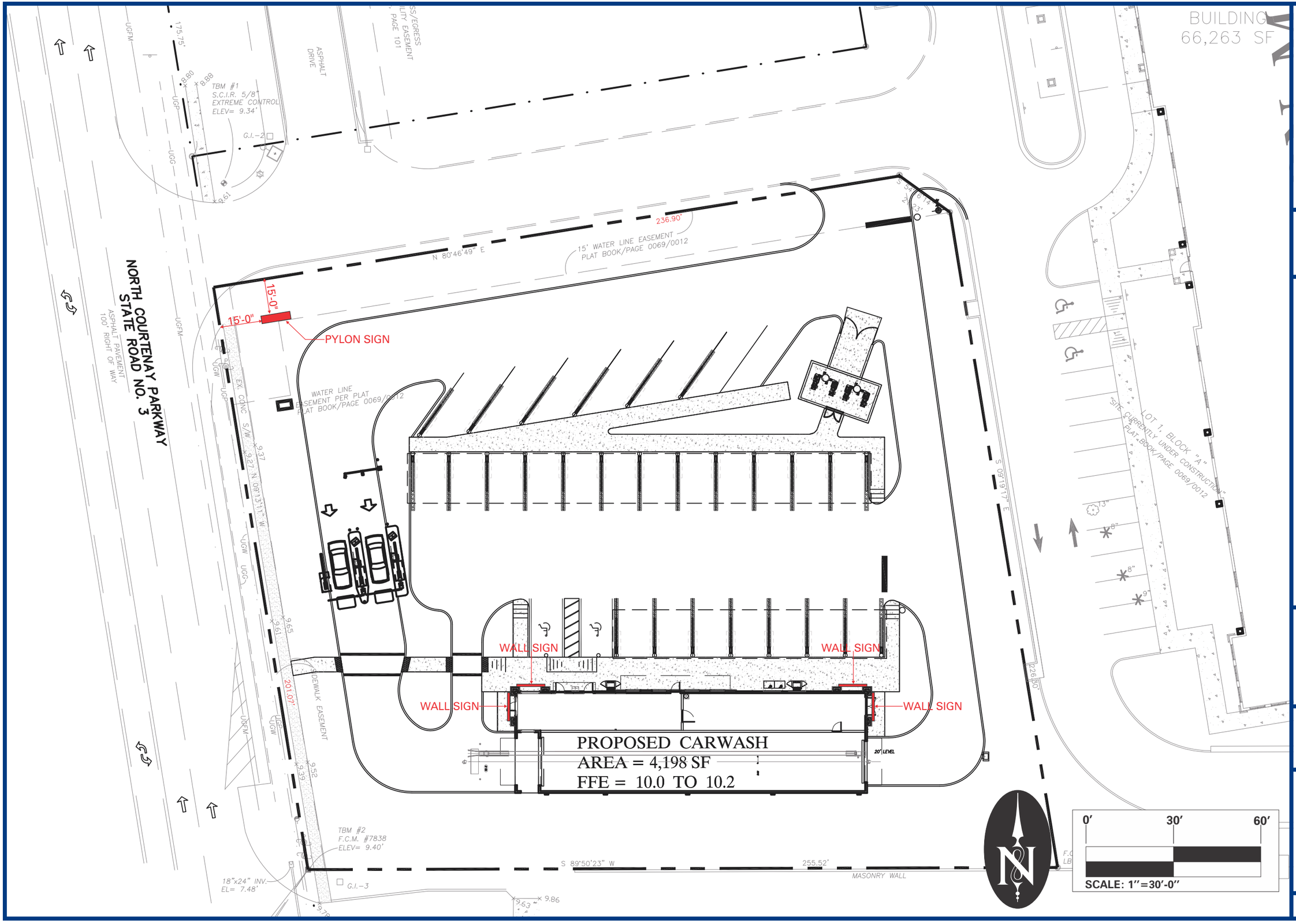
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SIGNS WILL COMPLY TO FLORIDA BUILDING CODE 2020 (7TH EDITION)
PRIMARY ELECTRICAL POWER TO SIGN TO BE BY OTHERS. ALL POWER TO BE 120 VOLT UNLESS OTHERWISE STATED.
ELECTRICAL TO USE U.L. LISTED COMPONENTS AND SHALL MEET ALL N.E.C. STANDARDS
E212429
2017
SIGN MUST BE GROUNDED IN COMPLIANCE WITH ARTICLE 600 OF THE NATIONAL ELECTRIC CODE.

SHEET NO. 104



INTERNATIONAL C & C CORPORATION
DBA: SIGN X-PRESS

INTERNATIONAL Sign FLORIDA

10831 Canal Street
Largo, FL 33777
1-727-541-5573
Fax: 1-727-544-7745
LIC. #ES 12000419
www.IntlSign.com

Client:
TWINS CAR WASH
2230 N. COURTENAY PKWY
BREVARD COUNTY, FL.

Date:
JANUARY 19, 2022

Drawing Number:
A22132-50-BREVARD CO FL

Revisions:

	DATE:	DESCRIPTION:
1	00-00	NR
2	00-00	NR
3	00-00	NR
4	00-00	NR
5	00-00	NR
6	00-00	NR
7	00-00	NR
8	00-00	NR

Sales Person:
WILL GRIFFIN

Scale:
AS NOTED

Drawn by:
O. BARNITZ

CLIENT/LANDLORD APPROVAL
☐ APPROVED
☐ APPROVED AS NOTED
☐ REVISE AND RESUBMIT

Signature: _____

Title: _____

Date: _____

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SIGNS WILL COMPLY TO FLORIDA BUILDING CODE 2020 (7TH EDITION)

PRIMARY ELECTRICAL POWER TO SIGN TO BE BY OTHERS. ALL POWER TO BE 120 VOLT UNLESS OTHERWISE STATED.

LISTED MET US E212429 — ELECTRICAL TO USE U.L. LISTED COMPONENTS AND SHALL MEET ALL N.E.C. STANDARDS — nec 2017

SIGN MUST BE GROUNDED IN COMPLIANCE WITH ARTICLE 600 OF THE NATIONAL ELECTRIC CODE.

SHEET NO. 105

THE SUNRISE CITY
FORT PIERCE
Florida

DPCR Submittal Package may be emailed to:

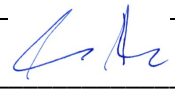
dpcr@cityoffortpierce.com

DEVELOPMENT PERMIT COMPLIANCE REVIEW APPLICATION

(This is NOT an application for Building Permit)

Office Use Only: DPCR#	Project Name: **TWIN'S CAR WASH -FT PIERCE**	
Property Address: **5340 S. US HWY. 1, FORT PIERCE FL**		
Owner Name: **DAN BRAINARD, TWIN'S CARWASH WASH -FT PIERCE**	Parcel ID #: **3403-433-0008-000-2**	
Email: **rcaito@creativeconvenience.com**	Phone Number: **8136499561**	
Applicant's Name: **RAVI ALUR, AUTHORIZED AGENT, ASPIRE ENGINEERING INC.**		
Applicant's Mailing Address: **1023 PROFESSIONAL PARK DRIVE**		
City: **FORT LAUDERDALE**	State: **FL**	Zip: **33316**
Email: **aspireeng@yahoo.com**	Phone Number: **(813) 571-2850**	
Architect/Engineer: **RAVI ALUR, P.E., LEED AP, ASPIRE ENGINEERING INC.**		
Email: **aspireeng@yahoo.com**	Phone Number: **(813) 571-2850**	
Description of Work: **CONSTRUCT 4,930 SF AUTOMATED CAR WASH WITH VACUUMS**		
	Construction Value: **$900,000**	
Total Square feet of building: **4930**	Number of Stories: **1**	Occupancy Group: **COMMERCIAL**

THIS IS NOT AN APPLICATION FOR BUILDING PERMIT



Signature of Applicant

9/4/22

Date

RAVI ALUR

Print Name

For Office Use Only:		
Received by:	Date Received:	Total Fee Amount: Cash Credit Check

DRAINAGE CALCULATIONS

FOR

TWIN'S CARWASH –FT PIERCE
CITY OF FT PIERCE, FLORIDA

AUGUST 2022

Prepared By
Aspire Engineering, Inc.
1023 Professional Park Drive
Brandon, FL 33511
Phone: (813) 571-2850
Fax: (813) 571-1753
E-mail: aspireeng@yahoo.com

TABLE OF CONTENTS

I	INTRODUCTION
II	PRE-DEVELOPED BASIN ANALYSIS
III	POST-DEVELOPED BASIN ANALYSIS
IV	CONCLUSIONS
V	FIGURES
VI	POND STAGE-STORAGE & WATER QUALITY DRAWDOWN CALCULATION
VII	ICPR REPORT
VIII	GEOTECHNICAL REPORT
IX	WARRANTY DEED/CONTRACT FOR SALE

INTRODUCTION

INTRODUCTION

Twin's Carwash –Ft Pierce is located in Section 03, Township 36 South and Range 43 East at 5340 N US Hwy 1 as shown on Figures 1 through 3. The site is currently vacant. The total site area is 2.25 acres and there are no wetlands on the site.

The site is in the Flood Zone "X" as shown on Figure 4.

PRE-DEVELOPED BASIN ANALYSIS

PRE-DEVELOPED BASIN ANALYSIS

In the pre-developed condition, existing TOPO (figure 5), portion of the site drains to back to Existing North St. Luice River Water Control District Canal (NSLRWCD). The time of concentration was assumed to be 10.

EXISTING AREA DRAINING TO NSLRWCD CANAL CN:

PRE CN = 84.0

POST-DEVELOPED BASIN ANALYSIS

POST-DEVELOPED BASIN ANALYSIS

The proposed water management system is being routed through dry pond. The pond discharges to the NSLRWCD canal on the West Side of the property through Control Structure. See Figure 6 for post drainage area.

Note that the SHGW and infiltration rates were taken from the attached Geotechnical Report. The Seasonal High ground water was set at 7.0. The infiltration rate was set at 5.61 ft/day (average of 2 –DRIs inside the pond area).

CN CALCULATIONS FOR POST FDOT ANALYSIS:

ITEM	AREA (SF)	CN
Asphalt /Bldg.	53,200	98
Grass	27,446	80
Pond	17,377	100

POST CN = 93.3

WATER QUALITY:

Water Quality Treatment Required (Per SFWMD) = 75% of the (max of 1" or 2.5"*percent Impervious) = 0.75*2.5*1.22 = 2.3"

Water Quality Volume = 2.3"*98,023 SF *1/12 = 18,788 CF –provided at Elevation=10.66

Please see attached drawdown calculations showing the 1st inch Water Quality drawdown within 36 hours.

Note that the Site is NOT in the impaired water quality basin.

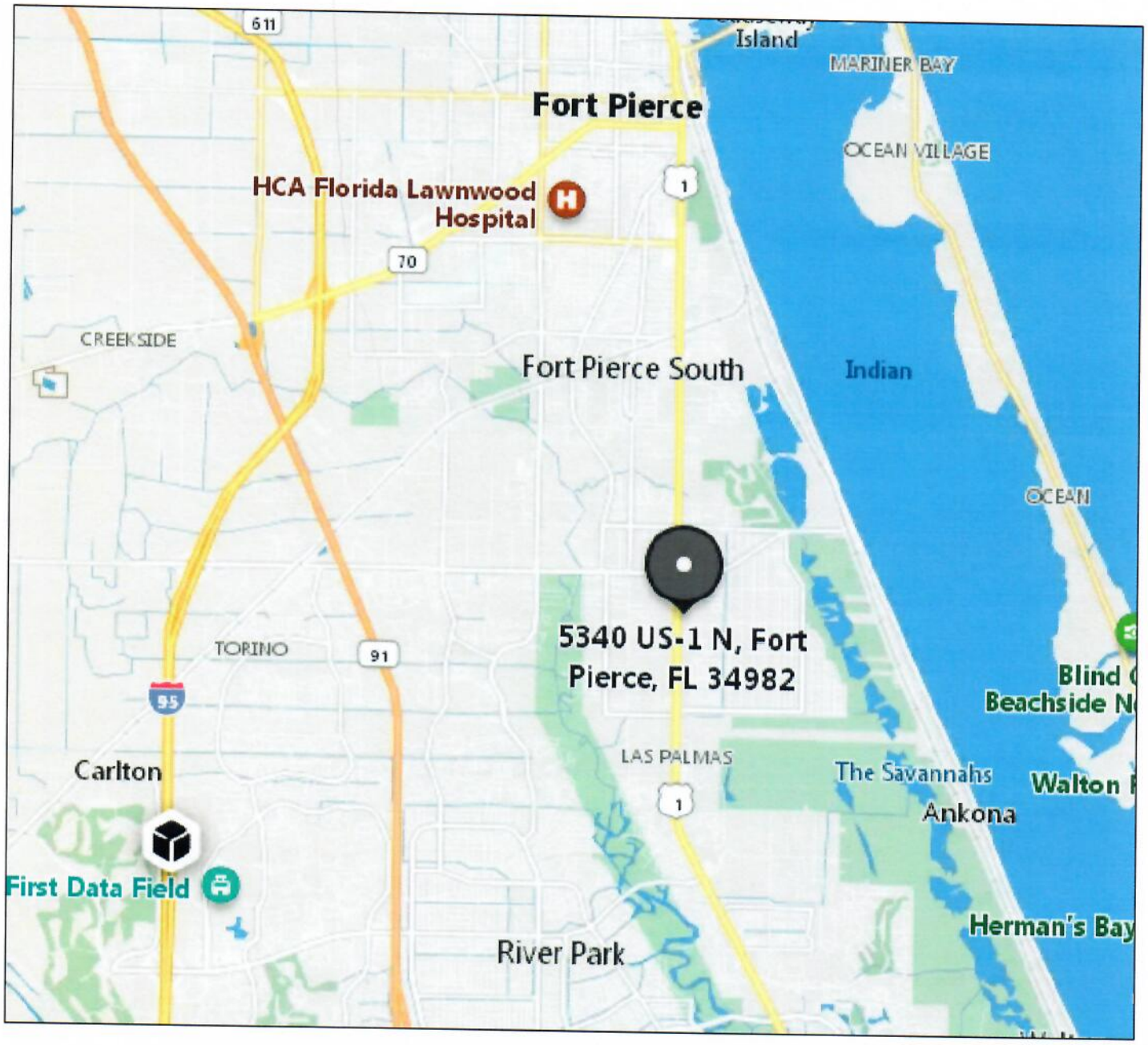
CONCLUSIONS

CONCLUSIONS

The project has been designed to meet the SFWMD, NSLRWCD and City of Ft Pierce requirements. Below is the table showing the peak flows and peak stages in the pond.

STORM	PRE PEAK FLOW (CFS)	POST PEAK FLOW (CFS)	POST STAGE
10 YR – 1 HR	6.8	3.1	11.63
10 YR -1 DAY	1.13	0.05	10.72
25 YR -3 DAY	1.02	0	10.66
100 YR -3 DAY	1.34	0	10.66

FIGURES



Ravi S.V. Alur
FL. ENG. REG'N # 50583

ASPIRE ENGINEERING, INC.
CONSULTING ENGINEERS . PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

FIGURE 1. LOCATION MAP
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS



Ravi S.V. Alur
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FIGURE 2. AERIAL MAP
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
OTHER AREAS OF FLOOD HAZARD
OTHER AREAS
GENERAL STRUCTURES
OTHER FEATURES
MAP PANELS

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/8/2022 at 7:44 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Ravi S.V. Alur
FL. ENG. REG'N # 50583

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FIGURE 3. FEMA MAP
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS



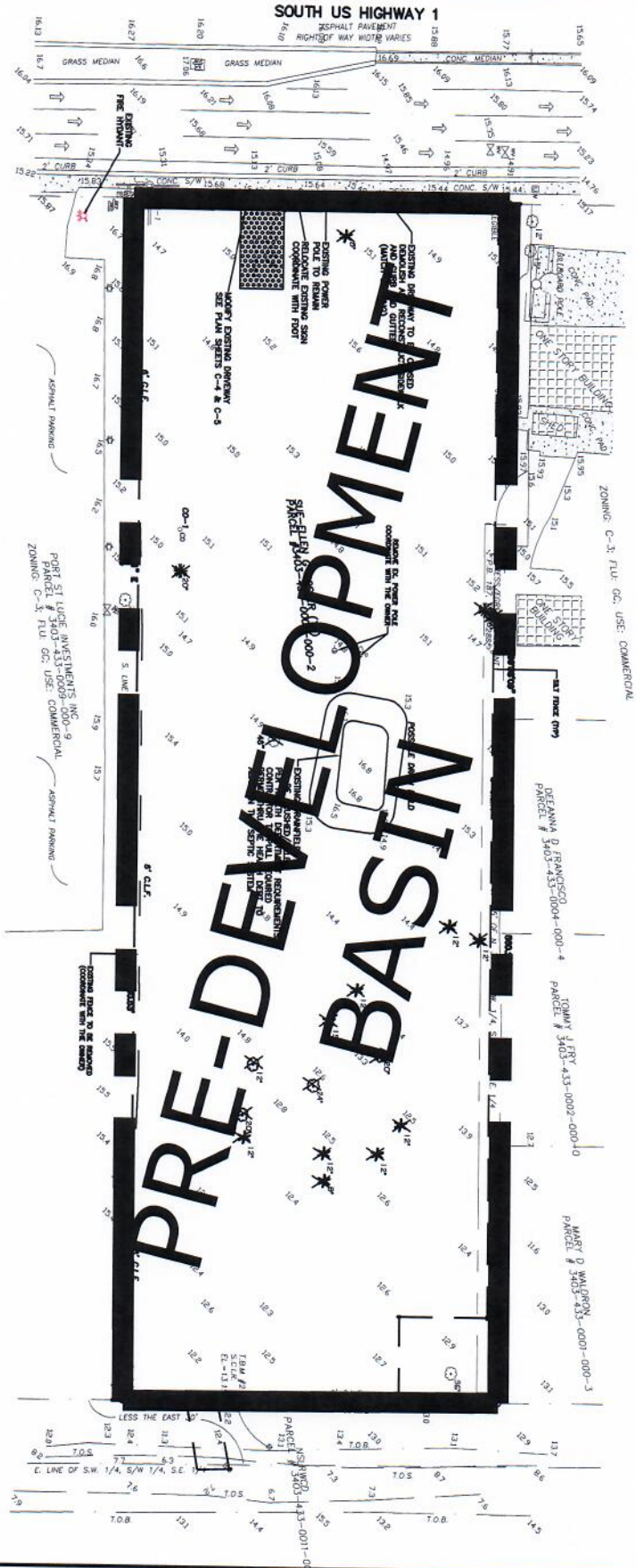
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Ankona and Farmton sands	1.7	62.9%
4	Arents, 0 to 5 percent slopes	0.0	0.4%
25	Nettles and Oldsmar sands	0.0	0.8%
43	Susanna and Wauchula sands	0.0	0.6%
48	Wabasso sand, 0 to 2 percent slopes	1.0	35.4%
Totals for Area of Interest		**2.7**	**100.0%**

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FIGURE 4. SCS MAP
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS



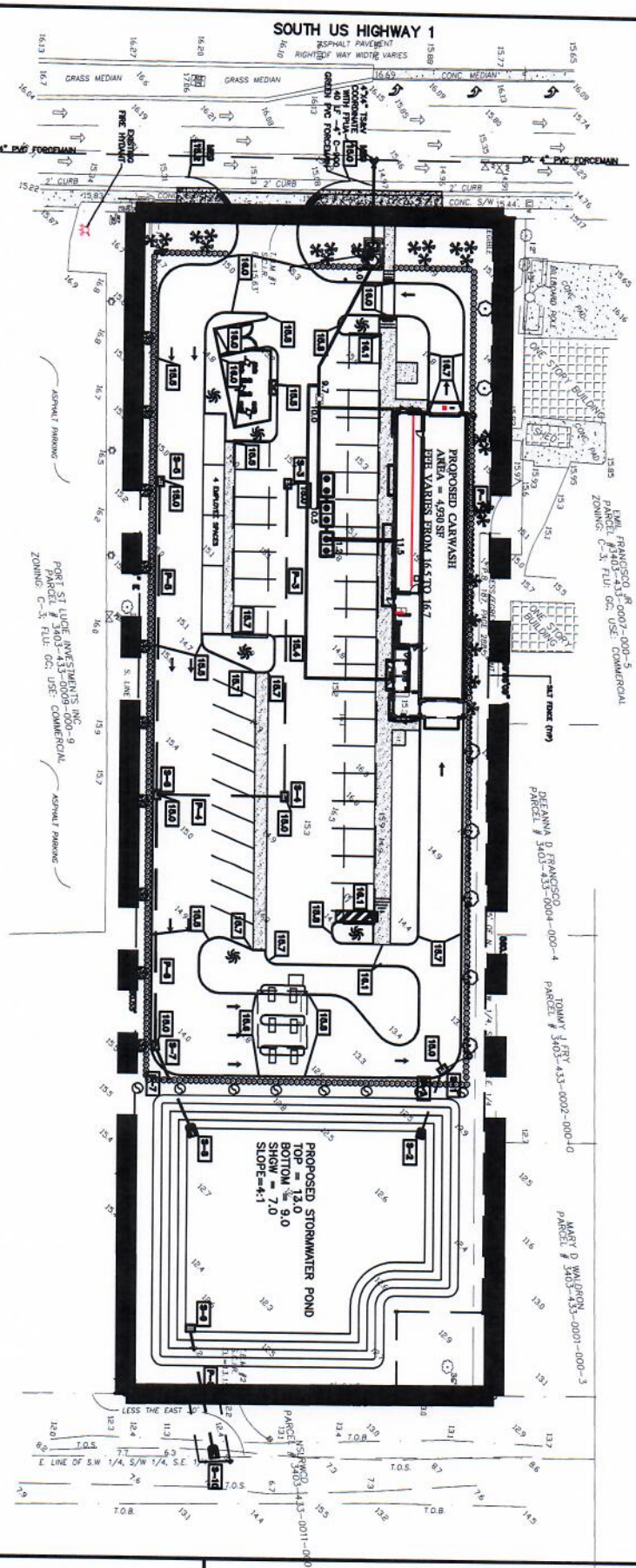
SCALE: NTS

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FIGURE 5. PRE-DEV BASIN
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS



SCALE: NTS

Ravi S.V. Alur
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FIGURE 6. POST-DEV BASIN
TWIN'S CARWASH -FT PIERCE

PROJECT #	22-017
DATE:	08/15/2022
SCALE:	NTS

POND STAGE STORAGE AND WATER QUALITY DRAWDOWN CALCULATIONS

LICENSED TO: ASPIRE ENGINEERING, INC.
STAGE - STORAGE

PROJECT NAME	TWIN'S CARWASH -FT PIERCE
PROJECT NUMBER	22-017
DESIGNER	RA
DATE	08/14/22

COMMENTS: SUBMIT TO CITY OF FT PIERCE AND NSLRWCD

AREA @ T.O.B.	17377	EL.....	13.00
AREA @ DHW	16427	EL.....	12.50
AREA @ DLW	12929	EL.....	10.66
AREA @ BOTTOM\NWL	9773	EL.....	9.00

STAGE	AREA SQ\FT	VOLUME CU\FT	STAGE	AREA SQ\FT	VOLUME CU\FT
9.00	9773	0	11.04	13650	23882
9.08	9922	772	11.12	13799	24958
9.16	10071	1556	11.20	13948	26046
9.24	10220	2352	11.27	14097	27146
9.31	10369	3160	11.35	14246	28258
9.39	10518	3979	11.43	14395	29381
9.47	10668	4810	11.51	14544	30516
9.55	10817	5652	11.59	14693	31662
9.63	10966	6506	11.67	14842	32820
9.71	11115	7372	11.75	14991	33990
9.78	11264	8250	11.82	15141	35172
9.86	11413	9139	11.90	15290	36365
9.94	11562	10040	11.98	15439	37570
10.02	11711	10953	12.06	15588	38787
10.10	11860	11877	12.14	15737	40016
10.18	12009	12813	12.22	15886	41256
10.25	12159	13761	12.29	16035	42507
10.33	12308	14720	12.37	16184	43771
10.41	12457	15692	12.45	16333	45046
10.49	12606	16674	12.53	16482	46333
10.57	12755	17669	12.61	16632	47632
10.65	12904	18675	12.69	16781	48942
10.73	13053	19693	12.76	16930	50264
10.80	13202	20723	12.84	17079	51598
10.88	13351	21764	12.92	17228	52943
10.96	13500	22817	13.00	17377	54300

SUMMARY

ATTENUATION VOLUME	27007	CU\FT
DER RETENTION VOLUME	18842	CU\FT
TOTAL VOLUME	45849	CU\FT

|::

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : TWIN'S CARWASH -FT PIERCE
POLLUTION VOLUME RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	9,773.00 ft²
Pond Volume between Bottom & DHWL	18,788.00 ft³
Pond Length to Width Ratio (L/W)	2.00
Elevation of Effective Aquifer Base	-8.00 ft
Elevation of Seasonal High Groundwater Table	7.00 ft
Elevation of Starting Water Level	9.00 ft
Elevation of Pond Bottom	9.00 ft
Design High Water Level Elevation	10.66 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.16
Unsaturated Vertical Hydraulic Conductivity	5.61 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	8.41 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.22
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: TWIN'S CARWASH -FT PIERCE

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft^3)
Unsat	0.00	0.00
1	1.00	18,788.00
2	8.88	0.00
3	8.88	0.00
4	8.88	0.00
5	8.88	0.00
6	8.88	0.00
7	8.88	0.00
8	8.88	0.00
9	8.88	0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : TWIN'S CARWASH -FT PIERCE

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.00	7.000	0.000 *		
			0.00000	
0.00	7.000	0.21934		
			0.21023	
1.00	10.593	0.20112		0.00
			0.12031	
9.88	10.253	0.09918		0.00
			0.07804	
18.75	10.033	0.06751		0.00
			0.05698	
27.63	9.872	0.05111		0.00
			0.04524	
36.50	9.745	0.04155		0.00
			0.03786	
45.38	9.638	0.03532		0.00
			0.03277	
54.25	9.545	0.03089		0.00
			0.02901	
63.13	9.463	0.02756		0.00
			0.02610	
72.00	9.390			0.00

Maximum Water Elevation: 10.593 feet @ 1.00 hours
Recovery @ > 72.000 hours
* Time increment when there is no runoff
Maximum Infiltration Rate: 1.605 ft/day

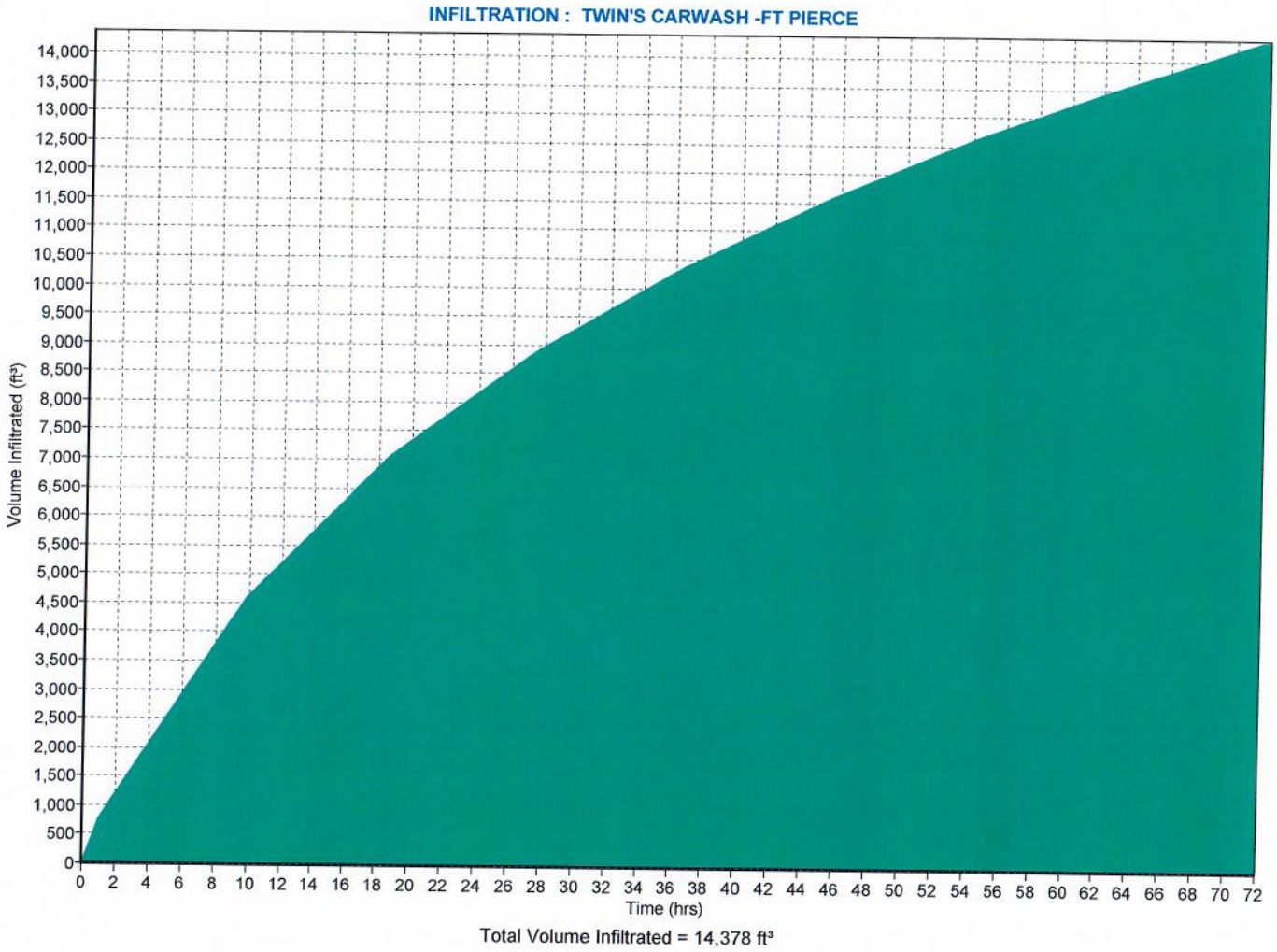
MODRET

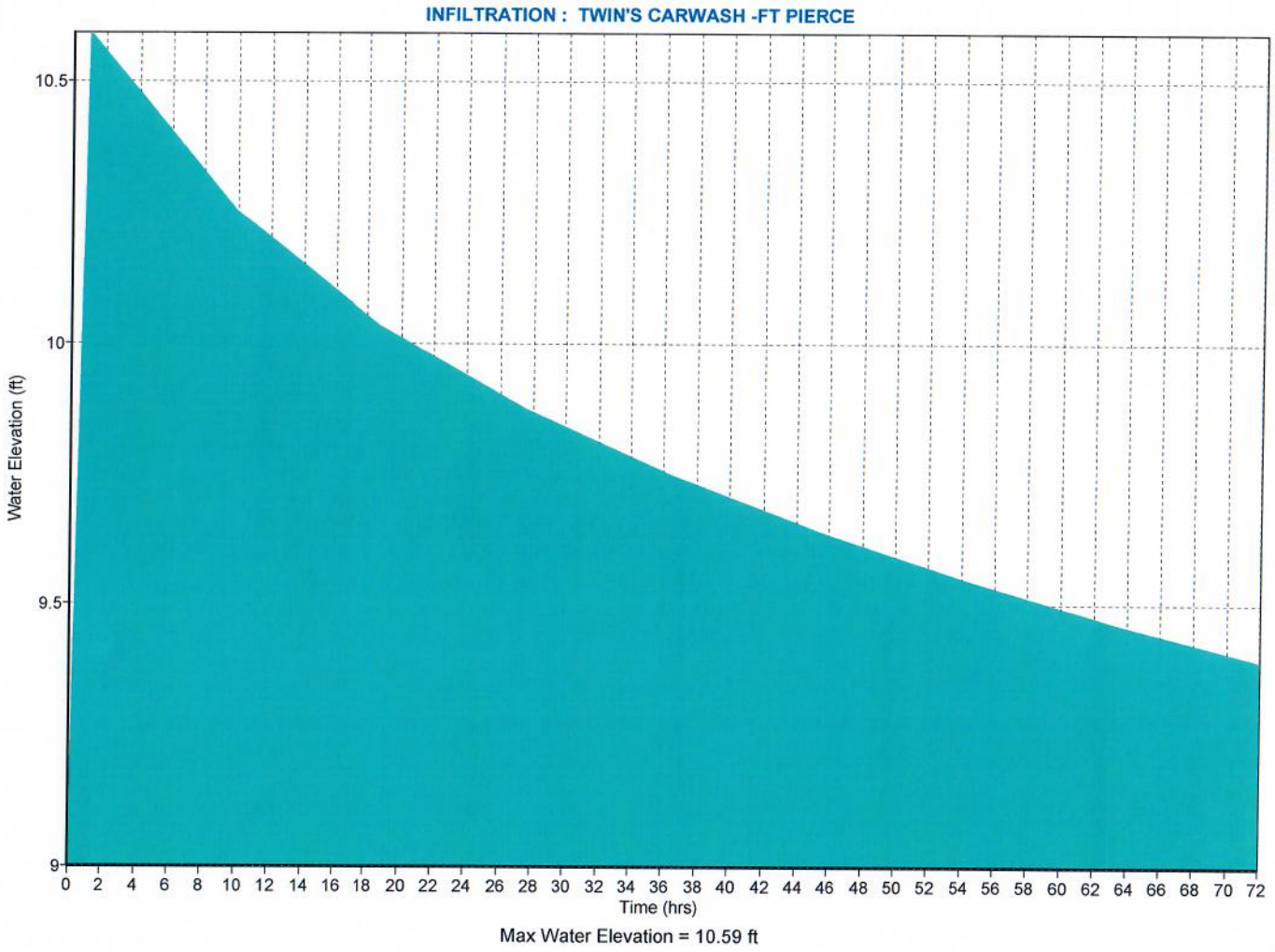
SUMMARY OF RESULTS

PROJECT NAME : TWIN'S CARWASH -FT PIERCE

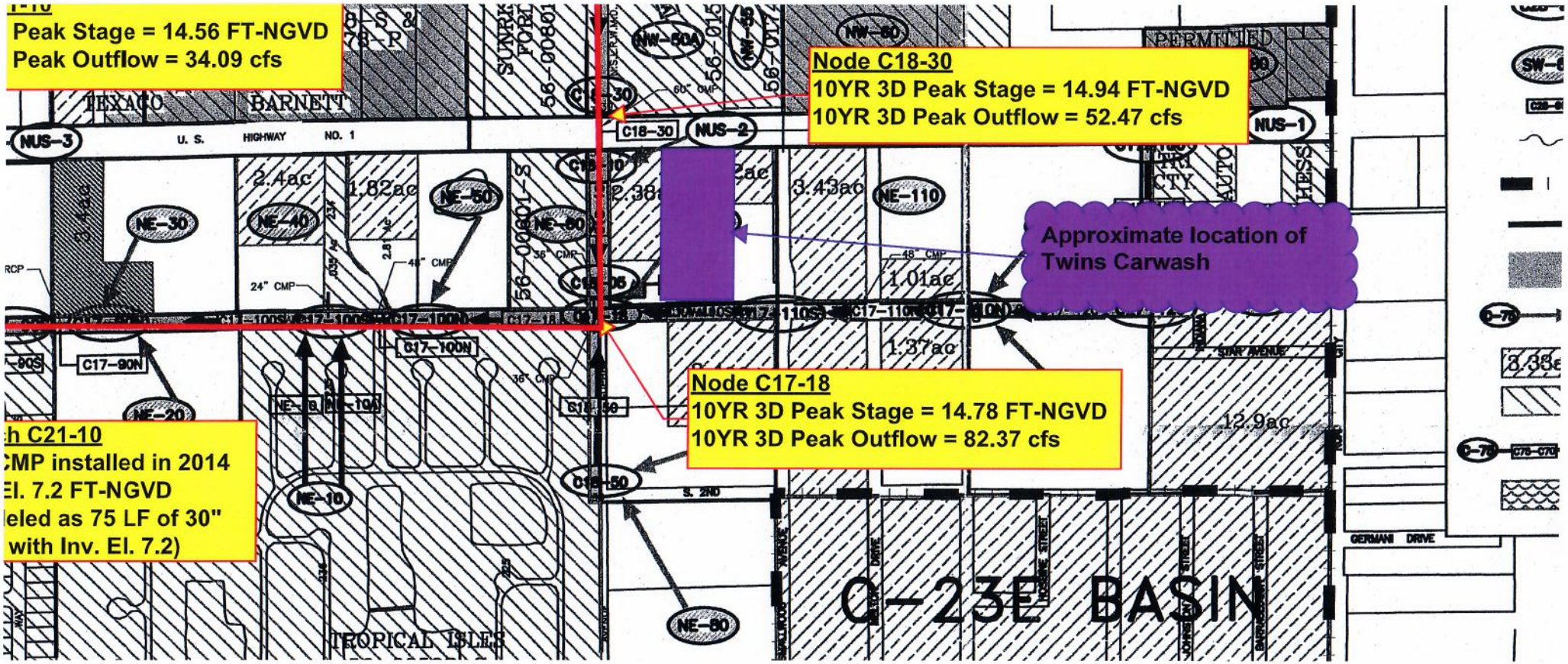
CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.00	7.000	0.000 *		
			0.00000	
0.00	7.000	0.21934		
			0.21023	
1.00	10.593	0.20112		0.00
			0.12031	
9.88	10.253	0.09918		0.00
			0.07804	
18.75	10.033	0.06751		0.00
			0.05698	
27.63	9.872	0.05111		0.00
			0.04524	
36.50	9.745	0.04155		0.00
			0.03786	
45.38	9.638	0.03532		0.00
			0.03277	
54.25	9.545	0.03089		0.00
			0.02901	
63.13	9.463	0.02756		0.00
			0.02610	
72.00	9.390			0.00

Maximum Water Elevation: 10.593 feet @ 1.00 hours
Recovery @ > 72.000 hours
* Time increment when there is no runoff
Maximum Infiltration Rate: 1.605 ft/day


INFILTRATION : TWIN'S CARWASH -FT PIERCE
Volume Infiltrated (ft³)
14,000
13,500
13,000
12,500
12,000
11,500
11,000
10,500
10,000
9,500
9,000
8,500
8,000
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hrs)
Total Volume Infiltrated = 14,378 ft³


INFILTRATION : TWIN'S CARWASH -FT PIERCE
Water Elevation (ft)
10.5
10
9.5
9
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hrs)
Max Water Elevation = 10.59 ft

ICPR REPORT


Peak Stage = 14.56 FT-NGVD
Peak Outflow = 34.09 cfs
Node C18-30
10YR 3D Peak Stage = 14.94 FT-NGVD
10YR 3D Peak Outflow = 52.47 cfs
Approximate location of Twins Carwash
Node C17-18
10YR 3D Peak Stage = 14.78 FT-NGVD
10YR 3D Peak Outflow = 82.37 cfs
h C21-10
CMP installed in 2014
El. 7.2 FT-NGVD
leled as 75 LF of 30"
with Inv. El. 7.2)
C-23E BASIN
TEXACO
BARNETT
U. S. HIGHWAY NO. 1
TROPICAL ISLES
PERMITTED
NUS-1
NUS-2
NUS-3
NE-10
NE-20
NE-30
NE-40
NE-50
NE-60
NE-110
NW-50A
C17-90N
C17-100N
C17-110S
C18-30
2.4ac
1.82ac
3.43ac
1.01ac
1.37ac
12.9ac
24" CMP
36" CMP
48" CMP
60" CMP
RCP
S. 2ND
STAR AVENUE
GERMANI DRIVE

```
================================================================================
==== Basins ====================================================================
================================================================================

         Name: Post Basin              Node: POND                   Status: Onsite
        Group: Post Developmen         Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                  Peaking Factor: 256.0
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 2.250                   Time Shift(hrs): 0.00
          Curve Number: 93.30               Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------
         Name: Pre Basin               Node: PreTail                Status: Onsite
        Group: Pre Development         Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                  Peaking Factor: 256.0
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 2.250                   Time Shift(hrs): 0.00
          Curve Number: 84.00               Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00



================================================================================
==== Nodes =====================================================================
================================================================================

      Name: POND               Base Flow(cfs): 0.000          Init Stage(ft): 10.660
     Group: Post Developmen                                   Warn Stage(ft): 12.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
          9.000          0.2200
         10.000          0.2700
         11.000          0.3100
         12.000          0.3600
         13.000          0.4000

--------------------------------------------------------------------------------
      Name: PostTail           Base Flow(cfs): 0.000          Init Stage(ft): 7.000
     Group: Post Developmen                                   Warn Stage(ft): 12.000
      Type: Time/Stage

60

      Time(hrs)       Stage(ft)
```

0.00	7.000
59.00	13.330
72.00	7.000

Name: PreTail Base Flow(cfs): 0.000 Init Stage(ft): 7.000
Group: Pre Development Warn Stage(ft): 12.000
Type: Time/Stage

60

Time(hrs)	Stage(ft)
0.00	7.000
59.00	13.330
72.00	7.000

Cross Sections

Name: Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N

Operating Tables

Name: Group: BASE
Type: Bottom Clip
Function: Time vs. Depth of Clip

Time(hrs)	Clip Depth(in)

Channels

Name: From Node: Length(ft): 0.00
Group: BASE To Node: Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Friction Equation:	Average Conveyance
Invert(ft):	0.000	0.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:	0.000000	0.000000	Contraction Coef:	0.000
Top Clip(ft):	0.000	0.000	Expansion Coef:	0.000
			Entrance Loss Coef:	0.000

```
  Bot Clip(ft): 0.000          0.000                        Exit Loss Coef: 0.000
     Main XSec:                                          Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                           Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 0.000          0.000
  LtSdSlp(h/v): 0.00           0.00
  RtSdSlp(h/v): 0.00           0.00


================================================================================
==== Drop Structures ===========================================================
================================================================================

         Name: DROPSTR1            From Node: POND              Length(ft): 65.00
        Group: Post Developmen       To Node: PostTail                 Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
    Invert(ft): 8.200         8.000                        Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


*** Weir 1 of 1 for Drop Structure DROPSTR1 ***
                                                                          TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
               Geometry: Rectangular          Orifice Disc Coef: 0.600

               Span(in): 12.00                       Invert(ft): 10.660
               Rise(in): 22.08                  Control Elev(ft): 10.660


================================================================================
==== Weirs =====================================================================
================================================================================

         Name:                     From Node:
        Group: BASE                  To Node:
         Flow: Both                     Count: 1
```

```
         Type: Horizontal           Geometry: Circular

                    Span(in): 0.00
                    Rise(in): 0.00
                  Invert(ft): 0.000
       Control Elevation(ft): 0.000
                                          TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 3.200
        Orifice Discharge Coef: 0.600



================================================================================================
==== Rating Curves ============================================================================
================================================================================================

         Name:                      From Node:                          Count: 1
        Group: BASE                   To Node:                           Flow: Both

              TABLE           ELEV ON(ft)     ELEV OFF(ft)
            #1:               0.000           0.000
            #2:               0.000           0.000
            #3:               0.000           0.000
            #4:               0.000           0.000



================================================================================================
==== Hydrology Simulations ====================================================================
================================================================================================

         Name: 100Y3D
     Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\100Y3D.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 12.23

Time(hrs)       Print Inc(min)
--------------- ---------------
73.000          5.00

------------------------------------------------------------------------------------------------
         Name: 10Y1D
     Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\10Y1D.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 6.00

Time(hrs)       Print Inc(min)
--------------- ---------------
```

25.000 5.00

Name: 10Y1H
Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\10Y1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 3.20

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 25Y3D
Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\25Y3D.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 9.50

Time(hrs)	Print Inc(min)
73.000	5.00

==========
==== Routing Simulations ==========
==========

Name: 100Y3D Hydrology Sim: 100Y3D
Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\100Y3D.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
72.000	15.000

Group	Run
Post Developmen	Yes

```
         Name: 10Y1D              Hydrology Sim: 10Y1D
     Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\10Y1D.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000

Group           Run
--------------- -----
Post Developmen Yes


-------------------------------------------------------------------------------------------------
         Name: 10Y1H              Hydrology Sim: 10Y1H
     Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\10Y1H.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 1.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000

Group           Run
--------------- -----
Post Developmen Yes


-------------------------------------------------------------------------------------------------
         Name: 25Y3D              Hydrology Sim: 25Y3D
     Filename: C:\Aspire Engineering, Inc\Projects\2022 Projects\22-017 -Twins Car Wash - Ft. Pierce\Drainage\25Y3D.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
```

```
        Start Time(hrs): 0.000                   End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          15.000

Group           Run
--------------- -----
Post Developmen Yes
```

TWIN'S CARWASH -FT PIERCE -BASIN MAX

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100Y3D	Post	BasinPost Developmen	59.98	1.368	11.405	93147.622
100Y3D	Pre	BasinPre Development	59.98	1.337	10.205	83346.104
10Y1D	Post	BasinPost Developmen	12.00	1.307	5.215	42593.032
10Y1D	Pre	BasinPre Development	12.00	1.127	4.195	34263.340
10Y1H	Post	BasinPost Developmen	0.64	9.588	2.474	20206.934
10Y1H	Pre	BasinPre Development	0.67	6.798	1.682	13735.900
25Y3D	Post	BasinPost Developmen	59.98	1.060	8.687	70947.006
25Y3D	Pre	BasinPre Development	59.98	1.022	7.541	61589.762

```
            Basin Name: Post Basin
            Group Name: Post Developmen
            Simulation: 100Y3D
             Node Name: POND
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-72
   Rainfall Amount (in): 12.230
   Storm Duration (hrs): 72.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 93.300
               DCIA (%): 0.000

         Time Max (hrs): 59.98
         Flow Max (cfs): 1.368
     Runoff Volume (in): 11.405
    Runoff Volume (ft3): 93147.622


--------------------------------------------------------------------------------

            Basin Name: Pre Basin
            Group Name: Pre Development
            Simulation: 100Y3D
             Node Name: PreTail
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-72
   Rainfall Amount (in): 12.230
   Storm Duration (hrs): 72.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 84.000
               DCIA (%): 0.000

         Time Max (hrs): 59.98
         Flow Max (cfs): 1.337
     Runoff Volume (in): 10.205
    Runoff Volume (ft3): 83346.104


--------------------------------------------------------------------------------

            Basin Name: Post Basin
            Group Name: Post Developmen
            Simulation: 10Y1D
             Node Name: POND
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-24
   Rainfall Amount (in): 6.000
   Storm Duration (hrs): 24.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 93.300
```

```
              DCIA (%): 0.000

         Time Max (hrs): 12.00
         Flow Max (cfs): 1.307
     Runoff Volume (in): 5.215
    Runoff Volume (ft3): 42593.032


-------------------------------------------------------------------------------

             Basin Name: Pre Basin
             Group Name: Pre Development
             Simulation: 10Y1D
              Node Name: PreTail
             Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-24
   Rainfall Amount (in): 6.000
   Storm Duration (hrs): 24.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 84.000
               DCIA (%): 0.000

         Time Max (hrs): 12.00
         Flow Max (cfs): 1.127
     Runoff Volume (in): 4.195
    Runoff Volume (ft3): 34263.340


-------------------------------------------------------------------------------

             Basin Name: Post Basin
             Group Name: Post Developmen
             Simulation: 10Y1H
              Node Name: POND
             Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: FDOT-1
   Rainfall Amount (in): 3.200
   Storm Duration (hrs): 1.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 93.300
               DCIA (%): 0.000

         Time Max (hrs): 0.64
         Flow Max (cfs): 9.588
     Runoff Volume (in): 2.474
    Runoff Volume (ft3): 20206.934


-------------------------------------------------------------------------------

             Basin Name: Pre Basin
             Group Name: Pre Development
             Simulation: 10Y1H
              Node Name: PreTail
             Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
```

```
    Comp Time Inc (min): 1.33
          Rainfall File: FDOT-1
   Rainfall Amount (in): 3.200
   Storm Duration (hrs): 1.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 84.000
               DCIA (%): 0.000

         Time Max (hrs): 0.67
         Flow Max (cfs): 6.798
     Runoff Volume (in): 1.682
    Runoff Volume (ft3): 13735.900


--------------------------------------------------------------------------------

             Basin Name: Post Basin
             Group Name: Post Developmen
             Simulation: 25Y3D
              Node Name: POND
             Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-72
   Rainfall Amount (in): 9.500
   Storm Duration (hrs): 72.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 93.300
               DCIA (%): 0.000

         Time Max (hrs): 59.98
         Flow Max (cfs): 1.060
     Runoff Volume (in): 8.687
    Runoff Volume (ft3): 70947.006


--------------------------------------------------------------------------------

             Basin Name: Pre Basin
             Group Name: Pre Development
             Simulation: 25Y3D
              Node Name: PreTail
             Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh256
          Peaking Fator: 256.0
    Spec Time Inc (min): 1.33
    Comp Time Inc (min): 1.33
          Rainfall File: Fdot-72
   Rainfall Amount (in): 9.500
   Storm Duration (hrs): 72.00
                 Status: Onsite
     Time of Conc (min): 10.00
       Time Shift (hrs): 0.00
              Area (ac): 2.250
   Vol of Unit Hyd (in): 1.000
           Curve Number: 84.000
               DCIA (%): 0.000

         Time Max (hrs): 59.98
         Flow Max (cfs): 1.022
     Runoff Volume (in): 7.541
    Runoff Volume (ft3): 61589.762
```

TWIN'S CARWASH -FT PIERCE -NODE MAX/MIN

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PONDPost	Developmen	100Y3D	0.00	10.660	12.500	0.0000	12911	0.00	0.000	0.00	0.000
PONDPost	Developmen	10Y1D	4.00	10.724	12.500	0.0008	13023	4.00	0.223	4.00	0.052
PONDPost	Developmen	10Y1H	1.00	11.632	12.500	0.0050	14879	0.67	9.580	1.00	3.065
PONDPost	Developmen	25Y3D	0.00	10.660	12.500	0.0000	12911	0.00	0.000	0.00	0.000
PostTailPost	Developmen	100Y3D	4.00	7.429	12.000	0.0018	0	0.00	0.000	0.00	0.000
PostTailPost	Developmen	10Y1D	4.00	7.429	12.000	0.0018	0	4.00	0.052	0.00	0.000
PostTailPost	Developmen	10Y1H	1.00	7.107	12.000	0.0014	0	1.00	3.065	0.00	0.000
PostTailPost	Developmen	25Y3D	4.00	7.429	12.000	0.0018	0	0.00	0.000	0.00	0.000

TWIN'S CARWASH -FT PIERCE -NODE TIME SERIES

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
100Y3D	PONDPost	Developmen	0.00	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	0.26	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	0.50	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	0.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	1.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	1.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	1.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	1.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	2.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	2.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	2.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	2.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	3.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	3.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	3.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	3.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PONDPost	Developmen	4.01	10.660	12.500	12911	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	0.00	7.000	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	0.26	7.028	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	0.50	7.054	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	0.77	7.082	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	1.02	7.109	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	1.27	7.136	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	1.52	7.163	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	1.77	7.189	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	2.02	7.216	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	2.27	7.243	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	2.52	7.270	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	2.77	7.297	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	3.02	7.324	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	3.27	7.350	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	3.52	7.377	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	3.77	7.404	12.000	0	0.000	0.000	0.0	0.0
100Y3D	PostTailPost	Developmen	4.01	7.429	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	0.00	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	0.26	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	0.50	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	0.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	1.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	1.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	1.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	1.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	2.02	10.660	12.500	12912	0.011	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	2.27	10.662	12.500	12915	0.042	0.000	0.0	0.0
10Y1D	PONDPost	Developmen	2.52	10.666	12.500	12922	0.078	0.002	0.0	0.0
10Y1D	PONDPost	Developmen	2.77	10.673	12.500	12933	0.112	0.005	0.0	0.0
10Y1D	PONDPost	Developmen	3.02	10.681	12.500	12948	0.141	0.010	0.0	0.0
10Y1D	PONDPost	Developmen	3.27	10.691	12.500	12965	0.166	0.017	0.0	0.0
10Y1D	PONDPost	Developmen	3.52	10.701	12.500	12983	0.188	0.027	0.0	0.0
10Y1D	PONDPost	Developmen	3.77	10.713	12.500	13003	0.207	0.039	0.0	0.0
10Y1D	PONDPost	Developmen	4.01	10.724	12.500	13023	0.223	0.052	0.0	0.0

TWIN'S CARWASH -FT PIERCE -NODE TIME SERIES

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
10Y1D	PostTailPost	Developmen	0.00	7.000	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	0.26	7.028	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	0.50	7.054	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	0.77	7.082	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	1.02	7.109	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	1.27	7.136	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	1.52	7.163	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	1.77	7.189	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	2.02	7.216	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	2.27	7.243	12.000	0	0.000	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	2.52	7.270	12.000	0	0.002	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	2.77	7.297	12.000	0	0.005	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	3.02	7.324	12.000	0	0.010	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	3.27	7.350	12.000	0	0.017	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	3.52	7.377	12.000	0	0.027	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	3.77	7.404	12.000	0	0.039	0.000	0.0	0.0
10Y1D	PostTailPost	Developmen	4.01	7.429	12.000	0	0.052	0.000	0.0	0.0
10Y1H	PONDPost	Developmen	0.00	10.660	12.500	12911	0.000	0.000	0.0	0.0
10Y1H	PONDPost	Developmen	0.26	10.663	12.500	12917	0.376	0.001	0.0	0.0
10Y1H	PONDPost	Developmen	0.50	10.875	12.500	13286	7.181	0.319	0.1	0.0
10Y1H	PONDPost	Developmen	0.75	11.386	12.500	14343	8.798	1.978	0.2	0.0
10Y1H	PONDPost	Developmen	1.00	11.632	12.500	14879	4.293	3.065	0.4	0.1
10Y1H	PostTailPost	Developmen	0.00	7.000	12.000	0	0.000	0.000	0.0	0.0
10Y1H	PostTailPost	Developmen	0.26	7.028	12.000	0	0.001	0.000	0.0	0.0
10Y1H	PostTailPost	Developmen	0.50	7.054	12.000	0	0.319	0.000	0.0	0.0
10Y1H	PostTailPost	Developmen	0.75	7.081	12.000	0	1.978	0.000	0.0	0.0
10Y1H	PostTailPost	Developmen	1.00	7.107	12.000	0	3.065	0.000	0.1	0.0
25Y3D	PONDPost	Developmen	0.00	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	0.26	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	0.50	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	0.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	1.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	1.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	1.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	1.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	2.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	2.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	2.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	2.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	3.02	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	3.27	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	3.52	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	3.77	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PONDPost	Developmen	4.01	10.660	12.500	12911	0.000	0.000	0.0	0.0
25Y3D	PostTailPost	Developmen	0.00	7.000	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost	Developmen	0.26	7.028	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost	Developmen	0.50	7.054	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost	Developmen	0.77	7.082	12.000	0	0.000	0.000	0.0	0.0

TWIN'S CARWASH -FT PIERCE -NODE TIME SERIES

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
25Y3D	PostTailPost Developmen		1.02	7.109	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		1.27	7.136	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		1.52	7.163	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		1.77	7.189	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		2.02	7.216	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		2.27	7.243	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		2.52	7.270	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		2.77	7.297	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		3.02	7.324	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		3.27	7.350	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		3.52	7.377	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		3.77	7.404	12.000	0	0.000	0.000	0.0	0.0
25Y3D	PostTailPost Developmen		4.01	7.429	12.000	0	0.000	0.000	0.0	0.0

GEOTECHNICAL REPORT

UNIVERSAL
ENGINEERING SCIENCES

GEOTECHNICAL EXPLORATION

TWIN'S CARWASH FORT PIERCE
5340 S US HWY 1
FORT PIERCE, FLORIDA

UES PROJECT NO. 3330.2200187.0000

PREPARED FOR:

Creative Convenience Corp
6544 N US Highway 41, Suite 208B
Apollo Beach, FL 33572

Attn: Mr. Brandon Swan

PREPARED BY:

Universal Engineering Sciences
607 NW Commodity Cove
Port St. Lucie, Florida 34986
(772) 924-3575

July 26, 2022

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Building Inspection • Plan Review • Building Code Administration

July 26, 2022

Mr. Brandon Swan
Creative Convenience Corp
6544 N US Highway 41, Suite 208B
Apollo Beach, FL 33572

Subject: Report of Geotechnical Exploration
Twin's Carwash Fort Pierce
5340 S US Hwy 1, Fort Pierce, Florida
UES Project No. 3330.2200164.0000

Dear Mr. Swan:

Universal Engineering Sciences (UES) has completed the subsurface exploration and geotechnical engineering evaluation for the above referenced project in accordance with the geotechnical and engineering service agreement for this project. The scope of services was completed in general accordance with our Geotechnical Engineering Proposal No. 22-9742.00 REV#1 dated June 22, 2022, planned in conjunction with and authorized by you.

EXECUTIVE SUMMARY

The purpose of our subsurface exploration was to classify the nature of the subsurface soils and general geomorphic conditions at the site and evaluate their impact upon the proposed construction. This report contains the results of our subsurface exploration and our engineering interpretations of these with respect to the project characteristics described to us, including providing recommendations for foundation design and site preparation.

Per our recent telephone discussions and email, UES understands that you are looking to develop a new car wash facility located at the above-mentioned property in Fort Pierce. We have been provided with a site plan prepared by Aspire Engineering, Inc. date by 06/14/2022, which depicts the car wash structure, parking lot and drive lanes, and a stormwater pond. The location for the borings and exfiltration tests was provided to us.

Design plans, details, or specific structural loads were not provided to UES. For the foundation recommendations presented in this report, we assumed a maximum wall loading of 3 kips per linear foot and a maximum column load of 50 kips.

The recommendations provided herein are based upon the above considerations. If the stated conditions are incorrect or if the project description is revised, please inform UES so that we may review our recommendations with respect to any modifications.

Four (4) Standard Penetration Test (SPT) borings (B-1 through B-4) advanced to depths of approximately 25 feet below the existing ground surface. Four (4) hand auger borings with HCP testing advanced to depths of approximately 6 feet below the existing grade were performed

within the proposed parking lot and drive lanes area. Additionally, two (2) double ring infiltrometer (DRI) tests were conducted with accompanying Standard Penetration Test (SPT) borings which advanced to depths of approximately 20 feet below the existing ground surface were completed for this study. The subsurface soil conditions encountered at the boring locations generally consisted of very loose to medium dense fine sand (SP), fine sand with silt (SP-SM), fine sand with clay (SP-SC), and clayey sand (SC) to the termination depths.

The subgrade soils should be improved (densified) with compaction from the stripped grade prior to construction. **Before placing fill required to achieve final grade, the upper 2 feet of soil below stripped grade should be compacted to a minimum of 95 percent maximum dry density as determined by the modified Proctor test (ASTM D 1557).** Fill (including stem wall backfill) should be placed in 12-inch-thick lifts and compacted to achieve a minimum 95 percent modified Proctor maximum dry density. After completing the footing excavations, the bearing subgrade to a depth of 2 feet should be compacted to not less than 95 percent modified Proctor maximum dry density.

We appreciate the opportunity to be of service during this phase of the project and look forward to a continued association. Please do not hesitate to contact us if you have any questions or comments, or if we may further assist you as your plans proceed.

Respectfully Submitted,
Universal Engineering Sciences
Florida Registry No. 4930

This item has been digitally signed and sealed by Paul H. Danforth, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Paul H. Danforth, P.E.
Professional Engineer #44653
Special Inspector #1103
State of Florida

Camila Ribeiro, E.I
Project Engineer

Distribution: Mr. Brandon Swan – Creative Convenience Corp 1 pdf

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1.0 INTRODUCTION

1.1 Scope of Services

The objective of our geotechnical exploration was to collect subsurface data for the subject project, summarize the test results, and discuss any apparent site conditions that may have geotechnical significance for the planned site improvement. The following scope of services is provided within this report:

1. Prepare boring logs depicting the subsurface soil conditions encountered during our field exploration.

2. Review the soil samples obtained during our field exploration for classification and additional testing if necessary.

3. Evaluate the existing soil conditions found during our exploration with respect to foundation support for the proposed new car wash building.

4. Provide recommendations with respect to foundation support of the proposed structures, including foundation type, maximum allowable soil bearing capacity, and bearing elevations.

5. Provide recommended pavement sections using assumed design criteria and parameters, including guidelines for preparing pavement subgrades.

6. Provide site preparation and earthwork criteria for proposed construction.

7. Provide results and design parameters for stormwater management testing conducted.

1.2 Project Description

Per our recent telephone discussions and email, UES understands that you are looking to develop a new car wash facility located at the above-mentioned property in Fort Pierce. We have been provided with a site plan prepared by Aspire Engineering, Inc. date by 06/14/2022, which depicts the car wash structure, parking lot and drive lanes, and a stormwater pond. The location for the borings and exfiltration tests was provided to us.

Design plans, details, or specific structural loads were not provided to UES. For the foundation recommendations presented in this report, we assumed a maximum wall loading of 3 kips per linear foot and a maximum column load of 50 kips.

The recommendations provided herein are based upon the above considerations. If the stated conditions are incorrect or if the project description is revised, please inform UES so that we may review our recommendations with respect to any modifications.

2.0 OBSERVATIONS

2.1 Site Description

As illustrated on the Site Vicinity Map in Appendix A, the site is located at 5340 South US Highway 1 in Fort Pierce, Florida. At the time of our field exploration, the property is bordered by South US Highway 1 to its west, a residential property to the east, and commercial properties to its north and south.

2.2 Field Exploration

Four (4) Standard Penetration Test (SPT) borings (B-1 through B-4) advanced to depths of approximately 25 feet below the existing ground surface. Four (4) hand auger borings with HCP testing advanced to depths of approximately 6 feet below the existing grade were performed within the proposed parking lot and drive lanes area. Additionally, two (2) double ring infiltrometer (DRI) tests were conducted with accompanying Standard Penetration Test (SPT) borings which advanced to depths of approximately 20 feet below the existing ground surface were completed for this study. The boring depths were established based upon our knowledge of vicinity soils and confined to the zone of soil likely to be influenced by the planned construction. The locations of the borings are illustrated on the Test Location Plan in Appendix B.

The Standard Penetration Tests (SPT) were performed in general accordance with ASTM D 1586, "Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils". The SPT test procedure consists of driving a 1.4-inch I.D. split-barrel sampler into the soil profile using a 140-pound hammer falling 30 inches. The number of blows per foot, for the second and third 6-inch increment, is referred to as the N-value. The N-value has been empirically correlated with various soil properties and provides an indication of soil strength.

The auger borings were performed in general accordance with ASTM D 1452, "Standard Practice for Soil Exploration and Sampling by Auger Borings." Hand Cone Penetrometer (HCP) tests were conducted at approximate one-foot depth intervals in the auger borings. The HCP test, in conjunction with information about the soil type, is empirically correlated to the relative density of subsurface soils.

Site specific survey staking of the borings was not provided for our field exploration. The boring locations were approximated using the provided concept plan, GPS coordinates, and by estimating distances and relationships to the adjacent residences and other landmarks at the property.

2.3 Laboratory Testing

Soil samples recovered from our field exploration were returned to our laboratory where they were visually classified by a geotechnical engineer in general accordance with the Unified Soil Classification System (ASTM D 2488). After reviewing the soil samples, no laboratory testing was deemed necessary. The samples will be retained in our laboratory for 30 days and then discarded unless we are notified otherwise in writing.

The recovered samples were not evaluated, either visually or analytically, for chemical composition or environmental hazards. UES will be pleased to perform these services for an additional fee, if required.

2.4 Geomorphic Conditions

The geology of the site as mapped on the USDA Soil Survey website consists of Ankona and Farmton sands (2), Susanna and Wauchula sands (43), Wabasso sand, 0 to 2 percent slopes (48). **These are sandy loam and sand. Organic soils are not indicated.** Note that the Soil Survey generally extends to a maximum depth of 80 inches below ground surface and is not indicative of deeper soil conditions.

Boring logs resulting from our field exploration are presented in Appendix D - Log of Boring Records The logs contain the soil descriptions, the standard penetration test (SPT) N-values, and the hand cone penetrometer (HCP) values logged during the drilling and sampling activities. Note that the soil boring data reflect information from the specific test locations only and the soil conditions may vary between the strata interfaces indicated on the logs. The soil classifications and descriptions shown on the logs are generally based upon visual characterizations of the recovered samples using the Unified Soil Classification System. See Appendix F - Discussion of Soil Groups, for a detailed description of various soil groups.

The subsurface soil conditions encountered at the boring locations generally consisted of very loose to medium dense fine sand (SP), fine sand with silt (SP-SM), fine sand with clay (SP-SC), and clayey sand (SC) to the termination depths.

2.5 Double Ring Infiltrometer Testing

The DRI tests were performed in general accordance with ASTM D 3385, "Infiltration Rate of Soils in Field Using Double Ring Infiltrometers." The test locations were initially cleared of surface vegetation and topsoil. A "Turf Tec IN10-W Infiltration Rings" set-up was used to complete the DRI testing in compliance to ASTM D3385 - 18. The outer ring and inner ring have approximate diameters of 24 inches and 12 inches respectively. The inner ring sits approximately 1 inch above the outer ring in compliance to the ASTM standard. The outer and inner rings were driven into the soil 6 and 5 inches below ground surface respectively.

The water level was maintained throughout the test period, with the required amount of water added to maintain this level in both rings recorded at 1-minute time intervals for the initial 10 minutes and at 5-minute time intervals for the next 20 minutes and 15-minute intervals for the remaining 30 minutes. After reaching a stabilized inflow volume of water, the test was continued for approximately 60 minutes.

The results of the double ring infiltrometer test indicated the following vertical infiltration rate:

Test Location	Vertical Infiltration Rate (in/hour)
DRI-1	1.94
DRI-2	3.67

Note that the measured vertical infiltration rate should not be considered as the actual pond exfiltration rate.

2.6 Hydrogeological Conditions

On the day of our field exploration (June 1, 2022), groundwater was encountered approximately 4 to 8 feet below the existing ground surface. Groundwater was not evident with the upper 6 feet of the soil profile within the explored depth of the auger borings. The groundwater table typically fluctuates seasonally depending upon local rainfall and other site specific and/or local influences. Brief ponding of stormwater may occur across the site after heavy or extended rainfall events.

No additional evaluation was included in our scope of work in relation to the wet seasonal high groundwater table or any existing well fields in the vicinity. Well fields may influence water table levels and cause significant fluctuations. If a more comprehensive water table analysis is necessary, please contact our office for additional guidance.

2.7 Seasonal High Groundwater Table

The normal seasonal high groundwater level each year is the level that typically occurs in the August to September period at the end of the rainy season during a year of normal or average rainfall. During periods of above normal rainfall and in extreme cases of flooding, the water table elevations typically exceed the normal seasonal high groundwater level. Under this scenario, normal high groundwater levels approach the normal seasonal high groundwater levels.

The normal seasonal high groundwater level is affected by several factors. The drainage characteristics of the soils, the land surface elevation, relief points such as drainage ditches, lakes, rivers, canals, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high groundwater level.

In order to better interpret the groundwater data, we reviewed available monthly precipitation data from several stations in the Fort Pierce area from January 20212 through June 2022 utilizing the Community Collaborative Rain, Hail & Snow Network website, which corresponds to the six (6) months prior to the time of our field exploration. The data indicated that the recorded rainfall during this period was relatively higher compared to the 30-year recorded average rainfall.

Based on our interpretations of the site conditions, the groundwater levels recorded in our soil borings at the time of drilling, and the data obtained from the various sources referenced herein, we estimate the normal seasonal high groundwater level to be approximately 1.0 foot above the water levels recorded in the borings. As previously noted, it is possible that higher groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rainfall events. However, design for normal seasonal high groundwater conditions, instead of the extreme conditions, generally is more appropriate.

3.0 ENGINEERING EVALUATION AND RECOMMENDATIONS

3.1 General

Our geotechnical engineering evaluation of the site and subsurface conditions at the property, with respect to the planned site improvement, and our recommendations for site preparation, are based upon (1) our site observations, (2) the field data obtained, and (3) our understanding of the project information and structural conditions as presented in this report. If the stated conditions are incorrect, or if the project description is revised, please inform UES so that we may review our recommendations with respect to any modifications.

We note that the applicability of geotechnical recommendations is very dependent upon project characteristics, specifically (1) improvement locations, (2) grade alterations, (3) and actual applied structural loads. For that reason, UES must be provided with and review the preliminary and final site and grading plans, and structural design loads to validate all recommendations provided in this report. Without performing this review, our recommendations should not be relied upon for final design or construction of any site improvements.

3.2 Site Preparation

UES recommends the following compaction requirements for this project:

- Proof Roll .....95 percent of modified Proctor
- Building Pad Fill.....95 percent of modified Proctor
- Footings .....95 percent of modified Proctor

The above compaction percentages are based upon the maximum dry density as determined by the modified Proctor test (ASTM D 1557). **All density tests should be performed to a depth of 2 feet below stripped surface and bottom of footings.** Density testing should be performed using either the nuclear method (ASTM D 6938) or the sand cone method (ASTM D 1556). Hand Cone Penetrometer (HCP) tests can also be performed to evaluate compaction.

Our recommendations for preparation of the site for use of shallow foundation systems and on-grade slabs are presented below. This approach to improving and maintaining site soils has been found to be successful on projects having similar soil conditions.

1. Initial site preparation should consist of removing existing structures and pavements, surface vegetation, topsoil, near surface roots, and other miscellaneous debris within and to a distance of 5 feet beyond the planned construction limits. Foundations and the below grade remains of former structures within the footprint of the new construction should also be removed. Similarly, irrigation and utility lines within the limits of the proposed construction should be removed or properly abandoned so that they will not adversely impact overlying structures.

2. Following site stripping and prior to placing fill, areas of surficial sand should be compacted (proof rolled) and tested. We recommend using a steel drum vibratory roller having sufficient static weight and vibratory impact energy to achieve the required compaction. Density tests

should be performed on the proof rolled surface at a frequency of not less than one test per 2,500 square feet, or a minimum of three (3) tests, whichever is greater.

3. Fill material may then be placed for the building pads and general site grading, as required. The fill should be inorganic (i.e., contain less than 5 percent by weight organic material) and classified as SP, SW, GP, GW, SP-SM, SW-SM, GW-GP, or GP-GM. **UES does not recommend using fill having soil fines contents exceeding 12 percent.** Fill should be placed in lifts having a maximum thickness of 12 inches. Each lift should be compacted and tested prior to placement of the next lift. Density tests should be performed within the fill at a frequency of not less than one test per 2,500 square feet per lift in building areas, or a minimum of three (3) tests per lift, whichever is greater.

4. For foundations placed on structural fill or compacted native granular soils, the bearing subgrade should be tested for compaction and observed by an engineer or geologist or his/her representative to determine if the soil is free of organic and/or deleterious material. Density tests should be performed at a frequency of not less than one (1) density test per each column footing and one (1) test per each seventy-five (75) lineal feet of wall footing.

5. The contractor should consider the final grading contours contained in the project plans when executing backfilling and compaction operations.

3.3 Vibration Monitoring

Vibrations associated with the construction activities may disturb the adjacent residences, and other nearby structures. We recommend that these structures be monitored by UES both before and during compaction operations if the roller is not operated in static mode. A proposal for providing vibration monitoring services during earthwork construction will be provided upon request.

3.4 Design of Footings

A foundation system for any structure must be designed to resist bearing capacity failures, have settlements that are tolerable, and resist the environmental forces that the foundation may be subjected to over the life of the structure. The soil bearing capacity is the soil's ability to support loads without plunging into the soil profile. Bearing capacity failures are analogous to shear failures in structural design and are usually sudden and catastrophic.

Based on the results of the soil borings performed at the site, UES recommends the commercial structure foundations be designed using a maximum allowable soil bearing pressure of 2,500 psf. Conventional shallow foundations and thickened-edge slab foundation systems should be embedded at least 12 inches below lowest adjacent grade. Furthermore, maintain minimum foundation widths of 18 and 54 inches for isolated strip and square footings, respectively, even if the maximum allowable soil bearing pressure is not developed in all cases.

Once site preparation has been performed in accordance with the recommendations described in this report, the soils should readily support the proposed structures bearing upon properly designed and constructed shallow foundation systems. Footings and columns should be

structurally separated from the ground floor slabs, as they will be loaded differently and at different times, unless monolithic slab foundations are designed.

3.5 Settlement Estimates

Post construction settlements of the structures will be influenced by several interrelated factors, including (1) subsurface soil stratification and the strength/compressibility characteristics, (2) footing size, bearing level, applied loads, and resulting bearing pressure beneath the footings, and (3) the site preparation and earthwork construction techniques used by the contractor. Our settlement estimates for the proposed construction are based on the use of the site preparation and earthwork construction methods recommended in this report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlements of the proposed construction.

We expect the majority of settlement to occur in an elastic manner and fairly rapidly during construction. Using the recommended maximum bearing pressure, the assumed maximum structural loads, and the field test data that we have correlated geotechnical strength and compressibility characteristics of the subsurface soils, we estimate that total settlements of the structures could be on the order of ¾ (0.75) inch or less.

Differential settlements result from differences in applied bearing pressures and variations in the compressibility characteristics of the subsurface soils. Because of the general uniformity of the subsurface conditions and the recommended site preparation and earthwork construction methods presented in this report, we anticipate that differential settlements of the structures should be within tolerable magnitudes (0.5 inch or less).

3.6 Ground Floor Slabs

The ground floor slabs may be constructed upon either existing grade or granular fill following completion of the foundation site preparation and fill placement procedures outlined in this report. We recommend that a modulus of subgrade reaction (k) of 150 pounds per cubic inch (pci) be considered during design. The floor slabs should be structurally separated from walls and columns to allow for differential vertical movement, unless monolithic slab foundations are designed.

Excessive moisture vapor transmission through foundation slabs can result in damage to floor coverings as well as cause other deleterious affects. An appropriate moisture vapor barrier should be placed beneath the slabs to reduce moisture vapor from entering the structures through the slabs. The barriers should be installed in general accordance with applicable ASTM procedures including sealing around pipe penetrations and at the foundation edges.

3.7 Site Excavations

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P." This document was issued to better ensure the safety of workers entering trenches or excavations. It is mandated by this federal

regulation that all excavations, whether they be utility trenches, basement excavations, or footing excavations, be constructed in accordance with the OSHA guidelines.

The contractor is solely responsible for designing and constructing stable temporary excavations and should shore, slope, or bench the sides of any excavations deeper than 4 feet as required to maintain stability of both the excavation sides and bottom. **Care must be exercised when performing the excavation so that caving of excavation side walls will not undermine the footings and slabs of the adjacent residence or other nearby structures.** The contractor's responsible person, as defined in 29 CFR Part 1926, should 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.

UES is providing this information solely as a service to our client. UES is not assuming responsibility for construction site safety or the contractor's activities. Such responsibility is not being implied and should not be inferred.

4.0 PAVEMENT DESIGN AND CONSTRUCTION CONSIDERATIONS

4.1 Pavement Design Sections

Pavement sections were designed considering assumed traffic loading and previous experience with similar projects. Flexible pavement sections in this geographic area typically consist of an asphaltic wearing course, a base course, and a stabilized subgrade layer. Rigid pavements are constructed either directly upon prepared soil subgrades or upon a base course and stabilized subgrade for heavier loads.

Based on our experience in the area and the assumed traffic loading criteria, recommended pavement section thicknesses are provided in Table 4.1.1 below.

Table 4.1.1 - Design Pavement Sections

Pavement Type	Layer	Material Description	Layer Thickness	
			Light Duty	Heavy Duty
Flexible	(A)	Asphalt Wearing Surface FDOT SP-9.5 or SP-12.5	1.5	2.5
	(B)	Crushed base (minimum LBR of 100), compacted to 98 percent of modified Proctor maximum dry density	6	8
	(SSG)	Stabilized subgrade (minimum LBR of 40), compacted to 98 percent of modified Proctor maximum dry density	12	12
	STRUCTURAL NUMBER (SN)		**2.7**	**3.5**
Rigid	(C)	FDOT Portland Cement Concrete	NA	8
	(B)	Crushed base (minimum LBR of 100), compacted to 98 percent of modified Proctor maximum dry density	NA	-
	(CSG)	Soil subgrade compacted to 98 percent of modified Proctor maximum dry density	NA	12

4.2 Compacted Subgrade or Embankment Fill

The subgrade or embankment fill is the layer that supports the structural pavement section. Subgrade and embankment fill should be constructed following the criteria and procedures presented in Section 4.10 of this report.

4.3 Stabilized Subgrade

The stabilized subgrade is the portion of the pavement section between the compacted subgrade or embankment fill and the base course. We recommend that subgrade material be compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180). The stabilized subgrade material should have a minimum Limerock Bearing Ratio (LBR) value of 40. Alternatively, the pavement section can be designed using the native on-site soils and consequently, a lower LBR value. In this case, an LBR test of the native soils should be performed and incorporated into a modified pavement design. Compliance tests should be performed upon the stabilized subgrade for full depth at a frequency of one test per 5,000 square feet, or at a minimum of two test locations, whichever is greater.

4.4 Base Course

The base course is the portion of the pavement section between the surface course and stabilized subgrade. In areas where separation of at least 1.5 feet between the estimated wet seasonal high groundwater table and the bottom of the base material occurs, we recommend the base course be limerock or cemented coquina having a minimum Limerock Bearing Ratio (LBR) value of 100. The base material should be obtained from an approved source. The base material should be placed in maximum 6-inch-thick lifts and compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180).

If the separation between the estimated wet seasonal high groundwater table and the bottom of the base material is less than 1.5 feet, we recommend that asphaltic concrete base (FDOT SP-12.5) be used in lieu of limerock or cemented coquina. The subgrade should be mechanically stabilized (compacted) to a minimum of 98 percent of modified Proctor maximum dry density (AASHTO T-180). Compliance tests should be performed on the base course at a frequency of one test per 5,000 square feet, or a minimum of two test locations, whichever is greater.

4.5 Flexible (Asphalt) Pavement

Asphalt pavement should consist of either FDOT SP-9.5 or SP-12.5 asphaltic concrete. The mixes should be a current FDOT approved design for the materials used for the project. Samples of the materials delivered to the project should be tested to verify that the aggregate gradation and asphalt content satisfies the mix design specifications.

The asphalt should be compacted to meet the requirements of the latest edition of the FDOT Standard Specifications for Road and Bridge Construction. Compliance tests should be performed by obtaining cores to evaluate material thickness and density at a frequency of one test per 10,000 square feet, or a minimum of two test locations, whichever is greater.

4.6 Rigid (Concrete) Pavement

Rigid pavements should be constructed using concrete having a minimum 28-day compressive strength of 4,000 psi. Fill required to raise grades in pavement areas should be compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180).

The pavement slabs should be reinforced to make them as rigid as practical. Proper joints should be provided at the junctions of slabs so that a small amount of independent movement can occur without causing structural damage. Construction and control joints should be in accordance with current American Concrete Institute (ACI) and industry practices.

The pavement sections presented in this report are minimum pavement section thicknesses typically used for similar type projects. The pavement materials and construction procedures should conform to FDOT, ACI, or appropriate city/county requirements.

4.7 Effects of Water

Premature pavement section deterioration can occur due to intrusion of the wet season high groundwater table and/or improper surface water runoff management. We recommend the pavement areas be constructed to have a minimum separation of 1.5 feet between the wet season high groundwater table and the bottom of base course, regardless of the type of base material. In addition, we recommend that full-depth curb sections be designed and constructed. Using either extruded curb sections, which lie directly on top of the final surface course, or eliminating the curbing entirely, may allow runoff and/or irrigation water to migrate between the base and surface course. This condition can result in the separation of the surface course from the base course, causing a rippling effect, which results in premature deterioration of the pavement.

4.8 Construction Traffic

Incomplete pavement sections or pavement areas designed for light duty traffic will not perform satisfactorily under typical construction traffic loading. We recommend that all construction traffic (i.e., construction equipment, vehicles, etc.) either be re-routed away from these areas or the pavement sections be designed to support construction phase loading conditions.

4.9 Pavement Site Preparation

Our recommendations for preparation of the site for pavement construction are noted below. This approach to improving and maintaining site soils has been found to be successful with similar soil conditions.

1. Initial site preparation should consist of performing dewatering operations (if necessary) prior to any earthwork.

2. The proposed construction limits should be cleared, stripped, and grubbed of all construction debris and existing topsoil, vegetation, and associated root systems to a depth

of their vertical reaches. This should be performed within and to a distance of 5 feet beyond the limits of the pavement areas.

3. Prior to initiating fill operations, the existing ground surface should be compacted (proof rolled) using a steel drum vibratory roller having sufficient static weight and vibratory impact energy to achieve the required compaction. After completing the proof rolling, density tests should be performed at a frequency of one test per 5,000 square feet, or at a minimum of two test locations, whichever is greater, to confirm a minimum compaction compliance of 98 percent of modified Proctor maximum dry density (AASHTO T-180).

4. If the roadway subgrade soils become wet and unstable due to excessive rainfall, groundwater intrusion, or the presence of silty/clayey soils, the unsuitable soils may be undercut and replaced using FDOT No. 57 stone, a sand/rock mixture, or equivalent backfill. Alternatively, it may be possible to place fill until a stable unyielding condition is achieved, and the fill is compacted to meet the density criteria. However, if the fill areas remain unstable and compaction cannot be achieved, then the fill should be removed, and underlying soils excavated and replaced with clean sand to such a depth required to achieve a stable, unyielding condition that also meets the compaction criteria.

5. Fill material should be inorganic (classified as SP/GW) containing not more than 5 percent (by weight) fibrous organic materials. **Fill material having silt/clay-size fines contents greater than 12 percent should not be used, including cyclone sand material.** The fill should be placed in maximum 12-inch-thick lifts. Each lift should be compacted to a minimum density of 98 percent of modified Proctor maximum dry density (AASHTO T-180).

6. Compliance density tests should be performed within the fill at a frequency of not less than one test per 5,000 square feet per lift, or at a minimum of two test locations, whichever is greater.

7. Representative samples of both on-site and import materials proposed for use as fill should be obtained and tested to determine compliance with the project specifications. The testing should include moisture-density relations (AASHTO T-180) and particle size analysis.

8. The contractor should consider the final contours and grades as established by the site grading, paving, and drainage plans when executing backfilling and compaction operations.

5.0 REPORT LIMITATIONS

This consulting report has been prepared for the exclusive use of Creative Convenience Corp and other members of the design team for the proposed site development of the property located at 5340 S US Highway 1 in Fort Pierce, Florida. This report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty, either express or implied, is made.

The evaluation submitted in this report is based in part upon the data collected during a field exploration. However, the nature and extent of variations throughout the subsurface profile may not become evident until construction. If variations then appear evident, it may be necessary to reevaluate information and professional opinions provided in this report. In the event changes

are made in the nature, design, or location of the proposed structures, the evaluation and opinions contained in this report should not be considered valid unless the changes are reviewed, and conclusions modified or verified in writing by UES.

UES should be provided the opportunity to review the final foundation plans and specifications to determine if UES's recommendations have been properly interpreted, communicated, and implemented. If UES is not afforded the opportunity to participate in construction related aspects of foundation installation as recommended in this report or any report addendum, UES cannot accept responsibility for the interpretation of our recommendations made in this report or in a report addendum for foundation performance.

6.0 BASIS FOR RECOMMENDATIONS

The recommendations presented in this report are based on the data obtained from the borings performed at the locations indicated on the Test Location Plan in Appendix B. This report does not reflect variations which may occur between borings. While the borings are representative of the subsurface conditions at their respective locations and for their vertical reaches, local variations characteristic of the subsurface soils of the region are anticipated and may be encountered. The delineation between soil types shown on the boring logs is approximate and the descriptions represent our interpretation of the subsurface conditions at the designated boring locations on the specific dates drilled.

Any third-party reliance of our geotechnical report or parts thereof is strictly prohibited without the express written consent of Universal Engineering Sciences. The applicable SPT and auger boring methodology (ASTM D 1586/ASTM D 1452) used in performing our borings, and for determining penetration resistance and soil relative density, is specific to the sampling tools utilized and does not reflect the ease or difficulty to advance other tools or materials.

Appendix A - Vicinity Map

Site Vicinity Map

Twin's Carwash Fort Pierce
5340 S US Hwy 1, Fort Pierce, Florida

Project No. 3330.2200164.0000	**Drafted by: CHC**	**Reviewed By: AA**	**Date: 7/11/2022**

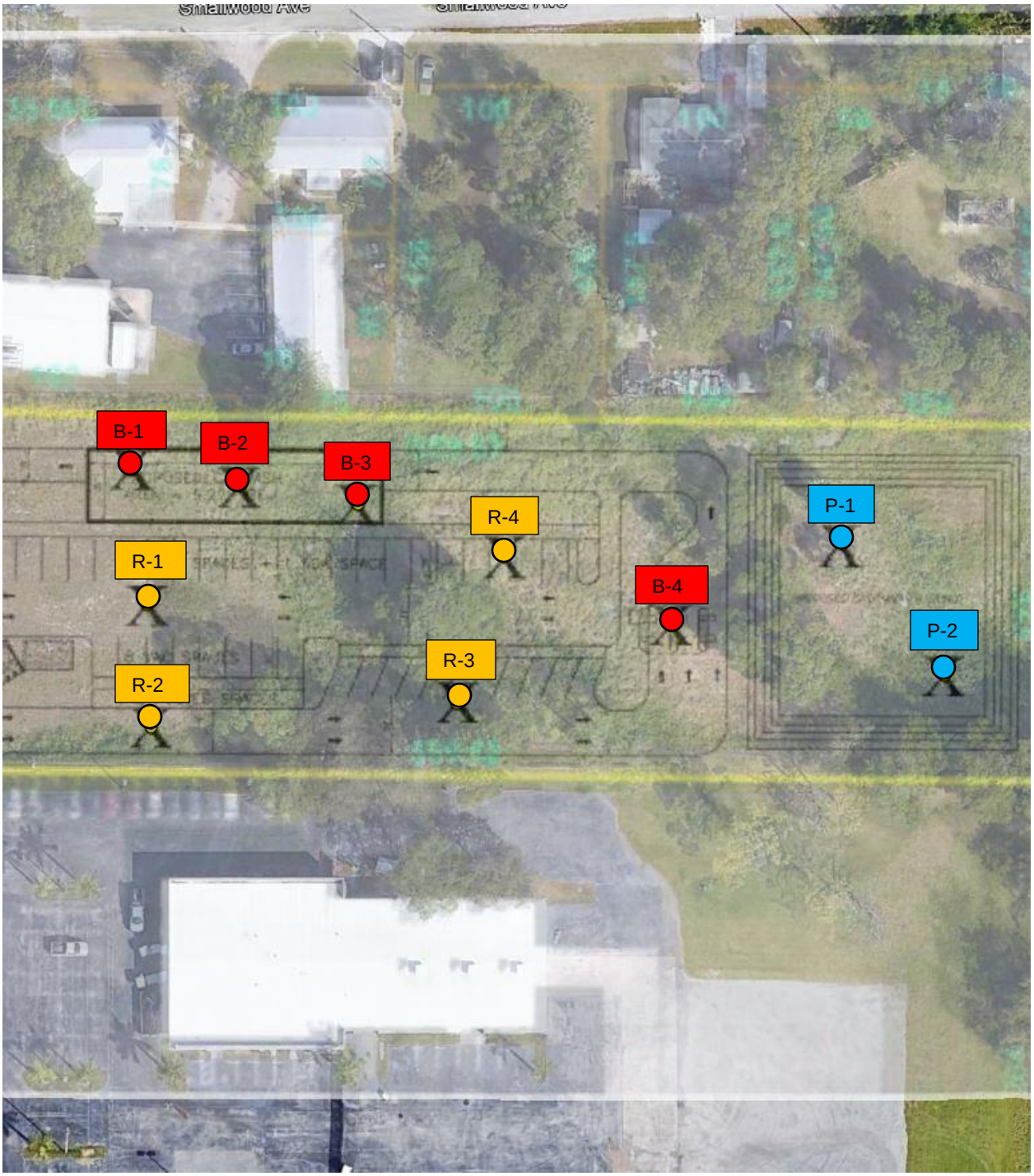


Appendix B - Test Location Plan

Test Location Plan

Twin's Carwash Fort Pierce
5340 S US Hwy 1, Fort Pierce, Florida

Project No. 3330.2200164.0000	Drafted by: CHC	Reviewed By: AA	Date: 7/11/2022



N

Legend

- Approximate 25' Standard Penetration Test Locations
- Approximate 20' Standard Penetration Test Locations (Roadway)
- Approximate 6' Standard Penetration Test Locations (Pond)

Appendix C - Notes Related to Borings

NOTES RELATED TO BORING RECORDS AND GENERALIZED SUBSURFACE PROFILES

1. Groundwater levels (if encountered) were recorded either during or following the boring completion on the date indicated. Fluctuations in groundwater levels are common - see the report text for a discussion.
2. The boring locations were identified in the field by estimated distances and offsets from existing reference marks and/or other site landmarks.
3. The completed boreholes were backfilled to adjacent site grade using drilling spoils and patched with asphalt cold mix in pavement areas.
4. The Log of Boring records represent our interpretation of soil conditions based on visual classification of the soil samples recovered from the borings.
5. The Log of Boring records are subject to the limitations, conclusions, and recommendations presented in the report text.
6. The Standard Penetration Test (SPT) N-values contained on the Log of Boring records refer to the total blow counts of a 140-pound drop hammer falling 30 inches required to drive a split-barrel sampler a total distance of 12 inches into soil strata at specific depth intervals.
7. The Hand Cone Penetrometer (HCP) values contained on Log of Boring records and the Cone Penetration Test (CPT) values contained on the Cone Penetration Sounding logs refer to the cone tip resistance recorded when pushing the cone tip into the soil strata at specific depth intervals.
8. The soil and/or rock strata interfaces shown on the Log of Boring records are approximate and may vary from those shown on the logs. The soil and/or rock descriptions shown on the Log of Boring records refer to conditions at the specific location tested. Soil/rock conditions may vary between test locations.
9. Relative density for coarse-grained soils (sands/gravels) and consistency for fine-grained soils (silts/clays) are described as follows:

Coarse Grained Soils (Sands and Gravels)				**Fine Grained Soils (Silts and Clays)**			
SPT N-Value	HCP Value (kg/cm^2)	CPT Value (tsf)	Relative Density	SPT N-Value	HCP Value (kg/cm^2)	CPT Value (tsf)	Consistency
0-4	0-16	0-20	Very Loose	0-2	0-20	0-3	Very Soft
5-10	17-36	21-40	Loose	3-4	21-35	4-6	Soft
11-30	37-116	41-120	Med. Dense	5-8	>35	7-12	Firm
31-50	117-196	121-200	Dense	9-15		13-25	Stiff
>50	> 196	>200	Very Dense	16-30		26-50	Very Stiff
				>30		>50	Hard

10. Grain size descriptions are as follows:

Description	**Particle Size Limits**
Boulder	Greater than 12 inches
Cobble	3 to 12 inches
Coarse Gravel	3/4 to 3 inches
Fine Gravel	No. 4 sieve to 3/4 inch
Coarse Sand	No. 10 to No. 4 sieve
Medium Sand	No. 40 to No. 10 sieve
Fine Sand	No. 200 to No. 40 sieve
Fines (Silt/Clay)	Smaller than No. 200 sieve

11. Definitions for modifiers used in soil/rock descriptions:

Proportion	**Modifier**	**Approximate Root Diameter**	**Modifier**
<5%	Trace	Less than 1/32"	Fine roots
5% to 12%	Little	1/32" to 1/4"	Small roots
12% to 30%	Some	1/4" to 1"	Medium roots
30% to 50%	And	Greater than 1"	Large roots

Organic Soils: Soils containing vegetative tissue in various stages of decomposition having a fibrous to amorphous texture. Usually having a dark brown to black color and an organic odor.
Organic Content Modifiers: <25%: Slightly to Highly Organic; 25% to 75%: Muck; >75%: Peat

Appendix D - Log of Boring Records

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, FL 34986
772-924-3575

LOG OF BORING B-1

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 25 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 4.00 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	2 2 2 3	4		Gray fine sand (SP)			
						2.0			
	X	2	4 5 6 5	11		Dark brown organically stained fine sand with silt, some organics (SP-SM)			
						4.0 ▽			
5	X	3	4 3 3 4	6		Brown fine sand with clay (SP-SC)			
						6.0			
	X	4	4 4 5 8	9		Brown clayey fine sand (SC)			
						8.0			
	X	5	7 8 7 7	15		Brown fine sand, trace clay (SP)			
10									
						13.5			
	X	6	1 1 0	1		Brown fine sand (SP)			
15									
	X	7	9 6 10	16					
20									
						23.5			
	X	8	5 8 5	13		Gray fine sand (SP)			
25						25.0			

Bottom of borehole at 25.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, FL 34986
772-924-3575

LOG OF BORING B-2

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 25 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 8.00 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	1 2 2 2	4		Brown fine sand with clay, little fine roots (SP-SC)			
						2.0			
	X	2	4 6 8 6	14		Gray fine sand (SP)			
						4.0			
5	X	3	3 3 2 3	5		Dark brown organically stained fine sand with silt (SP-SM)			
						6.0			
	X	4	4 5 6 8	11		Brown fine sand, trace clay (SP)			
						8.0 ▽			
	X	5	3 5 6 5	11		Gray fine sand with clay (SP-SC)			
10									
						13.5			
	X	6	2 2 2	4		Brown fine sand (SP)			
15									
	X	7	2 3 5	8					
20									
						23.5			
	X	8	6 6 6	12		Gray fine sand (SP)			
25						25.0			

Bottom of borehole at 25.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

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Port Saint Lucie, FL 34986
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LOG OF BORING B-3

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 25 ft
HOLE DIAMETER 3 in
DRILLER RV/LO
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG GeoProbe
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 6.00 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	2 2 4 5	6		Gray fine sand (SP)			
						2.0			
	X	2	3 3 6 5	9		Dark brown organically stained fine sand with silt (SP-SM)			
						4.0			
5	X	3	3 4 4 4	8		Brown fine sand (SP) ▽			
	X	4	4 5 6 6	11		7.0			
						Gray fine sand with clay (SP-SC)			
						8.0			
	X	5	5 5 7 5	12		Gray fine sand (SP)			
10									
						13.5			
	X	6	0 0 0	WOH		Brown fine sand (SP)			
15									
	X	7	3 6 9	15					
20									
						23.5			
	X	8	3 5 5	10		Gray fine sand (SP)			
25						25.0			

Bottom of borehole at 25.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

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772-924-3575

LOG OF BORING B-4

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 25 ft
HOLE DIAMETER 3 in
DRILLER RV/LO
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG GeoProbe
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 7.00 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	1 1 4 4	5		Gray fine sand (SP)			
	X	2	2 3 3 9	6					
5	X	3	6 9 9 9	18		5.0 Dark brown organically stained fine sand with silt (SP-SM)			
	X	4	6 7 7 8	14		7.0 ▽ Brown fine sand (SP) 8.0			
	X	5	5 6 7 6	13		Light brown clayey fine sand (SC)			
10									
						13.5			
	X	6	1 1 1	2		Gray fine sand (SP)			
15									
	X	7	2 4 7	11					
20									
	X	8	2 3 4	7					
25						25.0			

Bottom of borehole at 25.0 feet.

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772-924-3575

LOG OF BORING P-1

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 20 ft
HOLE DIAMETER 3 in
DRILLER JB/PS
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG D-25
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 6.70 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	2 4 5 6	9		0.3 Topsoil (3") Light gray fine sand (SP)			
	X	2	4 5 4 4	9		2.0 Brown clayey fine sand, trace organics (SC)			
5	X	3	2 2 2 3	4		4.0 Brown fine sand (SP)			
	X	4	3 4 5 6	9		7.0 ▽			
	X	5	5 4 6 6	10		Gray fine sand (SP)			
10									
	X	6	4 4 3	7					
						13.5			
	X	7	2 2 2	4		Gray-brown fine sand (SP)			
15									
	X	8	3 3 4	7					
	X	9	1 2 2	4		20.0			
20						Bottom of borehole at 20.0 feet.			

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

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607 NW Commodity Cove
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LOG OF BORING P-2

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 20 ft
HOLE DIAMETER 3 in
DRILLER JB/PS
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG D-25
GROUND WATER LEVEL: ▽ **AT TIME OF DRILLING** 6.30 ft
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
	X	1	2 2 4 4	6		0.2 Topsoil (2") Gray fine sand (SP) 2.0			
	X	2	3 4 4 5	8		Gray fine sand, trace small rock fragments (SP)			
5	X	3	3 5 3 5	8		5.5			
	X	4	2 2 4 3	6		6.0 Gray clayey fine sand (SC) ▽ Gray fine sand, trace clay (SP) 8.0			
	X	5	5 7 7 6	14		Light gray fine sand (SP)			
10						11.0			
	X	6	2 3 3	6		Brown fine sand (SP)			
	X	7	2 2 1	3					
15									
	X	8	3 3 4	7					
						18.5			
	X	9	2 3 3	6		Gray fine sand (SP) 20.0			
20						Bottom of borehole at 20.0 feet.			

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

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LOG OF BORING R-1

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 6 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: **AT TIME OF DRILLING** --- Not encountered
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
		1	1 2 3 3	5		Gray fine sand (SP)			
		2	4 6 6 5	12		3.0 Dark brown organically stained fine sand with silt, trace small roots (SP-SM)			
5		3	5 7 5 7	12		4.0 Brown fine sand with silt (SP-SM) 6.0			

Bottom of borehole at 6.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, FL 34986
772-924-3575

LOG OF BORING R-2

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 6 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: **AT TIME OF DRILLING** --- Not encountered
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
		1	2 2 3 4	5		Gray fine sand, trace fine roots (SP)			
						2.0			
		2	7 3 3 5	6		Gray fine sand (SP)			
						4.0			
5		3	8 8 10 11	18		Dark brown organically stained fine sand with silt (SP-SM)			
						6.0			

Bottom of borehole at 6.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, FL 34986
772-924-3575

LOG OF BORING R-3

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 6 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: **AT TIME OF DRILLING** --- Not encountered
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
		1	4 4 4 5	8		Gray fine sand (SP)			
		2	5 6 8 10	14		4.0			
5		3	5 6 4 5	10		Brown fine sand, trace clay (SP) 6.0			

Bottom of borehole at 6.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, FL 34986
772-924-3575

LOG OF BORING R-4

CLIENT Creative Convenience Corp
PROJECT NAME Twin's Carwash Fort Pierce
PROJECT NUMBER 3330.2200164.0000
PROJECT LOCATION 5340 S US Hwy 1, Fort Pierce, Florida
DRILLING CONTRACTOR Universal Engineering Sciences
HOLE DEPTH 6 ft
HOLE DIAMETER 3 in
DRILLER SC/KB
DATE STARTED 7/6/22
COMPLETED 7/6/22
DRILL RIG CME-45
GROUND WATER LEVEL: **AT TIME OF DRILLING** --- Not encountered
METHOD SPT
LATITUDE
LONGITUDE
NOTE:
HAMMER TYPE

DEPTH (ft)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS	N VALUE	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
		1	3 4 2 2	6		Gray fine sand, trace medium roots (SP)			
						2.0			
		2	4 5 5 7	10		Gray fine sand (SP)			
						4.0			
5		3	5 5 5 6	10		Brown fine sand (SP)			
						6.0			

Bottom of borehole at 6.0 feet.

SPT LOGS - GFA DATA TEMPLATE.GDT - 7/11/22 10:51 - V:\PROJECTS_UES PROJECT SETUP\2022 UES PROJECTS\3330.2200164.0000 - TWIN'S CARWASH FORT PIERCE - GEO\22-9742.00 - TWIN'S CARWASH FORT PIERCE - GEO\GEO\APPENDICES NORMAL\SP

Appendix E - Two Double Ring Infiltration Test

UNIVERSAL® ENGINEERING SCIENCES

607 NW Commodity Cove • Port St. Lucie, Florida 34986 Phone: (772) 924-3575 Fax: (772) 924-3580

DOUBLE RING INFILTRATION TEST (ASTM D-3385)
Test Number: DRI-001

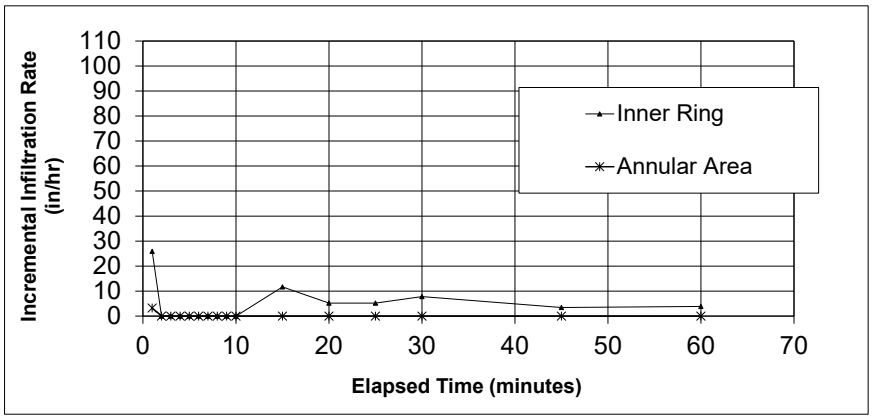
Project Name: Twin's Carwash Fort Pierce

Project number: 3330.2200164.0000

Date: 7/12/2022

Test Location: 5340 S US Hwy 1, Fort Pierce FL

Elapsed Time (minutes)	Volume of water added to inner ring (ml)	Volume of water added to outer ring (ml)	Volume of water added to inner ring (in^3)	Volume of water added to outer ring (in^3)	Test head (in)	Inner Ring Diameter (in)	Outer Ring Diameter (in)	**Incremental Infiltration Rate: Inner (in/hr)**	**Incremental Infiltration Rate: (in/hr)**
1	800	300	48.82	18.31	6	12	24	**25.91**	**3.24**
2	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
3	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
4	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
5	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
6	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
7	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
8	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
9	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
10	0	0	0.00	0.00	6	12	24	**0.00**	**0.00**
15	1800	0	109.84	0.00	6	12	24	**11.66**	**0.00**
20	800	0	48.82	0.00	6	12	24	**5.18**	**0.00**
25	800	0	48.82	0.00	6	12	24	**5.18**	**0.00**
30	1200	0	73.23	0.00	6	12	24	**7.77**	**0.00**
45	1600	0	97.64	0.00	6	12	24	**3.45**	**0.00**
60	1800	0	109.84	0.00	6	12	24	**3.89**	**0.00**
									1.94



Respectfully submitted,
Universal Engineering Sciences (UES)

07/25/22

Paul H. Danforth, P.E.
Registered Engineer # 44653
Special Inspector #1103
State of Florida

607 NW Commodity Cove • Port St. Lucie, Florida 34986 Phone: (772) 924-3575 Fax: (772) 924-3580

DOUBLE RING INFILTRATION TEST (ASTM D-3385)
Test Number: DRI-002

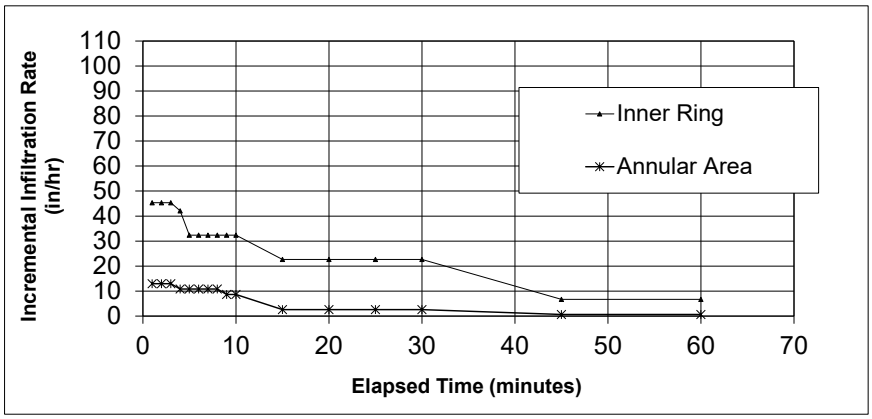
Project Name: Twin's Carwash Fort Pierce

Project number: 3330.2200164.0000

Date: 7/12/2022

Test Location: 5340 S US Hwy 1, Fort Pierce FL

Elapsed Time (minutes)	Volume of water added to inner ring (ml)	Volume of water added to outer ring (ml)	Volume of water added to inner ring (in^3)	Volume of water added to outer ring (in^3)	Test head (in)	Inner Ring Diameter (in)	Outer Ring Diameter (in)	**Incremental Infiltration Rate: Inner (in/hr)**	**Incremental Infiltration Rate: (in/hr)**
1	1400	1200	85.43	73.23	6	12	24	**45.35**	**12.96**
2	1400	1200	85.43	73.23	6	12	24	**45.35**	**12.96**
3	1400	1200	85.43	73.23	6	12	24	**45.35**	**12.96**
4	1300	1000	79.33	61.02	6	12	24	**42.11**	**10.80**
5	1000	1000	61.02	61.02	6	12	24	**32.39**	**10.80**
6	1000	1000	61.02	61.02	6	12	24	**32.39**	**10.80**
7	1000	1000	61.02	61.02	6	12	24	**32.39**	**10.80**
8	1000	1000	61.02	61.02	6	12	24	**32.39**	**10.80**
9	1000	800	61.02	48.82	6	12	24	**32.39**	**8.64**
10	1000	800	61.02	48.82	6	12	24	**32.39**	**8.64**
15	3500	1200	213.58	73.23	6	12	24	**22.67**	**2.59**
20	3500	1200	213.58	73.23	6	12	24	**22.67**	**2.59**
25	3500	1200	213.58	73.23	6	12	24	**22.67**	**2.59**
30	3500	1200	213.58	73.23	6	12	24	**22.67**	**2.59**
45	3100	900	189.17	54.92	6	12	24	**6.69**	**0.65**
60	3100	900	189.17	54.92	6	12	24	**6.69**	**0.65**
									3.67



Respectfully submitted,
Universal Engineering Sciences (UES)

07/25/22

Paul H. Danforth, P.E.
Registered Engineer # 44653
Special Inspector #1103
State of Florida

Appendix F - Discussion of Soil Groups

DISCUSSION OF SOIL GROUPS

COARSE GRAINED SOILS

General. A soil is classified as coarse-grained if more than 50 percent of a representative sample of the material is retained on the No. 200 sieve.

GW and SW Groups. These groups comprise well-graded gravelly and sandy soils containing little or no plastic fines (less than 5 percent passing the No. 200 sieve). The low fines content does not noticeably change the shear strength characteristics of these soils and does not interfere with their free-draining characteristics.

GP and SP Groups. Poorly graded gravels and sands containing little or no plastic fines (less than 5 percent passing the No. 200 sieve) are in the GP and SP groups. The materials can be called uniform gravels, uniform sands, or non-uniform mixtures of very coarse materials and very fine sand, with intermediate sizes lacking (sometimes called skip-graded, gap-graded, or step-graded). This last group often results from borrow pit excavation in which gravel and sand layers are mixed.

GM and SM Groups. In general, the GM and SM groups comprise gravels or sands with fines (more than 12 percent passing the No. 200 sieve) having little or no plasticity. The plasticity index and liquid limit of soils in these groups plot below the “A” line on the plasticity chart. The gradation of the material is not considered significant and both well and poorly graded materials are included.

GC and SC Groups. In general, the GC and SC groups comprise gravelly or sandy soils containing fines (more than 12 percent passing the No, 200 sieve) having plasticity characteristics. The plasticity index and liquid limit of soils in these groups plot above the “A” line on the plasticity chart.

FINE GRAINED SOILS

General. A soil is classified as fine-grained if more than 50 percent of a representative sample of the material passes the No. 200 sieve.

ML and MH Groups. These groups comprise inorganic silts (ML) and elastic silts (MH) having either low (L) or high (H) liquid limits, respectively. ML soils have a liquid limit of less than 50 while MH soils have a liquid limit of 50 and greater. Silts and elastic silts can also contain varying amounts of sand and gravel. Also included in this group are loess sediments and rock flours.

CL and CH Groups. These groups comprise low plasticity (lean) clays (CL) and medium to high plasticity (fat) clays (CH) having either low (L) or high (H) liquid limits, respectively. CL soils have a liquid limit of less than 50 while CH soils have a liquid limit of 50 and greater. The low plasticity clays can also be sandy clays or silty clays. The moderate to high plasticity clays can also be sandy clays and include some volcanic clays.

OL and OH Groups. These groups comprise organic silts and clays. The soils are characterized by the presence of organic odor and/or dark color. The OL and OH soils are differentiated by determining and comparing their liquid limit values before and after oven drying representative soil samples.

HIGHLY ORGANIC SOILS

The highly organic soils are usually very soft and compressible and have undesirable construction characteristics. Particles of leaves, grasses, branches, or other fibrous vegetative matter are common components of these soils. They are not subdivided and are classified into one group with the symbol PT. Peat humus and swamp soils with a highly organic texture are typical soils of the group.

WARRANTY DEED/CONTRACT FOR SALE

DocuSign Envelope ID: 17078B85-B147-4B08-8F1A-EF6F2188AD9C

Commercial Contract

TYSON REAL ESTATE GROUP

1. **PARTIES AND PROPERTY:** Twins Car Wash, LLC or an affiliate Florida entity to be formed ("Buyer") agrees to buy and SUE-ELLEN G MOSLER, TRUSTEE ("Seller") agrees to sell the property at:

Street Address: 5340 S US Hwy 1, Fort Pierce, Florida 34982

Parcel ID#: 3403-433-0008-000-2

Legal Description: See Exhibit A

and the following Personal Property: N/A

(all collectively referred to as the "Property") on the terms and conditions set forth below.

2. PURCHASE PRICE: $ 930,000.00

(a) Initial Deposit held in escrow by: Summerland Title (Within 7 days of Effective Date) ("Escrow Agent") (checks are subject to actual and final collection) $ 15,000.00

Escrow Agent's address: 500 SE 18th CT., Ft. Lauderdale, Florida 33316 Phone: 954-468-5551

(b) Additional deposit to be made to Escrow Agent
☒ within 7 days (3 days, if left blank) after completion of Due Diligence Period or
☐ within ____ days after Effective Date $ 15,000.00

(c) Additional deposit to be made to Escrow Agent
☐ within ____ days (3 days, if left blank) after completion of Due Diligence Period or
☐ within ____ days after Effective Date $

(d) Total financing (see Paragraph 5) $

(e) Other See Addendum $

(f) All deposits will be credited to the purchase price at closing.
Balance to close, subject to adjustments and prorations, to be paid via wire transfer. $ 900,000.00

For the purposes of this paragraph, "completion" means the end of the Due Diligence Period or upon delivery of Buyer's written notice of acceptability.

3. TIME FOR ACCEPTANCE; EFFECTIVE DATE; COMPUTATION OF TIME: Unless this offer is signed by **Seller** and **Buyer** and an executed copy delivered to all parties on or before 5/13/2022, this offer will be withdrawn and the **Buyer's** deposit, if any, will be returned. The time for acceptance of any counter offer will be 3 days from the date the counter offer is delivered. **The "Effective Date" of this Contract is the date on which the last one of the Seller and Buyer has signed or initialed and delivered this offer or the final counter offer** or Intentionally left blank. Calendar days will be used when computing time periods, except time periods of 5 days or less. Time periods of 5 days or less will be computed without including Saturday, Sunday, or national legal holidays. Any time period ending on a Saturday, Sunday, or national legal holiday will extend until 5:00 p.m. of the next business day. **Time is of the essence in this Contract.**

4. CLOSING DATE AND LOCATION:

(a) Closing Date: This transaction will be closed on See Addendum (Closing Date), unless specifically extended by other provisions of this Contract. The Closing Date will prevail over all other time periods including, but not limited to, Financing and Due Diligence periods. In the event insurance underwriting is suspended

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on Closing Date and **Buyer** is unable to obtain property insurance, **Buyer** may postpone closing up to 5 days after the insurance underwriting suspension is lifted.

(b) Location: Closing will take place in Saint Lucie County, Florida. (If left blank, closing will take place in the county where the property is located.) Closing may be conducted by mail or electronic means.

5. THIRD PARTY FINANCING:

BUYER'S OBLIGATION: On or before N/A days (5 days if left blank) after Effective Date, **Buyer** will apply for third party financing in an amount not to exceed _____% of the purchase price or $_____, with a fixed interest rate not to exceed _____% per year with an initial variable interest rate not to exceed _____%, with points or commitment or loan fees not to exceed _____% of the principal amount, for a term of _____ years, and amortized over _____ years, with additional terms as follows:

_____.

Buyer will timely provide any and all credit, employment, financial and other information reasonably required by any lender. **Buyer** will use good faith and reasonable diligence to (i) obtain Loan Approval within ____ days (45 days if left blank) from Effective Date (Loan Approval Date), (ii) satisfy terms and conditions of the Loan Approval, and (iii) close the loan. **Buyer** will keep **Seller** and Broker fully informed about loan application status and authorizes the mortgage broker and lender to disclose all such information to **Seller** and Broker. **Buyer** will notify **Seller** immediately upon obtaining financing or being rejected by a lender. **CANCELLATION:** If **Buyer**, after using good faith and reasonable diligence, fails to obtain Loan Approval by Loan Approval Date, **Buyer** may within ____ days (3 days if left blank) deliver written notice to **Seller** stating **Buyer** either waives this financing contingency or cancels this Contract. If **Buyer** does neither, then **Seller** may cancel this Contract by delivering written notice to **Buyer** at any time thereafter. Unless this financing contingency has been waived, this Contract shall remain subject to the satisfaction, by closing, of those conditions of Loan Approval related to the Property. **DEPOSIT(S) (for purposes of Paragraph 5 only):** If **Buyer** has used good faith and reasonable diligence but does not obtain Loan Approval by Loan Approval Date and thereafter either party elects to cancel this Contract as set forth above or the lender fails or refuses to close on or before the Closing Date without fault on **Buyer's** part, the Deposit(s) shall be returned to **Buyer**, whereupon both parties will be released from all further obligations under this Contract, except for obligations stated herein as surviving the termination of this Contract. If neither party elects to terminate this Contract as set forth above or **Buyer** fails to use good faith or reasonable diligence as set forth above, **Seller** will be entitled to retain the Deposit(s) if the transaction does not close. For purposes of this Contract, "Loan Approval" means a statement by the lender setting forth the terms and conditions upon which the lender is willing to make a particular mortgage loan to a particular buyer. Neither a pre-approval letter nor a prequalification letter shall be deemed a Loan Approval for purposes of this Contract.

6. TITLE: Seller has the legal capacity to and will convey marketable title to the Property by ☐ statutory warranty deed ☒ special warranty deed ☐ other _____, free of liens, easements and encumbrances of record or known to **Seller**, but subject to property taxes for the year of closing; covenants, restrictions and public utility easements of record; existing zoning and governmental regulations; and (list any other matters to which title will be subject) _____

_____;

provided there exists at closing no violation of the foregoing and none of them prevents **Buyer's** intended use of the Property as car wash.

(a) Evidence of Title: The party who pays the premium for the title insurance policy will select the closing agent and pay for the title search and closing services. **Seller** will, at (check one) ☐ **Seller's** ☒ **Buyer's** expense and within 14 days after Effective Date or at least _____ days before Closing Date deliver to **Buyer** (check one) ☒ (i) a title insurance commitment by a Florida licensed title insurer setting forth those matters to be discharged by **Seller** at or before Closing and, upon **Buyer** recording the deed, an owner's policy in the amount of the purchase price for fee simple title subject only to exceptions stated above. If **Buyer** is paying for the evidence of title and **Seller** has an owner's policy, **Seller** will deliver a copy to **Buyer** within 15 days after Effective Date. ☐ (ii.) an abstract of title, prepared or brought current by an existing abstract firm or certified as correct by an existing firm. However, if such an abstract is not available to **Seller**, then a prior owner's title policy acceptable to the proposed insurer as a base for reissuance of coverage may be used. The prior policy will include copies of all policy exceptions and an update in a format acceptable to **Buyer** from the policy effective date and certified to **Buyer** or

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Buyer's closing agent together with copies of all documents recited in the prior policy and in the update. If such an abstract or prior policy is not available to **Seller** then (i.) above will be the evidence of title.

(b) Title Examination: Buyer will, within 15 days from receipt of the evidence of title deliver written notice to **Seller** of title defects. Title will be deemed acceptable to **Buyer** if (1) **Buyer** fails to deliver proper notice of defects or (2) **Buyer** delivers proper written notice and **Seller** cures the defects within 10 days from receipt of the notice ("Curative Period"). Seller shall use good faith efforts to cure the defects. If the defects are cured within the Curative Period, closing will occur on the latter of 10 days after receipt by Buyer of notice of such curing or the scheduled Closing Date. **Seller** may elect not to cure defects if **Seller** reasonably believes any defect cannot be cured within the Curative Period. If the defects are not cured within the Curative Period, **Buyer** will have 10 days from receipt of notice of **Seller's** inability to cure the defects to elect whether to terminate this Contract or accept title subject to existing defects and close the transaction without reduction in purchase price.

(c) Survey: (check applicable provisions below)

☒ **Seller** will, within 10 days from Effective Date, deliver to **Buyer** copies of prior surveys, plans, specifications, and engineering documents, if any, and the following documents relevant to this transaction:

See Addendum

prepared for **Seller** or in **Seller's** possession, which show all currently existing structures. In the event this transaction does not close, all documents provided by **Seller** will be returned to **Seller** within 10 days from the date this Contract is terminated.

☒ **Buyer** will, at ☐ **Seller's** ☒ **Buyer's** expense and within the time period allowed to deliver and examine title evidence, obtain a current certified survey of the Property from a registered surveyor. If the survey reveals encroachments on the Property or that the improvements encroach on the lands of another, ☐ **Buyer** will accept the Property with existing encroachments ☒ such encroachments will constitute a title defect to be cured within the Curative Period.

(d) Ingress and Egress: Seller warrants that the Property presently has ingress and egress.

7. PROPERTY CONDITION: Seller will deliver the Property to **Buyer** at the time agreed in its present "as is" condition, ordinary wear and tear excepted, and will maintain the landscaping and grounds in a comparable condition. **Seller** makes no warranties other than marketability of title. In the event that the condition of the Property has materially changed since the expiration of the Due Diligence Period, **Buyer** may elect to terminate the Contract and receive a refund of any and all deposits paid, plus interest, if applicable, or require Seller to return the Property to the required condition existing as of the end of Due Diligence period, the cost of which is not to exceed $_____ (1.5% of the purchase price, if left blank). By accepting the Property "as is", **Buyer** waives all claims against **Seller** for any defects in the Property. (Check **(a)** or **(b)**)

☐ **(a) As Is: Buyer** has inspected the Property or waives any right to inspect and accepts the Property in its "as is" condition.

☒ **(b) Due Diligence Period: Buyer** will, at **Buyer's** expense and within 90 days from Effective Date ("Due Diligence Period"), determine whether the Property is suitable, in **Buyer's** sole and absolute discretion. During the term of this Contract, **Buyer** may conduct any tests, analyses, surveys and investigations ("Inspections") which **Buyer** deems necessary to determine to **Buyer's** satisfaction the Property's engineering, architectural, environmental properties; zoning and zoning restrictions; flood zone designation and restrictions; subdivision regulations; soil and grade; availability of access to public roads, water, and other utilities; consistency with local, state and regional growth management and comprehensive land use plans; availability of permits, government approvals and licenses; compliance with American with Disabilities Act; absence of asbestos, soil and ground water contamination; and other inspections that **Buyer** deems appropriate. **Buyer** will deliver written notice to **Seller** prior to the expiration of the Due Diligence Period of **Buyer's** determination of whether or not the Property is acceptable. **Buyer's** failure to comply with this notice requirement will constitute acceptance of the Property in its present "as is" condition. **Seller** grants to **Buyer**, its agents, contractors and assigns, the right to enter the Property at any time during the term of this Contract for the purpose of conducting Inspections, upon reasonable notice, at a mutually agreed upon time; provided, however, that **Buyer**, its agents, contractors and assigns enter the Property and conduct Inspections at their own risk. **Buyer** will indemnify and hold **Seller** harmless from losses, damages, costs, claims and expenses of any nature, including attorneys' fees at all levels, and from liability to any person, arising from the conduct of any and all inspections or any work authorized by **Buyer**. **Buyer** will not engage in any activity that could result in a mechanic's lien being filed against the Property without **Seller's** prior written consent. In the event this transaction does not close, (1) **Buyer** will repair all damages to the

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Property resulting from the Inspections and return the Property to the condition it was in prior to conduct of the Inspections, and (2) **Buyer** will, at **Buyer's** expense release to **Seller** all reports and other work generated as a result of the Inspections. Should **Buyer** deliver timely notice that the Property is not acceptable, **Seller** agrees that **Buyer's** deposit will be immediately returned to **Buyer** and the Contract terminated.

(c) Walk-through Inspection: Buyer may, on the day prior to closing or any other time mutually agreeable to the parties, conduct a final "walk-through" inspection of the Property to determine compliance with this paragraph and to ensure that all Property is on the premises.

8. OPERATION OF PROPERTY DURING CONTRACT PERIOD: Seller will continue to operate the Property and any business conducted on the Property in the manner operated prior to Contract and will take no action that would adversely impact the Property after closing, as to tenants, lenders or business, if any. Any changes, such as renting vacant space, that materially affect the Property or **Buyer's** intended use of the Property will be permitted [X] only with **Buyer's** consent [ ] without **Buyer's** consent.

9. CLOSING PROCEDURE: Unless otherwise agreed or stated herein, closing procedure shall be in accordance with the norms where the Property is located.

(a) Possession and Occupancy: Seller will deliver possession and occupancy of the Property to **Buyer** at closing. **Seller** will provide keys, remote controls, and any security/access codes necessary to operate all locks, mailboxes, and security systems.

(b) Costs: Buyer will pay **Buyer's** attorneys' fees, taxes and recording fees on notes, mortgages and financing statements and recording fees for the deed. **Seller** will pay **Seller's** attorneys' fees, taxes on the deed and recording fees for documents needed to cure title defects. If **Seller** is obligated to discharge any encumbrance at or prior to closing and fails to do so, **Buyer** may use purchase proceeds to satisfy the encumbrances.

(c) Documents: Seller will provide the deed; bill of sale; mechanic's lien affidavit; originals of those assignable service and maintenance contracts that will be assumed by **Buyer** after the Closing Date and letters to each service contractor from **Seller** advising each of them of the sale of the Property and, if applicable, the transfer of its contract, and any assignable warranties or guarantees received or held by **Seller** from any manufacturer, contractor, subcontractor, or material supplier in connection with the Property; current copies of the condominium documents, if applicable; assignments of leases, updated rent roll; tenant and lender estoppels letters (if applicable); tenant subordination, non-disturbance and attornment agreements (SNDAs) required by the **Buyer** or **Buyer's** lender; assignments of permits and licenses; corrective instruments; and letters notifying tenants of the change in ownership/rental agent. If any tenant refuses to execute an estoppels letter, **Seller**, if requested by the **Buyer** in writing, will certify that information regarding the tenant's lease is correct. If **Seller** is an entity, **Seller** will deliver a resolution of its governing authority authorizing the sale and delivery of the deed and certification by the appropriate party certifying the resolution and setting forth facts showing the conveyance conforms to the requirements of local law. **Seller** will transfer security deposits to **Buyer**. **Buyer** will provide the closing statement, mortgages and notes, security agreements, and financing statements.

(d) Taxes and Prorations: Real estate taxes, personal property taxes on any tangible personal property, bond payments assumed by **Buyer**, interest, rents (based on actual collected rents), association dues, insurance premiums acceptable to **Buyer**, and operating expenses will be prorated through the day before closing. If the amount of taxes for the current year cannot be ascertained, rates for the previous year will be used with due allowance being made for improvements and exemptions. Any tax proration based on an estimate will, at request of either party, be readjusted upon receipt of current year's tax bill; this provision will survive closing.

(e) Special Assessment Liens: Certified, confirmed, and ratified special assessment liens as of the Closing Date will be paid by **Seller**. If a certified, confirmed, and ratified special assessment is payable in installments, **Seller** will pay all installments due and payable on or before the Closing Date, with any installment for any period extending beyond the Closing Date prorated, and **Buyer** will assume all installments that become due and payable after the Closing Date. **Buyer** will be responsible for all assessments of any kind which become due and owing after Closing Date, unless an improvement is substantially completed as of Closing Date. If an improvement is substantially completed as of the Closing Date but has not resulted in a lien before closing, **Seller** will pay the amount of the last estimate of the assessment. This subsection applies to special assessment liens imposed by a public body and does not apply to condominium association special assessments.

(f) Foreign Investment in Real Property Tax Act (FIRPTA): If **Seller** is a "foreign person" as defined by FIRPTA, **Seller** and **Buyer** agree to comply with Section 1445 of the Internal Revenue Code. **Seller** and **Buyer** will complete, execute, and deliver as directed any instrument, affidavit, or statement reasonably necessary to comply

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with the FIRPTA requirements, including delivery of their respective federal taxpayer identification numbers or Social Security Numbers to the closing agent. If **Buyer** does not pay sufficient cash at closing to meet the withholding requirement, **Seller** will deliver to **Buyer** at closing the additional cash necessary to satisfy the requirement.

10. ESCROW AGENT: **Seller** and **Buyer** authorize Escrow Agent or Closing Agent (collectively "Agent") to receive, deposit, and hold funds and other property in escrow and, subject to collection, disburse them in accordance with the terms of this Contract. The parties agree that Agent will not be liable to any person for misdelivery of escrowed items to **Seller** or **Buyer**, unless the misdelivery is due to Agent's willful breach of this Contract or gross negligence. If Agent has doubt as to Agent's duties or obligations under this Contract, Agent may, at Agent's option, (a) hold the escrowed items until the parties mutually agree to its disbursement or until a court of competent jurisdiction or arbitrator determines the rights of the parties or (b) deposit the escrowed items with the clerk of the court having jurisdiction over the matter and file an action in interpleader. Upon notifying the parties of such action, Agent will be released from all liability except for the duty to account for items previously delivered out of escrow. If Agent is a licensed real estate broker, Agent will comply with Chapter 475, Florida Statutes. In any suit in which Agent interpleads the escrowed items or is made a party because of acting as Agent hereunder, Agent will recover reasonable attorney's fees and costs incurred, with these amounts to be paid from and out of the escrowed items and charged and awarded as court costs in favor of the prevailing party.

11. CURE PERIOD: Prior to any claim for default being made, a party will have an opportunity to cure any alleged default. If a party fails to comply with any provision of this Contract, the other party will deliver written notice to the non-complying party specifying the non-compliance. The non-complying party will have 15 days (5 days if left blank) after delivery of such notice to cure the non-compliance. Notice and cure shall not apply to failure to close.

12. FORCE MAJEURE: **Buyer** or **Seller** shall not be required to perform any obligation under this Contract or be liable to each other for damages so long as performance or non-performance of the obligation, or the availability of services, insurance, or required approvals essential to Closing, is disrupted, delayed, caused or prevented by Force Majeure. "Force Majeure" means: hurricanes, floods, extreme weather, earthquakes, fire, or other acts of God, unusual transportation delays, or wars, insurrections, or acts of terrorism, which, by exercise of reasonable diligent effort, the non-performing party is unable in whole or in part to prevent or overcome. All time periods, including Closing Date, will be extended a reasonable time up to 7 days after the Force Majeure no longer prevents performance under this Contract, provided, however, if such Force Majeure continues to prevent performance under this Contract more than 30 days beyond Closing Date, then either party may terminate this Contract by delivering written notice to the other and the Deposit shall be refunded to **Buyer**, thereby releasing **Buyer** and **Seller** from all further obligations under this Contract.

13. RETURN OF DEPOSIT: Unless otherwise specified in the Contract, in the event any condition of this Contract is not met and **Buyer** has timely given any required notice regarding the condition having not been met, **Buyer's** deposit will be returned in accordance with applicable Florida Laws and regulations.

14. DEFAULT:

(a) In the event the sale is not closed due to any default or failure on the part of **Seller** other than failure to make the title marketable after diligent effort, **Buyer** may elect to receive return of Buyer's deposit without thereby waiving any action for damages resulting from Seller's breach and may seek to recover such damages or seek specific performance. If Buyer elects a deposit refund, Seller may be liable to Broker for the full amount of the brokerage fee.

(b) In the event the sale is not closed due to any default or failure on the part of **Buyer**, **Seller** may either (1) retain all deposit(s) paid or agreed to be paid by **Buyer** as agreed upon liquidated damages, consideration for the execution of this Contract, and in full settlement of any claims, upon which this Contract will terminate or (2) seek specific performance. If **Buyer** fails to timely place a deposit as required by this Contract, **Seller** may either (1) terminate the Contract and seek the remedy outlined in this subparagraph or (2) proceed with the Contract without waiving any remedy for **Buyer's** default.

15. ATTORNEY'S FEES AND COSTS: In any claim or controversy arising out of or relating to this Contract, the prevailing party, which for purposes of this provision will include **Buyer**, **Seller** and Broker, will be awarded reasonable attorneys' fees, costs, and expenses.

16. NOTICES: All notices will be in writing and may be delivered by mail, overnight courier, personal delivery, or electronic means. Parties agree to send all notices to addresses specified on the signature page(s). Any notice, document, or item given by or delivered to an attorney or real estate licensee (including a transaction broker) representing a party will be as effective as if given by or delivered to that party.

Buyer (IC PR)(_____) and **Seller** (_____)(_____) acknowledge receipt of a copy of this page, which is Page 5 of 8 Pages.

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17. DISCLOSURES:

(a) Commercial Real Estate Sales Commission Lien Act: The Florida Commercial Real Estate Sales Commission Lien Act provides that a broker has a lien upon the owner's net proceeds from the sale of commercial real estate for any commission earned by the broker under a brokerage agreement. The lien upon the owner's net proceeds is a lien upon personal property which attaches to the owner's net proceeds and does not attach to any interest in real property. This lien right cannot be waived before the commission is earned.

(b) Special Assessment Liens Imposed by Public Body: The Property may be subject to unpaid special assessment lien(s) imposed by a public body. (A public body includes a Community Development District.) Such liens, if any, shall be paid as set forth in Paragraph 9(e).

(c) Radon Gas: Radon is a naturally occurring radioactive gas that, when it has accumulated in a building in sufficient quantities, may present health risks to persons who are exposed to it over time. Levels of radon that exceed federal and state guidelines have been found in buildings in Florida. Additional information regarding radon and radon testing may be obtained from your county public health unit.

(d) Energy-Efficiency Rating Information: Buyer acknowledges receipt of the information brochure required by Section 553.996, Florida Statutes.

18. RISK OF LOSS:

(a) If, after the Effective Date and before closing, the Property is damaged by fire or other casualty, **Seller** will bear the risk of loss and **Buyer** may cancel this Contract without liability and the deposit(s) will be returned to **Buyer**. Alternatively, **Buyer** will have the option of purchasing the Property at the agreed upon purchase price and **Seller** will credit the deductible, if any and transfer to **Buyer** at closing any insurance proceeds, or **Seller's** claim to any insurance proceeds payable for the damage. **Seller** will cooperate with and assist **Buyer** in collecting any such proceeds. **Seller** shall not settle any insurance claim for damage caused by casualty without the consent of the **Buyer**.

(b) If, after the Effective Date and before closing, any part of the Property is taken in condemnation or under the right of eminent domain, or proceedings for such taking will be pending or threatened, **Buyer** may cancel this Contract without liability and the deposit(s) will be returned to **Buyer**. Alternatively, **Buyer** will have the option of purchasing what is left of the Property at the agreed upon purchase price and **Seller** will transfer to the **Buyer** at closing the proceeds of any award, or **Seller's** claim to any award payable for the taking. **Seller** will cooperate with and assist **Buyer** in collecting any such award.

19. ASSIGNABILITY; PERSONS BOUND: This Contract may be assigned to a related entity, and otherwise ☐ is not assignable ☒ is assignable. If this Contract may be assigned, **Buyer** shall deliver a copy of the assignment agreement to the **Seller** at least 5 days prior to Closing. The terms **"Buyer, " "Seller"** and "Broker" may be singular or plural. This Contract is binding upon **Buyer, Seller** and their heirs, personal representatives, successors and assigns (if assignment is permitted).

20. MISCELLANEOUS: The terms of this Contract constitute the entire agreement between **Buyer** and **Seller**. Modifications of this Contract will not be binding unless in writing, signed and delivered by the party to be bound. Signatures, initials, documents referenced in this Contract, counterparts and written modifications communicated electronically or on paper will be acceptable for all purposes, including delivery, and will be binding. Handwritten or typewritten terms inserted in or attached to this Contract prevail over preprinted terms. If any provision of this Contract is or becomes invalid or unenforceable, all remaining provisions will continue to be fully effective. This Contract will be construed under Florida law and will not be recorded in any public records.

21. BROKERS: Neither **Seller** nor **Buyer** has used the services of, or for any other reason owes compensation to, a licensed real estate Broker other than:

(a) Seller's Broker: ILLUSTRATED PROPERTIES LLC (Company Name) Stephen M. Dutcher (Licensee),
3230 S Dixie, Hwy, West Palm Beach, FL 33405; Phone: 772-419-0402; Email: stephen@stuart-fl.com (Address, Telephone, Fax, E-mail),
who ☐ is a single agent ☒ is a transaction broker ☐ has no brokerage relationship and who will be compensated by ☒ **Seller** ☐ **Buyer** ☐ both parties pursuant to ☐ a listing agreement ☐ other (specify) A fixed $27,000 at closing by Seller.

(b) Buyer's Broker: Tyson Real Estate Group LLC (Company Name) Robert Tyson & Michael Burns (Licensee),
4700 Millenia Blvd., Suite 175, Orlando, FL 32839; Phone: 813-580-7300; Email: mburns@tysoncapitalgroup.com (Address, Telephone, Fax, E-mail),

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who ☐ is a single agent ☒ is a transaction broker ☐ has no brokerage relationship and who will be compensated by ☐ **Seller's Broker** ☒ **Seller** ☐ **Buyer** ☐ both parties pursuant to ☐ an MLS offer of compensation ☐ other (specify) A fixed $27,000 at closing by Seller. (collectively referred to as "Broker") in connection with any act relating to the Property, including but not limited to inquiries, introductions, consultations, and negotiations resulting in this transaction. **Seller** and **Buyer** agree to indemnify and hold Broker harmless from and against losses, damages, costs and expenses of any kind, including reasonable attorneys' fees at all levels, and from liability to any person, arising from (1) compensation claimed which is inconsistent with the representation in this Paragraph, (2) enforcement action to collect a brokerage fee pursuant to Paragraph 10, (3) any duty accepted by Broker at the request of **Seller** or **Buyer**, which is beyond the scope of services regulated by Chapter 475, Florida Statutes, as amended, or (4) recommendations of or services provided and expenses incurred by any third party whom Broker refers, recommends, or retains for or on behalf of **Seller** or **Buyer**.

22. OPTIONAL CLAUSES: (Check if any of the following clauses are applicable and are attached as an addendum to this Contract):

☐ Arbitration	☐ Seller Warranty	☐ Existing Mortgage
☐ Section 1031 Exchange	☐ Coastal Construction Control Line	☐ Buyer's Attorney Approval
☐ Property Inspection and Repair	☐ Flood Area Hazard Zone	☐ Seller's Attorney Approval
☐ Seller Representations	☐ Seller Financing	☒ Other Addendum 1

23. ADDITIONAL TERMS:

See Addendum "No. 1" attached hereto and incorporated herein by this reference

See Exhibit "A" attached hereto and incorporated herein by this reference

THIS IS INTENDED TO BE A LEGALLY BINDING CONTRACT. IF NOT FULLY UNDERSTOOD, SEEK THE ADVICE OF AN ATTORNEY PRIOR TO SIGNING. BROKER ADVISES BUYER AND SELLER TO VERIFY ALL FACTS AND REPRESENTATIONS THAT ARE IMPORTANT TO THEM AND TO CONSULT AN APPROPRIATE PROFESSIONAL FOR LEGAL ADVICE (FOR EXAMPLE, INTERPRETING CONTRACTS, DETERMINING THE EFFECT OF LAWS ON THE PROPERTY AND TRANSACTION, STATUS OF TITLE, FOREIGN INVESTOR REPORTING REQUIREMENTS, ETC.) AND FOR TAX, PROPERTY CONDITION, ENVIRONMENTAL AND OTHER

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ADVICE. BUYER ACKNOWLEDGES THAT BROKER DOES NOT OCCUPY THE PROPERTY AND THAT ALL REPRESENTATIONS (ORAL, WRITTEN OR OTHERWISE) BY BROKER ARE BASED ON SELLER REPRESENTATIONS OR PUBLIC RECORDS UNLESS BROKER INDICATES PERSONAL VERIFICATION OF THE REPRESENTATION. BUYER AGREES TO RELY SOLELY ON SELLER, PROFESSIONAL INSPECTORS AND GOVERNMENTAL AGENCIES FOR VERIFICATION OF THE PROPERTY CONDITION, SQUARE FOOTAGE AND FACTS THAT MATERIALLY AFFECT PROPERTY VALUE.

Each person signing this Contract on behalf of a party that is a business entity represents and warrants to the other party that such signatory has full power and authority to enter into and perform this Contract in accordance with its terms and each person executing this Contract and other documents on behalf of such party has been duly authorized to do so.

DocuSigned by:
Twins Car Wash, LLC or an affiliate Florida entity to be formed
E2D681CC5979408...
(Signature of Buyer) Date: 5/11/2022

Dan King Brainard (Typed or Printed Name of Buyer) Tax ID No.: **83-0577853**

Title: **Manager** Telephone: **404-386-3215**

(Signature of Buyer) Date:

(Typed or Printed Name of Buyer) Tax ID No.:

Title: Telephone:

Buyer's Address for purpose of notice **440 North Andrews Avenue, Fort Lauderdale, Florida 33301**

Facsimile: Email: **kingbrainard@yahoo.com**

SUE-ELLEN G MOSLER
Sue-Ellen G Mosler, Trustee (Signature of Seller) Date: May 3, 2022

SUE-ELLEN G MOSLER (Typed or Printed Name of Seller) Tax ID No.: **411-78-0466**

Title: **Trustee** Telephone: **904-429-7763**

(Signature of Seller) Date:

(Typed or Printed Name of Seller) Tax ID No.:

Title: Telephone:

Seller's Address for purpose of notice: **PO Box 860058, St. Augustine, FL**

Facsimile: **904-429-9980** Email: **SEGMPROPERTIES@GMAIL.COM**

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TYSON
REAL ESTATE GROUP

EXHIBIT A

THE SOUTH 175 FEET OF THE NORTH 357 FEET OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 3, TOWNSHIP 36 SOUTH, RANGE 40 EAST, LESS AND EXCEPT THE EAST 30 FEET THEREOF AND THE RIGHT OF WAY FOR U.S. HIGHWAY NO. 1, ST. LUCIE COUNTY FLORIDA



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Commercial Contract

TYSON REAL ESTATE GROUP

1. **PARTIES AND PROPERTY:** Twins Car Wash, LLC or an affiliate Florida entity to be formed ("Buyer") agrees to buy and SUE-ELLEN G MOSLER, TRUSTEE ("Seller") agrees to sell the property at:

Street Address: 5340 S US Hwy 1, Fort Pierce, Florida 34982

Parcel ID#: 3403-433-0008-000-2

Legal Description: See Exhibit A

and the following Personal Property: N/A

(all collectively referred to as the "Property") on the terms and conditions set forth below.

2. PURCHASE PRICE: $ 930,000.00

(a) Initial Deposit held in escrow by: Summerland Title (Within 7 days of Effective Date) ("Escrow Agent") (checks are subject to actual and final collection) $ 15,000.00

Escrow Agent's address: 500 SE 18th CT., Ft. Lauderdale, Florida 33316 Phone: 954-468-5551

(b) Additional deposit to be made to Escrow Agent
☒ within 7 days (3 days, if left blank) after completion of Due Diligence Period or
☐ within ____ days after Effective Date $ 15,000.00

(c) Additional deposit to be made to Escrow Agent
☐ within ____ days (3 days, if left blank) after completion of Due Diligence Period or
☐ within ____ days after Effective Date $

(d) Total financing (see Paragraph 5) $

(e) Other See Addendum $

(f) All deposits will be credited to the purchase price at closing.
Balance to close, subject to adjustments and prorations, to be paid via wire transfer. $ 900,000.00

For the purposes of this paragraph, "completion" means the end of the Due Diligence Period or upon delivery of Buyer's written notice of acceptability.

3. TIME FOR ACCEPTANCE; EFFECTIVE DATE; COMPUTATION OF TIME: Unless this offer is signed by **Seller** and **Buyer** and an executed copy delivered to all parties on or before 5/13/2022, this offer will be withdrawn and the **Buyer's** deposit, if any, will be returned. The time for acceptance of any counter offer will be 3 days from the date the counter offer is delivered. **The "Effective Date" of this Contract is the date on which the last one of the Seller and Buyer has signed or initialed and delivered this offer or the final counter offer** or Intentionally left blank. Calendar days will be used when computing time periods, except time periods of 5 days or less. Time periods of 5 days or less will be computed without including Saturday, Sunday, or national legal holidays. Any time period ending on a Saturday, Sunday, or national legal holiday will extend until 5:00 p.m. of the next business day. **Time is of the essence in this Contract.**

4. CLOSING DATE AND LOCATION:

(a) Closing Date: This transaction will be closed on See Addendum (Closing Date), unless specifically extended by other provisions of this Contract. The Closing Date will prevail over all other time periods including, but not limited to, Financing and Due Diligence periods. In the event insurance underwriting is suspended

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on Closing Date and **Buyer** is unable to obtain property insurance, **Buyer** may postpone closing up to 5 days after the insurance underwriting suspension is lifted.

(b) Location: Closing will take place in Saint Lucie County, Florida. (If left blank, closing will take place in the county where the property is located.) Closing may be conducted by mail or electronic means.

5. THIRD PARTY FINANCING:

BUYER'S OBLIGATION: On or before N/A days (5 days if left blank) after Effective Date, **Buyer** will apply for third party financing in an amount not to exceed _____% of the purchase price or $_____, with a fixed interest rate not to exceed _____% per year with an initial variable interest rate not to exceed _____%, with points or commitment or loan fees not to exceed _____% of the principal amount, for a term of _____ years, and amortized over _____ years, with additional terms as follows:

_____.

Buyer will timely provide any and all credit, employment, financial and other information reasonably required by any lender. **Buyer** will use good faith and reasonable diligence to (i) obtain Loan Approval within ____ days (45 days if left blank) from Effective Date (Loan Approval Date), (ii) satisfy terms and conditions of the Loan Approval, and (iii) close the loan. **Buyer** will keep **Seller** and Broker fully informed about loan application status and authorizes the mortgage broker and lender to disclose all such information to **Seller** and Broker. **Buyer** will notify **Seller** immediately upon obtaining financing or being rejected by a lender. **CANCELLATION:** If **Buyer**, after using good faith and reasonable diligence, fails to obtain Loan Approval by Loan Approval Date, **Buyer** may within ____ days (3 days if left blank) deliver written notice to **Seller** stating **Buyer** either waives this financing contingency or cancels this Contract. If **Buyer** does neither, then **Seller** may cancel this Contract by delivering written notice to **Buyer** at any time thereafter. Unless this financing contingency has been waived, this Contract shall remain subject to the satisfaction, by closing, of those conditions of Loan Approval related to the Property. **DEPOSIT(S) (for purposes of Paragraph 5 only):** If **Buyer** has used good faith and reasonable diligence but does not obtain Loan Approval by Loan Approval Date and thereafter either party elects to cancel this Contract as set forth above or the lender fails or refuses to close on or before the Closing Date without fault on **Buyer's** part, the Deposit(s) shall be returned to **Buyer**, whereupon both parties will be released from all further obligations under this Contract, except for obligations stated herein as surviving the termination of this Contract. If neither party elects to terminate this Contract as set forth above or **Buyer** fails to use good faith or reasonable diligence as set forth above, **Seller** will be entitled to retain the Deposit(s) if the transaction does not close. For purposes of this Contract, "Loan Approval" means a statement by the lender setting forth the terms and conditions upon which the lender is willing to make a particular mortgage loan to a particular buyer. Neither a pre-approval letter nor a prequalification letter shall be deemed a Loan Approval for purposes of this Contract.

6. TITLE: Seller has the legal capacity to and will convey marketable title to the Property by ☐ statutory warranty deed ☒ special warranty deed ☐ other _____, free of liens, easements and encumbrances of record or known to **Seller**, but subject to property taxes for the year of closing; covenants, restrictions and public utility easements of record; existing zoning and governmental regulations; and (list any other matters to which title will be subject) _____

_____;

provided there exists at closing no violation of the foregoing and none of them prevents **Buyer's** intended use of the Property as car wash.

(a) Evidence of Title: The party who pays the premium for the title insurance policy will select the closing agent and pay for the title search and closing services. **Seller** will, at (check one) ☐ **Seller's** ☒ **Buyer's** expense and within 14 days after Effective Date or at least _____ days before Closing Date deliver to **Buyer** (check one) ☒ (i) a title insurance commitment by a Florida licensed title insurer setting forth those matters to be discharged by **Seller** at or before Closing and, upon **Buyer** recording the deed, an owner's policy in the amount of the purchase price for fee simple title subject only to exceptions stated above. If **Buyer** is paying for the evidence of title and **Seller** has an owner's policy, **Seller** will deliver a copy to **Buyer** within 15 days after Effective Date. ☐ (ii.) an abstract of title, prepared or brought current by an existing abstract firm or certified as correct by an existing firm. However, if such an abstract is not available to **Seller**, then a prior owner's title policy acceptable to the proposed insurer as a base for reissuance of coverage may be used. The prior policy will include copies of all policy exceptions and an update in a format acceptable to **Buyer** from the policy effective date and certified to **Buyer** or

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Buyer's closing agent together with copies of all documents recited in the prior policy and in the update. If such an abstract or prior policy is not available to **Seller** then (i.) above will be the evidence of title.

(b) Title Examination: Buyer will, within 15 days from receipt of the evidence of title deliver written notice to **Seller** of title defects. Title will be deemed acceptable to **Buyer** if (1) **Buyer** fails to deliver proper notice of defects or (2) **Buyer** delivers proper written notice and **Seller** cures the defects within 10 days from receipt of the notice ("Curative Period"). Seller shall use good faith efforts to cure the defects. If the defects are cured within the Curative Period, closing will occur on the latter of 10 days after receipt by Buyer of notice of such curing or the scheduled Closing Date. **Seller** may elect not to cure defects if **Seller** reasonably believes any defect cannot be cured within the Curative Period. If the defects are not cured within the Curative Period, **Buyer** will have 10 days from receipt of notice of **Seller's** inability to cure the defects to elect whether to terminate this Contract or accept title subject to existing defects and close the transaction without reduction in purchase price.

(c) Survey: (check applicable provisions below)

☒ **Seller** will, within 10 days from Effective Date, deliver to **Buyer** copies of prior surveys, plans, specifications, and engineering documents, if any, and the following documents relevant to this transaction:

See Addendum

prepared for **Seller** or in **Seller's** possession, which show all currently existing structures. In the event this transaction does not close, all documents provided by **Seller** will be returned to **Seller** within 10 days from the date this Contract is terminated.

☒ **Buyer** will, at ☐ **Seller's** ☒ **Buyer's** expense and within the time period allowed to deliver and examine title evidence, obtain a current certified survey of the Property from a registered surveyor. If the survey reveals encroachments on the Property or that the improvements encroach on the lands of another, ☐ **Buyer** will accept the Property with existing encroachments ☒ such encroachments will constitute a title defect to be cured within the Curative Period.

(d) Ingress and Egress: Seller warrants that the Property presently has ingress and egress.

7. PROPERTY CONDITION: Seller will deliver the Property to **Buyer** at the time agreed in its present "as is" condition, ordinary wear and tear excepted, and will maintain the landscaping and grounds in a comparable condition. **Seller** makes no warranties other than marketability of title. In the event that the condition of the Property has materially changed since the expiration of the Due Diligence Period, **Buyer** may elect to terminate the Contract and receive a refund of any and all deposits paid, plus interest, if applicable, or require Seller to return the Property to the required condition existing as of the end of Due Diligence period, the cost of which is not to exceed $_____ (1.5% of the purchase price, if left blank). By accepting the Property "as is", **Buyer** waives all claims against **Seller** for any defects in the Property. (Check **(a)** or **(b)**)

☐ **(a) As Is: Buyer** has inspected the Property or waives any right to inspect and accepts the Property in its "as is" condition.

☒ **(b) Due Diligence Period: Buyer** will, at **Buyer's** expense and within 90 days from Effective Date ("Due Diligence Period"), determine whether the Property is suitable, in **Buyer's** sole and absolute discretion. During the term of this Contract, **Buyer** may conduct any tests, analyses, surveys and investigations ("Inspections") which **Buyer** deems necessary to determine to **Buyer's** satisfaction the Property's engineering, architectural, environmental properties; zoning and zoning restrictions; flood zone designation and restrictions; subdivision regulations; soil and grade; availability of access to public roads, water, and other utilities; consistency with local, state and regional growth management and comprehensive land use plans; availability of permits, government approvals and licenses; compliance with American with Disabilities Act; absence of asbestos, soil and ground water contamination; and other inspections that **Buyer** deems appropriate. **Buyer** will deliver written notice to **Seller** prior to the expiration of the Due Diligence Period of **Buyer's** determination of whether or not the Property is acceptable. **Buyer's** failure to comply with this notice requirement will constitute acceptance of the Property in its present "as is" condition. **Seller** grants to **Buyer**, its agents, contractors and assigns, the right to enter the Property at any time during the term of this Contract for the purpose of conducting Inspections, upon reasonable notice, at a mutually agreed upon time; provided, however, that **Buyer**, its agents, contractors and assigns enter the Property and conduct Inspections at their own risk. **Buyer** will indemnify and hold **Seller** harmless from losses, damages, costs, claims and expenses of any nature, including attorneys' fees at all levels, and from liability to any person, arising from the conduct of any and all inspections or any work authorized by **Buyer**. **Buyer** will not engage in any activity that could result in a mechanic's lien being filed against the Property without **Seller's** prior written consent. In the event this transaction does not close, (1) **Buyer** will repair all damages to the

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Property resulting from the Inspections and return the Property to the condition it was in prior to conduct of the Inspections, and (2) **Buyer** will, at **Buyer's** expense release to **Seller** all reports and other work generated as a result of the Inspections. Should **Buyer** deliver timely notice that the Property is not acceptable, **Seller** agrees that **Buyer's** deposit will be immediately returned to **Buyer** and the Contract terminated.

(c) Walk-through Inspection: Buyer may, on the day prior to closing or any other time mutually agreeable to the parties, conduct a final "walk-through" inspection of the Property to determine compliance with this paragraph and to ensure that all Property is on the premises.

8. OPERATION OF PROPERTY DURING CONTRACT PERIOD: Seller will continue to operate the Property and any business conducted on the Property in the manner operated prior to Contract and will take no action that would adversely impact the Property after closing, as to tenants, lenders or business, if any. Any changes, such as renting vacant space, that materially affect the Property or **Buyer's** intended use of the Property will be permitted [X] only with **Buyer's** consent [ ] without **Buyer's** consent.

9. CLOSING PROCEDURE: Unless otherwise agreed or stated herein, closing procedure shall be in accordance with the norms where the Property is located.

(a) Possession and Occupancy: Seller will deliver possession and occupancy of the Property to **Buyer** at closing. **Seller** will provide keys, remote controls, and any security/access codes necessary to operate all locks, mailboxes, and security systems.

(b) Costs: Buyer will pay **Buyer's** attorneys' fees, taxes and recording fees on notes, mortgages and financing statements and recording fees for the deed. **Seller** will pay **Seller's** attorneys' fees, taxes on the deed and recording fees for documents needed to cure title defects. If **Seller** is obligated to discharge any encumbrance at or prior to closing and fails to do so, **Buyer** may use purchase proceeds to satisfy the encumbrances.

(c) Documents: Seller will provide the deed; bill of sale; mechanic's lien affidavit; originals of those assignable service and maintenance contracts that will be assumed by **Buyer** after the Closing Date and letters to each service contractor from **Seller** advising each of them of the sale of the Property and, if applicable, the transfer of its contract, and any assignable warranties or guarantees received or held by **Seller** from any manufacturer, contractor, subcontractor, or material supplier in connection with the Property; current copies of the condominium documents, if applicable; assignments of leases, updated rent roll; tenant and lender estoppels letters (if applicable); tenant subordination, non-disturbance and attornment agreements (SNDAs) required by the **Buyer** or **Buyer's** lender; assignments of permits and licenses; corrective instruments; and letters notifying tenants of the change in ownership/rental agent. If any tenant refuses to execute an estoppels letter, **Seller**, if requested by the **Buyer** in writing, will certify that information regarding the tenant's lease is correct. If **Seller** is an entity, **Seller** will deliver a resolution of its governing authority authorizing the sale and delivery of the deed and certification by the appropriate party certifying the resolution and setting forth facts showing the conveyance conforms to the requirements of local law. **Seller** will transfer security deposits to **Buyer**. **Buyer** will provide the closing statement, mortgages and notes, security agreements, and financing statements.

(d) Taxes and Prorations: Real estate taxes, personal property taxes on any tangible personal property, bond payments assumed by **Buyer**, interest, rents (based on actual collected rents), association dues, insurance premiums acceptable to **Buyer**, and operating expenses will be prorated through the day before closing. If the amount of taxes for the current year cannot be ascertained, rates for the previous year will be used with due allowance being made for improvements and exemptions. Any tax proration based on an estimate will, at request of either party, be readjusted upon receipt of current year's tax bill; this provision will survive closing.

(e) Special Assessment Liens: Certified, confirmed, and ratified special assessment liens as of the Closing Date will be paid by **Seller**. If a certified, confirmed, and ratified special assessment is payable in installments, **Seller** will pay all installments due and payable on or before the Closing Date, with any installment for any period extending beyond the Closing Date prorated, and **Buyer** will assume all installments that become due and payable after the Closing Date. **Buyer** will be responsible for all assessments of any kind which become due and owing after Closing Date, unless an improvement is substantially completed as of Closing Date. If an improvement is substantially completed as of the Closing Date but has not resulted in a lien before closing, **Seller** will pay the amount of the last estimate of the assessment. This subsection applies to special assessment liens imposed by a public body and does not apply to condominium association special assessments.

(f) Foreign Investment in Real Property Tax Act (FIRPTA): If **Seller** is a "foreign person" as defined by FIRPTA, **Seller** and **Buyer** agree to comply with Section 1445 of the Internal Revenue Code. **Seller** and **Buyer** will complete, execute, and deliver as directed any instrument, affidavit, or statement reasonably necessary to comply

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with the FIRPTA requirements, including delivery of their respective federal taxpayer identification numbers or Social Security Numbers to the closing agent. If **Buyer** does not pay sufficient cash at closing to meet the withholding requirement, **Seller** will deliver to **Buyer** at closing the additional cash necessary to satisfy the requirement.

10. ESCROW AGENT: **Seller** and **Buyer** authorize Escrow Agent or Closing Agent (collectively "Agent") to receive, deposit, and hold funds and other property in escrow and, subject to collection, disburse them in accordance with the terms of this Contract. The parties agree that Agent will not be liable to any person for misdelivery of escrowed items to **Seller** or **Buyer**, unless the misdelivery is due to Agent's willful breach of this Contract or gross negligence. If Agent has doubt as to Agent's duties or obligations under this Contract, Agent may, at Agent's option, (a) hold the escrowed items until the parties mutually agree to its disbursement or until a court of competent jurisdiction or arbitrator determines the rights of the parties or (b) deposit the escrowed items with the clerk of the court having jurisdiction over the matter and file an action in interpleader. Upon notifying the parties of such action, Agent will be released from all liability except for the duty to account for items previously delivered out of escrow. If Agent is a licensed real estate broker, Agent will comply with Chapter 475, Florida Statutes. In any suit in which Agent interpleads the escrowed items or is made a party because of acting as Agent hereunder, Agent will recover reasonable attorney's fees and costs incurred, with these amounts to be paid from and out of the escrowed items and charged and awarded as court costs in favor of the prevailing party.

11. CURE PERIOD: Prior to any claim for default being made, a party will have an opportunity to cure any alleged default. If a party fails to comply with any provision of this Contract, the other party will deliver written notice to the non-complying party specifying the non-compliance. The non-complying party will have 15 days (5 days if left blank) after delivery of such notice to cure the non-compliance. Notice and cure shall not apply to failure to close.

12. FORCE MAJEURE: **Buyer** or **Seller** shall not be required to perform any obligation under this Contract or be liable to each other for damages so long as performance or non-performance of the obligation, or the availability of services, insurance, or required approvals essential to Closing, is disrupted, delayed, caused or prevented by Force Majeure. "Force Majeure" means: hurricanes, floods, extreme weather, earthquakes, fire, or other acts of God, unusual transportation delays, or wars, insurrections, or acts of terrorism, which, by exercise of reasonable diligent effort, the non-performing party is unable in whole or in part to prevent or overcome. All time periods, including Closing Date, will be extended a reasonable time up to 7 days after the Force Majeure no longer prevents performance under this Contract, provided, however, if such Force Majeure continues to prevent performance under this Contract more than 30 days beyond Closing Date, then either party may terminate this Contract by delivering written notice to the other and the Deposit shall be refunded to **Buyer**, thereby releasing **Buyer** and **Seller** from all further obligations under this Contract.

13. RETURN OF DEPOSIT: Unless otherwise specified in the Contract, in the event any condition of this Contract is not met and **Buyer** has timely given any required notice regarding the condition having not been met, **Buyer's** deposit will be returned in accordance with applicable Florida Laws and regulations.

14. DEFAULT:

(a) In the event the sale is not closed due to any default or failure on the part of **Seller** other than failure to make the title marketable after diligent effort, **Buyer** may elect to receive return of Buyer's deposit without thereby waiving any action for damages resulting from Seller's breach and may seek to recover such damages or seek specific performance. If Buyer elects a deposit refund, Seller may be liable to Broker for the full amount of the brokerage fee.

(b) In the event the sale is not closed due to any default or failure on the part of **Buyer**, **Seller** may either (1) retain all deposit(s) paid or agreed to be paid by **Buyer** as agreed upon liquidated damages, consideration for the execution of this Contract, and in full settlement of any claims, upon which this Contract will terminate or (2) seek specific performance. If **Buyer** fails to timely place a deposit as required by this Contract, **Seller** may either (1) terminate the Contract and seek the remedy outlined in this subparagraph or (2) proceed with the Contract without waiving any remedy for **Buyer's** default.

15. ATTORNEY'S FEES AND COSTS: In any claim or controversy arising out of or relating to this Contract, the prevailing party, which for purposes of this provision will include **Buyer**, **Seller** and Broker, will be awarded reasonable attorneys' fees, costs, and expenses.

16. NOTICES: All notices will be in writing and may be delivered by mail, overnight courier, personal delivery, or electronic means. Parties agree to send all notices to addresses specified on the signature page(s). Any notice, document, or item given by or delivered to an attorney or real estate licensee (including a transaction broker) representing a party will be as effective as if given by or delivered to that party.

Buyer (IC PR)(_____) and **Seller** (_____)(_____) acknowledge receipt of a copy of this page, which is Page 5 of 8 Pages.

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17. DISCLOSURES:

(a) Commercial Real Estate Sales Commission Lien Act: The Florida Commercial Real Estate Sales Commission Lien Act provides that a broker has a lien upon the owner's net proceeds from the sale of commercial real estate for any commission earned by the broker under a brokerage agreement. The lien upon the owner's net proceeds is a lien upon personal property which attaches to the owner's net proceeds and does not attach to any interest in real property. This lien right cannot be waived before the commission is earned.

(b) Special Assessment Liens Imposed by Public Body: The Property may be subject to unpaid special assessment lien(s) imposed by a public body. (A public body includes a Community Development District.) Such liens, if any, shall be paid as set forth in Paragraph 9(e).

(c) Radon Gas: Radon is a naturally occurring radioactive gas that, when it has accumulated in a building in sufficient quantities, may present health risks to persons who are exposed to it over time. Levels of radon that exceed federal and state guidelines have been found in buildings in Florida. Additional information regarding radon and radon testing may be obtained from your county public health unit.

(d) Energy-Efficiency Rating Information: Buyer acknowledges receipt of the information brochure required by Section 553.996, Florida Statutes.

18. RISK OF LOSS:

(a) If, after the Effective Date and before closing, the Property is damaged by fire or other casualty, **Seller** will bear the risk of loss and **Buyer** may cancel this Contract without liability and the deposit(s) will be returned to **Buyer**. Alternatively, **Buyer** will have the option of purchasing the Property at the agreed upon purchase price and **Seller** will credit the deductible, if any and transfer to **Buyer** at closing any insurance proceeds, or **Seller's** claim to any insurance proceeds payable for the damage. **Seller** will cooperate with and assist **Buyer** in collecting any such proceeds. **Seller** shall not settle any insurance claim for damage caused by casualty without the consent of the **Buyer**.

(b) If, after the Effective Date and before closing, any part of the Property is taken in condemnation or under the right of eminent domain, or proceedings for such taking will be pending or threatened, **Buyer** may cancel this Contract without liability and the deposit(s) will be returned to **Buyer**. Alternatively, **Buyer** will have the option of purchasing what is left of the Property at the agreed upon purchase price and **Seller** will transfer to the **Buyer** at closing the proceeds of any award, or **Seller's** claim to any award payable for the taking. **Seller** will cooperate with and assist **Buyer** in collecting any such award.

19. ASSIGNABILITY; PERSONS BOUND: This Contract may be assigned to a related entity, and otherwise ☐ is not assignable ☒ is assignable. If this Contract may be assigned, **Buyer** shall deliver a copy of the assignment agreement to the **Seller** at least 5 days prior to Closing. The terms **"Buyer, " "Seller"** and "Broker" may be singular or plural. This Contract is binding upon **Buyer, Seller** and their heirs, personal representatives, successors and assigns (if assignment is permitted).

20. MISCELLANEOUS: The terms of this Contract constitute the entire agreement between **Buyer** and **Seller**. Modifications of this Contract will not be binding unless in writing, signed and delivered by the party to be bound. Signatures, initials, documents referenced in this Contract, counterparts and written modifications communicated electronically or on paper will be acceptable for all purposes, including delivery, and will be binding. Handwritten or typewritten terms inserted in or attached to this Contract prevail over preprinted terms. If any provision of this Contract is or becomes invalid or unenforceable, all remaining provisions will continue to be fully effective. This Contract will be construed under Florida law and will not be recorded in any public records.

21. BROKERS: Neither **Seller** nor **Buyer** has used the services of, or for any other reason owes compensation to, a licensed real estate Broker other than:

(a) Seller's Broker: ILLUSTRATED PROPERTIES LLC (Company Name) Stephen M. Dutcher (Licensee),
3230 S Dixie, Hwy, West Palm Beach, FL 33405; Phone: 772-419-0402; Email: stephen@stuart-fl.com (Address, Telephone, Fax, E-mail),
who ☐ is a single agent ☒ is a transaction broker ☐ has no brokerage relationship and who will be compensated by ☒ **Seller** ☐ **Buyer** ☐ both parties pursuant to ☐ a listing agreement ☐ other (specify) A fixed $27,000 at closing by Seller.

(b) Buyer's Broker: Tyson Real Estate Group LLC (Company Name) Robert Tyson & Michael Burns (Licensee),
4700 Millenia Blvd., Suite 175, Orlando, FL 32839; Phone: 813-580-7300; Email: mburns@tysoncapitalgroup.com (Address, Telephone, Fax, E-mail),

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who ☐ is a single agent ☒ is a transaction broker ☐ has no brokerage relationship and who will be compensated by ☐ **Seller's Broker** ☒ **Seller** ☐ **Buyer** ☐ both parties pursuant to ☐ an MLS offer of compensation ☐ other (specify) A fixed $27,000 at closing by Seller. (collectively referred to as "Broker") in connection with any act relating to the Property, including but not limited to inquiries, introductions, consultations, and negotiations resulting in this transaction. **Seller** and **Buyer** agree to indemnify and hold Broker harmless from and against losses, damages, costs and expenses of any kind, including reasonable attorneys' fees at all levels, and from liability to any person, arising from (1) compensation claimed which is inconsistent with the representation in this Paragraph, (2) enforcement action to collect a brokerage fee pursuant to Paragraph 10, (3) any duty accepted by Broker at the request of **Seller** or **Buyer**, which is beyond the scope of services regulated by Chapter 475, Florida Statutes, as amended, or (4) recommendations of or services provided and expenses incurred by any third party whom Broker refers, recommends, or retains for or on behalf of **Seller** or **Buyer**.

22. OPTIONAL CLAUSES: (Check if any of the following clauses are applicable and are attached as an addendum to this Contract):

☐ Arbitration	☐ Seller Warranty	☐ Existing Mortgage
☐ Section 1031 Exchange	☐ Coastal Construction Control Line	☐ Buyer's Attorney Approval
☐ Property Inspection and Repair	☐ Flood Area Hazard Zone	☐ Seller's Attorney Approval
☐ Seller Representations	☐ Seller Financing	☒ Other Addendum 1

23. ADDITIONAL TERMS:

See Addendum "No. 1" attached hereto and incorporated herein by this reference

See Exhibit "A" attached hereto and incorporated herein by this reference

THIS IS INTENDED TO BE A LEGALLY BINDING CONTRACT. IF NOT FULLY UNDERSTOOD, SEEK THE ADVICE OF AN ATTORNEY PRIOR TO SIGNING. BROKER ADVISES BUYER AND SELLER TO VERIFY ALL FACTS AND REPRESENTATIONS THAT ARE IMPORTANT TO THEM AND TO CONSULT AN APPROPRIATE PROFESSIONAL FOR LEGAL ADVICE (FOR EXAMPLE, INTERPRETING CONTRACTS, DETERMINING THE EFFECT OF LAWS ON THE PROPERTY AND TRANSACTION, STATUS OF TITLE, FOREIGN INVESTOR REPORTING REQUIREMENTS, ETC.) AND FOR TAX, PROPERTY CONDITION, ENVIRONMENTAL AND OTHER

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ADVICE. BUYER ACKNOWLEDGES THAT BROKER DOES NOT OCCUPY THE PROPERTY AND THAT ALL REPRESENTATIONS (ORAL, WRITTEN OR OTHERWISE) BY BROKER ARE BASED ON SELLER REPRESENTATIONS OR PUBLIC RECORDS UNLESS BROKER INDICATES PERSONAL VERIFICATION OF THE REPRESENTATION. BUYER AGREES TO RELY SOLELY ON SELLER, PROFESSIONAL INSPECTORS AND GOVERNMENTAL AGENCIES FOR VERIFICATION OF THE PROPERTY CONDITION, SQUARE FOOTAGE AND FACTS THAT MATERIALLY AFFECT PROPERTY VALUE.

Each person signing this Contract on behalf of a party that is a business entity represents and warrants to the other party that such signatory has full power and authority to enter into and perform this Contract in accordance with its terms and each person executing this Contract and other documents on behalf of such party has been duly authorized to do so.

DocuSigned by:
Twins Car Wash, LLC or an affiliate Florida entity to be formed
E2D681CC5979408...
(Signature of Buyer) Date: 5/11/2022

Dan King Brainard (Typed or Printed Name of Buyer) Tax ID No.: **83-0577853**

Title: **Manager** Telephone: **404-386-3215**

(Signature of Buyer) Date:

(Typed or Printed Name of Buyer) Tax ID No.:

Title: Telephone:

Buyer's Address for purpose of notice **440 North Andrews Avenue, Fort Lauderdale, Florida 33301**

Facsimile: Email: **kingbrainard@yahoo.com**

SUE-ELLEN G MOSLER
Sue-Ellen G Mosler, Trustee (Signature of Seller) Date: May 3, 2022

SUE-ELLEN G MOSLER (Typed or Printed Name of Seller) Tax ID No.: **411-78-0466**

Title: **Trustee** Telephone: **904-429-7763**

(Signature of Seller) Date:

(Typed or Printed Name of Seller) Tax ID No.:

Title: Telephone:

Seller's Address for purpose of notice: **PO Box 860058, St. Augustine, FL**

Facsimile: **904-429-9980** Email: **SEGMPROPERTIES@GMAIL.COM**

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TYSON
REAL ESTATE GROUP

EXHIBIT A

THE SOUTH 175 FEET OF THE NORTH 357 FEET OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 3, TOWNSHIP 36 SOUTH, RANGE 40 EAST, LESS AND EXCEPT THE EAST 30 FEET THEREOF AND THE RIGHT OF WAY FOR U.S. HIGHWAY NO. 1, ST. LUCIE COUNTY FLORIDA





DOWN SOUTH LIQUOR

420 N US Hwy 1, Fort Pierce, FL 34950



WAWA

5575 Okeechobee Rd, Fort Pierce, FL 34947



GOLDEN CORRAL

5091 Okeechobee Rd, Fort Pierce, FL 34947



POPEYES

4946 South 25th St, Fort Pierce, FL 34981

THE SUNRISE CITY
FORT PIERCE
Florida
ENGINEERING
DEPARTMENT

To : Planning Department

From : Venetia Barnes, Stormwater Engineer

Thru : Tracy Telle, Assistant City Engineer

Re : Site Plan and Design Review – Twins Car Wash – 5304 S. US Highway 1 – TRC No. 22-07000026

Date : June 28, 2023

This is to advise you that we have completed the review of the following documents as received by this office on June 14, 2023:

- [x] Site Plan & Design Review
- [ ] Test Reports & Related Documents
- [ ] Record Drawings
- [ ] Clearances from all applicable Local, State and Federal Agencies
- [ ] Building Construction Plans
- [ ] Certificate of Completion
- [ ] Permits from applicable Local, State & Federal Agencies

Based on our reviews and appropriate site final inspection, we

- [x] Recommend
- [ ] Do Not Recommend

- [x] Site Plan & Design Review
- [ ] Building Permit
- [ ] C/O

Developer, Owner, Engineer, Contractor and other members of the Development Team must be aware, the above recommendation is based only on the construction requirements of the engineering plans and other engineering documentation approved by this department. The Development Team shall be responsible for the compliance with other City department requirements and all approved documents, as well as Local, State and Federal regulations. The development requirements for this project may necessitate additional construction requirements that are not subject to this department's review for approval.

- [x] See attached for comments

100 NORTH US 1, FORT PIERCE, FLORIDA 34950 • CITYOFFORTPIERCE.COM • TEL: 772.467.3000 • FAX: 772.460.6847

ADVISORY COMMENTS:

1. The drainage plan was reviewed conceptually and will be reviewed in depth at the time of DPCR application.
2. The project shall have all State and Federal permits in place prior to conducting any land clearing operations as the submitted Environmental Impact Report indicates that wetlands are present on the site. An updated Environmental Impact Report shall be required at the time of permitting based on to the report's recommendation and the migration of possible threatened species.

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THE SUNRISE CITY
FORT PIERCE
Florida
ENGINEERING
DEPARTMENT

To : Planning Department

From : Venetia Barnes, Stormwater Engineer

Thru : Tracy Telle, Assistant City Engineer

Re : Site Plan and Design Review – Twins Car Wash – 5304 S. US Highway 1 – TRC No. 22-07000026

Date : April 6, 2023

This is to advise you that we have completed the review of the following documents as received by this office on March 28, 2023:

- [x] Site Plan & Design Review
- [ ] Test Reports & Related Documents
- [ ] Record Drawings
- [ ] Clearances from all applicable Local, State and Federal Agencies
- [ ] Building Construction Plans
- [ ] Certificate of Completion
- [ ] Permits from applicable Local, State & Federal Agencies

Based on our reviews and appropriate site final inspection, we

- [ ] Recommend
- [x] Do Not Recommend

- [x] Site Plan & Design Review
- [ ] Building Permit
- [ ] C/O

Developer, Owner, Engineer, Contractor and other members of the Development Team must be aware, the above recommendation is based only on the construction requirements of the engineering plans and other engineering documentation approved by this department. The Development Team shall be responsible for the compliance with other City department requirements and all approved documents, as well as Local, State and Federal regulations. The development requirements for this project may necessitate additional construction requirements that are not subject to this department's review for approval.

- [x] See attached for comments

\\2500FS01\City Hall Share 01\Engineering\ENGINEERING\Site Development Projects\T\Twins Car Wash\Site Plan\Submittal No. 2 - 032823\Submittal Items\Site Plan Comments - 040623.docx

ENGINEERING COMMENTS:

1. Provide the required 10-foot-wide landscape strip situated between the property line and the stormwater retention/detention area per the requirements specified in the City of Fort Pierce Code of Ordinance Section 127-37(6).
2. Relocate the dumpster and enclosure from the entrance of the site in accordance with the City of Fort Pierce Code of Ordinance Section 123-37(10).
3. Sheet C-5 shall update the dewatering note 1 to City of Fort Pierce as it stipulates Manatee County.

ADVISORY COMMENTS:

1. The drainage plan was reviewed conceptually and will be reviewed in depth at the time of DPCR application.
2. The project shall have all State and Federal permits in place prior to conducting any land clearing operations as the submitted Environmental Impact Report indicates that wetlands are present on the site. An updated Environmental Impact Report shall be required at the time of permitting based on to the report's recommendation and the migration of possible threatened species.

TST/VB/vb

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TYPE POLE

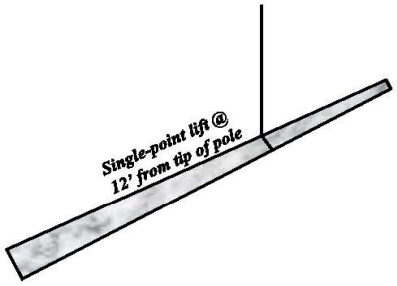
Utilities Structures, Inc.

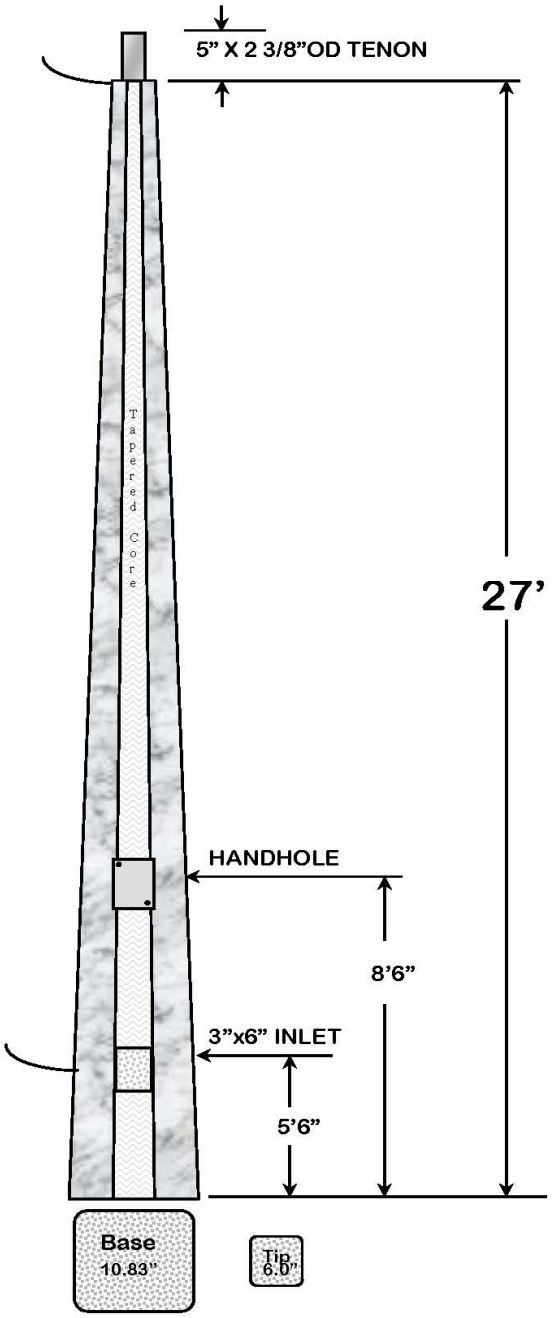
PO Box 9303 Ft Myers, Fl. 33901
Ph. 1-800-798-7653 Fax. 1-941-332-7132
"Your Prestressed Concrete Pole Producer"

Cat.# USI27TII

Prestressed Concrete Pole

- Pole Weight= 1940lbs
- EPA capacity= 19.1sq'
- Wind speed= 120 mph
- Gust Factor= 1.3
- Min. Brk. Strength= 2600#
- Concrete= 6,500lbs @ 28 days
- Grd. Wire= #6 str. copper
- Strand= .500" @ 70% Ulitimate
- Tenon= 2 3/8" OD x 5" Hgt.
- Color= Natural Concrete





PROJECT:

APPROVAL
DATE:

Job Name		REQUIRED INFORMATION
Type	SITE POLES	
Manufacturer	UTILITIES STRUCTURES	
Catalog #	USI27TII	
Voltage		

GARDCO by signify

Site & Area

EcoForm

ECF-S small area light



Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 27,800 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Ordering guide

example: ECF-S-64L-900-NW-G2-AR-5-120-HIS-MGY

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage	Options: Dimming controls	Options: Motion sensing lens	Options: Photo-sensing	Options: Electrical	Options: Luminaire	Finish
ECF-S												
ECF-S EcoForm site and area, small	**32L** 32 LEDs (2 modules)	**365** 365 mA **530** 530 mA **700** 700 mA **1A** 1050 mA **1.2A** 1200 mA	**WW-G2** Warm White 3000K, 70 CRI Generation 2 **NW-G2** Neutral White 4000K, 70 CRI Generation 2 **CW-G2** Cool White 5000K, 70 CRI Generation 2	**AR** Arm Mount (standard)[2] *The following mounting kits must be ordered separately (See accessories)* **SF** Slip Fitter Mount[3] (fits to 2 3/8" O.D. tenon) **WS** Wall mount with surface conduit rear entry permitted **RAM** Retrofit arm mount kit[2]	**Type 2** **2** Type 2 **2-90** Rotated left 90° **2-270** Rotated right 270° **Type 3** **3** Type 3 **3-90** Rotated left 90° **3-270** Rotated right 270° **Type 4** **4** Type 4 **4-90** Rotated left 90° **4-270** Rotated right 270° **Type 5** **5** Type 5 **5W** Type 5W **AFR** Auto Front Row **AFR-90** Auto Front Row, Rotated left 90° **AFR-270** Auto Front Row, Rotated right 270°	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V (50/60Hz) **HVU** 347-480V (50/60Hz)	**DD** 0-10V External dimming (by others)[4] **DCC** Dual Circuit Control[4,5,6] **FAWS** Field Adjustable Wattage Selector[4,5] **SW** Interface module for SiteWise[4,6,7] **LLC** Integral wireless module[4,6,8,17] **BL** Bi-level functionality[1,4,17] **DynaDimmer**: Automatic Profile Dimming **CS50** Safety 50% Dimming, 7 hours[4,8] **CM50** Median 50% Dimming, 8 hours[4,8] **CS30** Safety 30% Dimming, 7 hours[4,8] **CM30** Median 30% Dimming, 8 hours[4,8]	**IMRI3** Integral with #3 lens[15] **IMRI7** Integral with #7 lens[16]	**PCB** Photocontrol Button[8,9] **TLRD5** Twist Lock Receptacle 5 Pin[10] **TLRD7** Twist Lock Receptacle 7 Pin[10] **TLRPC** Twist Lock Receptacle w/ Photocell[9,11]	**Fusing** **F1** Single (120, 277, 347VAC)[9] **F2** Double (208, 240, 480VAC)[9] **Pole Mount Fusing** **FP1** Single (120, 277, 347VAC)[9] **FP2** Double (208, 240, 480VAC)[9] **FP3** Canadian Double Pull (208, 240, 480VAC)[9] **Surge Protection** (10kA standard) **SP2** Increased 20kA	Square Pole Adapter included in standard product **TB** Terminal Block[12] **RPA** Round Pole Adapter (fits to 3"-3.9" O.D. pole)[13] **HIS** Internal Housing Side Shield[14]	**Textured** **BK** Black **WH** White **BZ** Bronze **DGY** Dark Gray **MGY** Medium Gray **Customer specified** **RAL** Specify optional color or RAL (ex: RAL7024) **CC** Custom color (Must supply color chip for required factory quote)
	48L 48 LEDs (3 modules)	**900** 900 mA **1A** 1050 mA **1.2A** 1200 mA										
	64L 64 LEDs (4 modules)	**900** 900 mA **1A** 1050 mA										

1. BL-IMRI3/7 equipped with out-boarded sensor housing when voltage is HVU (347-480V)
2. Mounts to a 4" round pole with adapter included for square poles.
3. Limited to a maximum of 45 degrees aiming above horizontal.
4. Not available with other dimming control options.
5. Not available with motion sensor.
6. Not available with photocontrol.
7. Available only in 120 or 277V.
8. Not available in 347 or 480V
9. Must specify input voltage.
10. Dimming will not be connected to NEMA receptacle if ordering with other control options.
11. Not available in 480V. Order photocell separately with TLRD5/7.
12. Not available with DCC.
13. Not available with SF and WS. RPAs provided with black finish standard.
14. HIS not available with Type 5 and 5W optics.
15. Not available with DD, DCC, and FAWS dimming control options.
16. Not available with DD, DCC, FAWS and LLC dimming control options.
17. Must specify a motion sensor lens.

ECF-S EcoForm small

Area luminaire

EcoForm Accessories (ordered separately, field installed)

Shielding Accessories

House Side shield

Standard optic orientation:

HIS-32-H [18]	Internal House Side Shield for 32 LEDs (2 modules)
HIS-48-H [18]	Internal House Side Shield for 48 LEDs (3 modules)
HIS-64-H [18]	Internal House Side Shield for 64 LEDs (4 modules)

Optic at 90 or 270 orientation:

HIS-32-V [18]	Internal House Side Shield for 32 LEDs (2 modules)
HIS-48-V [18]	Internal House Side Shield for 48 LEDs (3 modules)
HIS-64-V [18]	Internal House Side Shield for 64 LEDs (4 modules)

18. Not available with Type 5 or 5W optics

Luminaire Accessories

ECF-BD-G2	Bird deterrent
ECF-RAM-G2-(F)	Retrofit Arm mount kit
ECF-SF-G2-(F)	Slip Fitter Mount (fits to 2 3/8" O.D. tenon)
ECF-WS-G2-(F)	Wall mount with surface conduit rear entry permitted

EcoForm PTF2
(pole top fitter fits 23/8-21/2" OD x 4" depth tenon)

PTF2-ECF-S/L-1-90-(F)	1 luminaire at 90°
PTF2-ECF-S/L-2-90-(F)	2 luminaires at 90°
PTF2-ECF-S/L-2-180-(F)	2 luminaires at 180°
PTF2-ECF-S/L-3-90-(F)	3 luminaires at 90°
PTF2-ECF-S/L-4-90-(F)	4 luminaires at 90°
PTF2-ECF-S/L-3-120-(F)	3 luminaires at 120°

EcoForm PTF3
(pole top fitter fits 3-31/2" OD x 6" depth tenon)

PTF3-ECF-S/L-1-90-(F)	1 luminaire at 90°
PTF3-ECF-S/L-2-90-(F)	2 luminaires at 90°
PTF3-ECF-S/L-2-180-(F)	2 luminaires at 180°
PTF3-ECF-S/L-3-90-(F)	3 luminaires at 90°
PTF3-ECF-S/L-4-90-(F)	4 luminaires at 90°
PTF3-ECF-S/L-3-120-(F)	3 luminaires at 120°

EcoForm PTF4
(pole top fitter fits 31/2-4" OD x 6" depth tenon)

PTF4-ECF-S/L-1-90-(F)	1 luminaire at 90°
PTF4-ECF-S/L-2-90-(F)	2 luminaires at 90°
PTF4-ECF-S/L-2-180-(F)	2 luminaires at 180°
PTF4-ECF-S/L-3-90-(F)	3 luminaires at 90°
PTF4-ECF-S/L-4-90-(F)	4 luminaires at 90°
PTF4-ECF-S/L-3-120-(F)	3 luminaires at 120°

(**F**) = Specify finish

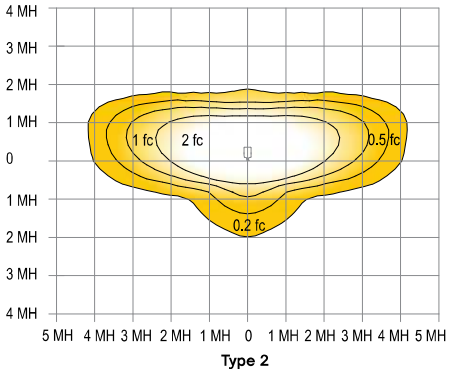
Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

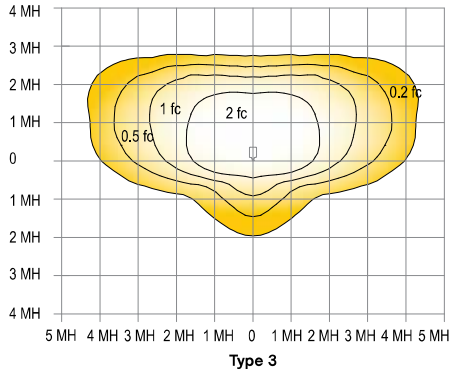
Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>60,000 hours	>88%

Optical distribution

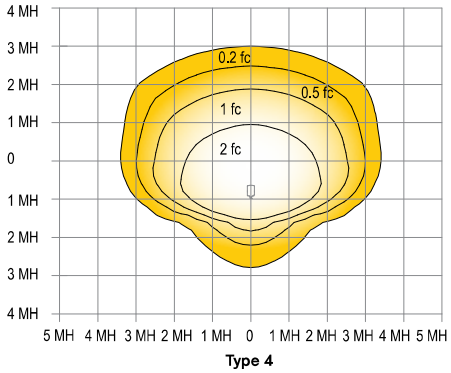
Based on configuration ECF-S-48L-1A-NW-G2 (159W) mounted at 20ft.



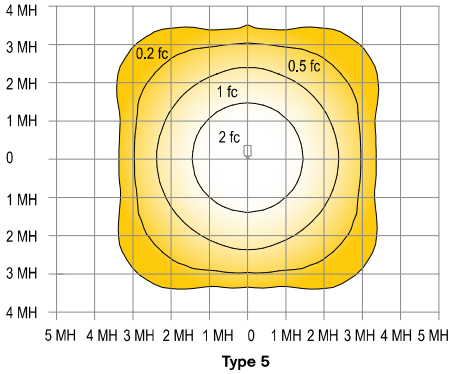
Type 2



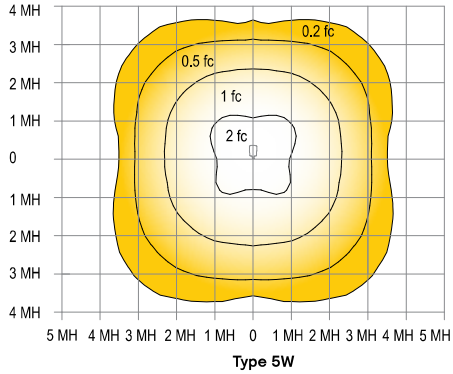
Type 3



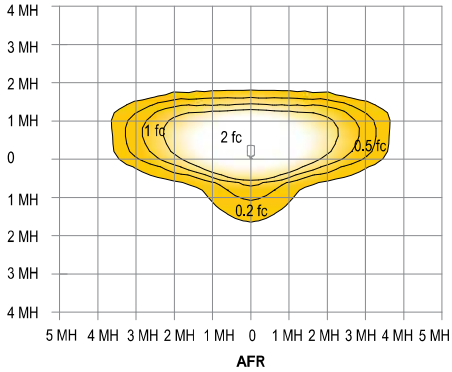
Type 4



Type 5



Type 5W



AFR

ECF-S EcoForm small

Area luminaire

3000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,508	B1-U0-G1	138	5,428	B1-U0-G2	136	5,637	B1-U0-G2	141
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,159	B2-U0-G2	129	7,055	B1-U0-G2	127	7,327	B1-U0-G2	132
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,234	B2-U0-G2	127	9,034	B2-U0-G2	124	9,452	B2-U0-G2	130
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,001	B3-U0-G2	123	12,719	B2-U0-G2	120	13,306	B2-U0-G3	126
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,421	B3-U0-G3	119	14,108	B2-U0-G3	116	14,760	B2-U0-G3	121
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,115	B3-U0-G3	127	16,744	B3-U0-G3	124	17,518	B2-U0-G3	130
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	19,381	B3-U0-G3	122	18,960	B3-U0-G3	119	19,836	B3-U0-G4	125
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	21,515	B3-U0-G3	118	21,048	B3-U0-G4	115	22,020	B3-U0-G4	121
ECF-S-64L-900-WW-G2-x	64	900	3000	178	22,652	B3-U0-G3	127	22,161	B3-U0-G4	125	23,185	B3-U0-G4	130
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	25,520	B3-U0-G3	124	24,966	B3-U0-G4	121	26,120	B3-U0-G4	127

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,706	B2-U0-G1	143	5,790	B3-U0-G1	145	5,604	B3-U0-G1	140
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,417	B2-U0-G1	133	7,526	B3-U0-G2	135	7,284	B3-U0-G2	131
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,567	B2-U0-G2	131	9,707	B4-U0-G2	133	9,395	B4-U0-G2	129
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,467	B3-U0-G2	128	13,665	B4-U0-G2	129	13,227	B4-U0-G2	125
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,939	B3-U0-G2	123	15,158	B4-U0-G2	125	14,671	B4-U0-G2	121
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,731	B3-U0-G2	131	17,990	B4-U0-G2	133	17,413	B5-U0-G3	129
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	20,076	B3-U0-G2	127	20,372	B5-U0-G3	128	19,717	B5-U0-G3	124
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	22,288	B3-U0-G2	122	22,616	B5-U0-G3	124	21,888	B5-U0-G3	120
ECF-S-64L-900-WW-G2-x	64	900	3000	178	23,465	B3-U0-G2	132	23,810	B5-U0-G3	134	23,045	B5-U0-G3	130
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	26,437	B4-U0-G3	128	26,150	B5-U0-G3	127	25,964	B5-U0-G4	126

4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,536	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138
ECF-S-32L-700-NW-G2-x	32	700	4000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127
ECF-S-64L-900-NW-G2-x	64	900	4000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,405	B3-U0-G4	137
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	6,006	B2-U0-G1	150	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,807	B2-U0-G1	140	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-NW-G2-x	32	700	4000	73	10,070	B2-U0-G2	138	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	14,176	B3-U0-G2	134	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,725	B3-U0-G2	129	15,956	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18664,	B3-U0-G2	138	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	21,133	B3-U0-G2	133	21,444	B5-U0-G3	135	20,755	B5-U0-G3	131
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	23,461	B3-U0-G2	128	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-NW-G2-x	64	900	4000	178	24,700	B3-U0-G2	139	25,063	B5-U0-G3	141	24,258	B5-U0-G4	136
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	27,828	B4-U0-G3	135	27,526	B5-U0-G3	134	27,330	B5-U0-G4	133

ECF-S EcoForm small

Area luminaire

5000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148
ECF-S-32L-530-CW-G2-x	32	530	5000	56	75,36	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138
ECF-S-32L-700-CW-G2-x	32	700	5000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127
ECF-S-64L-900-CW-G2-x	64	900	5000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,405	B3-U0-G4	137
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	6,006	B2-U0-G1	150	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-CW-G2-x	32	530	5000	56	7,807	B2-U0-G1	140	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-CW-G2-x	32	700	5000	73	10,070	B2-U0-G2	138	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	14,176	B3-U0-G2	134	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,725	B3-U0-G2	129	15,956	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,664	B3-U0-G2	138	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	21,133	B3-U0-G2	133	21,444	B5-U0-G3	135	20,755	B5-U0-G3	131
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	23,461	B3-U0-G2	128	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-CW-G2-x	64	900	5000	178	24700	B3-U0-G2	139	25063	B5-U0-G3	141	24258	B5-U0-G4	136
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	27828	B4-U0-G3	135	27526	B5-U0-G3	134	27330	B5-U0-G4	133

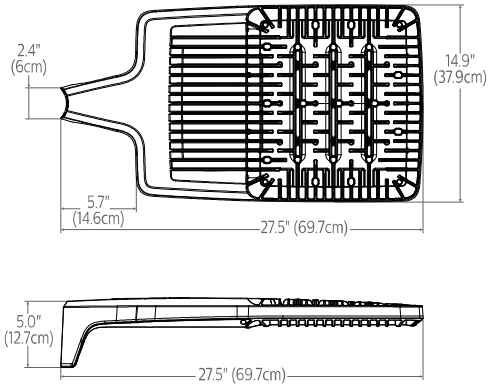
ECF-S EcoForm small

Area luminaire

Dimensions

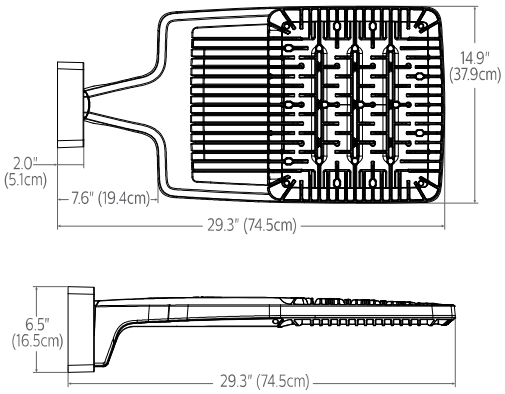
Standard Arm (**AR**)

Weight: 22 Lbs (9.9 Kg) EPA: 0.21ft² (.019m²)



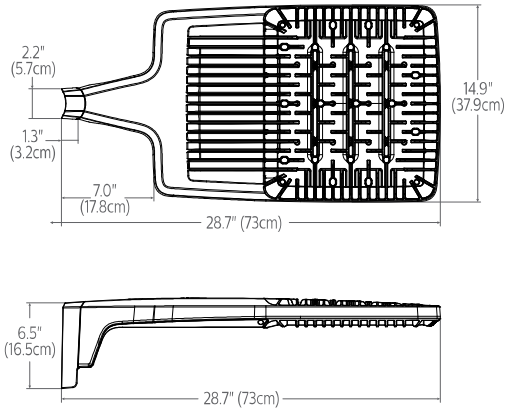
Wall (**WS**)

Weight: 27 Lbs. (12. 2Kg)EPA: 0.27ft² (.025m²)



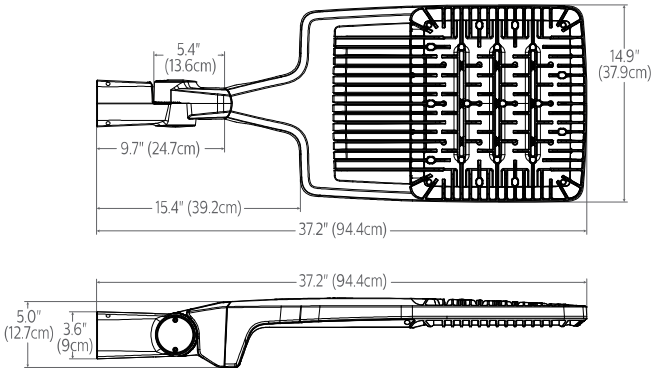
Retrofit Arm (**RAM**)

Weight: 24 Lbs (10.9 Kg) EPA: 0.24ft² (.022m²)

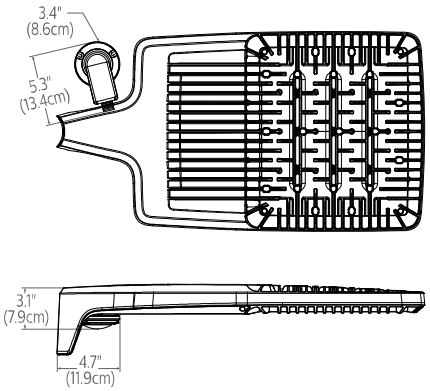


Slip fitter (**SF**)

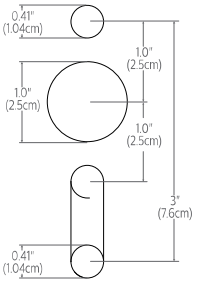
Weight: 27 Lbs (12.2 Kg) EPA: 0.33ft² (.031m²)



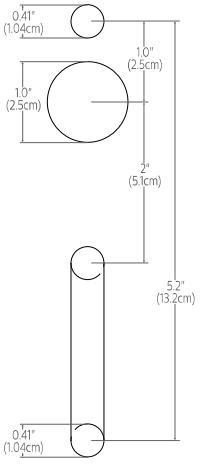
Outboard **IMR-HVU** sensor



Standard Arm (**AR**) drill pattern



Retrofit Arm (**RAM**) drill pattern



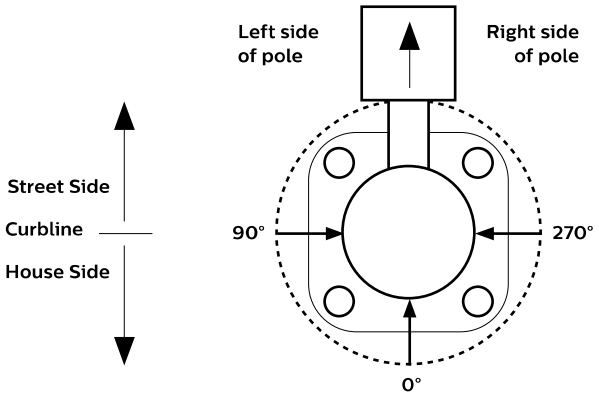
ECF-S EcoForm small

Area luminaire

Optical Orientation Information

Standard Optic Position

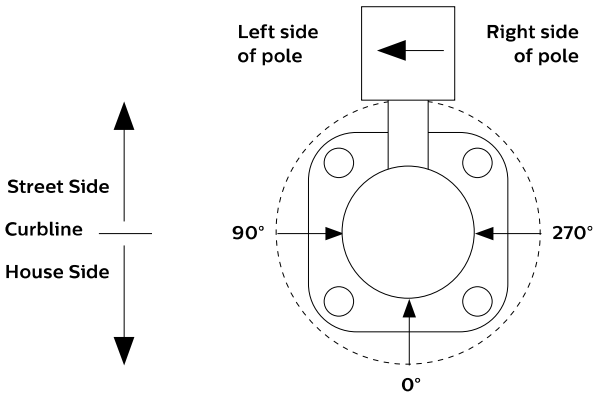
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Left (90°) Optic Position

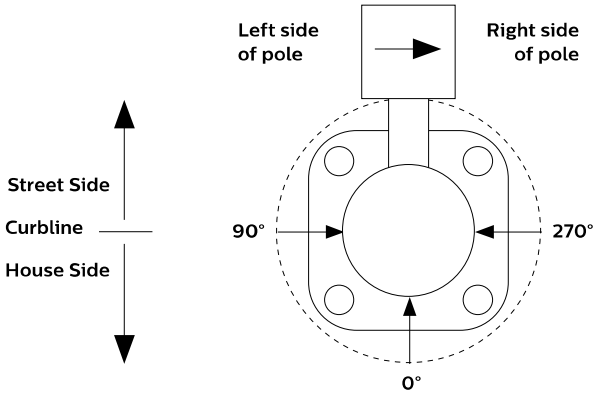
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Right (270°) Optic Position

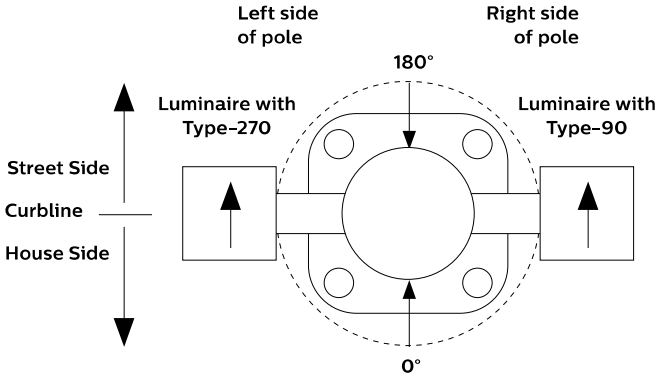
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



Note: The hand hole will normally be located on the pole at the 0° point.

Twin Luminaire Assemblies with Type-90/Type-270 Rotated Optical Systems

Twin luminaire assemblies installed with rotated optical systems are an excellent way to direct light toward the interior of the site (Street Side) without additional equipment. It is important, however, that care be exercised to insure that luminaires are installed in the proper location.



Luminaires with Optic Rotated Right (270°) are installed on the LEFT Side of Pole

Luminaires with Optic Rotated Left (90°) are installed on the RIGHT Side of Pole

Note: The hand hole location will depend on the drilling configuration ordered for the pole.

ECF-S EcoForm small

Area luminaire

Specifications

Housing

One-piece die cast aluminum housing with integral arm and separate, self-retained hinged, one-piece die cast door frame. Luminaire housing rated to IP66, tested in accordance to Section 9 of IEC 60598-1.

Vibration resistance

Luminaire is tested and rated 3G over 100,000 cycles conforming to standards set forth by ANSI C136.31-2010. Testing includes vibration in three axes, all performed on the same luminaire.

Light engine

Light engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 2, 3, and 4 modules or 32, 48, and 64 LEDs. Module is RoHS compliant. Color temperatures: 3000K +/-125K, 4000K, 5000K +/- 200K. Minimum CRI of 70. LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

Energy saving benefits

System efficacy up to 133 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Optical systems

Type 2, 3, 4, 5, 5W, and AFR distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, 4, and AFR distributions. Types 2, 3, 4, and AFR when specified and used as rotated, are factory set only. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

Mounting

Standard luminaire arm mounts to 4" O.D. round poles. Can also be used with 5" O.D. poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles. EcoForm features a retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately. Also optional are slipfitter and wall mounting accessories. Note that only fixed mounts (AR, RAM, WS) are required to meet IDA compliance. SF mounting will not meet IDA.

Control options

0-10V dimming (DD): Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

Dual Circuit Control (DCC): Luminaire equipped with the ability to have two separate circuits controlling drivers and light engines independently. Permits separate switching of separate modules controlled by use of two sets of leads, one for each circuit. Not recommended to be used with other control options, motion response, or photocells.

SiteWise (SW): SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise.

Automatic Profile Dimming (CS/CM/CE/CA): Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic diming profile schedule. Automatic dimming profile scheduled with the following settings:

- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM - 6 AM)
- **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM - 6 AM)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1 or 2 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

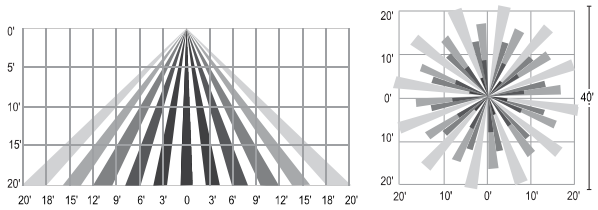
Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

Note: Typical value accuracy +/- 5%

Wireless system (LLC): Optional wireless controller integral to luminaire ready to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Equipped with motion response with #3 lens for 8-25' mounting heights. Also available with remote pod accessory where pod is mounted separate from luminaire to pole or wall.

LLC wireless controller with #3 lens



Motion response options

Bi-Level Infrared Motion Response (BL-IMRI): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

ECF-S EcoForm small

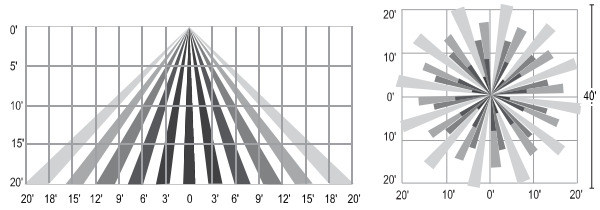
Area luminaire

Specifications

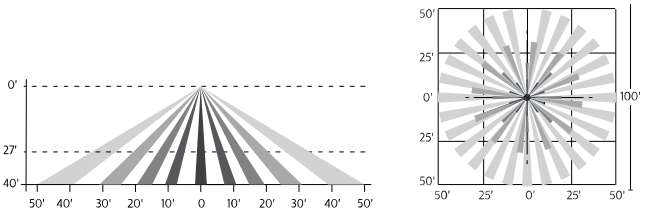
Infrared Motion Response with Other Controls: When used in combination with other controls (Automatic Dimming Profile and SiteWise), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

Infrared Motion Response Lenses (IMRI3/IMRI7): Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. Lens #7 is designed for higher mounting heights up to 40' with larger coverage areas up to 100' diameter coverage area. See charts for approximate detection patterns:

IMRI3 Luminaire or remote mount controller with #3 lens



IMRI7 Luminaire or remote mount controller with #7 lens



Electrical

Twist-Lock Receptacle (TLRD5/TLRD7/ TLRPC): Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering Twist-lock receptacle (TLRD5 or TLRD7), photocell or shorting cap is not included. TLRPC is shipped standard with 5 pin.

Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.

Surge protection (SP1/SP2): Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA. 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

Listings

UL/cUL wet location listed to the UL 1598 standard, suitable for use in ambient temperatures from -40° to 40°C (-40° to 104°F). Most EcoForm configurations are qualified under Premium and Standard DesignLights Consortium® categories. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark Sky Approved.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away. For more details visit: signify.com

Warranty

EcoForm luminaires feature a 5-year limited warranty
See signify.com/warranties for complete details and exclusions.

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Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008

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GARDCO by signify

Wall Mount

LED wall sconce

121



Gardco LED wall sconce 121 offers distinction through its styling, powerful optical design, array of distributions, and impressive selection of control possibilities. Designed to add an element of style to your application by pairing straight lines with rounded edges, the form of the 121 is timeless, yet contemporary, and will complement a wide assortment of architectural styles and designs, while delivering high light levels and functional distributions. 121 sconces are available in Type 2, 3, and 4 distributions, and provide output of up to 12,400 lumens. Energy saving control options help to increase energy savings and offer California Title 24 compliance. Emergency Battery Backup option available for path-of-egress and is integral to the luminaire.

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Ordering guide

example: 121-32L-700-NW-G4-3-120-BL-IMRI2-BZ

Prefix	Number of LEDs	Drive Current	LED Color-Generation	Distribution	Emergency	Voltage
121 LED wall sconce	**16L** 16 LEDs (1 module)	**200** 200mA **400** 400mA **530** 530mA **700** 700mA **1000** 1000mA **1200** 1200mA	**CW-G4** Cool White 5000K, 70CRI Generation 4 **NW-G4** Neutral White 4000K, 70CRI Generation 4 **WW-G4** Warm White 3000K, 70CRI Generation 4 **WY-G4** Warm Yellow 2700K, 80 CRI Generation 4 [2] **BW-G4** Balanced White 3500K 80CRI Generation 4 [2] **AM-G4** Direct Amber (590nm) Generation 4 [2]	**2** Type 2 **3** Type 3 **4** Type 4	**EBPC** Emergency Battery Pack Cold Weather [1,3,13] Leave blank to omit an emergency option	**UNV** 120-277V **HVU** 347-480V **120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V
	32L 32 LEDs (2 modules)	**530** 530mA **700** 700mA **1000** 1000mA				

Options

Dimming controls	Motion sensing lens	Photo sensing	Electrical	Finish
DD 0-10V External dimming (controls by others) [4] **DCC** Dual Circuit Control [4,5,6,9] **FAWS** Field Adjustable Wattage [4,5] **SW** Interface Module for SiteWise [4,6,11] **LLC** Integral wireless module [4,6,7,12] **BL** Bi-level functionary with motion sensor [4,7,12] **DynaDimmer: Automatic Profile Dimming** [4,7] **CS50** Security 50% Dimming, 7 hours **CM50** Median 50% Dimming, 8 hours **CS30** Security 30% Dimming, 7 hours **CM30** Median 30% Dimming, 8 hours	**IMRI2** Integral with #2 lens [10] **IMRI3** Integral with #3 lens [10]	**PCB** Photocontrol Button [7,8]	**Fusing** **F1** Single (120, 277, 347VAC) [8] **F2** Double (208, 240, 480VAC) [8] **F3** Canadian Double Pull (208, 240, 480VAC) [8] **Surge Protection (10kA standard)** **SP2** Increased 20kA	**Textured** **BK** Black **WH** White **BZ** Bronze **DGY** Dark Gray **MGY** Medium Gray **Customer specified** **RAL** Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **CC** Custom color (Must supply color chip for required factory quote)

[1] Only 16L up to 700mA can be used with battery backup (EBPC) configuration.

[2] Extended lead times apply. Contact factory for details.

[3] Available in 120V or 277V only.

[4] Not available with other dimming control options.

[5] Not available with motion sensor.

[6] Not available with photocontrol.

[7] Not available in 347 or 480V.

[8] Must specify input voltage.

[9] Available with two modules (32L) at 530mA.

[10] Not available with DD, DCC, and FAWS dimming control options.

[11] Available in 120V, 277V, or 347V.

[12] Must specify a motion sensor lens.

[13] Not available with DCC, FAWS, SW, and LLC.

121 LED wall sconce

Luminaire Accessories (order separately)

Mounting Accessories

Wall Mount

WS	Wall Mounted Box for Surface Conduit

System accessories

Wireless system remote mount module

LLCR2-(F) #2 lens - specify finish in place of (F)
LLCR3-(F) #3 lens - specify finish in place of (F)

Central Remote Motion Response
(used connected to SiteWise main panel)

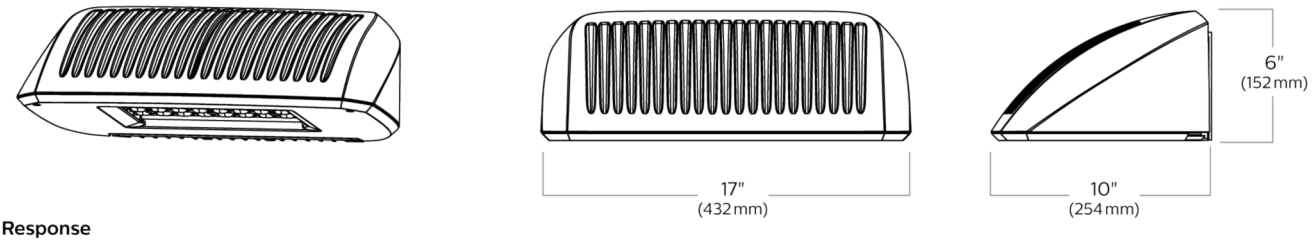
MS2-A-FVR-3
MS2-A-FVR-7

Wireless system remote controller accessory

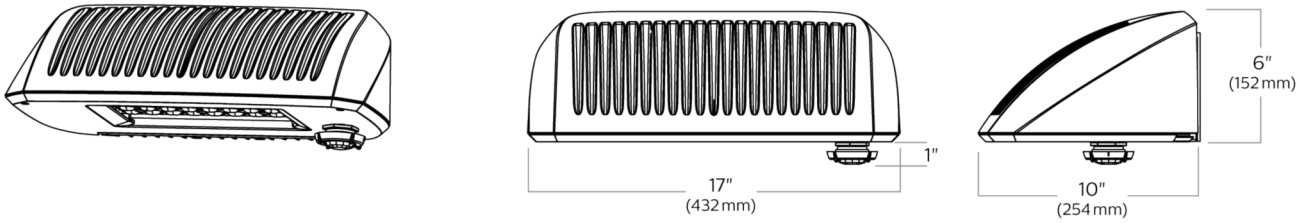
Wireless system offers a remote radio/sensor module that allows to connected to a Limelight system (sold by other). Remote module can be mounted to wall or pole with j-box supplied. May be specified by choosing one of two different lenses to accommodate a variety of mounting heights/ sensor detection ranges. Must specify option DD on luminaires that are planned to be used with remote mount controllers. See page 4 for Wireless system details.

Dimensions

Standard Luminaire



Motion Response

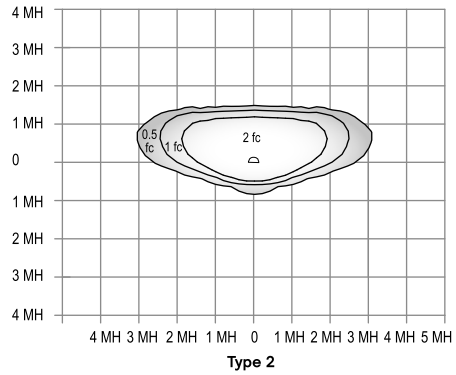


Luminaire Weights

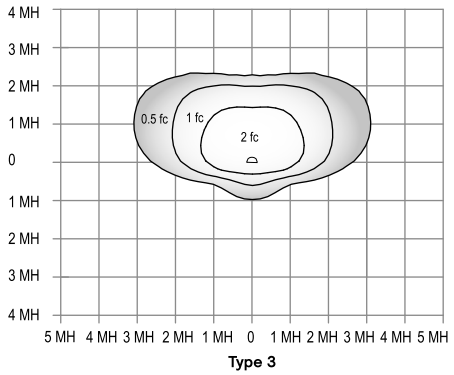
LED wall sconce 121	Weight
Luminaire	15.0 lbs
Luminaire - EBPC (EM battery pack)	18.5 lbs
Luminaire - Integrated system controls	17.0 lbs

Optical Distributions

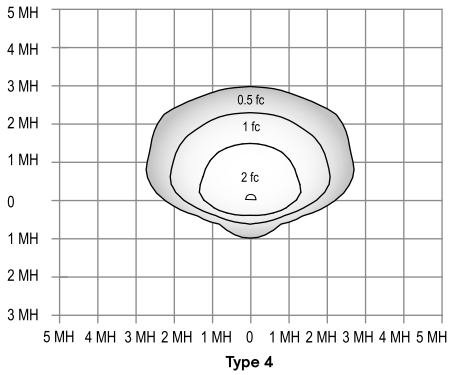
Based on configuration 121-32L-530-NW-G4 (52W) mounted at 15ft.



Type 2



Type 3



Type 4

121 LED wall sconce

3000K LED Wattage and Lumen Values

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Average System Watts (W)	Type 2			Type 3			Type 4		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
121-16L-200-WW-G4-x	16	200	3000	12	1350	109	B0-U0-G1	1248	101	B0-U0-G1	1252	101	B0-U0-G1
121-16L-400-WW-G4-x	16	400	3000	22	2576	116	B1-U0-G0	2382	107	B1-U0-G0	2389	108	B1-U0-G0
121-16L-530-WW-G4-x	16	530	3000	28	3119	111	B1-U0-G0	2885	103	B1-U0-G1	2893	103	B1-U0-G1
121-16L-700-WW-G4-x	16	700	3000	38	4091	107	B1-U0-G1	3785	99	B1-U0-G1	3795	99	B1-U0-G1
121-16L-1000-WW-G4-x	16	1000	3000	55	5313	97	B2-U0-G1	4915	90	B1-U0-G1	4928	90	B1-U0-G2
121-16L-1200-WW-G4-x	16	1200	3000	66	5935	90	B2-U0-G1	5490	84	B1-U0-G2	5505	84	B1-U0-G2
121-32L-530-WW-G4-x	32	530	3000	52	6551	126	B2-U0-G1	6061	117	B1-U0-G2	6076	117	B1-U0-G2
121-32L-700-WW-G4-x	32	700	3000	70	8336	119	B2-U0-G1	7711	110	B1-U0-G2	7732	110	B1-U0-G2
121-32L-1000-WW-G4-x	32	1000	3000	107	11179	105	B3-U0-G2	10341	97	B2-U0-G2	10369	97	B2-U0-G2

4000K LED Wattage and Lumen Values

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Average System Watts (W)	Type 2			Type 3			Type 4		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
121-16L-200-NW-G4-x	16	200	4000	12	1500	121	B0-U0-G1	1387	112	B0-U0-G1	1391	112	B0-U0-G1
121-16L-400-NW-G4-x	16	400	4000	22	2862	129	B1-U0-G0	2647	119	B1-U0-G0	2654	120	B1-U0-G0
121-16L-530-NW-G4-x	16	530	4000	28	3465	123	B1-U0-G0	3205	114	B1-U0-G1	3214	114	B1-U0-G1
121-16L-700-NW-G4-x	16	700	4000	38	4546	118	B1-U0-G1	4206	110	B1-U0-G1	4217	110	B1-U0-G1
121-16L-1000-NW-G4-x	16	1000	4000	55	5903	108	B2-U0-G1	5461	100	B1-U0-G2	5476	100	B1-U0-G2
121-16L-1200-NW-G4-x	16	1200	4000	66	6594	101	B2-U0-G1	6100	93	B1-U0-G2	6117	93	B1-U0-G2
121-32L-530-NW-G4-x	32	530	4000	52	7279	140	B2-U0-G1	6734	130	B1-U0-G2	6751	130	B1-U0-G2
121-32L-700-NW-G4-x	32	700	4000	70	9262	132	B2-U0-G1	8568	122	B1-U0-G2	8591	122	B2-U0-G2
121-32L-1000-NW-G4-x	32	1000	4000	107	12421	116	B3-U0-G2	11490	108	B2-U0-G2	11521	108	B2-U0-G2

5000K LED Wattage and Lumen Values

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Average System Watts (W)	Type 2			Type 3			Type 4		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
121-16L-200-CW-G4-x	16	200	5000	12	1500	121	B0-U0-G1	1387	112	B0-U0-G1	1391	112	B0-U0-G1
121-16L-400-CW-G4-x	16	400	5000	22	2862	129	B1-U0-G0	2647	119	B1-U0-G0	2654	120	B1-U0-G0
121-16L-530-CW-G4-x	16	530	5000	28	3465	123	B1-U0-G0	3205	114	B1-U0-G1	3214	114	B1-U0-G1
121-16L-700-CW-G4-x	16	700	5000	38	4546	118	B1-U0-G1	4206	110	B1-U0-G1	4217	110	B1-U0-G1
121-16L-1000-CW-G4-x	16	1000	5000	55	5903	108	B2-U0-G1	5461	100	B1-U0-G2	5476	100	B1-U0-G2
121-16L-1200-CW-G4-x	16	1200	5000	66	6594	101	B2-U0-G1	6100	93	B1-U0-G2	6117	93	B1-U0-G2
121-32L-530-CW-G4-x	32	530	5000	52	7279	140	B2-U0-G1	6734	130	B1-U0-G2	6751	130	B1-U0-G2
121-32L-700-CW-G4-x	32	700	5000	70	9262	132	B2-U0-G1	8568	122	B1-U0-G2	8591	122	B2-U0-G2
121-32L-1000-CW-G4-x	32	1000	5000	107	12421	116	B3-U0-G2	11490	108	B2-U0-G2	11521	108	B2-U0-G2

LED Wattage and Lumen Values (Emergency Mode)

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Avg. System Watts		Lumen Outputs by Optic Type					
						Type 2		Type 3		Type 4	
				Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode
121-16L-200-NW-G4-x-EBPC	16	200	5000	12	14	1500	1654	1387	1510	1391	1543
121-16L-400-NW-G4-x-EBPC	16	400	5000	22	14	2862	1654	2647	1510	2654	1543
121-16L-530-NW-G4-x-EBPC	16	530	5000	28	14	3465	1654	3205	1510	3214	1543
121-16L-700-NW-G4-x-EBPC	16	700	5000	38	14	4546	1654	4206	1510	4217	1543

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

For emergency EBPC option, published values are based on initial lumens.

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

Ambient Temperature °C	Drive current	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
40°C	up to 1200 mA	>100,000 hours	>42,000 hours	>99%

121 LED wall sconce

Specifications

Housing

Main body cast housing and back plate made of a low copper die cast Aluminum alloy for a high resistance to corrosion, 0.100" (2.5mm) minimum thickness. Hinged door allows access to driver and LED compartment.

Light Engine

Light engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 1 and 2 modules or 16 and 32 LEDs. Module is RoHS compliant. Standard color temperatures: 3000K +/-125K, 4000K, 5000K +/- 200K. Minimum CRI of 70. Also available in 2700K, 3500K, and Amber (590nm) with extended lead times. Contact factory for details.

LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

Energy Saving Benefits

System efficacy up to 140 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Mounting

Mounting is completed through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Mounting plate is located in the center of the luminaire width and 3.5" above the luminaire bottom (lens down position). Luminaire ships fully assembled, ready to install.

Optical System

Type 2, 3, and 4 distributions available. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

Control Options

0-10V dimming (DD): Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

Dual Circuit Control (DCC): Luminaire equipped with the ability to have two separate circuits controlling drivers and light engines independently. Permits separate switching of 2 modules each at 530mA (32L models), controlled by use of two sets of leads, one for each circuit. Not recommended to be used with other control options, motion response, or photocells.

Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

Note: Typical value accuracy +/- 5%

SiteWise (SW): SiteWise system includes a controller fully integrated in he luminaire that enables the luminaires to communicate with a dimming ignal transmitter cabinet located on site using patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise.

Automatic Profile Dimming (CS/CM): Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic dimming profile schedule. Automatic dimming profile scheduled with the following settings:

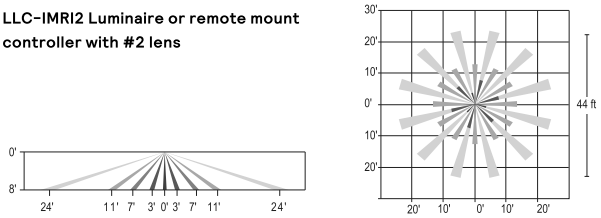
- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM - 6 AM)
- **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM - 6 AM)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 2, or 3 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

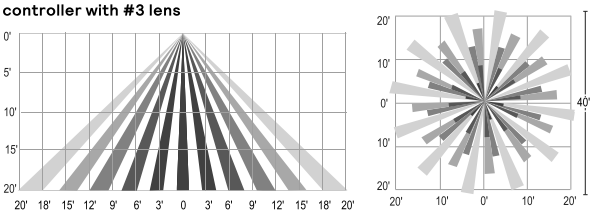
Emergency Battery Backup Cold Pack (EBPC): Emergency battery pack is cold weather rated down to -20oC (-4oF) and integral to the luminaire, allowing for a consistent look between emergency and non-emergency sconces. A separate surface mount accessory box is not required. Emergency battery pack is used with 16L configuration up to 700mA, operating in emergency mode to meet various redundancy requirements. Secondary driver with relay immediately detects AC power loss and powers luminaire for a minimum of 90 minutes from the time power is lost. Available in 120 or 277V only.

Wireless system (LLC): Optional wireless controller integral to luminaire ready to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Equipped with motion response with #2 lens (LLC-IMRI2) for 8' to 15' mounting height" or #3 lens (LLC-IMRI3) for 8-25' mounting heights. Also available with remote pod accessory where pod is mounted separate from luminaire to pole or wall.

LLC-IMRI2 Luminaire or remote mount controller with #2 lens



LLC-IMRI3 Luminaire or remote mount controller with #3 lens



Motion Response Options

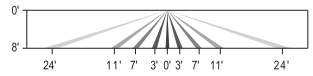
121 LED wall sconce

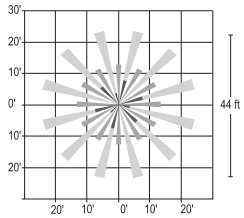
Specifications

Bi-Level Infrared Motion Response (BL-IMRI3): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

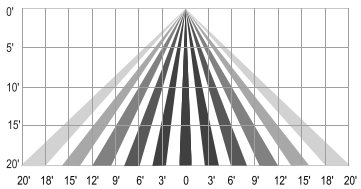
Infrared Motion Response with Other Controls (SW-IMRI3): When used in combination with other controls (Automatic Dimming Profile and SiteWise), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be reprogrammed via the controller. Infrared Motion Response Lenses (IMRI2/IMRI3): Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #2 (IMRI2) is designed for lower mounting heights up to 8' with larger coverage areas up to 44' diameter coverage area. Lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. See charts for approximate detection patterns:

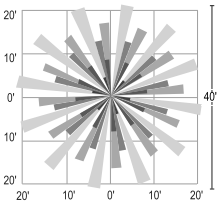
IMRI2 Luminaire or remote mount controller with #2 lens





IMRI3 Luminaire or remote mount controller with #3 lens





Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.

Surge protection (SP1/SP2): Each luminaire is provided as standard with surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/5kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid-State Street Lighting Consortium) Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High Test Level 10kV / 5kA. Optional 20kV is available for additional protection.

Finish

Five standard colors offered in textured black, white, bronze, dark gray and medium gray. Color in accordance with the AAMA 2604 standard. Application of polyester powder coat paint 2.5 mils minimum. The thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. RAL and custom color matching available.

Listings

cULus Listed for Canada and USA suitable for wet locations when mounted downward facing. cULus Listed for Canada and USA suitable for damp locations when inverted upward facing when mounted in covered ceiling application. Emergency Battery Pack option is tested and listed to UL924 and CSA C22.2 No. 141-10 DesignLights Consortium qualified on models as listed on DLC QPL. CCTs 3000K and warmer are Dark Sky Approved. Luminaire is rated for operation in ambient temperature of -40°C (-40°F) up to +40°C (+104°F)[4].

Warranty

121 LED sconce luminaires feature a 5-year limited warranty.
See signify.com/warranties for complete details and exclusions

Electrical

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

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Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008

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SOUTH US HIGHWAY 1

EMIL FRANCISCO JR
PARCEL #3403-433-0007-000-5
ZONING: C-3; FLU: GC; USE: COMMERCIAL

DEEANNA D FRANCISCO
PARCEL # 3403-433-0004-000-4

TOMMY J FRY
PARCEL # 3403-433-0002-000-0

MARY D WALDRON
PARCEL # 3403-433-0001-000-3

PORT ST LUCIE INVESTMENTS INC
PARCEL # 3403-433-0009-000-9
ZONING: C-3; FLU: GC; USE: COMMERCIAL

ONE STORY BUILDING

CONC. PAD

BILLBOARD POLE

BILLBOARD LIMITS

SHED

ONE STORY BUILDING

10' INGRESS/EGRESS EASEMENT
P.B. 187 PAGE 198

N. LINE OF S. 1/3 OF N. 3/5 OF S.W. 1/4, S.W. 1/4, S.E. 1/4

NORTH COURTENAY PARKWAY
STATE ROAD NO. 513
(ASPHALT PAVEMENT WIDTH VARIES)
(RIGHT OF WAY WIDTH VARIES)

EXIT DRIVE

VACUUMS

PAYSTATIONS

4 EMPLOYEE SPACES

DRIVE

ASPHALT PARKING

ASPHALT PARKING

CONC. MEDIAN

GRASS MEDIAN

GRASS MEDIAN

CONC. S/W

CURB

CURB

CURB

S 89°58'09" W

N 89°56'31" E

560.28'

560.53'

20' P.U.E.

N. LINE OF S. 1/3 OF N. 3/5 OF S.W. 1/4, S.W. 1/4, S.E. 1/4

E. LINE OF S.W. 1/4, S.W. 1/4, S.E. 1/4

LESS THE EAST 30'

NSLRWCD
PARCEL # 3403-433-

T.O.S.

T.O.B.

T.O.S.

SITE

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: 5340 S US HIGHWAY 1
Sec/Town/Range: 03/36S/40E
Parcel ID: 3403-433-0008-000-2
Jurisdiction: Fort Pierce

Use Type: 1000
Account #: 38810
Map ID: 34/03S
Zoning: General Co

Ownership

Sue-Ellen G Mosler (TR)
PO Box 530127
Lake Park, FL 33403



Legal Description

3 36 40 S 175 FT OF N 357 FT OF SW 1/4 OF SW 1/4 OF SE 1/4-LESS RD (2.25 AC) (OR 2270-2108: 3047-2006)

Current Values

Just/Market Value:	$392,000
Assessed Value:	$392,000
Exemptions:	$0
Taxable Value:	$392,000

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	2.25
Land Size (SF):	98,162

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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AGENT OF RECORD LETTER

I **DAN BRAINARD, MANAGER, TWINS CAR WASH LLC**, (Print) hereby designate and appoint **RAVI ALUR AND MARIA GARCIA, ASPIRE ENGINEERING INC.** as my Agent of Record for the purposes of representing me during the Development Review Process or for the purpose of utilities service connection application/FDEP permitting reviews and approvals with regard to: (Project Name **TWINS CARWASH -FT PIERCE**

and No._____.

My Agent of Record is hereby vested with authority to make any representations, agreements, or promises which are necessary or desirable in conjunction with the review process. My Agent of Record is also authorized to accept or reject any conditions imposed by any reviewing board or entity.

Dated this 16 day of Aug.

DAN BRAINARD, MANAGER, TWINS CARWASH LLC
PRINTED NAME OF APPLICANT/OWNER

APPLICANT/OWNER'S SIGNATURE

RAVI ALUR, P.E., LEED AP
PRINTED NAME OF APPLICANT'S(S') REPRESENTATIVE

ASPIRE ENGINEERING, INC.
APPLICANT'S(S') REPRESENTATIVE

1023 PROFESSIONAL PARK DRIVE
REPRESENTATIVE'S ADDRESS

BRANDON, FL 33511
CITY, STATE, ZIP CODE

(813) - 571 - 2850
TELEPHONE NUMBER

STATE OF FLORIDA
COUNTY OF

I HEREBY CERTIFY that on this day, personally appeared before me, an officer duly qualified to administer oaths and take acknowledgments, to me known to be the person(s) described in and who executed the above and foregoing Agent of Record Letter and who acknowledged before me that (s)he executed the same for the purposes therein expressed.

WITNESS my hand an official seal in the County and State last aforesaid this 16th day of August, 2022.

Nathalia Sovero.
NOTARY PUBLIC
State of Florida at Large

My Commission Expires: November 3rd, 2023

NATHALIA SOVERO NOTARY PUBLIC STATE OF FLORIDA My Comm. Expires November 3, 2023 No. GG 928299

AGENT OF RECORD LETTER

I Sue-Ellen G Mosler (TR), (Print) hereby designate and appoint RAVI ALUR AND MARIA GARCIA, ASPIRE ENGINEERING INC. as my Agent of Record for the purposes of representing me during the Development Review Process or for the purpose of utilities service connection application/FDEP permitting reviews and approvals with regard to: (Project Name and No. TWINS CARWASH -FT PIERCE). **At no expense to Sue-Ellen G. Mosler.**

My Agent of Record is hereby vested with authority to make any representations, agreements, or promises which are necessary or desirable in conjunction with the review process. My Agent of Record is also authorized to accept or reject any conditions imposed by any reviewing board or entity.

Dated this _____ day of _____.

Sue-Ellen G Mosler (TR)
PRINTED NAME OF APPLICANT/OWNER

Sue-Ellen G Mosler (TR)
APPLICANT/OWNER'S SIGNATURE

RAVI ALUR, P.E., LEED AP
PRINTED NAME OF APPLICANT'S(S') REPRESENTATIVE

ASPIRE ENGINEERING, INC.
APPLICANT'S(S') REPRESENTATIVE

1023 PROFESSIONAL PARK DRIVE
REPRESENTATIVE'S ADDRESS

BRANDON, FL 33511
CITY, STATE, ZIP CODE

(813) . 571 . 2850
TELEPHONE NUMBER

STATE OF FLORIDA
COUNTY OF

I HEREBY CERTIFY that on this day, personally appeared before me, an officer duly qualified to administer oaths and take acknowledgments, to me known to be the person(s) described in and who executed the above and foregoing Agent of Record Letter and who acknowledged before me that (s)he executed the same for the purposes therein expressed.

WITNESS my hand an official seal in the County and State last aforesaid this 29th day of August, 2022.

Lucile M Long
NOTARY PUBLIC
State of Florida at Large

My Commission Expires:

LUCILE M LONG
Notary Public - State of Florida
Commission # HH 191530
My Comm. Expires Mar 15, 2024
Bonded through National Notary Assn.

SITE PLANS

FOR

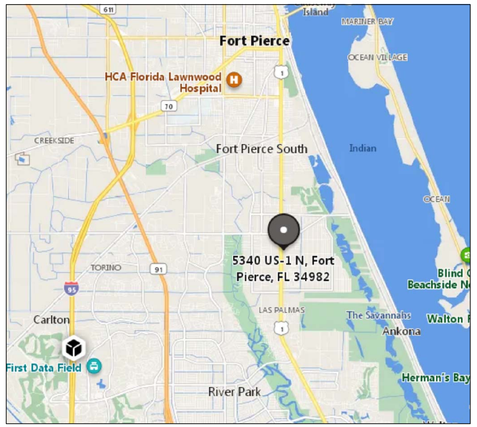
TWIN'S CARWASH -FT. PIERCE

SECTIONS 03, TOWNSHIP 36 S., RANGE 40 E. CITY OF FT. PIERCE, FLORIDA

LEGAL DESCRIPTION

THE SOUTH 175 FEET OF THE NORTH 357 FEET OF THE SOUTHWEST $\frac{1}{4}$ OF THE SOUTHWEST $\frac{1}{4}$ OF THE SOUTHEAST $\frac{1}{4}$ OF SECTION 3, TOWNSHIP 36 SOUTH, RANGE 40 EAST, LESS AND EXCEPT THE EAST 30 FEET THEREOF AND THE RIGHT OF WAY FOR HIGHWAY U.S. NO.1, ST. LUCIE COUNTY, FLORIDA

LOCATION MAP



INDEX OF SHEETS

SHEET NO.	DESCRIPTION:
C–1	COVER SHEET
C–2	BEST MANAGEMENT PRACTICES FOR EROSION CONTROL
C–3	EXISTING CONDITIONS
C–4	SITE GEOMETRY PLAN
C–5	PAVING, GRADING, DRAINAGE AND CONSTRUCTION SURFACE WATER MANAGEMENT PLAN
C–6	UTILITY PLAN
C–7	AIR/VAC/CHASE PIPE PLAN
C–8	LANDSCAPE PLAN
C–9 TO C–13	SITE DETAILS
C–14	LIFT STATION DETAILS

DEVELOPMENT INFORMATION

DEVELOPER	TWINS CAR WASH LLC 500 SE 18th Court FORT LAUDERDALE, FL 33316 PHONE: 813–649–9561 E–MAIL: rcaito@creativeconvenience.com
ENGINEER	RAVI ALUR, PE ASPIRE ENGINEERING INC. 1023 PROFESSIONAL PARK DRIVE BRANDON, FL 33511 PHONE: 813–571–2850 E–MAIL: aspireeng@yahoo.com
SURVEYOR	ALEX THOMPSON, P.L.S. EXTREME SURVEYING OF FLORIDA, INC. 29340 WHODIN ROAD WESLEY CHAPEL, FL 33545 PHONE: 813–973–2092 E–MAIL: alex@extreme–surveying.com

UTILITY PROVIDERS

SANITARY SEWER WATER AND ELECTRIC SERVICE	FT. PIERCE UTILITY AUTHORITY 1701 S 37TH STREET FORT PIERCE, FL 34984 PHONE: 772–466–1600 FAX: 772–468–2414
FIRE SERVICE	ST LUCIE COUNTY FIRE DISTRICT 5160 NW Milner Drive Port St. Lucie, FL 34983 Phone: 772–621–3400 E–Mail: info@slcfd.org
TELEPHONE SERVICE	Charter Spectrum 2251 Town Center Ave Suite 117, Melbourne, FL 32940 PHONE: 1–888–508–9082

SITE DATA TABLE

PARCEL ID: 3403–433–0008–000–2

LATITUDE: 27° 22' 5"; LONGITUDE: 80° 19' 31"

FLOOD ZONE: ZONE X
COMMUNITY PANEL NO. 12111C0277K
MAP REVISED: 02/19/2020

PROJECT SUMMARY & SITE DATA:		PROPOSED
TOTAL BUILDING AREA	=	4,930 SF (5.0%)
TOTAL ASPHALT/CONCRETE AREA	=	48,270 SF (49.3%)
TOTAL IMPERVIOUS AREA	=	53,200 SF (54.3%)
TOTAL GREEN AREA	=	44,823 SF (45.7%)
TOTAL SITE AREA	=	98,023 SF (2.25 ACRES)

FAR: 4,930/98,023 = 0.05

ZONING: C–3 FUTURE LAND USE: GC PROPOSED USE: AUTOMATED CARWASH WITH VACUUMS

SETBACK:	REQUIRED	PROPOSED
FRONT (S US HWY 1)	25.0 FT	91.2 FT
SIDE (NORTH)	15.0 FT	16.5 FT
SIDE (SOUTH)	0 FT	122.9 FT
REAR (EAST)	0 FT	320.7 FT

MAXIMUM BUILDING HEIGHTS PROPOSED: 30 FEET (1–STORY)

PARKING CALCULATIONS:
PARKING REQUIRED = 2 PER BAY = 2 SPACES
PARKING PROVIDED = 4 SPACES (INCLUDING 1 H/C SPACE)

DUMPSTERS NOTES: 1. DUMPSTER WILL BE IN ACCORDANCE WITH CITY OF FT. PIERCE LDC.
2. ALL DUMPSTERS WILL BE SCREENED FROM VIEW BY AN ENCLOSURE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE FRONT OF THE PRIMARY BUILDING.

DEVELOPER

TWINS CAR WASH, LLC
500 SE 18th Court
FORT LAUDERDALE, FL 33316

NOTE

DIMENSION INFORMATION SHOULD NOT BE OBTAINED BY SCALING THE PLANS. DIMENSION INFORMATION NOT PROVIDED HEREIN CAN BE OBTAINED BY CONTACTING ASPIRE ENGINEERING, INC. AT (813)571–2850

"INVESTIGATE BEFORE YOU EXCAVATE"



CALL SUNSHINE @ 1–800–432–4770
FL. STATUE 553.851 (1979) REQUIRES A MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

RAVI S.V. ALUR P.E. #50583

DATE:

C–1

ASPIRE ENGINEERING, INC. - CONSULTING ENGINEERS * PLANNERS
ENGINEERING EXCELLENCE DELIVERED

LAST REVISED OCTOBER 26, 2022
PROJECT NO. 22–017

1023 PROFESSIONAL PARK DR., BRANDON, FL 33511, Ph: (813)571–2850; Fax: (813)571–1753

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

I. SITE DESCRIPTION

(1) NATURE OF CONSTRUCTION ACTIVITY:

CONSTRUCT CAR WASH BUILDING, PARKING AND ASSOCIATED UTILITIES AND STORMWATER POND.

(2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

THE CONTRACTOR SHALL USE THIS SHEET ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR GRADING ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS, CONSTRUCTION ACTIVITY VARIATIONS, OR AS DIRECTED BY THE ENGINEER. APPLICABLE EROSION DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE FDOT ROADWAY DESIGN STANDARD INDEXES 100 THROUGH 106. THE ENGINEER IS RESPONSIBLE FOR DETERMINING IF ANY MODIFICATIONS OR ADDITIONAL CONTROLS ARE REQUIRED AND TO OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION CONTROL DEVICES FROM THE CONTRACTOR.

(3) GENERAL NOTES:

(a) ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO BEGINNING WORK.
(b) INSTALL SILT FENCE WHERE LISTED ON THIS PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.
(c) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
(d) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
(e) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.
(f) DO NOT REMOVE PERIMETER CONTROLS UNTIL AFTER ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT GRASSING OR PAVEMENT IS ESTABLISHED.
(g) ALL EXISTING DRAINAGE STRUCTURES AND PROPOSED INLETS SHALL BE PROTECTED FROM ALLOWING SEDIMENTATION TO ENTER THE DRAINAGE STRUCTURES
(h) ALL EXCESS FILL MATERIAL WILL BE HAULED OFFSITE.
(i) DEWATERING, IF REQUIRED, SHALL BE IN ACCORDANCE WITH CITY OF FT. PIERCE ESM SECTION 6.14.01 H.
(j) NO EXCAVATING MATERIAL SHALL BE STOCKPILED IN A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.

(4) PROJECT AREAS:

THE ESTIMATED TOTAL SITE AREA IS APPROXIMATELY 2.25 ACRES. THE ESTIMATED AREA THAT WILL BE DISTURBED DURING CONSTRUCTION ACTIVITIES IS APPROXIMATELY 2.25 ACRES.

(5) DESCRIPTION OF SOIL OR QUALITY OF DISCHARGE:

THE MAJORITY OF THE SOIL WITHIN THE PROJECT LIMITS IS URBAN SOIL WITH A DEPTH OF SEASONAL HIGH WATER TABLE OF 2.5 FT.

(6) ESTIMATED DRAINAGE AREA AND AVERAGE SLOPE OF DRAINAGE AREA: 2.25 ACRES AND 2.0%

(7) RECEIVING WATERS:

THE ON-SITE RUNOFF IS CONVEYED THROUGH STORM SEWER SYSTEM INTO North St. Lucie River Water Control District (NSLRWCD) STORMWATER SYSTEM. THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE COLLECTION SYSTEMS.

(8) OUTFALL LOCATION: LATITUDE: 27° 22' 5"; LONGITUDE: 80° 19' 31"

(9) THERE ARE NO WETLAND IMPACTS.

(10) DESCRIPTION OF STORM WATER MANAGEMENT:

(a) PRESENTLY, THE EXISTING STORM SEWER SYSTEM CONVEYS DRAINAGE FLOWS INTO NSLRWCD STORMWATER SYSTEM.
(b) DRAINAGE IMPROVEMENTS INCLUDE A NEW STORM SEWER SYSTEM INCLUDING INLETS, PIPES AND PONDS.
(c) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE WATERWAYS.

II. CONTROLS:

EROSION AND SEDIMENT CONTROLS

(1) WATER QUALITY MONITORING SHALL BE CONDUCTED BY THE CONTRACTOR. UPON THE OBSERVATION THAT THE WATER QUALITY IS BEING VIOLATED BY THE CONTRACTOR'S ACTIVITIES, MONITORING LOCATIONS SHALL BE DESIGNATED BY THE PROJECT ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (29NTU'S ABOVE BACKGROUND). MONITORING OF WATER QUALITY SHALL BE CONDUCTED A MINIMUM OF TWICE DAILY FOR ANY EARTHWORK ACTIVITIES WITHIN THE STRUCTURE IMPROVEMENT AREA. MONITORING WILL BE ACCOMPLISHED BY RECORDING TURBIDITY READINGS FROM THE CENTER OF THE STREAM, ONE (1) UPSTREAM OF THE ACTIVITY AND ONE (1) DOWNSTREAM OF THE EROSION CONTROL DEVICES, BUT WITHIN CLOSE PROXIMITY TO THE PROJECT SEAWALL. IF WATER QUALITY STANDARDS ARE VIOLATED, CONSTRUCTION SHOULD BE STOPPED IMMEDIATELY AND EROSION CONTROL DEVICES REEVALUATED BY THE ENGINEER PRIOR TO ANY CONTINUATION OF ACTIVITY. MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (29NTU'S ABOVE BACKGROUND). WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.

(2) STABILIZATION PRACTICES:

STABILIZATION MEASURES, SUCH AS SODDING OR SEEDING SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE SHALL THE TIME BE GREATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES.

(3) STRUCTURAL PRACTICES INCLUDE:

(a) SILT FENCES (PREFERRED)
(b) SYNTHETIC BALES (OPTIONAL)
(c) ROCK BAGS (OPTIONAL)
(d) SOIL TRACKING PREVENTION DEVICES AT CONSTRUCTION ENTRANCES/EXITS
(e) STAKED TURBIDITY BARRIER (OPTIONAL AT OUTFALL POINTS ALONG SEAWALL)

(4) SILT FENCE LOCATIONS:

(a) SILT FENCE SHALL BE USED ALONG THE LENGTH OF THE PROJECT WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE.
(b) STOCKPILE AREAS SHALL INCLUDE SILT FENCE AROUND THE PERIMETER.

(5) ROCK BAG LOCATIONS:

ROCK BAGS SHALL BE PLACED AROUND THE PERIMETER OF INLET GRATES LOCATED IN GUTTERED SECTIONS.

(6) CONSTRUCTION ENTRANCES/EXITS:

SOIL TRACKING PREVENTION DEVICES (INDEX 106) SHALL BE PROVIDED FOR BOTH ON-SITE AND OFF-SITE LOCATIONS OF STOCKPILED OR EXCAVATED MATERIAL, IF IMMEDIATELY ADJACENT TO A PUBLIC ROADWAY. THE ENGINEER SHALL BE RESPONSIBLE FOR MODIFYING THE SYSTEM OR PROCEDURES AS NEEDED.

(7) DUST CONTROL:

THE FOLLOWING DUST CONTROL MEASURES SHALL BE USED.
1. WATER TRUCKS TO BE USED WATER THE DUST 3 TIMES A DAY OR DEPENDING ON THE WEATHER. WATER USED TO CONTROL DUST SHOULD BE RETAINED ONSITE AND SHOULD NOT BE ALLOWED TO RUN DIRECTLY INTO WATERCOURSES OR STORMWATER CONVEYANCE SYSTEMS.
2. DEMOLITION DEBRIS SHOULD BE REGULARLY HAULED OFF AND DISPOSED OF INTO A PERMITTED CLASS C AND D LANDFILL OR RECYCLED.

III. OTHER CONTROLS:

(1) WASTE DISPOSAL:

(a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION.
(b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.
(c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS, SHALL BE DISCHARGED TO THE YBOR CHANNEL OR BURIED ON SITE.
(d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

(2) OFF-SITE VEHICLE TRACKING – WILL BE CONTROLLED BY THE FOLLOWING METHODS:

(a) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARPAULIN AT ALL TIMES.
(b) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY.
(c) STABILIZED CONSTRUCTION ENTRANCES/EXITS SHALL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS.

(3) STATE AND LOCAL REGULATIONS: PERMITS WILL BE REQUIRED FROM THE FOLLOWING AGENCIES:

(a) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)
(b) CITY OF FT. PIERCE, FLORIDA
(C) SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
(d) FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)
(e) North St. Lucie River Water Control District (NSLRWCD)

(4) APPLICATION OF FERTILIZERS AND PESTICIDES:

FERTILIZERS AND PESTICIDES WILL BE USED ON THIS PROJECT IN ACCORDANCE WITH 2004 "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", SECTIONS 570, 575, OR 577, AT THE DISCRETION OF THE CONTRACTOR WITH THE COORDINATION OF THE ENGINEER.

(5) NON-STORM WATER (INCLUDING SPILL REPORTING):

THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH AN EROSION CONTROL PLAN THAT WILL INCLUDE SPILL CONTAINMENT, REPORTING, AND RESPONSES. THE PLAN SHALL SPECIFY WHAT MANAGEMENT PRACTICES AND CONTAINMENT METHODS WILL BE USED TO PREVENT POTENTIAL POLLUTANTS (FUEL, LUBRICANTS, HERBICIDES, ETC.) FROM SPILLING ONTO THE SOIL OR INTO THE SURFACE WATERS. IF A SPILL DOES OCCUR, OR IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT THE OWNER(S) AND THE AUTHORITIES IMMEDIATELY.

IV. MAINTENANCE:

(1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES, AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED.

(2) INSTALLATION, MAINTENANCE, REPAIR, AND REMOVAL REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION SHALL BE INCLUDED IN THE COSTS OF THE PROJECT.

(3) THE FOLLOWING PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

a) GENERAL PRACTICES – ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR. ALL CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE OF NEED TO REPAIR.

b) STRUCTURAL PRACTICES – BUILD UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE HALF OF THE HEIGHT OF THE FENCE. SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. HAY BALES SHALL BE REPLACED EVERY THREE (3) MONTHS OR WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE. SILT FENCES SHALL BE REPLACED EVERY TWELVE (12) MONTHS OR WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

V. INSPECTION:

(1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL. ALL CONTROL MEASURES WILL BE MAINTAINED BY THE CONTRACTOR.

(2) ALL EROSION AND WATER POLLUTION ABATEMENT AND CONTROL MEASURES WILL BE INSPECTED DAILY BY CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORM WATER MANAGEMENT INSPECTORS.

(3) INSPECTIONS BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL EFFORTS SHALL BE CONDUCTED DAILY AND WITHIN 24 HOURS AFTER EACH 0.5 INCH OF GREATER RAINFALL EVENT. ANY NECESSARY REMEDIES SHALL BE PERFORMED IMMEDIATELY.

(4) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VI. TRACKING AND REPORTING:

(1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE ENGINEER DOCUMENTING THE DAILY INSPECTIONS AND MAINTENANCE OR REPAIRS TO THE SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.

(2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE COSTS OF THE PROJECT.

VII. NOTICE OF TERMINATION (NOT)

(1) A NOTICE OF TERMINATION (NOT) WILL BE SUBMITTED BY THE CONTRACTOR TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AFTER THE CONSTRUCTION HAS BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS

OWNER: _____

SIGNED: _____

NAME AND TITLE: _____

ADDRESS: _____

_____

_____

DATE: _____

CONTRACTORS CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS BEST MANAGEMENT PRACTICES FOR EROSION CONTROL PREPARED THEREUNDER.

NAME	TITLE	COMPANY NAME, ADDRESS, PHONE NO. AND E-MAIL ADDRESS	DATE

NOTICE OF INTENT (NOI)

A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATERT DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" (NOI) IS REQUIRED FOR THIS SITE SINCE THE PROJECT AREA IS GREATER THAN ONE ACRE IN SIZE. CONTRACTOR SHALL OBTAIN THE NOI FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION 48 HOURS BEFORE THE CONSTRUCTION START. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE A DETAILED SITE SPECIFIC STORMWATER POLLUTION PREVENTION PLAN (SPPP) MEETING FDEP REQUIREMENTS, MAINATIN AND PERFORM INSPECTIONS AS REQUIRED BY SPPP.

RAM S.V. ALUR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
1.	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

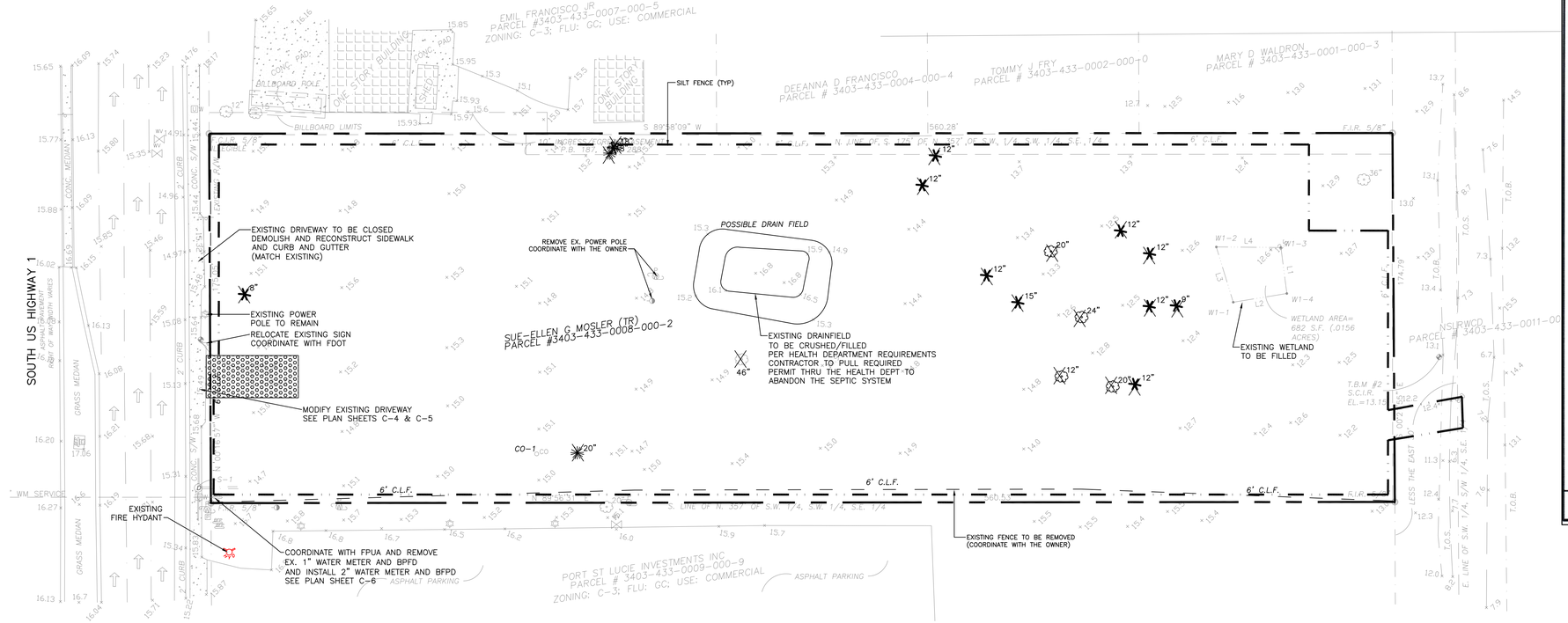
ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #EB#29 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-7533; E-mail: aspireeng@yahoo.com

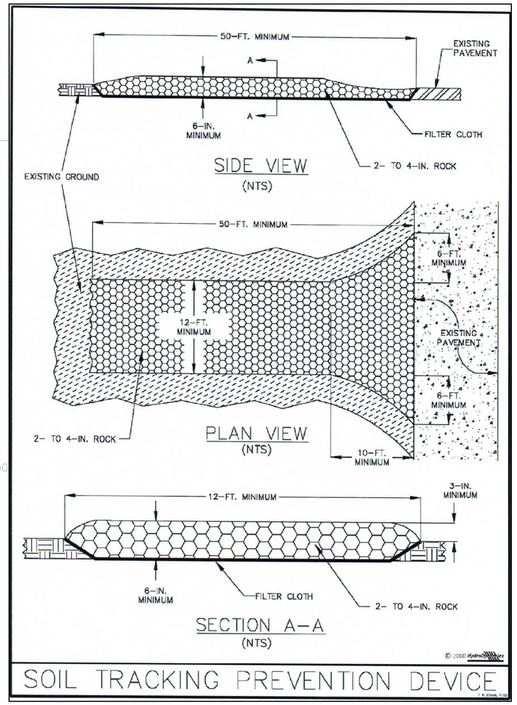
TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017

SHEET: C-2





LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-2-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
36" N. RCP INV. EL.= 9.10'
12" E. RCP INV. EL.= 9.15

EX. SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND

- OAK TREE AND SIZE
- MISCELLANEOUS TREE AND SIZE
- PALM TREE AND SIZE
- PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
CONC. CONCRETE
EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
WELL
GUY WIRE
SIGN
PHONE BOX
CABLE BOX

UGS UNDERGROUND SANITARY
TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCY PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SEWER VALVE
MONITOR WELL
SIGNAL SUPPORT POLE
IRRIGATION CONTROL VALVE
IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UNDERGROUND ELECTRIC
UNDERGROUND WATER MARKER
ELECTRIC MANHOLE

UNDERGROUND CABLE MARKER
SANITARY MANHOLE
WATER METER
WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UNDERGROUND GAS MARKER
ELECTRIC BOX
TRAFFIC BOX
UNDERGROUND PHONE MARKER
RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CROSS WALK SIGNAL
CLEANOUT
STORM MANHOLE
GAS VALVE

0' 30' 60'
SCALE: 1" = 30'

ASPIRE ENGINEERING, INC.
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: capireeng@yahoo.com

RAM S.V. ALIR P.E. #50583
DATE:

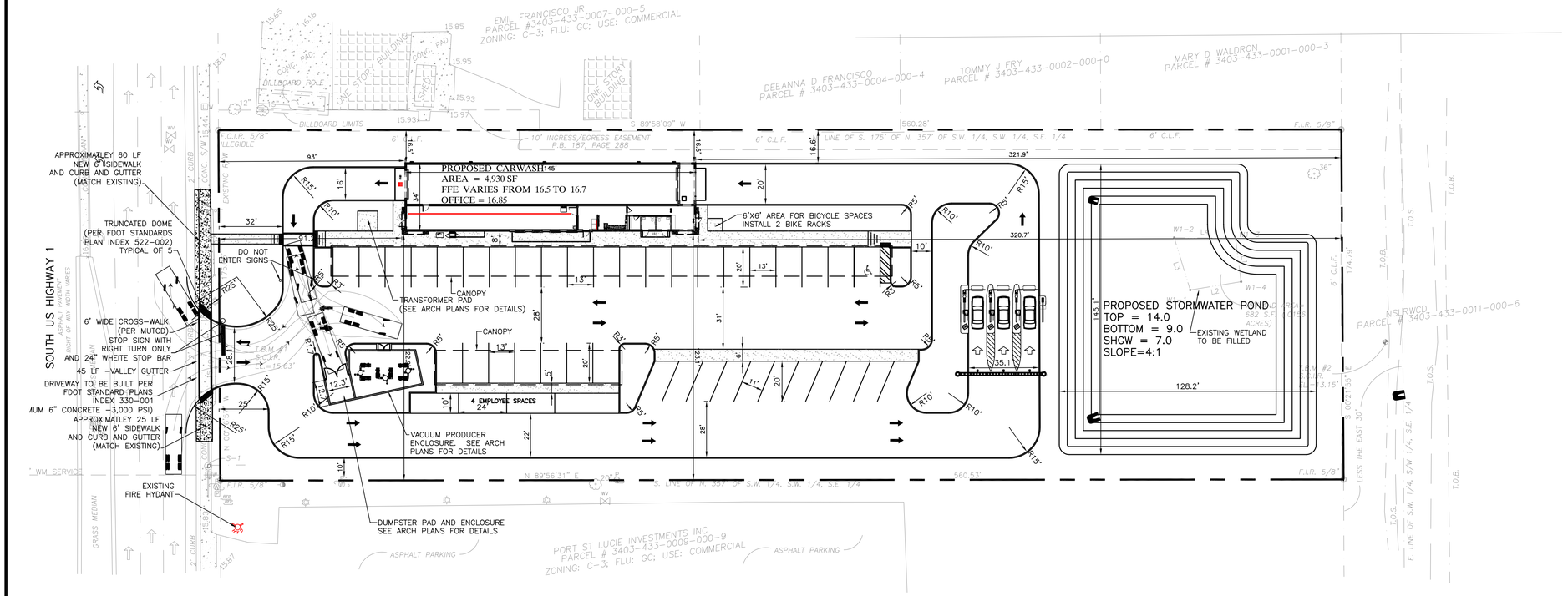
NO.	REVISIONS	DATE:
1.	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

EXISTING CONDITIONS/ DEMOLITION PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-3



SITE PLAN NOTES:

1. All utility construction shall comply with the FPUA Standards for Design and Construction of Water and Wastewater Facilities Specifications, latest edition.

2. All on-site water and sewer facilities shall be owned and maintained by the owner-developer.

3. Installation of fuel storage tanks requires review and approval by the Fire Marshal and the issuance of a separate building permit. Approval of the site plan does not constitute approval of the location of the fuel tanks.

4. All proposed signs must be applied for, approved, and permitted on an individual basis apart from any ultimately approved site plan. Approval of this site plan does not constitute approval of any signage.

5. Handicap parking spaces will be properly signed and striped in accordance with Florida Statute 316, the Manual on Uniform Traffic Control Devices, or other applicable standards.

6. The architect/engineer certifies that the site has been designed in accordance with the Americans with Disabilities Act.

7. All on-site parking spaces will be striped and signed in accordance with the Manual on Uniform Traffic Control Devices, latest edition. Parking spaces, directional arrows, and stop bars shall be striped in WHITE. It shall be the owner/developer's responsibility to properly sign and stripe in accordance with applicable standards.

8. The owner/developer acknowledges that this approval does not include any work in the County right-of-way. All right-of-way work shall be a function of an approved FDOT Right-of-way Use Permit.

9. All clear-site areas shall be kept free of any signage plantings, trees, etc. in excess of three-and-a-half (3-1/2) feet in height.

10. No irrigation system or landscaping shall be installed in any County or State right-of-way without issuance of appropriate Right-of-Way Use Permit.

11. The owner/developer acknowledges that the site and its subsequent building permits shall comply with all rezoning/MPUD/PUD and Conditional use Permit conditions.

12. All structures, including buffer walls, retaining walls, signage, etc. require building permits.

13. All ramps outside the building foot print shall require construction of "CAST IN PLACE" Detectable warnings.

CONSTRUCTION NOTES:

1. If during construction activities any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop and the Florida Department of Historic Resources (State Historic Preservation Officer) and City of FT. PIERCE shall be notified within two working days of the resources found on the site.

2. If during construction activities any evidence of the presence of State and Federally protected plant and/or animal species is discovered, work shall come to an immediate stop and City of FT. PIERCE shall be notified within two working days of the plant and/or animal species found on the site

CONSTRUCTION NOTES:

SHOULD ANY NOTICEABLE SOIL SLUMPING OR SINKHOLE FORMATION BECOME EVIDENT THE APPLICANT/DEVELOPER SHALL IMMEDIATELY NOTIFY THE COUNTY AND SFWMD AND ADOPT ONE OR MORE OF THE FOLLOWING PROCEDURES AS DETERMINED TO BE APPROPRIATE BY THE COUNTY AND SFWMD

I. IF THE SLUMP NG OR SINKHOLE FORMATION BECOMES EVIDENT BEFORE OR DURING CONSTRUCTION ACT VIT ES, STOP ALL WORK (EXCEPT FOR MITIGATION ACTIVITIES) IN THE AFFECTED AREA AND REMAIN STOPPED UNTI THE COUNTY AND SFWMD APPROVE RESUMING CONSTRUCTION ACTIVITIES.
II. TAKE IMMEDIATE MEASURES TO ENSURE NO SURFACE WATER DRAINS INTO THE AFFECTED AREAS.
III. VISUALLY INSPECT THE AFFECTED AREA.
IV. EXCAVATE AND BACKFILL OR GROUT AS REQUIRED FILL NG THE AFFECTED AREA AND PREVENTING FURTHER SUBS DENCE
V. USE SOIL REINFORCEMENT MATER A S IN THE BACKFILLING OPERATION WHEN APPROPRIATE.
VI. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA, MAINTAIN A MIN MUM DISTANCE OF TWO FEET FROM THE BOTTOM OF THE RETENTION POND TO THE SURFACE OF T E IME-ROCK OR KARST CONNECTION
VII. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA AND THE ABOVE METHODS DO NOT STAB IZE THE COLLAPSE RELOCATE THE RETENT ON AREA.
VIII. DISCHARGE OF STORM-WATER INTO DEPRESSIONS WITH DIRECT OR DEMONSTRATED HYDROLOGIC CONNECTION TO THE FLORIDAN AQU FER SHALL BE PROH BITED.

TRAFFIC CONTROL AND MARKINGS NOTES:

1. ALL TRAFFIC CONTROL AND MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.

LIGHTING NOTES:

1. ANY LIGHTING USED TO ILLUMINATE ANY PARKING AREA SHALL BE SO ARRANGED AS TO DIRECT AND/OR SHIELD LIGHT AWAY FROM ADJOINING RESIDENTIAL PREMISES AND RIGHT-OF-WAY.

BICYCLE RACK REQUIREMENTS:
(a) All standard bicycle racks shall comply with the following performance standards: (1) Bicycle racks shall be an inverted "U"/hoop rack, post and ring rack, or similar device that accommodates two (2) bicycle parking spaces per rack and enables users to lock the frame and both wheels. (2) Bicycle racks shall have a minimum tube diameter of 1.9 inches and be powder coated, galvanized, or coated with another weather-proof surface as may be approved by the zoning manager. (3) Bicycle racks shall be a maximum height of three (3) feet, a minimum of three (3) feet on center between horizontal rows, and a minimum of three (3) feet from any parallel building wall and four (4) feet from any perpendicular building wall. They shall be anchored to a common base or mounting surface of concrete or pavement large enough to support bicycles locked to the rack. If more than one (1) row of bicycle racks is installed to create the required bike parking area, the installation shall provide a minimum of five (5) feet in an aisle in each row, assuming additional spacing for parked bicycles.

LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL= 9.10'
36" N. RCP INV. EL= 9.10'
12" E. RCP INV. EL= 9.15

EX. SANITARY TABLE

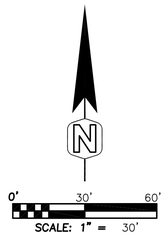
CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND

- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT	UGS UNDERGROUND SANITARY
(R/W) RIGHT OF WAY MEASUREMENT	(T) TELEPHONE MANHOLE
CONC. CONCRETE	UGP UNDERGROUND PHONE
EP EDGE OF PAVEMENT	MES MITERED END SECTION
MULT. MULTIPLE	STMH STORM MANHOLE
CI CURB INLET	UGFM UNDERGROUND FORCE MAIN
GI GRATE INLET	UGE UNDERGROUND ELECTRIC
SMH SANITARY MANHOLE	UGW UNDERGROUND WATER
STMH STORM MANHOLE	OHW OVERHEAD WIRES
FLAG POLE	UGG UNDERGROUND GAS
GREASE TRAP MANHOLE	T.O.S. TOE OF SLOPE
HYDRANT	WDF WOOD FENCE
PREVENTER VALVES	PVCY PLASTIC PRIVACY FENCE
METAL LIGHTPOLE	UG UNDERGROUND
P.B. PLAT BOOK	E.O.W. EDGE OF WATER
CONCRETE LIGHT POLE	LB LICENSED BUSINESS
WOOD LIGHT POLE	OHW OVERHEAD WIRE
WOOD POWER POLE	SEWER VALVE
CONC POWER POLE	MONITOR WELL
RAILROAD X-ING GATE	SIGNAL SUPPORT POLE
WELL	IRRIGATION CONTROL VALVE
GUY WIRE	IRRIGATION VALVE(RECLAIM)
SIGN	FIRE DEPARTMENT CONNECTION
PHONE BOX	UNDERGROUND ELECTRIC
CABLE BOX	UNDERGROUND WATER MARKER
	ELECTRIC MANHOLE
	UNDERGROUND CABLE MARKER
	SANITARY MANHOLE
	WATER METER
	WATER VALVE
	F.C.I.R. FOUND CAPPED IRON ROD
	F.N./D. FOUND NAIL & DISK
	F.C.M. FOUND CONCRETE MONUMENT
	(P) PLAT MEASUREMENT
	(F) FIELD MEASUREMENT
	N.C.F. NO CORNER FOUND
	P.O.B. POINT OF BEGINNING
	P.O.C. POINT OF COMMENCEMENT
	P.U.E. PUBLIC UTILITY EASEMENT
	D.E. DRAINAGE EASEMENT
	MAILBOX
	UNDERGROUND GAS MARKER
	ELECTRIC BOX
	TRAFFIC BOX
	UNDERGROUND PHONE MARKER
	RAILROAD LIGHT
	TRANSFORMER PAD
	TYP. TYPICAL
	T.O.B. TOP OF BANK
	CROSS WALK SIGNAL
	CLEANOUT
	STORM MANHOLE
	GAS VALVE



RAM S.V. ALIR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #EB#29996 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: capireeng@yahoo.com

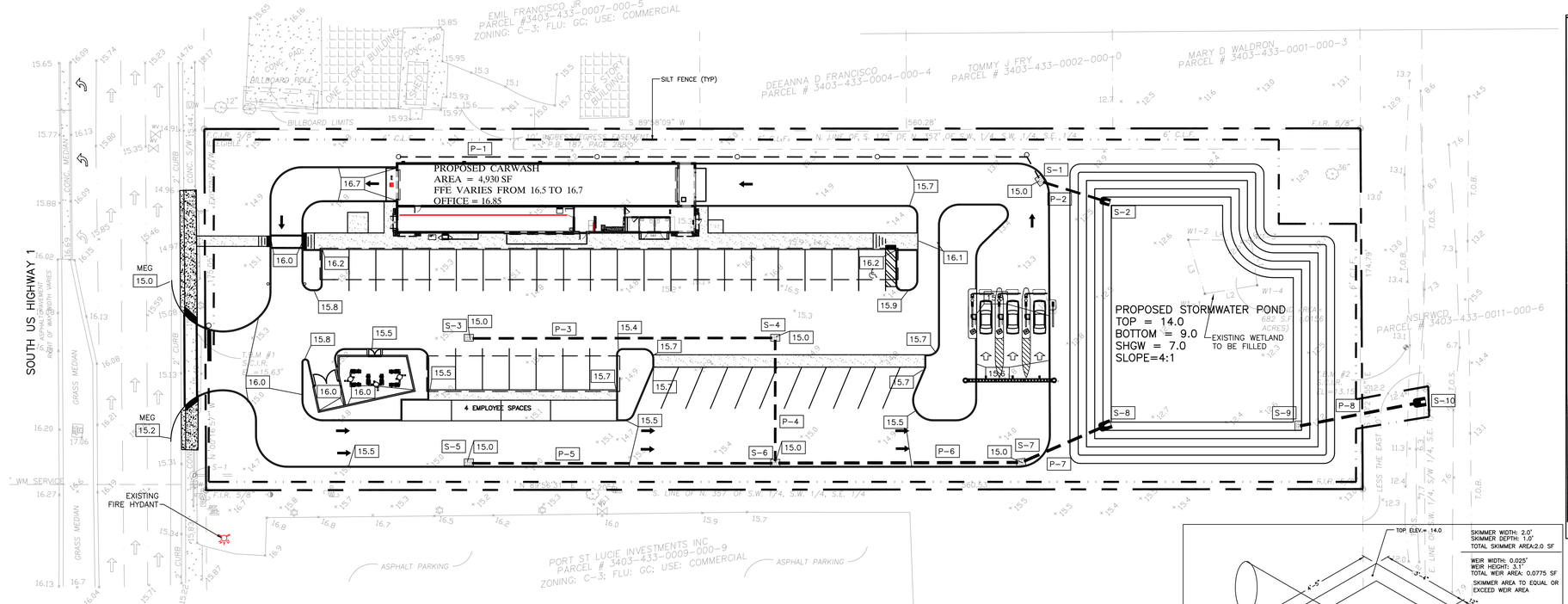
TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

SITE GEOMETRY PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-4

RAVI ALUR, P.E
AUTHORIZED AGENT
ASPIRE ENGINEERING, INC.
1023 PROFESSIONAL PARK DR.
BRANDON, FL 33511
PHONE: 813-571-2850


SOUTH US HIGHWAY 1
SILT FENCE (TYP)
PROPOSED CARWASH
AREA = 4,930 SF
FFE VARIES FROM 16.5 TO 16.7
OFFICE = 16.85
PROPOSED STORMWATER POND
TOP = 14.0
BOTTOM = 9.0
SHGW = 7.0
SLOPE=4:1
EXISTING WETLAND TO BE FILLED
4 EMPLOYEE SPACES
EXISTING FIRE HYDRANT
MEG 15.0
MEG 15.2
EMIL FRANCISCO JR PARCEL #3403-433-0007-000-5 ZONING: C-3; FLU: GC; USE: COMMERCIAL
DEEANNA D FRANCISCO PARCEL # 3403-433-0004-000-4
TOMMY J FRY PARCEL # 3403-433-0002-000-0
MARY D WALDRON PARCEL # 3403-433-0001-000-3
NSLRWCD PARCEL # 3403-433-0011-000-6
PORT ST LUCIE INVESTMENTS INC PARCEL # 3403-433-0009-000-9 ZONING: C-3; FLU: GC; USE: COMMERCIAL
ASPHALT PARKING
ASPHALT PARKING
BILLBOARD POLE
BILLBOARD LIMITS
ONE STORY BUILDING
ONE STORY BUILDING
CONC. PAD
CONC. PAD
USED CAR
GRASS MEDIAN
GRASS MEDIAN
2' CURB
2' CURB
CONC. MEDIAN
CONC. S/W
EXIST. R/W
ASPHALT PAVEMENT
EDGE OF PAVEMENT
W/M SERVICE
P-1
P-2
P-3
P-4
P-5
P-6
P-7
P-8
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
S-10
T.O.B.
T.O.S.
F.I.R. 5/8"
N 89°58'09" W 560.28'
S 89°58'09" W
S. LINE OF N. 33.7' OF S.W. 1/4, S.W. 1/4, S.E. 1/4
S. LINE OF N. 33.7' OF S.W. 1/4, S.W. 1/4, S.E. 1/4 LESS THE EAST 33'
W1-1
W1-2
W1-3
W1-4
L1
L2
L3
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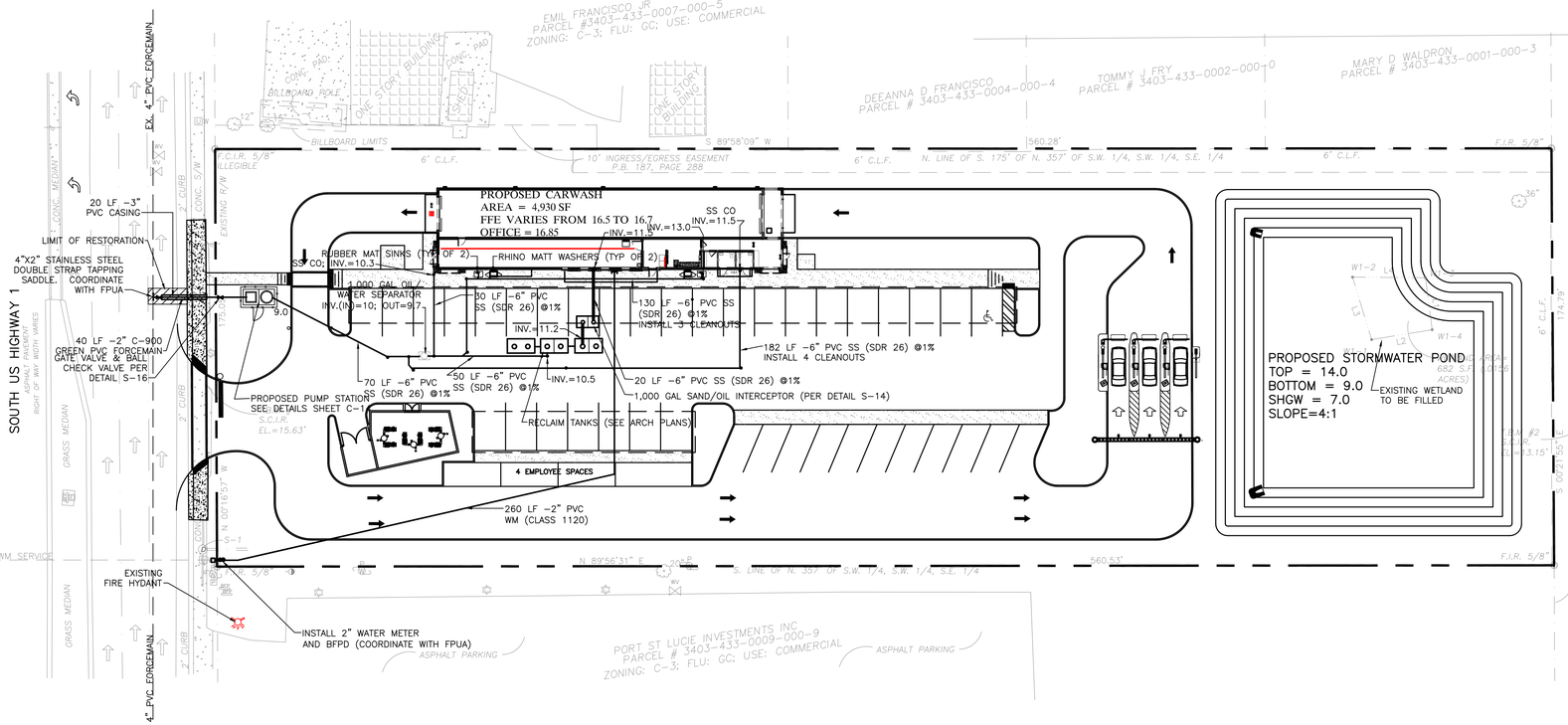
GENERAL UTILITY NOTES
1. No sanitary or reclaimed water direction bors are permitted without prior Water Reclamation (Wastewater) Division approval.

WATER METER CALCULATIONS:

NO.	FIXTURE TYPE	FIXTURE VALUE/ UNIT	FIXTURE VALUE
2	WATER CLOSET (TOILET)	3	6
2	SERVICE SINK	3	6
2	HOSE CONNECTION	6	12
1	CARWASH		100
		TOTAL FIXTURE =	124 (54 GPM)
		WATER METER EXISTING TO REMAIN =	2"

1. PROPOSED WATER/WASTEWATER FLOWS = 40 GPD/VEHICLE (WITH WATER RECOVERY) * 20 VPH * 12 HRS + (2 RESTROOMS * 250 GPD/RESTROOM) = 10,100 GPD

2. NO FIRELINE CONNECTION IS BEING PROPOSED.



LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
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EX. SANITARY TABLE

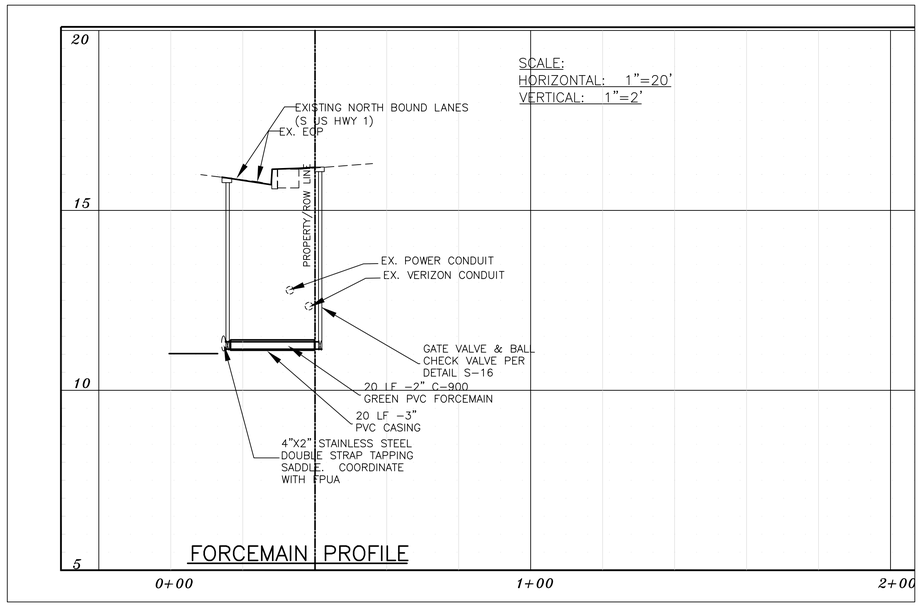
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EX. TREE LEGEND

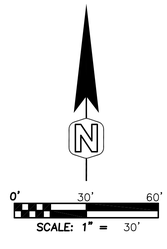
- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
CONC. CONCRETE
EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
G GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
W WELL
GUY WIRE
SIGN
PHONE BOX
CABLE BOX
UGS UNDERGROUND SANITARY
T TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCF PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SEWER VALVE
M MONITOR WELL
SIGNAL SUPPORT POLE
ICV IRRIGATION CONTROL VALVE
RWV IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UE UNDERGROUND ELECTRIC
UW UNDERGROUND WATER MARKER
E ELECTRIC MANHOLE
UC UNDERGROUND CABLE MARKER
S SANITARY MANHOLE
WM WATER METER
WV WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UG UNDERGROUND GAS MARKER
E ELECTRIC BOX
T TRAFFIC BOX
UP UNDERGROUND PHONE MARKER
RR RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CW CROSS WALK SIGNAL
CO CLEANOUT
D STORM MANHOLE
GV GAS VALVE



FORCEMAIN PROFILE



General notes
1. A minimum 1' clear distance between all sides of existing inlet structures and proposed underground utility is required. Underground utilities shall not be placed under inlet structures.
2. Public right-of-way shall be restored to its original or better condition. Any sidewalks or curbing disturbed by the work shall be restored to the condition of the original structure. Sidewalk panels shall be restored to full panel widths and lengths (defined by edges of the sidewalk and the nearest control joints or expansion joints). Partial patching of sidewalks shall not be acceptable. Pavement finishes, thicknesses, and grades shall match the existing sidewalk.
3. If sidewalk is to be removed and replaced, the sidewalk shall be constructed in Class 1 concrete, 3,000 psi, 4 in. thick and match the width of the existing sidewalk. Sidewalk located at the apron shall be constructed in Class 1 concrete, 3,000 psi, 6 in. thick and match the width of the existing sidewalk. Requirements are per ESM detail sheet 2. Rebar is not allowed.
4. Trenching shall not take place within the root zone of trees with a trunk diameter of 6 inches or larger. Underground utilities must be bored rather than trenched in the root zones of existing trees (excluding palms).
5. Locate all utilities/facilities prior to start of construction.
6. The contractor must locate and protect all the utilities and repair any damage caused by the work at no cost to the City.
7. All utility locate markings must be completely cleaned around the area of the permitted project at the contractor's expense.
8. Current A.D.A standards shall be upheld at all times.
9. All casings (HDPE)/directional bores shall extend a minimum of six feet (6') beyond each edge of pavement. (Commercial driveways, sidewalks included)
10. Casing will be required for underground utilities crossing under existing pavement with the exception of gas lines.
11. Utility poles and guy wires for anchoring utility poles may not be placed within the pedestrian path/sidewalk.
12. The Contractor shall abide by the FDOT's Guidelines for Erosion and Sedimentation Control for Construction Sites sheet. A copy of this sheet shall be reviewed/followed by said Contractor and can be obtained by going to https://beta.FDOT.gov/files/sharedassets/public/departments/permitting-services-division/trade/erosion-sedimentation-control-blue-sheet.pdf

Installation Requirements

1. All restoration work shall be done in accordance with the city's Engineering Standards Manual, and any other applicable standards, guidelines, or City Code provisions.

Underground Work

1. Crossings (underground) shall be at a minimum vertical clearance thirty-six (36) inches below top of roadway pavement or top of ground, whichever is lower, including ditch grade.
2. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.
3. Subterranean crossings may be made by boring, jacking, pushing, pulling, driving or some combination of these having a positive horizontal and vertical control. Jetting, except for hydraulic compaction or tunneling is prohibited within City and/or FDOT right-of-way.
4. Pits required for underground crossings must be constructed no closer than six feet from the edge of the traveled way.
5. All pipe must be jacked with the end open or bored-and-jacked and extended a minimum of six feet beyond the edge of the traveled way or as directed by the City Engineer.
6. Casings will be required for underground utilities crossing under existing pavement. Missile bore is not allowed when crossing under roadways. Missile bore is allowed for longitudinal placement under existing sidewalks and driveways.
Overhead Work
7. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.

RAM S.V. ALIR P.E. #65583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

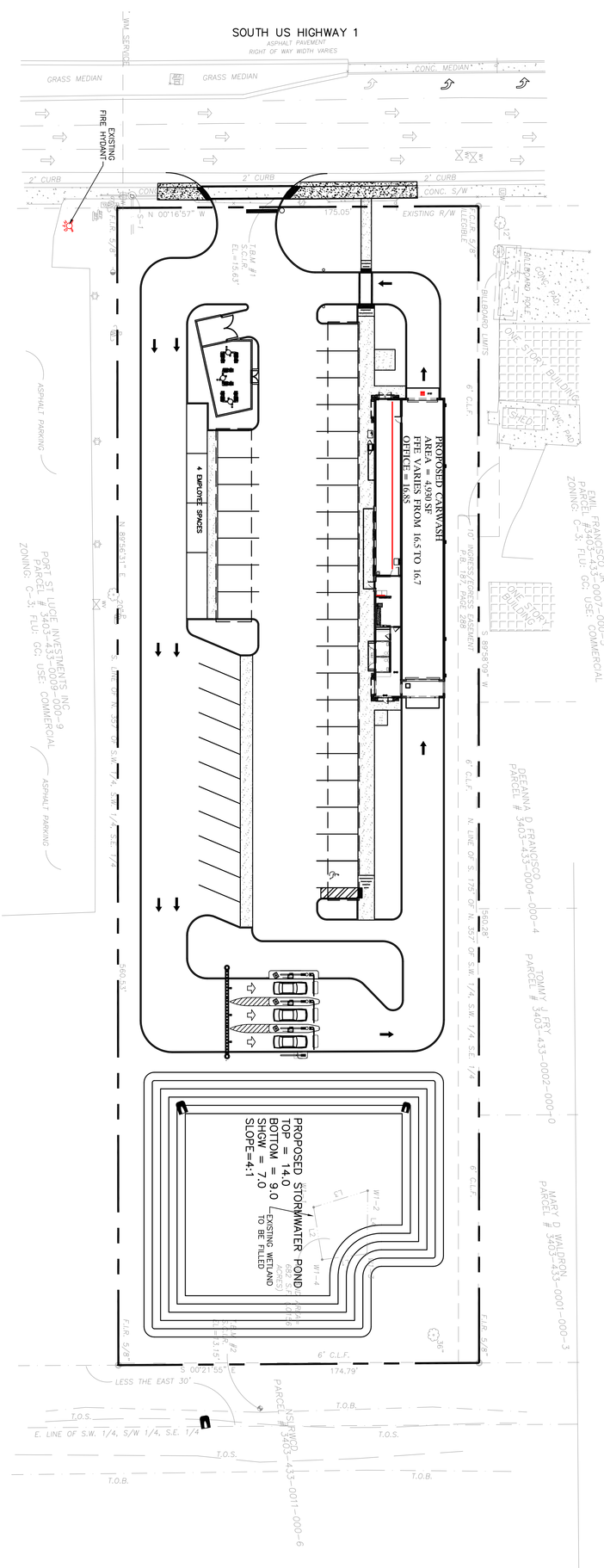
ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #29719 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

UTILITY PLAN

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-6



EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT	UGT UNDERGROUND TELEPHONE	S UNDERGROUND CABLE MARKER
(R/M) RIGHT OF WAY MEASUREMENT	T TELEPHONE MANHOLE	SAN SANITARY MANHOLE
CONC. CONCRETE	UGP UNDERGROUND PHONE	SAN SANITARY CLEANOUT
MULT. MULTIPLE	MES METERED END SECTION	W WATER VALVE
P.B. PLAT BOOK	UGPM UNDERGROUND PHONE MANHOLE	WM WATER METER
CI CURB INLET	UGFM UNDERGROUND FORCE MAIN	F.C.I.R. FOUND CAPPED IRON ROD
SMH SANITARY MANHOLE	UGE UNDERGROUND ELECTRIC	F.N./D. FOUND NAIL & DISK
STMH STORM MANHOLE	OHW OVERHEAD WIRES	(P) PLAT MEASUREMENT
FLAG FLAG POLE	UGT UNDERGROUND GAS	(F) FIELD MEASUREMENT
CB CATCH BASIN	UGT UNDERGROUND GAS	N.C.F. NO CORNER FOUND
GT GREASE TRAP MANHOLE	WF WOOD FENCE	P.O.B. POINT OF BEGINNING
H HYDRANT	PVCF PLASTIC PRIVACY FENCE	P.O.C. POINT OF COMMENCEMENT
E.O.W. EDGE OF WATER	CLF CHAIN LINK FENCE	P.U.E. PUBLIC UTILITY EASEMENT
MES PREVENTER VALVES	LB LICENSED BUSINESS	D.E. DRAINAGE EASEMENT
MLP METAL LIGHTPOLE	OHW OVERHEAD WIRE	MB MAILBOX
P.B. PLAT BOOK		UGG UNDERGROUND GAS MARKER
CONCRETE LIGHT POLE	SV SEWER VALVE	ELECTRIC BOX
WOOD LIGHT POLE	MW MONITOR WELL	TRAFFIC BOX
SIGN SIGNAL SUPPORT POLE	ICV IRRIGATION CONTROL VALVE	UGP UNDERGROUND PHONE MARKER
WOOD POWER POLE	IRV IRRIGATION VALVE(RECLAIM)	RAILROAD LIGHT
CONC POWER POLE	TYP. TYPICAL	TRANSFORMER PAD
RAILROAD X-ING GATE	T.O.B. TOP OF BANK	
WELL	FIRE DEPARTMENT CONNECTION	CROSS WALK SIGNAL
UGE UNDERGROUND ELECTRIC	CO CLEANOUT	
UGW UNDERGROUND WATER MARKER	D STORM MANHOLE	
ELECTRIC MANHOLE	GAS VALVE	

LEGEND (ALL WITH GRADES)

- PROPOSED BUILDING
- PROPOSED PAVING, SIDE, CURB
- PROPOSED SWALE
- PROPOSED TOP OF SLOPE
- PROPOSED TOE OF SLOPE
- PROPOSED HIGH POINT IN PAVEMENT
- EX. CONTOURS
- EX. TREE (INDICATING DRIPLINE & TRUNK)
- PROPOSED EXPOSED CONSTRUCTION ENTRANCE
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV.= 15.82'
12" E. RCP INV. ELEV.= 9.10'
36" S. RCP INV. ELEV.= 9.15'

EX. SANITARY TABLE

SS-1 (SANITARY CLEANOUT)
8" NW ELEV.= 12.55'

EX. TREE LEGEND

- 12" OAK TREE AND SIZE
- MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- PINE TREE AND SIZE

0' 30' 60'
SCALE: 1" = 30'

AIR/VAC/CHASE PIPE PLAN

TWIN'S CARWASH -FT. PIERCE

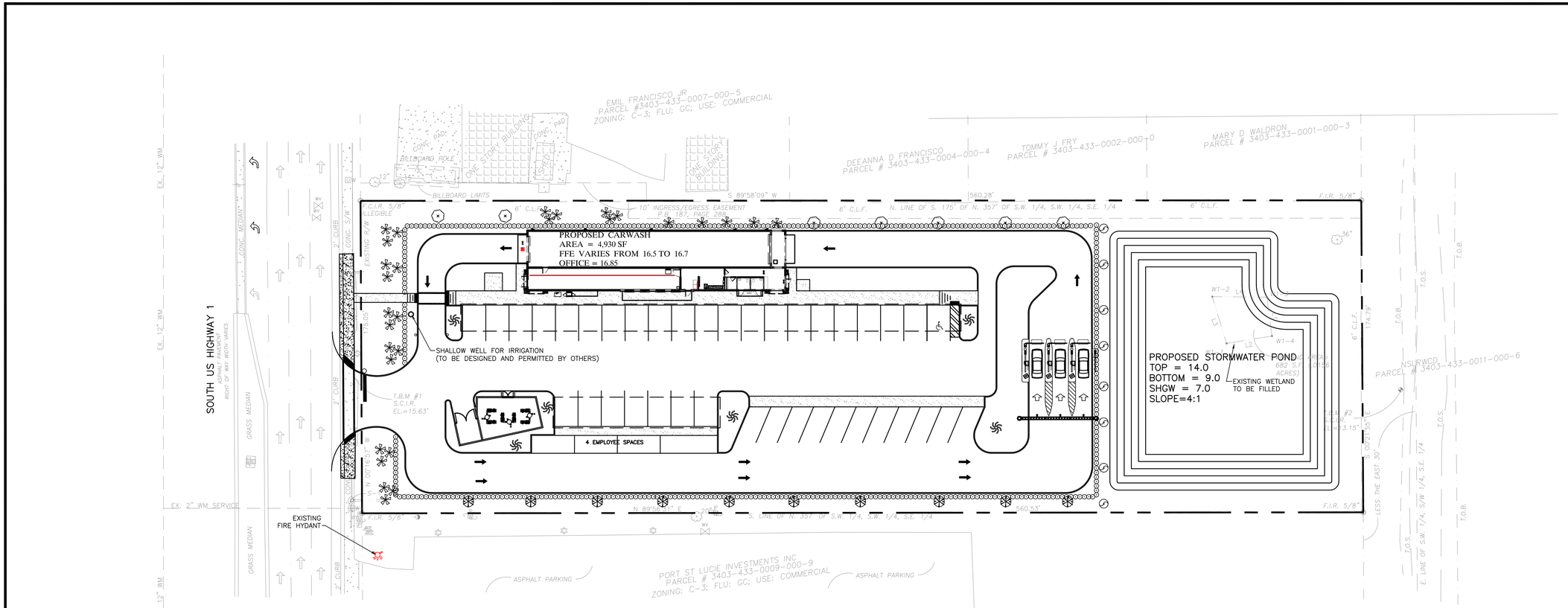
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #5204 — ENGINEERING EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

NO.	REVISIONS	DATE:
	SUBMIT TO COFP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

RAVI S.V. ALUR P.E. #50583
DATE:

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-7



LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
36" N. RCP INV. EL.= 9.10'
12" E. RCP INV. EL.= 9.15

EX. SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND

- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

- (C) CALCULATED MEASUREMENT
- (R/W) RIGHT OF WAY MEASUREMENT
- CONC. CONCRETE
- EP EDGE OF PAVEMENT
- MULT. MULTIPLE
- CI CURB INLET
- GI GRATE INLET
- SMH SANITARY MANHOLE
- STMH STORM MANHOLE
- FLAG POLE
- GREASE TRAP MANHOLE
- HYDRANT
- PREVENTER VALVES
- METAL LIGHTPOLE
- P.B. PLAT BOOK
- CONCRETE LIGHT POLE
- WOOD LIGHT POLE
- WOOD POWER POLE
- CONC POWER POLE
- RAILROAD X-ING GATE
- WELL
- GUY WIRE
- SIGN
- PHONE BOX
- CABLE BOX
- UGS UNDERGROUND SANITARY
- TELEPHONE MANHOLE
- UGP UNDERGROUND PHONE
- MES MITERED END SECTION
- STMH STORM MANHOLE
- UGFM UNDERGROUND FORCE MAIN
- UGE UNDERGROUND ELECTRIC
- UGW UNDERGROUND WATER
- OHW OVERHEAD WIRES
- UGG UNDERGROUND GAS
- T.O.S. TOE OF SLOPE
- WDF WOOD FENCE
- PVCF PLASTIC PRIVACY FENCE
- UG UNDERGROUND
- E.O.W. EDGE OF WATER
- LB LICENSED BUSINESS
- OHW OVERHEAD WIRE
- SEWER VALVE
- MONITOR WELL
- SIGNAL SUPPORT POLE
- IRRIGATION CONTROL VALVE
- IRRIGATION VALVE(RECLAIM)
- FIRE DEPARTMENT CONNECTION
- UNDERGROUND ELECTRIC
- UNDERGROUND WATER MARKER
- ELECTRIC MANHOLE
- UNDERGROUND CABLE MARKER
- SANITARY MANHOLE
- WATER METER
- WATER VALVE
- F.C.I.R. FOUND CAPPED IRON ROD
- F.N./D. FOUND NAIL & DISK
- F.C.M. FOUND CONCRETE MONUMENT
- (P) PLAT MEASUREMENT
- (F) FIELD MEASUREMENT
- N.C.F. NO CORNER FOUND
- P.O.B. POINT OF BEGINNING
- P.O.C. POINT OF COMMENCEMENT
- P.U.E. PUBLIC UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- MAILBOX
- UNDERGROUND GAS MARKER
- ELECTRIC BOX
- TRAFFIC BOX
- UNDERGROUND PHONE MARKER
- RAILROAD LIGHT
- TRANSFORMER PAD
- TYP. TYPICAL
- T.O.B. TOP OF BANK
- CROSS WALK SIGNAL
- CLEANOUT
- STORM MANHOLE
- GAS VALVE

PLANT & MATERIAL LIST:

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	NATIVE FLORIDA	DROUGHT TOLERANT	REMARKS
TREES								
	LS	Liquidambar styraciflua	SWEETGUM	8	3" DBH	YES	YES	MIN. 12' HIGH
	BN	Betula nigra	RIVER BIRCH	6	3" DBH	YES	YES	MIN. 12' HIGH
	MG	Magnolia grandiflora	SOUTHERN MAGNOLA	10	3" DBH	**YES**	**YES**	MIN. 12' HIGH
	QV	Quercus virginiana	LIVE OAK	7	3" DBH	YES	YES	MIN. 12' HIGH
	SP	Sabal palmetto	SABAL PALM	29		YES	YES	MINIMUM CLEAR TRUNK OF 10'
SHRUBS								
	VO	VIBURNUM OBOVATUM	WALTER VIBURNUM	350	3-7 GAL	YES	YES	MIN. 36", 3 FT O/C

1. ALL PLANT MATERIALS SHALL BE FLORIDA GRADE 1.

LANDSCAPE NOTES:

1. Represents existing trees to be barricaded and saved Barricades shall consist of new or used chain link fence (min. 5' high) located at the tree drip line.
2. All plants must be healthy, vigorous material, free of pests and disease.
3. All plants shall be Florida Grade No. 1 or better
4. All plants must be container-grown or balled and burlap as indicated in the plant list.
5. All plants shall be triangulately spaced.
6. Prior to construction the landscape contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. The landscape contractor is responsible for repairing any and all damage to utilities, structures, site appurtenances, etc.; which occurs as a result of the landscape contractor.
7. All trees must be guyed and staked as shown in the details
8. The landscape contractor is responsible for verifying all quantities shown on these plans, before pricing the work.
9. All planting shall be done in accordance with acceptable Horticultural practices. This is to include proper planting mix, plant bed and tree pit preparation, pruning, staking or guying, wrapping, spraying, fertilization, planting and adequate maintenance until acceptance by the owner.
10. The landscape contractor is responsible for fully maintaining all planting (including but not limited to: watering, spraying, mulching, fertilizing, etc.) or planting areas and lawns until the work is accepted in total by the landscape architect and the owner. The Owner of the property will be responsible from there on.
11. All plants shall be guaranteed for 90 days from final inspection and acceptance. All trees shall be guaranteed an additional 180 days.
12. All plants are subject to approval by the owner or owner's representative. Prior to planting, all trees must be approved by the owner or owner's representative.
13. All plants and planting areas must be completely mulched as specified with three (3) inches of Cypress Mulch.
14. Standards set forth in "American Standards for Nursery Stock" represent guideline specifications only and shall constitute MINIMUM quality requirements for plant material.
15. All landscaped areas shall be provided with an irrigation system that supplies 100 percent coverage to all required landscaping plant material. The irrigation system may consist of an automatic or manual underground system, drip system, quick coupling valves, or hose bibs within 50 feet of all required landscaping plant material.
16. The irrigation system shall be designed to minimize root disturbance to existing trees and other vegetation to be retained. No irrigation is required within these areas.
17. All EXISTING shrubs shall be of sufficient height so that they are a minimum of 24" above the finished pavement elevation of the parking area adjacent to said shrub.
18. All tree roots existing within approved improvement areas and originating from a protected tree shall be severed clean at the limits of the preserved area. Pruning shall be done using a "DOSKO" Root Pruner or approved equal. An inspection of pruning activities shall be arranged with the CITY OF FT PIERCE Department of Natural Resources.
19. All trees to remain must be protected by tree protection barricades meeting the minimum standards shown on the attached diagram (i.e. Silt Fence). Protective barricades shall remain in place until land alteration and construction activities are complete.
20. Any tree not designated for removal from the site and is removed by the contractor will result in the contractor having to either compensate the owner for similar replacement of tree(s) destroyed, or, replacement of identical size and species of tree removed. Further, any additional requirements by regulatory agencies having jurisdiction over such matters will be incurred by the contractor. Compensatory damages against the contractor are not limited in this situation.
21. A MAXIMUM OF 50% OF THE PLANT MATERIALS USED, OTHER THAN TREES, MAY BE NON-DRAUGHT TOLERANT.
22. Stabilization shall be done by using vegetative ground cover.
23. ALL NEWLY DEVELOPED AND REDEVELOPED ABOVE GROUND UTILITY APPURTENANCES VISIBLE FROM THE PUBLIC RIGHT-OF-WAY, INCLUDING PEDESTALS, UTILITY METERS, TRANSFORMERS, BACK-FLOW PREVENTION DEVICES ETC., SHALL BE SCREENED PER CITY OF FT PIERCE LDC.

N

0' 30' 60'

SCALE: 1" = 30'

ASPIRE ENGINEERING, INC.
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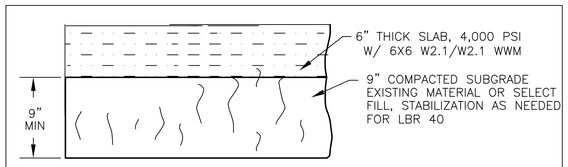
RAM S.V. ALUR P.E. #65583
DATE:

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

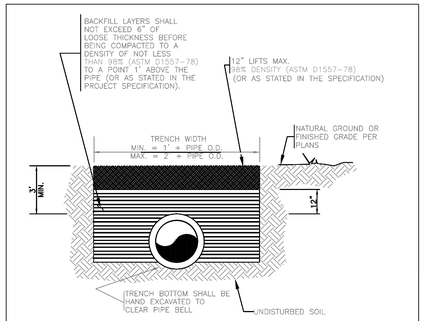
LANDSCAPE PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-8



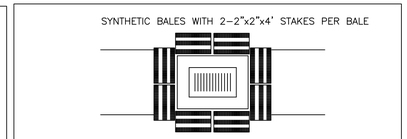
CONCRETE PAVEMENT DETAIL

N.T.S.



PIPE BACKFILL AND COMPACTION DETAIL

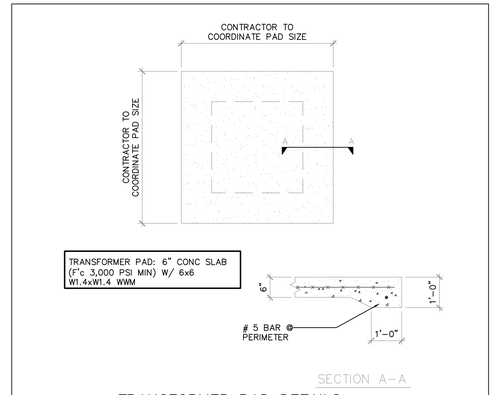
N.T.S.



DITCH BOTTOM INLET

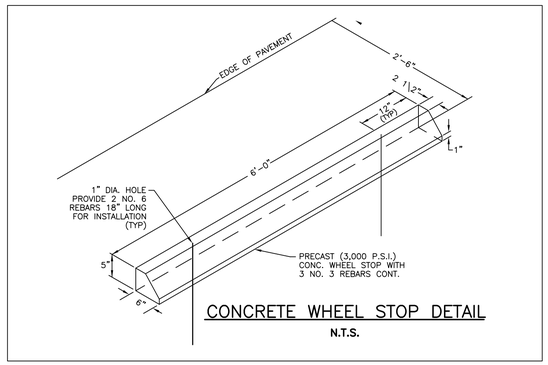
PROTECTION AROUND INLETS

N.T.S.



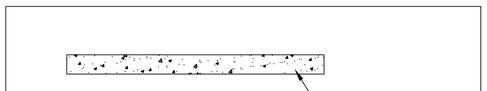
SECTION A-A

TRANSFORMER PAD DETAILS



CONCRETE WHEEL STOP DETAIL

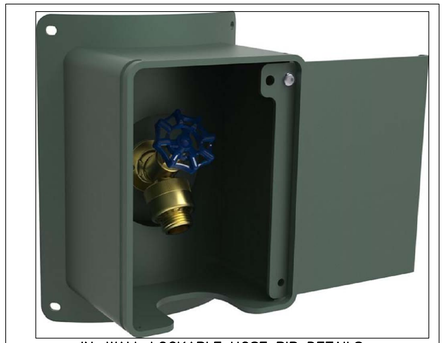
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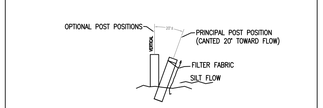
1. COMPACT UPPER 6" SUBGRADE TO 98% STANDARD PROCTOR
2. SIDEWALK THICKNESS SHALL BE INCREASED TO 6" AT ALL ALL DRIVEWAYS, APPROACHES AND ALONG STREETS (IN THE ROW OR IN THE EASEMENT).
3. CONCRETE SHALL BE 3000 P.S.I. AT 28 DAYS
4. CONTROL JOINTS @ 5' ON CENTER

CONCRETE SIDEWALK DETAIL

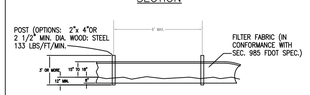
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IN-WALL LOCKABLE HOSE BIB DETAILS



SECTION

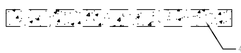


ELEVATION

TYPE III SILT FENCE

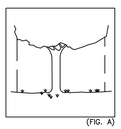
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D. O. T. INDEX #102

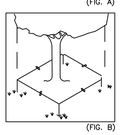


MATT BEATER AND MATT CLEANER
CONCRETE PAD DETAILS

NTS



(FIG. A)



(FIG. B)

PROTECTIVE BARRIERS ARE USED DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES TO PROTECT TREES AND NATURAL AREAS TO BE RETAINED ON A SITE.

PROTECTIVE BARRIERS MUST BE ERECTED AROUND TREES TO BE RETAINED WITHIN AN AREA WHERE LAND ALTERATION AND CONSTRUCTION ACTIVITIES WILL OCCUR AS WELL AS ALONG NATURAL AREAS WHERE SUCH AREAS ARE ADJACENT TO PERMITTED LAND ALTERATION OR CONSTRUCTION ACTIVITIES. A PROTECTIVE BARRIER MUST REMAIN IN PLACE UNTIL THE LAND ALTERATION AND CONSTRUCTION ACTIVITIES ARE COMPLETED OR UNTIL COMMENCEMENT OF GRADE FINISHING AND SODDING. NO GROUND DISTURBANCE MUST OCCUR WITHIN THE BARRICADED AREA.

1. TREES – TO RESTRICT ACCESS INTO THE AREA WITHIN THE DRIPLINE OF A TREE. THE DRIPLINE OF A TREE IS THE IMAGINARY, VERTICAL LINE THAT EXTENDS DOWNWARD FROM THE OUTERMOST TIPS OF THE TREE'S BRANCHES TO THE GROUND. (FIG. A)

BARRIER SPECIFICATION FOR TREES
MIN. 5' HIGH NEW OR USED CHAIN LINK FENCE (FIG. B)

WHY A BARRIER
1. TO PROTECT ALL ABOVE GROUND PROTIONS OF TREES AND OTHER SIGNIFICANT VEGETATION FROM MECHANICAL DAMAGE.

2. TO PROTECT ROOT SYSTEMS FROM COMPACTION.

3. TO PROVIDE AWARENESS OF PROTECTED AREAS TO EQUIPMENT OPERATORS.

WHY IT WORKS
A TREE'S CHANCE FOR SURVIVAL IS GREATLY ENHANCED IF NO CONSTRUCTION MATERIAL, HEAVY EQUIPMENT OR STOCKPILING OF SOIL IS ALLOWED INSIDE THE BARRIER; ONLY HAND LABOR.

TREE BARRICADE SPECIFICATIONS

5.

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF FT. PIERCE & FDOT STANDARDS AND SPECIFICATIONS.
2. LOCATIONS OF EXISTING UTILITIES AND FACILITIES SHOWN ARE APPROXIMATE AND ARE BASED ON TOPO DATA AND RECORD INFORMATION. ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. CONTACT SUNSHINE STATE CALL AT 1-800-432-4770 FOR LOCATIONS OF ALL UTILITIES. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND FACILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSULT WITH THE ENGINEER BEFORE MAKING ANY AND ALL INTERPRETATIONS OF THE PLANS. THIS IN NO WAY RELIEVES THE CONTRACTOR OF HIS RESPONSIBILITY FOR CONSTRUCTING THE PROJECT TO ACCOMPLISH THE INTENT OF THE PLANS.
4. CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, DRIVEWAYS, SIDEWALKS, ETC. WITH THE SAME TYPE OF MATERIAL REMOVED DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE PLANS. REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THE WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL CONDITIONS PRIOR TO CONSTRUCTION UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ALL SURVEY CONTROLS DISTURBED AND/OR REMOVED DURING CONSTRUCTION WILL BE REPLACED BY A REGISTERED SURVEYOR, COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.

   ALL EROSION CONTROL MEASURES MUST BE COMPLETE BEFORE CONSTRUCTION ACTIVITIES CAN BEGIN.
6. EROSION/SEDIMENTATION CONTROL: THE CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIERS (HAY BALES OR SILTATION CURTAINS). IF REQUIRED, TO PREVENT SILTATION OF THE ADJACENT PROPERTY, STREET, STORM SEWERS AND WATERWAYS. IN ADDITION, THE CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON THE GROUND AS REQUIRED, IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF SITE, EITHER BY NATURAL DRAINAGE OR VEHICLE TRAFFIC, THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER LOCAL AUTHORITIES.
7. CONTRACTOR SHALL CONTACT ALL OWNERS OF UTILITIES, EASEMENTS AND/OR RIGHTS-OF-WAYS, PUBLIC OR PRIVATE, PRIOR TO ANY WORK IN OR OVER THESE AREAS.
8. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE VARIOUS UTILITY COMPANIES WITH AT LEAST 48 HOURS ADVANCE NOTICE FOR UTILITY VERIFICATION.
9. UNLESS OTHERWISE RECOMMENDED BY THE SOILS ENGINEER, EXCAVATIONS AND EMBANKMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF FDOT SECTION 120, TO ACHIEVE THE PLAN ELEVATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS AND/OR EASEMENTS BEFORE BEGINNING CONSTRUCTION.
11. PRIOR TO STARTING CONSTRUCTION THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. FAILURE OF THE CONTRACTOR TO FOLLOW THIS PROCEDURE SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATION OF THE WORK MANDATED BY ANY REGULATORY AUTHORITY.
12. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED AND MULCH OR AS NOTED ON THE LANDSCAPE PLAN. DISTURBED AREAS WITHIN R/W SHALL BE SODDED.
13. ANY TREE NOT DESIGNATED FOR REMOVAL FROM THE SITE AND IS REMOVED BY THE CONTRACTOR WILL RESULT IN THE CONTRACTOR HAVING TO EITHER COMPENSATE THE OWNER FOR SIMILAR REPLACEMENT OF TREE(S) DESTROYED, OR, REPLACEMENT OF IDENTICAL SIZE AND SPECIES OF TREE REMOVED. FURTHER, ANY ADDITIONAL REQUIREMENTS BY REGULATORY AGENCIES HAVING JURISDICTION OVER SUCH MATTERS WILL BE INCURRED BY THE CONTRACTOR. COMPENSATORY DAMAGES AGAINST THE CONTRACTOR ARE NOT LIMITED IN THIS SITUATION.
14. NO GROUND DISTRUBING ACTIVITIES OE VEHICLE TRAVEL WILL OCCUR WITHIN THE DRIP LINE OF THE EXISTING TREES THAT WILL BE PRESERVED.
15. ANY WELL DISCOVERED DURING LAND CLEARING SHALL BE PROTECTED OR ABANDONED IN ACCORDANCE WITH SJRWMD RULES.

RAM S.V. ALUR P.E. #65583
DATE:

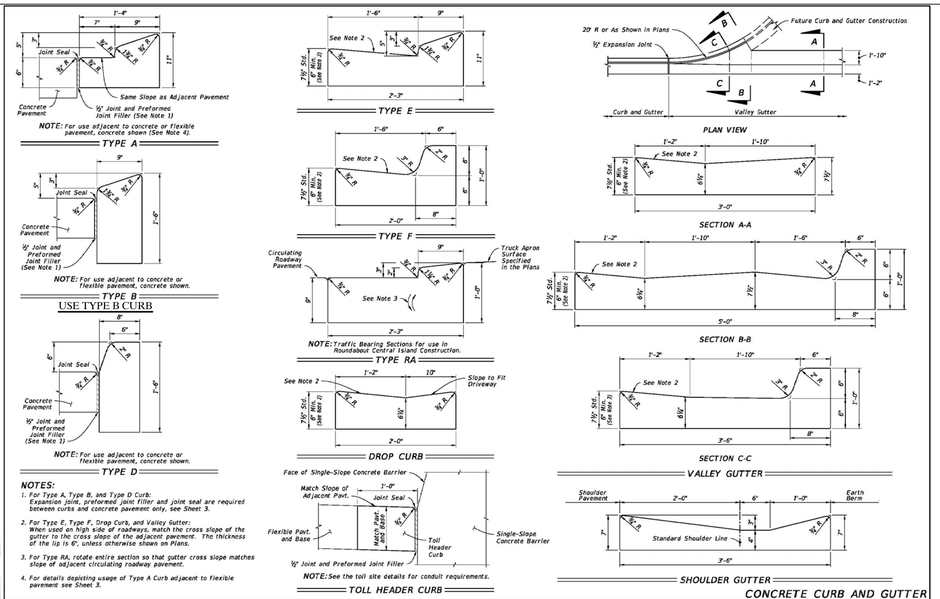
NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #29719 ENGINEERING EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-9



NOTE: For use adjacent to concrete or flexible pavement, concrete shown (See Note 4).

NOTE: For use adjacent to concrete or flexible pavement, concrete shown.

NOTE: For use adjacent to concrete or flexible pavement, concrete shown.

NOTE: Traffic Bearing Sections for use in Roundabout Central Island Construction.

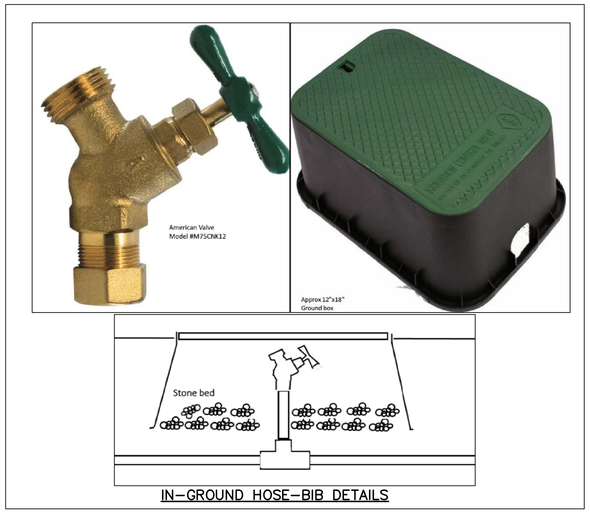
NOTE: See the toll site details for conduit requirements.

NOTES:

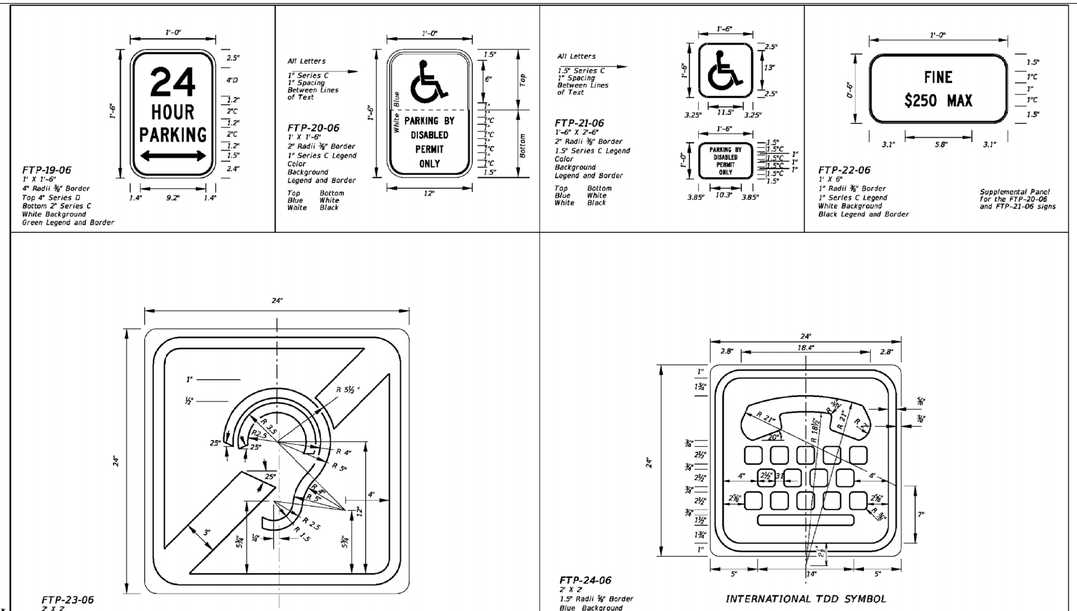
1. For Type A, Type B, and Type D Curb: Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 3.
2. For Type E, Type F, Drop Curb, and Valley Gutter: When used on high side of roadways, match the cross slope of the gutter to the cross slope of the adjacent pavement. The thickness of the lip is 6", unless otherwise shown on Plans.
3. For Type RA, rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.
4. For details depicting usage of Type A Curb adjacent to flexible pavement see Sheet 3.

CONCRETE CURB AND GUTTER

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 2 of 3

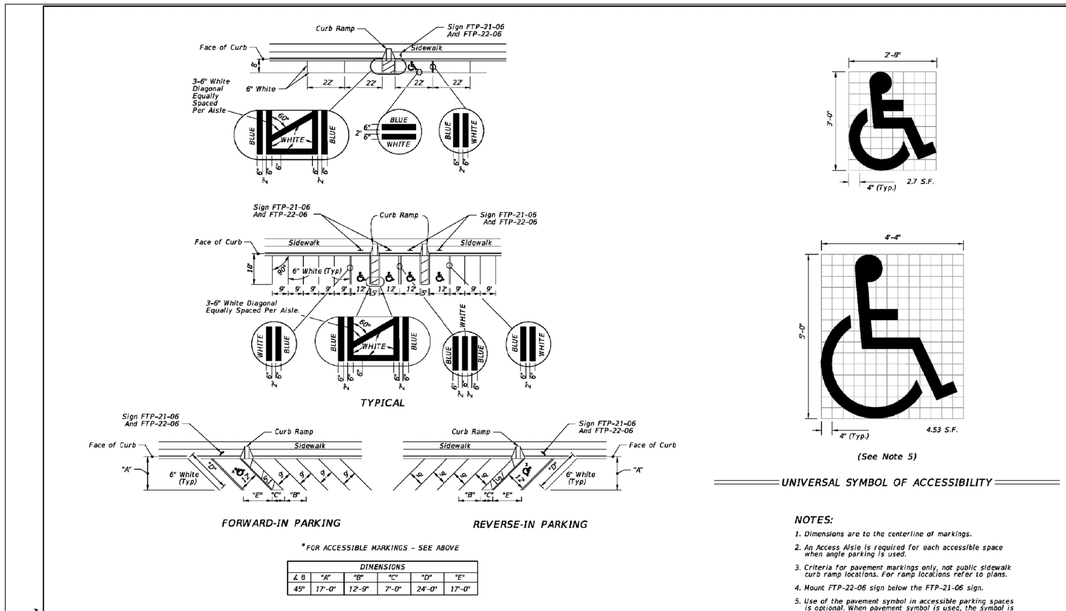


IN-GROUND HOSE-BIB DETAILS



SPECIAL SIGN DETAILS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SPECIAL SIGN DETAILS	INDEX 700-102	SHEET 4 of 12



*FOR ACCESSIBLE MARKINGS - SEE ABOVE

∠ θ	DIMENSIONS "A"	"B"	"C"	"D"	"E"
45°	17'-0"	12'-9"	7'-0"	24'-0"	17'-0"

PAVEMENT MARKING FOR PARKING

NOTES:

1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Mount FTP-22-06 sign below the FTP-21-06 sign.
5. Use of the pavement symbol in accessible parking spaces is optional. When pavement symbol is used, the symbol is either 3'-0" or 5'-0" high and white in color.

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	PAVEMENT MARKINGS	INDEX 711-001	SHEET 11 of 13

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28139 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

NO.	REVISIONS	DATE:
	SUBMIT TO CDFP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

RAM S.V. ALUR P.E. #50583
DATE:

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017

SHEET: C-10

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. WATER MAINS WHERE SPECIFIED AS POLYVINYL CHLORIDE (PVC) SHALL CONFORM TO AWWA C-900 OR C-905, PRESSURE CLASS 150, DR (18). WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO AWWA C-901 OR C-906, STANDARD CODE DESIGNATION PE3408, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURY, (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER PIPELINES.
3. WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE , SHALL CONFORM TO ANSI/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
4. POLYVINYL CHLORIDE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING ON THE PIPE, ALSO DIP PIPE SHALL REQUIRE THE USE OF IDENTIFICATION TAPE AND THHN WIRE.
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 250 MIN., CEMENT LINED AND FACTORY COATED
6. GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNDY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
7. WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY, COUNTY, FDOT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FDOT ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FDOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
10. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA, AND CITY/COUNTY/FDOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. TRAFFIC CONTROL, BARRICADES, ETC., SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
12. MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/COUNTY/FDOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
13. DISTURBED AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
14. EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
15. WATER MAINS SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AWWA C-651 FOR DISINFECTION.

WATER DISTRIBUTION	G-1 NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010 — SHEET 1 OF 2	

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
17. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND DISINFECTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING VALVE AND SLEEVE.
19. WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFCATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITES AUTHORITY SPECIFICATIONS.
20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN, FOR TESTING. FOLLOWING TESTING AND STERILIZATION OF WATER LINE. CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S OR ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
22. ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C-600. – 2 HR MINIMUM TEST

$$L = \frac{SD(P)^{1/2}}{148,000}$$

L= LEAKAGE IN GPH
S= LENGTH OF PIPE IN FEET
D= PIPE DIAMETER IN INCHES
P= TESTING PRESSURE IN PSI

23. PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN 1st. JOINT OF NEW LINE. END OF MAIN SHOULD BE "TURNED UP" AT 45$ AND EXTENDED SO THAT SWABBING AND A FULL BORE FLUSH CAN BE ACCOMPLISHED. BLOW-OFF ASSY CAN THEN BE PLACED. WHERE LINES BRANCH, SWABS WILL BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABBED AND FLUSHED.
24. A MINIMUM SIX FEET AND PREFERABLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTWATER LINES. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGHTS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
25. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
26. CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WATER DISTRIBUTION	G-1 NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010 — SHEET 2 OF 2	

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE SDR-26, GREEN OR WHITE IN COLOR, GRAVITY SEWER MAIN SHALL HAVE LOCATOR TAPE WITH "SEWER" MARKED ON TAPE AND SHALL CONFORM TO ASTM D-3034.
3. THE MANHOLE BASE SHALL BE SET ON A FIRM, DRY AND STABLE OR COMPACTED BASE FOUNDATION, IF NECESSARY, THE CONTRACTOR SHALL UTILIZE ROCK TO PROVIDE A FIRM AND SUITABLE MANHOLE BASE FOUNDATION.
4. WASTEWATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY ENGINEERING DEPARTMENT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THEN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
5. A 1% MINIMUM SLOPE SHALL BE MAINTAINED ON ALL SANITARY SERVICE LATERALS.
6. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER CONSISITING OF PIPE SIZES, LOCATION OF SERVICE TEE WYES, DIAMETER OF SERVICES, LOCATION OF ANY FITTINGS, FINAL RIM AND INVERT ELEVATION OF ALL MANHOLES AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT.
7. MAINTAIN SIX FEET AND PREFERABLY 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAINS AND SEWER MAINS AS A MINIMUM.
8. WASTEWATER FORCE MAINS, WASTEWATER COLLECTION LINES, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE PROVIDED WHENEVER POSSIBLE. WHERE THIS MINIMUM CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER PIPE JOINTS ARE EQUIDISTANCE FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
9. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, AND FPUA/CITY COUNTY/FDOT SHALL BE MANDATORY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. NO FIELD CHANGES OR DEVIATIONS FORM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL FPUA/CITY/COUNTY/FDOT ENGINEER,
11. TRAFFIC CONTROL, BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
12. CONTRACTOR SHALL NOTIFY FORT PIERCE UTILITIES AUTHORITY 48 HOURS PRIOR TO COMMMENCING CONSTRUCTION.
13. WASTEWATER FORCE MAIN SHALL BE POLYVINYL CHLORIDE CONFORMING TO AWWA C-900, AND SHALL BE CLASS 150, DR-18.
14. WASTEWATER FORCE MAIN SHALL BE GREEN IN COLOR.
15. FITTINGS SHALL BE DUCTILE IRON, CONFORMING TO ANSI/AWWA C-110/A21.10 CLASS 250 MIN. AND INTERIOR EPOXY COATED.
16. WASTEWATER FORCE MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN WIRE (GREEN IN COLOR) PERMANENTLY ATTACHED TO THE TOP OF THE FORCE MAIN WITH LOCATOR TAPE MARKED "SEWER" ON TAPE IN ACCORDANCE WITH FPUA SPECIFICATIONS.
17. MINIMUM COVER SHALL BE 36 INCHES, PIPES WITH COVER LESS THAN 30 INCHES SHALL REQUIRE PRIOR APPROVAL OF THE UTILITES ENGINEER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.
18. EACH SERVICE LATERAL WILL BE MARKED WITH A LOCATOR BALL AS MANUFACTURED BY 3M CORPORATION, OR APPROVED EQUAL AS REQUIRED BY FPUA ENGINEER.
19. ALL MANHOLES SHALL HAVE SEWER RAIN GUARDS INSTALLED AS REQUIRED BY FPUA ENGINEER.
20. THE CONTRACTOR SHALL COMPLY WITH THE FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WASTEWATER CONSTRUCTION NOTES FPUA REQUIREMENTS	G-2 CONSTRUCTION NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010 — SHEET 1 OF 1	

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

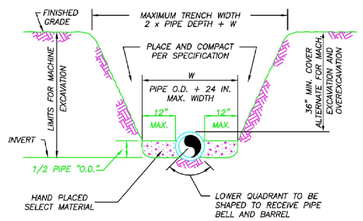
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN.. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT	G-3 WATER/SEWER CONFLICT
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010 — SHEET 1 OF 1	

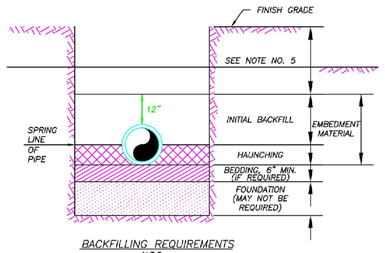


NOTES:

1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

TYPICAL TRENCH DETAIL	M-1
03-09 CONCRETE SLAB — SLL — JLC; DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015 — SHEET 1 OF 1	

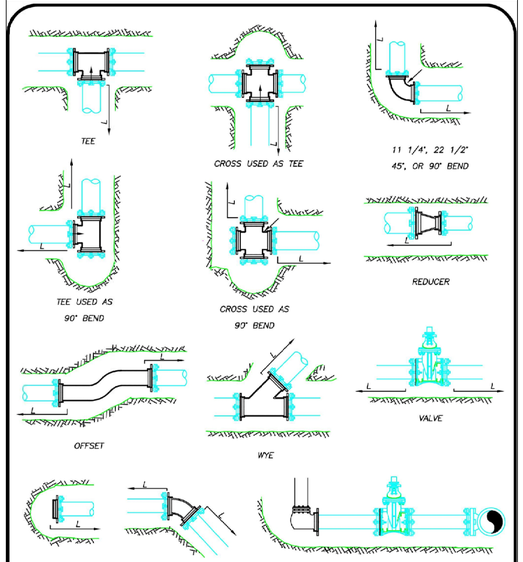


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

BACKFILLING REQUIREMENTS	M-2
03-09 CONCRETE SLAB — SLL — JLC; DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015 — SHEET 1 OF 1	



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

MECHANICAL JOINT ANCHORING REQUIREMENTS	M-3
03-09 CONCRETE SLAB — SLL — JLC; DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015 — SHEET 1 OF 1	

MECHANICAL JOINT RESTRAINT NOTES

NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.
3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

MECHANICAL JOINT RESTRAINT NOTES	M-4
03-09 CONCRETE SLAB — SLL — JLC; DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015 — SHEET 1 OF 1	

RAM S.V. ALUR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD.	9/6/22
	NSLRWCD & FPUA	

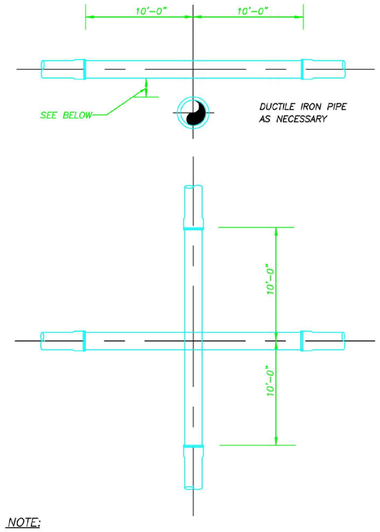
ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28979 — EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-7753, E-mail: aspireeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-11

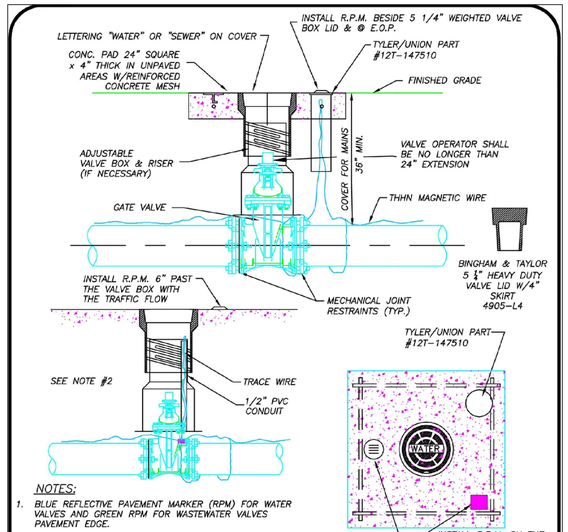


NOTE:

PLEASE REFER TO FORT PIERCE UTILITIES STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS.

UTILITY CROSSING DETAIL
N.T.S.

FPUA COMMUNITY PROUD	UTILITY CROSSING DETAIL	M-5
03-09 CONCRETE SLAB SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

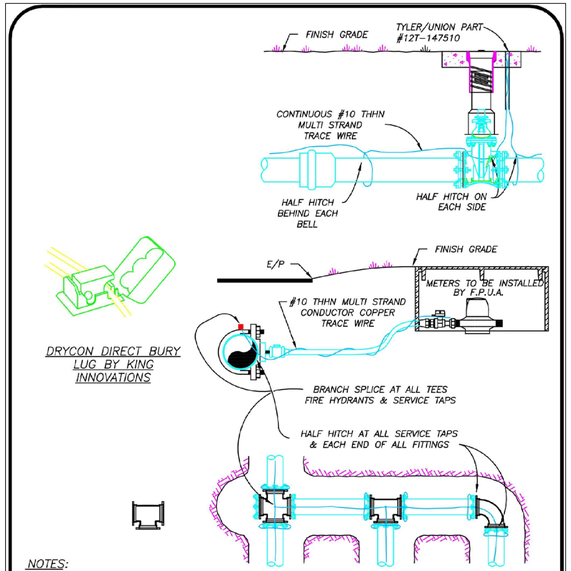


NOTES:

1. BLUE REFLECTIVE PAVEMENT MARKER (RPM) FOR WATER VALVES AND GREEN RPM FOR WASTEWATER VALVES PAVEMENT EDGE.
2. FOR WATER AND WASTEWATER VALVES INSTALLED IN PAVED AREAS, ELIMINATE CONCRETE PAD AND ENCASE THE MAGNETIC WIRE IN 1/2" PVC INSIDE THE VALVE BOX SEVEN INCHES BELOW GRADE.
3. DIP MAY BE USED AS RISERS ONLY IF A VALVE BOX IS NOT MANUFACTURED FOR THAT DEPTH. NO PVC RISERS SHALL BE USED IN ANY CIRCUMSTANCES.

TYPICAL GATE VALVE & VALVE BOX DETAIL
N.T.S.

FPUA COMMUNITY PROUD	TYPICAL GATE VALVE & VALVE BOX DETAIL	M-6
03-09 CONCRETE SLAB SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

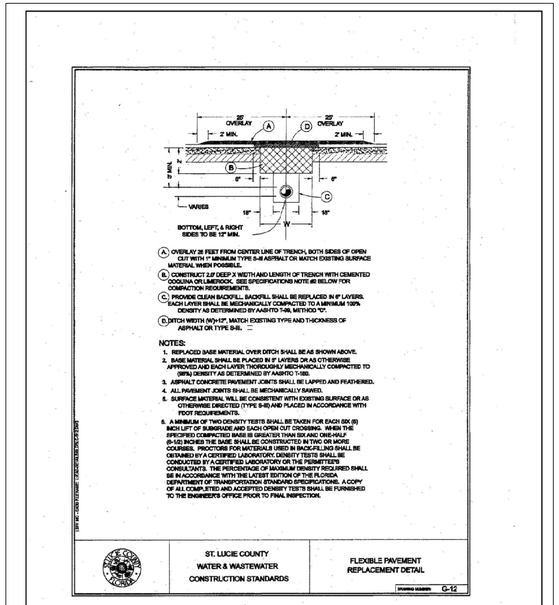


NOTES:

1) TRACE WIRE IS REQUIRED ON ALL PIPE AS NOTED BY UTILITIES ENGINEER AND SHOWN IN STANDARD DETAILS.
2) INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
3) CONTRACTOR IS RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.

TRACE WIRE
(N.T.S.)

FPUA COMMUNITY PROUD	TRACE WIRE DETAIL	M-11
03-02 CONCRETE SLAB SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1



A OVERLAY 25 FEET FROM CENTER LINE OF TRENCH, BOTH SIDES OF OPEN CUT WITH 1" MINIMUM TYPE S-III ASPHALT OR MATCH EXISTING SURFACE MATERIAL WHEN POSSIBLE.

B CONSTRUCT 2.5' DEEP X WIDTH AND LENGTH OF TRENCH WITH CEMENTED COQUINA OR LIMEROCK. SEE SPECIFICATIONS NOTE #5 BELOW FOR COMPACTION REQUIREMENTS.

C PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 8" LAYERS. EACH LAYER SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-99, METHOD "C".

D DITCH WIDTH (W)=12", MATCH EXISTING TYPE AND THICKNESS OF ASPHALT OR TYPE S-III.

NOTES:

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE AS SHOWN ABOVE.
2. BASE MATERIAL SHALL BE PLACED IN 8" LAYERS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO (98%) DENSITY AS DETERMINED BY AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
4. ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
5. SURFACE MATERIAL WILL BE CONSISTENT WITH EXISTING SURFACE OR AS OTHERWISE DIRECTED (TYPE S-III) AND PLACED IN ACCORDANCE WITH FDOT REQUIREMENTS.
6. A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH 500 (E) INCH LIFT OF SUBGRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6-1/2) INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACKFILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY OR THE PERMITTEE'S CONSULTANTS. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION.

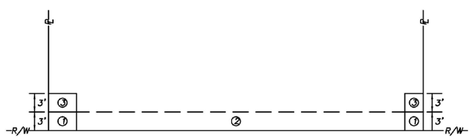
ST. LUCIE COUNTY
WATER & WASTEWATER
CONSTRUCTION STANDARDS

FLEXIBLE PAVEMENT REPLACEMENT DETAIL
STANDARD NUMBER G-12

FORT PIERCE UTILITIES AUTHORITY	FLEXIBLE PAVEMENT REPLACEMENT DETAIL	R-4
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLM	COMPUTER FILE # MISC. DETAILS 200602.DWG	
DRAWN BY: JLM	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.

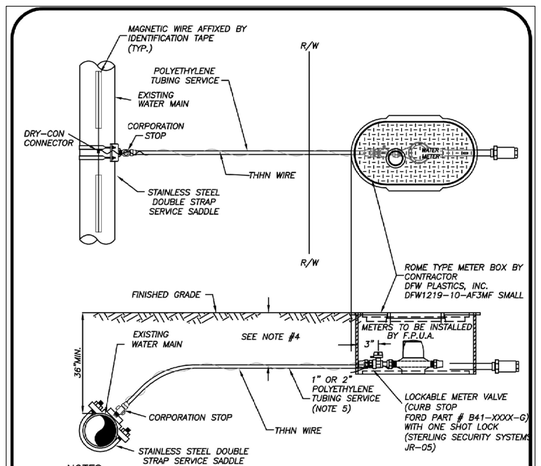


NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, AREA ③ SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② , OR ALONG THE PROPERTY LINES MARKED AREA ⑤.
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.
4. ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WATER METER PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WATER METER PLACEMENT POLICY	W-1
03-09 02-15 SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

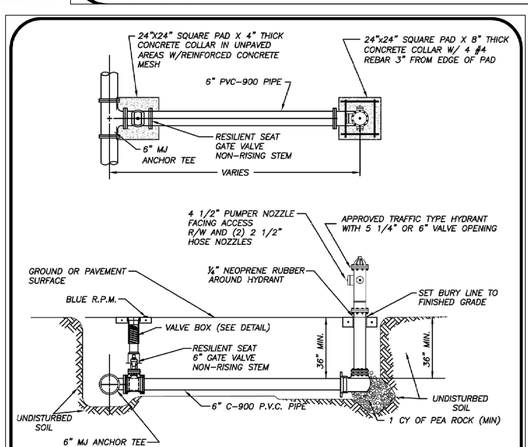


NOTES:

1. BLUE 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE. (CURB STOP)
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".
5. FOR 2" COMMERCIAL SERVICE INSTALLATIONS, FPUA WILL INSTALL ABOVE GROUND METER PER DETAIL W-8.

TYPICAL SINGLE WATER SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL SINGLE WATER SERVICE CONNECTION	W-2
03-09 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2020	SHEET 1 OF 1

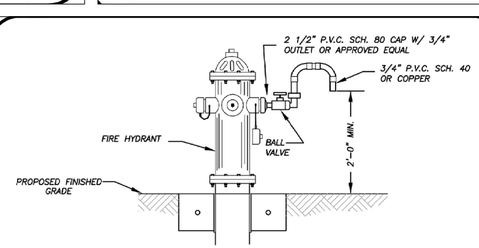


NOTES:

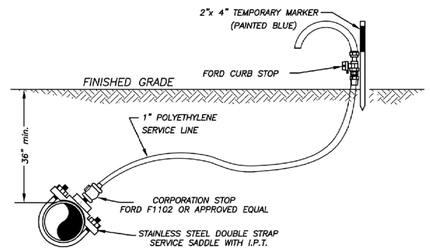
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
2. HYDRANT SHALL BE PAINTED CARNIVAL RED FROM FACTORY.
3. HEEL TO REST IN UNDISTURBED SOIL.
4. THE ONLY HYDRANTS ACCEPTABLE ARE: MUELLER SUPER CENTURION 250 OR AMERICAN DARLING B-84-B-5.
5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO TEE.
6. ALL FITTINGS SHALL BE MECHANICAL JOINT.
7. ENTIRE ASSEMBLY TO BE MECHANICALLY RESTRAINED.
8. BLUE LOCATOR SHALL BE PLACED IN CENTER OF TRAVEL LANE CLOSEST TO HYDRANT.
9. ALL HYDRANT VALVE BOX COVERS SHALL BE PAINTED CARNIVAL RED.
10. LOCATE WIRE SHALL TERMINATE AT HYDRANT ISOLATION VALVE
11. HYDRANTS SHALL BE NO MORE THAN FIFTEEN FEET (15 FT.) FROM THE CURB OF ROADWAYS OR FROM THE EDGE OF PAVEMENT. CLEARANCES OF SEVEN AND ONE HALF FEET (7FT-6IN.) IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANTS, WITH FOUR FOOT (4 FT.) CLEARANCE TO THE REAR OF HYDRANTS SHALL BE MAINTAINED.

TYPICAL FIRE HYDRANT ASSEMBLY
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL FIRE HYDRANT ASSEMBLY	W-5
03-09 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MATERIAL.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT
(N.T.S.)



BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN
(N.T.S.)

NOTE:

AFTER TESTING REMOVE 1" P.E. LINE AND CAP WITH BRASS PLUG AT CORPORATION STOP.

FPUA COMMUNITY PROUD	BACTERIOLOGICAL SAMPLING POINT DETAIL	W-6
03-09 02-15 SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATERDETAIL.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #EB#29 CONSULTING ENGINEERS · PLANNERS EXCELLENCE DELIVERED
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-7753; E-mail: aspireeng@yahoo.com

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD.	9/6/22
	NSLR/WD & FPUA	

RAM S.V. ALUR P.E. #50583
DATE:

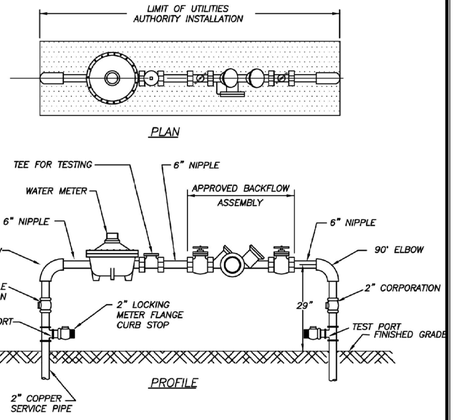
TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE

PROJECT #: 22-017

SHEET:
C-12



NOTES:

1. LANDSCAPING REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 18" AROUND METER OR BACKFLOW. NO SOLDER JOINTS.
2. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.

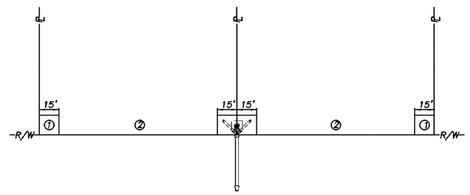
WATER METER/BACKFLOW PREVENTER ASSEMBLY
DOMESTIC SERVICE (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD	WATER METER/BACKFLOW PREVENTER ASSEMBLY–DOMESTIC SERVICES (METER SIZE 2" OR LESS)	W–8
03–08 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY, DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.



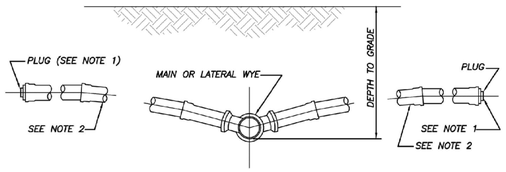
NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. SEWER LATERAL, AREA ①, SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE LATERAL. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO LATERALS CAN BE CONNECTED IN A "Y" CONFIGURATION AS SHOWN.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. SEWER LATERAL, WITHIN AREA ①, THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ②.
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF SIX FEET AND PREFERABLY 10 FEET.
4. THE WASTEWATER LATERAL SHALL BE LOCATED WITHIN RIGHT–OF–WAY AND TERMINATE AT THE PROPERTY LINE.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WASTEWATER LATERAL WITHIN THE EASEMENT OR RIGHT–OF–WAY, UP TO THE POINT OF CONNECTION.

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WASTEWATER SERVICE PLACEMENT POLICY	S–1
02–06 02–15 SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



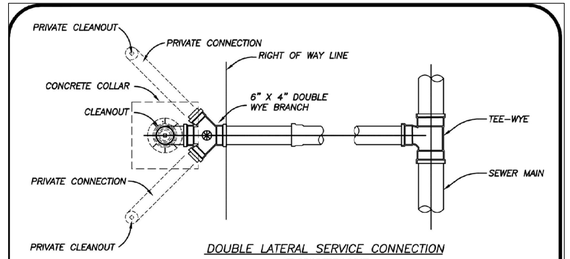
NOTES:

1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S–1 FOR SPECIFIC PROPERTY LAYOUT.

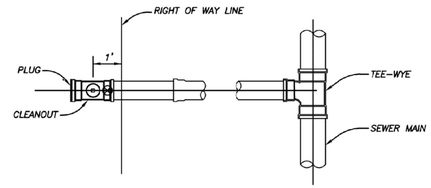
SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S–2
02–06		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE



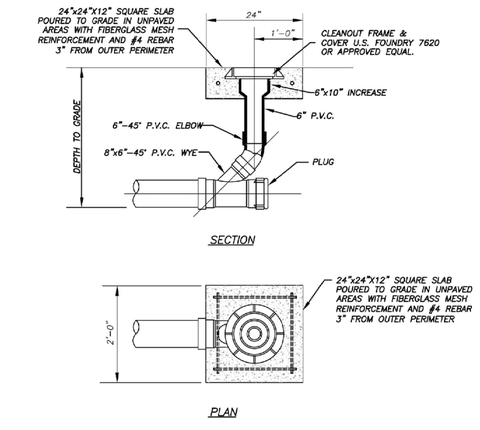
SINGLE SERVICE LATERAL CONNECTION

⊛ = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT
BALL BY 3M CORP. OR APPROVED EQUAL
SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S–3
02–06		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

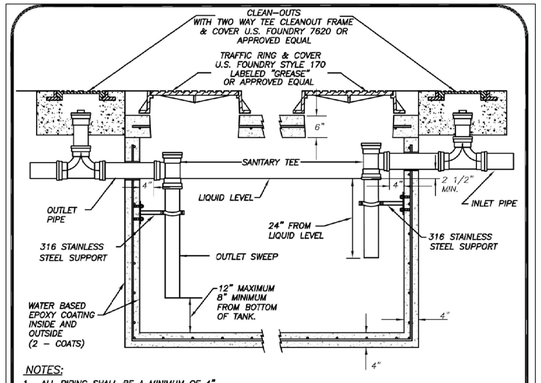
FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD	TERMINAL CLEANOUT DETAIL WASTEWATER	S–4B
10–06 RBC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2016	SHEET 2 OF 3

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



NOTES:

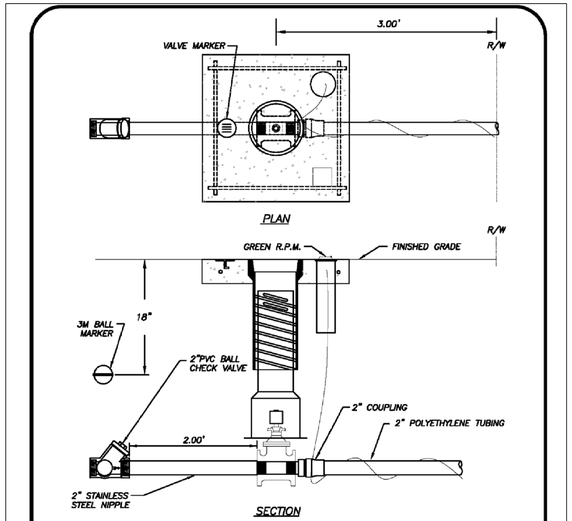
1. ALL PIPING SHALL BE A MINIMUM OF 4".
2. PIPING SHALL BE INSTALLED USING PRESSED–IN BOOTS OR CONCRETE MANHOLE ADAPTERS (ONLY).
3. INLET AND OUTLET TEES MUST BE INSTALLED A MINIMUM OF 4" FROM INSIDE THE STRUCTURE WALLS. ACTUAL DIMENSION SHOULD BE ADJUSTED TO ENSURE THAT AN UNOBSTRUCTED VERTICAL VIEW OF THE TEES CAN BE SEEN THROUGH THE GREASE INTERCEPTOR'S ACCESS OPENINGS.
4. FPUA'S SEWER USE ORDINANCE WILL DICTATE GREASE INTERCEPTOR(S) SIZE. ALL INTERCEPTORS SHALL BE A MINIMUM OF 1,000 GALLONS AND A MAXIMUM OF 1,250 GALLONS.
5. TANK MUST BE TRAFFIC BEARING (SHALL MEET H–20 LOADING REQUIREMENTS).
6. TANK WALLS AND BOTTOM SLAB MUST BE A MINIMUM 4" THICK AND THE TOP SLAB A MINIMUM 6" THICK; ALL WITH #4 REBAR REINFORCEMENT.
7. TANK SEAMS SHALL BE JOINED AND SEALED WITH MINIMUM 1–3/4" "RAM–NEK" SEALER OR EQUIVALENT TO FORM A WATER TIGHT SEAL.
8. ALL INTERNAL AND EXTERNAL CONCRETE SURFACES SHALL RECEIVE 2 COATS OF A WATER BASED EPOXY COATING.
9. GREASE INTERCEPTORS MUST BE INSTALLED ON DRY, STABLE AND UNDISTURBED SOIL. IF THESE CONDITIONS CAN NOT BE MET, EXCAVATION SHALL BE EXTENDED TO SIX INCHES BELOW THE STRUCTURE AND A CUSHION OF 3/4 STONE SHALL BE PROVIDED.
10. PRECAST CONCRETE RINGS SHALL BE UTILIZED FOR RING & COVER ADJUSTMENTS.

SPECIAL NOTE: IF INTERCEPTOR IS REPLACING AN EXISTING INTERCEPTOR THAT WILL BE ABANDONED IN PLACE, PERFORM THE FOLLOWING: (1) STRUCTURE MUST BE PRESSURE WASHED TO ENSURE ALL GREASE AND FOREIGN MATERIAL IS REMOVED, (2) REMOVE PORTION OF STRUCTURE WITHIN 3 FEET OF FINISH GRADE AND (3) INSTALL A MINIMUM 6 INCH DIAMETER HOLE IN THE BOTTOM SLAB OF THE STRUCTURE.

STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTORS (N.T.S.)

FPUA COMMUNITY PROUD	STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTERS	S–14
2016 LABEL UPDATE SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2016	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



NOTES:

1. FORCE MAIN CONNECTION SHALL CONSIST OF A 2" TAPPING SADDLE, 2" STAINLESS STEEL NIPPLE AND 2" THREADED RESILIENT SEAT GATE VALVE
2. GREEN 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
3. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

FPUA COMMUNITY PROUD	GRINDER STATION CONNECTION	S–16
03–08 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE #	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600

RAM S.V. ALIR P.E. #65583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

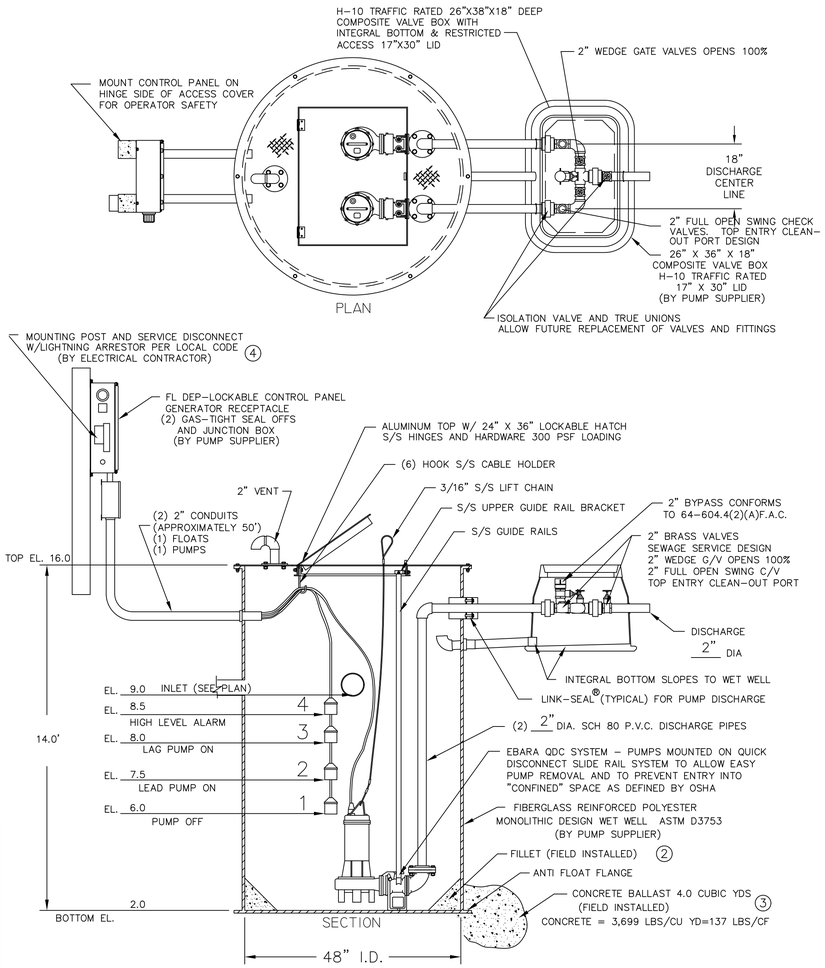
ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28979 CONSULTING ENGINEERS · PLANNERS EXCELLENCE DELIVERED
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571–2850, FAX: (813)571–1753; E–mail: capireeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22–017
SHEET: C–13



48" DUPLEX STATION - 2" PIPING WITH SLIDE RAIL SYSTEM, V.B. AND F.D.E.P. PANEL

4. MOUNTING POST, SERVICE DISCONNECT AND LIGHTING ARRESTOR PER LOCAL CODE
3. CONCRETE BALLAST AS REQUIRED
2. GROUT FILLET (1 TO 1 SLOPE TO "HOPPER" BOTTOM)

FIELD INSTALL BY CONTRACTOR

GENERAL NOTES

FURNISH AND INSTALL EBARA SUBMERSIBLE GRINDER PUMPS:

DESIGN CONDITION:

MODEL	EBARA 50 DGF	5	HP
GPM	91 GPM @ 87 FT &	94 GPM @ 45 FT	FT/TDH
VOLTAGE	208/230	THREE	PHASE
DISCHARGE	2"	162 MM	IMPELLER

SEWAGE PUMP: 1. RATED FOR TWENTY (20) STARTS PER HOUR.

2. AIR FILLED MOTOR DESIGNED FOR SEWAGE APPLICATION WITH CLASS F INSULATION.
3. DUAL MECHANICAL SHAFT SEALS (SILICON CARBIDE / SILICON CARBIDE) LOCATED OUT OF THE PUMPAGE, IN A SEPARATE OIL FILLED CHAMBER.
4. HIGH TEMPERATURE BALL BEARINGS B-10 RATING OF 60,000 HOURS, UPPER BEARING - SINGLE ROW AND LOWER BEARINGS - DOUBLE ROW TYPE.
5. PUMP SHAFT HORSEPOWER (BHP) SHALL NOT EXCEED MOTOR RATED HORSEPOWER THROUGHOUT THE ENTIRE OPERATING RANGE OF THE PUMP PERFORMANCE CURVE.
6. SINGLE PHASE MOTORS SHALL BE DUAL WOUND, CAPACITOR START-RUN AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260). THREE PHASE MOTORS SHALL BE DUAL WOUND AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260) OR OPERATE ON 460 VOLT BY CHANGING THE MOTOR LEADS INSIDE THE PUMP.

FIBERGLASS WET WELL: SHALL BE A ONE PIECE UNIT WITH INTEGRAL BOTTOM, WALL AND UPPER FLANGE. THE ENTIRE FIBERGLASS WET WELL SHALL HAVE A DYNAMIC LOAD RATING OF 16,000 FT/LBS. EACH UNIT MUST BE SERIAL NUMBERED TO IDENTIFY THE TEST PROCEDURE. ASTM D 3753 SPECIFICATIONS SHALL BE REQUIRED AS MINIMUM.

ALUMINUM HATCH: TSC MODEL-54R (54") ROUND WITH 24" X 36" LOCKABLE HATCH, REINFORCED FOR LOAD RATING OF 300 LBS/FT WITH HOLD OPEN SAFETY ARM, LOCKING DEVICE FOR HASP TYPE PADLOCK AND STAINLESS STEEL HARDWARE.

VALVE BOX: FIBERGLASS COMPOSITE (H-10 TRAFFIC RATED) WITH INTEGRAL BOTTOM. (FOR 1 1/4" AND 2" DISCHARGE PIPING SXS HEADER SYSTEM) SHALL BE 26" X 36" X 18" WITH 17" X 30" LIMITED ACCESS LID

ACCESSORIES: #304 S/S - GUIDE RAILS, UPPER GUIDE RAIL BRACKETS, CABLE HOLDER, ANCHOR BOLTS AND PUMP LIFTING CHAINS.

VALVES : SHALL BE SEWAGE SERVICE DESIGN BRASS SWING CHECK VALVES WITH TOP ENTRY CLEAN-OUT PORT AND BRASS WEDGE GATE VALVES OPEN 100%.

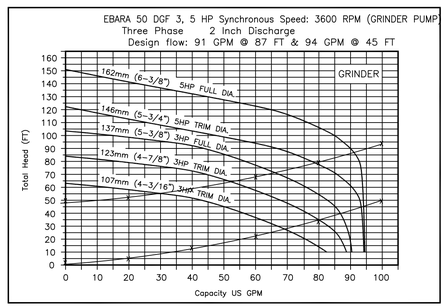
PIPING: 2" SCHEDULE 80 PVC.

FLOAT SWITCHES: UL LISTED SJ ELECTRO MODEL (SJ 30 SWENO).

PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, CONTROL PANEL, JUNCTION BOX, FLOAT SWITCHES, ALUMINUM HATCH AND ACCESSORIES TO INSURE PROPER OPERATION AND WARRANTY.

THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, SLIDE RAIL ASSEMBLIES AND DISCHARGE PIPING ASSEMBLED BY TECHNICAL SALES CORPORATION READY TO SHIP FOR FIELD INSTALLATION.

THE STOCKING DISTRIBUTOR FOR EBARA SUBMERSIBLE PUMPS: TECHNICAL SALES CORPORATION, 4621 N. HALE AVE TAMPA, FL 33614 (813)876-9256



PUMP PERFORMANCE CURVE

IN CASE OF EMERGENCY CONTACT:
DAN BRAINARD KING
813-649-9561

SIGN DETAILS

SIGN NOTES:
MIN. LETTER SIZE: 2"

CONTROL PANEL -SHALL CONFORM TO FL DEP 64-604.42(A)

CONTROL PANEL SHALL BE TSC MODEL # 38-D IN NEMA 4X FIBERGLASS ENCLOSURE. THE PANEL SHALL MEET STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP), ENVIRONMENTAL PROTECTION COMMISSION (EPC) AND LOCAL CODE REQUIREMENTS GOVERNING PRIVATE LIFT STATIONS.

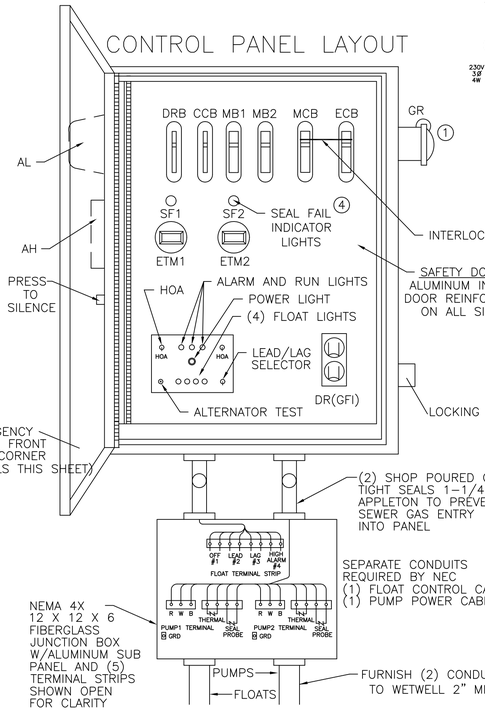
FLOAT SWITCHES AND CONTROL SYSTEM SHALL BE UL LISTED AND INTRINSICALLY SAFE. ALL COMPONENTS SHALL BE UL LISTED.

A JUNCTION BOX IS REQUIRED, WITH SHOP POURED SEALS BETWEEN BOX AND CONTROL PANEL TO PREVENT SEWER GAS ENTRY INTO CONTROL PANEL.

ELECTRICAL CONTRACTOR TO PROVIDE SERVICE DISCONNECT WITH LIGHTNING ARRESTOR MOUNTED PER LOCAL CODES.

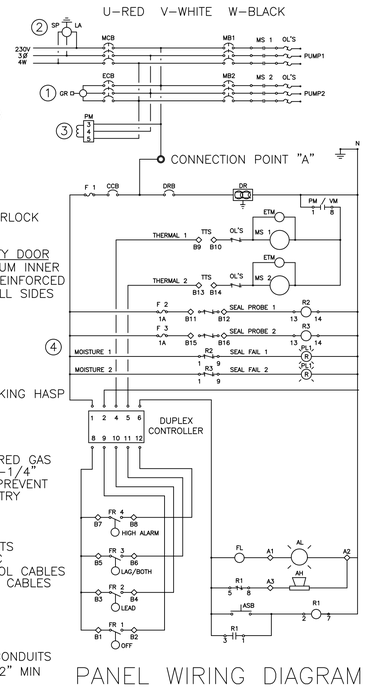
THE CONTROL PANEL SHALL BE SUITABLY INSTALLED TO PREVENT SETTLING OR TIPPING.

CONTROL PANEL LAYOUT



THREE PHASE WIRING DIAGRAM

U-RED V-WHITE W-BLACK



PANEL WIRING DIAGRAM

LEGEND

	AH	ALARM HORN
	AL	ALARM LIGHT
	ASB	ALARM SILENCE BUTTON
	ATS	ALTERNATOR TEST SWITCH
	CCB	CONTROL CIRCUIT BREAKER
	DR	DUPLEX RECEPTACLE
	DRB	DUPLEX RECEPTACLE BREAKER
	ECB	EMERGENCY CIRCUIT BREAKER
	ETM	ELAPSED TIME METER
	F	FUSE
	FL	FLASHER
	FS	FLOAT SWITCH (REGULATOR)
1	GR	GENERATOR RECEPTACLE
	GRD	GROUND
	HOA	HAND-OFF-AUTOMATIC SELECTOR
	LA	LIGHTNING ARRESTOR
	MB	MOTOR BREAKER
	MCB	MAIN CIRCUIT BREAKER
	MS	MOTOR STARTER
	N	NEUTRAL
	OL'S	OVERLOAD HEATERS
3	PM	PHASE MONITOR
	PTS	PUMP TERMINAL STRIP
	R	RELAY
	RC	RUN CAPACITOR
	RD	DISCHARGE RESISTOR
	RL	PUMP RUN INDICATORS
	RTS	REGULATOR TERMINAL STRIP
	SC	START CAPACITOR
	SF	SEAL FAIL
	SR	START RELAY
2	SP	SURGE PROTECTOR
	TTS	THERMAL TERMINAL STRIP

PANELS SHALL CONFORM TO FLORIDA DEP 64-604.400

1. GENERATOR RECEPTACLE FOR EMERGENCY POWER CONNECTION WITH INTERLOCK
2. SURGE PROTECTION AND LIGHTNING PROTECTION ON ALL INCOMING LEGS
3. PHASE PROTECTION SHALL BE PROVIDED
4. SEAL FAIL DETECTING

PANEL MANUFACTURER SHALL BE A "UL" LISTED SHOP.

EBARA DUPLEX GRINDER PUMP STATION
FIBERGLASS WET WELL

TECHNICAL SALES CORPORATION
TSC PRE-FAB PUMP SOLUTIONS©
WATERWORKS & WASTEWATER SPECIALTIES
Representing Innovative Manufacturers
MODEL TSC2-40.1©
4621 N. HALE AVENUE TAMPA, FL 33614
PH (813)876-9256
FAX (813)874-1194
EMAIL: Sales@TSCTampa.com
REV 0102 SCALE: N.T.S.

NO.	REVISIONS	DATE:
	SUBMIT TO CONF. FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

RAM S.V. ALIR P.E. #50583
DATE:

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TEL: (813)571-2850, FAX: (813)571-7753, E-mail: aspireeng@yahoo.com

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

LIFT STATION DETAILS

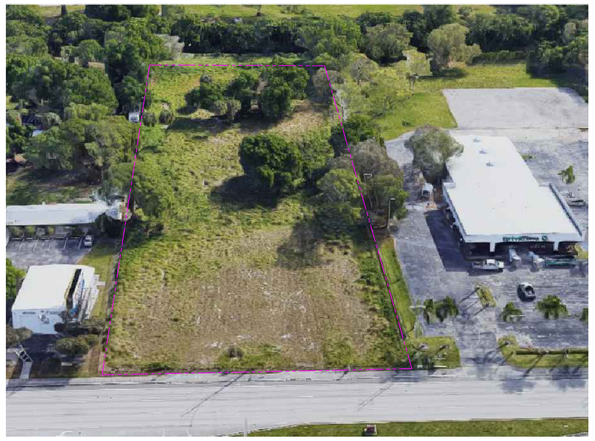
DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-14



1 / A-1 **EXISTING ELEVATION**
ADJACENT LOT TO THE NORTH — Scale : N.T.S.



2 / A-1 **EXISTING ELEVATION**
ADJACENT LOT TO THE SOUTH — Scale : N.T.S.

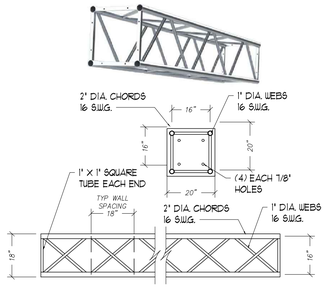


A / A-1 **EXISTING ELEVATION**
VACANT LOT @ PROJECT LOCATION — Scale : N.T.S.

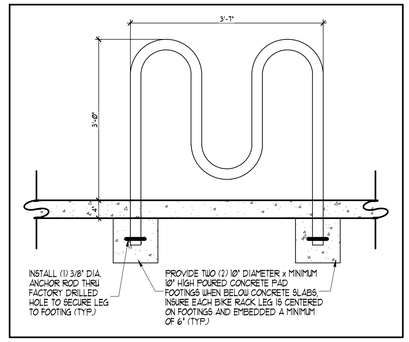
DESIGN NOTES

THE BASIC DESIGN AESTHETIC OF THE NEAREST PROPERTIES IS RELATIVELY NEGLIGIBLE. FOR THE MOST PART (BESIDES THE METAL WAREHOUSE TO THE NORTH) THE PROPOSED PROJECT LOCATION IS SURROUNDED BY CAR DEALERSHIPS WITH A SLIGHTLY MODERN DESIGN.

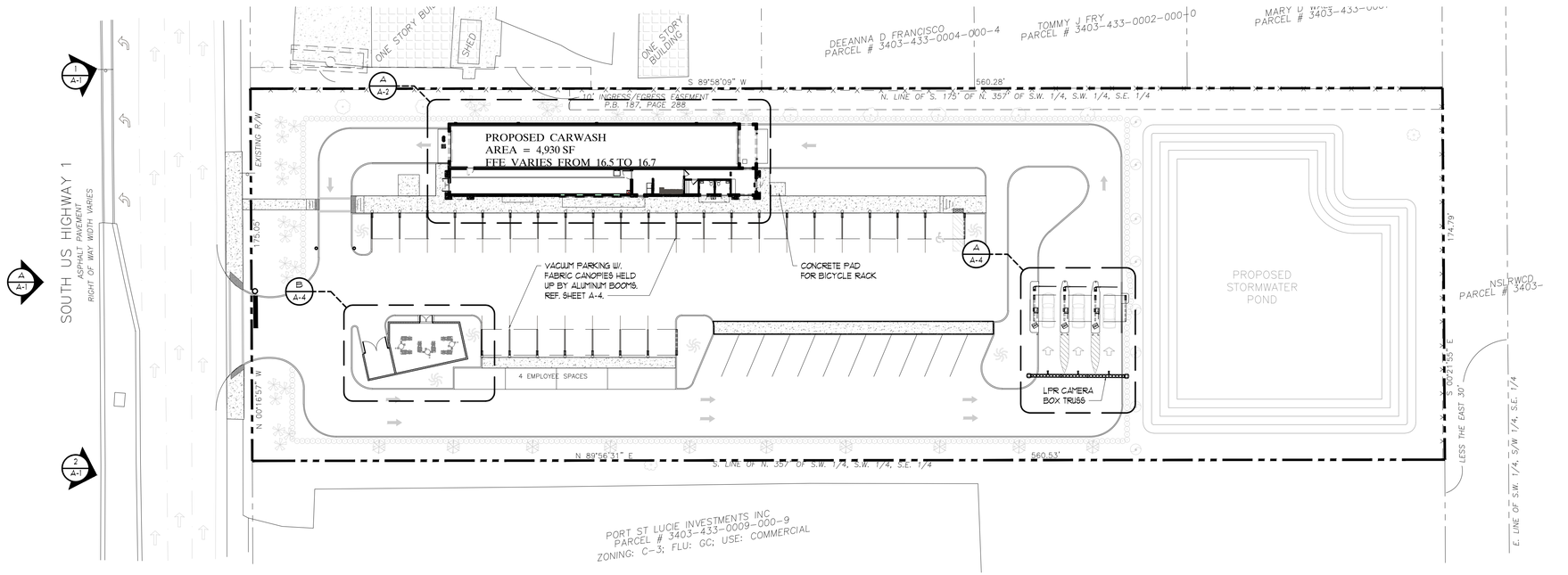
THE CONCEPT USED IN DESIGNING THIS PROJECT IS A SOMEWHAT "MODERN FRAIRIE" AESTHETIC, UTILIZING STUCCO FINISHES, DRY-STACK STONE VENEER AND EARTH TONES.



3 / A-1 **LPR CAMERA BOX TRUSS**
PLAN AND PROFILE DETAILS — Scale : N.T.S.



4 / A-1 **BICYCLE RACK**
ELEVATION/SECTION — Scale : N.T.S.



N.

ARCHITECHTURAL SITE PLAN

SCALE: 1" = 30'-0"

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ISSUED FOR:
DESIGN REVIEW

09-19-2022

MICHAEL F. SOFARELLI JR.
FLORIDA STATE BOARD OF ARCHITECTURE
REGISTRATION No.:
AR 0014577

PROJECT:
TWIN's
NEW CAR WASH
5340 S US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
6365 142nd AVENUE NORTH
CLEARWATER, FLORIDA 33760
PHONE (727)-530-3535
EMAIL: Mike@sofarelliarch.com

Revisions:

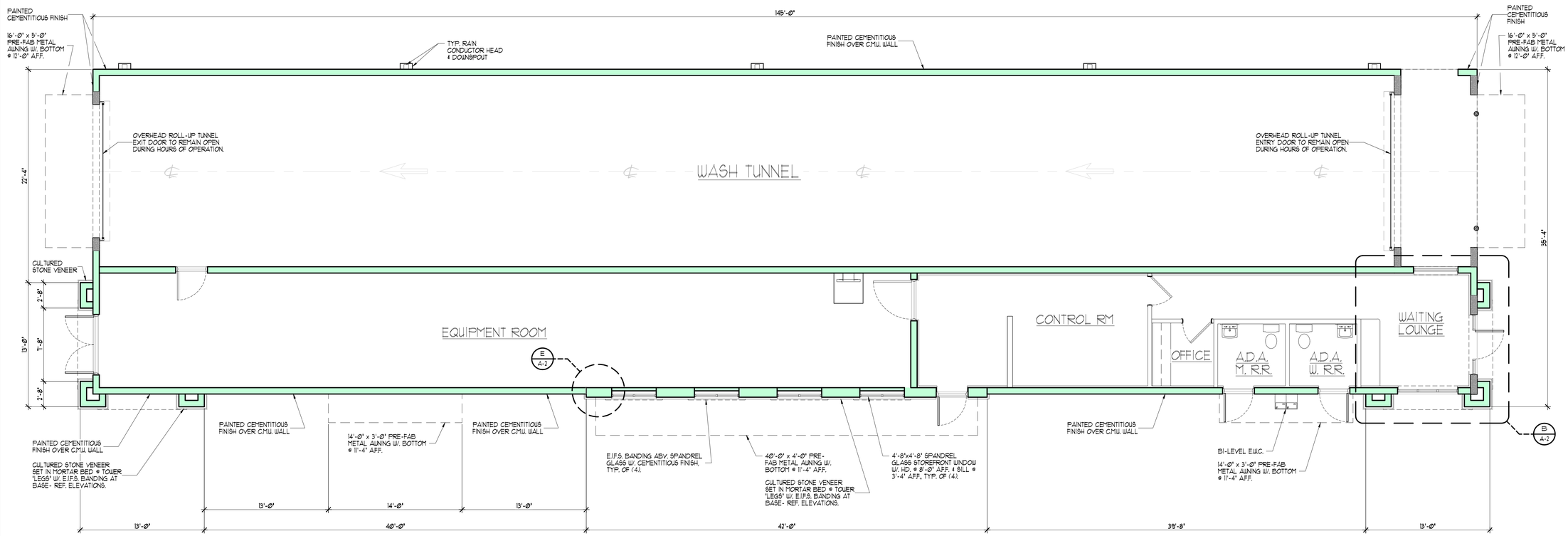
CONTENT:
PROPOSED SITE PLAN

Filename:
TWINS CAR WASH FORT PIERCE

Date:
10-27-2021

Proj. no.
22046

Sheet:
A-1



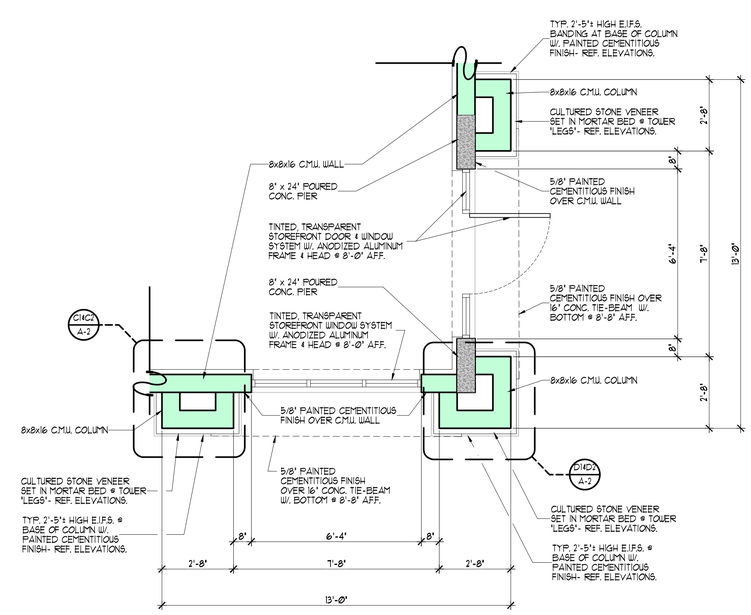
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A A-2 FLOOR PLAN

SCALE: 3/16" = 1'-Ø"

WALL LEGEND

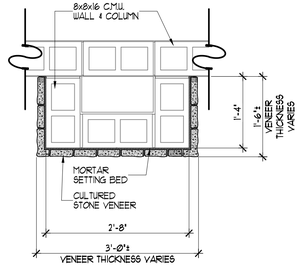
EXTERIOR CMU WALL, 8" U.N.O.	POURED CONC. PIER @ END WALL OPENING



B A-2 ENLARGED PLAN

@ EAST TOWER

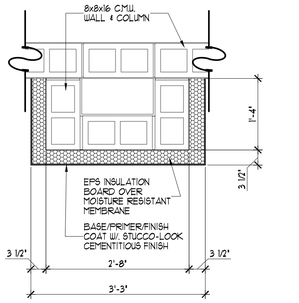
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C1 A-2 PLAN DETAIL

@ CULTURED STONE

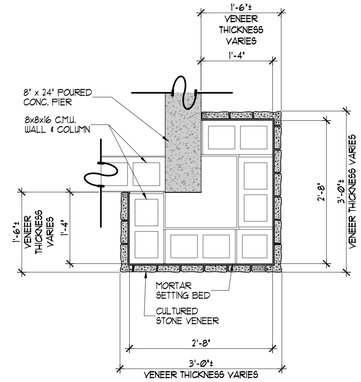
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C2 A-2 PLAN DETAIL

@ E.I.F.S. BASE

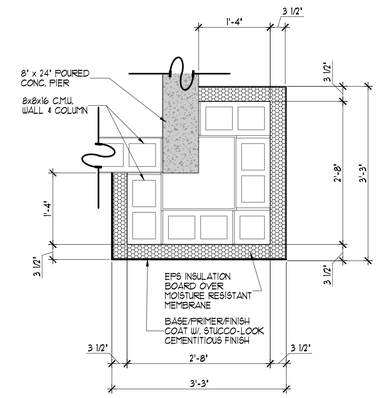
Scale : 3/4" = 1'-Ø"



D1 A-2 PLAN DETAIL

@ CULTURED STONE

Scale : 3/4" = 1'-Ø"



D2 A-2 PLAN DETAIL

@ E.I.F.S. BASE

Scale : 3/4" = 1'-Ø"

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ISSUED FOR:
DESIGN REVIEW

09-19-2022

MICHAEL F. SOFARELLI JR.
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REGISTRATION No.:
AR 0014577

PROJECT:
TWIN's
NEW CAR WASH
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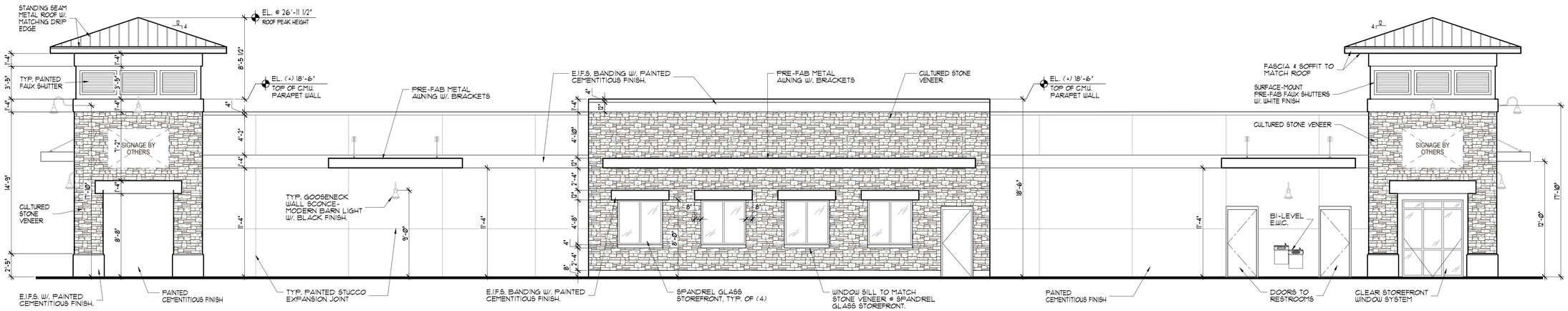
CONTENT:
PROPOSED FLOOR PLAN

Filename:
TWINS CAR WASH FORT PIERCE

Date:
10-27-2021

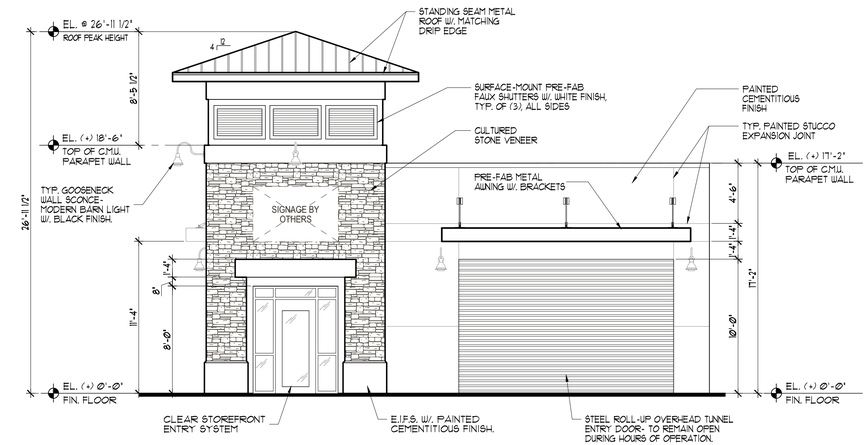
Proj. no.
22046

Sheet:
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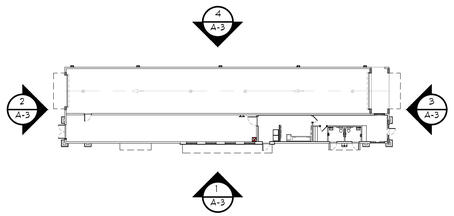
1/A-3 SOUTH ELEVATION
FACING VACUUM PARKING

SCALE: 3/16" = 1'-0"



2/A-3 EAST ELEVATION
TUNNEL ENTRY

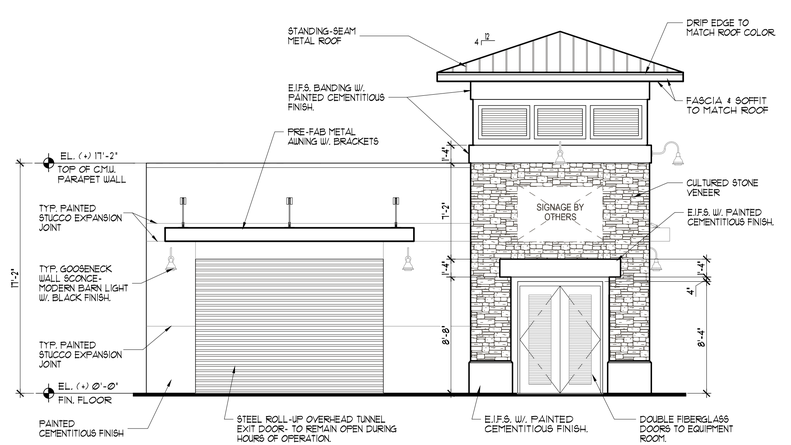
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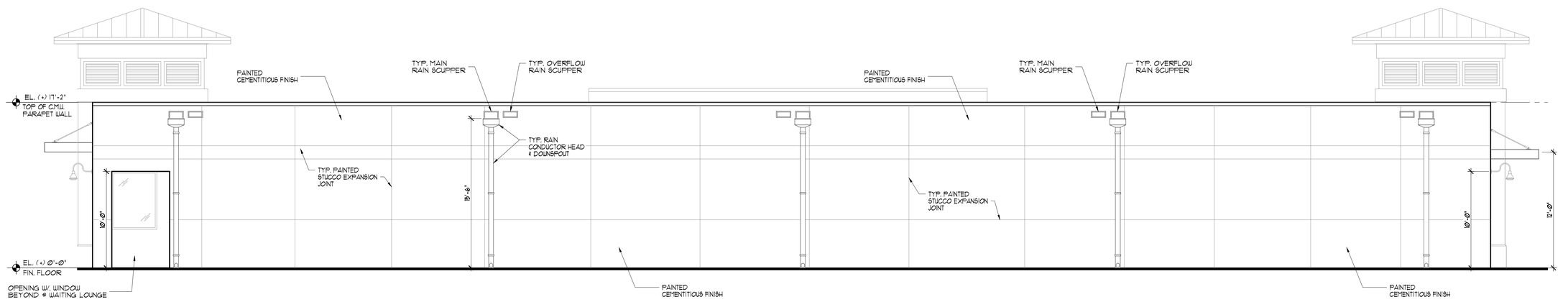
ELEVATION KEY

SCALE: 1/32" = 1'-0"



3/A-3 WEST ELEVATION
TUNNEL EXIT

SCALE: 3/16" = 1'-0"



4/A-3 NORTH ELEVATION
TUNNEL SIDE

SCALE: 3/16" = 1'-0"

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1061 ALT. 19 NORTH
CLEARWATER, FLORIDA 33760
PHONE (727)-530-3535
EMAIL: Mike@sofarelliarch.com

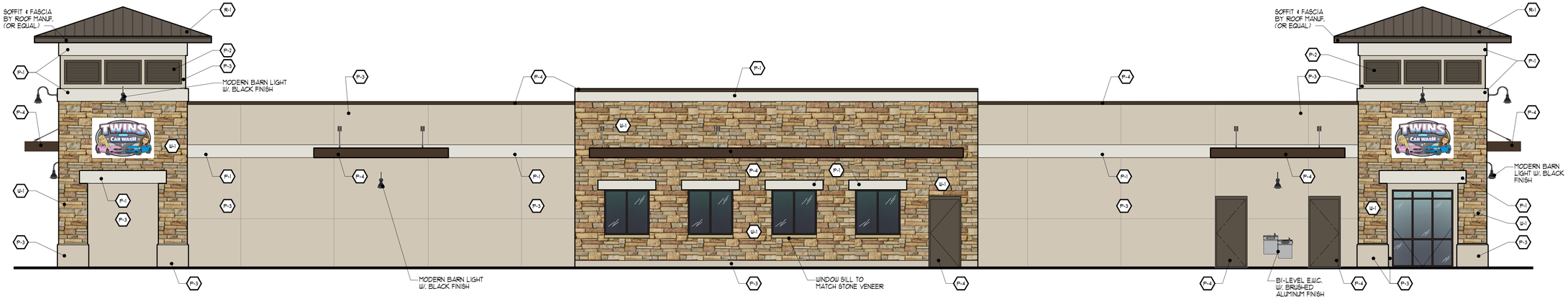
Revisions:

CONTENT:
EXTERIOR ELEVATIONS

Filename:
TWINS CAR WASH FORT PIERCE
Date:
10-27-2021

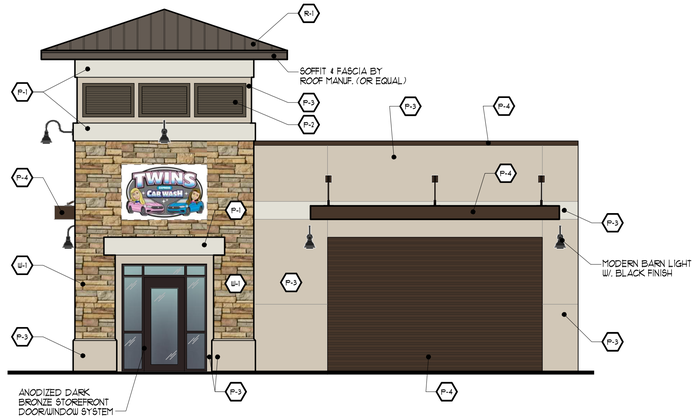
Proj. no.
22046

Sheet:
A-3



1 A-3.1 SOUTH ELEVATION
FACING VACUUM PARKING

SCALE: 3/16" = 1'-0"

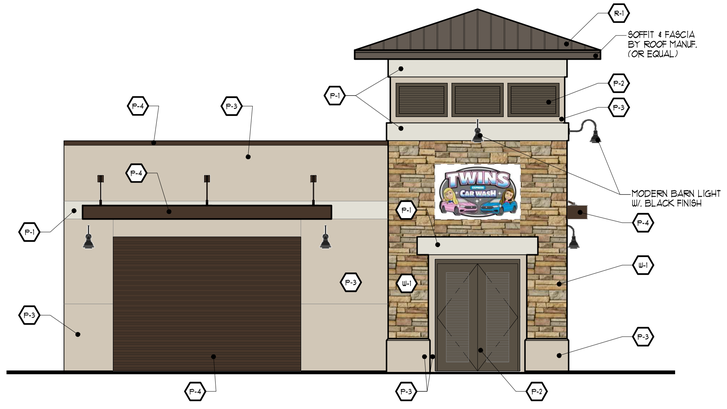


2 A-3.1 EAST ELEVATION
TUNNEL ENTRY

SCALE: 3/16" = 1'-0"

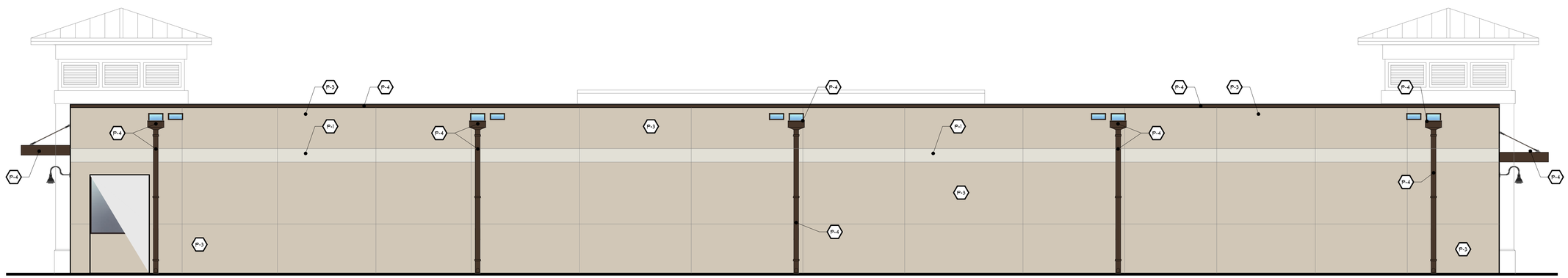
X-X PAINT SCHEDULE

CODE	DESCRIPTION	SPECS	SWATCH
P-1	OFF-WHITE PAINT - ACCENT COLOR	S.W. #2423 POLAR WHITE	
P-2	DARK BROWN PAINT - ACCENT COLOR	S.W. #1055 ENDURING BRONZE	
P-3	TAN PAINT - MAIN BODY COLOR	S.W. #1547 SANDBAR	
P-4	DARK BROWN POWDER COAT - ACCENT COLOR	MATCH RAL #8014 SEPIA BROWN	
W-1	CULTURED STONE VENEER	BORAL: COUNTRY LEDGESTONE CARAMEL	
R-1	DARK BROWN STANDING SEAM METAL ROOF	MBCI - MEDIUM BRONZE	



3 A-3.1 WEST ELEVATION
TUNNEL EXIT

SCALE: 3/16" = 1'-0"



3 A-3.1 NORTH ELEVATION
TUNNEL SIDE

SCALE: 3/16" = 1'-0"

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ISSUED FOR:
DESIGN REVIEW

09-19-2022

MICHAEL F. SOFARELLI JR.
FLORIDA STATE BOARD OF ARCHITECTURE
REGISTRATION No.:
AR 0014577

PROJECT:
TWIN's
NEW CAR WASH
5348 S US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
1550 MANATEE AVENUE
CLEARWATER, FLORIDA 33760
PHONE (727)-530-3535
EMAIL: Mike@sofarelliarch.com

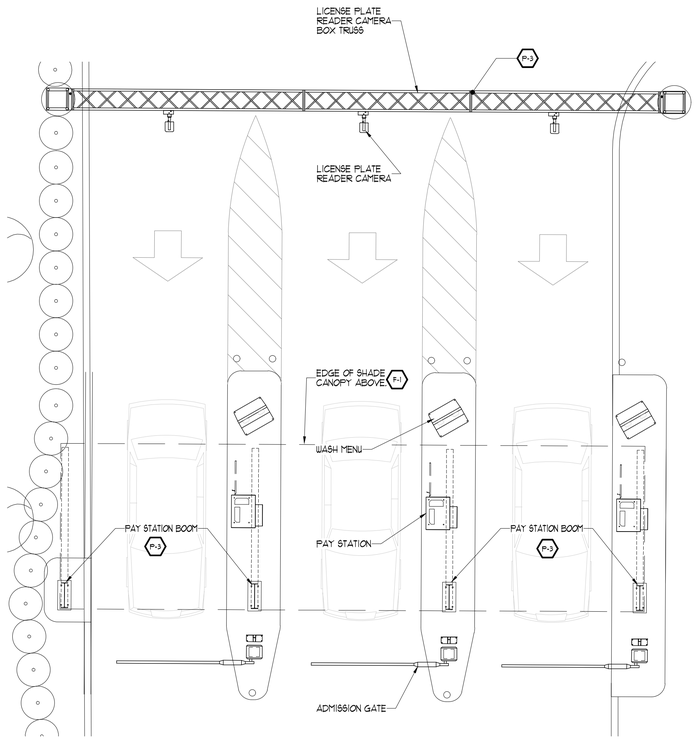
Revisions:

CONTENT:
ELEVATIONS W/. FINISH SCHEDULE

Filename:
TWINS CAR WASH
FORT PIERCE
Date:
10-27-2021

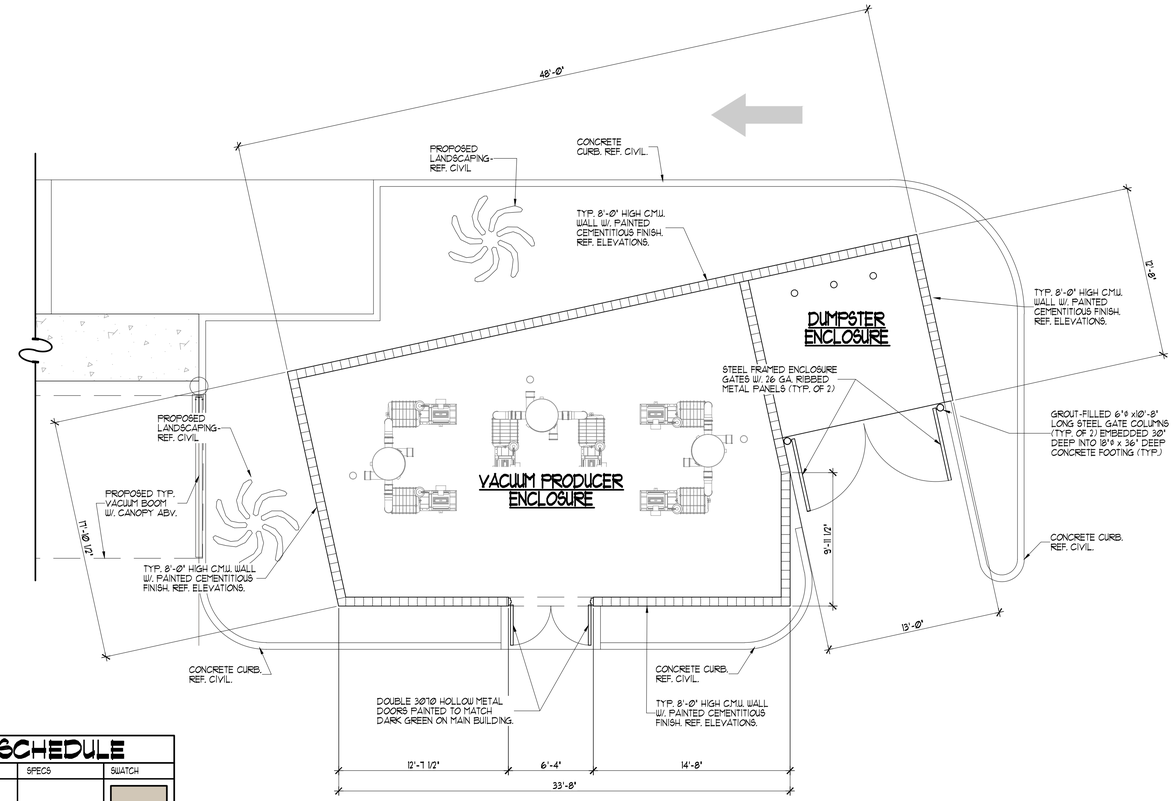
Proj. no.
22046

Sheet:
A-3.1



A / A-4 **ENLARGED PLAN**
PAYSTATION ISLAND

Scale : 3/16" = 1'-Ø"



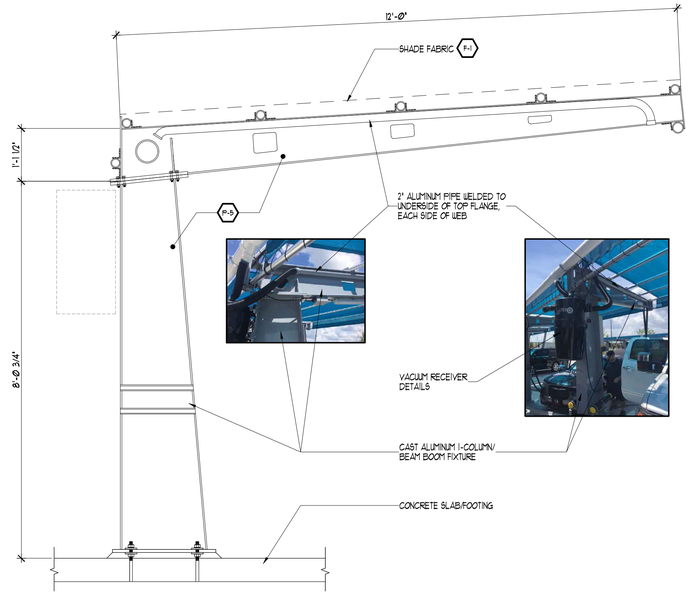
2 / A-4

B / A-4 **ENLARGED PLAN**
DUMPSTER & VACUUM PRODUCER PAD ENCLOSURE

Scale : 3/16" = 1'-Ø"

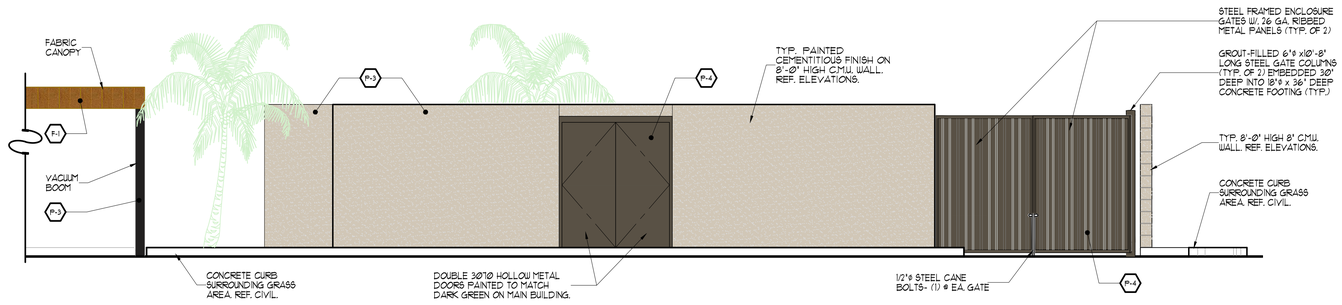
PAINT SCHEDULE

CODE	DESCRIPTION	SPECS	SWATCH
P-3	TAN PAINT - MAIN BODY COLOR @ ENCLOSURE	S.W. #7547 SANDBAR	
P-4	DARK BROWN POWDER COAT - ACCENT COLOR	MATCH RAL #8014 SEPIA BROWN	
P-5	BLACK POWDER COAT - BOOM COLOR	MATCH RAL #9011 TRAFFIC BLACK	
F-1	VACUUM PARKING & PAYSTATION CANOPIES	COMMERCIAL 95 SHADE CLOTH: CEDAR	



1 / A-4 **ELEVATION**
VACUUM BOOM

TYPICAL DETAIL. COLORS VARY BY PROJECT.
Scale : 3/4" = 1'-Ø"



2 / A-4 **ELEVATION**
DUMPSTER & VACUUM PRODUCER PAD ENCLOSURE

Scale : 1/4" = 1'-Ø"

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NEW CAR WASH
5240 S US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
455 KAPOK ROAD
CLEARWATER, FLORIDA 33760
PHONE (727)-530-3535
EMAIL: Mike@sofarelliarch.com

Revisions:

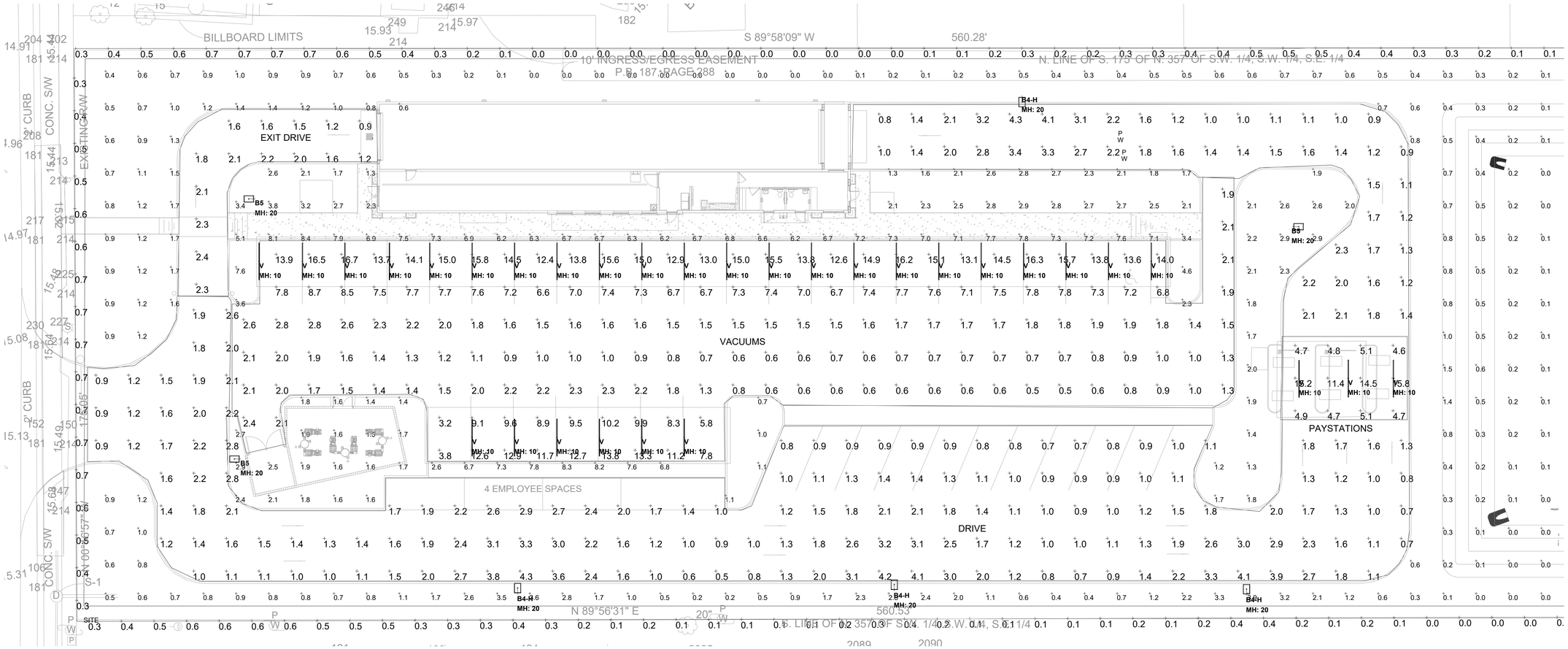
CONTENT:
DUMPSTER/ VACUUM RECEIVER ENCLOSURE, VACUUM BOOM

Filename:
TWINS CAR WASH FORT PIERCE

Date:
10-27-2021

Proj. no.
22046

Sheet:
A-4



PHOTOMETRIC SITE PLAN

SCALE: 1/16"=1'-0"

GARDCO by Signify — Wall Mount — LED wall sconce — 121

Gardco LED wall sconce 121 offers distinction through its styling, powerful optical design, array of distributions, and impressive selection of control possibilities. Designed to add an element of style to your application by pairing straight lines with rounded edges, the form of the 121 is timeless, yet contemporary, and will complement a wide assortment of architectural styles and designs, while delivering high light levels and functional distributions. 121 sconces are available in Type 2, 3, and 4 distributions, and provide output of up to 12,400 lumens. Energy saving control options help to increase energy savings and offer California Title 24 compliance. Emergency Battery Backup option available for path-of-egress and is integral to the luminaire.

Project: / Location: / Cat.No. / Type: / Lamps: / Qty: / Notes:

Ordering guide — example: 121-32L-700-NW-G4-3-120-BL-IMR12-BZ

Prefix	Number of LEDs	Drive Current	LED Color-Generation	Distribution	Emergency	Voltage
121 — LED wall sconce	16L — 16 LEDs (1 module) 32L — 32 LEDs (2 modules)	200 — 200mA 400 — 400mA 530 — 530mA 700 — 700mA 1000 — 1000mA 1200 — 1200mA	CW-G4 — Cool White 5000K, 70 CRI Generation 4 NW-G4 — Neutral White 4000K, 70 CRI Generation 4 WW-G4 — Warm White 3000K, 80 CRI Generation 4 WY-G4 — Warm Yellow 2700K, 80 CRI Generation 4 † BW-G4 — Balanced White 3500K 80CRI Generation 4 † AM-G4 — Direct Amber (590nm) Generation 4 †	2 — Type 2 3 — Type 3 4 — Type 4 Leave blank to omit an emergency option	EBPC — Emergency Battery Pack Cold Weather [1,2,9]	UNV — 120-277V HVU — 347-480V 120 — 120V 208 — 208V 240 — 240V 277 — 277V 347 — 347V 480 — 480V

Options					
Dimming controls	Motion sensing lens	Photo sensing	Electrical	Finish	
DD — 0-10V External dimming (controls by others) [1] DCC — Dual Circuit Control [1,3,4,5] FAWS — Field Adjustable Wattage [4,5] SW — Interface Module for Switching LLC — Integral wireless module [1,6,7,8] BL — Bi-level functionary with motion sensor [1,7,8] DynaDimmer: Automatic Profile Dimming [4] CS50 — Security 50% Dimming, 7 hours CM50 — Median 50% Dimming, 8 hours CS30 — Security 30% Dimming, 7 hours CM30 — Median 30% Dimming, 8 hours	IMR12 — Integral with #2 lens [9] IMR3 — Integral with #3 lens [9]	PCB — Photocontrol Button [10]	Fusing F1 — Single (120, 277, 347VAC) [4] F2 — Double (208, 240, 480VAC) [4] F3 — Fusing Double Pull (208, 240, 480VAC) [4] Surge Protection (SPA standard) SP2 — Increased 20kA	Textured BK — Black WH — White BZ — Bronze DGY — Dark Gray MGY — Medium Gray Customer specified RAL — Specify optional color or RAL (ex: RAL9006) (Must supply color chip for required factory quote) CC — Custom color (Must supply color chip for required factory quote)	

[1] Only 16L, up to 700mA can be used with battery backup (EBPC) configuration.
[2] Extended lead times apply. Contact factory for details.
[3] Available in 120V or 277V only.
[4] Not available with other dimming control options.
[5] Not available with motion sensor.
[6] Not available with photocontrol.
[7] Not available in 347 or 480V.
[8] Must specify input voltage.
[9] Available with two modules (32L) at 530mA.
[10] Not available with DD, DCC, and FAWS dimming control options.
[11] Available in 120V, 277V, or 347V.
[12] Must specify a motion sensor lens.
[13] Not available with DD, DCC, FAWS, SW, and LLC.

GARDCO by Signify — Site & Area — EcoForm — ECF-S small area light

Project: / Location: / Cat.No. / Type: / Lamps: / Qty: / Notes:

Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 27,800 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Ordering guide — example: ECF-S-64L-900-NW-G2-AR-S-120-HS-MGY

ECF-S	Number of LEDs	Drive Current	LED Color-Generation	Mounting	Distribution	Voltage	Options	Finish
ECF-S — EcoForm site and area, small	12L — 12 LEDs (2 modules) 24L — 24 LEDs (3 modules) 64L — 64 LEDs (4 modules)	300 — 350mA 350 — 530mA 530 — 700mA 700 — 1000mA 1A — 1050mA 1.2A — 1200mA 900 — 900mA 1000 — 1000mA 1200 — 1200mA	NW-G2 — Neutral White 4000K, 70 CRI Generation 2 CW-G2 — Cool White 5000K, 70 CRI Generation 2	AR — Arm Mount (standard) The following mounting options are overlaid upon the standard arm mount and require separate accessories SF — Slip Fitter Mount [1] (Fits to 2-1/4" O.D. tenon) WS — Wall mount with wall plate (requires rear entry penetrated application) RAM — RAM Rail® Adapter mount kit [2]	Type 2 2-90 — Rotated left 90° 2-270 — Rotated right 270° Type 3 3-90 — Rotated left 90° 3-270 — Rotated right 270° Type 4 4-90 — Rotated left 90° 4-270 — Rotated right 270° Type 5 5 — Type 5 SW — Type SW AFR — Auto Front Row AFR-90 — Auto Front Row, Rotated left 90° AFR-270 — Auto Front Row, Rotated right 270°	120 — 120V 208 — 208V 240 — 240V 277 — 277V 347 — 347V 480 — 480V UNV — 120-277V (standard) HVU — 347-480V (standard) DD — 0-10V External dimming (by others) [3] DCC — Dual Circuit Control [3,4,5] FAWS — Field Adjustable Wattage Selector [4,5] SW — Interface module for Switching [6] LLC — Integral wireless module [6,7,8] BL — Bi-level functionality [8,9] DynaDimmer: Automatic Profile Dimming [10] CS50 — Safety 50% Dimming, 7 hours [10] CM50 — Median 50% Dimming, 8 hours [10] CS30 — Safety 30% Dimming, 7 hours [10] CM30 — Median 30% Dimming, 8 hours [10] NMR3 — Integral with #3 lens [11] IMR2 — Integral with #2 lens [11] PCB — Photocontrol Button [12] TLR5S — Twist Lock Receptacle 5 Pin [13] TLR7 — Twist Lock Receptacle 7 Pin [13] TLRPC — Twist Lock Receptacle w/ Photocell [13] Fusing F1 — Single (120, 277, 347VAC) [4] F2 — Double (208, 240, 480VAC) [4] Pole-Mount Fusing FP1 — Single (120, 277, 347VAC) [4] FP2 — Double (208, 240, 480VAC) [4] FP3 — Canada Double Pull (208, 240, 480VAC) [4] Surge Protection (SPA standard) SP2 — Increased 20kA Square Pole Adapter (included in standard product) TB — Terminal Block [14] RPA — Round Pole Adapter (fits to 3"-3.5" O.D. poles) [15] HS — Internal Housing Side Shield [16]	Textured BK — Black WH — White BZ — Bronze DGY — Dark Gray MGY — Medium Gray Customer specified RAL — Specify optional color or RAL, (ex: RAL9006) (Must supply color chip for required factory quote) CC — Custom color (Must supply color chip for required factory quote)

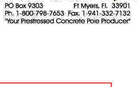
1. BL-IMR3/7 equipped with out-boarded sensor housing when voltage is HVU (347-480V).
2. Mounts to a 4" round pole with adapter included for square poles.
3. Limited to a maximum of 48 degrees sliding above horizontal.
4. Not available with other dimming control options.
5. Not available with motion sensor.
6. Not available with photocontrol.
7. Available only in 120 or 277V.
8. Not available in 347 or 480V.
9. Must specify input voltage.
10. Dimming will not be connected to NEMA receptacle if ordering with other control options.
11. Not available in 480V. Order photocell separately with TLR5S/7.
12. Not available with DCC.
13. Not available with SF and WS. RPAs provided with black finish standard.
14. HS not available with Type 5 and SW options.
15. Not available with DD, DCC, and FAWS dimming control options.
16. Not available with DD, DCC, FAWS and LLC dimming control options.
17. Must specify a motion sensor lens.

Utilities Structures, Inc.
PO Box 9303 Ft Myers, FL 33901
Ph. 1-800-798-7653 Fax. 1-941-332-7132
"Your Prestressed Concrete Pole Producer"

Cat.# USI27TII

Prestressed Concrete Pole

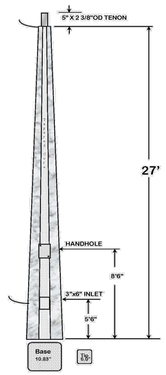
- Pole Weight= 1940lbs
- EPA capacity= 19.1sq'
- Wind speed= 120 mph
- Dust Factor= 1.3
- Min. Brk. Strngth= 2600#
- Concrete= 6,500lbs @ 28 days
- Grd. Wire= #6 str. copper
- Strand= .500" @ 70% Ultimate
- Tenon= 2 3/8" OD x 5" Hgt.
- Color= Natural Concrete



PROJECT:

APPROVAL
DATE:

TYPE POLE



Job Name		REQUIRED INFORMATION
Type	SITE POLES	
Manufacturer	UTILITIES STRUCTURES	
Catalog #	USI27TII	
Voltage		

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Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lum. Lumens	LLF	Description	Filename
	4	B4-H	SINGLE	10003	1.000	ECF-S-32L-1A-NW-G2-4-HS	ecf-s-32l-1a-nw-g2-4-his.ies
	3	B5	SINGLE	13462	1.000	ECF-S-32L-1A-NW-G2-5	ecf-s-32l-1a-nw-g2-5.ies
	31	V	SINGLE	3600	1.000	GPX6-SO	GPX6-SO.IES

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Description
BOUNDARY	Illuminance	Fc	0.23	0.7	0.0	N.A.	N.A.	readings taken at grade
DRIVE	Illuminance	Fc	1.70	4.3	0.5	3.40	8.60	readings taken at grade
EXIT DRIVE	Illuminance	Fc	1.79	2.4	0.9	1.99	2.67	readings taken at grade
PAYSTATIONS	Illuminance	Fc	7.96	15.8	4.6	1.73	3.43	readings taken at grade
SITE	Illuminance	Fc	1.19	8.4	0.0	N.A.	N.A.	readings taken at grade
VACUUMS	Illuminance	Fc	5.36	16.7	0.5	10.72	33.40	readings taken at grade

TARGETING:
PARKING: 0.5 FC MINIMUM
BOUNDARY: 1.5 MAXIMUM

NOTES:
- LUMINAIRES SYMBOLS ARE MAGNIFIED FOR LEGIBILITY

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ISSUED FOR:
DESIGN REVIEW

MICHAEL F. SOFARELLI JR.
FLORIDA STATE BOARD OF ARCHITECTURE
REGISTRATION No.:
AR 0014577

PROJECT:
TWIN'S NEW CAR WASH
5340 S US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

SOFARELLI + ASSOCIATES P.A. ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
6365 142nd AVENUE NORTH
CLEARWATER, FLORIDA 33760
PHONE: (727)-530-3535
EMAIL: Mike@sofarelliarch.com

Revisions:

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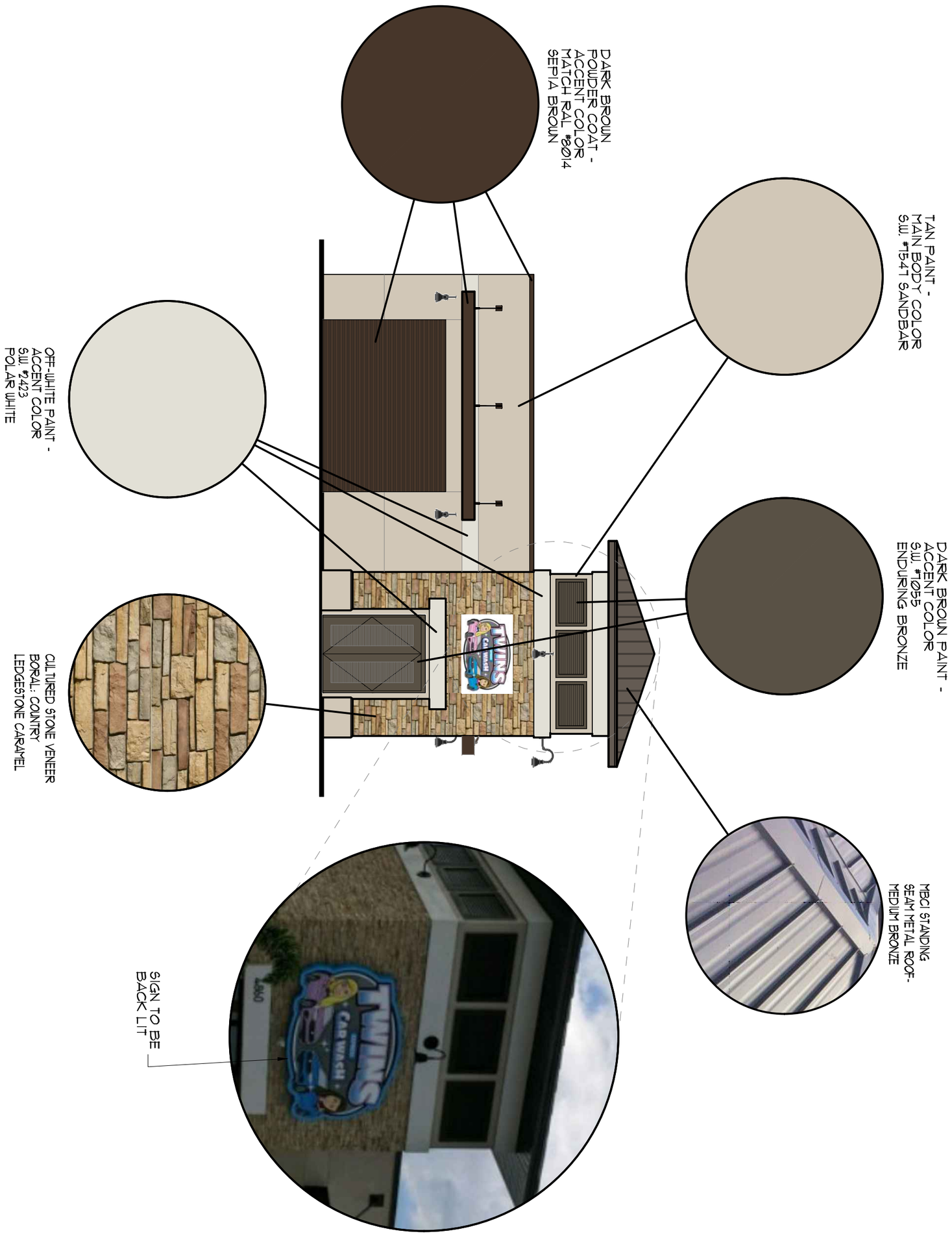
Filename:
TWINS CAR WASH
FORT PIERCE
Date:
10-27-2021

Proj. no.
22046

Sheet:
PM-1

CURTIS T. LATZO LICENSE 52005 STATE OF FLORIDA PROFESSIONAL ENGINEER
Electrical Consulting Group, inc.
499 HAMMOCK DR.
PALM HARBOR, FL 34683
PH-(727)-409-4358
LIC. #CA7776 PE: 52005
CURTIS T. LATZO
ELECTRICALCONSULTINGGROUP@GMAIL.COM

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SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
6365 142nd AVENUE NORTH
CLEARWATER, FLORIDA 33760
PHONE (727)-530-3535
EMAIL: Mike@sofarelliarch.com

PROJECT:

TWIN's NEW CAR WASH

5340 S US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

Twin's Carwash

TRAFFIC IMPACT STUDY

Ft. Pierce, Florida

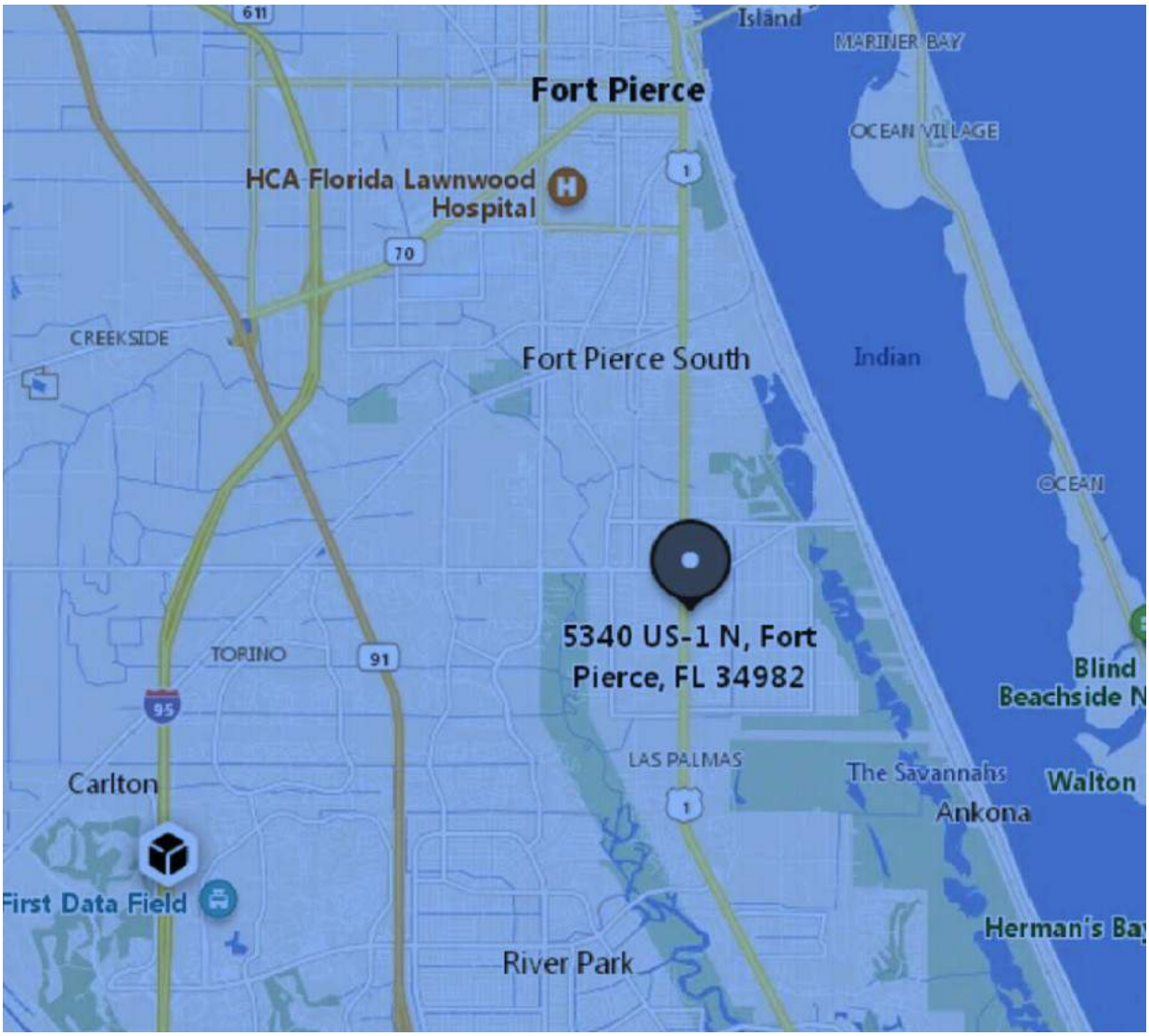
Prepared By

Elizabeth Rodriguez & Associates, Inc.

September 2022

1.0 INTRODUCTION

The Twin's Carwash Project is a proposed commercial development. As is shown on the Site **Plan (Appendix A)** and **Location Map** on the following page, the Twin's Carwash is located at 5340 US-1 N in Ft Pierce, Florida.



LOCATION MAP

2.0 TRIP GENERATION

Table 1 below, depicts the estimated trips associated with the proposed use using the ITE "Trip Generation" Manual, 11th Edition More detailed trip generation information is included in **Appendix A** of this report.

TABLE 1: Trip Generation

ITE Code	Land Use Type	SF	Daily Trips	AM Peak-Hour Trips In	AM Peak-Hour Trip Out	PM Peak-Hour Trips In	PM Peak-Hour Trips Out
948	Automated Car Wash	4,930	N/A	N/A	N/A	35	35
	TOTAL	-	-	-	-	**35**	**35**

3.0 TRIP GENERATION UNDER CURRENT ZONING

This is a 2.25 acre site, which equates to 98,010 square feet (2.25 * 43,560). Under the current zoning, a reasonable yield to include parking, drainage, etc. would be a .25 FAR, or 24,503 square feet of General Commercial Development.

The trip generation for this hypothetical use under the current zoning is presented in **Table 2**, below. In comparing **Table 1** (Proposed) and **Table 2** (Currently Allowable), note that the currently allowable trip generation is higher than what is being proposed, and thus, there is no increase in trip generation.

TABLE 2: Trip Generation Under Current Zoning

ITE Code	Land Use Type	SF	Daily Trips	AM Peak-Hour Trips In	AM Peak-Hour Trip Out	PM Peak-Hour Trips In	PM Peak-Hour Trips Out
822	Strip Retail Plaza	24,503	1,334	35	25	81	80
	TOTAL	**24,503**	**1,334**	**35**	**25**	**81**	**80**

6.0 CONCLUSIONS

The Twin's Carwash Project is a proposed commercial development.

This study demonstrates that the currently allowable trip generation is higher than what is being proposed, and thus, there is no increase in trip generation.

APPENDIX A

Site Plan

Detailed Trip Generation Information

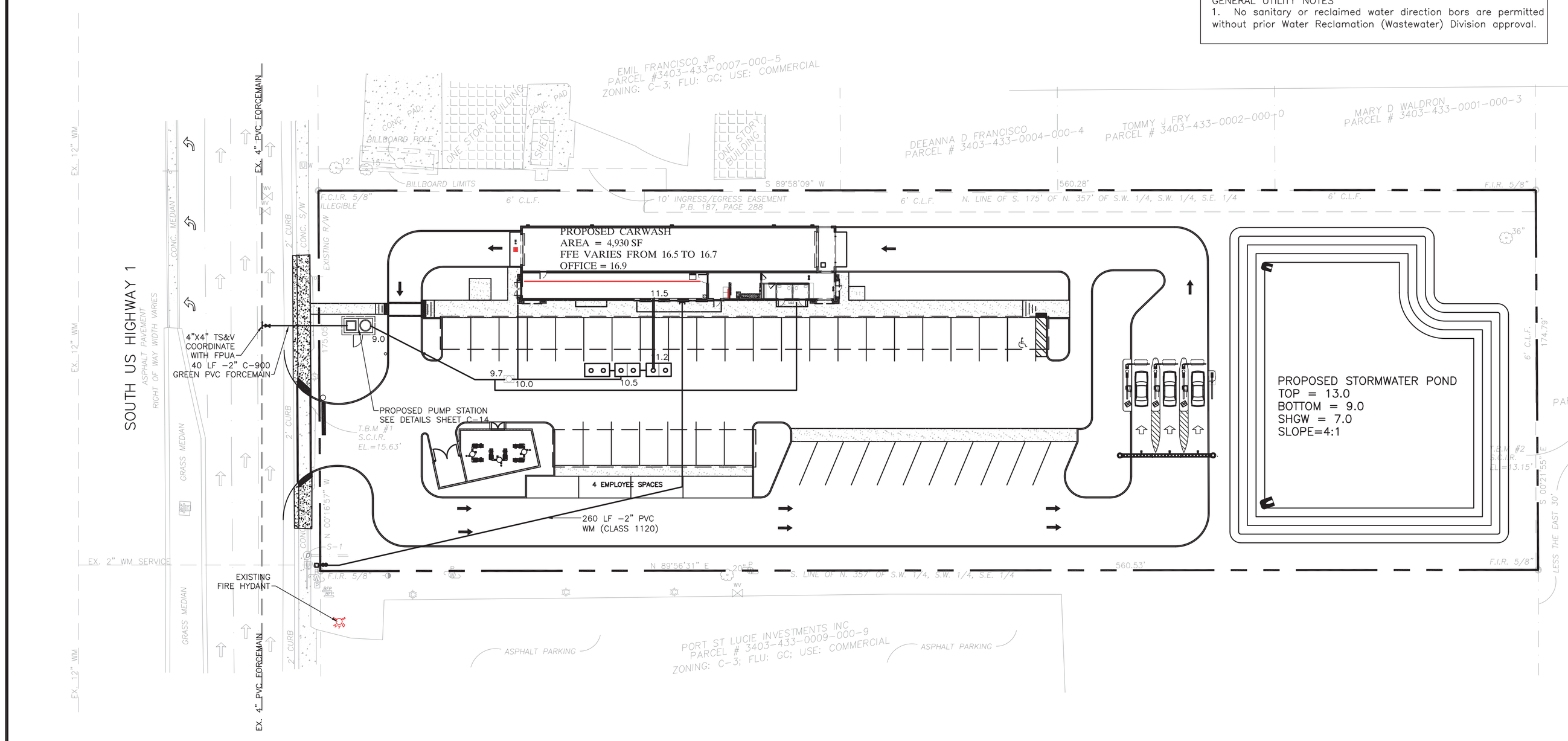
GENERAL UTILITY NOTES
1. No sanitary or reclaimed water direction bors are permitted without prior Water Reclamation (Wastewater) Division approval.

WATER METER CALCULATIONS:

NO.	FIXTURE TYPE	FIXTURE VALUE/ UNIT	FIXTURE VALUE
2	WATER CLOSET (TOILET)	3	6
2	SERVICE SINK	3	6
2	HOSE CONNECTION	6	12
1	CARWASH		100
		TOTAL FIXTURE =	124 (54 GPM)
		WATER METER EXISTING TO REMAIN =	2"

1. PROPOSED WATER/WASTEWATER FLOWS = 40 GPD/VEHICLE (WITH WATER RECOVERY) * 20 VPH * 12 HRS + (2 RESTROOMS * 250 GPD/RESTROOM) = 10,100 GPD

2. NO FIRELINE CONNECTION IS BEING PROPOSED.



LEGEND: (AS APPLICABLE)

- (9) PROPOSED PARKING SPACE COUNT
- 15.0 EXISTING ELEVATION
- 14.10 PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
36" N. RCP INV. EL.= 9.10'
12" E. RCP INV. EL.= 9.15

EX. SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND

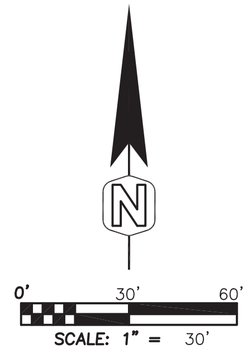
- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
CONC. CONCRETE
EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
G GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
W WELL
GUY WIRE
SIGN
PHONE BOX
CABLE BOX
UGS UNDERGROUND SANITARY
T TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCY PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SV SEWER VALVE
WM MONITOR WELL
SS SIGNAL SUPPORT POLE
ICV IRRIGATION CONTROL VALVE
RWV IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UE UNDERGROUND ELECTRIC
UW UNDERGROUND WATER MARKER
E ELECTRIC MANHOLE
UC UNDERGROUND CABLE MARKER
S SANITARY MANHOLE
WM WATER METER
WV WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UG UNDERGROUND GAS MARKER
E ELECTRIC BOX
T TRAFFIC BOX
UP UNDERGROUND PHONE MARKER
RR RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CROSS WALK SIGNAL
CO CLEANOUT
D STORM MANHOLE
GAS VALVE

ENGINEER'S CERTIFICATION:

I, Ravi S.V. Alur , P.E. hereby certify that to the best of my knowledge all existing utilities have been field located and the location and elevation depicted on these plans is based on actual survey, ground penetrating radar, soft dig excavations, and other industry methods. I further certify that all measures have been taken with regard to Utility Providers' notification to mark utilities in accordance with Chapter 556 F.S., Sunshine State One Call.



General notes
1. A minimum 1' clear distance between all sides of existing inlet structures and proposed underground utility is required. Underground utilities shall not be placed under inlet structures.
2. Public right-of-way shall be restored to its original or better condition. Any sidewalks or curbing disturbed by the work shall be restored to the condition of the original structure. Sidewalk panels shall be restored to full panel widths and lengths (defined by edges of the sidewalk and the nearest control joints or expansion joints). Partial patching of sidewalks shall not be acceptable. Pavement finishes, thicknesses, and grades shall match the existing sidewalk.
3. If sidewalk is to be removed and replaced, the sidewalk shall be constructed in Class 1 concrete, 3,000 psi, 4 in. thick and match the width of the existing sidewalk. Sidewalk located at the apron shall be constructed in Class 1 concrete, 3,000 psi, 6 in. thick and match the width of the existing sidewalk. Requirements are per ESM detail sheet 2. Rebar is not allowed.
4. Trenching shall not take place within the root zone of trees with a trunk diameter of 6 inches or larger. Underground utilities must be bored rather than trenched in the root zones of existing trees (excluding palms).
5. Locate all utilities/facilities prior to start of construction.
6. The contractor must locate and protect all the utilities and repair any damage caused by the work at no cost to the City.
7. All utility locate markings must be completely cleaned around the area of the permitted project at the contractor's expense.
8. Current A.D.A standards shall be upheld at all times.
9. All casings (HDPE)/directional bores shall extend a minimum of six feet (6') beyond each edge of pavement. (Commercial driveways, sidewalks included)
10. Casing will be required for underground utilities crossing under existing pavement with the exception of gas lines.
11. Utility poles and guy wires for anchoring utility poles may not be placed within the pedestrian path/sidewalk.
12. The Contractor shall abide by the FDOT's Guidelines for Erosion and Sedimentation Control for Construction Sites sheet. A copy of this sheet shall be reviewed/followed by said Contractor and can be obtained by going to https://beta.FDOT .gov/files/sharedasssets/public/departments/permitting-services-division/trade/ erosion-sedimentation-control-blue-sheet.pdf

Installation Requirements

1. All restoration work shall be done in accordance with the city's Engineering Standards Manual, and any other applicable standards, guidelines, or City Code provisions.

Underground Work

1. Crossings (underground) shall be at a minimum vertical clearance thirty-six (36) inches below top of roadway pavement or top of ground, whichever is lower, including ditch grade.
2. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.
3. Subterranean crossings may be made by boring, jacking, pushing, pulling, driving or some combination of these having a positive horizontal and vertical control. Jetting, except for hydraulic compaction or tunneling is prohibited within City and/or FDOT right-of-way.
4. Pits required for underground crossings must be constructed no closer than six feet from the edge of the traveled way.
5. All pipe must be jacked with the end open or bored-and-jacked and extended a minimum of six feet beyond the edge of the traveled way or as directed by the City Engineer.
6. Casings will be required for underground utilities crossing under existing pavement. Missile bore is not allowed when crossing under roadways. Missile bore is allowed for longitudinal placement under existing sidewalks and driveways.
Overhead Work
7. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.

RAVI S.V. ALUR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO COPP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #29581
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

UTILITY PLAN

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-6

Automated Car Wash
(948)

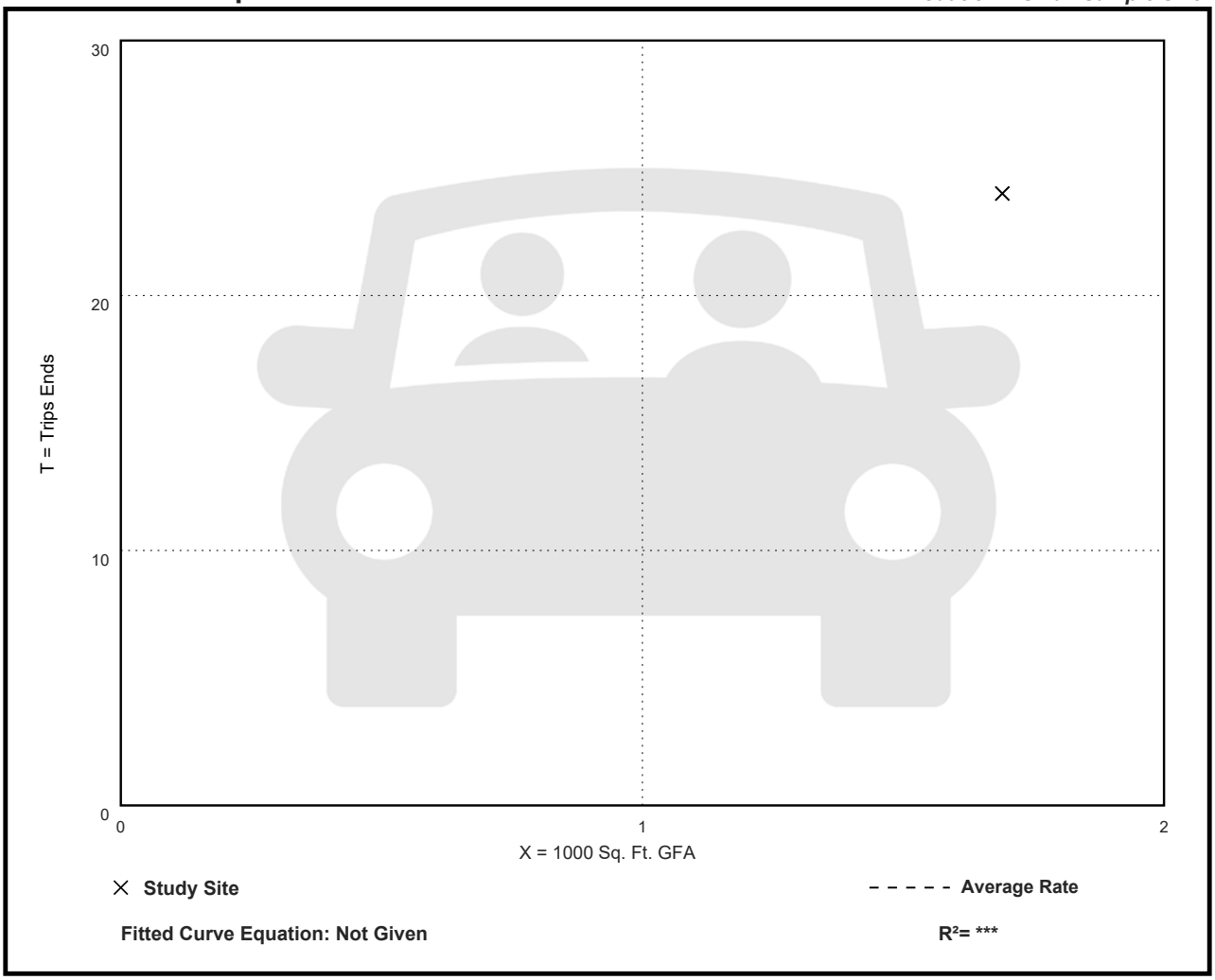
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.20	14.20 - 14.20	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

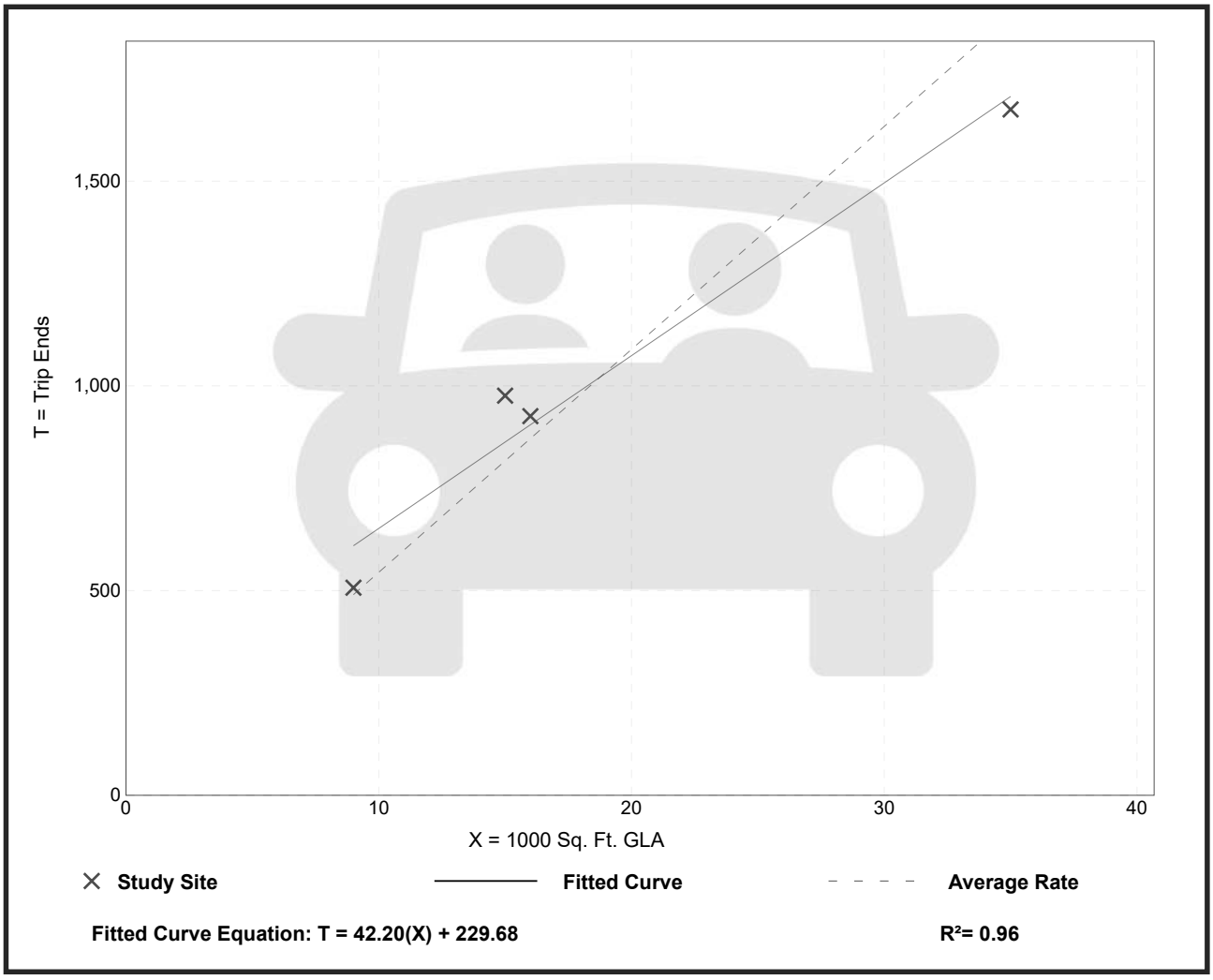
Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 42.20(X) + 229.68

R^2= 0.96

Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Strip Retail Plaza (<40k)
(822)

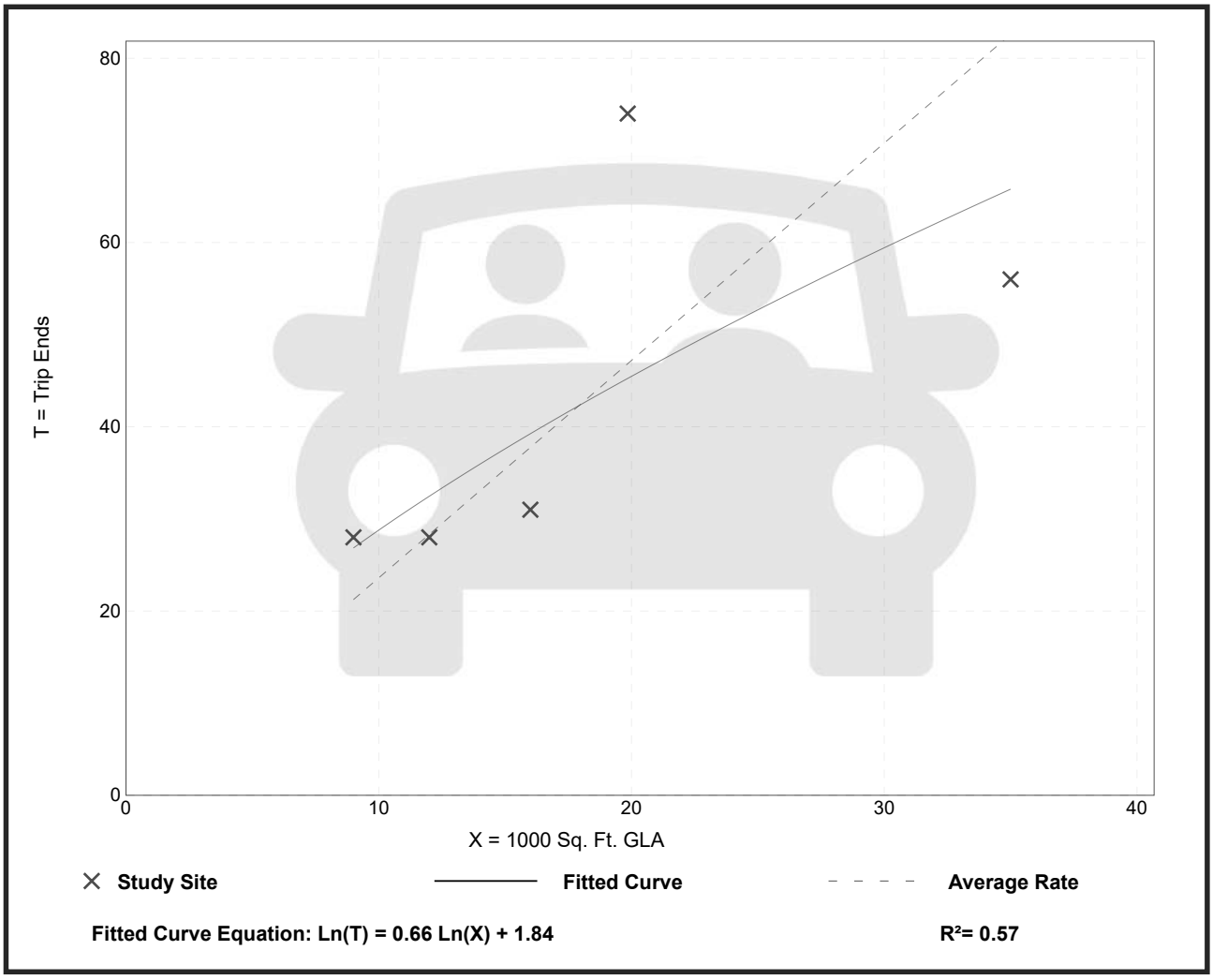
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

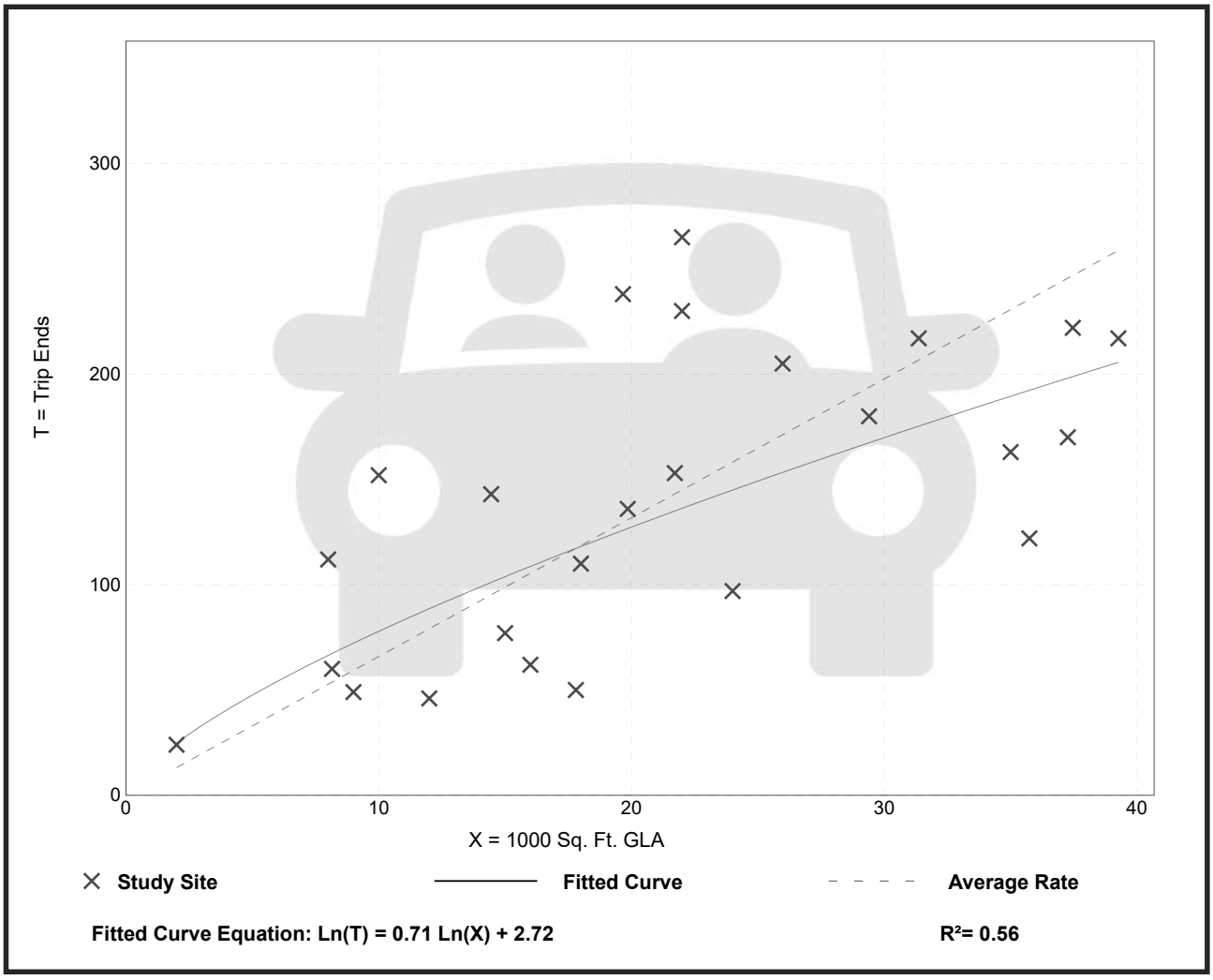
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

FORT PIERCE, FL



SOFARELLI & ASSOCIATES ARCHITECTURE

FORT PIERCE, FL



SOFARELLI & ASSOCIATES ARCHITECTURE

FORT PIERCE, FL



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FORT PIERCE, FL



SAVA
SOFARELLI & ASSOCIATES ARCHITECTURE

FORT PIERCE, FL



SAVA
SOFARELLI & ASSOCIATES ARCHITECTURE

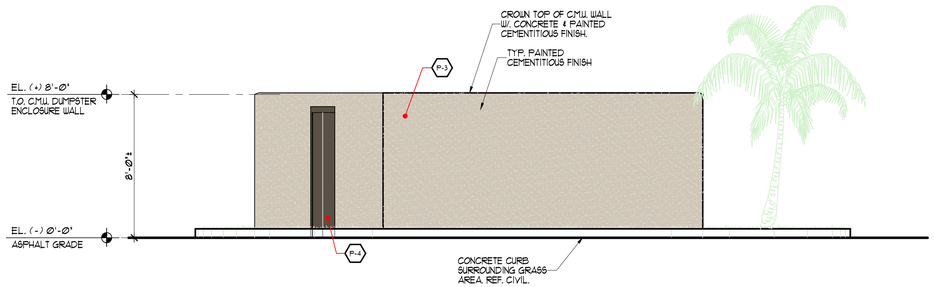
PAINT SCHEDULE

CODE	DESCRIPTION	SPECS	SWATCH
P-3	TAN PAINT - MAIN BODY COLOR @ ENCLOSURE	S.W. #7547 SANDBAR	
P-4	DARK BROWN POWDER COAT - ACCENT COLOR	MATCH RAL #8014 SEPIA BROWN	

VERIFY ALL SLAB HEIGHTS AND SLOPES W/. CIVIL PLANS.

ALL STEM WALL FOOTINGS TO BE MIN. (2) COURSES BELOW GRADE.

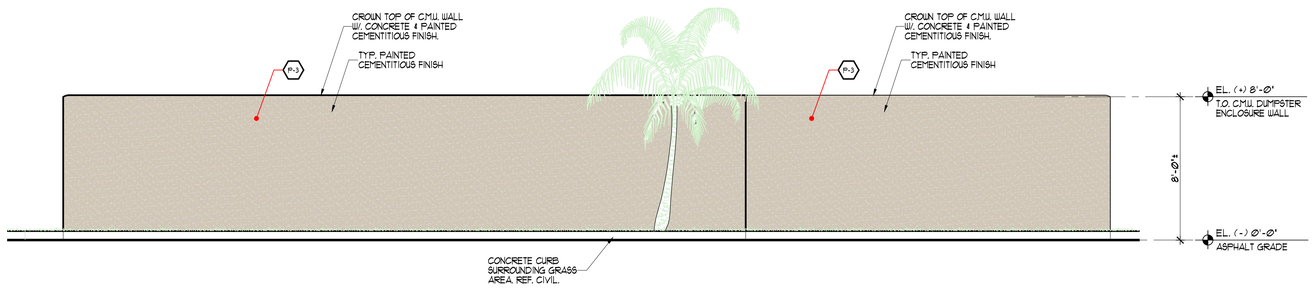
REFERENCE EQUIPMENT/VACUUM PLANS FOR THRU-SLAB CONDUIT AND VACUUM CHASE LOCATIONS.



1 A-25.1 **ELEVATION**

VACUUM/DUMPSTER ENCLOSURE

Scale : 1/4" = 1'-Ø"



2 A-25.1 **ELEVATION**

VACUUM/DUMPSTER ENCLOSURE

Scale : 1/4" = 1'-Ø"

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ISSUED FOR:
PERMIT

STATE OF FLORIDA
MICHAEL F. SOFARELLI JR.
LICENSE # 0014577
REGISTERED ARCHITECT

03-20-2023

MICHAEL F. SOFARELLI JR.
FLORIDA STATE BOARD OF ARCHITECTURE
REGISTRATION No.:
AR 0014577

PROJECT:
TWINS CAR WASH
5340 S US HIGHWAY 1
FT PIERCE, FL 34982

SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
8365 142nd AVENUE NORTH
CLEARWATER, FLORIDA 33760
PHONE (727) 535-5655
EMAIL: Mike@sofarelliarch.com

Revisions:

CONTENT:
DUMPSTER/ VAC PAD FLOOR PLAN, ELEVATIONS

Filename:
TWINS CAR WASH FORT PIERCE

Date:
09-19-2022

Proj. no.
22046

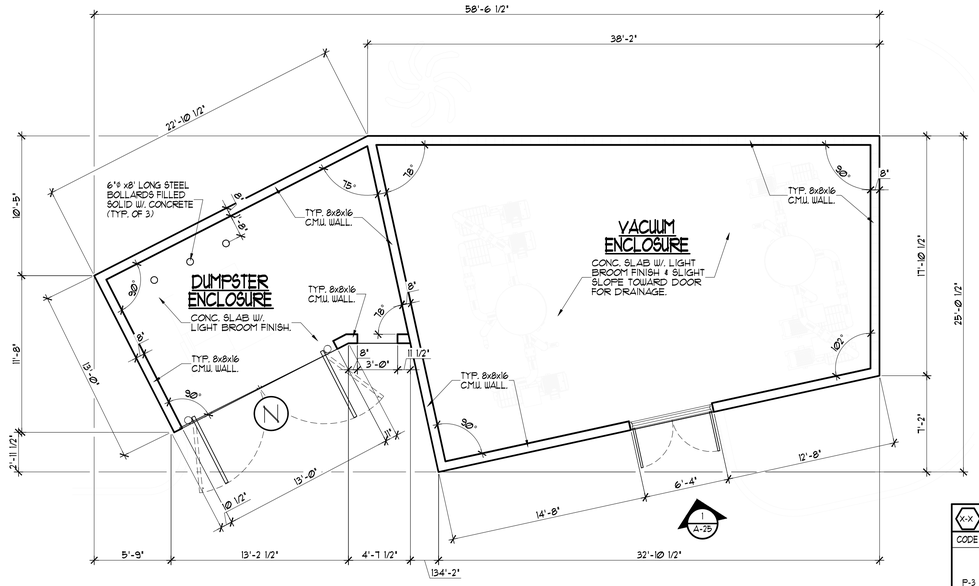
Sheet:
A-25.1

FOOTING SCHEDULE						
MARK	LENGTH	TYPE	W.	D.	REINFORCING / notes	T.O. FTG. ELEV.
A	CONT	STEMWALL/SPREAD	16'	12"	(2) #5 CONT BOT. W/. (1) #5 TRANSVERSE @ 24" O.C. MAX.	MIN. (-) 2'-0"
B	CONT	STEMWALL/SPREAD	16'	12"	(2) #5 CONT BOT. W/. (1) #5 TRANSVERSE @ 24" O.C. MAX.	MIN. (-) 1'-4"
C	6'-4"	THICK. EDGE	8'	8"	(1) #5 CONT CENTER	0'-0"
D	13'-0"	THICK. EDGE	12"	12"	(2) #5 CONT BOT (1) #5 CONT TOP EDGE	MATCH GRADE
E	--	POST HOLE	12"ø	30"	CENTER FOOTING ON BOLLARD	MATCH ADJ.
F	--	POST HOLE	18"ø	36"	CENTER FOOTING ON GATE POST	MATCH ADJ.
G	3'-0"	THICK. EDGE	8'	8"	(1) #5 CONT CENTER	0'-0"

VERIFY ALL SLAB HEIGHTS AND SLOPES W/. CIVIL PLANS.

ALL STEM WALL FOOTINGS TO BE MIN. (2) COURSES BELOW GRADE.

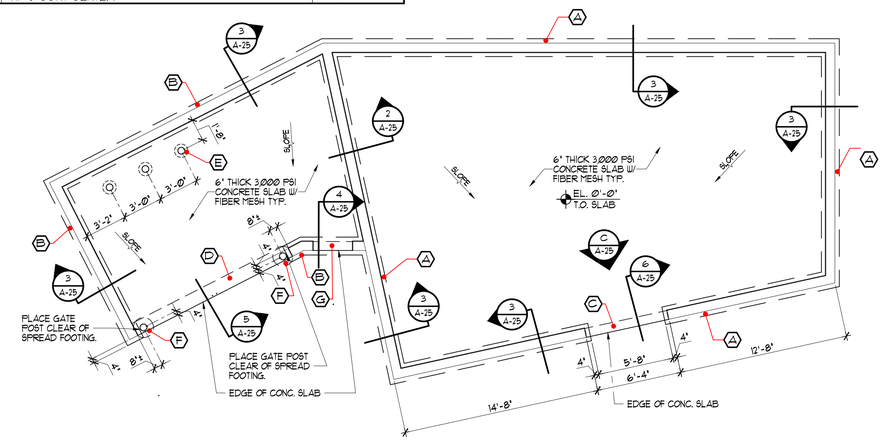
REFERENCE EQUIPMENT/VACUUM PLANS FOR THRU-SLAB CONDUIT AND VACUUM CHASE LOCATIONS.



A A-25 DUMPSTER & VACUUM PRODUCER PAD ENCLOSURE

Scale : 3/16" = 1'-0"

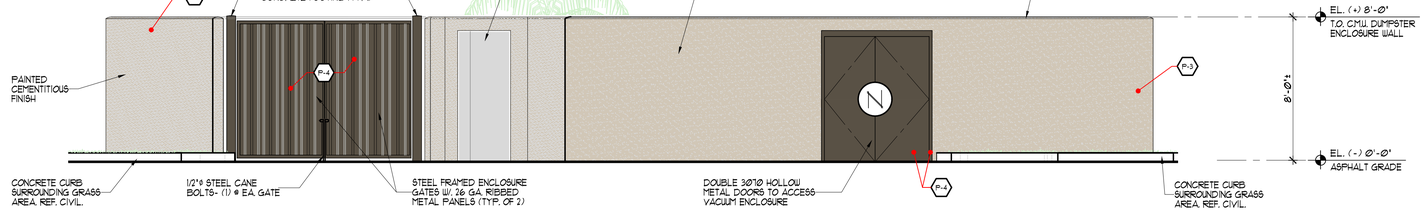
X-X PAINT SCHEDULE			
CODE	DESCRIPTION	SPECS	SWATCH
P-3	TAN PAINT - MAIN BODY COLOR @ ENCLOSURE	S.W. #7547 SANDBAR	
P-4	DARK BROWN POWDER COAT - ACCENT COLOR	MATCH RAL #8014 SEPIA BROWN	



B A-25 **ENLARGED PLAN**

DUMPSTER & VACUUM PRODUCER PAD ENCLOSURE

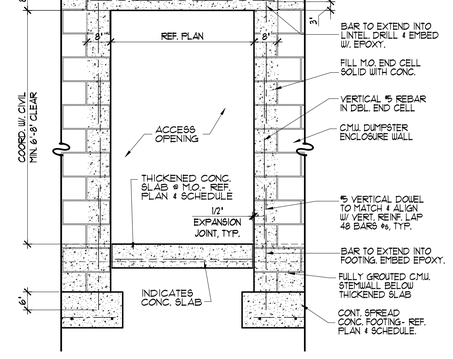
Scale : 3/16" = 1'-0"



1 A-25 **ELEVATION**

VACUUM/DUMPSTER ENCLOSURE

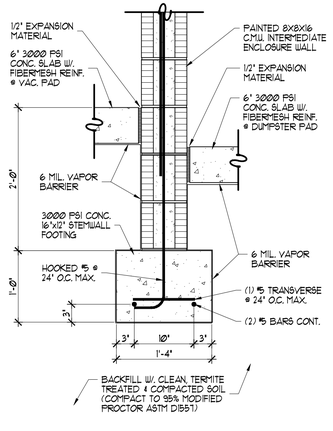
Scale : 1/4" = 1'-0"



C A-25 **DETAIL**

STRUCTURAL ELEVATION @ DUMPSTER ENCLOSURE ACCESS OPENING

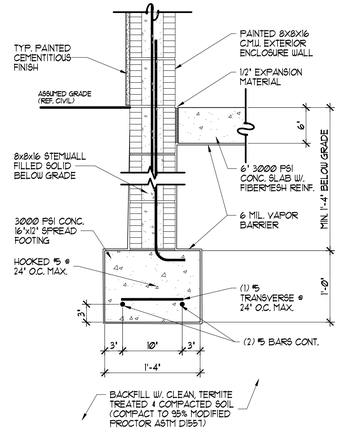
Scale : 1/2" = 1'-0"



2 A-25 **DETAIL**

STEMWALL/SPREAD FOOTING

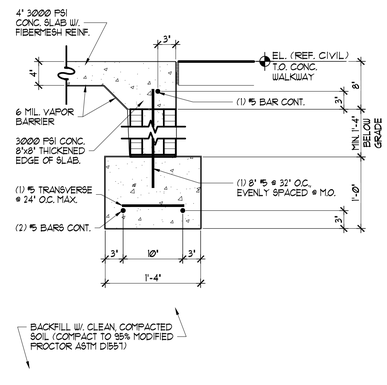
Scale : 1" = 1'-0"



3 A-25 **DETAIL**

STEMWALL FOOTING (A) (B)

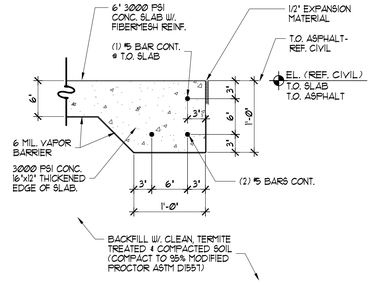
Scale : 1" = 1'-0"



4 A-25 **DETAIL**

FOOTING (G)

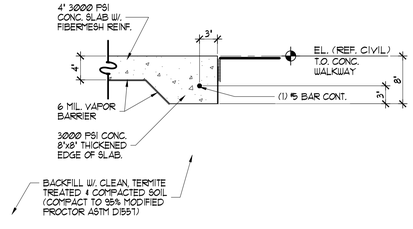
Scale : 1" = 1'-0"



5 A-25 **DETAIL**

MONO. FOOTING (D)

Scale : 1/2" = 1'-0"



6 A-25 **DETAIL**

MONO. FOOTING (C)

Scale : 1/2" = 1'-0"

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ISSUED FOR: PERMIT

STATE OF FLORIDA REGISTERED ARCHITECT MICHAEL F. SOFARELLI JR. LICENSE # 0014577

03-20-2023

MICHAEL F. SOFARELLI JR. FLORIDA STATE BOARD OF ARCHITECTURE REGISTRATION No.: AR 0014577

PROJECT: TWINS CAR WASH NEW CAR WASH 5340 S US HIGHWAY 1 FT PIERCE, FL 34982

SOFARELLI & ASSOCIATES ARCHITECTURE
MICHAEL F. SOFARELLI JR. A.I.A.
8365 142nd AVENUE NORTH
CLEARWATER, FLORIDA 33760
PHONE: (727) 535-7777
EMAIL: Mike@sofarelliarch.com

Revisions:

CONTENT: DUMPSTER/ VAC PAD FLOOR PLAN, ELEVATIONS

Filename: TWINS CAR WASH FORT PIERCE

Date: 09-19-2022

Proj. no. 22046

Sheet: A-25

ASPIRE ENGINEERING, INC.

Engineering Excellence Delivered

1023 Professional Park Drive
Brandon, FL 33511
Phone: (813) 571-2850
Fax: (813) 571-1753
E-mail: aspireeng@yahoo.com

June 9, 2023

Fort Pierce, Planning Department
100 North US 1
Fort Pierce, Florida, 34950

RE: Twin's Car Wash - Ft Pierce – 3rd Site Plan Review Resubmittal
1-TRC NO. 23-20000306
Parcel: 3403-433-0008-000-2
Address: 5340 S. US Hwy. 1, Fort Pierce, FL 34982
Engineer's Project No. 22-017

In response to comments received regarding the above referenced project, please find attached Revised plans. The revisions are based on the following:

ENGINEERING COMMENTS – Venetia Barnes:

1. Provide the required 10-foot-wide landscape strip situated between the property line and the stormwater retention/detention area per the requirements specified in the City of Fort Pierce Code of Ordinance Section 127-37(6).

   PLEASE SEE REVISED SITE PLAN SHEET C-4 SHOWING THE 10' LANDSCAPE STRIP.

2. Relocate the dumpster and enclosure from the entrance of the site in accordance with the City of Fort Pierce Code of Ordinance Section 123-37(10)

   PLEASE NOTE THAT THIS WAS RESOLVED PER OUR EMAIL DISCUSSIONS. PLEASE SEE ATATCHED RENDERINGS AND ELEVATIONS.

3. Sheet C-5 shall update the dewatering note 1 to City of Fort Pierce as it stipulates Manatee County.

   ACKNOWLEDGED AND REVISED.

ADVISORY COMMENTS:

1. The drainage plan was reviewed conceptually and will be reviewed in depth at the time of DPCR application.

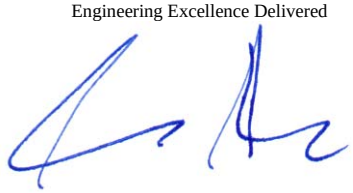
   ACKNOWLEDGED.

2. The project shall have all State and Federal permits in place prior to conducting any land clearing operations as the submitted Environmental Impact Report indicates that wetlands are present on the site. An updated Environmental Impact Report shall be required at the time of permitting based on to the report's recommendation and the migration of possible threatened species.

   ACKNOWLEDGED.

Thank you very much for your cooperation with this project. If you have any questions or wish to discuss this project do not hesitate to contact our office.

Sincerely,
Aspire Engineering, Inc.
Engineering Excellence Delivered



Ravi Alur, P.E., LEED AP
President

cc: Ray Caito, Creative Convenience Corporation

SITE PLANS

FOR

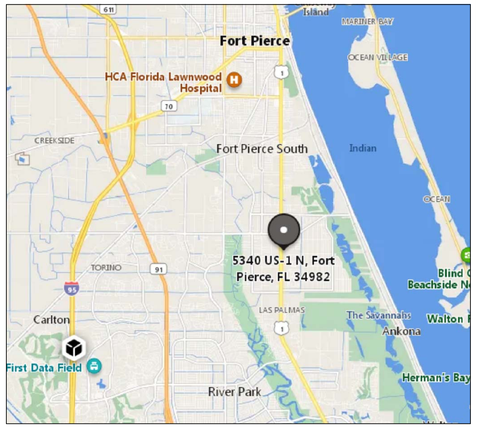
TWIN'S CARWASH -FT. PIERCE

SECTIONS 03, TOWNSHIP 36 S., RANGE 40 E. CITY OF FT. PIERCE, FLORIDA

LEGAL DESCRIPTION

THE SOUTH 175 FEET OF THE NORTH 357 FEET OF THE SOUTHWEST $\frac{1}{4}$ OF THE SOUTHWEST $\frac{1}{4}$ OF THE SOUTHEAST $\frac{1}{4}$ OF SECTION 3, TOWNSHIP 36 SOUTH, RANGE 40 EAST, LESS AND EXCEPT THE EAST 30 FEET THEREOF AND THE RIGHT OF WAY FOR HIGHWAY U.S. NO.1, ST. LUCIE COUNTY, FLORIDA

LOCATION MAP



INDEX OF SHEETS

SHEET NO.	DESCRIPTION:
C-1	COVER SHEET
C-2	BEST MANAGEMENT PRACTICES FOR EROSION CONTROL
C-3	EXISTING CONDITIONS
C-4	SITE GEOMETRY PLAN
C-5	PAVING, GRADING, DRAINAGE AND CONSTRUCTION SURFACE WATER MANAGEMENT PLAN
C-6	UTILITY PLAN
C-7	AIR/VAC/CHASE PIPE PLAN
C-8	LANDSCAPE PLAN
C-9 TO C-13	SITE DETAILS
C-14	LIFT STATION DETAILS

DEVELOPMENT INFORMATION

DEVELOPER	TWINS CAR WASH LLC 500 SE 18th Court FORT LAUDERDALE, FL 33316 PHONE: 813-649-9561 E-MAIL: rcaito@creativeconvenience.com
ENGINEER	RAVI ALUR, PE ASPIRE ENGINEERING INC. 1023 PROFESSIONAL PARK DRIVE BRANDON, FL 33511 PHONE: 813-571-2850 E-MAIL: aspireeng@yahoo.com
SURVEYOR	ALEX THOMPSON, P.L.S. EXTREME SURVEYING OF FLORIDA, INC. 29340 WHODIN ROAD WESLEY CHAPEL, FL 33545 PHONE: 813-973-2092 E-MAIL: alex@extreme-surveying.com

UTILITY PROVIDERS

SANITARY SEWER WATER AND ELECTRIC SERVICE	FT. PIERCE UTILITY AUTHORITY 1701 S 37TH STREET FORT PIERCE, FL 34984 PHONE: 772-466-1600 FAX: 772-468-2414
FIRE SERVICE	ST LUCIE COUNTY FIRE DISTRICT 5160 NW Milner Drive Port St. Lucie, FL 34983 Phone: 772-621-3400 E-Mail: info@slcfd.org
TELEPHONE SERVICE	Charter Spectrum 2251 Town Center Ave Suite 117, Melbourne, FL 32940 PHONE: 1-888-508-9082

SITE DATA TABLE

PARCEL ID: 3403-433-0008-000-2

LATITUDE: 27° 22' 5"; LONGITUDE: 80° 19' 31"

FLOOD ZONE: ZONE X
COMMUNITY PANEL NO. 12111C0277K
MAP REVISED: 02/19/2020

PROJECT SUMMARY & SITE DATA:		PROPOSED
TOTAL BUILDING AREA	=	4,930 SF (5.0%)
TOTAL ASPHALT/CONCRETE AREA	=	48,270 SF (49.3%)
TOTAL IMPERVIOUS AREA	=	53,200 SF (54.3%)
TOTAL GREEN AREA	=	44,823 SF (45.7%)
TOTAL SITE AREA	=	98,023 SF (2.25 ACRES)

FAR: 4,930/98,023 = 0.05

ZONING: C-3 FUTURE LAND USE: GC PROPOSED USE: AUTOMATED CARWASH WITH VACUUMS

SETBACK:	REQUIRED	PROPOSED
FRONT (S US HWY 1)	25.0 FT	91.2 FT
SIDE (NORTH)	15.0 FT	16.5 FT
SIDE (SOUTH)	0 FT	122.9 FT
REAR (EAST)	0 FT	320.7 FT

MAXIMUM BUILDING HEIGHTS PROPOSED: 30 FEET (1-STORY)

PARKING CALCULATIONS:
PARKING REQUIRED = 2 PER BAY = 2 SPACES
PARKING PROVIDED = 4 SPACES (INCLUDING 1 H/C SPACE)

DUMPSTERS NOTES: 1. DUMPSTER WILL BE IN ACCORDANCE WITH CITY OF FT. PIERCE LDC.
2. ALL DUMPSTERS WILL BE SCREENED FROM VIEW BY AN ENCLOSURE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE FRONT OF THE PRIMARY BUILDING.

DEVELOPER

TWINS CAR WASH, LLC
500 SE 18th Court
FORT LAUDERDALE, FL 33316

NOTE

DIMENSION INFORMATION SHOULD NOT BE OBTAINED BY SCALING THE PLANS. DIMENSION INFORMATION NOT PROVIDED HEREIN CAN BE OBTAINED BY CONTACTING ASPIRE ENGINEERING, INC. AT (813)571-2850

"INVESTIGATE BEFORE YOU EXCAVATE"



CALL SUNSHINE @ 1-800-432-4770

FL. STATUE 553.851 (1979) REQUIRES A MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

RAVI S.V. ALUR P.E. #50583

DATE:

C-1

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

I. SITE DESCRIPTION

(1) NATURE OF CONSTRUCTION ACTIVITY:

CONSTRUCT CAR WASH BUILDING, PARKING AND ASSOCIATED UTILITIES AND STORMWATER POND.

(2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

THE CONTRACTOR SHALL USE THIS SHEET ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR GRADING ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS, CONSTRUCTION ACTIVITY VARIATIONS, OR AS DIRECTED BY THE ENGINEER. APPLICABLE EROSION DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE FDOT ROADWAY DESIGN STANDARD INDEXES 100 THROUGH 106. THE ENGINEER IS RESPONSIBLE FOR DETERMINING IF ANY MODIFICATIONS OR ADDITIONAL CONTROLS ARE REQUIRED AND TO OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION CONTROL DEVICES FROM THE CONTRACTOR.

(3) GENERAL NOTES:

(a) ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO BEGINNING WORK.
(b) INSTALL SILT FENCE WHERE LISTED ON THIS PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.
(c) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
(d) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
(e) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.
(f) DO NOT REMOVE PERIMETER CONTROLS UNTIL AFTER ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT GRASSING OR PAVEMENT IS ESTABLISHED.
(g) ALL EXISTING DRAINAGE STRUCTURES AND PROPOSED INLETS SHALL BE PROTECTED FROM ALLOWING SEDIMENTATION TO ENTER THE DRAINAGE STRUCTURES
(h) ALL EXCESS FILL MATERIAL WILL BE HAULED OFFSITE.
(i) DEWATERING, IF REQUIRED, SHALL BE IN ACCORDANCE WITH CITY OF FT. PIERCE ESM SECTION 6.14.01 H.
(j) NO EXCAVATING MATERIAL SHALL BE STOCKPILED IN A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.

(4) PROJECT AREAS:

THE ESTIMATED TOTAL SITE AREA IS APPROXIMATELY 2.25 ACRES. THE ESTIMATED AREA THAT WILL BE DISTURBED DURING CONSTRUCTION ACTIVITIES IS APPROXIMATELY 2.25 ACRES.

(5) DESCRIPTION OF SOIL OR QUALITY OF DISCHARGE:

THE MAJORITY OF THE SOIL WITHIN THE PROJECT LIMITS IS URBAN SOIL WITH A DEPTH OF SEASONAL HIGH WATER TABLE OF 2.5 FT.

(6) ESTIMATED DRAINAGE AREA AND AVERAGE SLOPE OF DRAINAGE AREA: 2.25 ACRES AND 2.0%

(7) RECEIVING WATERS:

THE ON-SITE RUNOFF IS CONVEYED THROUGH STORM SEWER SYSTEM INTO North St. Lucie River Water Control District (NSLRWCD) STORMWATER SYSTEM. THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE COLLECTION SYSTEMS.

(8) OUTFALL LOCATION: LATITUDE: 27° 22' 5"; LONGITUDE: 80° 19' 31"

(9) THERE ARE NO WETLAND IMPACTS.

(10) DESCRIPTION OF STORM WATER MANAGEMENT:

(a) PRESENTLY, THE EXISTING STORM SEWER SYSTEM CONVEYS DRAINAGE FLOWS INTO NSLRWCD STORMWATER SYSTEM.
(b) DRAINAGE IMPROVEMENTS INCLUDE A NEW STORM SEWER SYSTEM INCLUDING INLETS, PIPES AND PONDS.
(c) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE WATERWAYS.

II. CONTROLS:

EROSION AND SEDIMENT CONTROLS

(1) WATER QUALITY MONITORING SHALL BE CONDUCTED BY THE CONTRACTOR. UPON THE OBSERVATION THAT THE WATER QUALITY IS BEING VIOLATED BY THE CONTRACTOR'S ACTIVITIES, MONITORING LOCATIONS SHALL BE DESIGNATED BY THE PROJECT ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (29NTU'S ABOVE BACKGROUND). MONITORING OF WATER QUALITY SHALL BE CONDUCTED A MINIMUM OF TWICE DAILY FOR ANY EARTHWORK ACTIVITIES WITHIN THE STRUCTURE IMPROVEMENT AREA. MONITORING WILL BE ACCOMPLISHED BY RECORDING TURBIDITY READINGS FROM THE CENTER OF THE STREAM, ONE (1) UPSTREAM OF THE ACTIVITY AND ONE (1) DOWNSTREAM OF THE EROSION CONTROL DEVICES, BUT WITHIN CLOSE PROXIMITY TO THE PROJECT SEAWALL. IF WATER QUALITY STANDARDS ARE VIOLATED, CONSTRUCTION SHOULD BE STOPPED IMMEDIATELY AND EROSION CONTROL DEVICES REEVALUATED BY THE ENGINEER PRIOR TO ANY CONTINUATION OF ACTIVITY. MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (29NTU'S ABOVE BACKGROUND). WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.

(2) STABILIZATION PRACTICES:

STABILIZATION MEASURES, SUCH AS SODDING OR SEEDING SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE SHALL THE TIME BE GREATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES.

(3) STRUCTURAL PRACTICES INCLUDE:

(a) SILT FENCES (PREFERRED)
(b) SYNTHETIC BALES (OPTIONAL)
(c) ROCK BAGS (OPTIONAL)
(d) SOIL TRACKING PREVENTION DEVICES AT CONSTRUCTION ENTRANCES/EXITS
(e) STAKED TURBIDITY BARRIER (OPTIONAL AT OUTFALL POINTS ALONG SEAWALL)

(4) SILT FENCE LOCATIONS:

(a) SILT FENCE SHALL BE USED ALONG THE LENGTH OF THE PROJECT WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE.
(b) STOCKPILE AREAS SHALL INCLUDE SILT FENCE AROUND THE PERIMETER.

(5) ROCK BAG LOCATIONS:

ROCK BAGS SHALL BE PLACED AROUND THE PERIMETER OF INLET GRATES LOCATED IN GUTTERED SECTIONS.

(6) CONSTRUCTION ENTRANCES/EXITS:

SOIL TRACKING PREVENTION DEVICES (INDEX 106) SHALL BE PROVIDED FOR BOTH ON-SITE AND OFF-SITE LOCATIONS OF STOCKPILED OR EXCAVATED MATERIAL, IF IMMEDIATELY ADJACENT TO A PUBLIC ROADWAY. THE ENGINEER SHALL BE RESPONSIBLE FOR MODIFYING THE SYSTEM OR PROCEDURES AS NEEDED.

(7) DUST CONTROL:

THE FOLLOWING DUST CONTROL MEASURES SHALL BE USED.
1. WATER TRUCKS TO BE USED WATER THE DUST 3 TIMES A DAY OR DEPENDING ON THE WEATHER. WATER USED TO CONTROL DUST SHOULD BE RETAINED ONSITE AND SHOULD NOT BE ALLOWED TO RUN DIRECTLY INTO WATERCOURSES OR STORMWATER CONVEYANCE SYSTEMS.
2. DEMOLITION DEBRIS SHOULD BE REGULARLY HAULED OFF AND DISPOSED OF INTO A PERMITTED CLASS C AND D LANDFILL OR RECYCLED.

III. OTHER CONTROLS:

(1) WASTE DISPOSAL:

(a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION.
(b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.
(c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS, SHALL BE DISCHARGED TO THE YBOR CHANNEL OR BURIED ON SITE.
(d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

(2) OFF-SITE VEHICLE TRACKING – WILL BE CONTROLLED BY THE FOLLOWING METHODS:

(a) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARPAULIN AT ALL TIMES.
(b) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY.
(c) STABILIZED CONSTRUCTION ENTRANCES/EXITS SHALL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS.

(3) STATE AND LOCAL REGULATIONS: PERMITS WILL BE REQUIRED FROM THE FOLLOWING AGENCIES:

(a) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)
(b) CITY OF FT. PIERCE, FLORIDA
(C) SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
(d) FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT)
(e) North St. Lucie River Water Control District (NSLRWCD)

(4) APPLICATION OF FERTILIZERS AND PESTICIDES:

FERTILIZERS AND PESTICIDES WILL BE USED ON THIS PROJECT IN ACCORDANCE WITH 2004 "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", SECTIONS 570, 575, OR 577, AT THE DISCRETION OF THE CONTRACTOR WITH THE COORDINATION OF THE ENGINEER.

(5) NON-STORM WATER (INCLUDING SPILL REPORTING):

THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH AN EROSION CONTROL PLAN THAT WILL INCLUDE SPILL CONTAINMENT, REPORTING, AND RESPONSES. THE PLAN SHALL SPECIFY WHAT MANAGEMENT PRACTICES AND CONTAINMENT METHODS WILL BE USED TO PREVENT POTENTIAL POLLUTANTS (FUEL, LUBRICANTS, HERBICIDES, ETC.) FROM SPILLING ONTO THE SOIL OR INTO THE SURFACE WATERS. IF A SPILL DOES OCCUR, OR IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT THE OWNER(S) AND THE AUTHORITIES IMMEDIATELY.

IV. MAINTENANCE:

(1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES, AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED.

(2) INSTALLATION, MAINTENANCE, REPAIR, AND REMOVAL REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION SHALL BE INCLUDED IN THE COSTS OF THE PROJECT.

(3) THE FOLLOWING PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

a) GENERAL PRACTICES – ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR. ALL CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE OF NEED TO REPAIR.

b) STRUCTURAL PRACTICES – BUILD UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE HALF OF THE HEIGHT OF THE FENCE. SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. HAY BALES SHALL BE REPLACED EVERY THREE (3) MONTHS OR WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE. SILT FENCES SHALL BE REPLACED EVERY TWELVE (12) MONTHS OR WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM WATER FLOW OR DRAINAGE. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

V. INSPECTION:

(1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL. ALL CONTROL MEASURES WILL BE MAINTAINED BY THE CONTRACTOR.

(2) ALL EROSION AND WATER POLLUTION ABATEMENT AND CONTROL MEASURES WILL BE INSPECTED DAILY BY CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORM WATER MANAGEMENT INSPECTORS.

(3) INSPECTIONS BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL EFFORTS SHALL BE CONDUCTED DAILY AND WITHIN 24 HOURS AFTER EACH 0.5 INCH OF GREATER RAINFALL EVENT. ANY NECESSARY REMEDIES SHALL BE PERFORMED IMMEDIATELY.

(4) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VI. TRACKING AND REPORTING:

(1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE ENGINEER DOCUMENTING THE DAILY INSPECTIONS AND MAINTENANCE OR REPAIRS TO THE SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.

(2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE COSTS OF THE PROJECT.

VII. NOTICE OF TERMINATION (NOT)

(1) A NOTICE OF TERMINATION (NOT) WILL BE SUBMITTED BY THE CONTRACTOR TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AFTER THE CONSTRUCTION HAS BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS

OWNER: _____

SIGNED: _____

NAME AND TITLE: _____

ADDRESS: _____

_____

_____

DATE: _____

CONTRACTORS CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS BEST MANAGEMENT PRACTICES FOR EROSION CONTROL PREPARED THEREUNDER.

NAME	TITLE	COMPANY NAME, ADDRESS, PHONE NO. AND E-MAIL ADDRESS	DATE

NOTICE OF INTENT (NOI)

A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATERT DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" (NOI) IS REQUIRED FOR THIS SITE SINCE THE PROJECT AREA IS GREATER THAN ONE ACRE IN SIZE. CONTRACTOR SHALL OBTAIN THE NOI FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION 48 HOURS BEFORE THE CONSTRUCTION START. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE A DETAILED SITE SPECIFIC STORMWATER POLLUTION PREVENTION PLAN (SPPP) MEETING FDEP REQUIREMENTS, MAINATIN AND PERFORM INSPECTIONS AS REQUIRED BY SPPP.

RAM S.V. ALUR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
1.	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

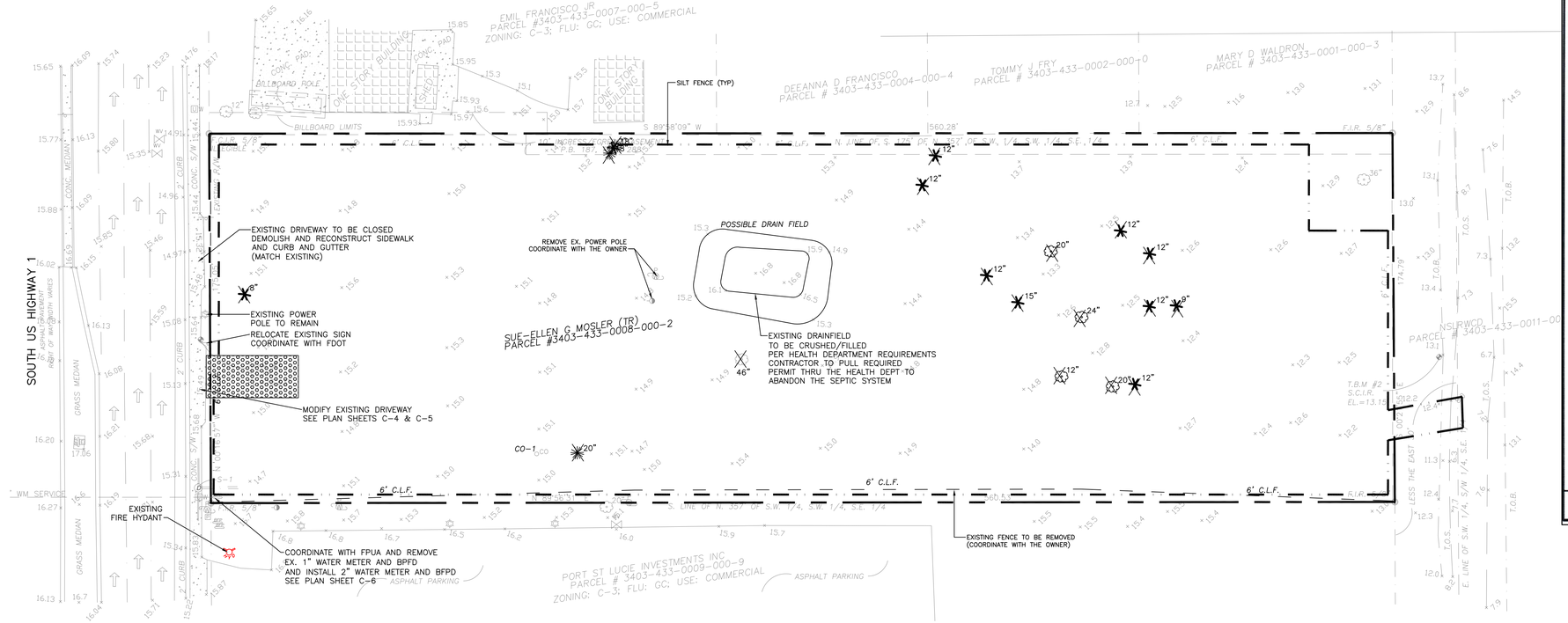
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1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-7533; E-mail: aspireeng@yahoo.com

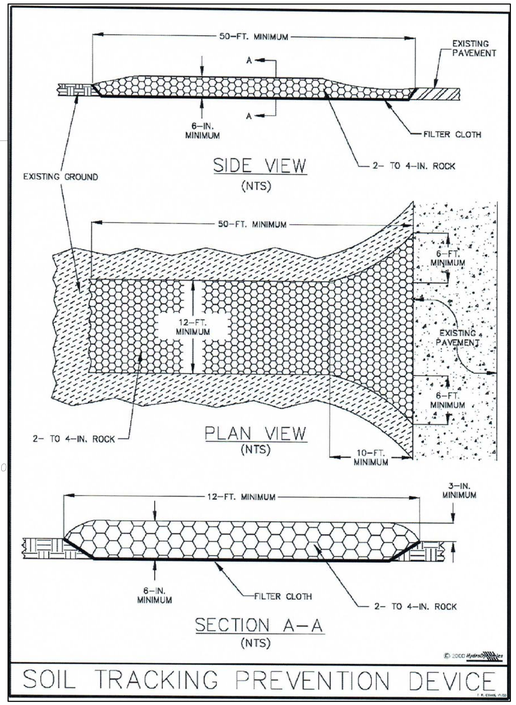
TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

BEST MANAGEMENT PRACTICES FOR EROSION CONTROL

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017

SHEET: C-2





LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL.= 9.10'
36" N. RCP INV. EL.= 9.10'
12" E. RCP INV. EL.= 9.15

EX. SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND

- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

- (C) CALCULATED MEASUREMENT
- (R/W) RIGHT OF WAY MEASUREMENT
- CONC. CONCRETE
- EP EDGE OF PAVEMENT
- MULT. MULTIPLE
- CI CURB INLET
- GI GRATE INLET
- SMH SANITARY MANHOLE
- STMH STORM MANHOLE
- FLAG POLE
- GREASE TRAP MANHOLE
- HYDRANT
- PREVENTER VALVES
- METAL LIGHTPOLE
- P.B. PLAT BOOK
- CONCRETE LIGHT POLE
- WOOD LIGHT POLE
- WOOD POWER POLE
- CONC POWER POLE
- RAILROAD X-ING GATE
- WELL
- GUY WIRE
- SIGN
- PHONE BOX
- CABLE BOX
- UGS UNDERGROUND SANITARY
- TELEPHONE MANHOLE
- UGP UNDERGROUND PHONE
- MES MITERED END SECTION
- STMH STORM MANHOLE
- UGFM UNDERGROUND FORCE MAIN
- UGE UNDERGROUND ELECTRIC
- UGW UNDERGROUND WATER
- OHW OVERHEAD WIRES
- UGG UNDERGROUND GAS
- T.O.S. TOE OF SLOPE
- WDF WOOD FENCE
- PVCY PLASTIC PRIVACY FENCE
- UG UNDERGROUND
- E.O.W. EDGE OF WATER
- LB LICENSED BUSINESS
- OHW OVERHEAD WIRE
- SEWER VALVE
- MONITOR WELL
- SIGNAL SUPPORT POLE
- IRRIGATION CONTROL VALVE
- IRRIGATION VALVE(RECLAIM)
- FIRE DEPARTMENT CONNECTION
- UNDERGROUND ELECTRIC
- UNDERGROUND WATER MARKER
- ELECTRIC MANHOLE
- UNDERGROUND CABLE MARKER
- SANITARY MANHOLE
- WATER METER
- WATER VALVE
- F.C.I.R. FOUND CAPPED IRON ROD
- F.N./D. FOUND NAIL & DISK
- F.C.M. FOUND CONCRETE MONUMENT
- (P) PLAT MEASUREMENT
- (F) FIELD MEASUREMENT
- N.C.F. NO CORNER FOUND
- P.O.B. POINT OF BEGINNING
- P.O.C. POINT OF COMMENCEMENT
- P.U.E. PUBLIC UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- MAILBOX
- UNDERGROUND GAS MARKER
- ELECTRIC BOX
- TRAFFIC BOX
- UNDERGROUND PHONE MARKER
- RAILROAD LIGHT
- TRANSFORMER PAD
- TYP. TYPICAL
- T.O.B. TOP OF BANK
- CROSS WALK SIGNAL
- CLEANOUT
- STORM MANHOLE
- GAS VALVE

0' 30' 60'
SCALE: 1" = 30'

NO.	REVISIONS	DATE:
1.	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

RAM S.V. ALIR P.E. #50583
DATE:

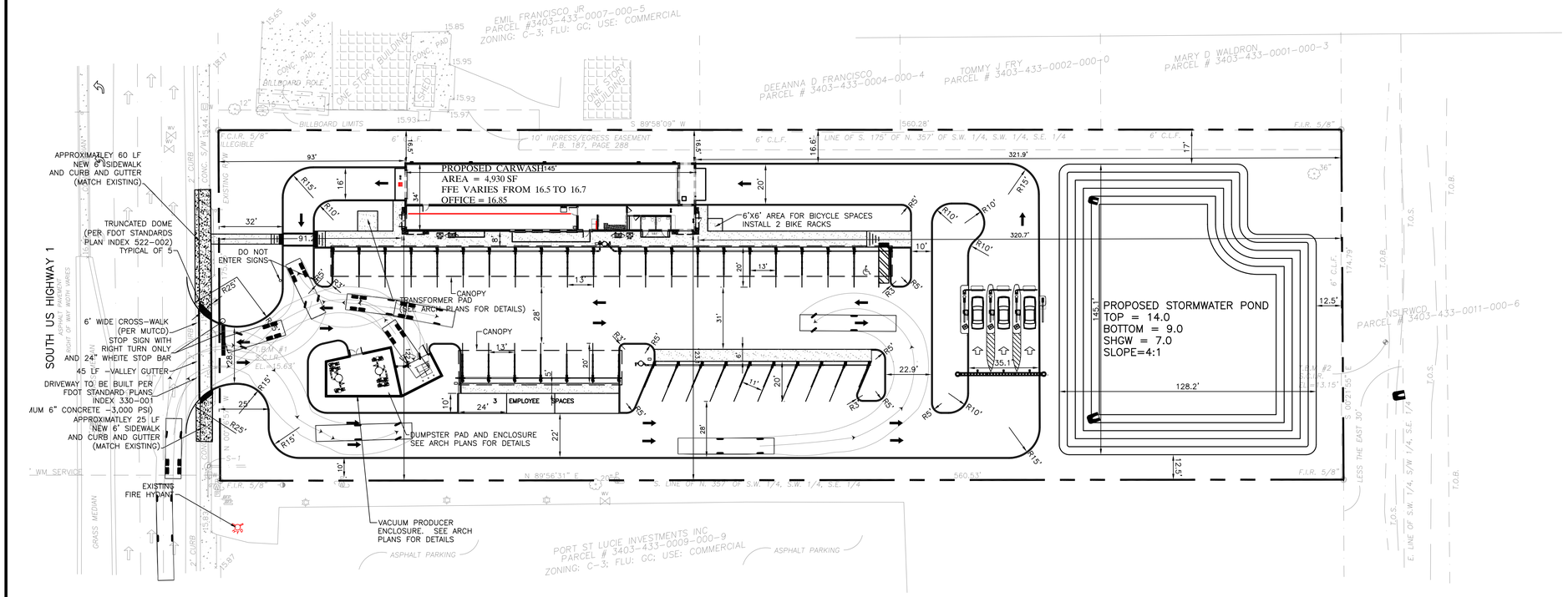
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TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

EXISTING CONDITIONS/ DEMOLITION PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-3



LEGEND: (AS APPLICABLE)

- (X) PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- 54.10 PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
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- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT	UGS UNDERGROUND SANITARY
(R/W) RIGHT OF WAY MEASUREMENT	T TELEPHONE MANHOLE
CONC. CONCRETE	UGP UNDERGROUND PHONE
EP EDGE OF PAVEMENT	MES MITERED END SECTION
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PREVENTER VALVES	PVCY PLASTIC PRIVACY FENCE
METAL LIGHTPOLE	UG UNDERGROUND
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CONCRETE LIGHT POLE	LB LICENSED BUSINESS
WOOD LIGHT POLE	OHW OVERHEAD WIRE
WOOD POWER POLE	SV SEWER VALVE
CONC POWER POLE	WM MONITOR WELL
RAILROAD X-ING GATE	SS SIGNAL SUPPORT POLE
W WELL	ICV IRRIGATION CONTROL VALVE
GUY WIRE	RWV IRRIGATION VALVE(RECLAIM)
SIGN	FIRE DEPARTMENT CONNECTION
PHONE BOX	UE UNDERGROUND ELECTRIC
C CABLE BOX	UW UNDERGROUND WATER MARKER
	E ELECTRIC MANHOLE

UC UNDERGROUND CABLE MARKER	
S SANITARY MANHOLE	
WM WATER METER	
WV WATER VALVE	
F.C.I.R. FOUND CAPPED IRON ROD	
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(P) PLAT MEASUREMENT	
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N.C.F. NO CORNER FOUND	
P.O.B. POINT OF BEGINNING	
P.O.C. POINT OF COMMENCEMENT	
P.U.E. PUBLIC UTILITY EASEMENT	
D.E. DRAINAGE EASEMENT	
MB MAILBOX	
UG UNDERGROUND GAS MARKER	
E ELECTRIC BOX	
T TRAFFIC BOX	
UP UNDERGROUND PHONE MARKER	
RR RAILROAD LIGHT	
TRANSFORMER PAD	
TYP. TYPICAL	
T.O.B. TOP OF BANK	
CW CROSS WALK SIGNAL	
CO CLEANOUT	
D STORM MANHOLE	
GV GAS VALVE	

BICYCLE RACK REQUIREMENTS:
(a) All standard bicycle racks shall comply with the following performance standards: (1) Bicycle racks shall be an inverted "U"/hoop rack, post and ring rack, or similar device that accommodates two (2) bicycle parking spaces per rack and enables users to lock the frame and both wheels. (2) Bicycle racks shall have a minimum tube diameter of 1.9 inches and be powder coated, galvanized, or coated with another weather-proof surface as may be approved by the zoning manager. (3) Bicycle racks shall be a maximum height of three (3) feet, a minimum of three (3) feet on center between horizontal rows, and a minimum of three (3) feet from any parallel building wall and four (4) feet from any perpendicular building wall. They shall be anchored to a common base or mounting surface of concrete or pavement large enough to support bicycles locked to the rack. If more than one (1) row of bicycle racks is installed to create the required bike parking area, the installation shall provide a minimum of five (5) feet in an aisle in each row, assuming additional spacing for parked bicycles.

N

0' 30' 60'

SCALE: 1" = 30'

SITE PLAN NOTES:

1. All utility construction shall comply with the FPUA Standards for Design and Construction of Water and Wastewater Facilities Specifications, latest edition.

2. All on-site water and sewer facilities shall be owned and maintained by the owner-developer.

3. Installation of fuel storage tanks requires review and approval by the Fire Marshal and the issuance of a separate building permit. Approval of the site plan does not constitute approval of the location of the fuel tanks.

4. All proposed signs must be applied for, approved, and permitted on an individual basis apart from any ultimately approved site plan. Approval of this site plan does not constitute approval of any signage.

5. Handicap parking spaces will be properly signed and striped in accordance with Florida Statute 316, the Manual on Uniform Traffic Control Devices, or other applicable standards.

6. The architect/engineer certifies that the site has been designed in accordance with the Americans with Disabilities Act.

7. All on-site parking spaces will be striped and signed in accordance with the Manual on Uniform Traffic Control Devices, latest edition. Parking spaces, directional arrows, and stop bars shall be striped in WHITE. It shall be the owner/developer's responsibility to properly sign and stripe in accordance with applicable standards.

8. The owner/developer acknowledges that this approval does not include any work in the County right-of-way. All right-of-way work shall be a function of an approved FDOT Right-of-way Use Permit.

9. All clear-site areas shall be kept free of any signage plantings, trees, etc. in excess of three-and-a-half (3-1/2) feet in height.

10. No irrigation system or landscaping shall be installed in any County or State right-of-way without issuance of appropriate Right-of-Way Use Permit.

11. The owner/developer acknowledges that the site and its subsequent building permits shall comply with all rezoning/MPUD/PUD and Conditional use Permit conditions.

12. All structures, including buffer walls, retaining walls, signage, etc. require building permits.

13. All ramps outside the building foot print shall require construction of "CAST IN PLACE" Detectable warnings.

CONSTRUCTION NOTES:

1. If during construction activities any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop and the Florida Department of Historic Resources (State Historic Preservation Officer) and City of FT. PIERCE shall be notified within two working days of the resources found on the site.

2. If during construction activities any evidence of the presence of State and Federally protected plant and/or animal species is discovered, work shall come to an immediate stop and City of FT. PIERCE shall be notified within two working days of the plant and/or animal species found on the site

CONSTRUCTION NOTES:

SHOULD ANY NOTICEABLE SOIL SLUMPING OR SINKHOLE FORMATION BECOME EVIDENT THE APPLICANT/DEVELOPER SHALL IMMEDIATELY NOTIFY THE COUNTY AND SFWMD AND ADOPT ONE OR MORE OF THE FOLLOWING PROCEDURES AS DETERMINED TO BE APPROPRIATE BY THE COUNTY AND SFWMD

I. IF THE SLUMP NG OR SINKHOLE FORMATION BECOMES EVIDENT BEFORE OR DURING CONSTRUCTION ACT VIT ES, STOP ALL WORK (EXCEPT FOR MITIGATION ACTIVITIES) IN THE AFFECTED AREA AND REMAIN STOPPED UNTI THE COUNTY AND SFWMD APPROVE RESUMING CONSTRUCTION ACTIVITIES.
II. TAKE IMMEDIATE MEASURES TO ENSURE NO SURFACE WATER DRAINS INTO THE AFFECTED AREAS
III. VISUALLY INSPECT THE AFFECTED AREA.
IV. EXCAVATE AND BACKFILL OR GROUT AS REQUIRED FILL NG THE AFFECTED AREA AND PREVENTING FURTHER SUBS DENCE
V. USE SOIL REINFORCEMENT MATER A S IN THE BACKFILLING OPERATION WHEN APPROPRIATE.
VI. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA, MAINTAIN A MIN MUM DISTANCE OF TWO FEET FROM THE BOTTOM OF THE RETENTION POND TO THE SURFACE OF T E IME-ROCK OR KARST CONNECTION
VII. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA AND THE ABOVE METHODS DO NOT STAB IZE THE COLLAPSE RELOCATE THE RETENT ON AREA.
VIII. DISCHARGE OF STORM-WATER INTO DEPRESSIONS WITH DIRECT OR DEMONSTRATED HYDROLOGIC CONNECTION TO THE FLORIDAN AQU FER SHALL BE PROH BITED.

TRAFFIC CONTROL AND MARKINGS NOTES:

1. ALL TRAFFIC CONTROL AND MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.

LIGHTING NOTES:

1. ANY LIGHTING USED TO ILLUMINATE ANY PARKING AREA SHALL BE SO ARRANGED AS TO DIRECT AND/OR SHIELD LIGHT AWAY FROM ADJOINING RESIDENTIAL PREMISES AND RIGHT-OF-WAY.

RAM S.V. ALIR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

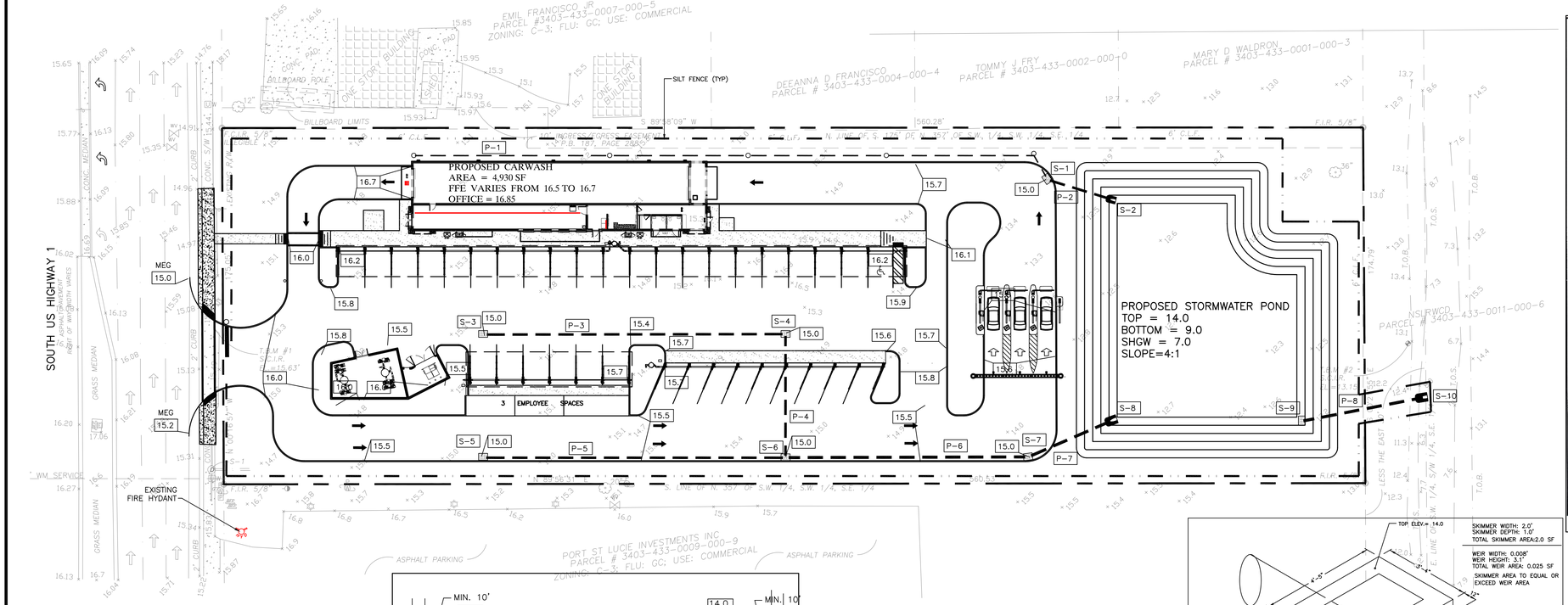
ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #EB#0007000 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: capireeng@yahoo.com

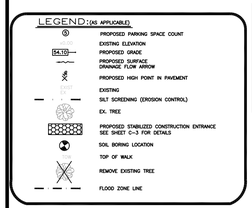
TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

SITE GEOMETRY PLAN

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-4





EX. STORM TABLE

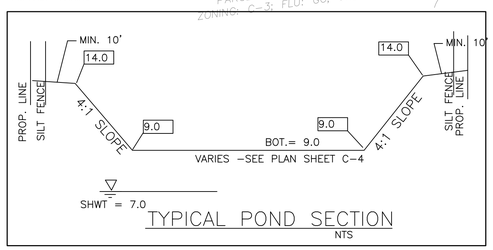
S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
36" S. RCP INV. EL= 9.10'
36" N. RCP INV. EL= 9.10'
12" E. RCP INV. EL= 9.15

EX. SANITARY TABLE

CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV. ELEV. = 12.35'

EX. TREE LEGEND

12" OAK TREE AND SIZE
6" MISCELLANEOUS TREE AND SIZE
12" PALM TREE AND SIZE
4" PINE TREE AND SIZE



EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
CONC. CONCRETE
EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
G GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
WELL
GUY WIRE
SIGN
PHONE BOX
CABLE BOX
UGS UNDERGROUND SANITARY
T TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCY PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SEWER VALVE
MONITOR WELL
SIGNAL SUPPORT POLE
IRRIGATION CONTROL VALVE
IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UE UNDERGROUND ELECTRIC
UW UNDERGROUND WATER MARKER
E ELECTRIC MANHOLE
UC UNDERGROUND CABLE MARKER
S SANITARY MANHOLE
WM WATER METER
WV WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UG UNDERGROUND GAS MARKER
ELECTRIC BOX
TRAFFIC BOX
UP UNDERGROUND PHONE MARKER
RR RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CW CROSS WALK SIGNAL
CO CLEANOUT
D STORM MANHOLE
GAS VALVE

MAINTENANCE & OPERATION INSTRUCTIONS:

1. ALL ON-SITE PORTION OF THE STORMWATER SYSTEM SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY.
2. WHERE VEGETATION, OR DEBRIS OR SEDIMENT HAS ACCUMULATED IN SUCH A MANNER AS TO INTERFERE WITH THE FREE FLOW OF WATER OR ADEQUATE FUNCTIONING OF DRAINAGE FACILITIES, THE OWNER SHALL REMOVE THE DEBRIS OR OBSTRUCTION SO AS TO ALLOW THE DRAINAGE SYSTEM TO FUNCTION AS PERMITTED.

EROSION & SEDIMENT CONTROL

(1) EXCAVATION OF RETENTION AREAS AND FLOOD PLAIN COMPENSATION AREAS PRIOR TO CONSTRUCTION TO BE REGRADED AFTER CONSTRUCTION.
(2) RETENTION AREA AND FLOOD PLAIN COMPENSATION AREA SIDE SLOPES SHALL BE SODDED. ALL OTHER EXCAVATIONS OR GRADING WORK SHALL BE GRASSED AS SOON AS POSSIBLE AFTER FINAL GRADING.
(3) ALL POSSIBLE EFFORTS SHALL BE MADE TO CONTROL EROSION AND SEDIMENT TRANSPORT BOTH ON AND OFFSITE.
(4) STAKED HAYBALES OF FILTER FABRIC SILT FENCE SHALL BE CONSTRUCTED (PER DETAIL) AT SPECIFIED LOCATIONS PRIOR TO EXCAVATING OR GRADING; TO REMAIN UNTIL VEGETATION ESTABLISHES.
(5) EXCAVATE THE RETENTION AREAS IN TWO (2) PHASES. PHASE ONE EXCAVATE TO 6" OF ITS FINAL DEPTH PRIOR TO CONSTRUCTION. PHASE TWO, EXCAVATE TO ITS FINAL DEPTH AFTER FINAL CONSTRUCTION.
(6) PLACE HAYBALES OR FILTER FABRIC AROUND THE PERIMETER OF ALL NEW AND EXISTING INLETS, PIPES AND DRAINAGE STRUCTURES; TO REMAIN UNTIL VEGETATION ESTABLISHES.

LAKE/POND EXCAVATION NOTE:

NO EXCAVATION SHALL EXTEND BELOW THE PERMITTED DESIGN DEPTHS/ELEVATIONS SHOWN ON THE DRAWINGS, UNLESS ADDITIONAL TESTING SUPPORTS OTHERWISE; AND NO SEMI-CONFINING UNIT CLAYEY SOIL MATERIAL AND/OR NO LIMESTONE MATERIALS SHALL BE EXCAVATED, REGARDLESS IF THESE MATERIALS ARE ENCOUNTERED WITHIN THE PERMITTED EXCAVATION DEPTHS/ELEVATIONS. IF ANY LOWER SEMI-CONFINING UNIT CLAYEY SOIL MATERIALS OR LIMESTONE MATERIALS ARE ENCOUNTERED ABOVE THE PERMITTED DEPTHS/ELEVATIONS, THEN EXCAVATION OPERATIONS SHALL CEASE IN THE GENERAL AREA. EPC MUST BE CONTACTED PRIOR TO ANY EXCAVATION OF CLAYS. IN THE ABSENCE OF A CONFINING LAYER, 5 FEET OF UNDISTURBED SOIL MUST BE LEFT ABOVE THE LIMESTONE.

ELEVATION DATUM NOTE:

ELEVATIONS SHOWN HEREIN ARE BASED ON NAVD 1988.

NGVD 1929 TO NAVD 1988 CONVERSION (PER NATIONAL GEODETIC SURVEY):

ELEVATION IN NGVD 1929, FEET = (ELEVATION IN NAVD 1988 + 1.5) FEET

ROOF DRAIN NOTES:

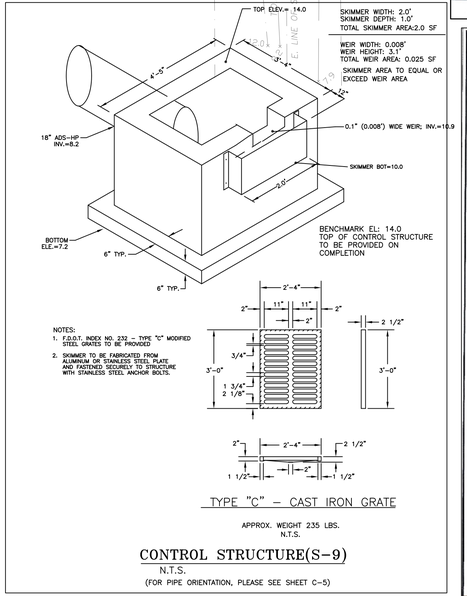
CONTRACTOR TO DIVERT ALL ROOF RUNOFF TO THE PROPOSED STORMWATER SYSTEM

STORMWATER PIPE NOTES:

ALL STORMWATER PIPE JOINTS AND BOX INLET TO BE WRAPPED WITH FDOT APPROVED FILTER FABRIC PER FDOT INDEX 280.

DEWATERING NOTES:

1. DEWATERING SHALL BE PERFORMED IN ACCORDANCE WITH NPDES, FLORIDA EROSION AND SEDIMENT CONTROL INSPECTORS MANUAL, SFWMD, CITY OF FT. PIERCE AND FDEP REGULATIONS.
2. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENTATION BASINS OR SILT TRAPS.
3. DEWATERING DIRECTLY INTO WETLAND AND/OR STORM DRAINS/STRUCTURES IS PROHIBITED.
4. DEWATERING OPERATIONS SHALL BE ADEQUATE TO ASSURE THE INTEGRITY OF THE FINISHED PROJECT. THE RESPONSIBILITY FOR CONDUCTING THE DEWATERING OPERATION IN A MANNER, WHICH WILL PROTECT ADJACENT WETLANDS.
5. ADEQUATE CONTROL SHALL BE MAINTAINED TO ENSURE THAT THE STABILITY OF EXCAVATED AND CONSTRUCTED SLOPES ARE NOT ADVERSELY AFFECTED BY WATER, THAT EROSION IS CONTROLLED AND THAT FLOODING OF EXCAVATION DOES NOT OCCUR.
6. DEWATERING SHALL AT ALL TIMES BE CONDUCTED IN SUCH A MANNER AS TO PRESERVE THE UNDISTURBED BEARING CAPACITY OF THE SUBGRADE SOILS.



NOTES:
1. F.D.O.T. INDEX NO. 232 – TYPE "C" MODIFIED STEEL GRATES TO BE PROVIDED
2. SKIMMER TO BE FABRICATED FROM ALUMINUM OR STAINLESS STEEL PLATE AND FASTENED, SECURELY TO STRUCTURE WITH STAINLESS STEEL ANCHOR BOLTS.

TYPE "C" – CAST IRON GRATE

APPROX. WEIGHT 235 LBS.
N.T.S.

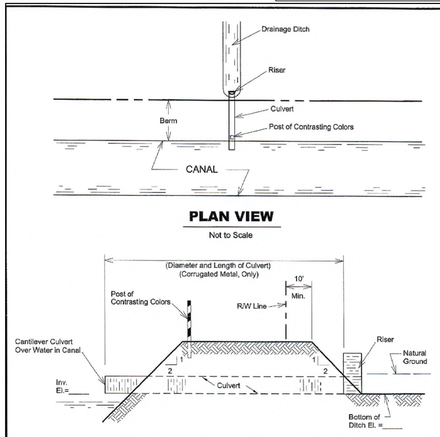
CONTROL STRUCTURE(S-9)
N.T.S.
(FOR PIPE ORIENTATION, PLEASE SEE SHEET C-5)

STORM SEWER STRUCTURE CHART

STRUCTURE #	TOP ELE.	INVERT ELE.	TYPE
S-1	15.0	9.2	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-2		9.0	MES PER FDOT INDEX 430-021 RIP RAP -D50 ROCK, 1 CY W/ FILTER FABRIC
S-3	15.0	9.5	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-4	15.0	9.3	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-5	15.0	9.4	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-6	15.0	9.2	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-7	15.0	9.1	TYPE D INLET W/ TRAFFIC BEARING GRATE (FDOT STANDARD PLANS INDEX 425-052)
S-8		9.0	MES PER FDOT INDEX 430-021 RIP RAP -D50 ROCK, 1 CY W/ FILTER FABRIC
S-9			CONTROL STRUCTURE SEE DETAILS THIS SHEET
S-10		8.0	MES PER FDOT INDEX 430-021 RIP RAP -D50 ROCK, 1 CY W/ FILTER FABRIC

STORM SEWER PIPE CHART

PIPE #	LENGTH (FT)	SLOPE (%)	TYPE AND SIZE OF PIPE
P-1	315	0.5	8" PVC ROOF DRAIN COLLECTION PIPE. CONNECT ALLL ROOF DRAINS TO THIS PIPE. COORDINATE WITH ARCH PLANS. INSTALL 5 STORM CLEANOUTS.
P-2	35	0.57	15" ADS-HP
P-3	145	0.14	15" ADS-HP
P-4	60	0.17	15" ADS-HP
P-5	145	0.14	15" ADS-HP
P-6	117	0.09	18" ADS-HP
P-7	45	0.22	18" ADS-HP
P-8	65	0.31	18" ADS-HP



PLAN VIEW
Not to Scale

ELEVATION
Not to Scale

NOTE: All elevations refer to N.G.V.D.

Indicate Location of Proposed Improvement Below:

NW 1/4 | NE 1/4 | SW 1/4 | SE 1/4

SEC. ____ TWP. ____ RGE. ____

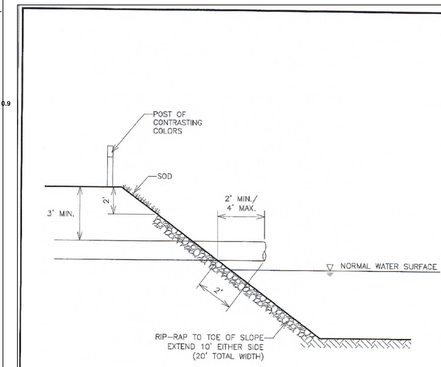
VICINITY PLAN

DWG. NO. 73-0905\CADD\73605D04.DWG

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
SKETCH TO ACCOMPANY
GRAVITY DRAINAGE CONNECTION

DATE:	APPLICATION NUMBER:
CANAL NO.:	APPLICANT:

EXHIBIT "C"

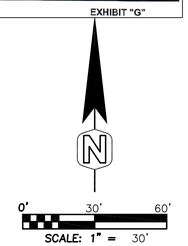


DWG. NO. P:\174-0901\Permit Application Documentation\Permit Manual\Exhibits\E901\BIT 0.dwg

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
SKETCH TO ACCOMPANY
TYPICAL CONNECTION DETAIL

DATE:	APPLICATION NUMBER:
CANAL NO.:	APPLICANT:

EXHIBIT "G"



RAVI ALUR, P.E
AUTHORIZED AGENT
ASPIRE ENGINEERING, INC.
1023 PROFESSIONAL PARK DR.
BRANDON, FL 33511
PHONE: 813-571-2850

RAM S.V. ALUR P.E. #65583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #29124
CONSULTING ENGINEERS · PLANNERS
EXCELLENCE DELIVERED
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: capreeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

PAVING, GRADING, DRAINAGE AND CONSTRUCTION SURFACE WATER MANAGEMENT PLAN

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE

PROJECT #: 22-017

SHEET: C-5

GENERAL UTILITY NOTES
1. No sanitary or reclaimed water direction bors are permitted without prior Water Reclamation (Wastewater) Division approval.

WATER METER CALCULATIONS:

NO.	FIXTURE TYPE	FIXTURE VALUE/ UNIT	FIXTURE VALUE
2	WATER CLOSET (TOILET)	3	6
2	SERVICE SINK	3	6
2	HOSE CONNECTION	6	12
1	CARWASH		100

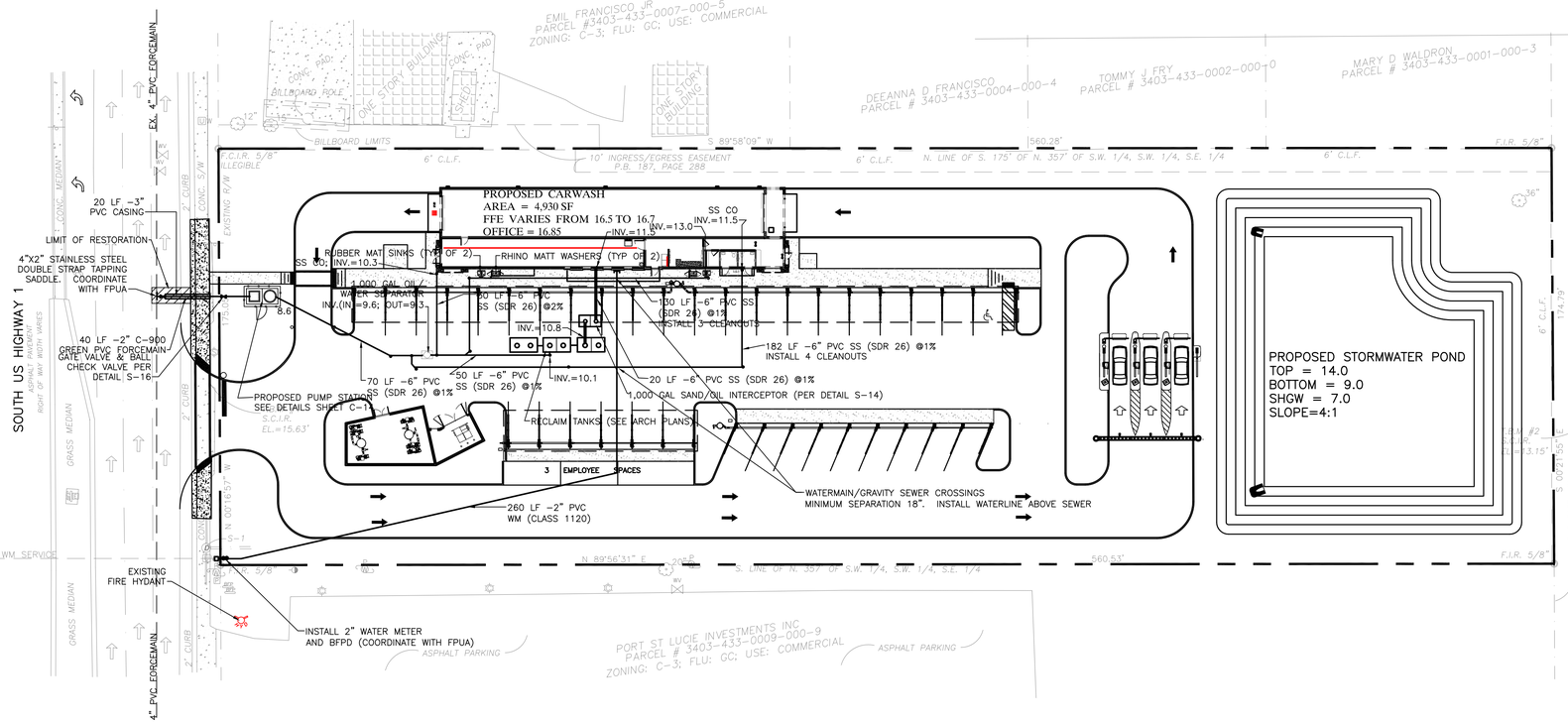
TOTAL FIXTURE = 124 (54 GPM)
WATER METER PROPOSED = 2"

PROPOSED WATER AND SEWER FLOWS

PROPOSED WATER USAGE FOR CARWASH AND REST ROOMS = 27.88 GALLONS/VEHICLE (WITH WATER RECOVERY) * 130 VEHICLES/DAY + (2 REST ROOMS*250 GPD/REST ROOM)= 4,124.4 GPD

PROPOSED WASTEWATER FLOW FROM CARWASH AND REST ROOMS = 21.88 GALLONS/VEHICLE (WITH WATER RECOVERY) * 130 VEHICLES/DAY + (2 REST ROOMS*250 GPD/REST ROOM)= 3,344.4 GPD

1. NO FIRELINE CONNECTION IS BEING PROPOSED.
2. FLOW AVAILABLE IN THE EXISTING FIRE HYDRANT = 1,370 GPM REQUIRED = 1,000 GPM



General notes
1. A minimum 1' clear distance between all sides of existing inlet structures and proposed underground utility is required. Underground utilities shall not be placed under inlet structures.
2. Public right-of-way shall be restored to its original or better condition. Any sidewalks or curbing disturbed by the work shall be restored to the condition of the original structure. Sidewalk panels shall be restored to full panel widths and lengths (defined by edges of the sidewalk and the nearest control joints or expansion joints). Partial patching of sidewalks shall not be acceptable. Pavement finishes, thicknesses, and grades shall match the existing sidewalk.
3. If sidewalk is to be removed and replaced, the sidewalk shall be constructed in Class 1 concrete, 3,000 psi, 4 in. thick and match the width of the existing sidewalk. Sidewalk located at the apron shall be constructed in Class 1 concrete, 3,000 psi, 6 in. thick and match the width of the existing sidewalk. Requirements are per ESM detail sheet 2. Rebar is not allowed.
4. Trenching shall not take place within the root zone of trees with a trunk diameter of 6 inches or larger. Underground utilities must be bored rather than trenched in the root zones of existing trees (excluding palms).
5. Locate all utilities/facilities prior to start of construction.
6. The contractor must locate and protect all the utilities and repair any damage caused by the work at no cost to the City.
7. All utility locate markings must be completely cleaned around the area of the permitted project at the contractor's expense.
8. Current A.D.A standards shall be upheld at all times.
9. All casings (HDPE)/directional bores shall extend a minimum of six feet (6') beyond each edge of pavement. (Commercial driveways, sidewalks included)
10. Casing will be required for underground utilities crossing under existing pavement with the exception of gas lines.
11. Utility poles and guy wires for anchoring utility poles may not be placed within the pedestrian path/sidewalk.
12. The Contractor shall abide by the FDOT's Guidelines for Erosion and Sedimentation Control for Construction Sites sheet. A copy of this sheet shall be reviewed/followed by said Contractor and can be obtained by going to https://beta.FDOT.gov/files/sharedassets/public/departments/permitting-services-division/trade/erosion-sedimentation-control-blue-sheet.pdf

Installation Requirements

1. All restoration work shall be done in accordance with the city's Engineering Standards Manual, and any other applicable standards, guidelines, or City Code provisions.

Underground Work

1. Crossings (underground) shall be at a minimum vertical clearance thirty-six (36) inches below top of roadway pavement or top of ground, whichever is lower, including ditch grade.
2. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.
3. Subterranean crossings may be made by boring, jacking, pushing, pulling, driving or some combination of these having a positive horizontal and vertical control. Jetting, except for hydraulic compaction or tunneling is prohibited within City and/or FDOT right-of-way.
4. Pits required for underground crossings must be constructed no closer than six feet from the edge of the traveled way.
5. All pipe must be jacked with the end open or bored-and-jacked and extended a minimum of six feet beyond the edge of the traveled way or as directed by the City Engineer.
6. Casings will be required for underground utilities crossing under existing pavement. Missile bore is not allowed when crossing under roadways. Missile bore is allowed for longitudinal placement under existing sidewalks and driveways.
Overhead Work
7. Crossings (aerial) shall be in accordance with the National Electrical Safety Code, and the point of maximum design sag of the lowest attachment shall be a minimum of eighteen (18) feet over roadways and driveway crossings and shall not interfere with existing or planned signal installation.

LEGEND: (AS APPLICABLE)
- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING (EROSION CONTROL)
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

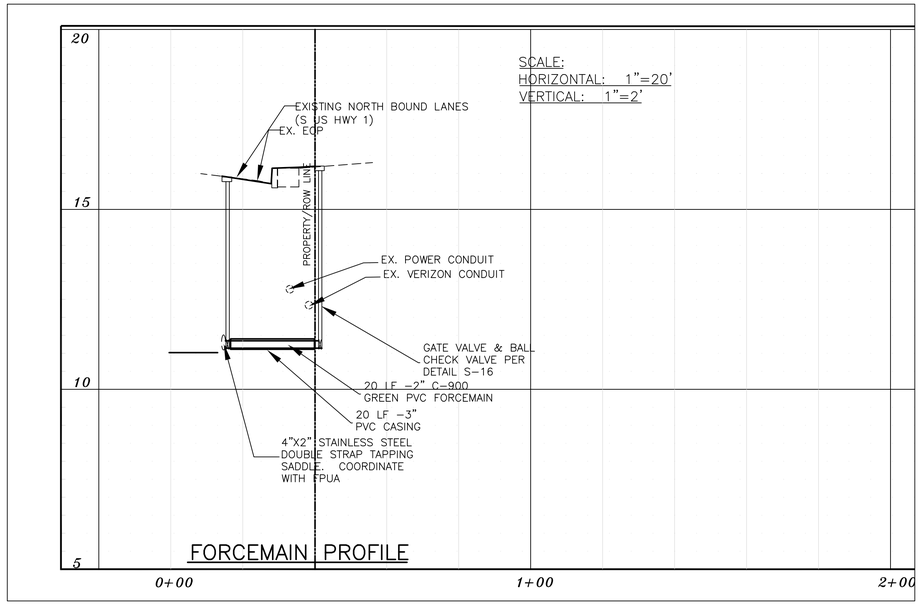
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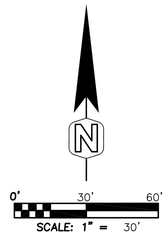
EX. SANITARY TABLE
CO-1 (SANITARY CLEANOUT)
TOP ELEV= 15.34'
8" INV ELEV. = 12.35'

EX. TREE LEGEND
- 12" OAK TREE AND SIZE
- 6" MISCELLANEOUS TREE AND SIZE
- 12" PALM TREE AND SIZE
- 4" PINE TREE AND SIZE

EX. LEGEND & ABBREVIATIONS

(C) CALCULATED MEASUREMENT
(R/W) RIGHT OF WAY MEASUREMENT
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EP EDGE OF PAVEMENT
MULT. MULTIPLE
CI CURB INLET
GI GRATE INLET
SMH SANITARY MANHOLE
STMH STORM MANHOLE
FLAG POLE
G GREASE TRAP MANHOLE
HYDRANT
PREVENTER VALVES
METAL LIGHTPOLE
P.B. PLAT BOOK
CONCRETE LIGHT POLE
WOOD LIGHT POLE
WOOD POWER POLE
CONC POWER POLE
RAILROAD X-ING GATE
W WELL
GUY WIRE
SIGN
P PHONE BOX
C CABLE BOX
UGS UNDERGROUND SANITARY
T TELEPHONE MANHOLE
UGP UNDERGROUND PHONE
MES MITERED END SECTION
STMH STORM MANHOLE
UGFM UNDERGROUND FORCE MAIN
UGE UNDERGROUND ELECTRIC
UGW UNDERGROUND WATER
OHW OVERHEAD WIRES
UGG UNDERGROUND GAS
T.O.S. TOE OF SLOPE
WDF WOOD FENCE
PVCF PLASTIC PRIVACY FENCE
UG UNDERGROUND
E.O.W. EDGE OF WATER
LB LICENSED BUSINESS
OHW OVERHEAD WIRE
SEWER VALVE
M MONITOR WELL
SIGNAL SUPPORT POLE
ICV IRRIGATION CONTROL VALVE
RWV IRRIGATION VALVE(RECLAIM)
FIRE DEPARTMENT CONNECTION
UE UNDERGROUND ELECTRIC
UW UNDERGROUND WATER MARKER
E ELECTRIC MANHOLE
UC UNDERGROUND CABLE MARKER
S SANITARY MANHOLE
WM WATER METER
WV WATER VALVE
F.C.I.R. FOUND CAPPED IRON ROD
F.N./D. FOUND NAIL & DISK
F.C.M. FOUND CONCRETE MONUMENT
(P) PLAT MEASUREMENT
(F) FIELD MEASUREMENT
N.C.F. NO CORNER FOUND
P.O.B. POINT OF BEGINNING
P.O.C. POINT OF COMMENCEMENT
P.U.E. PUBLIC UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
MAILBOX
UG UNDERGROUND GAS MARKER
E ELECTRIC BOX
T TRAFFIC BOX
UP UNDERGROUND PHONE MARKER
RR RAILROAD LIGHT
TRANSFORMER PAD
TYP. TYPICAL
T.O.B. TOP OF BANK
CW CROSS WALK SIGNAL
CO CLEANOUT
D STORM MANHOLE
GV GAS VALVE





RAM S.V. ALIR P.E. #65583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #29979 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: capireeng@yahoo.com

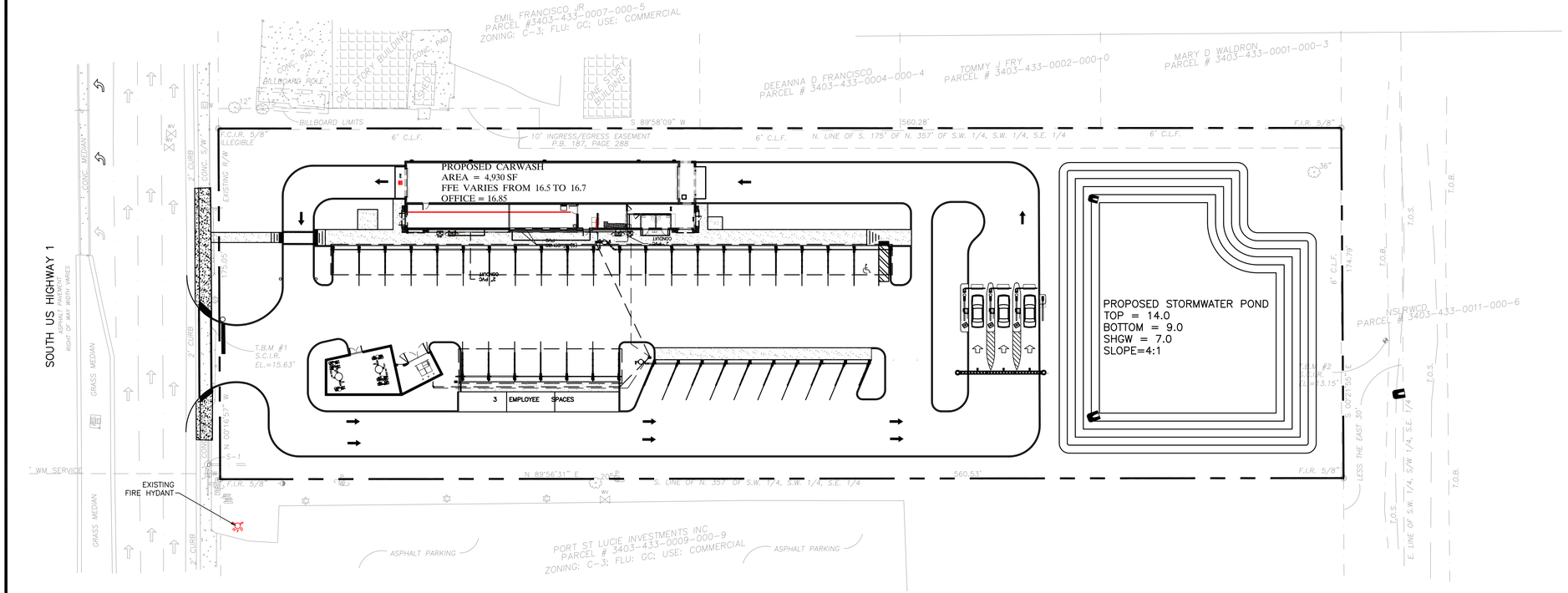
TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

UTILITY PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017

SHEET: C-6



LEGEND: (AS APPLICABLE)

- (5) PROPOSED PARKING SPACE COUNT
- 24.10 EXISTING ELEVATION
- PROPOSED GRADE
- PROPOSED SURFACE DRAINAGE FLOW ARROW
- PROPOSED HIGH POINT IN PAVEMENT
- EXISTING
- SILT SCREENING ((EROSION CONTROL))
- EX. TREE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE SHEET C-3 FOR DETAILS
- SOIL BORING LOCATION
- TOP OF WALK
- REMOVE EXISTING TREE
- FLOOD ZONE LINE

EX. STORM TABLE

S-1 (STORM MANHOLE)
TOP ELEV= 15.82'
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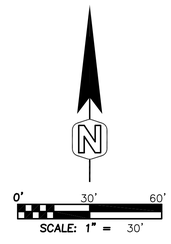
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- WDF WOOD FENCE
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- LB LICENSED BUSINESS
- OHW OVERHEAD WIRE
- SV SEWER VALVE
- WM MONITOR WELL
- SS SIGNAL SUPPORT POLE
- ICV IRRIGATION CONTROL VALVE
- RWV IRRIGATION VALVE(RECLAIM)
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RAM S.V. ALUR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

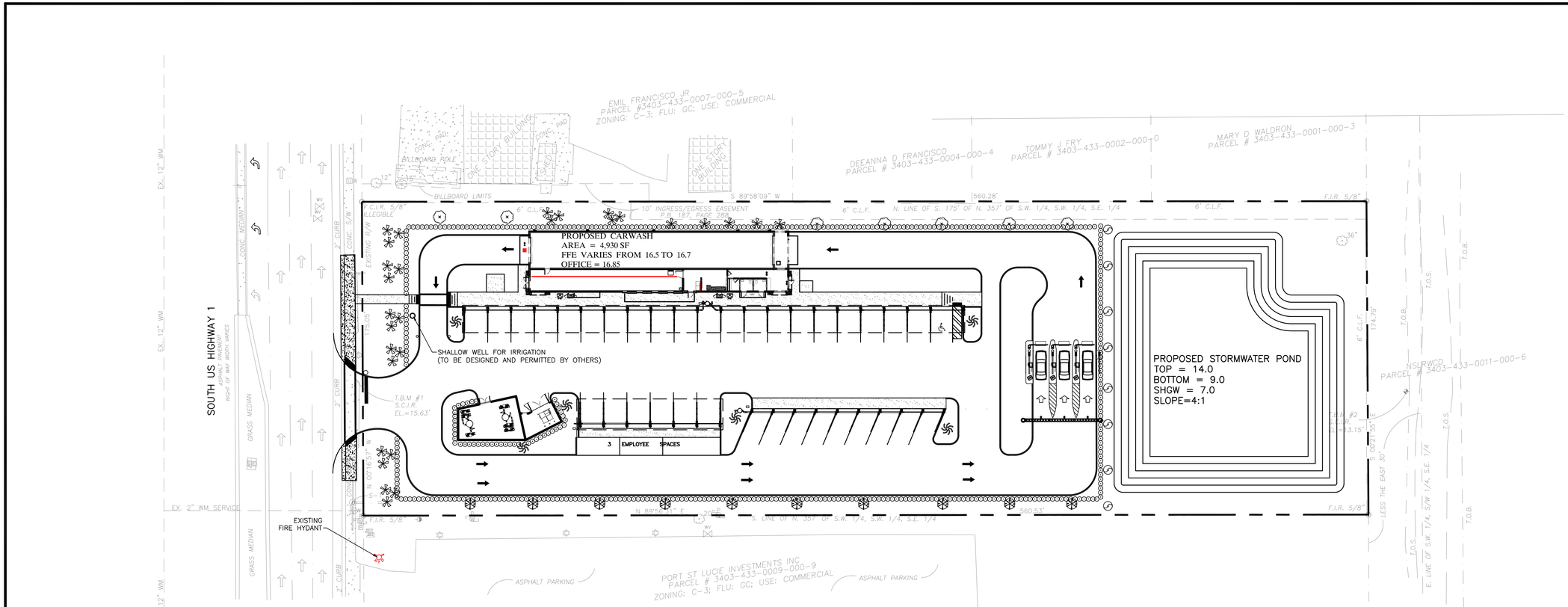
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TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

AIR/VAC/CHASE PIPE PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-7



LEGEND: (AS APPLICABLE)

- PROPOSED PARKING SPACE COUNT
- EXISTING ELEVATION
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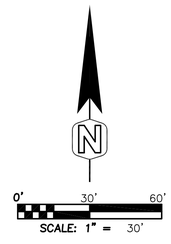
PLANT & MATERIAL LIST:

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	NATIVE FLORIDA	DROUGHT TOLERANT	REMARKS
TREES								
	LS	Liquidambar styraciflua	SWEETGUM	8	3" DBH	YES	YES	MIN. 12' HIGH
	BN	Betula nigra	RIVER BIRCH	6	3" DBH	YES	YES	MIN. 12' HIGH
	MG	Magnolia grandiflora	SOUTHERN MAGNOLA	10	3" DBH	**YES**	**YES**	MIN. 12' HIGH
	QV	Quercus virginiana	LIVE OAK	7	3" DBH	YES	YES	MIN. 12' HIGH
	SP	Sabal palmetto	SABAL PALM	29		YES	YES	MINIMUM CLEAR TRUNK OF 10'
SHRUBS								
	VO	VIBURNUM OBOVATUM	WALTER VIBURNUM	400	3-7 GAL	YES	YES	MIN. 36", 3 FT O/C

1. ALL PLANT MATERIALS SHALL BE FLORIDA GRADE 1.

LANDSCAPE NOTES:

1. Represents existing trees to be barricaded and saved Barricades shall consist of new or used chain link fence (min. 5' high) located at the tree drip line.
2. All plants must be healthy, vigorous material, free of pests and disease.
3. All plants shall be Florida Grade No. 1 or better
4. All plants must be container-grown or balled and burlap as indicated in the plant list.
5. All plants shall be triangulately spaced.
6. Prior to construction the landscape contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. The landscape contractor is responsible for repairing any and all damage to utilities, structures, site appurtenances, etc.; which occurs as a result of the landscape contractor.
7. All trees must be guyed and staked as shown in the details
8. The landscape contractor is responsible for verifying all quantities shown on these plans, before pricing the work.
9. All planting shall be done in accordance with acceptable Horticultural practices. This is to include proper planting mix, plant bed and tree pit preparation, pruning, staking or guying, wrapping, spraying, fertilization, planting and adequate maintenance until acceptance by the owner.
10. The landscape contractor is responsible for fully maintaining all planting (including but not limited to: watering, spraying, mulching, fertilizing, etc.) or planting areas and lawns until the work is accepted in total by the landscape architect and the owner. The Owner of the property will be responsible from there on.
11. All plants shall be guaranteed for 90 days from final inspection and acceptance. All trees shall be guaranteed an additional 180 days.
12. All plants are subject to approval by the owner or owner's representative. Prior to planting, all trees must be approved by the owner or owner's representative.
13. All plants and planting areas must be completely mulched as specified with three (3) inches of Cypress Mulch.
14. Standards set forth in "American Standards for Nursery Stock" represent guideline specifications only and shall constitute MINIMUM quality requirements for plant material.
15. All landscaped areas shall be provided with an irrigation system that supplies 100 percent coverage to all required landscaping plant material. The irrigation system may consist of an automatic or manual underground system, drip system, quick coupling valves, or hose bibs within 50 feet of all required landscaping plant material.
16. The irrigation system shall be designed to minimize root disturbance to existing trees and other vegetation to be retained. No irrigation is required within these areas.
17. All EXISTING shrubs shall be of sufficient height so that they are a minimum of 24" above the finished pavement elevation of the parking area adjacent to said shrub.
18. All tree roots existing within approved improvement areas and originating from a protected tree shall be severed clean at the limits of the preserved area. Pruning shall be done using a "DOSKO" Root Pruner or approved equal. An inspection of pruning activities shall be arranged with the CITY OF FT PIERCE Department of Natural Resources.
19. All trees to remain must be protected by tree protection barricades meeting the minimum standards shown on the attached diagram (i.e. Silt Fence). Protective barricades shall remain in place until land alteration and construction activities are complete.
20. Any tree not designated for removal from the site and is removed by the contractor will result in the contractor having to either compensate the owner for similar replacement of tree(s) destroyed, or, replacement of identical size and species of tree removed. Further, any additional requirements by regulatory agencies having jurisdiction over such matters will be incurred by the contractor. Compensatory damages against the contractor are not limited in this situation.
21. A MAXIMUM OF 50% OF THE PLANT MATERIALS USED, OTHER THAN TREES, MAY BE NON-DRAUGHT TOLERANT.
22. Stabilization shall be done by using vegetative ground cover.
23. ALL NEWLY DEVELOPED AND REDEVELOPED ABOVE GROUND UTILITY APPURTENANCES VISIBLE FROM THE PUBLIC RIGHT-OF-WAY, INCLUDING PEDESTALS, UTILITY METERS, TRANSFORMERS, BACK-FLOW PREVENTION DEVICES ETC., SHALL BE SCREENED PER CITY OF FT PIERCE LDC.



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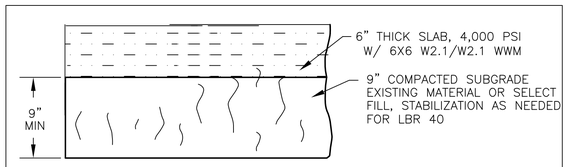
RAM S.V. ALUR P.E. #65583
DATE:

TWIN'S CARWASH -FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

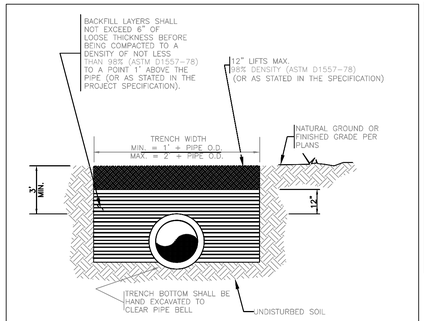
LANDSCAPE PLAN

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-8



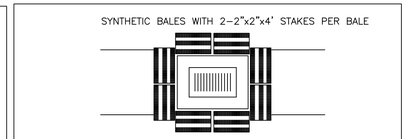
CONCRETE PAVEMENT DETAIL

N.T.S.



PIPE BACKFILL AND COMPACTION DETAIL

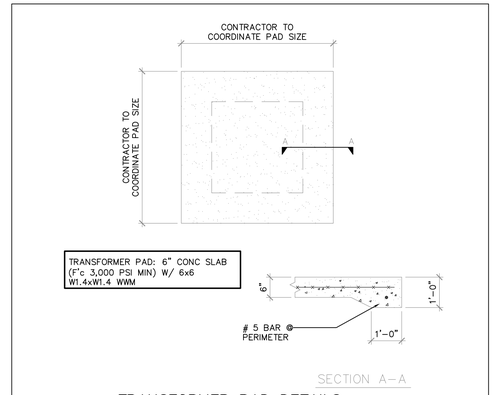
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DITCH BOTTOM INLET

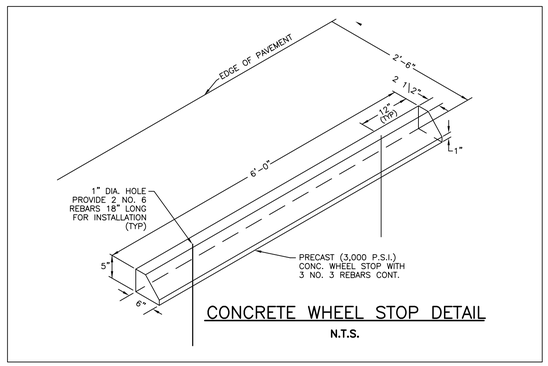
PROTECTION AROUND INLETS

N.T.S.



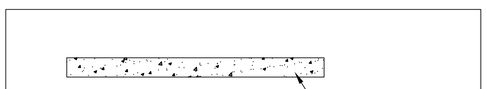
SECTION A-A

TRANSFORMER PAD DETAILS



CONCRETE WHEEL STOP DETAIL

N.T.S.



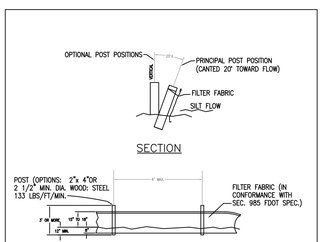
1. COMPACT UPPER 6" SUBGRADE TO 98% STANDARD PROCTOR
2. SIDEWALK THICKNESS SHALL BE INCREASED TO 6" AT ALL ALL DRIVEWAYS, APPROACHES AND ALONG STREETS (IN THE ROW OR IN THE EASEMENT).
3. CONCRETE SHALL BE 3000 P.S.I. AT 28 DAYS
4. CONTROL JOINTS @ 5' ON CENTER

CONCRETE SIDEWALK DETAIL

N.T.S.



IN-WALL LOCKABLE HOSE BIB DETAILS



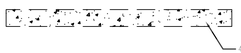
SECTION

ELEVATION

TYPE III SILT FENCE

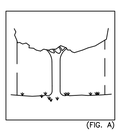
N.T.S.

D. O. T. INDEX #102

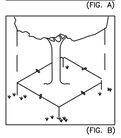


MATT BEATER AND MATT CLEANER
CONCRETE PAD DETAILS

NTS



(FIG. A)



(FIG. B)

PROTECTIVE BARRIERS ARE USED DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES TO PROTECT TREES AND NATURAL AREAS TO BE RETAINED ON A SITE.

PROTECTIVE BARRIERS MUST BE ERECTED AROUND TREES TO BE RETAINED WITHIN AN AREA WHERE LAND ALTERATION AND CONSTRUCTION ACTIVITIES WILL OCCUR AS WELL AS ALONG NATURAL AREAS WHERE SUCH AREAS ARE ADJACENT TO PERMITTED LAND ALTERATION OR CONSTRUCTION ACTIVITIES. A PROTECTIVE BARRIER MUST REMAIN IN PLACE UNTIL THE LAND ALTERATION AND CONSTRUCTION ACTIVITIES ARE COMPLETED OR UNTIL COMMENCEMENT OF GRADE FINISHING AND SODDING. NO GROUND DISTURBANCE MUST OCCUR WITHIN THE BARRICADED AREA.

1. TREES – TO RESTRICT ACCESS INTO THE AREA WITHIN THE DRIPLINE OF A TREE. THE DRIPLINE OF A TREE IS THE IMAGINARY, VERTICAL LINE THAT EXTENDS DOWNWARD FROM THE OUTERMOST TIPS OF THE TREE'S BRANCHES TO THE GROUND. (FIG. A)

BARRIER SPECIFICATION FOR TREES
MIN. 5' HIGH NEW OR USED CHAIN LINK FENCE (FIG. B)

WHY A BARRIER
1. TO PROTECT ALL ABOVE GROUND PROTIONS OF TREES AND OTHER SIGNIFICANT VEGETATION FROM MECHANICAL DAMAGE.

2. TO PROTECT ROOT SYSTEMS FROM COMPACTION.

3. TO PROVIDE AWARENESS OF PROTECTED AREAS TO EQUIPMENT OPERATORS.

WHY IT WORKS
A TREE'S CHANCE FOR SURVIVAL IS GREATLY ENHANCED IF NO CONSTRUCTION MATERIAL, HEAVY EQUIPMENT OR STOCKPILING OF SOIL IS ALLOWED INSIDE THE BARRIER; ONLY HAND LABOR.

TREE BARRICADE SPECIFICATIONS

5.

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF FT. PIERCE & FDOT STANDARDS AND SPECIFICATIONS.
2. LOCATIONS OF EXISTING UTILITIES AND FACILITIES SHOWN ARE APPROXIMATE AND ARE BASED ON TOPO DATA AND RECORD INFORMATION. ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. CONTACT SUNSHINE STATE CALL AT 1-800-432-4770 FOR LOCATIONS OF ALL UTILITIES. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND FACILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSULT WITH THE ENGINEER BEFORE MAKING ANY AND ALL INTERPRETATIONS OF THE PLANS. THIS IN NO WAY RELIEVES THE CONTRACTOR OF HIS RESPONSIBILITY FOR CONSTRUCTING THE PROJECT TO ACCOMPLISH THE INTENT OF THE PLANS.
4. CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, DRIVEWAYS, SIDEWALKS, ETC. WITH THE SAME TYPE OF MATERIAL REMOVED DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE PLANS. REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THE WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL CONDITIONS PRIOR TO CONSTRUCTION UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ALL SURVEY CONTROLS DISTURBED AND/OR REMOVED DURING CONSTRUCTION WILL BE REPLACED BY A REGISTERED SURVEYOR, COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.

   ALL EROSION CONTROL MEASURES MUST BE COMPLETE BEFORE CONSTRUCTION ACTIVITIES CAN BEGIN.
6. EROSION/SEDIMENTATION CONTROL: THE CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIERS (HAY BALES OR SILTATION CURTAINS). IF REQUIRED, TO PREVENT SILTATION OF THE ADJACENT PROPERTY, STREET, STORM SEWERS AND WATERWAYS. IN ADDITION, THE CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON THE GROUND AS REQUIRED, IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF SITE, EITHER BY NATURAL DRAINAGE OR VEHICLE TRAFFIC, THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER LOCAL AUTHORITIES.
7. CONTRACTOR SHALL CONTACT ALL OWNERS OF UTILITIES, EASEMENTS AND/OR RIGHTS-OF-WAYS, PUBLIC OR PRIVATE, PRIOR TO ANY WORK IN OR OVER THESE AREAS.
8. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE VARIOUS UTILITY COMPANIES WITH AT LEAST 48 HOURS ADVANCE NOTICE FOR UTILITY VERIFICATION.
9. UNLESS OTHERWISE RECOMMENDED BY THE SOILS ENGINEER, EXCAVATIONS AND EMBANKMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF FDOT SECTION 120, TO ACHIEVE THE PLAN ELEVATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS AND/OR EASEMENTS BEFORE BEGINNING CONSTRUCTION.
11. PRIOR TO STARTING CONSTRUCTION THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. FAILURE OF THE CONTRACTOR TO FOLLOW THIS PROCEDURE SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATION OF THE WORK MANDATED BY ANY REGULATORY AUTHORITY.
12. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED AND MULCH OR AS NOTED ON THE LANDSCAPE PLAN. DISTURBED AREAS WITHIN R/W SHALL BE SODDED.
13. ANY TREE NOT DESIGNATED FOR REMOVAL FROM THE SITE AND IS REMOVED BY THE CONTRACTOR WILL RESULT IN THE CONTRACTOR HAVING TO EITHER COMPENSATE THE OWNER FOR SIMILAR REPLACEMENT OF TREE(S) DESTROYED, OR, REPLACEMENT OF IDENTICAL SIZE AND SPECIES OF TREE REMOVED. FURTHER, ANY ADDITIONAL REQUIREMENTS BY REGULATORY AGENCIES HAVING JURISDICTION OVER SUCH MATTERS WILL BE INCURRED BY THE CONTRACTOR. COMPENSATORY DAMAGES AGAINST THE CONTRACTOR ARE NOT LIMITED IN THIS SITUATION.
14. NO GROUND DISTRUBING ACTIVITIES OE VEHICLE TRAVEL WILL OCCUR WITHIN THE DRIP LINE OF THE EXISTING TREES THAT WILL BE PRESERVED.
15. ANY WELL DISCOVERED DURING LAND CLEARING SHALL BE PROTECTED OR ABANDONED IN ACCORDANCE WITH SJRWMD RULES.

RAM S.V. ALIR P.E. #65583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CORP, FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

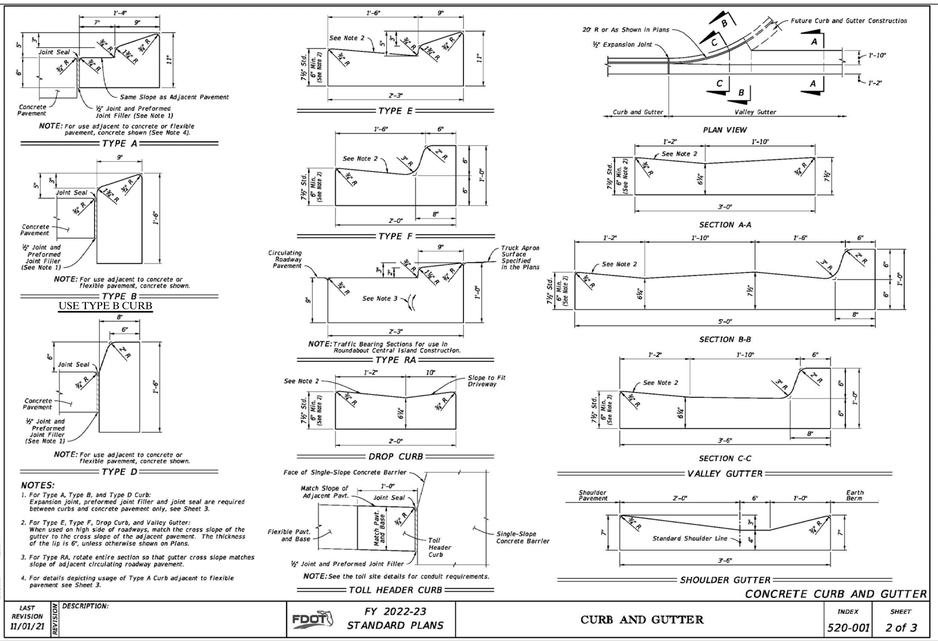
ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #29719 ENGINEERING EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

TWIN'S CARWASH
-FT. PIERCE

SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-9



NOTE: For use adjacent to concrete or flexible pavement, concrete shown (See Note 4).

NOTE: For use adjacent to concrete or flexible pavement, concrete shown.

NOTE: For use adjacent to concrete or flexible pavement, concrete shown.

NOTE: Traffic Bearing Sections for use in Roundabout Central Island Construction.

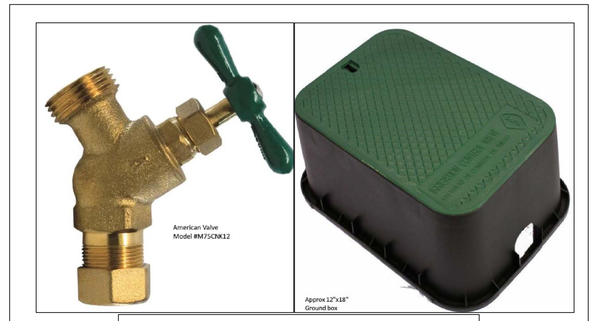
NOTE: See the toll site details for conduit requirements.

NOTES:

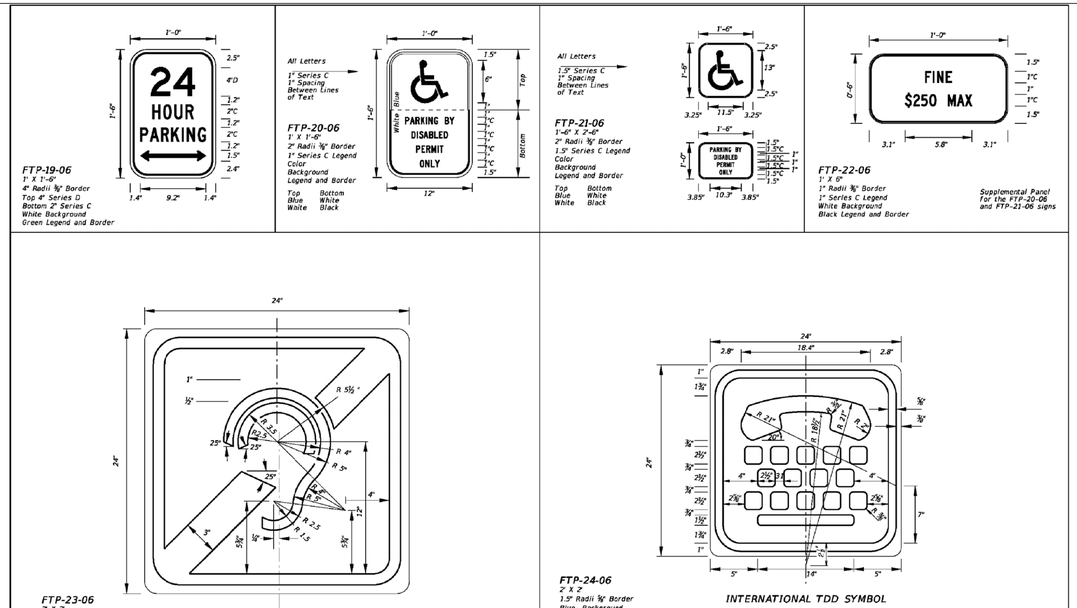
1. For Type A, Type B, and Type D Curb: Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 3.
2. For Type E, Type F, Drop Curb, and Valley Gutter: When used on high side of roadways, match the cross slope of the gutter to the cross slope of the adjacent pavement. The thickness of the lip is 6", unless otherwise shown on Plans.
3. For Type RA, rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.
4. For details depicting usage of Type A Curb adjacent to flexible pavement see Sheet 3.

CONCRETE CURB AND GUTTER

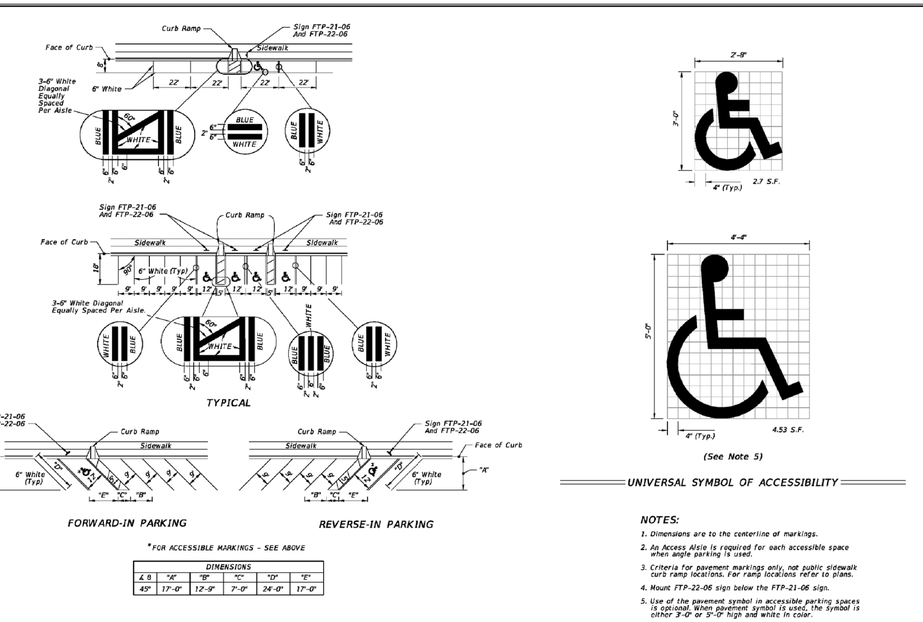
LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 2 of 3



IN-GROUND HOSE-BIB DETAILS



LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	SPECIAL SIGN DETAILS	INDEX 700-102	SHEET 4 of 12



NOTES:

1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Mount FTP-22-06 sign below the FTP-21-06 sign.
5. Use of the pavement symbol in accessible parking spaces is optional. When pavement symbol is used, the symbol is either 3'-0" or 5'-0" high and white in color.

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	PAVEMENT MARKINGS	INDEX 711-001	SHEET 11 of 13

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28139 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

RAM S.V. ALUR P.E. #50583
DATE:

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-10

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. WATER MAINS WHERE SPECIFIED AS POLYVINYL CHLORIDE (PVC) SHALL CONFORM TO AWWA C-900 OR C-905, PRESSURE CLASS 150, DR (18). WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO AWWA C-901 OR C-906, STANDARD CODE DESIGNATION PE3408, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURY, (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER PIPELINES.
3. WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE , SHALL CONFORM TO ANSI/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
4. POLYVINYL CHLORIDE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING ON THE PIPE, ALSO DIP PIPE SHALL REQUIRE THE USE OF IDENTIFICATION TAPE AND THHN WIRE.
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 250 MIN., CEMENT LINED AND FACTORY COATED
6. GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNDY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
7. WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY, COUNTY, FDOT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FDOT ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FDOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
10. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA, AND CITY/ COUNTY/FDOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. TRAFFIC CONTROL, BARRICADES, ETC., SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
12. MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/ COUNTY/FDOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
13. DISTURBED AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
14. EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
15. WATER MAINS SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AWWA C-651 FOR DISINFECTION.

WATER DISTRIBUTION	G-1 NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 2

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
17. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND DISINFECTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING VALVE AND SLEEVE.
19. WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFCATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITES AUTHORITY SPECIFICATIONS.
20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN, FOR TESTING. FOLLOWING TESTING AND STERILIZATION OF WATER LINE, CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S OR ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
22. ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C-600. – 2 HR MINIMUM TEST

$$L = \frac{SD(P)^{1/2}}{148{,}000}$$

L= LEAKAGE IN GPH
S= LENGTH OF PIPE IN FEET
D= PIPE DIAMETER IN INCHES
P= TESTING PRESSURE IN PSI

23. PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN 1st. JOINT OF NEW LINE. END OF MAIN SHOULD BE "TURNED UP" AT 45$ AND EXTENDED SO THAT SWABBING AND A FULL BORE FLUSH CAN BE ACCOMPLISHED. BLOW-OFF ASSY CAN THEN BE PLACED. WHERE LINES BRANCH, SWABS WILL BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABBED AND FLUSHED.
24. A MINIMUM SIX FEET AND PREFERABLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTWATER LINES. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGHTS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
25. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
26. CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WATER DISTRIBUTION	G-1 NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 2 OF 2

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE SDR-26, GREEN OR WHITE IN COLOR, GRAVITY SEWER MAIN SHALL HAVE LOCATOR TAPE WITH "SEWER" MARKED ON TAPE AND SHALL CONFORM TO ASTM D-3034.
3. THE MANHOLE BASE SHALL BE SET ON A FIRM, DRY AND STABLE OR COMPACTED BASE FOUNDATION, IF NECESSARY. THE CONTRACTOR SHALL UTILIZE ROCK TO PROVIDE A FIRM AND SUITABLE MANHOLE BASE FOUNDATION.
4. WASTEWATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY ENGINEERING DEPARTMENT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THEN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
5. A 1% MINIMUM SLOPE SHALL BE MAINTAINED ON ALL SANITARY SERVICE LATERALS.
6. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER CONSISITING OF PIPE SIZES, LOCATION OF SERVICE TEE WYES, DIAMETER OF SERVICES, LOCATION OF ANY FITTINGS, FINAL RIM AND INVERT ELEVATION OF ALL MANHOLES AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT.
7. MAINTAIN SIX FEET AND PREFERABLY 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAINS AND SEWER MAINS AS A MINIMUM.
8. WASTEWATER FORCE MAINS, WASTEWATER COLLECTION LINES, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE PROVIDED WHENEVER POSSIBLE. WHERE THIS MINIMUM CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER PIPE JOINTS ARE EQUIDISTANCE FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
9. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, AND FPUA/CITY COUNTY/FDOT SHALL BE MANDATORY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. NO FIELD CHANGES OR DEVIATIONS FORM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL FPUA/CITY/COUNTY/FDOT ENGINEER,
11. TRAFFIC CONTROL, BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
12. CONTRACTOR SHALL NOTIFY FORT PIERCE UTILITIES AUTHORITY 48 HOURS PRIOR TO COMMMENCING CONSTRUCTION.
13. WASTEWATER FORCE MAIN SHALL BE POLYVINYL CHLORIDE CONFORMING TO AWWA C-900, AND SHALL BE CLASS 150, DR-18.
14. WASTEWATER FORCE MAIN SHALL BE GREEN IN COLOR.
15. FITTINGS SHALL BE DUCTILE IRON, CONFORMING TO ANSI/AWWA C-110/A21.10 CLASS 250 MIN. AND INTERIOR EPOXY COATED.
16. WASTEWATER FORCE MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN WIRE (GREEN IN COLOR) PERMANENTLY ATTACHED TO THE TOP OF THE FORCE MAIN WITH LOCATOR TAPE MARKED "SEWER" ON TAPE IN ACCORDANCE WITH FPUA SPECIFICATIONS.
17. MINIMUM COVER SHALL BE 36 INCHES, PIPES WITH COVER LESS THAN 30 INCHES SHALL REQUIRE PRIOR APPROVAL OF THE UTILITES ENGINEER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.
18. EACH SERVICE LATERAL WILL BE MARKED WITH A LOCATOR BALL AS MANUFACTURED BY 3M CORPORATION, OR APPROVED EQUAL AS REQUIRED BY FPUA ENGINEER.
19. ALL MANHOLES SHALL HAVE SEWER RAIN GUARDS INSTALLED AS REQUIRED BY FPUA ENGINEER.
20. THE CONTRACTOR SHALL COMPLY WITH THE FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WASTEWATER CONSTRUCTION NOTES FPUA REQUIREMENTS	G-2 CONSTRUCTION NOTES
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

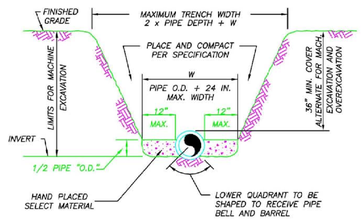
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN.. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT	G-3 WATER/SEWER CONFLICT
02-06 DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

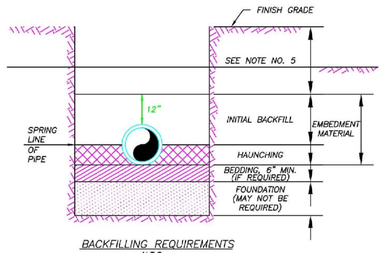


NOTES:

1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

TYPICAL TRENCH DETAIL	M-1
03-09 CONCRETE SLAB SLL JLC DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

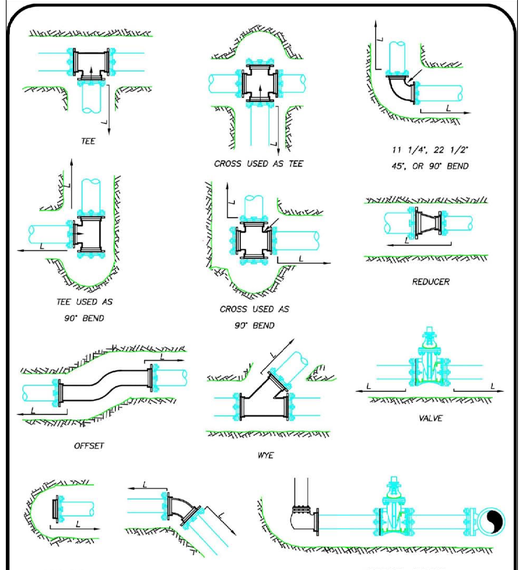


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

BACKFILLING REQUIREMENTS	M-2
03-09 CONCRETE SLAB SLL JLC DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

MECHANICAL JOINT ANCHORING REQUIREMENTS	M-3
03-09 CONCRETE SLAB SLL JLC DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

MECHANICAL JOINT RESTRAINT NOTES

NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.
3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

MECHANICAL JOINT RESTRAINT NOTES	M-4
03-09 CONCRETE SLAB SLL JLC DATE: REVISION: BY: APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

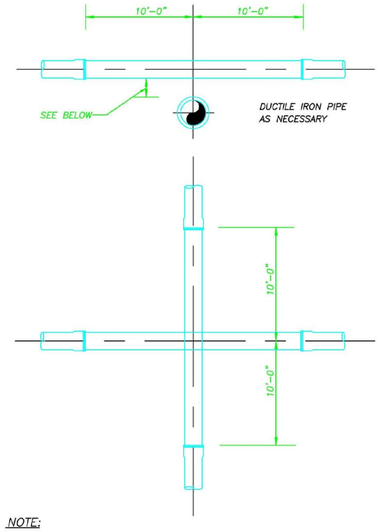
RAM S.V. ALUR P.E. #65583
DATE:

ASPIRE ENGINEERING, INC.
CERTIFICATE OF AUTHORIZATION #28979 EXCELLENCE DELIVERED
CONSULTING ENGINEERS · PLANNERS
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-7753, E-mail: aspireeng@yahoo.com

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22-017
SHEET: C-11

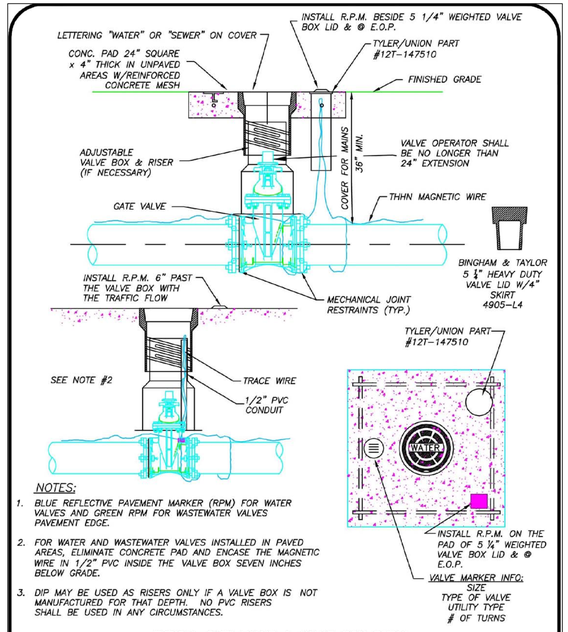


NOTE:

PLEASE REFER TO FORT PIERCE UTILITIES STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS.

UTILITY CROSSING DETAIL
N.T.S.

FPUA COMMUNITY PROUD	UTILITY CROSSING DETAIL	M-5
03-09 CONCRETE SLAB SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

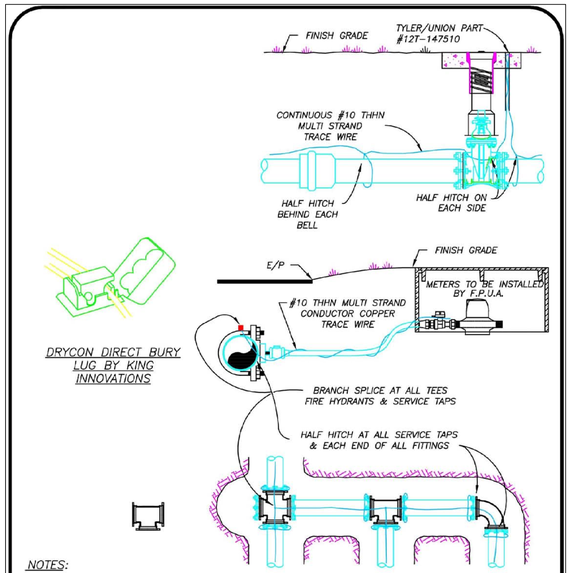


NOTES:

1. BLUE REFLECTIVE PAVEMENT MARKER (RPM) FOR WATER VALVES AND GREEN RPM FOR WASTEWATER VALVES PAVEMENT EDGE.
2. FOR WATER AND WASTEWATER VALVES INSTALLED IN PAVED AREAS, ELIMINATE CONCRETE PAD AND ENCASE THE MAGNETIC WIRE IN 1/2" PVC INSIDE THE VALVE BOX SEVEN INCHES BELOW GRADE.
3. DIP MAY BE USED AS RISERS ONLY IF A VALVE BOX IS NOT MANUFACTURED FOR THAT DEPTH. NO PVC RISERS SHALL BE USED IN ANY CIRCUMSTANCES.

TYPICAL GATE VALVE & VALVE BOX DETAIL
N.T.S.

FPUA COMMUNITY PROUD	TYPICAL GATE VALVE & VALVE BOX DETAIL	M-6
03-09 CONCRETE SLAB SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

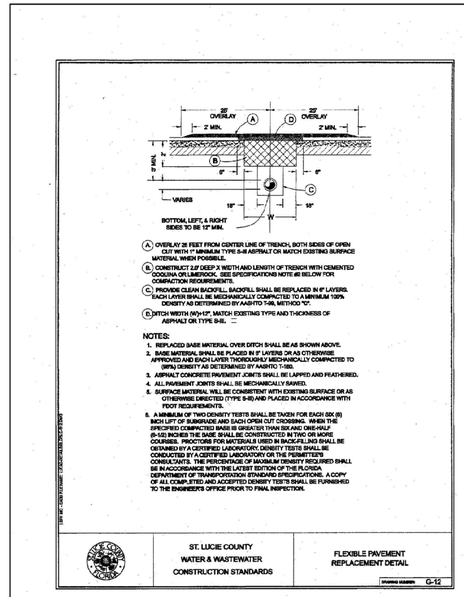


NOTES:

1) TRACE WIRE IS REQUIRED ON ALL PIPE AS NOTED BY UTILITIES ENGINEER AND SHOWN IN STANDARD DETAILS.
2) INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
3) CONTRACTOR IS RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.

TRACE WIRE
(N.T.S.)

FPUA COMMUNITY PROUD	TRACE WIRE DETAIL	M-11
03-02 CONCRETE SLAB SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE:	
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1



(A) OVERLAY 2ft FEET FROM CENTER LINE OF TRENCH, BOTH SIDES OF OPEN CUT WITH 1" MINIMUM TYPE S-III ASPHALT OR MATCH EXISTING SURFACE MATERIAL WHEN POSSIBLE.

(B) CONSTRUCT 2.0' DEEP X WIDTH AND LENGTH OF TRENCH WITH CEMENTED OOLSHA OR LIMEROCK. SEE SPECIFICATIONS NOTE #5 BELOW FOR COMPACTION REQUIREMENTS.

(C) PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 6" LAYERS. EACH LAYER SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-99, METHOD "C".

(D) DITCH WIDTH (W)=12", MATCH EXISTING TYPE AND THICKNESS OF ASPHALT OR TYPE S-III.

NOTES:

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE AS SHOWN ABOVE.
2. BASE MATERIAL SHALL BE PLACED IN 6" LAYERS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO (98%) DENSITY AS DETERMINED BY AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
4. ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
5. SURFACE MATERIAL WILL BE CONSISTENT WITH EXISTING SURFACE OR AS OTHERWISE DIRECTED (TYPE S-III) AND PLACED IN ACCORDANCE WITH FDOT REQUIREMENTS.
6. A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH 500 (E) INCH LIFT OF SUBGRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6-1/2) INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACKFILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY OR THE PERMITTEES CONSULTANTS. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE ENGINEERS OFFICE PRIOR TO FINAL INSPECTION.

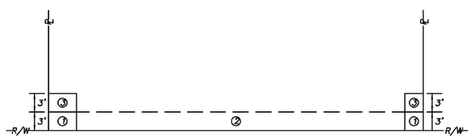
ST. LUCIE COUNTY
WATER & WASTEWATER
CONSTRUCTION STANDARDS

FLEXIBLE PAVEMENT REPLACEMENT DETAIL
STANDARD NUMBER G-12

FORT PIERCE UTILITIES AUTHORITY	FLEXIBLE PAVEMENT REPLACEMENT DETAIL	R-4
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.

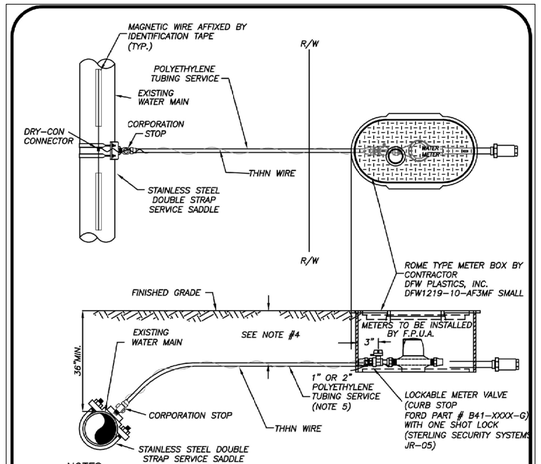


NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, AREA ③ SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② , OR ALONG THE PROPERTY LINES MARKED AREA ⑤.
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.
4. ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WATER METER PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WATER METER PLACEMENT POLICY	W-1
03-09 02-15 SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

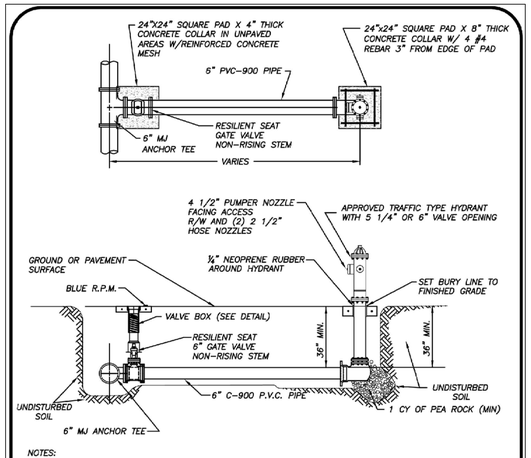


NOTES:

1. BLUE 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE. (CURB STOP)
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".
5. FOR 2" COMMERCIAL SERVICE INSTALLATIONS, FPUA WILL INSTALL ABOVE GROUND METER PER DETAIL W-8.

TYPICAL SINGLE WATER SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL SINGLE WATER SERVICE CONNECTION	W-2
03-09 DESIGN SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2020	SHEET 1 OF 1

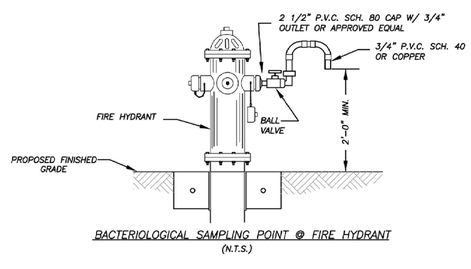


NOTES:

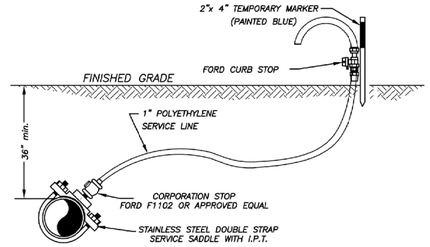
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
2. HYDRANT SHALL BE PAINTED CARNIVAL RED FROM FACTORY.
3. HEEL TO REST IN UNDISTURBED SOIL.
4. THE ONLY HYDRANTS ACCEPTABLE ARE: MUELLER SUPER CENTURION 250 OR AMERICAN DARLING B-84-B-5.
5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO TEE.
6. ALL FITTINGS SHALL BE MECHANICAL JOINT.
7. ENTIRE ASSEMBLY TO BE MECHANICALLY RESTRAINED.
8. BLUE LOCATOR SHALL BE PLACED IN CENTER OF TRAVEL LANE CLOSEST TO HYDRANT.
9. ALL HYDRANT VALVE BOX COVERS SHALL BE PAINTED CARNIVAL RED.
10. LOCATE WIRE SHALL TERMINATE AT HYDRANT ISOLATION VALVE
11. HYDRANTS SHALL BE NO MORE THAN FIFTEEN FEET (15 FT.) FROM THE CURB OF ROADWAYS OR FROM THE EDGE OF PAVEMENT. CLEARANCES OF SEVEN AND ONE HALF FEET (7FT-6IN.) IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANTS, WITH FOUR FOOT (4 FT.) CLEARANCE TO THE REAR OF HYDRANTS SHALL BE MAINTAINED.

TYPICAL FIRE HYDRANT ASSEMBLY
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL FIRE HYDRANT ASSEMBLY	W-5
03-09 DESIGN SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MATERIAL.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT
(N.T.S.)



BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN
(N.T.S.)

NOTE:

AFTER TESTING REMOVE 1" P.E. LINE AND CAP WITH BRASS PLUG AT CORPORATION STOP.

FPUA COMMUNITY PROUD	BACTERIOLOGICAL SAMPLING PONIT DETAIL	W-6
03-09 02-15 SLL JLC	DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATERDETAIL.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #EB#29 CONSULTING ENGINEERS · PLANNERS EXCELLENCE DELIVERED
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571-2850, FAX: (813)571-1753; E-mail: aspireeng@yahoo.com

NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD.	9/6/22
	NSLRWCD & FPUA	

RAM S.V. ALUR P.E. #50583
DATE:

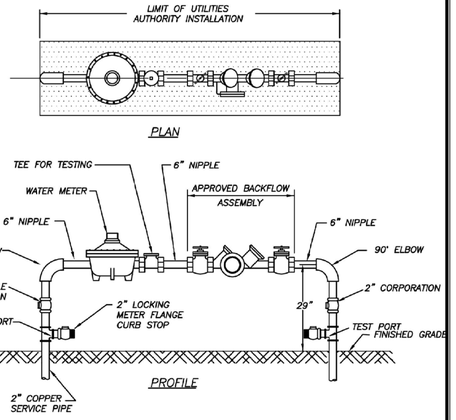
TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE

PROJECT #: 22-017

SHEET:
C-12



NOTES:

1. LANDSCAPING REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 18" AROUND METER OR BACKFLOW. NO SOLDER JOINTS.
2. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.

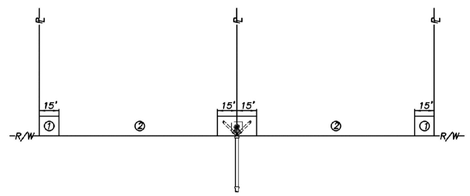
WATER METER/BACKFLOW PREVENTER ASSEMBLY
DOMESTIC SERVICE (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD	WATER METER/BACKFLOW PREVENTER ASSEMBLY–DOMESTIC SERVICES (METER SIZE 2" OR LESS)	W–8
03–08 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY, DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.



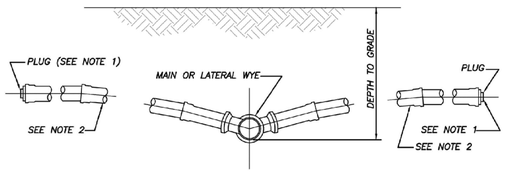
NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. SEWER LATERAL, AREA ①, SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE LATERAL. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO LATERALS CAN BE CONNECTED IN A "Y" CONFIGURATION AS SHOWN.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. SEWER LATERAL, WITHIN AREA ①, THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ②.
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF SIX FEET AND PREFERABLY 10 FEET.
4. THE WASTEWATER LATERAL SHALL BE LOCATED WITHIN RIGHT–OF–WAY AND TERMINATE AT THE PROPERTY LINE.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WASTEWATER LATERAL WITHIN THE EASEMENT OR RIGHT–OF–WAY, UP TO THE POINT OF CONNECTION.

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WASTEWATER SERVICE PLACEMENT POLICY	S–1
02–06 02–15 SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



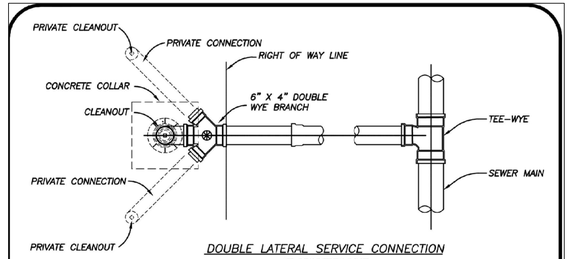
NOTES:

1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S–1 FOR SPECIFIC PROPERTY LAYOUT.

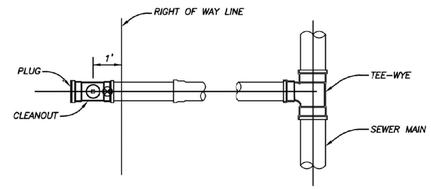
SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S–2
02–06		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

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DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE



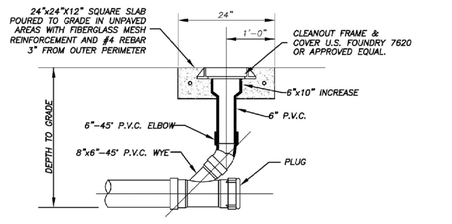
SINGLE SERVICE LATERAL CONNECTION

⊗ = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT
BALL BY 3M CORP. OR APPROVED EQUAL
SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S–3
02–06		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

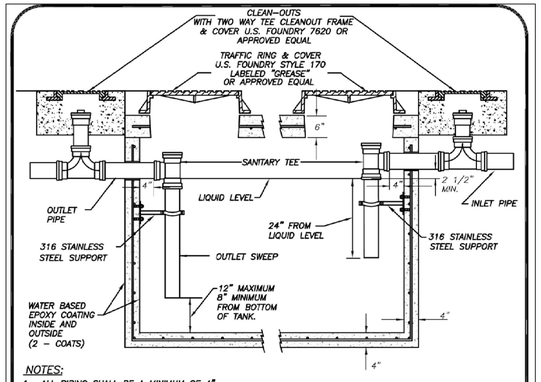
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FT. PIERCE, FLORIDA 34947
772-466-1600



TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD	TERMINAL CLEANOUT DETAIL WASTEWATER	S–4B
10–06 RBC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2016	SHEET 2 OF 3

FT. PIERCE UTILITIES AUTHORITY
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772-466-1600



NOTES:

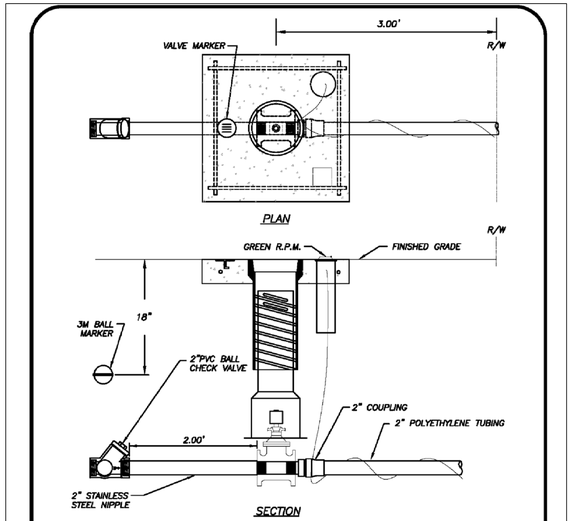
1. ALL PIPING SHALL BE A MINIMUM OF 4".
2. PIPING SHALL BE INSTALLED USING PRESSED–IN BOOTS OR CONCRETE MANHOLE ADAPTERS (ONLY).
3. INLET AND OUTLET TEES MUST BE INSTALLED A MINIMUM OF 4" FROM INSIDE THE STRUCTURE WALLS. ACTUAL DIMENSION SHOULD BE ADJUSTED TO ENSURE THAT AN UNOBSTRUCTED VERTICAL VIEW OF THE TEES CAN BE SEEN THROUGH THE GREASE INTERCEPTOR'S ACCESS OPENINGS.
4. FPUA'S SEWER USE ORDINANCE WILL DICTATE GREASE INTERCEPTOR(S) SIZE. ALL INTERCEPTORS SHALL BE A MINIMUM OF 1,000 GALLONS AND A MAXIMUM OF 1,250 GALLONS.
5. TANK MUST BE TRAFFIC BEARING (SHALL MEET H–20 LOADING REQUIREMENTS).
6. TANK WALLS AND BOTTOM SLAB MUST BE A MINIMUM 4" THICK AND THE TOP SLAB A MINIMUM 6" THICK; ALL WITH #4 REBAR REINFORCEMENT.
7. TANK SEAMS SHALL BE JOINED AND SEALED WITH MINIMUM 1–3/4" "RAM–NEK" SEALER OR EQUIVALENT TO FORM A WATER TIGHT SEAL.
8. ALL INTERNAL AND EXTERNAL CONCRETE SURFACES SHALL RECEIVE 2 COATS OF A WATER BASED EPOXY COATING.
9. GREASE INTERCEPTORS MUST BE INSTALLED ON DRY, STABLE AND UNDISTURBED SOIL. IF THESE CONDITIONS CAN NOT BE MET, EXCAVATION SHALL BE EXTENDED TO SIX INCHES BELOW THE STRUCTURE AND A CUSHION OF 3/4 STONE SHALL BE PROVIDED.
10. PRECAST CONCRETE RINGS SHALL BE UTILIZED FOR RING & COVER ADJUSTMENTS.

SPECIAL NOTE: IF INTERCEPTOR IS REPLACING AN EXISTING INTERCEPTOR THAT WILL BE ABANDONED IN PLACE, PERFORM THE FOLLOWING: (1) STRUCTURE MUST BE PRESSURE WASHED TO ENSURE ALL GREASE AND FOREIGN MATERIAL IS REMOVED, (2) REMOVE PORTION OF STRUCTURE WITHIN 3 FEET OF FINISH GRADE AND (3) INSTALL A MINIMUM 6 INCH DIAMETER HOLE IN THE BOTTOM SLAB OF THE STRUCTURE.

STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTORS (N.T.S.)

FPUA COMMUNITY PROUD	STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTORS	S–14
2016 LABEL UPDATE SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2016	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
WATER/WASTEWATER ENGINEERING
1701 SOUTH 25TH STREET
FT. PIERCE, FLORIDA 34947
772-466-1600



NOTES:

1. FORCE MAIN CONNECTION SHALL CONSIST OF A 2" TAPPING SADDLE, 2" STAINLESS STEEL NIPPLE AND 2" THREADED RESILIENT SEAT GATE VALVE
2. GREEN 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
3. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

FPUA COMMUNITY PROUD	GRINDER STATION CONNECTION	S–16
03–08 DESIGN SLL JLC		
DATE: REVISION: BY: APPD:		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE #	
DRAWN BY: SLL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY
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FT. PIERCE, FLORIDA 34947
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RAM S.V. ALIR P.E. #65583
DATE:

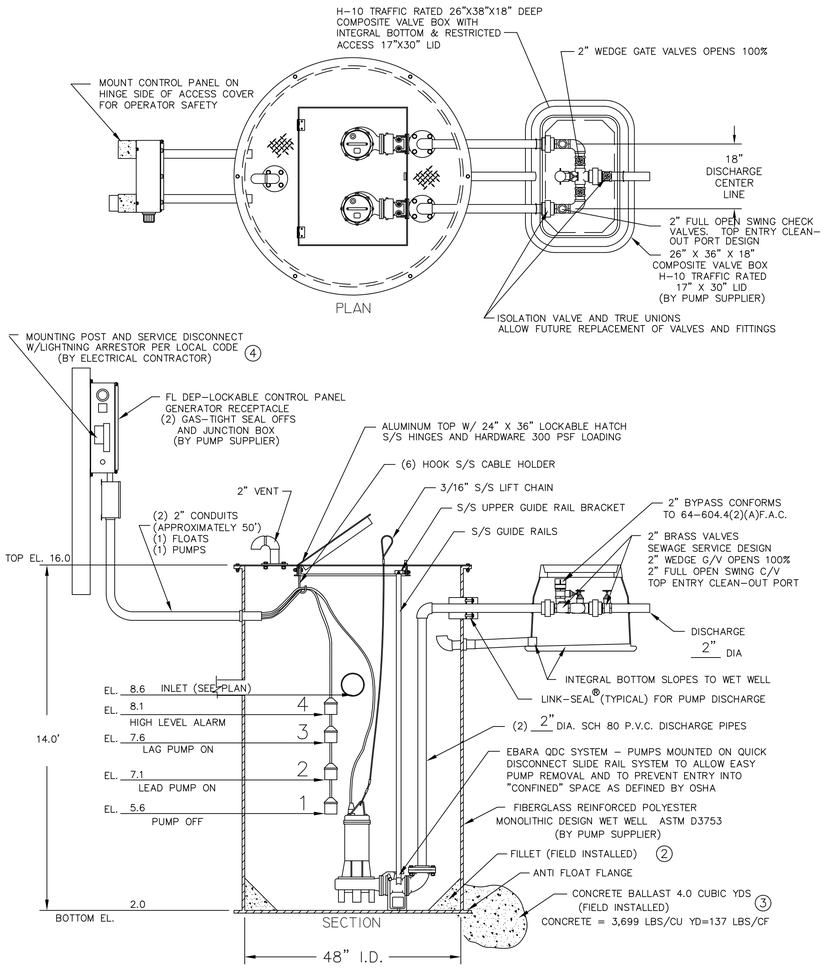
NO.	REVISIONS	DATE:
	SUBMIT TO CORP., FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28979 CONSULTING ENGINEERS · PLANNERS EXCELLENCE DELIVERED
1023 PROFESSIONAL PARK DR., BRANDON, FL 33511
TEL: (813)571–2850, FAX: (813)571–1753; E–mail: aspireeng@yahoo.com

TWIN'S CARWASH
-FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E.
CITY OF FT. PIERCE, FLORIDA

SITE DETAILS

DATE: 08/25/2022
DESIGNED BY: RA
DRAWN BY: RA
CHECKED BY: RA
FILE NAME: 22017SITE
PROJECT #: 22–017
SHEET: C–13



48" DUPLEX STATION - 2" PIPING WITH SLIDE RAIL SYSTEM, V.B. AND F.D.E.P. PANEL

4. MOUNTING POST, SERVICE DISCONNECT AND LIGHTING ARRESTOR PER LOCAL CODE
3. CONCRETE BALLAST AS REQUIRED
2. GROUT FILLET (1 TO 1 SLOPE TO "HOPPER" BOTTOM)

FIELD INSTALL BY CONTRACTOR

GENERAL NOTES

FURNISH AND INSTALL EBARA SUBMERSIBLE GRINDER PUMPS:

DESIGN CONDITION:

MODEL	EBARA 50 DGF	5	HP
GPM	91 GPM @ 87 FT &	94 GPM @ 45 FT	FT/TDH
VOLTAGE	480	THREE	PHASE
DISCHARGE	2"	162 MM	IMPELLER

SEWAGE PUMP: 1. RATED FOR TWENTY (20) STARTS PER HOUR.

2. AIR FILLED MOTOR DESIGNED FOR SEWAGE APPLICATION WITH CLASS F INSULATION.
3. DUAL MECHANICAL SHAFT SEALS (SILICON CARBIDE / SILICON CARBIDE) LOCATED OUT OF THE PUMPAGE, IN A SEPARATE OIL FILLED CHAMBER.
4. HIGH TEMPERATURE BALL BEARINGS B-10 RATING OF 60,000 HOURS, UPPER BEARING - SINGLE ROW AND LOWER BEARINGS - DOUBLE ROW TYPE.
5. PUMP SHAFT HORSEPOWER (BHP) SHALL NOT EXCEED MOTOR RATED HORSEPOWER THROUGHOUT THE ENTIRE OPERATING RANGE OF THE PUMP PERFORMANCE CURVE.
6. SINGLE PHASE MOTORS SHALL BE DUAL WOUND, CAPACITOR START-RUN AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260). THREE PHASE MOTORS SHALL BE DUAL WOUND AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260) OR OPERATE ON 460 VOLT BY CHANGING THE MOTOR LEADS INSIDE THE PUMP.

FIBERGLASS WET WELL: SHALL BE A ONE PIECE UNIT WITH INTEGRAL BOTTOM, WALL AND UPPER FLANGE. THE ENTIRE FIBERGLASS WET WELL SHALL HAVE A DYNAMIC LOAD RATING OF 16,000 FT/LBS. EACH UNIT MUST BE SERIAL NUMBERED TO IDENTIFY THE TEST PROCEDURE. ASTM D 3753 SPECIFICATIONS SHALL BE REQUIRED AS MINIMUM.

ALUMINUM HATCH: TSC MODEL-54R (54") ROUND WITH 24" X 36" LOCKABLE HATCH, REINFORCED FOR LOAD RATING OF 300 LBS/FT WITH HOLD OPEN SAFETY ARM, LOCKING DEVICE FOR HASP TYPE PADLOCK AND STAINLESS STEEL HARDWARE.

VALVE BOX: FIBERGLASS COMPOSITE (H-10 TRAFFIC RATED) WITH INTEGRAL BOTTOM. (FOR 1 1/4" AND 2" DISCHARGE PIPING SXS HEADER SYSTEM) SHALL BE 26" X 36" X 18" WITH 17" X 30" LIMITED ACCESS LID

ACCESSORIES: #304 S/S - GUIDE RAILS, UPPER GUIDE RAIL BRACKETS, CABLE HOLDER, ANCHOR BOLTS AND PUMP LIFTING CHAINS.

VALVES : SHALL BE SEWAGE SERVICE DESIGN BRASS SWING CHECK VALVES WITH TOP ENTRY CLEAN-OUT PORT AND BRASS WEDGE GATE VALVES OPEN 100%.

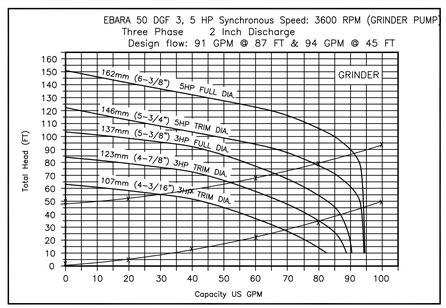
PIPING: 2" SCHEDULE 80 PVC.

FLOAT SWITCHES: UL LISTED SJ ELECTRO MODEL (SJ 30 SWENO).

PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, CONTROL PANEL, JUNCTION BOX, FLOAT SWITCHES, ALUMINUM HATCH AND ACCESSORIES TO INSURE PROPER OPERATION AND WARRANTY.

THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, SLIDE RAIL ASSEMBLIES AND DISCHARGE PIPING ASSEMBLED BY TECHNICAL SALES CORPORATION READY TO SHIP FOR FIELD INSTALLATION.

THE STOCKING DISTRIBUTOR FOR EBARA SUBMERSIBLE PUMPS: TECHNICAL SALES CORPORATION, 4621 N. HALE AVE TAMPA, FL 33614 (813)876-9256



PUMP PERFORMANCE CURVE

IN CASE OF EMERGENCY CONTACT:
DAN BRAINARD KING
813-649-9561

SIGN NOTES:
MIN. LETTER SIZE: 2"

SIGN DETAILS

CONTROL PANEL -SHALL CONFORM TO FL DEP 64-604.42(A)

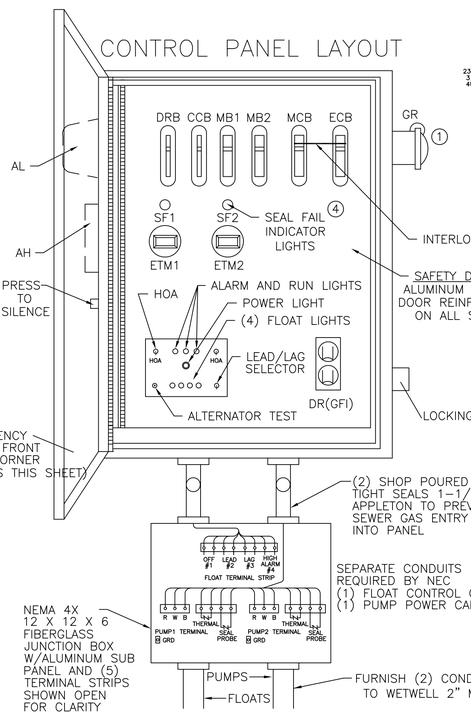
CONTROL PANEL SHALL BE TSC MODEL # 38-D IN NEMA 4X FIBERGLASS ENCLOSURE. THE PANEL SHALL MEET STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP), ENVIRONMENTAL PROTECTION COMMISSION (EPC) AND LOCAL CODE REQUIREMENTS GOVERNING PRIVATE LIFT STATIONS.

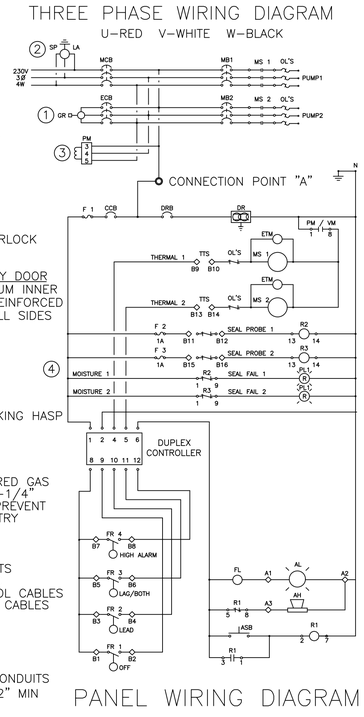
FLOAT SWITCHES AND CONTROL SYSTEM SHALL BE UL LISTED AND INTRINSICALLY SAFE. ALL COMPONENTS SHALL BE UL LISTED.

A JUNCTION BOX IS REQUIRED, WITH SHOP POURED SEALS BETWEEN BOX AND CONTROL PANEL TO PREVENT SEWER GAS ENTRY INTO CONTROL PANEL.

ELECTRICAL CONTRACTOR TO PROVIDE SERVICE DISCONNECT WITH LIGHTNING ARRESTOR MOUNTED PER LOCAL CODES.

THE CONTROL PANEL SHALL BE SUITABLY INSTALLED TO PREVENT SETTLING OR TIPPING.





PANEL WIRING DIAGRAM

LEGEND

	AH	ALARM HORN
	AL	ALARM LIGHT
	ASB	ALARM SILENCE BUTTON
	ATS	ALTERNATOR TEST SWITCH
	CCB	CONTROL CIRCUIT BREAKER
	DR	DUPLEX RECEPTACLE
	DRB	DUPLEX RECEPTACLE BREAKER
	ECB	EMERGENCY CIRCUIT BREAKER
	ETM	ELAPSED TIME METER
	F	FUSE
	FL	FLASHER
	FS	FLOAT SWITCH (REGULATOR)
1	GR	GENERATOR RECEPTACLE
	GRD	GROUND
	HOA	HAND-OFF-AUTOMATIC SELECTOR
	LA	LIGHTNING ARRESTOR
	MB	MOTOR BREAKER
	MCB	MAIN CIRCUIT BREAKER
	MS	MOTOR STARTER
	N	NEUTRAL
	OL'S	OVERLOAD HEATERS
3	PM	PHASE MONITOR
	PTS	PUMP TERMINAL STRIP
	R	RELAY
	RC	RUN CAPACITOR
	RD	DISCHARGE RESISTOR
	RL	PUMP RUN INDICATORS
	RTS	REGULATOR TERMINAL STRIP
	SC	START CAPACITOR
	SF	SEAL FAIL
	SR	START RELAY
2	SP	SURGE PROTECTOR
	TTS	THERMAL TERMINAL STRIP

PANELS SHALL CONFORM TO FLORIDA DEP 64-604.400

1. GENERATOR RECEPTACLE FOR EMERGENCY POWER CONNECTION WITH INTERLOCK
2. SURGE PROTECTION AND LIGHTNING PROTECTION ON ALL INCOMING LEGS
3. PHASE PROTECTION SHALL BE PROVIDED
4. SEAL FAIL DETECTING

PANEL MANUFACTURER SHALL BE A "UL" LISTED SHOP.

EBARA DUPLEX GRINDER PUMP STATION
FIBERGLASS WET WELL

TECHNICAL SALES CORPORATION
TSC PRE-FAB PUMP SOLUTIONS©
WATERWORKS & WASTEWATER SPECIALTIES
Representing Innovative Manufacturers
MODEL TSC2-40.1©
4621 N. HALE AVENUE PH (813)876-9256
TAMPA, FL 33614 FAX (813)874-1194
EMAIL: Sales@TSCTampa.com
REV 0102 SCALE: N.T.S.

RAM S.V. ALIR P.E. #50583
DATE:

NO.	REVISIONS	DATE:
	SUBMIT TO CONF. FDOT, SFWMD, NSLRWCD & FPUA	9/6/22

ASPIRE ENGINEERING, INC.
CERTIFICATION OF AUTHORIZATION #28990 EXCELLENCE DELIVERED
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TEL: (813)571-2850, FAX: (813)571-7753, E-mail: capreeng@yahoo.com

TWIN'S CARWASH -FT. PIERCE
SECTION 03, TOWNSHIP 36 S., RANGE 43 E. CITY OF FT. PIERCE, FLORIDA

LIFT STATION DETAILS

DATE:	08/25/2022
DESIGNED BY:	RA
DRAWN BY:	RA
CHECKED BY:	RA
FILE NAME:	22017SITE
PROJECT #:	22-017
SHEET:	C-14

FORT PIERCE, FL



SOFARELLI & ASSOCIATES ARCHITECTURE

FORT PIERCE, FL



SAVA
SOFARELLI & ASSOCIATES ARCHITECTURE

FORT PIERCE, FL



SAVA
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SAA
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FORT PIERCE, FL



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