



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
COCOA REGULATORY OFFICE  
400 HIGH POINT DRIVE, SUITE 600  
COCOA, FLORIDA 32926

March 3, 2020

Regulatory Division  
North Permits Branch  
Cocoa Permits Section

## ***PUBLIC NOTICE***

Permit Application Number SAJ-2019-00635 (SP-BJC)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) as described below:

APPLICANT: EastGroup Properties, LP  
Attn: Mr. Ben Rogers  
400 W. Parkway Place, Suite 100  
Ridgeland, Mississippi, 39157

WATERWAY AND LOCATION: The ±121 acre Horizon West Commercial Park project would affect waters of the United States associated with the Kissimmee hydrologic subbasin. This site is located on the east/northeast side of the Sinclair Road and N. Old Lake Wilson Road intersection; within Section 23; Township 25 South; Range 27 East; in Kissimmee, Osceola County, Florida.

Directions to the site are as follows: From the Cocoa Permits Section, proceed west on FL-528 to Interstate 4. Take I-4 west to SR 429. Take SR 429 north to Sinclair Road. Take Sinclair Road east to N. Old Lake Wilson Road and the project will be on the east side of N. Old Lake Wilson Road.

APPROXIMATE CENTRAL COORDINATES:

Latitude: 28.299305°

Longitude: -81.586566°

PROJECT PURPOSE:

Basic: Commercial industrial park

Overall: Construction of a commercial industrial park with the Osceola County Horizons West Sector Plan.

EXISTING CONDITIONS: On-site land use types/vegetative communities were identified utilizing the Florida Land Use, Cover and Forms Classification System, Level III (FLUCCS, FDOT, 1999). The on-site upland land use types/vegetative communities include:

## **Uplands:**

### **411 Coniferous Plantations**

The majority of the site is most consistent with the Coniferous Plantations (411) FLUCFCS classification. The vegetative species identified within this community consists of slash pine (*Pinus elliotti*), black cherry (*Prunus serotina*), citrus (*Citrus sp.*), persimmon (*Diospyros virginiana*), laurel oak (*Quercus laurifolia*), live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), passion flower (*Passiflora incarnata*), pricklypear (*Opuntia humifusa*), fingergrass (*Eustachys perraea*), guineagrass (*Urochloa maxima*), caesarweed (*Urena lobata*), cogongrass (*Imperata cylindrica*), skyblue lupine (*Lupinus diffusus*), ragweed (*Ambrosia artemisiifolia*), winged sumac (*Rhus copallinum*), dog fennel (*Eupatorium capillifolium*), greenbrier (*Smilax sp.*), muscadine grapevine (*Vitis rotundifolia*), and beautyberry (*Callicarpa americana*).

### **740 Disturbed Lands**

The southeastern quarter and the far southwestern corner of the property are best described as Disturbed Lands (740). There is a large spoil pile located in the southeastern corner of the property. Vegetatively this community type is comprised of Bahia grass (*Paspalum notatum*), guineagrass (*Urochloa maxima*), cogongrass (*Imperata cylindrica*), air potato (*Dioscorea bulbifera*), beautyberry (*Callicarpa americana*), muscadine grapevine (*Vitis rotundifolia*), dog fennel (*Eupatorium capillifolium*), Brazilian pepper (*Schinus terebinthifolia*), Chinaberry (*Melia axedarach*), cabbage palm (*Sabal palmetto*), saltbush (*Atriplex pentandra*), rose natalgrass (*Melinis repens*), and Virginia creeper (*Parthenocissus quinquefolia*).

### **832 Electrical Power Transmission Lines**

The center of the site has a road and power transmission lines that lead to a power station immediately east of the subject parcel. This area is classified as Electrical Power Transmission Lines (832). Vegetation includes cogongrass (*Imperata cylindrica*), elderberry (*Sambucus nigra*), bahia grass (*Paspalum notatum*), rose natalgrass (*Melinis repens*) and Carolina willow (*Salix caroliniana*).

## **Wetlands:**

### **530 Reservoirs**

The property has one (1) small pond that is best classified as Reservoirs (530) on the southern boundary. The pond is predominantly open water, but vegetation within the ponds includes cattail (*Typha sp.*), duckweed (*Landoltia punctata*), sweetgum (*Liquidambar styraciflua*), maidencane (*Panicum hemitomon*), torpedo (*Panicum repens*), spatterdock (*Nuphar advena*), cabbage palm (*Sabal palmetto*), water oak (*Quercus nigra*), and wax myrtle (*Morella cerifera*).

### **615 Streams and Lakes Swamps**

The property has two (2) areas that are best classified as Streams and Lake Swamps (615). Vegetation within these two system include swamp bay (*Persea palustris*), water oak (*Quercus nigra*), cabbage palm (*Sabal palmetto*), pond pine (*Pinus serotina*), sweetgum (*Liquidambar styraciflua*), dahoon holly (*Ilex cassine*), saw palmetto (*Serenoa repens*), Virginia chain fern (*Woodwardia virginica*), air potato (*Dioscorea*

*bulbifera*), red maple (*Acer rubrum*), muscadine grapevine (*Vitis rotundifolia*), and old world climbing fern (*Lygodium microphyllum*).

#### **641 Freshwater Marshes**

The northern portion of the site contains a Freshwater Marsh (641). Vegetation within this system includes maidencane (*Panicum hemitomon*), muscadine grapevine (*Vitis rotundifolia*), buttonbush (*Cephalanthus occidentalis*), beautyberry (*Callicarpa americana*), way myrtle (*Morella cerifera*), red maple (*Acer rubrum*), arrowhead (*Sagittaria latifolia*), Carolina redroot (*Lachnanthes carolina*), slash pine (*Pinus elliotti*), dotted smartweed (*Persicaria punctata*), softrush (*Juncus effusus*), Carolina willow (*Salix caroliniana*), and Peruvian primrosewillow (*Ludwigia peruviana*).

**PROPOSED WORK:** The applicant seeks the authorization of fill in 7.09 acres of waters of the United States for commercial development on the ± 121 acre Horizon West Commercial Park

**AVOIDANCE AND MINIMIZATION INFORMATION:** The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

“From a planning perspective of the surrounding areas, those lands to the immediate south and west are predominantly residential development; those to the north are associated with an old golf course; and those to the east are associated with the Diversified C&D Landfill, wetlands contiguous with Reedy Creek and Interstate 4.

Current and historic aerials reviewed for the general vicinity of the proposed Horizon West Commercial Park project site show the majority of the land area as agricultural lands, much as it has been dating back to the 1940's. From the late 1940's to the mid-1950's the property appears to have been utilized as improved pasture. Sometime in the mid- to late-1950's, the property was converted to citrus grove; with the exception of a small portion of the central-eastern uplands that would later be associated with the Diversified C&D Landfill. The property was utilized as citrus grove through the late 1980's when the citrus was most likely killed off by the freezes of 1984 and 1988. It should also be noted that it appears the operation of the landfill had started by the mid-1980's. Sometime in the mid- to late-1990's the property was cleared and converted to the currently utilization of a pine plantation. Also, you begin to see the beginnings of residential development in the area. By the mid-2000's it appears that the landfill had ceased operations. No real changes to the property have occurred since its conversion to pine plantation. The majority of the residential development to the south and southeast appears to have been constructed around 2015.

In an effort to bring higher quality commercial development to this area of Osceola County, the County has expressed support of development along this portion of N. Old Lake Wilson Road. As such, the proposed Horizon West Commercial Park project site is the best candidate site for the type of development. This notion is based on the site's

location, current zoning, future land uses, presence of utilities, current ownership, and minimized impacts to higher quality on-site wetlands/surface waters.”

COMPENSATORY MITIGATION: The applicant has offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment:

“Mitigation to offset the functional losses incurred via the project’s 7.09 acres of direct wetland impact will consist of the purchase of mitigation credits from Reedy Creek Mitigation Bank. As detailed in the attached M-WRAP, the above described 7.09 acres of direct wetland impact account for a total of 4.81 units of functional loss (FL). In order to offset these losses, a total of 4.81 federal mitigation bank credits (M-WRAP) are to be purchased from the RCMB.”

CULTURAL RESOURCES:

The applicant provided the Corps with a cultural resources assessment survey (CRAS) to identify and evaluate cultural resources within the proposed permit area. After review, the Corps will make an effect determination and initiate consultation with the State Historic Preservation Office and those federally recognized tribes with concerns in Florida and the Permit Area, and the Advisory Council on Historic Preservation as applicable pursuant to 33 CFR 325, Appendix C and Section 106 of the National Historic Preservation Act, by separate letter.

ENDANGERED SPECIES: The Corps has completed preliminary federally listed species affect determinations which include the following:

The Corps has determined the proposed project “may affect” the Eastern Indigo Snake. Based on the *South Florida Ecological Services Eastern Indigo Snake Effect Determination Key* (dated August 1, 2017, revise July 2017), the Corps determination sequence is as follows: A (The project is not located in open water or salt marsh.) > B (The permit will be conditioned for use of the Service’s standard Protection Measures for the Eastern Indigo snake during site preparation and construction) > C (The project will impact 25 acres or more of eastern indigo snake habitat) = May Affect. The Corps will initiate formal consultation with FWS.

The Corps has determined the proposed project “may affect, but is not likely to adversely affect” the Wood Stork and its designated critical habitat. The Corps completed an evaluation of the project based upon the US Fish and Wildlife Service (FWS) *South Florida Ecological Services Field Offices Programmatic Concurrence for use with the Wood Stork* (January 2010). Use of the Key for Wood Stork resulted in the following sequential determination: A (The project is more than 0.47 miles from a colony site.) > B (Project impacts SFH > 0.5 acres) > C (Project impacts to SFH within a Core Foraging Area of a colony site) > d (Project impacts to SFH have been avoided and minimized to the extent practicable, and compensation (Service approved mitigation bank or as provided in accordance with Mitigation Rule 33 CFR Part 332) for unavoidable impacts is proposed in accordance with the CWA section 404 (b)(1) guidelines and habitat compensation replaces the foraging value matching the hydroperiod of the wetlands affected and provides foraging value similar to, or higher



than, that of impacted wetlands) = “not likely to adversely affect” for wood storks. The Corps has FWS concurrence for the proposed activities through the use of the aforementioned determination key.

The Corps has determined the proposed project “may affect, but is not likely to adversely affect” sand skink (*Neoseps reynoldsi*) or blue-tailed mole skink (*Eumeces egregius lividus*). The project site has suitable habitat with skink soils occurring at elevations above 82 feet. The applicant provided the results of a coverboard survey which followed the U.S. Fish and Wildlife Service’s Sand and Bluetail Mole Skink Conservation Guidelines (April 4, 2012). Approximately 700 (2’x2’) coverboards were distributed in suitable sand skink habitat (i.e., open sandy areas) found within the property starting on April 3, 2019 and ending on May 5, 2019. No skinks were observed during the survey. The Corps is seeking concurrence on this determination.

Pursuant to interim guidance provided by the USFWS in an email dated November 22, 2019 from the USFWS State Supervisor (subject: *Approved distances for consultations involving indigo snakes*) the USFWS has identified interim guidance on how to determine when an eastern indigo snake is reasonably certain to occur. The distance assigned for areas south of the frost line is 0.62 miles from a known occurrence location. In this case the closest known occurrence is approximately 6.09 miles from the project site, and therefore falls outside the zone of reasonable occurrence. The Corps will include the requirement to follow the “Standard Protection Measures for the Eastern Indigo Snake” as a special condition of the permit. Pursuant to the interim guidance, no further consultation is required. The Corps is seeking concurrence on this determination.

Based on existing habitat types, the Corps preliminarily determined the project will have no effect on: Audubon’s Crested Caracara (*Caracara plancus audubonii*), Everglades Snail Kite (*Rostrhamus sociabilis plumbeus*), red-cockaded woodpecker (*Leuconotopicus borealis*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), and Florida scrub jay (*Aphelocoma coerulescens*).

ESSENTIAL FISH HABITAT (EFH): This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 7.09 acres of freshwater wetlands and surface waters which ultimately discharge to the Kissimmee River. Our initial determination is that the proposed action would not have a substantial adverse impact on downstream EFH or Federally managed fisheries. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service (NMFS).

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The jurisdictional line has not been verified by Corps personnel.

AUTHORIZATION FROM OTHER AGENCIES: Water Quality Certification will be required from the South Florida Water Management District.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Cocoa Permits Section, 400 High Point Drive, Suite 600, Cocoa, Florida 32926, within **21** days from the date of this notice.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

QUESTIONS concerning this application should be directed to the project manager, Brandon J. Conroy, in writing at the Cocoa Permits Section (address above), by electronic mail at [brandon.j.conroy@usace.army.mil](mailto:brandon.j.conroy@usace.army.mil) or by telephone at (321) 504-3771 x11.

IMPACT ON NATURAL RESOURCES: Coordination with FWS, EPA, the NMFS, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area.

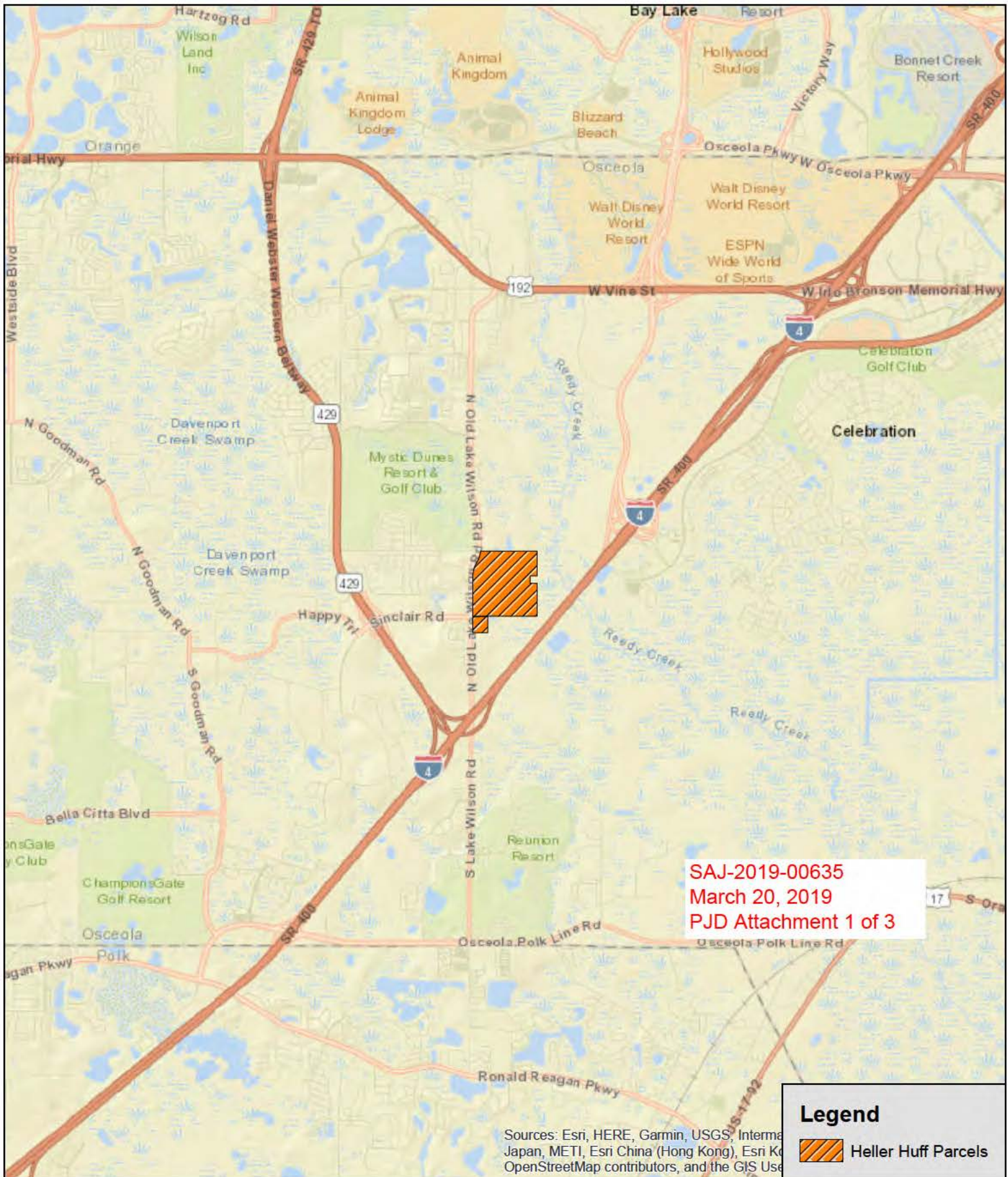
EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act or the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this determination, comments are used to assess impacts to endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

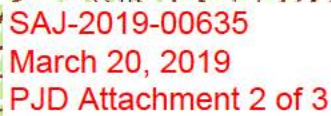
COASTAL ZONE MANAGEMENT CONSISTENCY: In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.



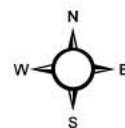




 Heller Huff Parcels

Feet

Date: 5/10/2018







ACOE	Label	Acres
Jurisdictional	W-1B	7.53
Jurisdictional	SW-1	0.29
Jurisdictional	W-1A	10.96
Non-Jurisdictional	W-2A	2.21
Non-Jurisdictional	W-2B	0.85
Jurisdictional	W-1C	3.69
Jurisdictional	SW-2	0.29

**Legend**

Heller Huff Parcels (± 161.18 Acres)

ACOE

Jurisdictional

Non-Jurisdictional





DATE	REVISIONS			BY	CHECKED

HORIZON WEST COMMERCIAL PARK



5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

WETLAND IMPACT EXHIBIT

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO. 18-097
SCALE 1"=200'
DATE SEPTEMBER 16, 2019
SHEET NO. C-1
SHEET 1 OF 1

FLORIDA ENGINEERING GROUP, INC. CERTIFICATE NO. EB-0006595
SAM J. SEBAULL, P.E. LICENSE NO. 42075

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



# MASTER DEVELOPMENT PLAN HORIZON WEST COMMERCIAL PARK OSCEOLA COUNTY, FLORIDA

PARCEL I.D. No. 23-25-27-3160-000B-0110  
A PORTION OF PARCEL I.D. No. 23-25-27-3160-000B-0030  
A PORTION OF PARCEL I.D. No. 23-25-27-3160-000B-0035  
A PORTION OF PARCEL I.D. No. 23-25-27-0000-0020-0000

**OWNER:** GP LIMITED PARTNERSHIP  
7575 DR. PHILLIPS BOULEVARD, SUITE 260  
ORLANDO, FL 32819  
PHONE: (407) 363-7883  
FAX: (407) 363-1640

**OWNER:** GP SPE, LLC  
7575 DR. PHILLIPS BOULEVARD, SUITE 260  
ORLANDO, FL 32819  
PHONE: (407) 363-7883  
FAX: (407) 363-1640

**APPLICANT:** EASTGROUP PROPERTIES, L.P.  
2966 COMMERCE PARK DRIVE, SUITE 450  
ORLANDO, FL 32819  
PHONE: (407) 284-6535

**GEOTECHNICAL:** ECS FLORIDA, LLC  
2815 DIRECTORS ROW, SUITE 500  
ORLANDO, FL 32809  
PHONE: (407) 859-8378

**SURVEYOR:** DONALD W. MCINTOSH ASSOCIATES, INC.  
2200 PARK AVENUE NORTH  
WINTER PARK, FL 32789  
PHONE: (407) 644-4068

## UTILITY COMPANIES

<b>WATER:</b>	(407) 572-7472	TOHO WATER AUTHORITY, ZONE 1
	(407) 647-7275	ENTERPRISE COMMUNITY DEV. DISTRICT
<b>SEWER:</b>	(407) 572-7472	TOHO WATER AUTHORITY, ZONE 1
	(407) 647-7275	ENTERPRISE COMMUNITY DEV. DISTRICT
<b>ELECTRIC:</b>	(407) 905-3376	DUKE ENERGY
<b>TELEPHONE/FIBER:</b>	(850) 599-1444	CENTURYLINK
	(407) 532-8509	CHARTER COMMUNICATIONS
	(407) 996-1183	SUMMIT BROADBAND
	(407) 828-6648	SMART CITY TELECOM
	(727) 820-5208	DUKE ENERGY
	(407) 742-7534	OSCEOLA COUNTY TRAFFIC
	(407) 532-8509	CHARTER COMMUNICATIONS
<b>CABLE:</b>	(813) 275-3783	TECO PEOPLES GAS - ORLANDO
<b>GAS:</b>	(501) 920-6698	SPECTRA ENERGY - SABAL TRAIL
<b>LIGHTING:</b>	(407) 434-2569	ORLANDO UTILITIES COMMISSION
<b>TRAFFIC LIGHTS:</b>	(407) 742-7534	OSCEOLA COUNTY TRAFFIC

## SITE VICINITY MAP



NOT TO SCALE

## SITE NOTE:

ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

## PLAN INDEX

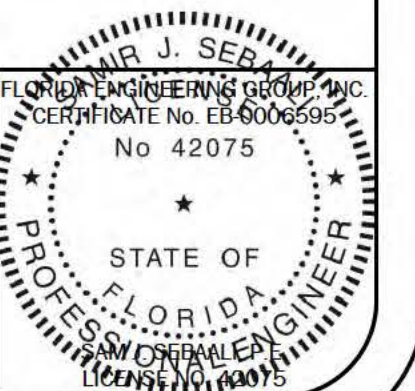
- C-1 COVER SHEET
- C-2A BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY (1 OF 2)
- C-2B BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY (2 OF 2)
- C-3 LEGEND, NOTES AND SPECIFICATIONS
- C-4A SITE EROSION CONTROL AND POLLUTION PREVENTION PLAN (1 OF 2)
- C-4B SITE EROSION CONTROL AND POLLUTION PREVENTION PLAN (2 OF 2)
- C-4C SITE EROSION CONTROL AND POLLUTION PREVENTION NOTES
- C-5 OVERALL MASTER SITE PLAN
- C-5A MASTER SITE PLAN (1 OF 2)
- C-5B MASTER SITE PLAN (2 OF 2)
- C-5C MASTER SITE NOTES
- C-6A MASTER GRADING AND DRAINAGE PLAN (1 OF 2)
- C-6B MASTER GRADING AND DRAINAGE PLAN (2 OF 2)
- C-6C MASTER GRADING AND DRAINAGE NOTES (1 OF 3)
- C-6D MASTER GRADING AND DRAINAGE NOTES (2 OF 3)
- C-6E MASTER GRADING AND DRAINAGE NOTES (3 OF 3)
- C-7A CONCEPTUAL MASTER UTILITY PLAN (1 OF 2)
- C-7B CONCEPTUAL MASTER UTILITY PLAN (2 OF 2)
- C-8A SITE CROSS SECTIONS (1 OF 2)
- C-8B SITE CROSS SECTIONS (2 OF 2)



Engineering the Future

5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

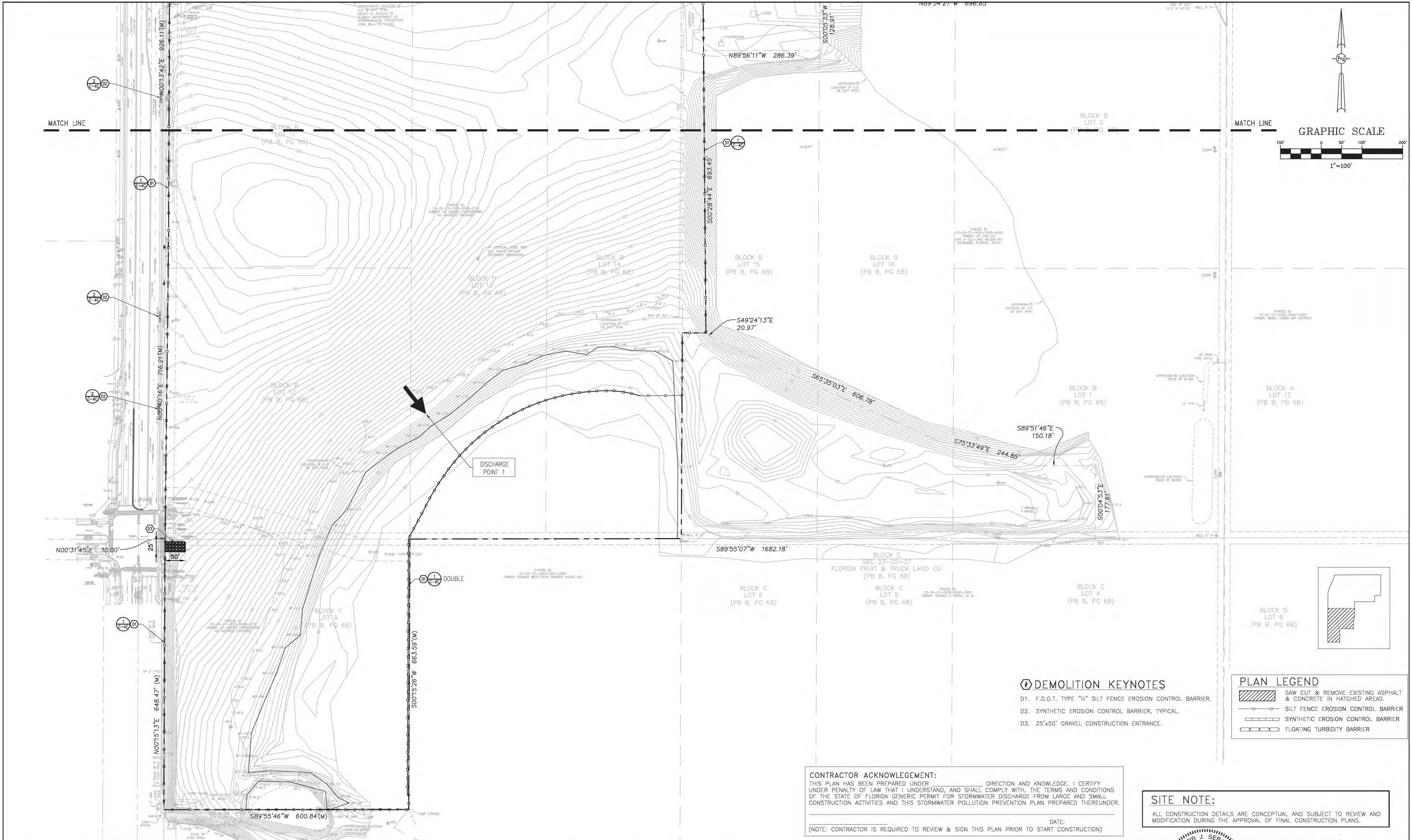
[www.feg-inc.us](http://www.feg-inc.us)





					<div>GENERAL NOTES:</div> <div><div><div>1. THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.</div><div>2. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN.</div><div>3. THE SPECIFICATIONS, NOTES, AND PLANS CALL ATTENTION TO CERTAIN REQUIRED FEATURES OF THE CONSTRUCTION BUT DO NOT PURPORT TO COVER ALL DETAILS OF DESIGN AND CONSTRUCTION. HOWEVER, THE CONTRACTOR SHALL FURNISH &amp; INSTALL THE WORK IN ALL DETAILS AND READY FOR OPERATION.</div><div>4. ALL EQUIPMENT SHALL BE HANDLED, STORED, INSTALLED, TESTED, AND OPERATED IN STRICT ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>5. ALL WORK SHALL BE ACCOMPLISHED TO THE HIGHEST QUALITY CRAFTSMANSHIP STANDARDS AS APPROVED BY THE ENGINEER.</div><div>6. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS.</div><div>7. APPARENT ERRORS, DISCREPANCIES, OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE BIDDING.</div><div>8. AFTER COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM SITE CLEAN-UP OPERATIONS FOR REMOVAL OF ALL TRASH, DEBRIS, EXCESS MATERIAL, AND EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESENT THE PROJECT SITE CLEAN AND IN GOOD ORDER AT THE TIME OF FINAL ACCEPTANCE.</div><div>9. THE CONTRACTOR SHALL COMPLY WITH ALL RULES, REGULATIONS, AND SPECIFICATIONS OF OSCEOLA COUNTY FOR SITE IMPROVEMENT IN THE ABSENCE OF A PARTICULAR REQUIREMENT.</div><div>10. FLORIDA LAW (F.S. 553.851) PROTECTION OF UNDERGROUND PIPELINES MANDATES THAT "NO EXCAVATOR SHALL COMMENCE OR PERFORM ANY EXCAVATION IN ANY PUBLIC OR PRIVATE STREET, ALLEY, OR RIGHT-OF-WAY DEDICATED TO THE PUBLIC USE, OR GAS UTILITY EASEMENT WITHOUT FIRST OBTAINING INFORMATION CONCERNING THE POSSIBLE LOCATION OF GAS PIPELINES IN THE AREA OF THE PROPOSED EXCAVATION." THIS INCLUDES ANY OPERATION UTILIZING HAND TOOLS OR POWER TOOLS WHICH MOVES OR REMOVES ANY STRUCTURE, EARTH, ROCK, OR OTHER MASS OF MATERIAL BY SUCH METHODS AS DIGGING, BACKFILLING, DEMOLITION, GRADING, DITCHING, DRILLING, BORING, AND CABLE PLOWING. THE EXCAVATOR MUST NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOURS AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATING (EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS).</div><div>11. CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS, INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS, AND CABLE TV COMPANIES.</div><div>12. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON, WHETHER ABOVE, ON, OR BELOW THE SURFACE OF THE GROUND, SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND OWNER IN WRITING. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED IF CONTRACTOR FAILS TO PROVIDE THE REQUIRED WRITTEN NOTIFICATION OF SUCH CONDITIONS FOR REVIEW BY THE ENGINEER AND OWNER.</div><div>13. THE CONTRACTOR SHALL FURNISH OWNER WITH ACCURATE RECORD DRAWINGS PREPARED BY A LICENSED PROFESSIONAL SURVEYOR SHOWING AS-CONSTRUCTED HORIZONTAL AND VERTICAL DIMENSIONING OF THE WORK. THE SUBMITTAL COPY OF THE RECORD DRAWINGS WILL NOT BE RETURNED. THE RECORD DRAWING OR A REPRODUCIBLE COPY PREPARED BY THE ENGINEER SHALL BE CERTIFIED BY THE CONTRACTOR AS CORRECT. ALL INFORMATION WHICH IS UNCHANGED AND CURRENT SHALL BE NOTED BY CHECKING OFF OR CIRCULING. ALL REVISED INFORMATION SHALL BE CROSSED THROUGH AND NEW DATA ADDED. ADDITIONAL REQUIREMENTS ARE NOTED IN PAVING, GRADING, DRAINAGE, WATER, AND SEWER NOTES.</div><div>14. ALL PRIVATE AND PUBLIC PROPERTIES AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. THE COST FOR SUCH RESTORATION SHALL BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.</div><div>15. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS IN PREPARING THE SITE FOR CONSTRUCTION; THIS INCLUDES REMOVAL OF ANY EXISTING ORGANIC SOILS, DELETERIOUS MATERIAL, VEGETATION, AND/OR DEBRIS FROM WITHIN THE LIMITS OF CONSTRUCTION AS IDENTIFIED BY THE GEOTECHNICAL ENGINEER; PROOFROLLING OF THE NATURAL SOILS WHERE REQUIRED; AND OTHER GENERAL SITE PREPARATION REQUIREMENTS. SPECIFIC PROOFROLLING COMPACTION REQUIREMENTS SHOULD BE CONSISTENT WITH THE APPLICABLE DESIGN DOCUMENTS AND GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IF THERE IS A CONFLICT BETWEEN THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND THE DESIGN DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.</div></div></div> <div>GEOMETRY NOTES:</div> <div><div>1. THESE PLANS ARE BASED ON A SURVEY PREPARED FOR THE OWNER BY DONALD W. MCINTOSH ASSOCIATES, INC. AND DATED SEPTEMBER 07, 2019.</div><div>2. REFER TO SHEET C-2 FOR REFERENCED BENCHMARK.</div><div>3. CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE GEOMETRIC DATA PROVIDED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLETELY STAKE &amp; CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL &amp; VERTICAL, PRIOR TO THE INSTALLATION OF ANY IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY APPARENT DISCREPANCIES ARE FOUND.</div><div>4. ALL DIMENSIONS ARE TO THE FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.</div><div>5. CONTRACTOR SHALL VERIFY THE ACCURACY OF THE BUILDING GEOMETRY SHOWN WITH THAT IN THE FINAL ARCHITECTURAL DRAWINGS, PRIOR TO STAKE-OUT, &amp; SHALL NOTIFY OWNER &amp; ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.</div></div>
--	--	--	--	--	---





DATE	REVISIONS	BY	CHECKED

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

**FEG** FLORIDA  
ENGINEERING  
GROUP  
Engineering the Future

5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

SITE EROSION CONTROL AND  
POLLUTION PREVENTION PLAN (1 OF 2)

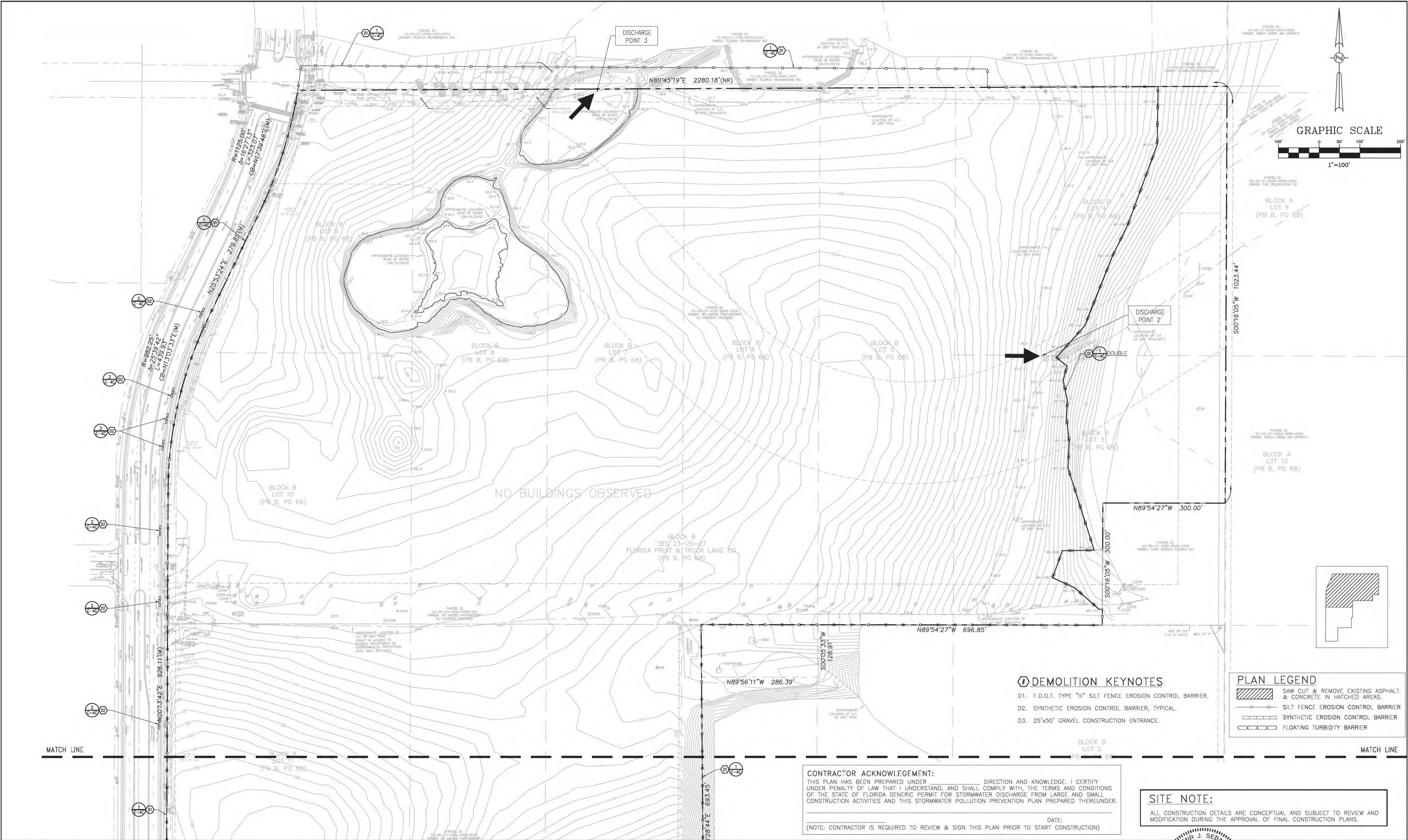
DESIGNED BY SJS  
DRAWN BY JT  
CHECKED BY SJS  
APPROVED BY SJS

PROJECT NO. 18-097  
SCALE 1"=100'  
DATE OCTOBER 10, 2019  
SHEET NO. C-4A  
SHEET 5 OF 20

FLORIDA  
ENGINEERING  
GROUP  
No. 42075  
STATE OF  
FLORIDA  
PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.





DATE	REVISIONS	BY	CHECKED

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

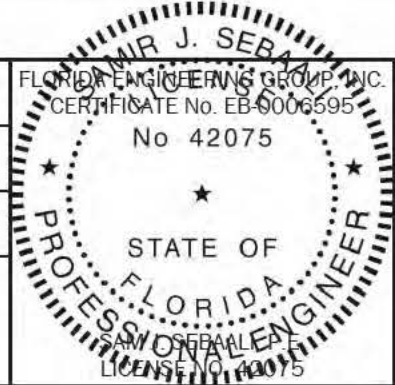


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

SITE EROSION CONTROL AND  
POLLUTION PREVENTION PLAN (2 OF 2)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO. 18-097	SCALE 1"=100'
DATE OCTOBER 10, 2019	SHEET NO. C-4B
SHEET 6	OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.



EROSION CONTROL SITE DESCRIPTION NOTES:

1. THE PROPOSED CONSTRUCTION ACTIVITY WILL ENTAIL PHASED CONSTRUCTION OF A 121.84 ACRE OF A COMMERCIAL PARK.
2. THE SEQUENCE OF SOILS DISTURBANCE ACTIVITY IS AS FOLLOWS:
- A. INSTALL SILT FENCE AS SHOWN ON THE PLANS & PROVIDE TREE PROTECTION ON SITE, IF APPLICABLE.
- B. ROUGH GRADE PROPOSED POND AREA(S) OR TEMPORARY SEDIMENTATION BASIN(S).
- C. CLEAR & GRUB THE AREA TO BE DISTURBED. ENSURE THAT DRAINAGE FROM SITE DURING CONSTRUCTION IS CONVEYED TO THE POND(S) OR TEMPORARY SEDIMENTATION BASIN(S).
- D. PLACE FILL ON-SITE TO BRING THE SITE UP TO THE PROPOSED GRADES.
- E. BEGIN COMPACTION / STABILIZATION PROCESS.
3. THE TOTAL SITE AREA IS 121.84 ACRES.
4. THE EXISTING SOILS ARE BASINGER FINE SAND-0% TO 2% SLOPES-HSG A/D; CANDLER FINE SAND-0% TO 5% SLOPES-HSG A; CANDLER FINE SAND-5% TO 12% SLOPES-HSG A; MYAKKA FINE SAND, 0% TO 2% SLOPES-HSG A/D; PLACID FINE SAND-HSG A/D; SAMSULA MUCK-HSG D. THE QUALITY OF THE STORMWATER DISCHARGE IS CONSISTENT W/ THE RUNOFF GENERATED BY A COMMERCIAL SITE.
5. THE TOTAL DRAINAGE AREA FOR THE PROJECT IS APPROXIMATELY 108.2 ACRES.
6. THE LATITUDE & LONGITUDE FOR THE DISCHARGE POINTS ARE POINT 1: 28°17'49.26"N 81°35'18.35"W; POINT 2: 28°18'05.67"N 81°35'01.67"W; POINT 3: 28°18'11.97"N 81°35'13.78"W. THE RECEIVING WATER BODY IS A WETLAND SYSTEM, WHICH IS DESIGNED TO RECEIVE & THEN EVENTUALLY DISCHARGES TO REEDY CREEK.
7. WASTE DISPOSAL SHALL BE IMPLEMENTED IN ACCORDANCE WITH LOCAL, STATE & FEDERAL REGULATIONS. ALL TRUCKS EXITING THE SITE WILL BE HOSED, ITS LOAD COVERED and THE COVER PROPERLY SECURED. THE STORAGE, APPLICATION, GENERATION & MIGRATION OF ALL FERTILIZERS, HERBICIDES, PESTICIDES & TOXIC MATERIAL SHALL BE IN ACCORDANCE W/ LOCAL, STATE & FEDERAL REGULATIONS.
8. CONTRACTOR SHALL IDENTIFY THE INDIVIDUAL(S) RESPONSIBLE FOR THE WEEKLY & REQUIRED INSPECTIONS. A REPORTING SYSTEM ENTAILING THE ITEMS TO BE INSPECTED & THEIR CONDITION SHOULD BE DOCUMENTED & PLACED IN A DEDICATED FILING SYSTEM THAT WILL REMAIN ON THE PROJECT SITE, ACCESSIBLE TO THE CONSTRUCTION TEAM & TO THE F.D.E.P. INSPECTORS. 9. INSPECTIONS: CONSTRUCTION SITE WILL BE INSPECTED FOR EROSION PROBLEMS DAILY AND AFTER AFTER EACH RAINFALL GREATER THAN 0.5 INCH. A RAIN GAUGE WILL BE ON SITE TO MEASURE THE RAINFALL AMOUNT.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, & LOCAL CODES, ORDINANCES, & REGULATIONS GOVERNING POLLUTION OF THE ENVIRONMENT & SHALL IMPLEMENT ALL MEASURES NEEDED TO ENSURE ADEQUATE EROSION & SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. EROSION & SEDIMENT CONTROL MEASURES SHALL CONFORM TO ORANGE COUNTY, SOUTH FLORIDA WATER MANAGEMENT DISTRICT, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, & FLORIDA DEPARTMENT OF TRANSPORTATION REQUIREMENTS. INSTALLATION OF SILT FENCES & TURBIDITY BARRIERS SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS & STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITION.
2. EROSION & SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION. EROSION & SEDIMENT CONTROL MEASURES ARE TO BE APPLIED AS A PERIMETER DEFENSE AGAINST THE TRANSPORTATION OF SILT & SEDIMENTS OFF THE PROJECT SITE OR INTO ADJACENT WATER BODIES OR WETLANDS.
3. THE CONTRACTOR SHALL PREPARE & IMPLEMENT AN EROSION CONTROL PLAN AS PART OF THE SCOPE OF WORK COVERED BY THESE PLANS. THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES IN CONTROLLING EROSION & SEDIMENT TRANSPORT DURING CONSTRUCTION. THE FLORIDA DEVELOPMENT MANUAL "A GUIDE TO SOUND LAND & WATER MANAGEMENT" MAY BE USED AS REFERENCE FOR RECOMMENDED BEST MANAGEMENT PRACTICES RELATED TO EROSION & SEDIMENT CONTROL.
4. THE CONTRACTOR SHALL SUBMIT THE EROSION CONTROL PLAN TO THE OWNER FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
5. ALL EROSION & SEDIMENT CONTROL MEASURES WHICH ARE NECESSARY TO LIMIT THE TRANSPORT OF SILTS & SEDIMENTS TO OUTSIDE THE LIMITS OF THE WORK AREA OR TO WATER BODIES OR WETLANDS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE BEST MANAGEMENT PRACTICES & IMPLEMENT STRUCTURAL MEASURES AS NEEDED TO PREVENT EROSION & SEDIMENT TRANSPORT FROM THE WORK AREAS. THE FOLLOWING ARE MINIMUM RECOMMENDED GUIDELINES TO BE IMPLEMENTED DURING CONSTRUCTION AS PART OF THE EROSION & SEDIMENT CONTROL PLAN:
- A. STOCKPIILING OF MATERIAL  
NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.
- B. EXPOSED AREA LIMITATION & PROTECTION  
THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING & GRUBBING OPERATIONS, OR EXCAVATION & FILLING OPERATIONS SHALL BE LIMITED AS NEEDED TO MINIMIZE THE POTENTIAL OF OFF-SITE SEDIMENT TRANSPORT. ALL EXPOSED AREAS SHALL BE PROTECTED BY INSTALLING EFFECTIVE EROSION & SEDIMENT CONTROL MEASURES SUCH AS SILT SCREENS, SYNTHETIC BALES, TURBIDITY BARRIERS, SWALES, OR A COMBINATION OF THESE & OTHER MEASURES AS WARRANTED.
- C. INLET PROTECTION  
INLETS & CATCH BASINS SHALL BE PROTECTED DURING CONSTRUCTION FROM SEDIMENT LADEN STORMWATER RUNOFF BY PROVIDING A COMBINATION OF SILT SCREENS, SYNTHETIC BALES, FILTER FABRIC COVERS OR OTHER MEASURES AS NECESSARY TO CONTROL THE TRANSPORT OF SEDIMENT.
- D. TEMPORARY GRASSING  
AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED OR RECEIVE FINAL GRASSING TREATMENT WITHIN THIRTY DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED. TEMPORARY SEEDING SHALL BE CONTROLLED AS TO NOT ALTER OR COMPETE WITH PERMANENT GRASSING. SLOPES STEEPER THAN 1:1 SHALL RECEIVE MULCHING OF APPROXIMATELY 2 INCHES OF LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA TO A DEPTH OF 4 INCHES. THE SEEDED OR SEEDED & MULCHED AREAS SHALL BE ROLLED & WATERED AS NEEDED TO ENSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. IF AFTER 14 DAYS, THE TEMPORARY GRASSSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% OF GOOD GRASS COVER, THE AREAS WILL BE REWORKED & ADDITIONAL SEED APPLIED TO ESTABLISH THE DESIRED VEGETATION COVER. REWORKED & ADDITIONAL SEED APPLIED.
- E. MAINTENANCE  
EROSION & SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED DURING THE ENTIRE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE EROSION & CONTROL MEASURES ON A DAILY BASIS & 24 HOURS FOLLOWING RAINFALL EVENTS (0.5" OR GREATER) & IMMEDIATELY REPAIR ANY OBSERVED DAMAGED CONTROLS. ALL EROSION & SEDIMENT CONTROLS SHALL BE MAINTAINED AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.
6. AREAS OF SOILS DISTURBANCE IS LIMITED TO THE AREA WITHIN THE SILT FENCE LIMITS AS SHOWN ON THIS PLAN.
7. ALL DISTURBED PERVIOUS AREAS WILL BE SODDED, UNLESS OTHERWISE NOTED.
8. NO WETLANDS & SURFACE WATERS EXIST ON THIS PROJECT.

DUST CONTROL & PREVENTION:

- THE SURFACE AREA OF OPEN, RAW ERODIBLE SOILS EXPOSED BY CLEARING & GRUBBING OPERATIONS OR EXCAVATION & FILLING OPERATIONS SHALL BE LIMITED AS NEEDED TO MINIMIZE THE POTENTIAL OF DUST PRODUCTION. IN ADDITION,
1. ALL EXPOSED AREAS SHALL BE PROTECTED BY INSTALLING DUST CONTROL CONTROL MEASURES SUCH AS STABILIZING EXPOSED SOILS USING VEGETATION, SPRAY-ON ADHESIVES, CALCIUM CHLORIDE, WET SUPPRESSION (WATERING) AND STONE/GRAVEL LAYERING AS APPLICABLE FOR THE PROJECT AND DEEMED NECESSARY BY THE CONTRACTOR TO CONTROL DUST.
2. ONSITE VEHICLE TRAFFIC SHOULD BE LIMITED TO A MAXIMUM 15 MPH SPEED, AND THE NUMBER AND ACTIVITY OF VEHICLES SHOULD BE CONTROLLED AT ANY GIVEN TIME.
3. A MOBILE UNIT SHOULD BE AVAILABLE TO APPLY WATER TO CONTROL DUST WHEN NEEDED.
4. COVERS SHALL BE PROVIDED FOR ALL HAUL TRUCKS TRASPORTING MATERIALS THAT CONTRIBUTE TO DUST.
5. IF CHEMICAL STABILIZATION METHOD IS USED, THE CHEMICALS SHOULD BE APPROVED FOR USE BY THE APPROPRIATE REGULATORY AGENCIES AND SHALL NOT CREATE ANY ADVERSE IMPACTS TO STORMWATER, PLANT LIFE, WATER BODIES, GROUNDWATER, OR FISH AND WILDLIFE.

DEMOLITION NOTES

1. THE LOCATIONS, ELEVATIONS, & DIMENSIONS OF EXISTING UTILITIES & OTHER FEATURES ARE SHOWN ON THE PLANS ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, & DIMENSIONS OF ALL EXISTING UTILITIES & OTHER FEATURES AFFECTING THE WORK PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY FEG OF ANY DISCREPANCIES WHICH MAY AFFECT THE PROPOSED WORK.
2. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE EXCAVATION.
3. THE CONTRACTOR SHALL, PRIOR TO INITIATION OF ANY SITE CLEARING OR OTHER CONSTRUCTION ACTIVITIES, INSTALL SILT SCREENS DOWNSTREAM OF ALL AREAS WHICH HAVE POTENTIAL OF EROSION OR SEDIMENT TRANSPORT OFFSITE OR TO WATER BODIES. THE CONTRACTOR SHALL IMPLEMENT OTHER STRUCTURAL EROSION CONTROL MEASURES IF REQUIRED TO PREVENT SEDIMENT TRANSPORT TO OFF-SITE AREAS & WATER BODIES.
4. ALL TRASH, DEBRIS, & OTHER MATERIAL REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS.
5. ANY EXCAVATED TRENCHES ARE TO BE BACKFILLED WITH CLEAN SAND COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE (AASHTO T-180). REFER TO GEOTECHNICAL REPORT FOR SPECIFIC COMPACTION REQUIREMENTS UNDER BUILDING & OTHER STRUCTURES.
6. ALL EXISTING CONCRETE TO BE REMOVED SHALL BE SAWCUT & REMOVED @ THE FIRST AVAILABLE GOOD JOINT & REPLACED TO MATCH EXISTING.
7. THE CONTRACTOR SHALL CONTACT THE GAS UTILITY FOR LOCATION BEFORE EXCAVATION. CHAPTER 17-153 F.S. REQUIRES THAT AN EXCAVATOR NOTIFIES ALL GAS UTILITIES AT LEAST TWO DAYS PRIOR TO EXCAVATING. ALSO CALL 1-800-432-4770 FOR SUNSHINE LOCATES. F.S. 556.101 THROUGH 111.
8. CONTRACTOR TO PROVIDE TREE PROTECTION AROUND TREES TO REMAIN AS REQUIRED BY THE LOCAL JURISDICTION.

SOIL TRACKING PREVENTION

1. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT THE LOCATION SHOWN ON THE PLANS. TRAFFIC FROM UNSTABILIZED AREAS OF CONSTRUCTION SHALL BE DIRECTED THRU THE STPD BARRIER, FLAGGING OR OTHER POSITIVE MEANS SHALL BE USED AS REQUIRED TO LIMIT & DIRECT VEHICULAR EGRESS ACROSS THE STPD.
2. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE TECHNIQUE TO MINIMIZE OFFSITE TRACKING OF SEDIMENT. THE ALTERNATIVE MUST BE REVIEWED & APPROVED BY THE ENGINEER &/OR ORANGE COUNTY PRIOR TO ITS USE.
3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING THE STPD AGGREGATE & CONSTRUCTION MUD) SHALL BE REMOVED DAILY, OR MORE FREQUENTLY IF SO DIRECTED BY THE ENGINEER &/OR ORANGE COUNTY.
4. AGGREGATES SHALL BE AS DESCRIBED IN SECTION 901 EXCLUDING 901-2.3. AGGREGATES SHALL BE FDOT SIZE #1. IF THIS SIZE IS NOT AVAILABLE, THE NEXT AVAILABLE SMALLER SIZE AGGREGATE MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. SIZES CONTAINING EXCESSIVE SMALL AGGREGATE WILL TRACK OFF THE PROJECT & ARE UNSUITABLE.
5. THE STPD SHALL BE MAINTAINED IN A CONDITION THAT WILL ALLOW IT TO PERFORM ITS FUNCTION. TO PREVENT OFFSITE TRACKING, THE STPD SHALL BE RINSED (DAILY WHEN IN USE) TO MOVE ACCUMULATED MUD DOWNWARD THRU THE STONE. ADDITIONAL STABILIZATION OF THE VEHICULAR ROUTE LEADING TO THE STPD MAY BE REQUIRED TO LIMIT THE MUD TRACKED.

EROSION CONTROLS FOR NON STORMWATER DISCHARGES:

A) WASTE DISPOSAL:

WASTE MATERIAL:  
ALL WASTE MATERIAL WILL BE COLLECTED AND STORED IN A METAL DUMPSTER WHICH WILL BE MAINTAINED BY A LICENSED SOLID WASTE MANAGEMENT COMPANY IN ORANGE COUNTY. THE DUMPSTER WILL MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS OFTEN AS NECESSARY TO NOT CAUSE ON-SITE DISPOSAL OF WASTE. THE TRASH WILL BE HAULED TO AN APPROVED ORANGE COUNTY LANDFILL. NO CONSTRUCTION WASTE WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE SUPERINTENDENT CONSTRUCTION TRAILER. THE INDIVIDUAL RESPONSIBLE FOR MANAGING THIS TASK WILL BE IDENTIFIED BY THE CONTRACTOR.

HAZARDOUS WASTE:  
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN ACCORDANCE WITH THE APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR HAZARDOUS WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE SUPERINTENDENT CONSTRUCTION TRAILER. THE INDIVIDUAL RESPONSIBLE FOR MANAGING THIS TASK WILL BE IDENTIFIED BY THE CONTRACTOR.

SANITARY WASTE:  
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY LOCAL REGULATION.

B) OFFSITE VEHICLE TRACKING:

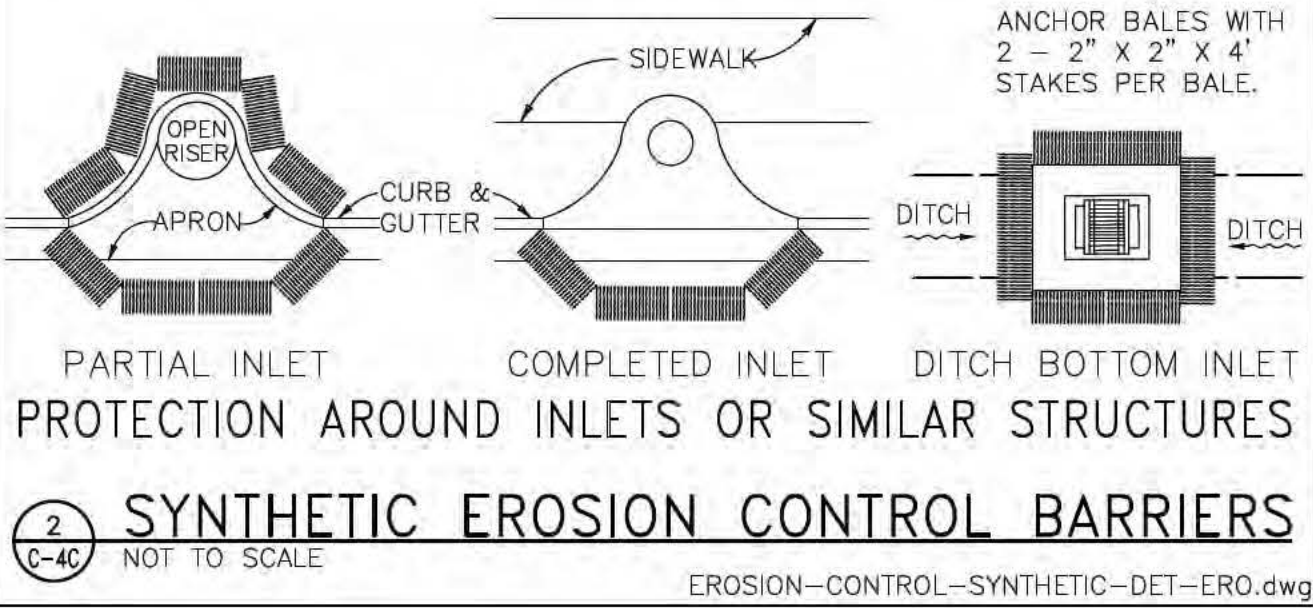
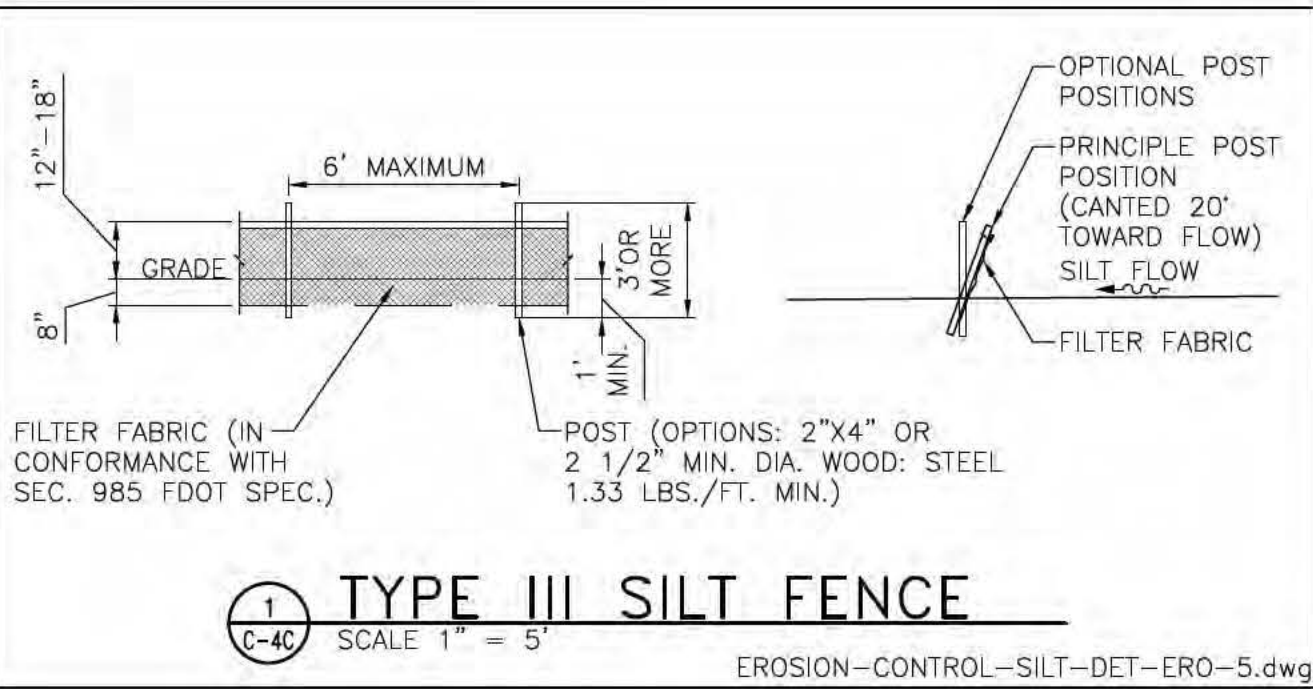
A GRAVEL CONSTRUCTION ENTRANCE HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

NPDES NOTE

A NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) IS REQUIRED FOR THE PROJECT. UNLESS OBTAINED BY THE OWNER, THE CONTRACTOR SHALL APPLY AND OBTAIN A NOI NPDES PRIOR TO START OF CONSTRUCTION ACTIVITIES.

DEMOLITION KEYNOTES

- D1. F.D.O.T. TYPE "III" SILT FENCE EROSION CONTROL BARRIER.
- D2. SYNTHETIC EROSION CONTROL BARRIER, TYPICAL.
- D3. 25'x50' GRAVEL CONSTRUCTION ENTRANCE.



SITE NOTE:

ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

DATE	REVISIONS	BY	CHECKED		

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

**FEG** FLORIDA  
ENGINEERING  
GROUP  
Engineering the Future

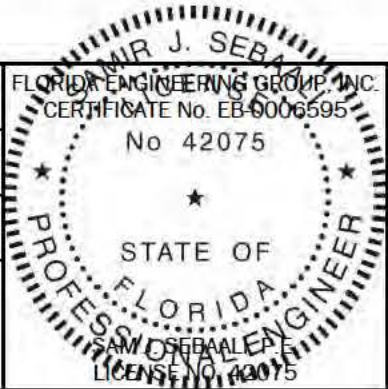
5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

www.feg-inc.us

SITE EROSION CONTROL AND  
POLLUTION PREVENTION NOTES

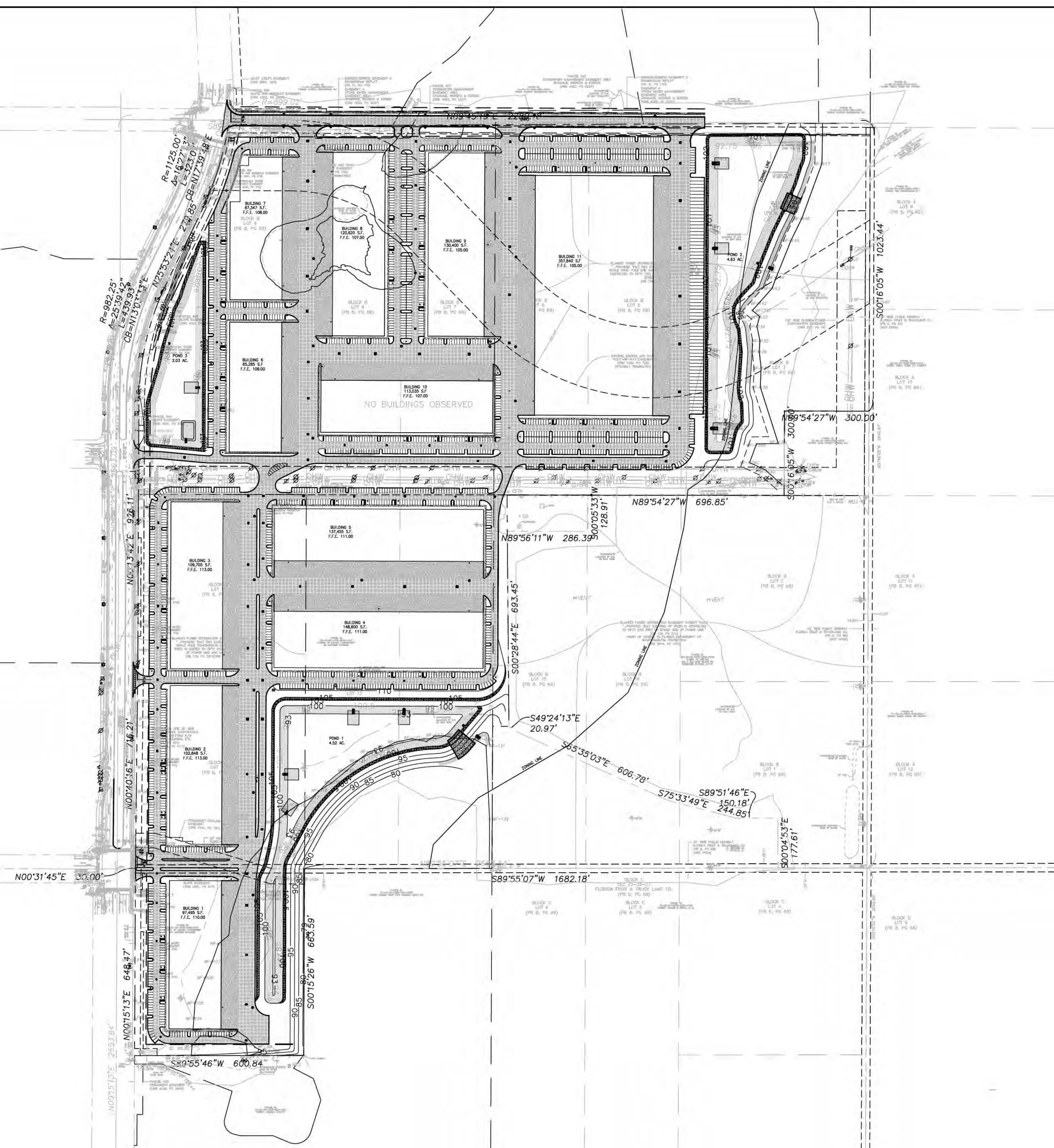
DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO. 18-097
SCALE NOTED
DATE OCTOBER 10, 2019
SHEET NO. C-4C
SHEET 7 OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES





A circular professional engineer seal for the State of Florida. The outer ring contains the text "AIR J. SERAFIN" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside the ring, the text "FLORIDA ENGINEERING GROUP, INC." is at the top, "CERTIFICATE NO. EB-0006595" is in the middle, and "No 42075" is below that. At the bottom of the seal, it says "STATE OF FLORIDA" and "EXPIRES 12/31/2005".

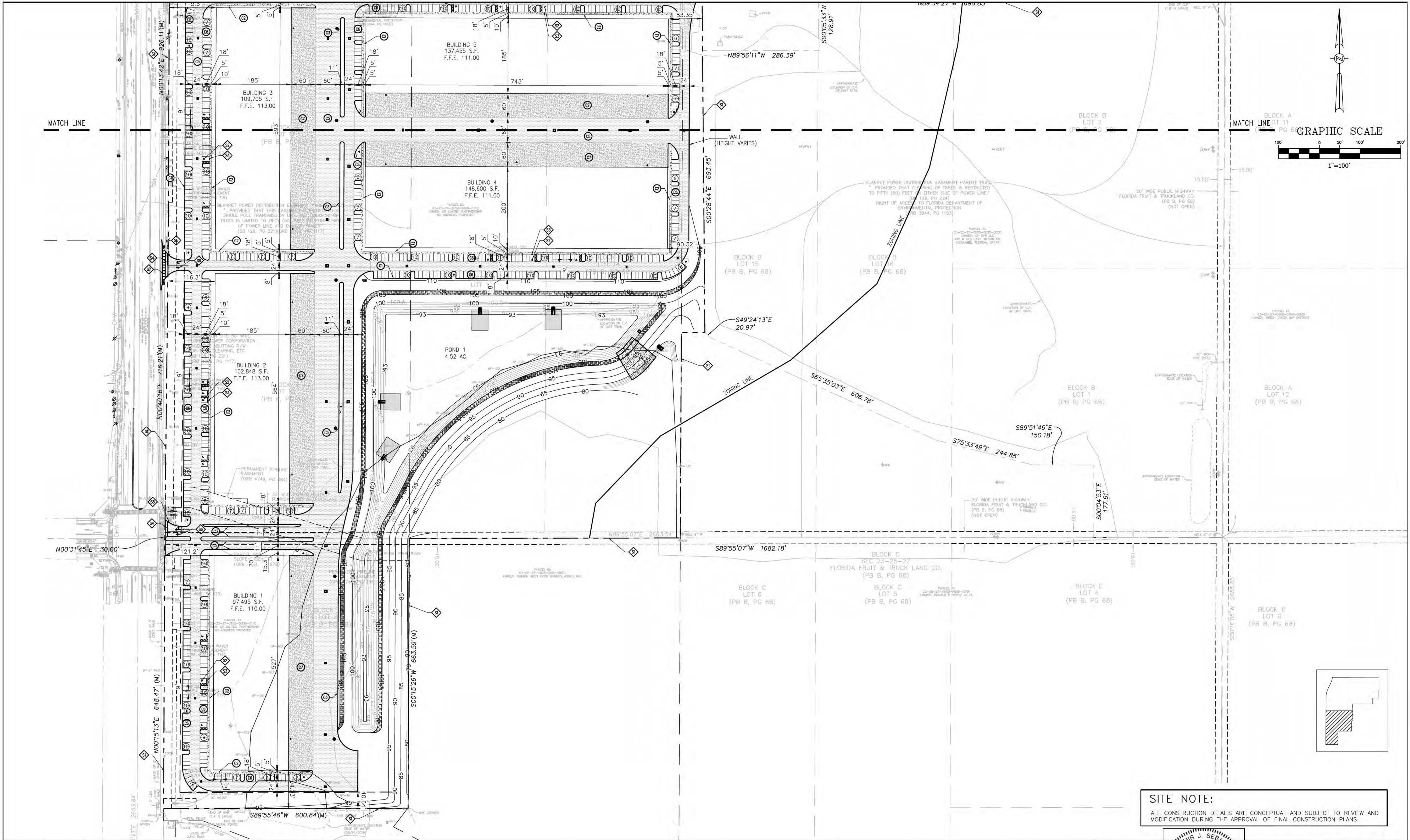
8-097 MasterPlans.dwg

	DATE	REVISIONS	BY	CHECKED

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO.	18-097
SCALE	1"=200'
DATE	OCTOBER 10, 2019
SHEET NO.	C-5
SHEET 8	OF 20





**SITE NOTE:**  
ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

DATE	REVISIONS	BY	CHECKED

**MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA**

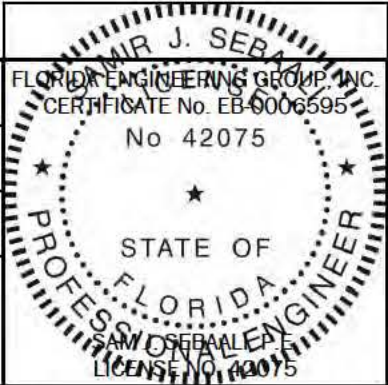


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

**MASTER SITE PLAN (1 OF 2)**

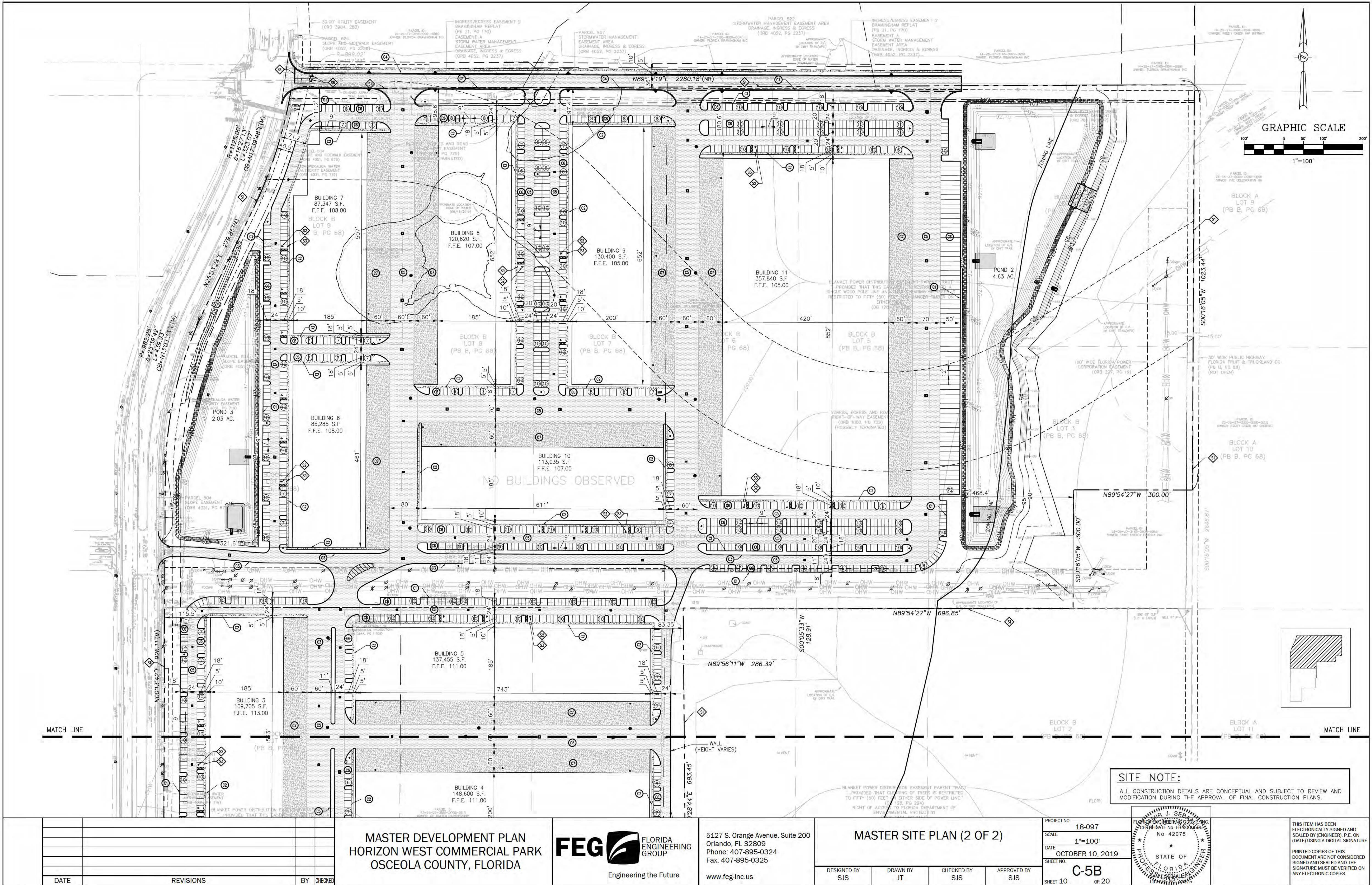
DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO. 18-097
SCALE 1"=100'
DATE OCTOBER 10, 2019
SHEET NO. C-5A
SHEET 9 OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.





MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

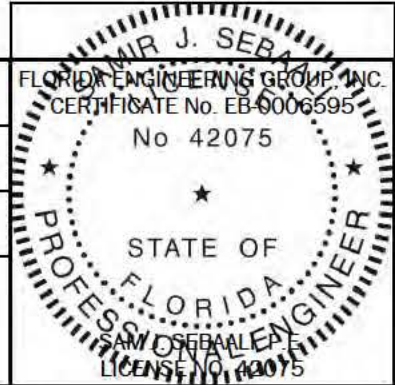


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

MASTER SITE PLAN (2 OF 2)

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	JT	SJS	SJS

PROJECT NO.	18-097
SCALE	1"=100'
DATE	OCTOBER 10, 2019
SHEET NO.	C-5B
SHEET 10	OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.



# SITE STRIPING & SIGNAGE KEYNOTES

- S1. PROPERTY BOUNDARY.
- S2. HANDICAP PARKING STALL, TYPICAL.
- S3. HANDICAP SIGN.
- S4. 24" THERMOPLASTIC STOP BAR.
- S5. R1-1 HIGH INTENSITY REFLECTORIZED "STOP" SIGN.
- S6. DIRECTIONAL ARROWS PER 2018 F.D.O.T. STANDARD PLANS INDEX 711-001, TYPICAL.

# SITE CONSTRUCTION KEYNOTES

- C1. 6" HEAD CURB, TYPICAL.
- C2. MONOLITHIC CURB & SIDEWALK, TYPICAL.
- C3. F.D.O.T. TYPE "D" CURB PER 2018 F.D.O.T. STANDARD PLANS INDEX 520-001, TYPICAL.
- C4. F.D.O.T. TYPE "F" CURB & GUTTER PER 2018 F.D.O.T. STANDARD PLANS INDEX 520-001, TYPICAL.
- C5. ASPHALT PAVEMENT. HEAVY-DUTY IN DRIVE AISLES.
- C6. ASPHALT PAVEMENT. LIGHT-DUTY IN PARKING SPACES.
- C7. LOADING DOCK. CONCRETE PAVEMENT.

SITE DATA

PROPERTY LOCATION: 945 N. OLD LAKE WILSON RD, KISSIMMEE, FL 34747

PROPERTY FUTURE LAND USE DESIGNATION: TOURIST COMMERCIAL

PROPERTY ZONING: EMPLOYMENT COMMERCIAL

EXISTING USE: NON AGRICULTURE ACREAGE-VACANT, TIMBERLAND, VACANT

PROPOSED USE: BUSINESS PARK/ WAREHOUSING/ DISTRIBUTION

PROJECT AREA: 121.84 ACRES

PROPOSED GROSS FLOOR AREA: 1,490,630 S.F.

ALLOWABLE FLOOR AREA RATIO: 2.5

PROPOSED FLOOR AREA RATIO: 0.28

BUILDING SETBACKS (PROPOSED)

FRONT (WEST)	71'
SIDE (NORTH)	95'
SIDE (SOUTH)	94'
REAR (EAST)	83'

BUILDING HEIGHT PROPOSED  
T.B.D.

BUILDING CONSTRUCTION TYPE  
T.B.D.

BUFFER YARDS

PROPOSED USE	ABUTTING USE	REQUIRED	PROPOSED
INDUSTRIAL FRONT (WEST)	SINGLE FAMILY	40'	40'
INDUSTRIAL SIDE (NORTH)	COMMERCIAL	25'	25'
INDUSTRIAL SIDE (SOUTH)	SINGLE - FAMILY	40'	40'
INDUSTRIAL REAR (EAST)	AGRICULTURAL	25'	25'

PARKING

PARKING REQUIRED

WAREHOUSE 1,490,630 S.F. x (1 SPACE PER 3,000 S.F.) 497 SPACES

TOTAL PARKING REQUIRED 497 SPACES  
SPACES REQUIRED TO BE RESERVED FOR HANDICAP 9 SPACES

PARKING PROVIDED

TRAILER PARKING SPACES 70 SPACES  
STANDARD PARKING SPACES 1,926 SPACES  
HANDICAP PARKING 38 SPACES  
TOTAL PARKING PROVIDED 2,034 SPACES

SITE AREA CALCULATIONS

BUILDING FOOTPRINT	1,490,630 S.F.		
PAVING	1,726,143 S.F.		
SIDEWALK	59,308 S.F.		
IMPERVIOUS AREA	3,276,081 S.F.	75.20 AC.	61.72 %
PERVIOUS AREA	2,031,476 S.F.	46.64 AC.	38.28 %
TOTAL SITE AREA	5,307,557 S.F.	121.84 AC.	100.00 %

IMPERVIOUS COVER PROPOSED 61.72 %

FLOOD\_ZONE

FLOOD\_ZONE X PER FEMA F.I.R.M. PANEL 12097C0040G DATED: 06/18/2013.

SOILS

- 6-BASINGER FINE SAND-0% TO 2% SLOPES-HSG A/D
- 7-CANDLER FINE SAND-0% TO 5% SLOPES-HSG A
- 8-CANDLER FINE SAND-5% TO 12% SLOPES-HSG A
- 22-MYAKKA FINE SAND, 0% TO 2% SLOPES-HSG A/D
- 32-PLACID FINE SAND-HSG A/D
- 40-SAMSULA MUCK-HSG D

LIGHTING\_NOTE

LIGHTING SHALL COMPLY WITH CHAPTER 4.7.11 OF OSCEOLA COUNTY LAND DEVELOPMENT CODE.

DUMPSTER\_NOTE

THE DUMPSTER SHALL COMPLY WITH CHAPTER 4.9.7 OF THE OSCEOLA COUNTY LAND DEVELOPMENT CODE.

SIGNAGE\_NOTE

SIGNAGE SHALL COMPLY WITH CHAPTER 3 OF THE OSCEOLA LAND DEVELOPMENT CODE.

SITE NOTES

1. LANDSCAPE ISLAND NOSE NOT TO EXCEED THE PARKING STALL DEPTH &/OR PROTRUDE INTO DRIVE ISLES, TYPICAL.

SITE NOTE:

ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA



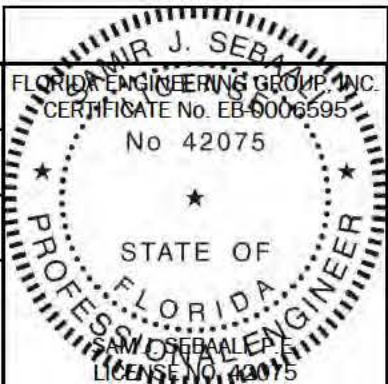
5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

www.feg-inc.us

MASTER SITE NOTES

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

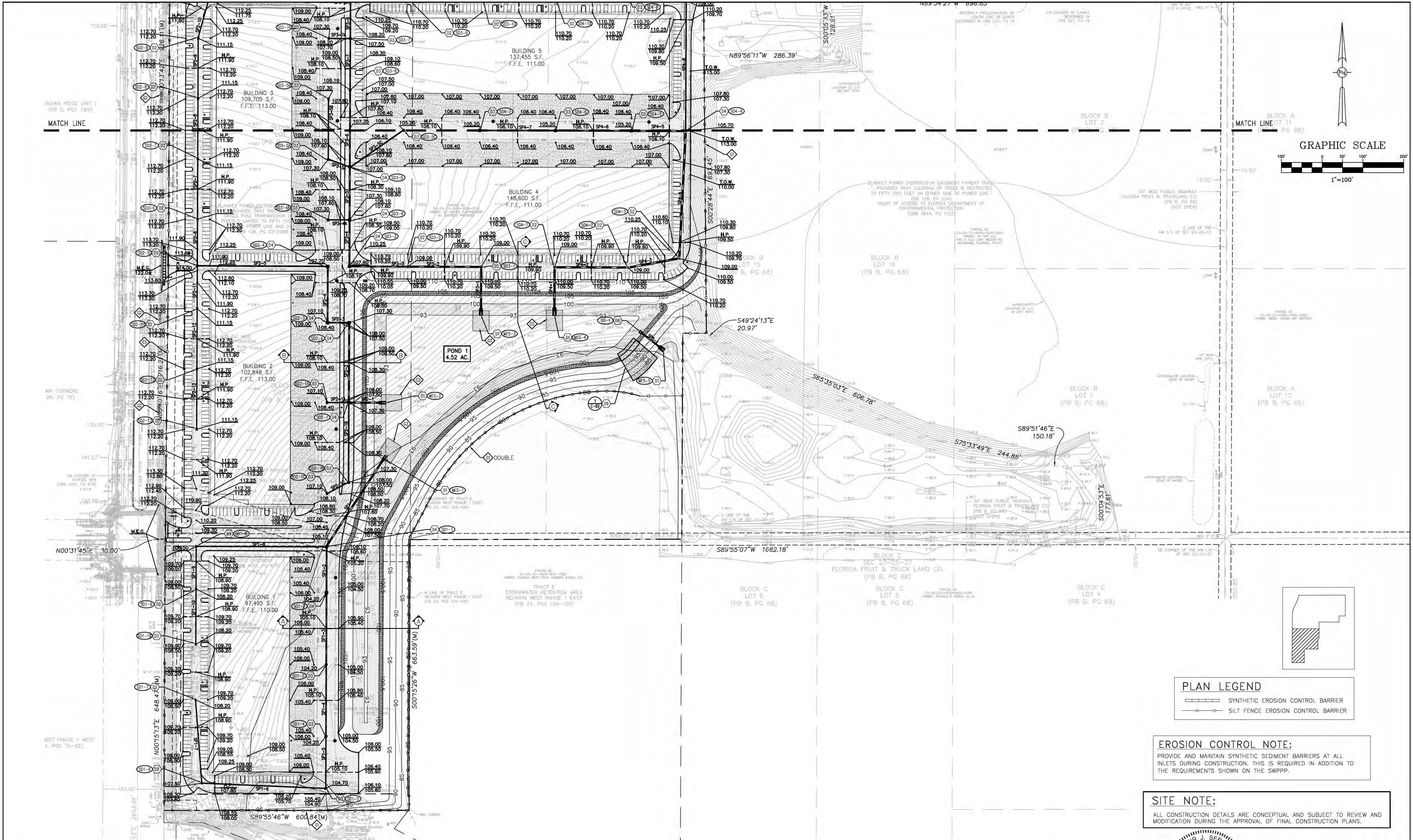
PROJECT NO. 18-097
SCALE NOTED
DATE OCTOBER 10, 2019
SHEET NO. C-5C
SHEET 11 OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.





DATE	REVISIONS	BY	CHECKED

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

**FEG** FLORIDA ENGINEERING GROUP  
Engineering the Future

5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

MASTER GRADING AND DRAINAGE PLAN (1 OF 2)			
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	JT	SJS	SJS

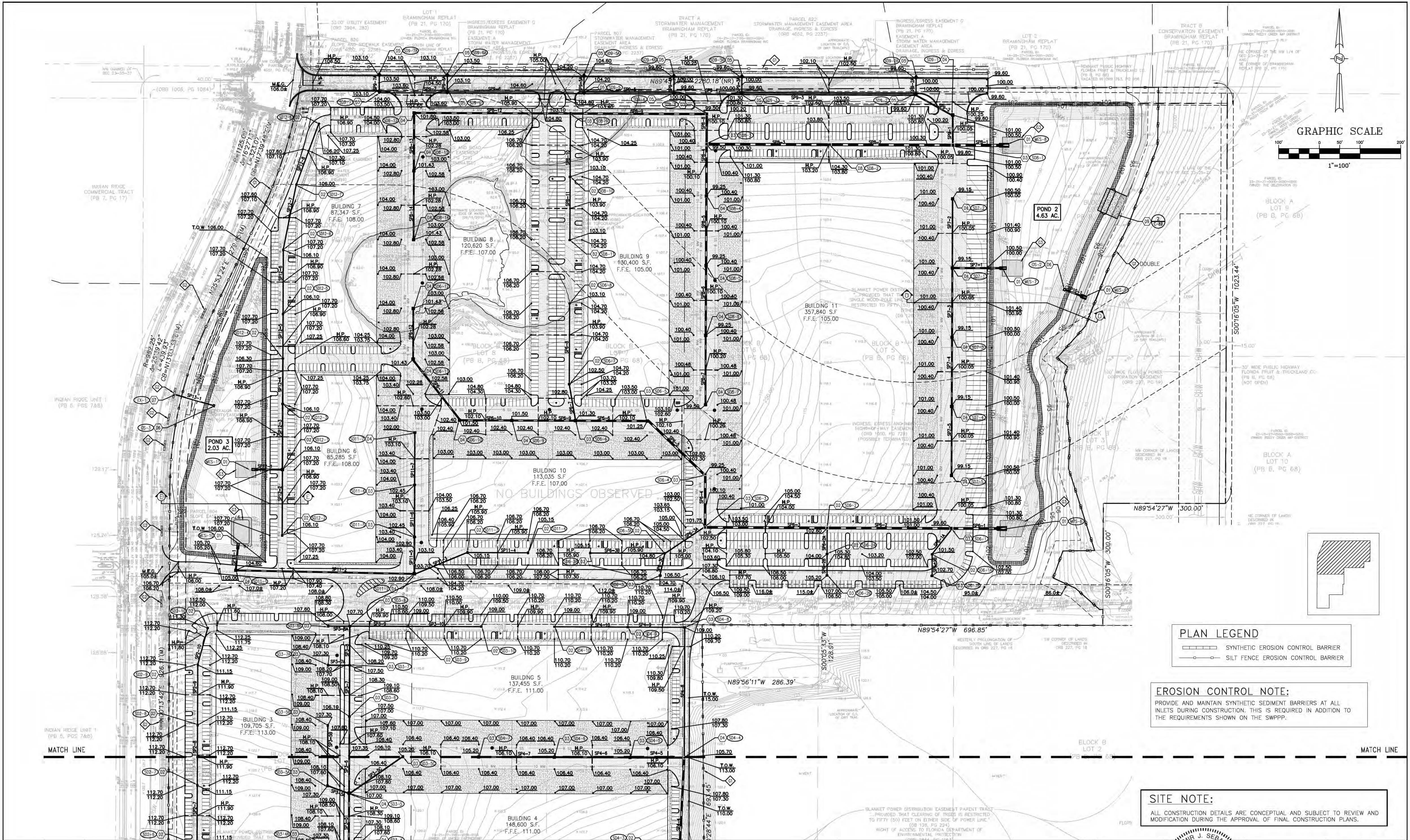
PROJECT NO.	18-097
SCALE	1"=100'
DATE	OCTOBER 10, 2019
SHEET NO.	C-6A
SHEET 12	OF 20



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.





**PLAN LEGEND**

SYNTHETIC EROSION CONTROL BARRIER

SILT FENCE EROSION CONTROL BARRIER

**EROSION CONTROL NOTE:**

PROVIDE AND MAINTAIN SYNTHETIC SEDIMENT BARRIERS AT ALL INLETS DURING CONSTRUCTION. THIS IS REQUIRED IN ADDITION TO THE REQUIREMENTS SHOWN ON THE SWPPP.

**SITE NOTE:**

ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

**FEG** FLORIDA ENGINEERING GROUP  
Engineering the Future

5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

MASTER GRADING AND DRAINAGE  
PLAN (2 OF 2)

DESIGNED BY SJS  
DRAWN BY JT  
CHECKED BY SJS  
APPROVED BY SJS

PROJECT NO. 18-097  
SCALE 1"=100'  
DATE OCTOBER 10, 2019  
SHEET NO. C-6B  
SHEET 13 OF 20

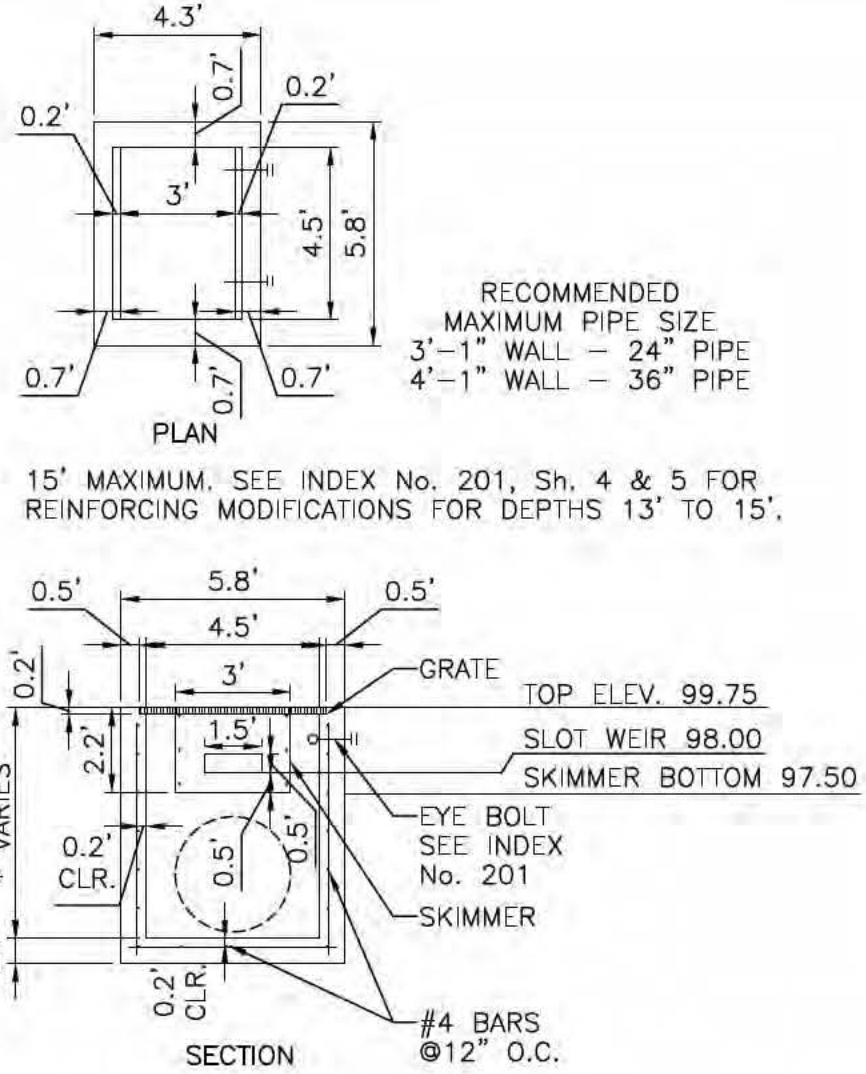
PROFESSIONAL ENGINEER  
STATE OF FLORIDA  
No. 42075

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



CONCRETE CONSTRUCTION NOTES

1. CONCRETE PRE-CONSTRUCTION MEETING
- A. THE CONCRETE CONTRACTOR ALONG WITH THE CONCRETE PRODUCER MAY REQUEST THROUGH THE GENERAL CONTRACTOR FOR A PRE-CONSTRUCTION MEETING PRIOR TO CONCRETE PLACEMENT.
- B. ATTENDEES: CONCRETE CONTRACTOR, CONCRETE PRODUCER, GENERAL CONTRACTOR, OWNER OR OWNER'S REPRESENTATIVE(S), ENGINEER OF RECORD, ARCHITECT, SITE CONTRACTOR, GEOTECHNICAL REPRESENTATIVE(S), ETC.
- C. AGENDA: INCLUDE BUT NOT LIMITED TO THE FOLLOWINGS: (CONTRACTOR MAY CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION FOR PRE-CONSTRUCTION MEETING CHECK LISTS)
- i. MIXTURE(S) APPROVAL
  - ii. CONCRETE TESTING: TYPE, LOCATION OF SAMPLINGS, ETC.
  - iii. CONCRETE DELIVERY: QUANTITY/HR, PUMP, CONVEYOR, ETC.
  - iv. PLACEMENT: METHOD, QUANTITY/DAY, STAGING & CLEAN OUT LOCATION, ETC.
  - v. FINISHING: CURING, JOINTING, ETC.
2. JOINTS FOR CONCRETE SLABS
- A. GENERAL - A JOINTING PLAN FOR THE ENTIRE PAVING AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE ENGINEER OF RECORD (EOR) 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. THE CONTRACTOR MAY ALSO CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION (FC&PA) FOR TECHNICAL RESOURCES AND ASSISTANT.
- I. A SQUARE JOINTING PATTERN IS REQUIRED WHERE POSSIBLE. IF NECESSARY, RECTANGULAR PANELS CAN BE USED IF THE LONG DIMENSION IS NO MORE THAN 1.5 TIMES THE SHORT (e.g. 8' x 12'). JOINT SPACING SHALL NOT EXCEED THE FOLLOWING: 10 FEET IN A 4" THICK SLAB, 12 FEET IN A 5" THICK SLAB OR 15 FEET IN SLAB WITH THICKNESS OF 6" OR GREATER.
- ii. BOX OUT AREA AROUND MANHOLES, CATCH BASINS, DRAINAGE STRUCTURES & OTHER BUILT-IN STRUCTURES WITHIN THE PAVING AREA SHALL BE CIRCULAR WHERE POSSIBLE. A MINIMUM OFFSET OF 12" FROM ANY EDGE OF THE STRUCTURE. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE. CONSTRUCTION & CONTROL JOINTS SHALL BE CONTINUOUS THROUGH ADJACENT LANES & EXTEND THROUGH INTEGRAL CURB. JOINTS CAN BE TERMINATED & OFFSET AT ISOLATION JOINTS, WHERE JOINTS INTERFERE ANY RADIUS OR CURVATURE, OFFSET A MINIMUM OF 12" FROM EDGE OF PAVEMENT AND FORM JOINT 90 DEGREE TO EDGE OF PAVEMENT TO AVOID ACUTE ANGLE OR SMALL WEDGES OF CONCRETE AT CURVATURES. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE.
- B. CONSTRUCTION JOINTS - A CONSTRUCTION JOINT SEPARATES ONE DAY PLACEMENT TO THE NEXT DAY PLACEMENT. A CONSTRUCTION JOINT SHALL BE A MINIMUM OF 5 FEET FROM ANY ADJACENT CONTROL JOINT. NEXT DAY PLACEMENT SHALL BUTT UP TO THE EXISTING PAVEMENT AS A COLD JOINT. THE CONSTRUCTION JOINT MAY BE HAND-TOOLED WITH MAXIMUM 0.25" RADIUS AT THE EDGE OF THE JOINT. CONTROL JOINTS FROM BOTH PLACEMENT AREAS SHALL MATCH AND BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT.
- C. CONTROL/CONSTRUCTION JOINTS - CONTROL JOINTS ARE JOINTS WITHIN THE PAVING AREA FORMED THROUGH TOOLING OR SAW CUTTING. CONTROL JOINTS ESTABLISH WEAK PLANES TO RELIEVE STRESSES DUE TO SHRINKAGE OR TEMPERATURE CHANGE. INSTALL CONTROL JOINTS WITHIN 12 HRS FROM THE TIME THE CONCRETE HITS THE GROUND OR OBTAIN IN WRITING APPROVAL FROM THE EOR BEYOND THE 12-HR TIME LIMIT.
- i. EARLY-ENTRY SAW CUTTING METHOD: CUT JOINT TO A MINIMUM OF 1" DEEP FOR PAVEMENT THICKNESS UP TO 8". CUTTING OF JOINT SHALL NOT CAUSE RAVELING TO THE EDGES OR DEFORMATION OF THE SURFACE DUE TO EQUIPMENT OR WORKER.
- ii. OTHER METHODS: INSTALL JOINT TO A MINIMUM OF 1/3 OF PAVEMENT DEPTH. FINISH EDGES WITH 0.25" RADIUS; OPERATION SHALL NOT CAUSE ANY DEFORMATION OF THE SURFACE.
- D. ISOLATION JOINTS - THESE JOINTS USE ISOLATION MATERIALS TO PREVENT FRESH CONCRETE FROM BONDING TO HARDENED CONCRETE SUCH AS, BUT NOT LIMITED TO, BUILDING FOUNDATIONS, SIDEWALKS, DRAINAGE STRUCTURES, LIGHTING & SIGNAGE BASES, RETAINING WALLS, CURBS, ETC. THE ISOLATION MATERIAL SHALL EXTEND THE FULL-DEPTH OF THE FRESH CONCRETE THICKNESS. FROM ONE DAY PLACEMENT TO THE NEXT, WHERE JOINTS ARE MATCHED, ISOLATION MATERIAL IS NOT NECESSARY. (E.G. ONE LANE PAVING TO THE NEXT, INTEGRAL CURBS)
- E. ISOLATION JOINTS BETWEEN SLABS AT SOME GRADE SHALL BE FORMED WITH 0.25 INCH THICK NEOPRENE OR 0.50 INCH THICK ASPHALT IMPREGNATED FIBER FILLER WITH HYDROCARBON RESISTANT ELASTOMERIC FILL MATERIAL AS SEALER. ALL EDGES TO BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
- F. A SATISFACTORY ISOLATION JOINT CAN BE FORMED AT METAL BUILDING CURBS BY PLACING A STRIP OF CURING PAPER AGAINST THE METAL FORM & THEN PLACING THE FRESH CONCRETE AGAINST THE PAPER. THE EDGES OF THE SLAB SHALL BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
3. JOINTS SEALANT - A JOINT SEALING PLAN FOR THE AFFECTED AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE EOR, ALONG WITH THE JOINTING PLAN, 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. NOT ALL JOINT WILL BE REQUIRED SEALING. THE CONCRETE CONTRACTOR IS TO RECOMMEND THE NECESSARY LOCATION AND TO PROVIDE SUPPORTING DOCUMENTATION FOR NON-SEALING AREAS. USE A POLYURETHANE SEALANT (TREMCO THC-900/THC-901 MULTI-COMPOUND) COMPOUND OR EQUIVALENT. THE CONCRETE CONTRACTOR IS TO OBTAIN SEALANT TYPE AND MANUFACTURER INFORMATION TO THE EOR FOR APPROVAL WHEN "EQUIVALENT" IS USE. JOINTS SHALL BE PREPARED BY FOLLOWING MANUFACTURER'S RECOMMENDATIONS PRIOR TO SEALING.



MODIFIED F.D.O.T. TYPE "E" INLET DETAIL  
SCALE 1" = 5'

DRAINAGE STRUCTURE LEGEND

<b>MES-1</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 93.00	<b>SD1-1</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.10 INV. ELEV. 94.24 NE INV. ELEV. 94.24 S INV. ELEV. 99.51 W	<b>SD1-2</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.20 INV. ELEV. 95.32 N INV. ELEV. 95.32 S	<b>SD1-3</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.20 INV. ELEV. 97.04 N INV. ELEV. 97.04 S	<b>SD1-4</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.20 INV. ELEV. 95.77 N INV. ELEV. 98.77 S	<b>SD1-5</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.70 INV. ELEV. 95.77 N INV. ELEV. 100.00 N INV. ELEV. 100.00 W
<b>SD1-6</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 107.50 INV. ELEV. 103.01 N INV. ELEV. 103.01 E	<b>SD1-7</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 108.20 INV. ELEV. 105.03 S	<b>SD1-8</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 108.50 INV. ELEV. 102.66 E INV. ELEV. 102.66 S	<b>SD1-9</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 108.20 INV. ELEV. 103.67 N INV. ELEV. 103.67 S	<b>SD1-10</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 108.20 INV. ELEV. 103.67 N INV. ELEV. 105.00 N	
<b>MES-2</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 93.00	<b>SD2-1</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 93.37 E INV. ELEV. 101.40 S INV. ELEV. 101.50 N INV. ELEV. 103.00 W	<b>SD2-1A</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.10 INV. ELEV. 103.50 E	<b>SD2-1B</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 103.32 N INV. ELEV. 103.32 SW	<b>SD2-1C</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.10 INV. ELEV. 103.88 NE	<b>SD2-2</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 102.46 S INV. ELEV. 102.46 W
<b>SD2-3</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.10 INV. ELEV. 102.70 E INV. ELEV. 102.70 N	<b>SD2-4</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.70 INV. ELEV. 103.77 S INV. ELEV. 103.77 W	<b>SD2-5</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 114.00 INV. ELEV. 104.95 E INV. ELEV. 104.95 N INV. ELEV. 104.95 S	<b>SD2-6</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 105.50 S INV. ELEV. 105.50 N	<b>SD2-7</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 106.23 S INV. ELEV. 106.23 N	<b>SD2-8</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 106.96 S INV. ELEV. 106.96 N
<b>SD2-9</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 107.69 S INV. ELEV. 107.69 NE	<b>SD2-10</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.30 INV. ELEV. 108.06 SW	<b>SD2-11</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 105.45 N INV. ELEV. 105.45 S	<b>SD2-12</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 106.18 N INV. ELEV. 106.18 S	<b>SD2-13</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 111.15 INV. ELEV. 107.91 N	
<b>MES-3</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 93.00	<b>SD3-1</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 109.00 INV. ELEV. 93.48 S INV. ELEV. 94.23 W	<b>SD3-2</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 109.00 INV. ELEV. 95.10 E INV. ELEV. 95.10 W	<b>SD3-3</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.90 INV. ELEV. 96.48 E INV. ELEV. 96.48 N	<b>SD3-4</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 97.57 S INV. ELEV. 97.57 N INV. ELEV. 103.60 W	<b>SD3-4A</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 104.10 E
<b>SD3-5</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.00 INV. ELEV. 98.83 S INV. ELEV. 98.83 N INV. ELEV. 100.43 NE INV. ELEV. 102.13 NW	<b>SD3-5A</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 102.65 SE INV. ELEV. 102.65 N	<b>SD3-5B</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 104.10 S	<b>SD3-5C</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.20 INV. ELEV. 102.00 SW	<b>SD3-6</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 106.10 INV. ELEV. 100.68 S INV. ELEV. 100.68 N	<b>SD3-7</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.50 INV. ELEV. 101.90 S INV. ELEV. 101.90 N INV. ELEV. 103.60 W
<b>SD3-7A</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.30 INV. ELEV. 104.10 E	<b>SD3-8</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.70 INV. ELEV. 102.84 S INV. ELEV. 102.84 E INV. ELEV. 103.90 W	<b>SD3-8A</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 107.60 INV. ELEV. 104.40 E	<b>SD3-9</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 109.00 INV. ELEV. 104.23 W INV. ELEV. 104.23 E	<b>SD3-10</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 109.00 INV. ELEV. 104.23 W INV. ELEV. 106.00 W	
<b>MES-4</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 93.00	<b>SD4-1</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 109.00 INV. ELEV. 93.50 S INV. ELEV. 96.47 E	<b>SD4-2</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 109.00 INV. ELEV. 97.35 W INV. ELEV. 97.35 E	<b>SD4-3</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 109.00 INV. ELEV. 97.96 SW INV. ELEV. 97.96 N	<b>SD4-4</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.70 INV. ELEV. 99.50 S INV. ELEV. 99.50 W INV. ELEV. 99.71 N	<b>SD4-5</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.20 INV. ELEV. 99.87 E INV. ELEV. 99.87 W
<b>SD4-6</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.20 INV. ELEV. 100.42 E INV. ELEV. 100.42 W	<b>SD4-7</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.20 INV. ELEV. 100.97 E	<b>SD4-8</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 109.00 INV. ELEV. 102.87 S INV. ELEV. 102.87 W	<b>SD4-9</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 109.00 INV. ELEV. 104.23 E INV. ELEV. 104.23 W	<b>SD4-10</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 109.00 INV. ELEV. 106.00 E	
<b>MES-5</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 81.00	<b>OS-1</b> MODIFIED TYPE "E" INLET OUTFALL STRUCTURE PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 99.75 15' X 0.5' SLOTTED WEIR AT ELEV. 98.00 NW INV. ELEV. 81.14 SE				

# SITE DRAINAGE KEYNOTES

- D1. F.D.O.T. MITERED END SECTION PER 2018 F.D.O.T. STANDARD PLANS INDEX 430-021, TYPICAL.
- D2. F.D.O.T. TYPE "C" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-052, TYPICAL.
- D3. F.D.O.T. TYPE "F" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D4. F.D.O.T. TYPE "G" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D5. F.D.O.T. TYPE "4" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-020, TYPICAL.
- D6. OUTFALL STRUCTURE.
- D7. CONNECT TO EXISTING INLET.
- D8. STORM MANHOLE.
- D9. 5" THICK CONCRETE BROAD CRESTED WEIR STRUCTURE. SEE DETAIL ON SHEET C-8B.

# GRADING KEYNOTES

- G1. F.D.O.T. TYPE "III" SILT FENCE EROSION CONTROL BARRIER, TYPICAL.
- G2. MATCH EXISTING PAVEMENT GRADE. OVERLAY EXISTING PAVEMENT AS NEEDED TO PROVIDE A SMOOTH TRANSITION, TYPICAL.
- G3. EROSION CONTROL AND SLOPE PROTECTION.

STORM DRAINAGE PIPE CHART

DESIGNATION	PIPE			FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER
	LENGTH (LINEAR FEET)	SIZE & TYPE	SLOPE		
SP1-1	254	42" R.C.P.	0.48%	MES-1	SD1-1
SP1-2	108	30" R.C.P.	1.0%	SD1-1	SD1-2
SP1-3	172	30" R.C.P.	1.0%	SD1-2	SD1-3
SP1-4	173	24" R.C.P.	1.0%	SD1-3	SD1-4
SP1-5	125	18" R.C.P.	1.0%	SD1-4	SD1-5
SP1-6	301	18" R.C.P.	1.0%	SD1-5	SD1-6
SP1-7	202	15" R.C.P.	1.0%	SD1-6	SD1-7
SP1-8	315	18" R.C.P.	1.0%	SD1-1	SD1-8
SP1-9	101	15" R.C.P.	1.0%	SD1-8	SD1-9
SP1-10	133	15" R.C.P.	1.0%	SD1-9	SD1-10

SP2-1	78	42" R.C.P.	0.47%	MES-2	SD2-1
SP2-1A	49	18" R.C.P.	1.0%	SD2-1	SD2-1A
SP2-1B	192	24" R.C.P.	1.0%	SD2-1	SD2-1B
SP2-1C	56	18" R.C.P.	1.0%	SD2-1B	SD2-1C
SP2-2	191	36" R.C.P.	0.5%	SD2-1	SD2-2
SP2-3	48	30" R.C.P.	0.5%	SD2-2	SD2-3
SP2-4	133	24" R.C.P.	0.5%	SD2-3	SD2-4
SP2-5	316	24" R.C.P.	0.5%	SD2-4	SD2-5
SP2-6	111	18" R.C.P.	0.5%	SD2-5	SD2-6
SP2-7	145	15" R.C.P.	0.5%	SD2-6	SD2-7
SP2-8	145	15" R.C.P.	0.5%	SD2-7	SD2-8
SP2-9	145	15" R.C.P.	0.5%	SD2-8	SD2-9
SP2-10	91	15" R.C.P.	0.5%	SD2-9	SD2-10
SP2-11	101	15" R.C.P.	0.5%	SD2-5	SD2-11
SP2-12	145	15" R.C.P.	0.5%	SD2-11	SD2-12
SP2-13	145	15" R.C.P.	0.5%	SD2-12	SD2-13

SP3-1	101	42" R.C.P.	0.48%	MES-3	SD3-1
SP3-2	175	42" R.C.P.	0.5%	SD3-1	SD3-2
SP3-3	138	36" R.C.P.	1.0%	SD3-2	SD3-3
SP3-4	109	36" R.C.P.	1.0%	SD3-3	SD3-4
SP3-4A	49	18" R.C.P.	1.0%	SD3-4	SD3-4A
SP3-5	126	36" R.C.P.	1.0%	SD3-4	SD3-5
SP3-5A	52	24" R.C.P.	1.0%	SD3-5	SD3-5A
SP3-5B	145	18" R.C.P.	1.0%	SD3-5A	SD3-5B
SP3-5C	157	24" R.C.P.	1.0%	SD3-5	SD3-5C
SP3-6	185	24" R.C.P.	1.0%	SD3-5	SD3-6
SP3-7	122	24" R.C.P.	1.0%	SD3-6	SD3-7
SP3-7A	49	18" R.C.P.	1.0%	SD3-7	SD3-7A
SP3-8	94	18" R.C.P.	1.0%	SD3-7	SD3-8
SP3-8A	49	18" R.C.P.	1.0%	SD3-8	SD3-8A
SP3-9	139	18" R.C.P.	1.0%	SD3-8	SD3-9
SP3-10	177	15" R.C.P.	1.0%	SD3-9	SD3-10

SP4-1	101	48" R.C.P.	0.5%	MES-4	SD4-1
SP4-2	175	48" R.C.P.	0.5%	SD4-1	SD4-2
SP4-3	123	48" R.C.P.	0.5%	SD4-2	SD4-3
SP4-4	308	48" R.C.P.	0.5%	SD4-3	SD4-4
SP4-5	124	42" R.C.P.	0.3%	SD4-4	SD4-5
SP4-6	183	36" R.C.P.	0.3%	SD4-5	SD4-6
SP4-7	183	30" R.C.P.	0.3%	SD4-6	SD4-7
SP4-8	316	18" R.C.P.	1.0%	SD4-4	SD4-8
SP4-9	136	18" R.C.P.	1.0%	SD4-8	SD4-9
SP4-10	177	15" R.C.P.	1.0%	SD4-9	SD4-10

SP5-1	71	36" R.C.P.	0.2%	MES-5	OS-1
-------	----	------------	------	-------	------

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA



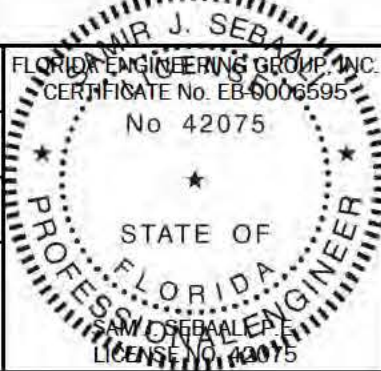
5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

www.feg-inc.us

MASTER GRADING AND DRAINAGE  
NOTES (1 OF 3)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO.  
18-097  
SCALE  
NOTED  
DATE  
OCTOBER 10, 2019  
SHEET NO.  
C-6C  
SHEET 14  
OF 20

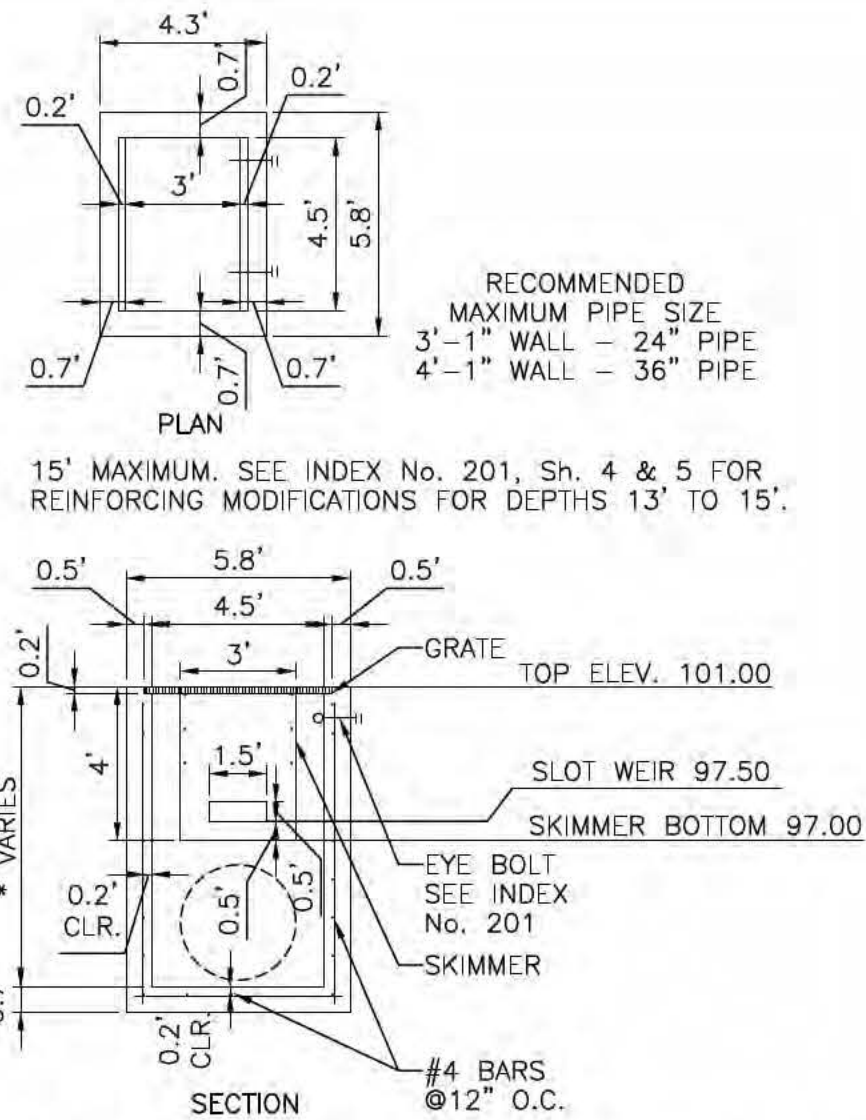


THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.  
  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES



CONCRETE CONSTRUCTION NOTES

1. CONCRETE PRE-CONSTRUCTION MEETING
- A. THE CONCRETE CONTRACTOR ALONG WITH THE CONCRETE PRODUCER MAY REQUEST THROUGH THE GENERAL CONTRACTOR FOR A PRE-CONSTRUCTION MEETING PRIOR TO CONCRETE PLACEMENT.
- B. ATTENDEE: CONCRETE CONTRACTOR, CONCRETE PRODUCER, GENERAL CONTRACTOR, OWNER OR OWNER'S REPRESENTATIVE(S), ENGINEER OF RECORD, ARCHITECT, SITE CONTRACTOR, GEOTECHNICAL REPRESENTATIVE(S), ETC.
- C. AGENDA: INCLUDE BUT NOT LIMITED TO THE FOLLOWINGS: (CONTRACTOR MAY CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION FOR PRE-CONSTRUCTION MEETING CHECK LISTS)
- i. MIXTURE(S) APPROVAL
  - ii. CONCRETE TESTING: TYPE, LOCATION OF SAMPLINGS, ETC.
  - iii. CONCRETE DELIVERY: QUANTITY/HR, PUMP, CONVEYOR, ETC.
  - iv. PLACEMENT: METHOD, QUANTITY/DAY, STAGING & CLEAN OUT LOCATION, ETC.
  - v. FINISHING: CURING, JOINTING, ETC.
2. JOINTS FOR CONCRETE SLABS
- A. GENERAL - A JOINTING PLAN FOR THE ENTIRE PAVING AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE ENGINEER OF RECORD (EOR) 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. THE CONTRACTOR MAY ALSO CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION (FC&PA) FOR TECHNICAL RESOURCES AND ASSISTANT.
1. A SQUARE JOINTING PATTERN IS REQUIRED WHERE POSSIBLE. IF NECESSARY, RECTANGULAR PANELS CAN BE USED IF THE LONG DIMENSION IS NO MORE THAN 1.5 TIMES THE SHORT (e.g. 8' x 12'). JOINT SPACING SHALL NOT EXCEED THE FOLLOWING: 10 FEET IN A 4" THICK SLAB, 12 FEET IN A 5" THICK SLAB OR 15 FEET IN SLAB WITH THICKNESS OF 6" OR GREATER.
- ii. BOX OUT AREA AROUND MANHOLES, CATCH BASINS, DRAINAGE STRUCTURES & OTHER BUILT-IN STRUCTURES WITHIN THE PAVING AREA SHALL BE CIRCULAR WHERE POSSIBLE. A MINIMUM OFFSET OF 12" FROM ANY EDGE OF THE STRUCTURE. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE. CONSTRUCTION & CONTROL JOINTS SHALL BE CONTINUOUS THROUGH ADJACENT LANES & EXTEND THROUGH INTEGRAL CURB. JOINTS CAN BE TERMINATED & OFFSET AT ISOLATION JOINTS, WHERE JOINTS INTERFACE ANY RADIUS OR CURVATURE, OFFSET A MINIMUM OF 12" FROM EDGE OF PAVEMENT AND FORM JOINT 90 DEGREE TO EDGE OF PAVEMENT TO AVOID ACUTE ANGLE OR SMALL WEDGES OF CONCRETE AT CURVATURES. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE.
- B. CONSTRUCTION JOINTS - A CONSTRUCTION JOINT SEPARATES ONE DAY PLACEMENT TO THE NEXT DAY PLACEMENT. A CONSTRUCTION JOINT SHALL BE A MINIMUM OF 5 FEET FROM ANY ADJACENT CONTROL JOINT. NEXT DAY PLACEMENT SHALL BUTT UP TO THE EXISTING PAVEMENT AS A COLD JOINT. THE CONSTRUCTION JOINT MAY BE HAND-TOOLED WITH MAXIMUM 0.25" RADIUS AT THE EDGE OF THE JOINT. CONTROL JOINTS FROM BOTH PLACEMENT AREAS SHALL MATCH AND BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT.
- C. CONTROL/CONTRACTION JOINTS - CONTROL JOINTS ARE JOINTS WITHIN THE PAVING AREA FORMED THROUGH TOOLING OR SAW CUTTING. CONTROL JOINTS ESTABLISH WEAK PLANES TO RELIEVE STRESSES DUE TO SHRINKAGE OR TEMPERATURE CHANGE. INSTALL CONTROL JOINTS WITHIN 12 HRS FROM THE TIME THE CONCRETE HITS THE GROUND OR OBTAIN IN WRITING APPROVAL FROM THE EOR BEYOND THE 12-HR TIME LIMIT.
- i. EARLY-ENTRY SAW CUTTING METHOD: CUT JOINT TO A MINIMUM OF 1" DEEP FOR PAVEMENT THICKNESS UP TO 8". CUTTING OF JOINT SHALL NOT CAUSE RAVELING TO THE EDGES OR DEFORMATION OF THE SURFACE DUE TO EQUIPMENT OR WORKER.
- ii. OTHER METHODS: INSTALL JOINT TO A MINIMUM OF 1/3 OF PAVEMENT DEPTH. FINISH EDGES WITH 0.25" RADIUS; OPERATION SHALL NOT CAUSE ANY DEFORMATION OF THE SURFACE.
- D. ISOLATION JOINTS - THESE JOINTS USE ISOLATION MATERIALS TO PREVENT FRESH CONCRETE FROM BONDING TO HARDENED CONCRETE SUCH AS: BUT NOT LIMITED TO, BUILDING FOUNDATIONS, SIDEWALKS, DRAINAGE STRUCTURES, LIGHTING & SIGNAGE BASES, RETAINING WALLS, CURBS, ETC. THE ISOLATION MATERIAL SHALL EXTEND THE FULL-DEPTH OF THE FRESH CONCRETE THICKNESS. FROM ONE DAY PLACEMENT TO THE NEXT, WHERE JOINTS ARE MATCHED, ISOLATION MATERIAL IS NOT NECESSARY. (E.G. ONE LANE PAVING TO THE NEXT, INTEGRAL CURBS)
- E. ISOLATION JOINTS BETWEEN SLABS AT SOME GRADE SHALL BE FORMED WITH 0.25 INCH THICK NEOPRENE OR 0.50 INCH THICK ASPHALT IMPREGNATED FIBER FILLER WITH HYDROCARBON RESISTANT ELASTOMERIC FILL MATERIAL AS SEALER. ALL EDGES TO BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
- F. A SATISFACTORY ISOLATION JOINT CAN BE FORMED AT METAL BUILDING CURBS BY PLACING A STRIP OF CURING PAPER AGAINST THE METAL FORM & THEN PLACING THE FRESH CONCRETE AGAINST THE PAPER. THE EDGES OF THE SLAB SHALL BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
3. JOINTS SEALANT - A JOINT SEALING PLAN FOR THE AFFECTED AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE EOR, ALONG WITH THE JOINTING PLAN, 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. NOT ALL JOINT WILL BE REQUIRED SEALING. THE CONCRETE CONTRACTOR IS TO RECOMMEND THE NECESSARY LOCATION AND TO PROVIDE SUPPORTING DOCUMENTATION FOR NON-SEALING AREAS. USE A POLYURETHANE SEALANT (TREMCO THC-900/THC-901 MULTI-COMPOUND) COMPOUND OR EQUIVALENT. THE CONCRETE CONTRACTOR IS TO SUBMIT SEALANT TYPE AND MANUFACTURER INFORMATION TO THE EOR FOR APPROVAL WHEN "EQUIVALENT" IS USED. JOINTS SHALL BE PREPARED BY FOLLOWING MANUFACTURER'S RECOMMENDATIONS PRIOR TO SEALING.



1  
C-6D  
MODIFIED F.D.O.T. TYPE "E" INLET DETAIL  
SCALE 1" = 5'

DRAINAGE STRUCTURE LEGEND

<b>MES-6</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 92.20	<b>SD6-1</b> TYPE "E" INLET W/ 6.5'X6.5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.60 INV. ELEV. 96.00 SW INV. ELEV. 92.33 E INV. ELEV. 92.33 W	<b>SD6-1A</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 101.50 INV. ELEV. 96.76 NE INV. ELEV. 96.76 S	<b>SD6-1B</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.70 INV. ELEV. 97.26 N	<b>SD6-2</b> TYPE "C" INLET W/ 6.5'X6.5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.60 INV. ELEV. 92.63 E INV. ELEV. 92.63 W INV. ELEV. 99.00 S	<b>SD6-2A</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 104.00 INV. ELEV. 99.60 N INV. ELEV. 99.60 S
<b>SD6-2B</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 105.20 INV. ELEV. 100.10 N	<b>SD6-3</b> TYPE "E" INLET W/ 6.5'X6.5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.75 INV. ELEV. 98.00 SW INV. ELEV. 92.92 E INV. ELEV. 92.92 N	<b>SD6-3A</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 104.80 INV. ELEV. 99.15 NE INV. ELEV. 99.15 SW INV. ELEV. 99.15 W	<b>SD6-3B</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 105.15 INV. ELEV. 100.96 E	<b>SD6-3C</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.70 INV. ELEV. 99.68 NE	<b>SD6-4</b> TYPE "F" INLET W/ 6'X6' TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.25 INV. ELEV. 93.05 S INV. ELEV. 93.05 NW
<b>SD6-5</b> TYPE "F" INLET W/ 6'X6' TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.25 INV. ELEV. 93.62 SE INV. ELEV. 93.62 W	<b>SD6-6</b> TYPE "E" INLET W/ 5'X5' TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.30 INV. ELEV. 94.13 E INV. ELEV. 94.13 W INV. ELEV. 98.00 NW	<b>SD6-7</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 102.50 INV. ELEV. 98.26 SE INV. ELEV. 98.26 N	<b>SD6-8</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 103.10 INV. ELEV. 98.85 S	<b>SD6-9</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.50 INV. ELEV. 94.58 E INV. ELEV. 94.58 W	<b>SD6-10</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.50 INV. ELEV. 94.95 E INV. ELEV. 94.95 NW
<b>SD6-11</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.43 INV. ELEV. 95.51 SE INV. ELEV. 95.51 N	<b>SD6-12</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.43 INV. ELEV. 95.87 S				
<b>MES-7</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 93.00	<b>SD7-1</b> TYPE "G" INLET W/ 7.5'X7.5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.60 INV. ELEV. 91.70 E INV. ELEV. 91.70 W INV. ELEV. 93.27 N	<b>SD7-2</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.15 INV. ELEV. 93.60 N INV. ELEV. 93.60 S	<b>SD7-3</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.15 INV. ELEV. 93.60 N INV. ELEV. 93.60 S	<b>SD7-4</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.15 INV. ELEV. 93.93 N INV. ELEV. 93.93 S	<b>SD7-5</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.15 INV. ELEV. 94.95 N
<b>MES-8</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 91.57	<b>SD8-1</b> TYPE "F" INLET W/ 7.5'X7.5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.60 INV. ELEV. 91.70 E INV. ELEV. 91.70 W INV. ELEV. 93.27 N	<b>SD8-2</b> STORM MANHOLE WITH TYPE "B" TOP W/ 7'X7' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-001 & 425-053 TOP ELEV. 103.20 INV. ELEV. 92.00 E INV. ELEV. 92.00 W	<b>SD8-3</b> TYPE "F" INLET W/ 7'X7' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.50 INV. ELEV. 92.30 E INV. ELEV. 92.30 N INV. ELEV. 92.30 S	<b>SD8-4</b> TYPE "G" INLET W/ 6'X6' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.25 INV. ELEV. 92.30 E INV. ELEV. 92.92 S	<b>SD8-5</b> TYPE "G" INLET W/ 6'X6' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.25 INV. ELEV. 93.09 N INV. ELEV. 93.09 S
<b>SD8-6</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.25 INV. ELEV. 93.26 N INV. ELEV. 93.26 S	<b>SD8-7</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.50 INV. ELEV. 93.60 N	<b>SD8-8</b> TYPE "F" INLET W/ 6'X6' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.50 INV. ELEV. 92.87 S INV. ELEV. 92.87 W	<b>SD8-9</b> TYPE "F" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "J" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 103.10 INV. ELEV. 93.86 E INV. ELEV. 93.86 W INV. ELEV. 93.86 S	<b>SD8-10</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 103.10 INV. ELEV. 98.54 N INV. ELEV. 98.54 S	<b>SD8-11</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 103.10 INV. ELEV. 99.00 N
<b>SD8-12</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.80 INV. ELEV. 95.00 E INV. ELEV. 95.00 S	<b>SD8-13</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.43 INV. ELEV. 95.42 N INV. ELEV. 95.42 S	<b>SD8-14</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 101.43 INV. ELEV. 95.92 N			
<b>SD9-1</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 99.60 INV. ELEV. 93.40 S INV. ELEV. 93.40 NW	<b>SD9-2</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 93.60 SE INV. ELEV. 93.60 W INV. ELEV. 94.60 N	<b>SD9-2A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 95.07 S	<b>SD9-3</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 94.88 E INV. ELEV. 94.88 N INV. ELEV. 94.88 W	<b>SD9-3A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 95.35 S	<b>SD9-4</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 95.38 E INV. ELEV. 95.38 N INV. ELEV. 95.38 W
<b>SD9-4A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 99.60 INV. ELEV. 95.85 S	<b>SD9-5</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 104.20 INV. ELEV. 96.04 E INV. ELEV. 100.04 N INV. ELEV. 96.04 W	<b>SD9-5A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 104.20 INV. ELEV. 100.51 S	<b>SD9-6</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 103.10 INV. ELEV. 97.04 E INV. ELEV. 99.04 N INV. ELEV. 97.04 W	<b>SD9-6A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 103.10 INV. ELEV. 99.51 S	<b>SD9-7</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 103.10 INV. ELEV. 98.71 E INV. ELEV. 98.71 N
<b>SD9-7A</b> TYPE "4" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-020 TOP ELEV. 103.10 INV. ELEV. 99.18 S					
<b>MES-9</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 87.00	<b>OS-2</b> MODIFIED TYPE "E" INLET OUTFALL STRUCTURE PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 101.00 1.5' X 0.5' SLOTTED WEIR AT ELEV. 97.50 W INV. ELEV. 87.11 E				

# SITE DRAINAGE KEYNOTES

- D1. F.D.O.T. MITERED END SECTION PER 2018 F.D.O.T. STANDARD PLANS INDEX 430-021, TYPICAL.
- D2. F.D.O.T. TYPE "C" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-052, TYPICAL.
- D3. F.D.O.T. TYPE "F" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D4. F.D.O.T. TYPE "G" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D5. F.D.O.T. TYPE "4" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-020, TYPICAL.
- D6. OUTFALL STRUCTURE.
- D7. CONNECT TO EXISTING INLET.
- D8. STORM MANHOLE.
- D9. 5" THICK CONCRETE BROAD CRESTED WEIR STRUCTURE. SEE DETAIL ON SHEET C-8B.

# GRADING KEYNOTES

- G1. F.D.O.T. TYPE "III" SILT FENCE EROSION CONTROL BARRIER, TYPICAL.
- G2. MATCH EXISTING PAVEMENT GRADE. OVERLAY EXISTING PAVEMENT AS NEEDED TO PROVIDE A SMOOTH TRANSITION, TYPICAL.
- G3. EROSION CONTROL AND SLOPE PROTECTION.

STORM DRAINAGE PIPE CHART

DESIGNATION	PIPE			FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER
	LENGTH (LINEAR FEET)	SIZE & TYPE	SLOPE		
SP6-1	133	60" R.C.P.	0.1%	MES-6	SD6-1
SP6-1A	76	15" R.C.P.	1.0%	SD6-1	SD6-1A
SP6-1B	50	15" R.C.P.	1.0%	SD6-1A	SD6-1B
SP6-2	299	60" R.C.P.	0.1%	SD6-1	SD6-2
SP6-2A	60	15" R.C.P.	1.0%	SD6-2	SD6-2A
SP6-2B	50	15" R.C.P.	1.0%	SD6-2A	SD6-2B
SP6-3	294	60" R.C.P.	0.1%	SD6-2	SD6-3
SP6-3A	115	18" R.C.P.	1.0%	SD6-3	SD6-3A
SP6-3B	181	15" R.C.P.	1.0%	SD6-3A	SD6-3B
SP6-3C	53	15" R.C.P.	1.0%	SD6-3B	SD6-3C
SP6-4	125	54" R.C.P.	0.1%	SD6-3	SD6-4
SP6-5	190	54" R.C.P.	0.3%	SD6-4	SD6-5
SP6-6	171	48" R.C.P.	0.3%	SD6-5	SD6-6
SP6-7	88	18" R.C.P.	0.3%	SD6-6	SD6-7
SP6-8	196	15" R.C.P.	0.3%	SD6-7	SD6-8
SP6-9	151	42" R.C.P.	0.3%	SD6-8	SD6-9
SP6-10	123	42" R.C.P.	0.3%	SD6-9	SD6-10
SP6-11	185	42" R.C.P.	0.3%	SD6-8	SD6-11
SP6-12	121	30" R.C.P.	0.3%	SD6-11	SD6-12

SP7-1	117	42" R.C.P.	0.23%	MES-7	SD7-1
SP7-2	166	24" R.C.P.	1.0%	SD7-1	SD7-2
SP7-3	166	36" R.C.P.	0.2%	SD7-1	SD7-3
SP7-4	166	36" R.C.P.	0.2%	SD7-3	SD7-4
SP7-5	166	30" R.C.P.	0.6%	SD7-4	SD7-5

SP8-1	135	72" R.C.P.	0.1%	MES-8	SD8-1
SP8-2	297	66" R.C.P.	0.1%	SD8-1	SD8-2
SP8-3	297	66" R.C.P.	0.1%	SD8-2	SD8-3
SP8-4	122	54" R.C.P.	0.1%	SD8-3	SD8-4
SP8-5	166	48" R.C.P.	0.1%	SD8-4	SD8-5
SP8-6	166	42" R.C.P.	0.1%	SD8-5	SD8-6
SP8-7	167	36" R.C.P.	0.2%	SD8-6	SD8-7
SP8-8	68	54" R.C.P.	0.08%	SD8-3	SD8-8
SP8-9	330	48" R.C.P.	0.3%	SD8-8	SD8-9
SP8-10	152	18" R.C.P.	0.3%	SD8-9	SD8-10
SP8-11	154	15" R.C.P.	0.3%	SD8-10	SD8-11
SP8-12	379	42" R.C.P.	0.3%	SD8-9	SD8-12
SP8-13	139	36" R.C.P.	0.3%	SD8-12	SD8-13
SP8-14	166	24" R.C.P.	0.3%	SD8-13	SD8-14

SP9-1	69	30" R.C.P.	0.2%	SD8-1	SD9-1
SP9-2	100	30" R.C.P.	1.3%	SD9-1	SD9-2
SP9-2A	47	15" R.C.P.	1.0%	SD9-2	SD9-2A
SP9-3	428	24" R.C.P.	0.3%	SD9-2	SD9-3
SP9-3A	47	15" R.C.P.	1.0%	SD9-3	SD9-3A
SP9-4	167	24" R.C.P.	0.6%	SD9-3	SD9-4
SP9-4A	47	15" R.C.P.	1.0%	SD9-4	SD9-4A
SP9-5	221	18" R.C.P.	0.3%	SD9-4	SD9-5
SP9-5A	47	15" R.C.P.	1.0%	SD9-5	SD9-5A
SP9-6	336	18" R.C.P.	0.3%	SD9-5	SD9-6
SP9-6A	47	15" R.C.P.	1.0%	SD9-6	SD9-6A
SP9-7	167	15" R.C.P.	1.0%	SD9-6	SD9-7
SP9-7A	47	15" R.C.P.	1.0%	SD9-7	SD9-7A

SP10-1	54	36 R.C.P.	0.2%	MES-9	OS-2
--------	----	-----------	------	-------	------

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA



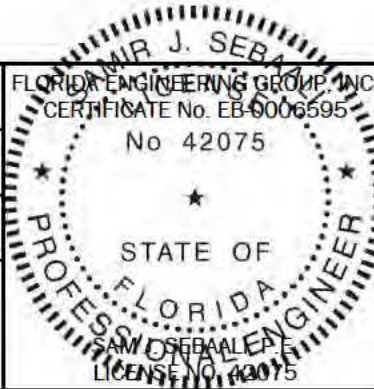
5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

www.feg-inc.us

MASTER GRADING AND DRAINAGE  
NOTES (2 OF 3)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO.  
18-097  
SCALE  
NOTED  
DATE  
OCTOBER 10, 2019  
SHEET NO.  
C-6D  
SHEET 15  
OF 20



THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE  
  
PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES

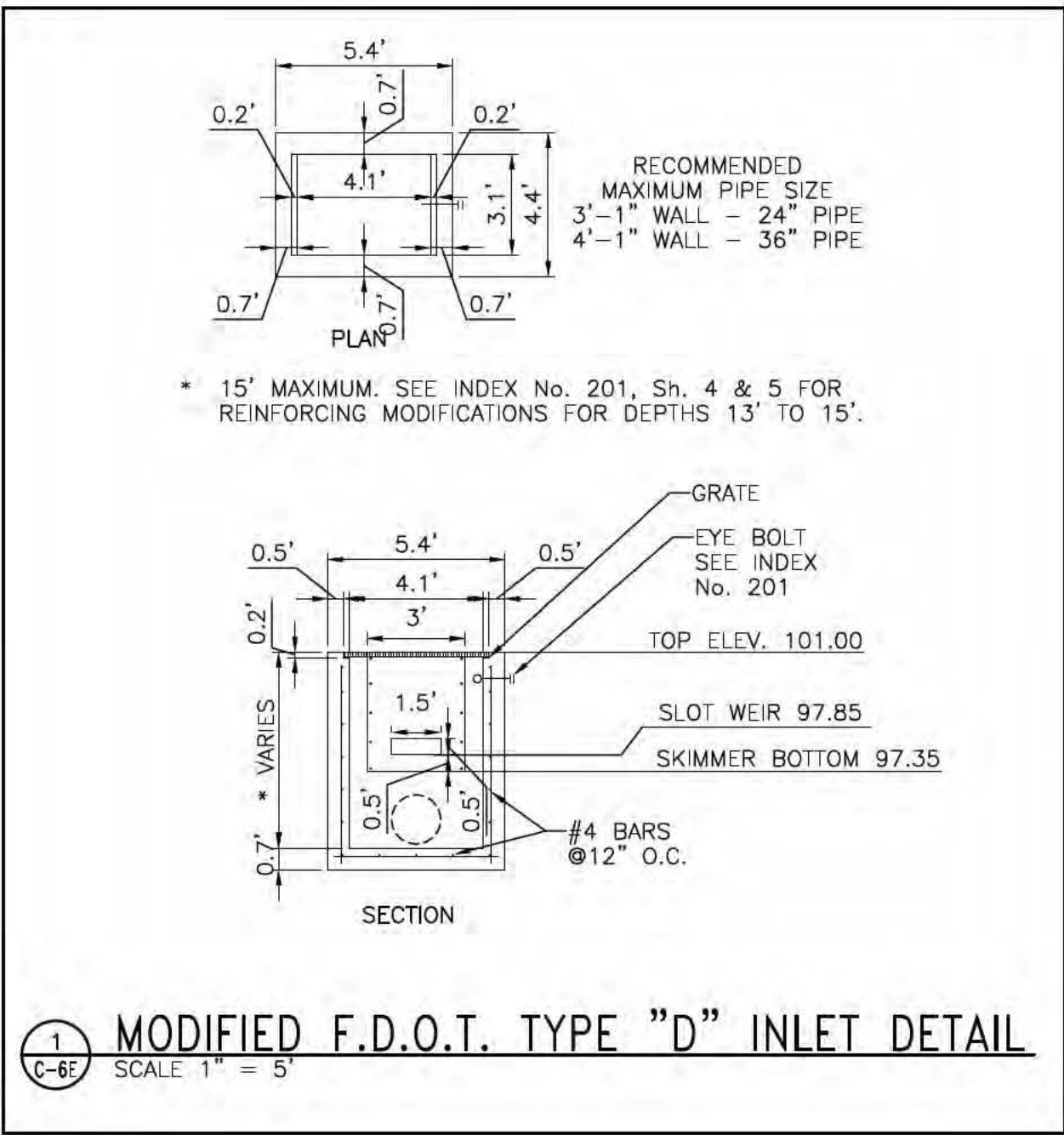


CONCRETE CONSTRUCTION NOTES

1. CONCRETE PRE-CONSTRUCTION MEETING
- A. THE CONCRETE CONTRACTOR, ALONG WITH THE CONCRETE PRODUCER, MAY REQUEST THROUGH THE GENERAL CONTRACTOR FOR A PRE-CONSTRUCTION MEETING PRIOR TO CONCRETE PLACEMENT.
- B. ATTENDEE: CONCRETE CONTRACTOR, CONCRETE PRODUCER, GENERAL CONTRACTOR, OWNER OR OWNER'S REPRESENTATIVE(S), ENGINEER OF RECORD, ARCHITECT, SITE CONTRACTOR, GEOTECHNICAL REPRESENTATIVE(S), ETC.
- C. AGENDA: INCLUDE BUT NOT LIMITED TO THE FOLLOWINGS: (CONTRACTOR MAY CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION FOR PRE-CONSTRUCTION MEETING CHECK LISTS)
- i. MIXTURE(S) APPROVAL
  - ii. CONCRETE TESTING: TYPE, LOCATION OF SAMPLINGS, ETC.
  - iii. CONCRETE DELIVERY: QUANTITY/HR, PUMP, CONVEYOR, ETC.
  - iv. PLACEMENT: METHOD, QUANTITY/DAY, STAGING & CLEAN OUT LOCATION, ETC.
  - v. FINISHING: CURING, JOINTING, ETC.
2. JOINTS FOR CONCRETE SLABS
- A. GENERAL – A JOINTING PLAN FOR THE ENTIRE PAVING AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE ENGINEER OF RECORD (EOR) 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. THE CONTRACTOR MAY ALSO CONTACT THE FLORIDA CONCRETE & PRODUCTS ASSOCIATION (FC&PA) FOR TECHNICAL RESOURCES AND ASSISTANT.
1. A SQUARE JOINTING PATTERN IS REQUIRED WHERE POSSIBLE. IF NECESSARY, RECTANGULAR PANELS CAN BE USED IF THE LONG DIMENSION IS NO MORE THAN 1.5 TIMES THE SHORT (e.g. 8' x 12'). JOINT SPACING SHALL NOT EXCEED THE FOLLOWING: 10 FEET IN A 4" THICK SLAB, 12 FEET IN A 5" THICK SLAB OR 15 FEET IN SLAB WITH THICKNESS OF 6" OR GREATER.
- ii. BOX OUT AREA AROUND MANHOLES, CATCH BASINS, DRAINAGE STRUCTURES & OTHER BUILT-IN STRUCTURES WITHIN THE PAVING AREA SHALL BE CIRCULAR WHERE POSSIBLE. A MINIMUM OFFSET OF 12" FROM ANY EDGE OF THE STRUCTURE. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE. CONSTRUCTION & CONTROL JOINTS SHALL BE CONTINUOUS THROUGH ADJACENT LANES & EXTEND THROUGH INTEGRAL CURB. JOINTS CAN BE TERMINATED & OFFSET AT ISOLATION JOINTS, WHERE JOINTS INTERFERE ANY RADIUS OR CURVATURE, OFFSET A MINIMUM OF 12" FROM EDGE OF PAVEMENT AND FORM JOINT 90 DEGREE TO EDGE OF PAVEMENT TO AVOID ACUTE ANGLE OR SMALL WEDGES OF CONCRETE AT CURVATURES. OBTAIN A COPY OF THE FC&PA STANDARD DETAILS FOR REFERENCE.
- B. CONSTRUCTION JOINTS – A CONSTRUCTION JOINT SEPARATES ONE DAY PLACEMENT TO THE NEXT DAY PLACEMENT. A CONSTRUCTION JOINT SHALL BE A MINIMUM OF 5 FEET FROM ANY ADJACENT CONTROL JOINT. NEXT DAY PLACEMENT SHALL BUTT UP TO THE EXISTING PAVEMENT AS A COLD JOINT. THE CONSTRUCTION JOINT MAY BE HAND-TOOLED WITH MAXIMUM 0.25" RADIUS AT THE EDGE OF THE JOINT. CONTROL JOINTS FROM BOTH PLACEMENT AREAS SHALL MATCH AND BE CONTINUOUS ACROSS THE CONSTRUCTION JOINT.
- C. CONTROL/CONTRACTION JOINTS – CONTROL JOINTS ARE JOINTS WITHIN THE PAVING AREA FORMED THROUGH TOOLING OR SAW CUTTING. CONTROL JOINTS ESTABLISH WEAK PLANES TO RELIEVE STRESSES DUE TO SHRINKAGE OR TEMPERATURE CHANGE. INSTALL CONTROL JOINTS WITHIN 12 HRS FROM THE TIME THE CONCRETE HITS THE GROUND OR OBTAIN IN WRITING APPROVAL FROM THE EOR BEYOND THE 12-HR TIME LIMIT.
- i. EARLY-ENTRY SAW CUTTING METHOD: CUT JOINT TO A MINIMUM OF 1" DEEP FOR PAVEMENT THICKNESS UP TO 8". CUTTING OF JOINT SHALL NOT CAUSE RAVELING TO THE EDGES OR DEFORMATION OF THE SURFACE DUE TO EQUIPMENT OR WORKER.
- ii. OTHER METHODS: INSTALL JOINT TO A MINIMUM OF 1/3 OF PAVEMENT DEPTH. FINISH EDGES WITH 0.25" RADIUS; OPERATION SHALL NOT CAUSE ANY DEFORMATION OF THE SURFACE.
- D. ISOLATION JOINTS – THESE JOINTS USE ISOLATION MATERIALS TO PREVENT FRESH CONCRETE FROM BONDING TO HARDENED CONCRETE SUCH AS, BUT NOT LIMITED TO, BUILDING FOUNDATIONS, SIDEWALKS, DRAINAGE STRUCTURES, LIGHTING & SIGNAGE BASES, RETAINING WALLS, CURBS, ETC. THE ISOLATION MATERIAL SHALL EXTEND THE FULL-DEPTH OF THE FRESH CONCRETE THICKNESS. FROM ONE DAY PLACEMENT TO THE NEXT, WHERE JOINTS ARE MATCHED, ISOLATION MATERIAL IS NOT NECESSARY. (E.G. ONE LANE PAVING TO THE NEXT, INTEGRAL CURBS)
- E. ISOLATION JOINTS BETWEEN SLABS AT SOME GRADE SHALL BE FORMED WITH 0.25 INCH THICK NEOPRENE OR 0.50 INCH THICK ASPHALT IMPREGNATED FIBER FILLER WITH HYDROCARBON RESISTANT ELASTOMERIC FILL MATERIAL AS SEALER. ALL EDGES TO BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
- F. A SATISFACTORY ISOLATION JOINT CAN BE FORMED AT METAL BUILDING CURBS BY PLACING A STRIP OF CURING PAPER AGAINST THE METAL FORM & THEN PLACING THE FRESH CONCRETE AGAINST THE PAPER. THE EDGES OF THE SLAB SHALL BE HAND TOOLED WITH MAXIMUM 0.50 INCH RADIUS.
3. JOINTS SEALANT – A JOINT SEALING PLAN FOR THE AFFECTED AREA SHALL BE PREPARED BY THE CONCRETE CONTRACTOR & SUBMITTED TO THE EOR, ALONG WITH THE JOINTING PLAN, 2 WEEKS PRIOR TO PLACEMENT OF CONCRETE FOR THE EOR APPROVAL. NOT ALL JOINT WILL BE REQUIRED SEALING, THE CONCRETE CONTRACTOR IS TO RECOMMEND THE NECESSARY LOCATION AND TO PROVIDE SUPPORTING DOCUMENTATION FOR NON-SEALING AREAS. USE A POLYURETHANE SEALANT (TREMCO THC-900/THC-901 MULTI-COMPOUND) COMPOUND OR EQUIVALENT. THE CONCRETE CONTRACTOR IS TO SUBMIT SEALANT TYPE AND MANUFACTURER INFORMATION TO THE EOR FOR APPROVAL WHEN "EQUIVALENT" IS USED. JOINTS SHALL BE PREPARED BY FOLLOWING MANUFACTURER'S RECOMMENDATIONS PRIOR TO SEALING.

DRAINAGE STRUCTURE LEGEND

<b>MES-10</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 95.50	<b>SD11-1</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 104.60 INV. ELEV. 95.62 N INV. ELEV. 95.62 E	<b>SD11-2</b> TYPE "G" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.90 INV. ELEV. 96.49 W INV. ELEV. 99.49 NE INV. ELEV. 96.49 N	<b>SD11-3</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 105.15 INV. ELEV. 100.18 SW INV. ELEV. 100.18 E	<b>SD11-4</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 105.15 INV. ELEV. 100.92 W	<b>SD11-5</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.45 INV. ELEV. 98.23 S INV. ELEV. 98.23 N
<b>SD11-6</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.45 INV. ELEV. 98.48 S INV. ELEV. 98.48 N	<b>SD11-7</b> TYPE "F" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-053 TOP ELEV. 102.00 INV. ELEV. 98.85 S				
<b>MES-11</b> MITERED END SECTION PER F.D.O.T. STANDARD PLANS INDEX 430-021 INV. ELEV. 97.00	<b>SD12-1</b> TYPE "C" INLET W/ 5'X5' INSIDE DIMENSIONS TYPE "I" BOTTOM PER F.D.O.T. STANDARD PLANS INDEX 425-052 & 425-053 TOP ELEV. 106.10 INV. ELEV. 97.10 W INV. ELEV. 100.23 N INV. ELEV. 101.60 S	<b>SD12-2</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.10 INV. ELEV. 102.39 N	<b>SD12-3</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.10 INV. ELEV. 100.39 S INV. ELEV. 100.39 N	<b>SD12-4</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.30 INV. ELEV. 100.50 S	<b>SD12-5</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.10 INV. ELEV. 100.82 S INV. ELEV. 100.82 N
<b>SD12-6</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.10 INV. ELEV. 101.29 S INV. ELEV. 101.29 NE	<b>SD12-7</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.00 INV. ELEV. 102.09 SW INV. ELEV. 102.09 NE	<b>SD12-8</b> TYPE "C" INLET PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 106.20 INV. ELEV. 102.87 SW			
<b>EX-1</b> EXISTING INLET TOP ELEV. 100.01 BOTTOM ELEV. 97.32 INV. ELEV. 97.32 S INV. ELEV. 97.38 SE * CORE AND DRILL TO CONNECT NEW PIPE	<b>OS-3</b> MODIFIED TYPE "D" INLET OUTFALL STRUCTURE PER F.D.O.T. STANDARD PLANS INDEX 425-052 TOP ELEV. 101.00 1.5' X 0.5' SLOTTED WEIR AT ELEV. 99.40 E INV. ELEV. 97.85 NW				



# SITE DRAINAGE KEYNOTES

- D1. F.D.O.T. MITERED END SECTION PER 2018 F.D.O.T. STANDARD PLANS INDEX 430-021, TYPICAL.
- D2. F.D.O.T. TYPE "C" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-052, TYPICAL.
- D3. F.D.O.T. TYPE "F" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D4. F.D.O.T. TYPE "G" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-053, TYPICAL.
- D5. F.D.O.T. TYPE "4" DITCH BOTTOM INLET PER 2018 F.D.O.T. STANDARD PLANS INDEX 425-020, TYPICAL.
- D6. OUTFALL STRUCTURE.
- D7. CONNECT TO EXISTING INLET.
- D8. STORM MANHOLE.
- D9. 5" THICK CONCRETE BROAD CRESTED WEIR STRUCTURE. SEE DETAIL ON SHEET C-8B.

# GRADING KEYNOTES

- G1. F.D.O.T. TYPE "III" SILT FENCE EROSION CONTROL BARRIER, TYPICAL.
- G2. MATCH EXISTING PAVEMENT GRADE. OVERLAY EXISTING PAVEMENT AS NEEDED TO PROVIDE A SMOOTH TRANSITION, TYPICAL.
- G3. EROSION CONTROL AND SLOPE PROTECTION.

STORM DRAINAGE PIPE CHART					
DESIGNATION	PIPE			FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER
	LENGTH (LINEAR FEET)	SIZE & TYPE	SLOPE		
SP11-1	59	36" R.C.P.	0.2%	MES-10	SD11-1
SP11-2	433	36" R.C.P.	0.2%	SD11-1	SD11-2
SP11-3	138	18" R.C.P.	0.5%	SD11-2	SD11-3
SP11-4	147	15" R.C.P.	0.5%	SD11-3	SD11-4
SP11-5	87	30" R.C.P.	0.2%	SD11-2	SD11-5
SP11-6	124	24" R.C.P.	0.2%	SD11-5	SD11-6
SP11-7	124	18" R.C.P.	0.3%	SD11-6	SD11-7
SP12-1	76	36" R.C.P.	0.13%	MES-11	SD12-1
SP12-2	158	15" R.C.P.	0.5%	SD12-1	SD12-2
SP12-3	157	24" R.C.P.	0.1%	SD12-2	SD12-3
SP12-4	106	24" R.C.P.	0.1%	SD12-3	SD12-4
SP12-5	105	18" R.C.P.	0.3%	SD12-4	SD12-5
SP12-6	155	18" R.C.P.	0.3%	SD12-5	SD12-6
SP12-7	161	15" R.C.P.	0.5%	SD12-6	SD12-7
SP12-8	156	15" R.C.P.	0.5%	SD12-7	SD12-8
SP13-1	95	18" R.C.P.	0.5%	EX-1	OS-3

DATE	REVISIONS		BY	CHECKED	

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA



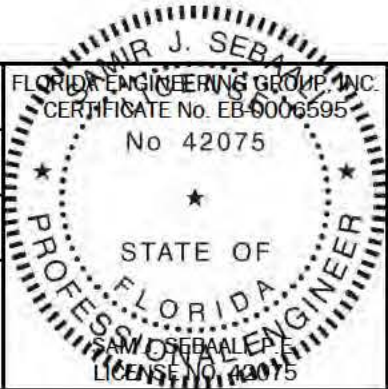
5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325

www.feg-inc.us

MASTER GRADING AND DRAINAGE  
NOTES (3 OF 3)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO. 18-097	SCALE NOTED
DATE OCTOBER 10, 2019	SHEET NO. C-6E
	SHEET 16 OF 20



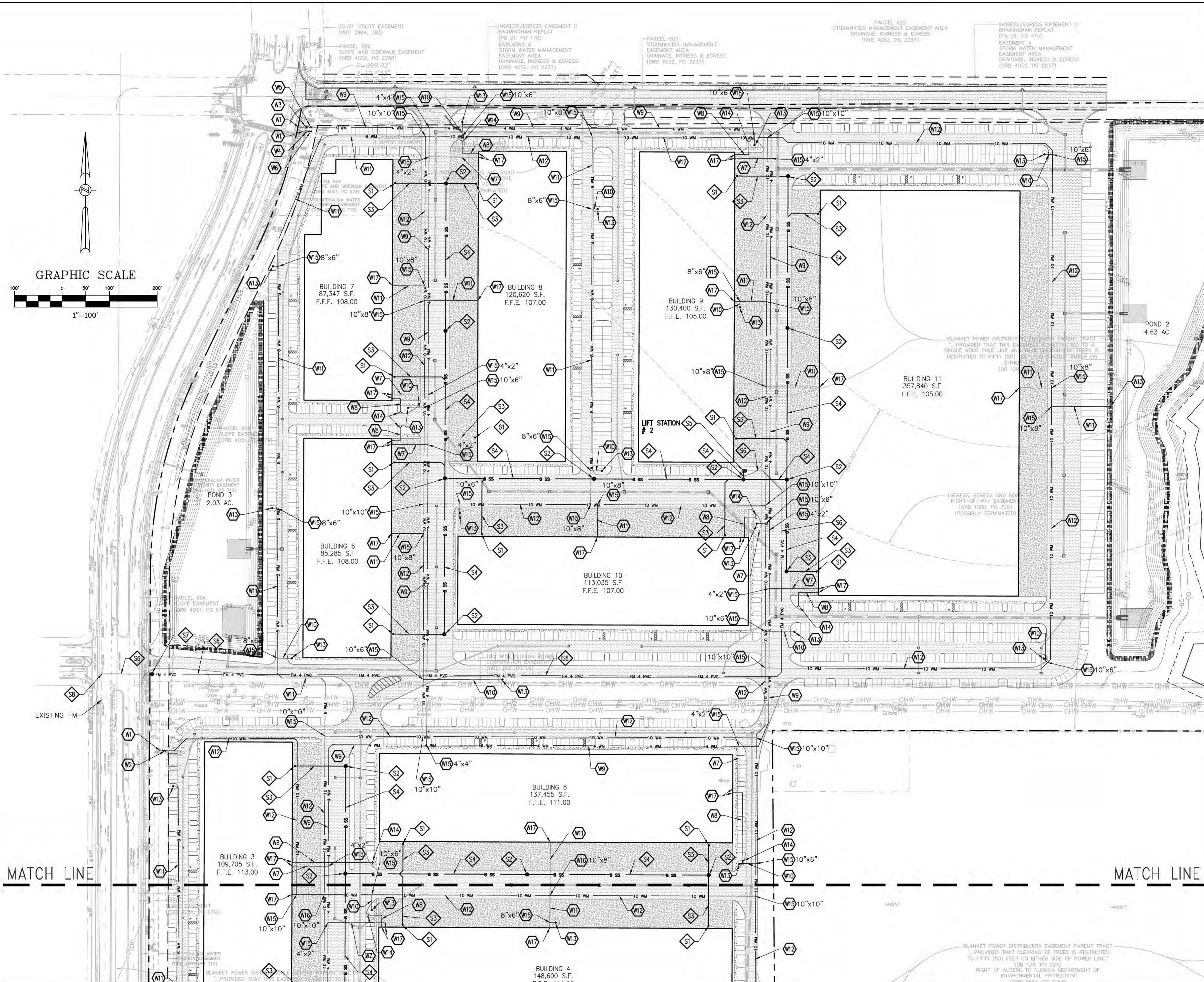
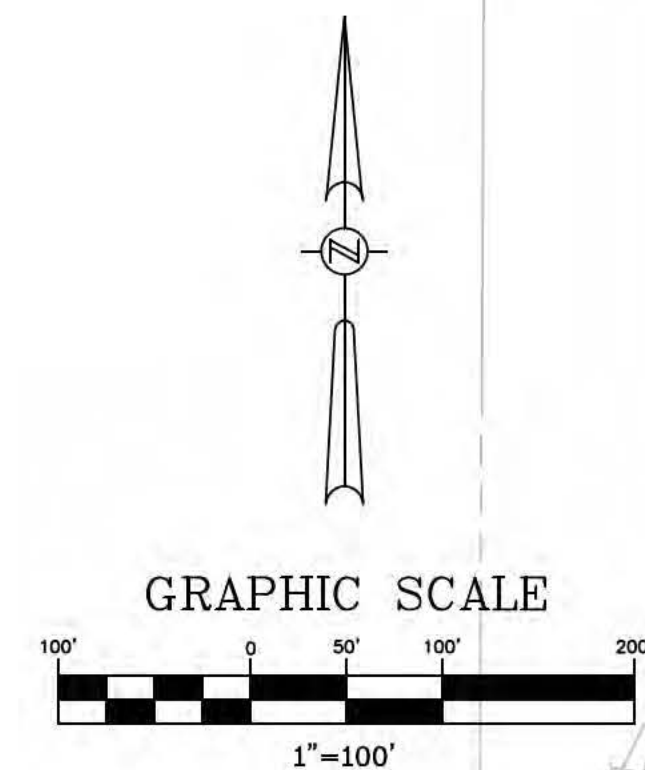
THIS ITEM HAS BEEN  
ELECTRONICALLY SIGNED AND  
SEALED BY (ENGINEER), P.E. ON  
(DATE) USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS  
DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE  
SIGNATURE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES







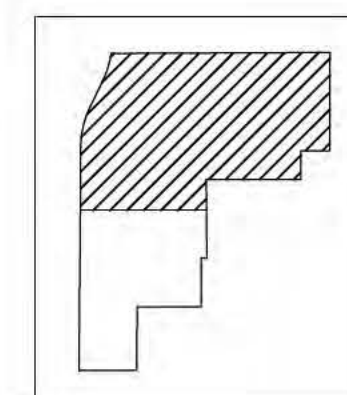


- # WATER UTILITY KEYNOTES**
- W1. CONNECT TO EXISTING WATER STUB-OUT.
  - W2. 10" (DCDA) DOUBLE CHECK DETECTOR ASSEMBLY WITH BY PASS METER AND MONITORING WATER SERVICE TO BE INSTALLED BY DEVELOPER'S UTILITY CONTRACTOR. THE DCDA SHALL BE MONITORED IN ACCORDANCE W/ N.F.P.A. 72.
  - W3. 2" DOMESTIC WATER METER TO BE INSTALLED BY ??????. DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR BACKFLOW PREVENTER AND SERVICE LINE FROM BACKFLOW PREVENTER TO BUILDING.
  - W4. 2" IRRIGATION WATER METER TO BE INSTALLED BY ??????. DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR BACKFLOW PREVENTER AND SERVICE LINE FROM BACKFLOW PREVENTER TO BUILDING.
  - W5. 4" DOMESTIC WATER REDUCED PRESSURE BACKFLOW PREVENTER (BY CONTRACTOR).
  - W6. 4" IRRIGATION WATER REDUCED PRESSURE BACKFLOW PREVENTER (BY CONTRACTOR).
  - W7. 2" CLASS 200, SDR 21 PVC DOMESTIC WATER LINE.
  - W8. 6" PVC C-900 DR-14 FIRE LINE.
  - W9. 4" PVC C-900 DR-18 WATER MAIN.
  - W10. 6" PVC C-900 DR-18 WATER LINE.
  - W11. 8" PVC C-900 DR-18 WATER MAIN.
  - W12. 10" PVC C-900 DR-18 WATER MAIN.
  - W13. FIRE HYDRANT ASSEMBLY, TYPICAL.
  - W14. FIRE DEPARTMENT CONNECTION (FDC).
  - W15. TEE. SEE PLAN FOR SIZE, TYPICAL.
  - W16. CROSS. SEE PLAN FOR SIZE, TYPICAL.
  - W17. COORDINATE CONTINUATION WITH PLUMBING AND ARCHITECTURAL PLANS.

- # SANITARY SEWER UTILITY KEYNOTES**
- S1. SANITARY SEWER CLEANOUT.
  - S2. SANITARY SEWER MANHOLE.
  - S3. 6" PVC ASTM D3034 SDR 35 SANITARY SEWER LATERAL @ 1.0% MIN. SLOPE.
  - S4. 8" PVC ASTM D3034 SDR 35 SANITARY SEWER MAIN @ 0.7% MIN. SLOPE.
  - S5. SANITARY LIFT STATION.
  - S6. 4" PVC FORCE MAIN. FORCE MAIN SHALL HAVE A MINIMUM OF 3' OF COVER.
  - S7. 4" PLUG VALVE.
  - S8. CONNECT TO EXISTING FORCE MAIN.

WATER & SEWER FLOW								
BUILDING	TOTAL AREA (S.F.)	20% OFFICE AREA (S.F.)	T.W.A. UNIT FACTOR PER S.F.	T.W.A. WATER & SEWER (GPD)	80% LIGHT INDUSTRIAL AREA (S.F.)	T.W.A. UNIT FACTOR PER S.F.	T.W.A. WATER & SEWER (GPD)	TOTAL WATER & SEWER FLOW (GPD)
6	85,285	17,057	0.15	2,559	68,228	0.075	5,117	7,676
7	87,347	17,469	0.15	2,620	69,878	0.075	5,241	7,861
8	120,620	24,124	0.15	3,619	96,496	0.075	7,237	10,856
9	130,400	26,080	0.15	3,912	104,320	0.05	5,216	9,128
10	113,035	22,607	0.15	3,391	90,428	0.075	6,782	10,173
11	357,840	71,568	0.15	10,735	286,272	0.05	14,314	25,049
TOTAL								70,743

**SITE NOTE:**  
ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.



MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

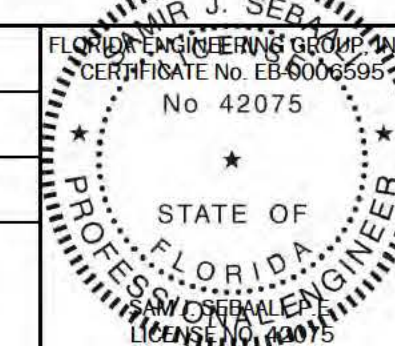


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

CONCEPTUAL MASTER UTILITY PLAN  
(2 OF 2)

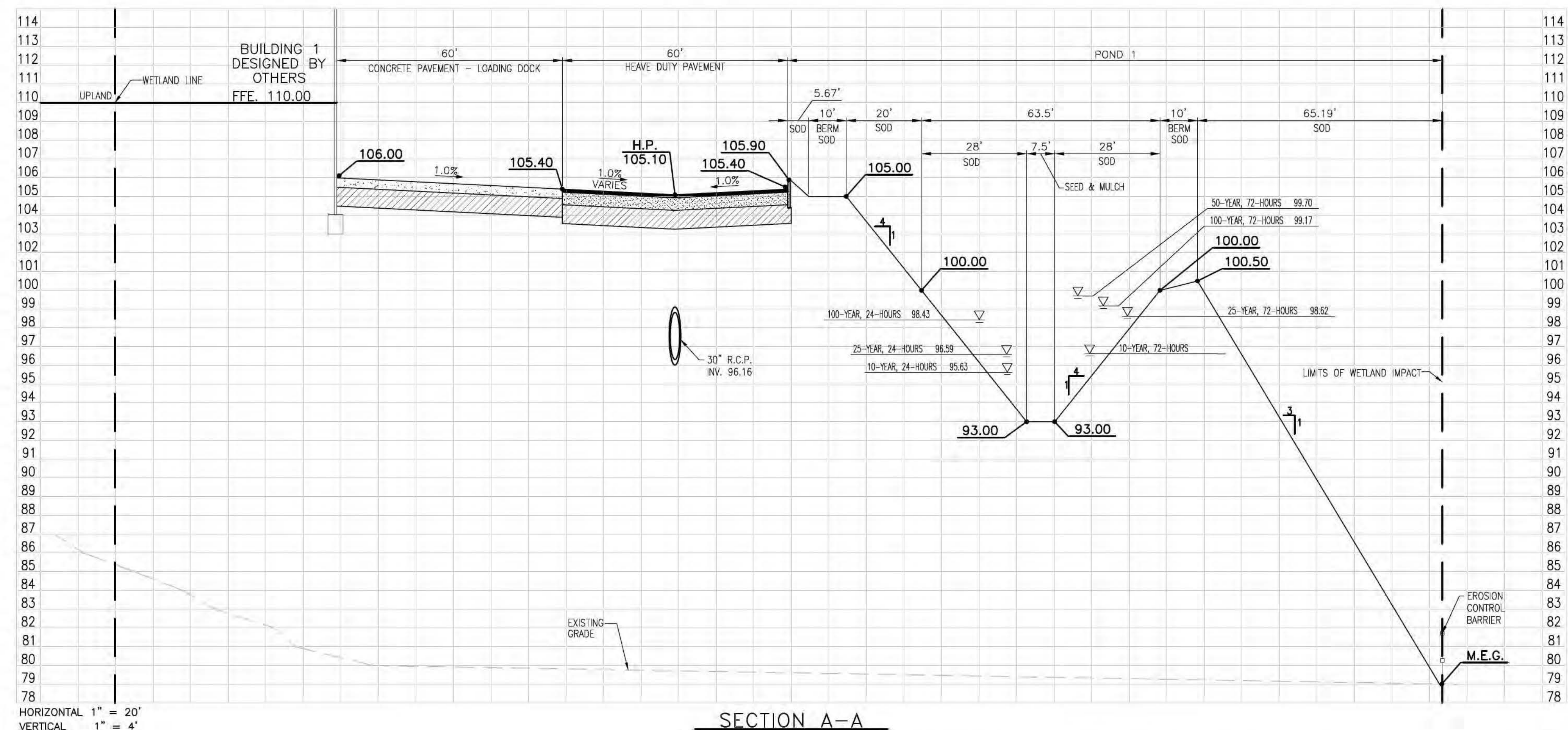
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	JT	SJS	SJS

PROJECT NO. 18-097  
SCALE 1"=100'  
DATE OCTOBER 10, 2019  
SHEET NO. C-7B  
SHEET 18 OF 20



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.





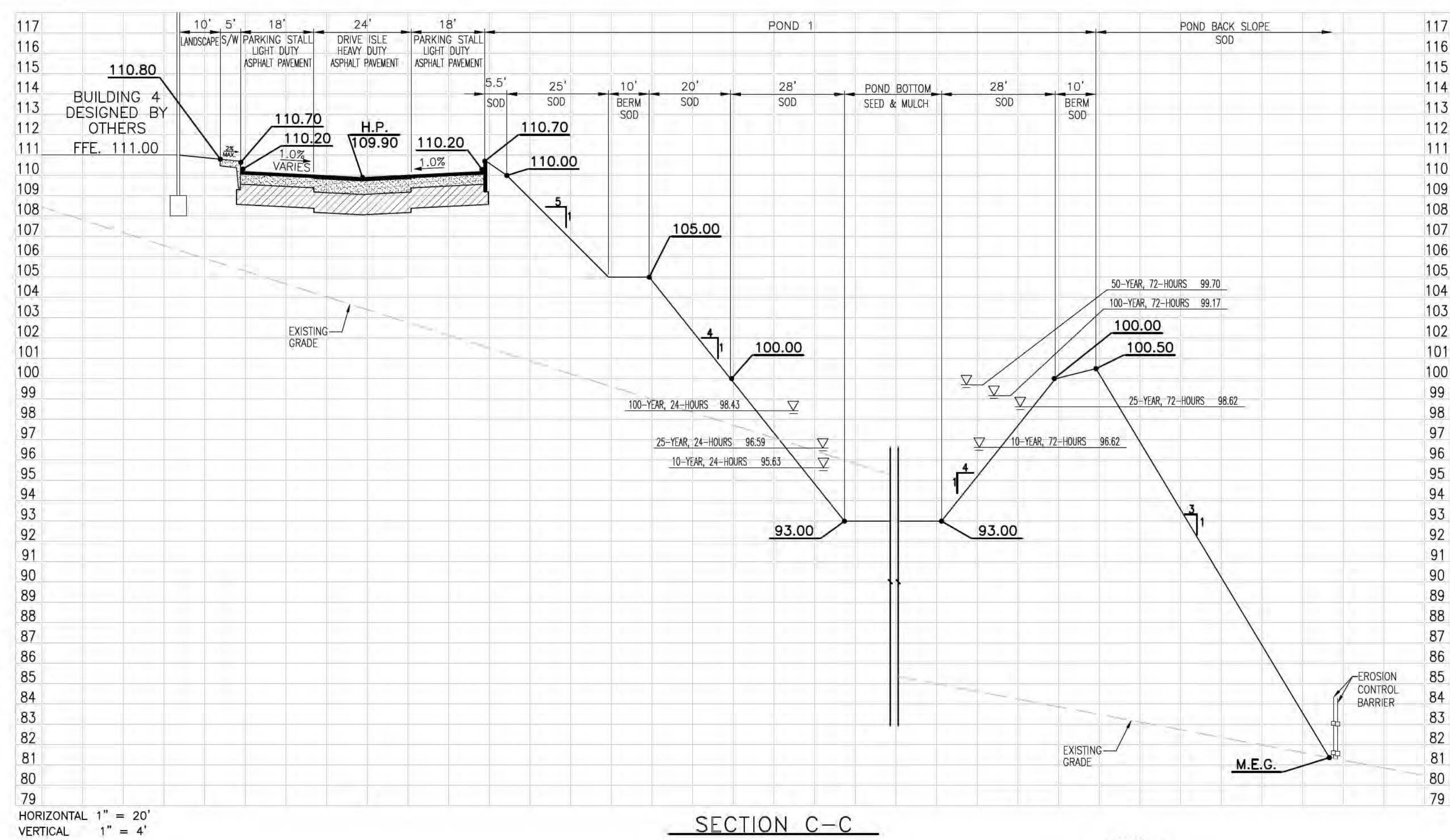
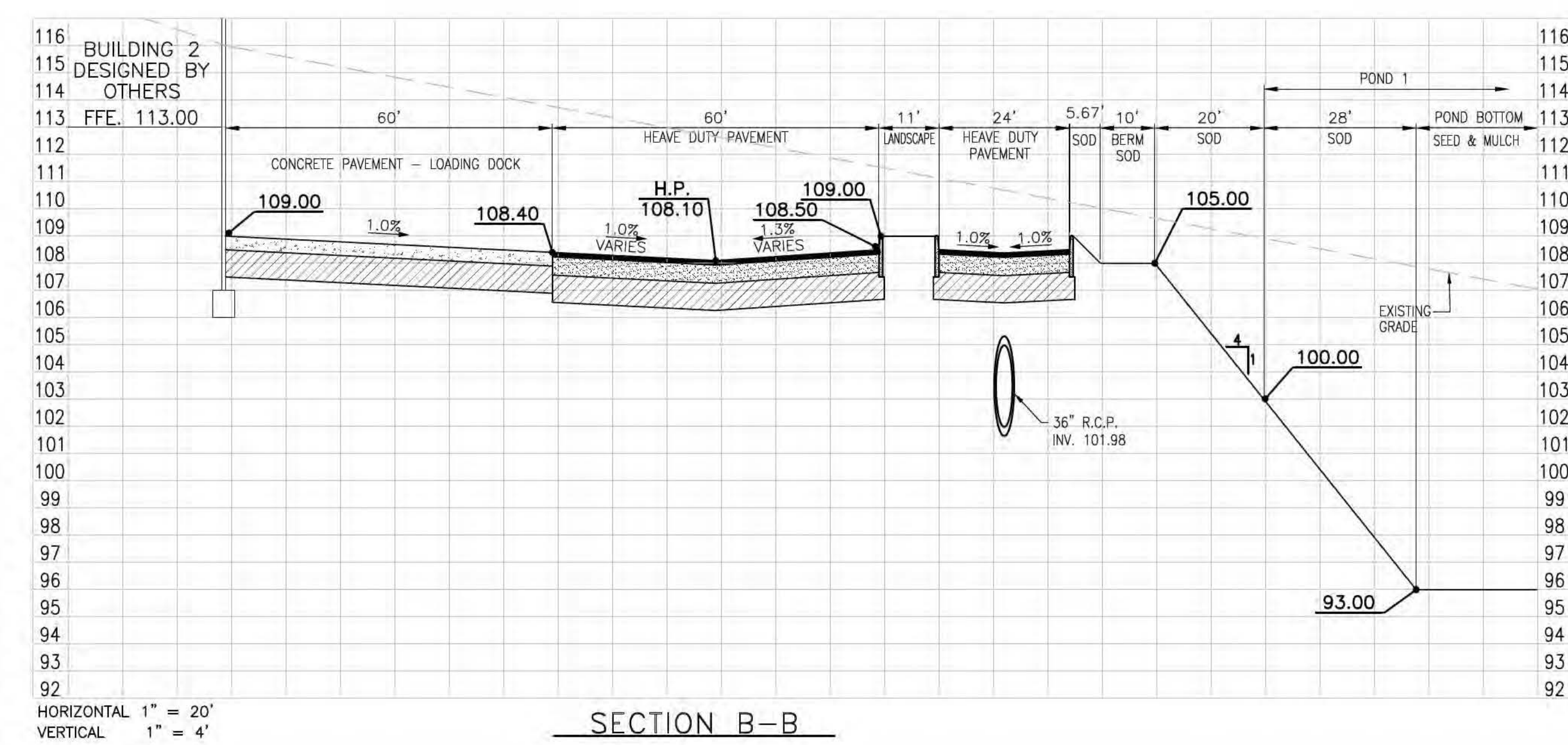
**POND CONSTRUCTION NOTES:**

1. BERM STABILIZATION SHALL BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THIS INCLUDES ANY REQUIRED DEMUCKING; SOIL IMPROVEMENTS AND BERM MATERIAL AND COMPACTION REQUIREMENTS.
2. ALL FILL BELOW THE POND LIMITS EXCEPT AS REQUIRED FOR BERM STABILIZATION SHALL CONSIST OF CLEAN FINE SANDS WITH A MAXIMUM 5% FINE PASSING No. 200 U.S. STANDARD SIEVE. THE FILL IN THE POND AREAS IS TO BE COMPACTED PURSUANT TO THE TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. CARE SHOULD BE TAKEN TO NOT OVERCOMPACT POND BACKFILL IN AREAS OUTSIDE REQUIRED BERM STABILIZATION AREAS. FOR COMPACTION AND MATERIAL REQUIREMENTS FOR BERM AREAS AND THEIR LIMITS, REFER TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

**GEOTECHNICAL ENGINEER'S BERM RECOMMENDATIONS:**

AREAS OF SHALLOW MUCK SOILS CAN BE CONSIDERED FOR OVER-EXCAVATION; HOWEVER, IN AREAS WHERE IT WOULD BE EITHER ECONOMICALLY UNTENABLE OR IMPRACTICAL FROM A CONSTRUCTABILITY PERSPECTIVE, WE RECOMMEND THAT THE MUCK SOILS BELOW AND IMMEDIATELY ADJACENT TO THE POND BERM BE IMPROVED IN-PLACE THROUGH A MEANS OF JET OR FAN GROUTING. JET GROUTING IS A PROCESS IN WHICH A PROBE IS INSERTED TO A DESIRED DEPTH OF MODIFICATION AND IS EXTRACTED WHILE SPRAYING A HIGH-VELOCITY WATER AND AIR JET STREAM THAT ERODES THE SURROUNDING SOIL IN A CYLINDRICAL COLUMN AT WHICH POINT THE ERODED SOIL IS THEN MIXED WITH A JET OF CEMENT SLURRY IN-SITU WHICH THEN SOLIDIFIES. THE EXTENTS OF THE IMPROVEMENT AND PERFORMANCE SPECIFICATIONS WOULD NEED TO BE DEVELOPED AS PART OF THE FINAL GEOTECHNICAL EXPLORATION.

UPON COMPLETION OF THE JET GROUTING PROCESS, THE FILL BEING PLACED AS PART OF THE POND BERM SHOULD BE PLACED AND COMPACTED IN PHASES TO ALLOW FOR SETTLEMENT TO OCCUR GRADUALLY. WE RECOMMEND THAT A MAXIMUM OF 5 FEET OF FILL SOIL BE PLACED IN 1-FOOT LOOSE LIFTS AND COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OF A MODIFIED PROCTOR (ASTM D-1557) PRIOR TO THE PLACEMENT OF ADDITIONAL LIFTS. THE PHASING OF FILL PLACEMENT ALLOWS FOR SETTLEMENT MONITORING TO OCCUR IN ORDER TO OBSERVE AREAS THAT MAY EXHIBIT EXCESSIVE SETTLEMENT PRIOR TO PROCEEDING WITH SUBSEQUENT LIFTS. A SETTLEMENT MONITORING PROGRAM WOULD BE DEVELOPED AND DESCRIBED IN MORE DETAIL AS PART OF THE FINAL GEOTECHNICAL EXPLORATION. THE FILL MATERIAL TO BE USED FOR THE POND BERMS SHOULD CONSIST OF A LOW PLASTICITY SOIL WITH A MINIMUM OF 12% FINES AND AS APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD PRIOR TO USE.



**SITE NOTE:**

ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

DATE	REVISIONS	BY	CHECKED

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

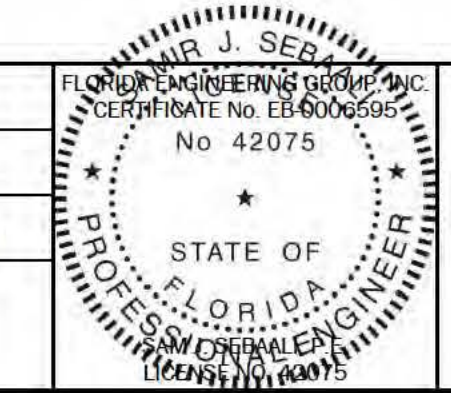


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

SITE CROSS SECTIONS (1 OF 2)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

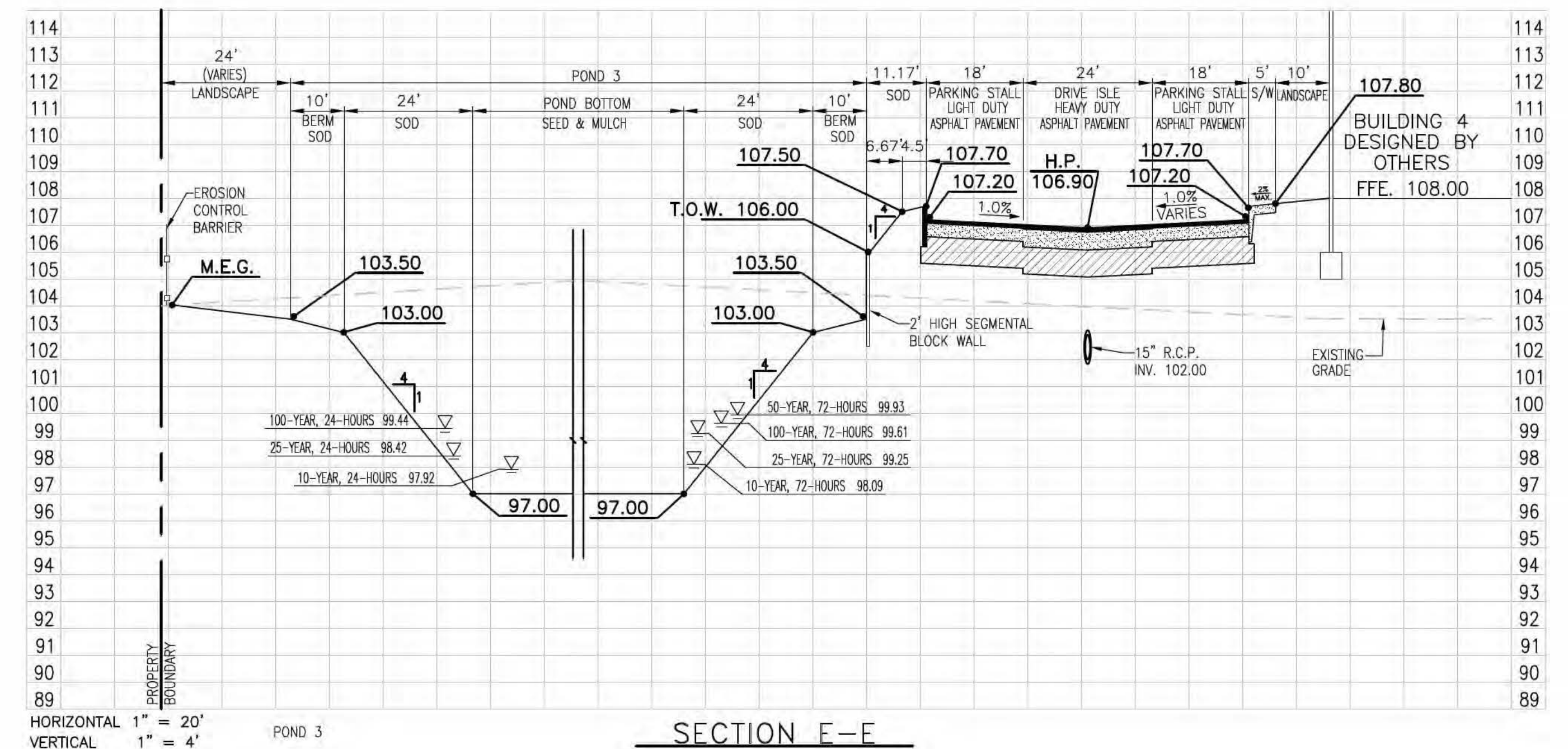
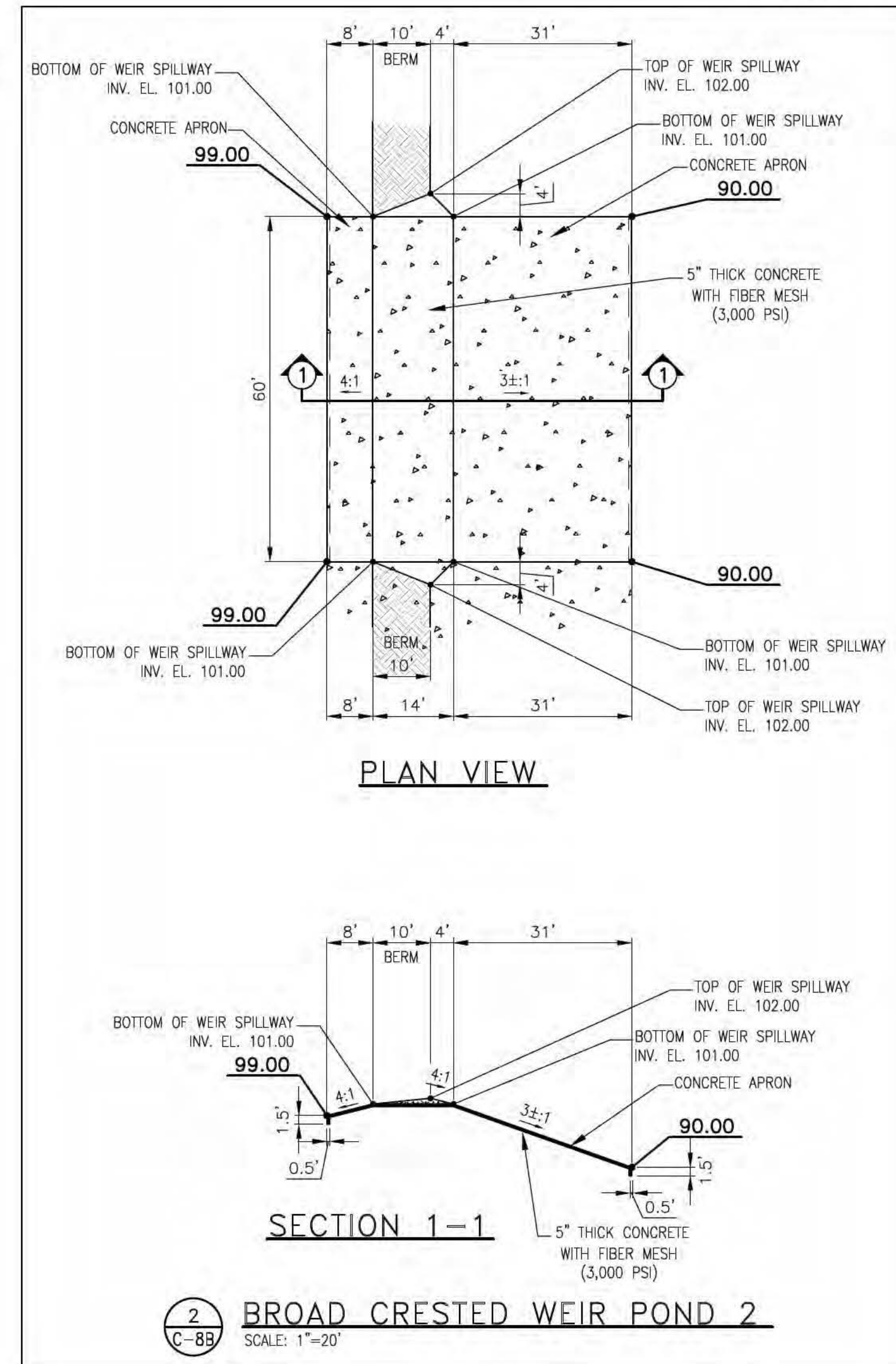
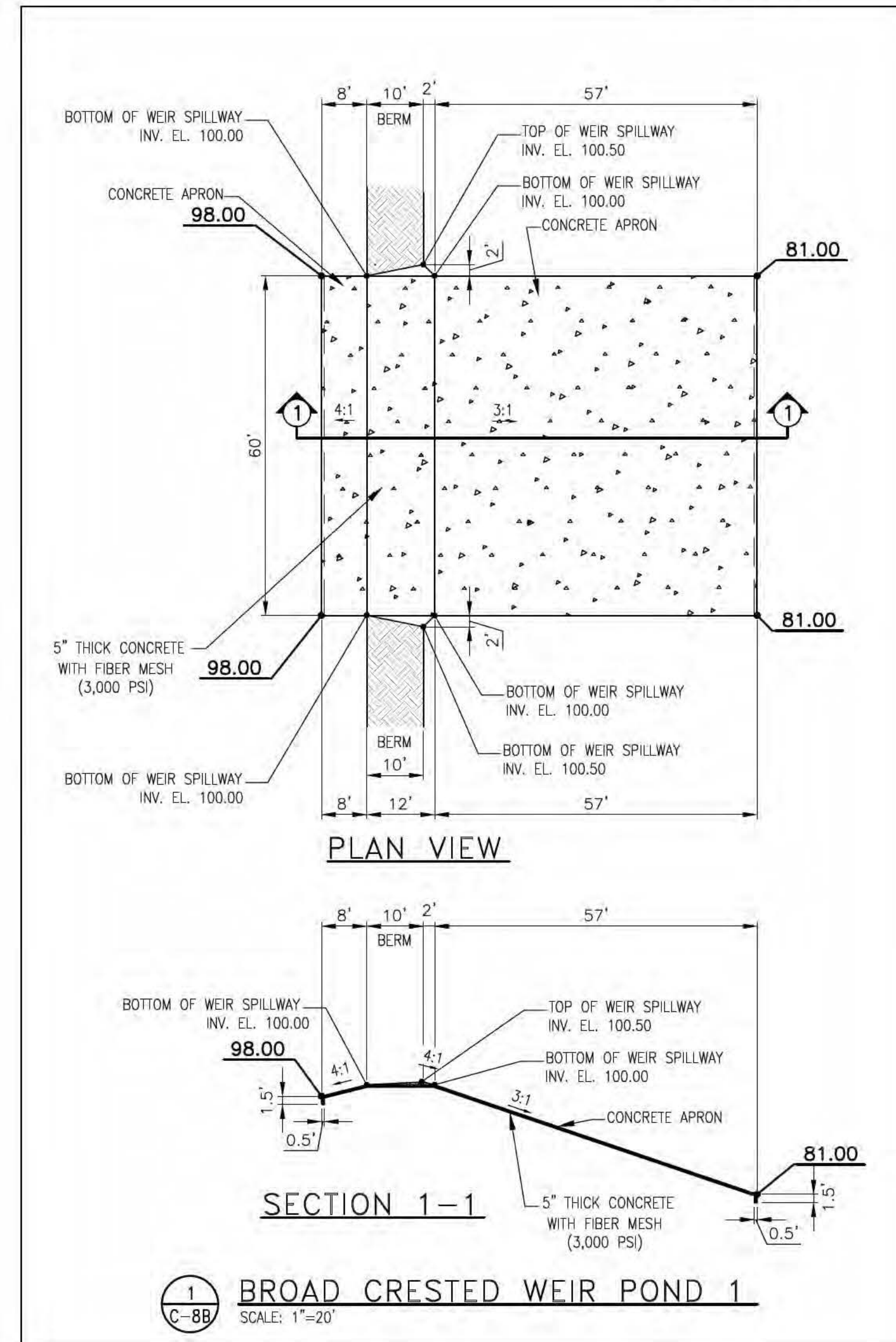
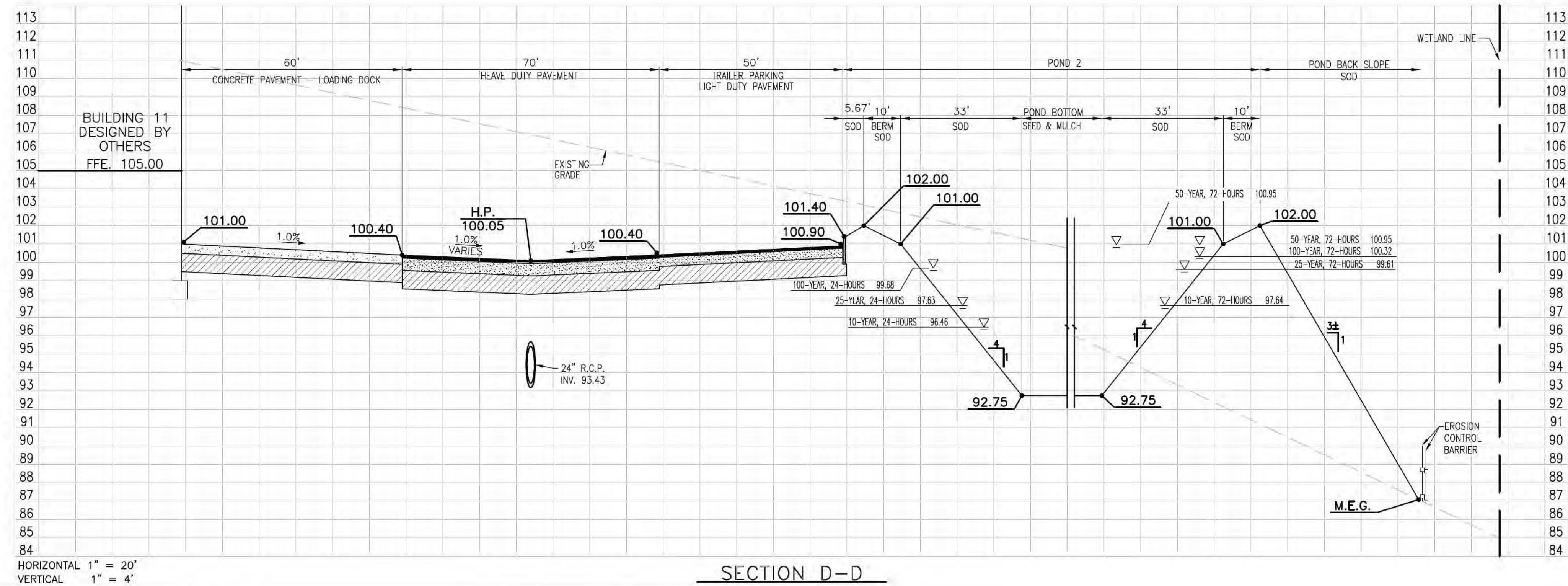
PROJECT NO. 18-097	SCALE NOTED
DATE OCTOBER 10, 2019	SHEET NO. C-8A
SHEET 19	OF 20



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.





**SITE NOTE:**  
ALL CONSTRUCTION DETAILS ARE CONCEPTUAL AND SUBJECT TO REVIEW AND MODIFICATION DURING THE APPROVAL OF FINAL CONSTRUCTION PLANS.

MASTER DEVELOPMENT PLAN  
HORIZON WEST COMMERCIAL PARK  
OSCEOLA COUNTY, FLORIDA

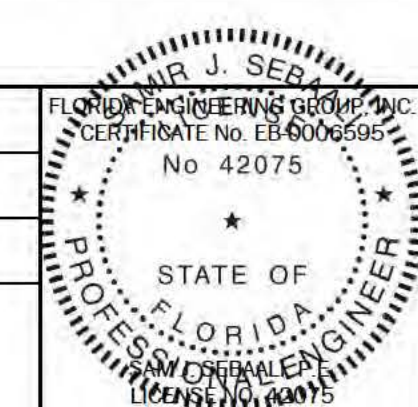


5127 S. Orange Avenue, Suite 200  
Orlando, FL 32809  
Phone: 407-895-0324  
Fax: 407-895-0325  
www.feg-inc.us

SITE CROSS SECTIONS (2 OF 2)

DESIGNED BY SJS	DRAWN BY JT	CHECKED BY SJS	APPROVED BY SJS
--------------------	----------------	-------------------	--------------------

PROJECT NO.  
18-097  
SCALE  
NOTED  
DATE  
OCTOBER 10, 2019  
SHEET NO.  
C-8B  
SHEET 20 OF 20



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY (ENGINEER), P.E. ON (DATE) USING A DIGITAL SIGNATURE.  
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.