RCID / SFWMD STORMWATER CONSTRUCTION PLANS FOR

WATERSTAR ORLANDO

WATERSTAR ORLANDO PD

PARCEL ID#s

34-24-27-1000-01-001, 33-24-27-0000-00-006 33-24-27-0000-00-010, 33-24-27-0000-00-011, 33-24-27-0000-00-012, 33-24-27-0000-00-024,

33-24-27-0000-00-025, 33-24-27-0000-00-026, & 33-24-27-0000-00-027



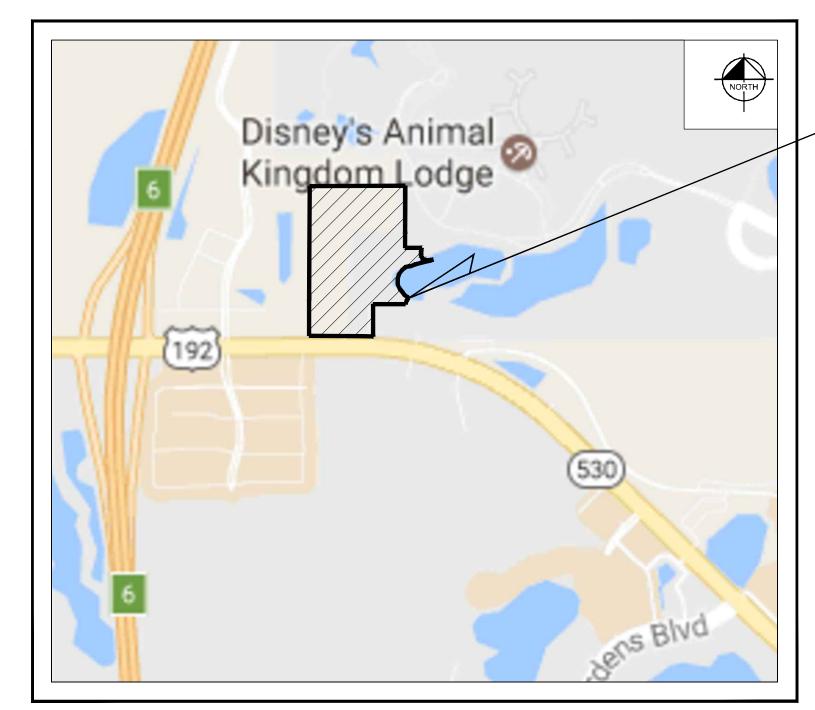
AERIAL PHOTOGRAPH

LEGAL DESCRIPTION

Commence at the Southeast corner of said Section 33, Township 24 South, Range 27 East, Orange County, Florida; thence run S89°56'28"W along the South line of said Section 33, also being the centerline of State Road 530 (U.S. Highway No. 192), a distance of 994.86 feet to a point on the Southerly projection of the East line of Shoppes of West 192, according to the plat thereof as recorded in Plat Book 93, Pages 127 and 128, Public Records of Orange County, Florida; thence run N00°14'00"E along said Southerly projection, a distance of 100.00 feet to a point on the North right of way line of said State Road 530 (U.S. Highway No. 192) for the Point of Beginning; thence continue N00°14'00"E along the East line of said Shoppes of West 192 and along the East line of the lands described in Official Records Book 5526, Page 1669, Public Records of Orange County, Florida, a distance of 1568.27 feet; thence run S89°39'32"E along the South line of those lands described in said Official Records Book 5526, Page 1669, a distance of 993.64 feet; thence run S00°11'30"W along the East line of said Southeast 1/4 of Section 33, a distance of 645.61 feet; thence the next 5 courses and distances run along the Northerly boundary of Lot 1, Black Lake Village, as recorded in Plat Book 75, Pages 149 through 157, Public Records of Orange County, Florida; run S89°48'43"E, a distance of 174.19 feet to a point on a non-tangent curve, concave to the East, having a radius of 188.00 feet, thence from a radial bearing of S74°07'28"E run Southerly along the arc of said curve through a central angle of 27°46'05", an arc distance of 91.11 feet, having a chord bearing of S01°59'29"W and a chord distance of 90.22 feet to a point of compound curvature of a curve concave to the Northeast, having a radius of 50.00 feet; thence run Southeasterly along the arc of said curve through a of 56.39 feet; thence run S27°12'59"E, a distance of 51.49 feet; thence run S40°35'49"E, a distance of 40.36 feet; thence run S35°20'58"E, a distance of 41.34 thence run S18°53'13"W, a distance of 44.68 feet; thence departing the Northerly and Westerly lines of Tract A, run N89°48'52"W, a distance of 338.19 feet; thence run S00°11'30"W along the West line of said Lot 1 of Black Lake Village, a distance of 334.23 feet to a point on said North right of way line of State Road 530 (U.S. Highway No. 192) and a point on a non-tangent curve, concave to the South, having a radius of 2964.79 feet; thence from a radial bearing of S02°47'26"W, run Westerly along said North right of way line and the arc of said curve, a distance of 147.44 feet, having a chord bearing of N88°38'03"W and a chord distance of 147.43 feet; thence continue S89°56'28"W along said North right of way line, a distance of 515.71 feet; thence run N00°14'00"E along the East line of Lot 1, Shoppes of West 192, per Plat Book 93, Pages 127 and 128, Public Records of Orange County, Florida, a distance of 370.00 feet; thence run S89°56'28"W along the North line of said Lot 1, a distance of 271.95 feet; thence run S00°13'46"W along the West line of said Lot 1, a distance of 370.00 feet; thence run S89°56'28"W along said North right of way line of State Road 530 (U.S. Highway No. 192), a distance of 60.00 feet to the Point of Beginning.

Contains 33.638 acres, more or less.

ORANGE COUNTY, FLORIDA NOVEMBER 18, 2021



SECTION 34, TOWNSHIP 24S, RANGE 27E **LOCATION MAP**

SHEET LIST TABLE SHEET SHEET TITLE NUMBER COVER C1.0 - C1.1 **GENERAL NOTES** SWPPP NOTES **EROSION CONTROL DETAILS** STORMWATER POLLUTION PREVENTION PLAN C3.1 - C3.2 EXISTING CONDITIONS AND DEMOLITION PLAN C4.0 OVERALL SITE PLAN C4.1 PHASING PLAN OVERALL PAVING, GRADING, AND DRAINAGE PLAN DRAINAGE STRUCTURE INDEX C5.2 - C5.3 DRAINAGE PLANS C6.1 - C6.2 PAVING AND GRADING PLANS C7.0 GENERAL CONSTRUCTION DETAILS CONTROL STRUCTURE DETAILS C8.0 - C8.3 PAVE DRAIN SPECIFICATIONS & DETAILS C9.0 - C9.1 SECTIONS TOPOGRAPHIC AND BOUNDARY SURVEY

PROJECT TEAM

OWNER/DEVELOPER: WATERSTAR ORLANDO, LLC 630 SOUTH MAITLAND AVE., SUITE 100 MAITLAND, FL 32751 CONTACT: RYAN STAHL PHONE: (407) 628-0077 EMAIL: rstahl@equinox-development.com

SURVEYOR:

SHANNON SURVEYING, INC. 499 NORTH S.R. 434, SUITE 2045 ALTAMONTE SPRINGS, FL 32714 CONTACT: JAMES R. SHANNON, P.L.S. PHONE: (407) 774-8372 EMAIL: shannosurv@aol.com

CIVIL ENGINEER: KIMLEY-HORN AND ASSOCIATES, INC. 189 S. ORANGE AVENUE, SUITE 1000 ORLANDO, FL 32801 CONTACT: JONATHAN A. MARTIN, P.E. MARCUS I. GEIGER, P.E.

PHONE: (407) 898-1511 EMAIL: jonathan.martin@kimley-horn.com marcus.geiger@kimley-horn.com

LANDSCAPE ARCHITECT: KIMLEY-HORN AND ASSOCIATES, INC. 189 S. ORANGE AVENUE, SUITE 1000 ORLANDO, FL 32801 CONTACT: MILTON S. MINGONET, P.E. PHONE: (407) 898-1511 FAX: (407) 894-4791 EMAIL: scott.mingonet@kimley-horn.com

UTILITY PROVIDERS

SITE

WATER/SEWER / **RECLAIMED WATER:**

TOHO WATER AUTHORITY 951 MARTIN LUTHER KING BLVD KISSIMMEE, FL 34741 CONTACT: RAY BIRON

CABLE:

CHARTER COMMUNICATIONS 3767 ALL AMERICAN BLVD. ORLANDO, FL 32810 CONTACT: MARVIN USRY PHONE: (407) 532-8509 FAX: (407) 656-1162

PHONE: (407) 944-5000

POWER:

DUKE ENERGY 1150 ORANGE AVENUE WINTER PARK, FL 32789 PHONE: (407) 629-1010

TELEPHONE:

450 N. GOLDENROD ROAD ORLANDO, FL 32807 CONTACT: BROOKE HALL PHONE: (407) 351-78100 FAX: (407) 246-8169

GAS:

TECO/PEOPLES GAS 600 W. ROBINSON STREET ORLANDO, FL 32801 CONTACT: BRUCE STOUT PHONE: (407) 420-2678

Phone: (407) 898-1511

WWW.KIMLEY-HORN.COM CA 00000696

- 2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE EXISTING UTILITY INFORMATION SHOWN IS BASED ON THE TOPOGRAPHIC SURVEY PROVIDED BY SHANNON SURVEYING, INC. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES, AFFECTING THIS AREA PRIOR TO CONSTRUCTION WORK. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY OF THE SURVEY. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, WHICH WOULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, THE CONTRACTOR SHALL HALT CONSTRUCTION AND NOTIFY THE OWNER, ENGINEER, AND APPLICABLE GOVERNING AGENCY IMMEDIATELY.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES (DURING STANDARD BUSINESS HOURS) TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, TEMPORARY DISTRIBUTION SERVICE, OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. THE CONTRACTOR SHALL COOPERATE WITH UTILITY COMPANY (DURING STANDARD BUSINESS HOURS) DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED. CONTRACTOR SHALL CALL "SUNSHINE ONE" AT 811 TO HAVE EXISTING UTILITIES LOCATED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- 4. ALL DISTURBED AREAS (ON-SITE AND/OR OFF-SITE) NOT DESIGNED OR NOTED TO BE LANDSCAPED OR SODDED, SHALL BE SODDED.
- 5. THE CONTRACTOR SHALL NOT EXCAVATE, REMOVE, OR OTHERWISE DISTURB ANY MATERIAL, STRUCTURE, OR PART OF A STRUCTURE WHICH IS LOCATED OUTSIDE THE LINES, GRADES, OR GRADING SECTIONS ESTABLISHED FOR THIS PROJECT, EXCEPT WHERE SUCH EXCAVATION OR REMOVAL IS PROVIDED FOR IN THE CONTRACT, PLANS, OR SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED, BY THE CONTRACTOR OR SUB-CONTRACTORS, AS CALLED FOR IN THESE CONTRACT DOCUMENTS.
- 6. ALL WORK AND MATERIALS FURNISHED SHALL BE IN CONFORMITY WITH THE LINES, GRADES, GRADING SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS, AND TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT PLANS OR SPECIFICATIONS.
- 7. ALL SPECIFICATIONS AND DOCUMENTS REFERENCED HEREIN SHALL BE OF THE LATEST REVISION, AS APPLICABLE AT THE TIME ALL PERMITS HAVE BEEN OBTAINED.
- 8. ALL UNDERGROUND UTILITIES MUST BE IN-PLACE, TESTED AND INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.
- 9. THE GRAPHIC INFORMATION DEPICTED ON THESE PLANS HAS BEEN COMPILED TO PROPORTION BY SCALE AS ACCURATELY AS POSSIBLE. HOWEVER, DUE TO REPRODUCTIVE DISTORTION, REDUCTION, AND/OR REVISIONS, INFORMATION CONTAINED HEREIN IS NOT INTENDED TO BE SCALED FOR CONSTRUCTION PURPOSES.
- 10. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS TO THE OWNER'S ENGINEER FOR REVIEW PRIOR TO ORDERING AND/OR INSTALLATION. FAILURE TO DO SO MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- 11. CONTRACTOR TO COORDINATE WITH THE APPLICABLE ELECTRIC UTILITY SUPPLIER REGARDING ANY NECESSARY RELOCATION(S) OF UNDERGROUND AND/OR OVERHEAD ELECTRIC FACILITIES, AND FOR THE LOCATION AND INSTALLATION OF TRANSFORMER PAD(S) AND ASSOCIATED ELECTRIC FACILITIES.
- 12. THE CONTRACTOR SHALL RESTORE OFF-SITE CONSTRUCTION AREAS TO EQUAL AND/OR BETTER CONDITION THAN EXISTING PRIOR TO START OF CONSTRUCTION.
- 13. THE CONTRACTOR SHALL COMPLY WITH THE LEGAL LOAD RESTRICTIONS IN HAULING OF MATERIALS IN PUBLIC ROADS BEYOND THE LIMITS OF WORK. A SPECIAL PERMIT WILL NOT RELIEVE THE CONTRACTOR OF LIABILITY FOR THE DAMAGE WHICH MAY RESULT FROM THE MOVING OF MATERIAL AND EQUIPMENT.
- 14. SURVEY MONUMENTS OR BENCHMARKS, WHICH HAVE TO BE DISTURBED BY THIS WORK, SHALL BE REPLACED UPON COMPLETION OF WORK BY A LICENSED LAND SURVEYOR CURRENTLY REGISTERED IN THE STATE OF FLORIDA.
- 15. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.

16. CURBING SHALL BE PLACED AT THE EDGES OF ALL PAVEMENT, UNLESS OTHERWISE NOTED. REFER TO THE THE LATEST EDITION OF

- F.D.O.T. "DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM' (ED. 2014) FOR DETAILS AND SPECIFICATIONS OF ALL CURB AND GUTTERS CALLED FOR IN THESE PLANS WITHIN PUBLIC RIGHTS OF WAY.
- 17. WHERE ASPHALT PAVING MEETS CONCRETE PAVING SUCH AS AT CONCRETE CURBING, THE ASPHALT SHOULD BE FINISHED 1/2" TO 1/2" ABOVE THE CONCRETE SURFACE TO ALLOW FOR FURTHER TRAFFIC COMPACTION OF THE ASPHALT.
- 18. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE SOIL AND/OR PAVEMENT TESTING WITH THE GEOTECHNICAL ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE GEOTECHNICAL SOILS REPORT. UPON COMPLETION OF WORK, THE GEOTECHNICAL ENGINEER WILL SUBMIT CERTIFICATIONS TO THE OWNER AND OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.
- 19. CONTRACTOR IS TO ADJUST ANY UTILITY ELEMENT MEANT TO BE FLUSH WITH GRADE (CLEAN OUT MANHOLES, CATCH BASINS, INLETS, ETC.) THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT.
- 20. SITEWORK SHALL COMPLY WITH 2012 FLORIDA BUILDING CODE AND FLORIDA ACCESSIBILITY CODE.
- 21. ANY EXISTING WELLS (I.E. ARTESIAN, IRRIGATION, DRINKING, ETC.) DISCOVERED ON—SITE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL APPLICABLE JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED. ANY WELL DISCOVERED DURING EARTHWORK OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES, OWNER, AND OWNER'S ENGINEER WITHIN 24 HOURS AFTER DISCOVERY IS MADE.

SAFETY

- 1. ALL SUBSURFACE CONSTRUCTION SHALL COMPLY WITH THE "TRENCH SAFETY ACT". THE CONTRACTOR SHALL INSURE THAT THE METHOD OF TRENCH PROTECTION AND CONSTRUCTION IS IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.
- 2. DURING THE CONSTRUCTION AND/OR MAINTENANCE OF THIS PROJECT, ALL SAFETY REGULATIONS ARE TO BE ENFORCED. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF HIS/HER PERSONNEL. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF "THE STATE OF FLORIDA, MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS" SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND CONSTRUCTION PERSONNEL FROM HAZARDS WITHIN THE PROJECT LIMITS. CONTRACTOR SHALL PROVIDE FOR THE SAFETY AND CONTROL OF LOCAL TRAFFIC DURING CONSTRUCTION. ADDITIONAL INFORMATION MAY BE REQUIRED IF LANE CLOSURE DURATIONS ARE LONGER THAN DAYTIME OPERATIONS.

TREES AND VEGETATION

- 1. THE CONTRACTOR IS TO MINIMIZE THE REMOVAL OF VEGETATION TO THE GREATEST EXTENT PRACTICAL. NO TREES SHALL BE REMOVED OR DAMAGED WITHOUT OWNER'S APPROVAL. TREES IN CLOSE PROXIMITY TO CONSTRUCTION SHALL BE PROTECTED BY ORANGE FENCING.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE BUFFERS AND RETENTION AND DETENTION FACILITIES UNTIL THE WORK HAS BEEN ACCEPTED BY THE OWNER. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
- 3. REFER TO TREE MITIGATION PLANS AND BIOTECH ENVIRONMENTAL ASSESSMENT FOR DETAILS REGARDING TREE REMOVAL AND TREE PRESERVATION.

EARTHWORK / GRADING / DEMUCKING PROCEDURES

- 1. A GEOTECHNICAL ENGINEERING INVESTIGATION REPORT HAS BEEN PREPARED, OF WHICH COPIES ARE AVAILABLE THROUGH THE OWNER OR THEIR SOIL TESTING COMPANY. A GEOTECHNICAL ENGINEER SHALL BE RETAINED BY THE CONTRACTOR TO PROVIDE ON—SITE INSPECTIONS DURING EXCAVATION/FILL OPERATIONS AND TESTING OF THE COMPACTED FILL (SITE WORK, PONDS, FRONTAGE ROAD, EVERGREEN WOODS TRAIL) SO THAT PROPER DOCUMENTATION OF THE REQUIRED COMPACTING CRITERIA CAN BE PROVIDED.
- 2. CONTRACTOR TO FOLLOW THE GUIDANCE OF THE REFERENCED GEOTECHNICAL ENGINEERING INVESTIGATION REPORT OR INDICATE WHETHER ON—SITE GEOTECHNICAL ENGINEER SHALL DETERMINE DEPTH OF DEMUCKING AND/OR REMOVAL OF UNSUITABLE FILL.
- 3. ALL EXISTING DEBRIS (ABOVE OR BELOW GROUND), CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE REGULATORY AGENCY REQUIREMENTS IN A LEGAL MANNER.
- 4. UNLESS OTHERWISE NOTED, GRADE TO MEET EXISTING ELEVATION AT PROPERTY LINES. FINAL GRADES SHOWN INCLUDE SOD HEIGHT. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADES, UNLESS OTHERWISE NOTED. IT MAY BE NECESSARY TO FIELD ADJUST PAVEMENT ELEVATIONS TO PRESERVE THE ROOT SYSTEMS OF TREES SHOWN TO BE SAVED. CONTRACTOR TO COORDINATE WITH OWNER'S ENGINEER PRIOR TO ANY ELEVATION CHANGES. ALL AREAS SHALL BE GRADED TO DRAIN AWAY FROM THE BUILDINGS.
- 5. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAT, BURIED DEBRIS) IS TO BE EXCAVATED AND REPLACED WITH SUITABLE/COMPACTED SOILS, AS DIRECTED BY THE OWNER OR THEIR SOILS TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING DELETERIOUS MATERIAL FROM THE
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. DEWATERING METHODS SHALL BE USED AS REQUIRED TO KEEP TRENCHES DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED.
- 7. ALL NECESSARY FILL AND EMBANKMENT THAT IS PLACED DURING CONSTRUCTION SHALL CONSIST OF MATERIAL SPECIFIED BY THE OWNER'S SOILS TESTING COMPANY OR ENGINEER AND BE PLACED AND COMPACTED ACCORDING TO THESE PLANS.
- 8. THE CONTRACTOR SHALL INSURE THAT PROPER SOIL DENSITIES ARE ACHIEVED FOR PLACEMENT OF ALL HEADWALL/ENDWALL FOOTINGS, RETAINING WALL FOOTINGS, AND IN GENERAL, ANY FOOTING SUPPORT DESCRIBED ON THESE PLANS. IT WILL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT SUFFICIENT SOILS TESTING HAS BEEN PERFORMED PRIOR TO FINAL INSTALLATION OF IMPROVEMENTS.
- 9. ANY UNSUITABLE ORGANIC SOIL SHALL BE EXCAVATED TO A MINIMUM MARGIN OF 6 FEET BEYOND ITS PERIPHERY EXCAVATED TO EXPOSE THE UNDERLYING NON-ORGANIC FINE SAND.
- 10. IF DETERMINED NECESSARY, DEWATERING DURING EXCAVATING/BACKFILLING OPERATIONS MAY BE ACCOMPLISHED BY DITCHING AND THE USE OF SUMP PUMPS AND/OR OTHER METHODS (WELL POINTS), AS NECESSARY. CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS FOR DEWATERING ACTIVITIES THAT MAY BE REQUIRED.
- 11. UPON APPROVAL OF THE GEOTECHNICAL ENGINEER, THE EXCAVATED AREAS MAY BE BACKFILLED WITH CLEAN FINE SAND FREE OF UNSUITABLE OR DELETERIOUS MATERIAL. HOWEVER, THE FILL SHOULD NOT BE PLACED IN MORE THAN 6 INCHES OF STANDING WATER. ONCE THE FILL IS AT LEAST 2 FEET ABOVE THE DEWATERED LEVEL, BACKFILLING MAY PROCEED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 12. SEDIMENT CONTROL MEASURES SHOULD BE EMPLOYED DURING THE CONSTRUCTION PROCESS TO KEEP THE POND FROM RECEIVING SIGNIFICANT AMOUNTS OF STORMWATER RUNOFF FROM THE SURROUNDING CONSTRUCTION SITE. THIS RUNOFF IS LIKELY TO CONTAIN SUSPENDED FINE—GRAINED SOIL PARTICLES THAT CAN IMPEDE THE INFILTRATION CAPACITY OF THE PONDS IF ALLOWED TO SETTLE OUT ON THE POND BOTTOMS. IF DEWATERING EFFLUENT OR STORMWATER RUNOFF FROM THE ACTIVE CONSTRUCTION SITE IS DISCHARGED TO THE POND, CONTRACTOR SHALL SCRAPE AND REMOVE FINE—GRAINED SEDIMENTS THAT HAVE ACCUMULATED ON THE POND BOTTOM, AND REPLACE WITH SUITABLE SOIL TO THE PLAN SPECIFIED GRADE ELEVATIONS. REQUIRED DEPTH OF SCRAPE AND REMOVAL SHALL BE DETERMINED BY GEOTECHNICAL ENGINEER.

DEWATERING NOTES

- 1. DURING THE EXCAVATION OF THE STORMWATER FACILITIES, AND IF GROUNDWATER IS ENCOUNTERED, THE CONTRACTOR SHALL CONSTRUCT A SEDIMENT BASIN TO PROVIDE A DISCHARGE POINT FOR DEWATERING. THE SEDIMENT BASIN CAN BE CELL IN THE PROPOSED EXCAVATION AREA OF A POND OR IT CAN BE A BERMED AREA ABOVE GROUND. ALL DEWATERING MUST BE HELD IN THE SEDIMENT AREA UNTIL THE WATER IS CLEAN SUCH THAT THERE WOULD BE NO TURBID DISCHARGE. AFTER THE WATER IN THE SEDIMENT BASIN IS CLEAN, THE WATER MAY BE RELEASED INTO THE ON—SITE POND PROVIDED THERE IS NO ADVERSE IMPACT TO THE EXISTING WATER QUALITY.
- 2. UNDER NO CIRCUMSTANCES WILL THE DISCHARGE FROM THE ON-SITE DEWATERING BE DIRECTLY DISCHARGED OFFSITE.
- 3. IF CONTRACTOR ENCOUNTERS SILTY/CLAY SAND, WHICH CAUSES THE WATER TO BECOME TURBID, HE/SHE SHALL TREAT THE SEDIMENT BASIN WITH CHEMICAL ADDITIVE SUCH AS ALLUM IN ORDER TO PROMOTE THE COAGULATION OF THE PARTICLES WHICH ALLOW THE TO SETTLE AND THE WATER TO BECOME LESS TURBID. IF TURBID WATER ENCOUNTERED DURING EXCAVATION OF THE PONDS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY TO DETERMINE THE COURSE OF ACTION THAT IS APPROPRIATE TO ELIMINATE THE TURBIDITY AND ALLOW DISCHARGE THAT MEETS WATER QUALITY STANDARDS.
- THE CONTRACTOR SHALL SEQUENCE THE EXCAVATION OF THE STORMWATER PONDS SUCH THAT A SEDIMENT BASIN WILL BE AVAILABLE AT ALL TIMES. THE SEDIMENT BASIN CAN BE RELOCATED AS NECESSARY SUBJECT TO THE WATER WITHIN THE SEDIMENT BASIN BEING NON-TURBID AND ACCEPTABLE FOR DISCHARGE OFF-SITE.

DEMOLITION

- 1. CONTRACTOR SHALL SUBMIT DEMOLITION SCHEDULE TO OWNER PRIOR TO PROCEEDING WITH DEMOLITION ACTIVITIES.
- 2. EXTENT OF SITE CLEARING IS SHOWN ON DRAWINGS.
- 3. CONTRACTOR SHALL CONDUCT SITE DEMOLITION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.
- 4. CONTRACTOR SHALL PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON PLAN "EXISTING TO REMAIN".
- 5. CONTRACTOR SHALL RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
- 6. CONTRACTOR SHALL REMOVE WASTE MATERIALS AND UNSUITABLE AND EXCESS TOPSOIL FROM PROPERTY AND DISPOSE OF OFF-SITE IN A LEGAL MANNER.
- 7. CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE FROM SITE MATERIAL INDICATED ON PLAN OR NOTES "TO BE REMOVED".
- 8. CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY THE DEMOLITION OPERATION.

STORM DRAINAGE SYSTEM

- 1. THE LATEST EDITION OF F.D.O.T. "STANDARD PLANS" (ED. 2019/2020) IS REFERRED TO FOR THE STRUCTURAL DESIGN OF DRAINAGE STRUCTURES SPECIFIED IN THESE PLANS, AS REFERENCED BY STANDARD INDEX. ALL SPECIALTY DRAINAGE STRUCTURES REQUIRE SEPARATE STRUCTURAL DESIGN, WHICH IS NOT INCLUDED IN THESE PLANS. STATION OFFSETS ARE TO THE CENTERLINE OF THE STRUCTURE TOP (I.E. DITCH BOTTOM INLET OR CURB INLET TOP), AS OPPOSED TO THE STRUCTURE BASE.
- 2. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS UNLESS OTHERWISE NOTED ON PLANS.
- 3. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO CENTER OF DRAINAGE STRUCTURES, WITH THE EXCEPTION OF MITERED END AND FLARED END SECTIONS. LENGTHS OF PIPE SHOWN WHICH TERMINATE WITH MITERED END OR FLARED END SECTIONS ARE MEASURED TO THE DOWNSTREAM INVERT OF THE MITERED END OR FLARED END SECTION.
- 4. ALL DRAINAGE STRUCTURE GRATES AND COVERS, EITHER EXISTING OR PROPOSED SHALL BE TRAFFIC RATED FOR H-20 LOADINGS.
- 5. CONSTRUCTION OF THE STORM WATER MANAGEMENT SYSTEM MUST BE COMPLETE AND ALL DISTURBED AREAS STABILIZED IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS PRIOR TO ANY OF THE FOLLOWING: ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY; INITIATION OF INTENDED USE OF THE INFRASTRUCTURE; OR TRANSFER OF RESPONSIBILITY FOR MAINTENANCE OF THE SYSTEM TO A LOCAL GOVERNMENT OR OTHER RESPONSIBLE ENTITY.
- 6. STORM WATER PIPES, STRUCTURES, MINIMUM COVER, AND INSTALLATION PROCEDURES TO BE IN ACCORDANCE WITH FDOT STANDARD PLANS AND SPECIFICATIONS (LATEST ED.) AND ORANGE COUNTY STANDARDS AND SPECIFICATIONS.
- 7. DURING CONSTRUCTION, NO DIRECT DISCHARGE OF WATER TO DOWNSTREAM RECEIVING WATERS WILL BE ALLOWED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER QUALITY AND SHALL ROUTE DISCHARGE WATER IN SUCH A MANNER AS TO ADEQUATELY REMOVE SILT PRIOR TO RUNOFF FROM THE SITE.
- 8. ALL DRAINAGE PIPES SHALL BE FILTER FABRIC WRAPPED PER FDOT STANDARD PLANS (ED. 2019/2020) INDEX 430-001.
- 9. THE CONTRACTOR SHALL MAINTAIN AND PROTECT THE STORMWATER COLLECTION SYSTEM (INLETS, PIPES) FROM EXCESSIVE MUD, SILT, DIRT, DEBRIS, TRASH, ETC. UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE INSPECTED BY THE OWNER'S ENGINEER PRIOR TO APPROVAL FOR CERTIFICATE OF OCCUPANCY PURPOSES. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL CLEAN AND FLUSH STORM PIPES AND INLETS OF ALL EXCESSIVE SILT, DEBRIS, ETC.

PAVING, GRADING AND DRAINAGE

1. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAT, BURIED DEBRIS, ETC.) IS TO BE EXCAVATED AND REPLACED WITH SUITABLE/COMPACTED SOILS, AS DIRECTED BY THE GEOTECHNICAL ENGINEER OF RECORD OR THE OWNERS ENGINEERS. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER OR OWNER'S ENGINEER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS AND PER THE GEOTECHNICAL REPORT. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING DELETERIOUS MATERIAL FROM THE SITE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. DEWATERING METHODS SHALL BE USED AS REQUIRED TO KEEP TRENCHES DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED.

3. ALL NECESSARY FILL AND EMBANKMENT THAT IS PLACED DURING CONSTRUCTION SHALL CONSIST OF MATERIAL SPECIFIED BY THE OWNER'S SOILS TESTING COMPANY OR ENGINEER AND BE PLACED AND COMPACTED ACCORDING TO THESE PLANS.

4. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADES, UNLESS OTHERWISE NOTED.

5. IT MAY BE NECESSARY TO FIELD ADJUST PAVEMENT ELEVATIONS TO PRESERVE THE ROOT SYSTEMS OF TREES SHOWN TO BE SAVED. CONTRACTOR TO COORDINATE WITH OWNER'S ENGINEER PRIOR TO ANY ELEVATION CHANGES.

6. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.

7. CURBING SHALL BE PLACED AT THE EDGES OF ALL PAVEMENT, UNLESS OTHERWISE NOTED. REFER TO THE 2015/2016 EDITION OF F.D.O.T. "ROADWAY AND TRAFFIC DESIGN STANDARDS" FOR DETAILS AND SPECIFICATIONS OF ALL F.D.O.T. TYPE CURB AND GUTTERS CALLED FOR IN THESE PLANS.

8. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE SOILS ENGINEER FOR APPROVAL.

9. CONTRACTOR TO PROVIDE A 1/2" TO 1" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER AT ABUTMENT OF CONCRETE AND OTHER MATERIALS (STRUCTURES, OTHER POURED)

10. ALL PAVEMENT MARKINGS SHALL BE MADE IN ACCORDANCE WITH F.D.O.T. STANDARD INDEX #711-001.

11. THE CONTRACTOR WILL STABILIZE BY SEED AND MULCH, SOD, OR OTHER APPROVED MATERIALS ANY DISTURBED AREAS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE UTILITY SYSTEMS AND PAVEMENT AREAS. CONTRACTOR SHALL MAINTAIN SUCH AREAS UNTIL FINAL ACCEPTANCE BY OWNER. CONTRACTOR TO COORDINATE WITH OWNER REGARDING TYPE OF MATERIAL, LANDSCAPING AND IRRIGATION REQUIREMENTS.

12. THE CONTRACTOR SHALL RESTORE OFF—SITE CONSTRUCTION AREAS TO EQUAL AND/OR BETTER CONDITION THAN EXISTING PRIOR TO START OF CONSTRUCTION.

13. UNLESS OTHERWISE NOTED, GRADE TO MEET EXISTING ELEVATION AT PROPERTY LINES.

14. SURVEY MONUMENTS OR BENCHMARKS, WHICH HAVE TO BE DISTURBED BY THIS WORK, SHALL BE REPLACED UPON COMPLETION OF WORK BY A REGISTERED LAND SURVEYOR AT CONTRACTORS EXPENSE.

15. FINAL GRADES SHOWN INCLUDE SOD HEIGHT. ALL AREAS SHALL BE GRADED TO DRAIN AWAY FROM THE BUILDINGS.

16. LIME ROCK AS-BUILTS ARE TO BE APPROVED BY OWNER'S ENGINEER PRIOR TO PAVING.

17. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE AND JURISDICTIONAL PERMITTING AGENCIES.

18. ALL WORK SHALL COMPLY WITH THE GEOTECHNICAL REPORT BY ECS FLORIDA, LLC. DATED DEC 31, 2018.

GRADING TESTING AND INSPECTION

- 1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE SOILS REPORT. UPON COMPLETION OF WORK THE SOILS ENGINEER WILL SUBMIT CERTIFICATIONS TO THE OWNER AND OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.
- 2. A QUALIFIED TESTING LABORATORY SHALL PERFORM ALL TESTING NECESSARY TO ASSURE COMPLIANCE OF THE IN-PLACE MATERIALS AS REQUIRED BY THESE PLANS AND GEOTECHNICAL REPORT, THE VARIOUS AGENCIES AND PERMIT CONDITIONS. SHOULD ANY RETESTING BE REQUIRED DUE TO THE FAILURE OF ANY TESTS TO MEET THESE REQUIREMENTS, THE CONTRACTOR WILL BEAR ALL COSTS OF SAID RETESTING.

Always call 811 two full business days before you dig to have underground utilities located and marked.



ASSOCIATES, INC.
3-1511
CA 00000696
No.

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189 S. ORANGE AVENUE, SUITE 1000
PHONE: 407-898WWW.KIMLEY-HORN.COM C

MARCUS I. GEIGER, P. FLORIDA LICENSE NUMBER 89199

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GENERAL NOTE

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STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (ED. 2017), AND THE UTILITY ACCOMMODATION MANUAL (ED. 2017).

24. IT WILL BE THE RESPONSIBILITY OF THE PERMITTEE TO REPAIR ANY DAMAGE TO FDOT FACILITIES CAUSED BY CONSTRUCTION OF THE PROJECT.

25. ALL SIDEWALK CLOSURES SHALL ABIDE TO THE STANDARD PROCEDURES PER FDOT 2019/2020 STANDARD PLANS INDEX 102-660.

26. ALL CONCRETE SIDEWALKS SHALL BE CONSTRUCTED PER FDOT 2019/2020 STANDARD PLANS INDEX 522-001 & 522-002.

27. ALL ROADWAY SIGNAGE AND/OR SIGNAGE COLUMS/POSTS LOCATED WITHIN RIGHT-OF-WAY IMPACTED BY PROPOSED IMPROVEMENTS SHALL BE ADJUSTED AND/OR RE-INSTALLED IN ACCORDANCE WITH 2019/2020 STANDARD PLANS INDEX AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (ED. 2017).

CONTRACTOR'S AS-BUILT

- 1. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE OWNER'S ENGINEER WITH COMPLETE "AS-BUILT" INFORMATION, CERTIFIED BY A LICENSED LAND SURVEYOR CURRENTLY REGISTERED IN THE STATE OF FLORIDA. AT A MINIMUM, THIS "AS-BUILT" INFORMATION SHALL INCLUDE: TOP OF PIPE/INVERT ELEVATIONS AND HORIZONTAL LOCATIONS OF ALL WATER, SANITARY SEWER, AND RECLAIM WATER UTILITIES INSTALLED (AS APPLICABLE); PAVEMENT GRADE BREAK LOCATIONS AND SUFFICIENT ELEVATIONS OF FINISHED GRADE SURFACES WHICH ALLOW THE ENGINEER TO DETERMINE COMPLIANCE WITH THE PROPOSED DESIGN; TOP, GRATE, & INVERT ELEVATIONS OF THE STORMWATER COLLECTION SYSTEM, INCLUDING THE POND GRADES (TOP, BANK, BOTTOM), POND CONTROL STRUCTURE, & SWALES; ANY IMPROVEMENTS WITHIN FDOT OR COUNTY RIGHT-OF-WAYS.
- 2. THE DIGITAL "AS-BUILT" FILE, PROVIDED IN AUTOCAD .DWG FORMAT, SHALL ALSO BE PROVIDED IN THE FLORIDA STATE PLANE COORDINATE SYSTEM. NO ENGINEER'S CERTIFICATIONS OF COMPLETION OR REQUESTS FOR FINAL ACCEPTANCE WILL BE SUBMITTED UNTIL THIS INFORMATION HAS BEEN RECEIVED AND APPROVED BY THE OWNER'S ENGINEER.

Always call 811 two full business days before you dig to have underground utilities located and marked.

SHEET NUMBER

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STORMWATER POLLUTION PREVENTION PLAN

SITE DESCRIPTION

PROJECT NAME AND LOCATION

WATERSTAR ORLANDO

TAX PARCELS:34-24-27-1000-01-001, 33-24-27-0000-00-006, 33-24-27-0000-00-010, 33-24-27-0000-00-011, 33-24-27-0000-00-012, 33-24-27-0000-00-024, 33-24-27-0000-00-025, 33-24-27-0000-00-026, & 33-24-27-0000-00-027

ORANGE COUNTY, FLORIDA

*SEE COVER SHEET FOR LOCATION MAP

OWNER/DEVELOPER NAME AND ADDRESS WATERSTAR ORLANDO, LLC 630 SOUTH MAITLAND AVE., SUITE 100 MAITLAND, FL 32751

CONTACT: RYAN STAHL PHONE: 407-628-0077

RSTAHL@EQUINOX-DEVELOPMENT.COM

PROJECT DESCRIPTION

THIS PROJECT IS TO DEVELOP A MIXED-USE DEVELOPMENT TOTALING 33.64 ACRES.

THIS SITE IS LOCATED APPROXIMATELY 1,000 FT EAST FROM THE INTERSECTION OF E ORANGE LAKE BLVD. AND W. IRLO BRONSON MEMORIAL HWY.

STORMWATER RUNOFF FORM THE PROPOSED SITE WILL BE MANAGED BY MULTIPLE BMP'S, INCLUDING PERVIOUS PAVERS, A PROPOSED WET DETENTION POND, AND DRY RETENTION POND TO PROVIDE THE REQUIRED TREATMENT (QUALITY) AND ATTENUATION (QUANTITY) VOLUMES. THE STORMWATER MANAGEMENT SYSTEM WAS DESIGNED TO MEET OR EXCEED ALL THE REQUIREMENTS OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), RCID, AND ORANGE COUNTY.

PROJECT AREA: ±33.64 ACRES

CONTRIBUTING DRAINAGE AREA: ±33.64 ACRES

CONTROL STRUCTURES : CS-A

LONGITUDE: 81° 36' 32.89" W LATITUDE: 28° 21' 01.59" N

CONTROL STRUCTURES: CS-B

LONGITUDE: 81° 36' 25.92" W LATITUDE: 28° 20' 58.56" N

CONTROL STRUCTURES : CS-S2

LONGITUDE: 81° 36' 35.23" W LATITUDE: 28° 20' 50.96" N

ULTIMATE RECEIVING WATERS: REEDY CREEK

ACTIVITIES THAT REQUIRE EROSION CONTROL

SITE CLEARING AND GRUBBING: PROVIDING A STABILIZED CONSTRUCTION ENTRANCE. PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; EXCAVATION FOR THE RETENTION POND; SITE GRADING; INSTALLATION OF STORM WATER, SANITARY SEWER, AND WATER STRUCTURES; CURB, ROADWAYS, AND PARKING FACILITIES.

*SEE PLANS FOR THE LOCATION OF TEMPORARY SEDIMENT BARRIERS AND OTHER **EROSION CONTROL METHODS.**

SOIL PARAMETERS
SOIL TYPES:

	SERIES NAME	HYDROLOGIC GROUP
POMELLO FINE SAND		А
	SANIBEL MUCK	D
	ARENTS	A
	CANDLER FINE SAND	А
	IMMOKALEE FINE SAND	B/D
	BASINGER FINE SAND	A/D
	TAVARES FINE SAND	A

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF CONSTRUCTION IS AS FOLLOWS:

- 1. PROVIDE STABILIZED CONSTRUCTION ENTRANCE
- 2. INSTALL SILT FENCES AND OTHER EROSION CONTROL METHODS
- 3. CLEAR AND GRUB FOR SEDIMENT BASIN AND EARTH DIKE
- 4. CONSTRUCT EARTH DIKE AND SEDIMENT BASIN 5. FINISH CLEARING AND GRUBBING
- 6. REMOVE AND STORE TOPSOIL
- 7. PROVIDE INITIAL GRADING AS REQUIRED
- 8. STABILIZE ALL DISTURBED AREAS AS SOON AS POSSIBLE
- 9. INSTALL UTILITIES, STORM SEWER, CURB AND GUTTER
- 10. INSTALL BASE TO ROAD AND PARKING AREA
- 11. FINISH GRADING ENTIRE SITE
- 12. CONSTRUCT FINAL PAVING
- 13. REMOVE ACCUMULATED SEDIMENT
- 14. REMOVE ANY ITEMS THAT ARE NOT REQUIRED

DEDMANIENTLY STADILIZED AS SHOWN ON THE DLANG

TIMING OF CONTROL MEASURES

THE INSTALLATION OF SILT FENCE (AND OTHER EROSION CONTROL MEASURES), A STABILIZED ENTRANCE AND SEDIMENT BASIN SHALL OCCUR PRIOR TO CLEARING AND GRUBBING ACTIVITY. AFTER CONSTRUCTION IS COMPLETE, THE ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE AREAS SHALL BE REGRADED AND

EROSION AND SEDIMENT CONTROLS

BEST MANAGEMENT PRACTICES SHALL BE USED FOR THIS PROJECT TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN-OFF. THE LOCATION AND DETAILS OF EROSION CONTROL METHODS ARE SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING THESE CONTROL METHODS AS SHOWN ON THE PLANS OR AS REQUIRED. HE/SHE SHALL ALSO PROVIDE THE REQUIRED EROSION PROTECTION AS REQUIRED BY LOCAL. STATE AND FEDERAL

STORM WATER MANAGEMENT

STORMWATER RUNOFF FORM THE PROPOSED SITE WILL BE MANAGED BY MULTIPLE BMP'S, INCLUDING PERVIOUS PAVERS, A PROPOSED WET DETENTION POND, AND DRY RETENTION POND TO PROVIDE THE REQUIRED TREATMENT (QUALITY) AND ATTENUATION (QUANTITY) VOLUMES. THE STORMWATER MANAGEMENT SYSTEM WAS DESIGNED TO MEET OR EXCEED ALL THE REQUIREMENTS OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), RCID, AND ORANGE COUNTY.

STABILIZATION PRACTICES:

TEMPORARY STABILIZATION - TOPSOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE, SHALL BE STABILIZED WITH TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED REQUIRED CAN BE FOUND IN TABLE 1.65 A OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, WHERE SOILS ARE ACIDIC 2 TONS OF PULVERIZED AGRICULTURAL LIMESTONE SHOULD BE ADDED PER ACRE AND 450 POUNDS OF 10-20-20 FERTILIZER SHALL BE APPLIED TO EACH ACRE. AFTER SEEDING, EACH AREA SHALL BE IMMEDIATELY MULCHED WITH STRAW OR EQUIVALENT EQUAL. AREAS OF THE SITE WHICH ARE TO BE PAVED SHALL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILE AND STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED.

PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASE SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE APPROPRIATE PERMANENT SEED MIX CAN BE FOUND IN TABLES 1.66A, 1.66B AND 1.66C OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, 2 TONS/ACRE OF FINELY GROUND AGRICULTURAL LIMESTONE AND THE PROPER FERTILIZER BASED ON THE TYPE OF SEEDING SHALL BE APPLIED TO EACH ACRE TO PROVIDE PLANT NUTRIENTS. AFTER SEEDING, EACH AREA SHALL BE MULCHED IMMEDIATELY. ALL RETENTION/DETENTION BASINS SHALL BE SODDED AT LEAST TO THE NORMAL WATER LINE. ALL EXPOSED AREAS WITHIN PUBLIC RIGHTS-OF-WAY SHALL BE SOLID SODDED, OTHER AREAS WITH SLOPES STEEPER THAN 4:1 SHALL BE SODDED.

STRUCTURAL PRACTICES:

EARTH DIKE - IF REQUIRED, AN EARTH DIKE SHALL BE CONSTRUCTED ALONG THE SITE PERIMETER. A PORTION OF THE DIKE SHALL DIVERT RUN-ON AROUND THE CONSTRUCTION SITE. THE REMAINING PORTION OF THE DIKE SHALL COLLECT RUNOFF FROM THE DISTURBED AREA AND DIRECT THE RUNOFF TO THE SEDIMENT BASIN.

SEDIMENT BASIN - A SEDIMENT BASIN SHALL BE CONSTRUCTED IN THE COMMON DRAINAGE AREA FOR THE SITE. ALL SEDIMENT COLLECTED IN THE BASIN MUST BE REMOVED FROM THE BASIN UPON COMPLETION OF CONSTRUCTION, SEDIMENT FROM THE BASIN MAY BE USED AS FILL ON THE SITE IF IT IS SUITABLE SOIL.

WASTE DISPOSAL

WASTE MATERIALS - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER WITH A SECURE LID IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITIES TO HAVE THE DUMPSTER EMPTIED AT LEAST TWICE A WEEK AND THE WASTE TAKEN TO AN APPROPRIATE LANDFILL. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE SUPERINTENDENT SHALL ORGANIZE TRAINING FOR THE EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH WASTE MATERIALS. THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR POSTING AND ENFORCING WASTE MATERIAL PROCEDURES.

HAZARDOUS WASTE - HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS OR AS DIRECTED BY THE MANUFACTURER. THE SUPERINTENDENT SHALL ORGANIZE THE PROPER TRAINING FOR EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH HAZARDOUS WASTE MATERIALS. THESE PROCEDURES SHALL BE POSTED ON THE SITE. THE PERSON WHO MANAGES THE SITE SHALL BE RESPONSIBLE FOR ENFORCING THE PROCEDURES.

SANITARY WASTE - SANITARY WASTE SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITY FOR COLLECTION OF THE SANITARY WASTE AT LEAST THREE TIMES A WEEK TO PREVENT SPILLAGE ONTO THE SITE.

OFF-SITE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO REDUCE SEDIMENT TRACKING OFFSITE. THE CONTRACTOR SHALL PROMPTLY REMOVE ALL MUD, DIRT, OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES, DUE TO CONSTRUCTION. ALL TRUCKS HAULING MATERIALS OFFSITE SHALL BE COVERED WITH A TARPAULIN.

DUST & DEBRIS CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AS WELL AS ALONG HAUL ROUTES AND ROADWAYS USED BY THE EQUIPMENT AND VEHICLES. THE CONTRACTOR SHALL ENSURE THAT EXCESSIVE DUST IS NOT TRANSPORTED BEYOND THE LIMITS OF CONSTRUCTION IN POPULATED AREAS. THE CONTRACTOR MAY CONTROL DUST FOR EMBANKMENTS OR OTHER CLEARED OR UNSURFACED AREAS BY APPLYING WATER, INSTALL MULCH, SEED, SOD. OR TEMPORARY PAVING AS EARLY AS PRACTICAL. CONTROL DUST DURING STORAGE AND HANDLING OF DUSTY MATERIALS BY WETTING, COVERING, OR OTHER MEANS AS APPROVED BY THE ENGINEER.

DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE ON THE PROJECT SITE.

ITEMS REQUIRING POLLUTION PREVENTION

THE FOLLOWING ITEMS ARE EXPECTED TO BE PRESENT ON THE PROJECT SITE:

-ASPHALT -CLEANING SUPPLIES -CONCRETE -DETERGENTS -FERTILIZERS -MASONARY BLOCK/BRICKS -PAINT -METAL PIECES

-PETROLEUM BASED PRODUCTS -WOOD

THE FOLLOWING ARE NON-STORM WATER SOURCES THAT WILL BE ENCOUNTERED AT THE SITE AND SHOULD BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE:

-UNCONTAMINATED GROUNDWATER EXPOSED DURING EXCAVATION -WATER FROM WATER LINE FLUSHING

-PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).

SPILL PREVENTION AND CONTROL

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

-SUPERINTENDENT SHALL INSPECT PROJECT AREA DAILY FOR PROPER STORAGE. USE, AND DISPOSAL OF CONSTRUCTION MATERIALS.

-STORE ONLY ENOUGH MATERIAL ON SITE FOR PROJECT COMPLETION.

-ALL SUBSTANCES SHOULD BE USED BEFORE DISPOSAL OF CONTAINER.

-ALL CONSTRUCTION MATERIALS STORED SHALL BE ORGANIZED AND IN THE PROPER CONTAINER AND IF POSSIBLE, STORED UNDER A ROOF OR PROTECTIVE COVER.

-PRODUCTS SHALL NOT BE MIXED UNLESS DIRECTED BY THE MANUFACTURER.

-ALL PRODUCTS SHALL BE USED AND DISPOSED OF ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

HAZARDOUS PRODUCTS

-MATERIALS SHOULD BE KEPT IN ORIGINAL CONTAINER WITH LABELS UNLESS THE ORIGINAL CONTAINERS CANNOT BE RESEALED. IF ORIGINAL CONTAINERS CANNOT BE USED, LABELS AND PRODUCT INFORMATION SHALL BE SAVED.

-PROPER DISPOSAL PRACTICES SHALL ALWAYS BE FOLLOWED IN ACCORDANCE WITH MANUFACTURER AND LOCAL/STATE REGULATIONS.

PRODUCT SPECIFIC PRACTICES

-PETROLEUM PRODUCTS MUST BE STORED IN PROPER CONTAINERS AND CLEARLY LABELED. VEHICLES CONTAINING PETROLEUM PRODUCTS SHALL BE PERIODICALLY INSPECTED FOR LEAKS. PRECAUTIONS SHALL BE TAKEN TO AVOID LEAKAGE OF PETROLEUM PRODUCTS ON SITE.

-THE MINIMUM AMOUNT OF FERTILIZER SHALL BE USED AND MIXED INTO THE SOIL IN ORDER TO LIMIT EXPOSURE TO STORM WATER. FERTILIZERS SHALL BE STORED IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID

-PAINT CONTAINERS SHALL BE SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT MUST BE DISPOSED OF IN AN APPROVED MANNER.

-CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

-SPILL CLEANUP INFORMATION SHALL BE POSTED ON SITE TO INFORM EMPLOYEES ABOUT CLEANUP PROCEDURES AND RESOURCES.

-THE FOLLOWING CLEAN-UP EQUIPMENT MUST BE KEPT ON-SITE NEAR THE MATERIAL STORAGE AREA: GLOVES, MOPS, RAGS, BROOMS, DUST PANS, SAND, SAWDUST, LIQUID ABSORBER, GOGGLES, AND TRASH CONTAINERS.

-ALL SPILLS SHALL BE CLEANED UP AS SOON AS POSSIBLE.

-WHEN CLEANING A SPILL. THE AREA SHOULD BE WELL VENTILATED AND THE EMPLOYEE SHALL WEAR PROPER PROTECTIVE COVERING TO PREVENT INJURY.

-TOXIC SPILLS MUST BE REPORTED TO THE PROPER AUTHORITY REGARDLESS OF THE SIZE OF THE SPILL.

-AFTER A SPILL, THE PREVENTION PLAN SHALL BE REVIEWED AND CHANGED TO PREVENT FURTHER SIMILAR SPILLS FROM OCCURRING. THE CAUSE OF THE SPILL, MEASURES TO PREVENT IT, AND HOW TO CLEAN THE SPILL UP SHALL BE RECORDED.

-THE SUPERINTENDENT SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR AND IS RESPONSIBLE FOR THE DAY TO DAY SITE OPERATIONS. THE SUPERINTENDENT ALSO OVERSEES THE SPILL PREVENTION PLAN AND SHALL BE RESPONSIBLE FOR EDUCATING THE EMPLOYEES ABOUT SPILL PREVENTION AND CLEANUP PROCEDURES.

MAINTENANCE AND INSPECTION PRACTICES

THE FOLLOWING ARE MAINTENANCE AND INSPECTION PRACTICES THAT SHALL BE

-ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE CHECKED DAILY AND AFTER EACH 0.5 INCH OR GREATER RAINFALL BY THE SUPERINTENDENT OR

-ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE KEPT IN GOOD CONDITION. REPAIRS MUST BE MADE WITHIN 24 HOURS OF REPORT.

-THE SILT FENCE SHALL BE INSPECTED PERIODICALLY FOR HEIGHT OF SEDIMENT AND CONDITION OF FENCE.

-THE SILT FENCE SHALL BE CLEARED OF SEDIMENT WHEN SEDIMENT MEASURES ONE-THIRD THE HEIGHT OF THE FENCE.

-THE SEDIMENT BASINS/DITCHES SHALL BE CHECKED MONTHLY FOR DEPTH OF SEDIMENT. THEY SHALL BE CLEANED WHEN SEDIMENT REACHES 10% OF TOTAL CAPACITY AND AFTER CONSTRUCTION IS COMPLETE.

-DIVERSION DIKES SHALL BE INSPECTED MONTHLY. ANY BREACHES SHALL BE PROMPTLY REPAIRED.

-A MAINTENANCE REPORT SHALL BE COMPLETED DAILY AFTER EACH INSPECTION

-THE SUPERINTENDENT SHALL ORGANIZE THE TRAINING FOR INSPECTION PROCEDURES AND PROPER EROSION CONTROL METHODS FOR EMPLOYEES

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FORM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

SIGNATURE AND DATE	NAME AND TITLE, COMPANY / ADDRESS AND TELEPHONE NUMBER	RESPONSIBILITY

COMPLETED BY THE CONTRACTOR:

SOMEONE UNDER HIS/HER DIRECT SUPERVISION.

-ALL SEEDING SHALL BE CHECKED FOR PROPER GROWTH AND UNIFORMITY. UNSTABALIZED AREAS SHALL BE RE-SODDED.

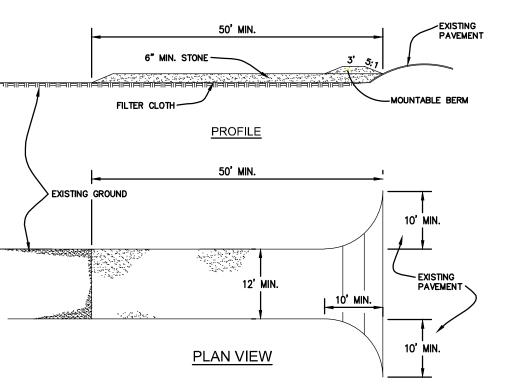
OF THE SEDIMENT AND EROSION CONTROL METHODS. THE REPORTS SHALL BE FILED IN AN ORGANIZED MANNER AND RETAINED ON-SITE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETED, THE REPORTS SHALL BE SAVED FOR AT LEAST THREE YEARS. THE REPORTS SHALL BE AVAILABLE FOR ANY AGENCY THAT HAS JURISDICTION OVER EROSION CONTROL.

THAT COMPLETE INSPECTIONS AND REPORTS.

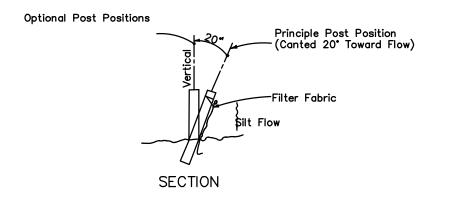
SIGNATURE AND DATE	NAME AND TITLE, COMPANY / ADDRESS AND TELEPHONE NUMBER	RESPONSIBILITY

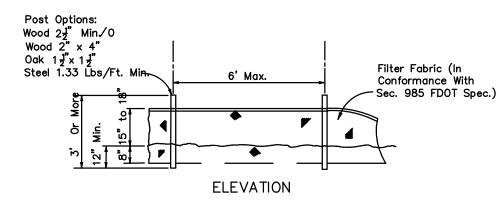
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- 1. STONE SIZE USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- 2. LENGTH AS REQUIRED, BUT NOT LESS THAN 50 FEET.
- 3. THICKNESS NOT LESS THAN SIX (6) INCHES.
- 4. WIDTH TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR ÉGRESS OCCURS.
- 5. FILTER CLOTH WILL BE PLACED OVER THE ENTIRE AREA, PRIOR TO PLACING OF STONE. 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL,
- A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED. 7. MAINTENANCE — THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS—OF—WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS—OF—WAY MUST BE REMOVED IMMEDIATELY.
- 8. WASHING WHEELS SHALL BE CLEANED TO REMOVED SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS—OF—WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT
- 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



STABILIZED CONSTRUCTION ENTRANCE DETAIL





TYPE III SILT FENCE

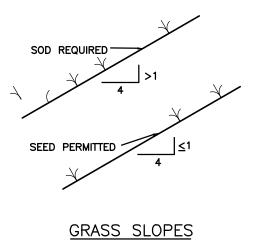


FIGURE 8

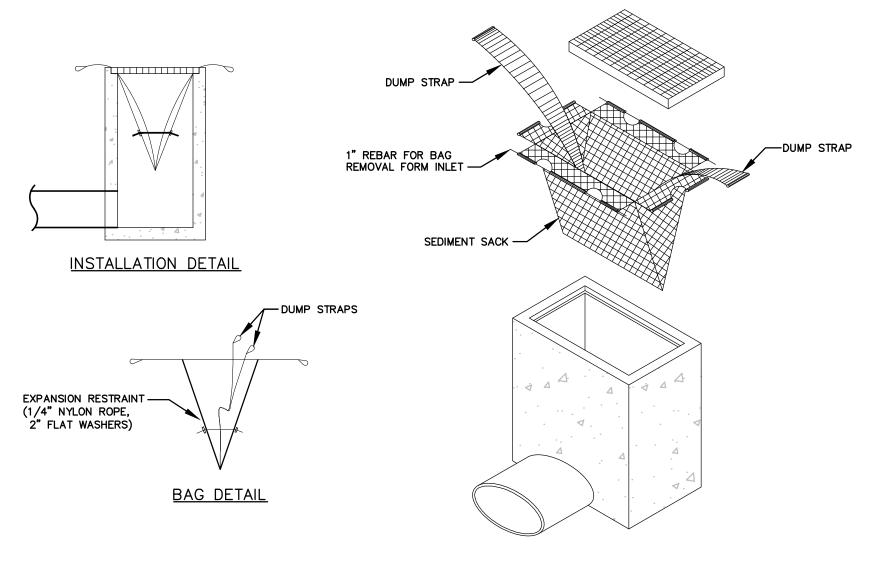
1) CONTRACTOR TO MAINTAIN DEBRIS ON-SITE, VEHICLES SHALL BE FREE OF EXCESS DEBRIS PRIOR TO ENTERING COUNTY RIGHT-OF-WAYS.

2) DURING ALL TIME OF CONSTRUCTION, THE CONTRACTOR MUST PROVIDE FILTER FABRIC AT ALL EXIST. OR PROP. CATCH BASIN TO PREVENT SYSTEM POLLUTION. 3) CONTRACTOR SHALL PROVIDE TRUCK WASH RACKS TO REMOVE CONSTRUCTION DEBRIS FROM VEHICLES PRIOR TO EGRESS.

4) DURING ALL TIME OF CONSTRUCTION, THE CONTRACTOR MUST PROVIDE SILT

SCREENS AT CONSTRUCTION PERIMETER

5) UPON COMPLETION OF CONSTRUCTION, SYSTEM IS TO BE CLEANED BY "CAMELVAC" OR OTHER APPROVED SYSTEM TO THE SATISFACTION OF THE PROJECT ENGINEER AND COUNTY ENGINEER WHEN OR AFTER THE OVERALL SYSTEM IS CLEANED. 6) THE CONTRACTOR SHALL MAINTAIN THE FULL SET OF PLANS INCLUDING THESE POLLUTION PREVENTION REQUIREMENTS ON-SITE AT ALL TIMES.



STANDARD INLET SEDIMENT CONTROL DEVICE

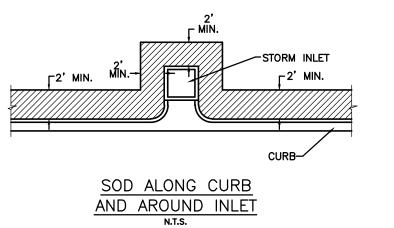
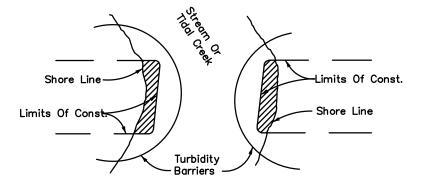
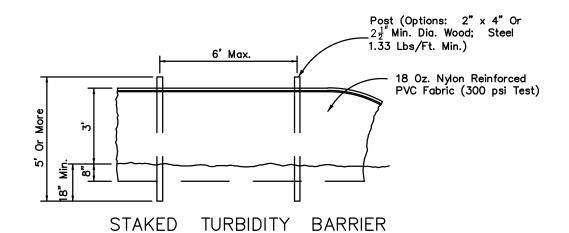


FIGURE 7



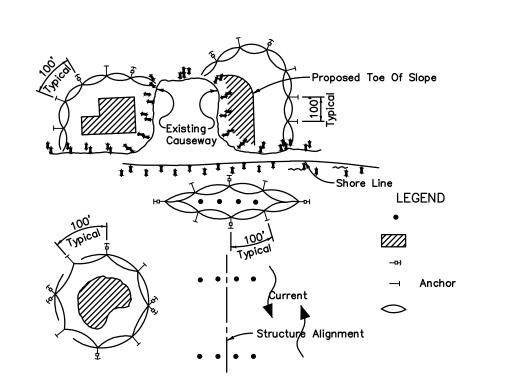
TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



Closed Cell Solid Plastic Foam Per Ft. Buoyancy)_ 18 Oz. Nylon Reinforced PVC Fabric (300 psi Test) With Lacing Grommets ¹/₄ Galvanized Cha TYPE

 $D_1 = 5$ ' Std. (Single Panel For Depths 5' or Less). D₂=5' Std. (Additional Panel For Dep*hs 5'). Curtain To Reach Bottom Up To Depths Of 10 Feet. Two(2) Panels To Be Used For Depths Greater Than 10 Feet Unless Special Depth Curtains Specifically Called For In The Plans Or As Determined By The Engineer.

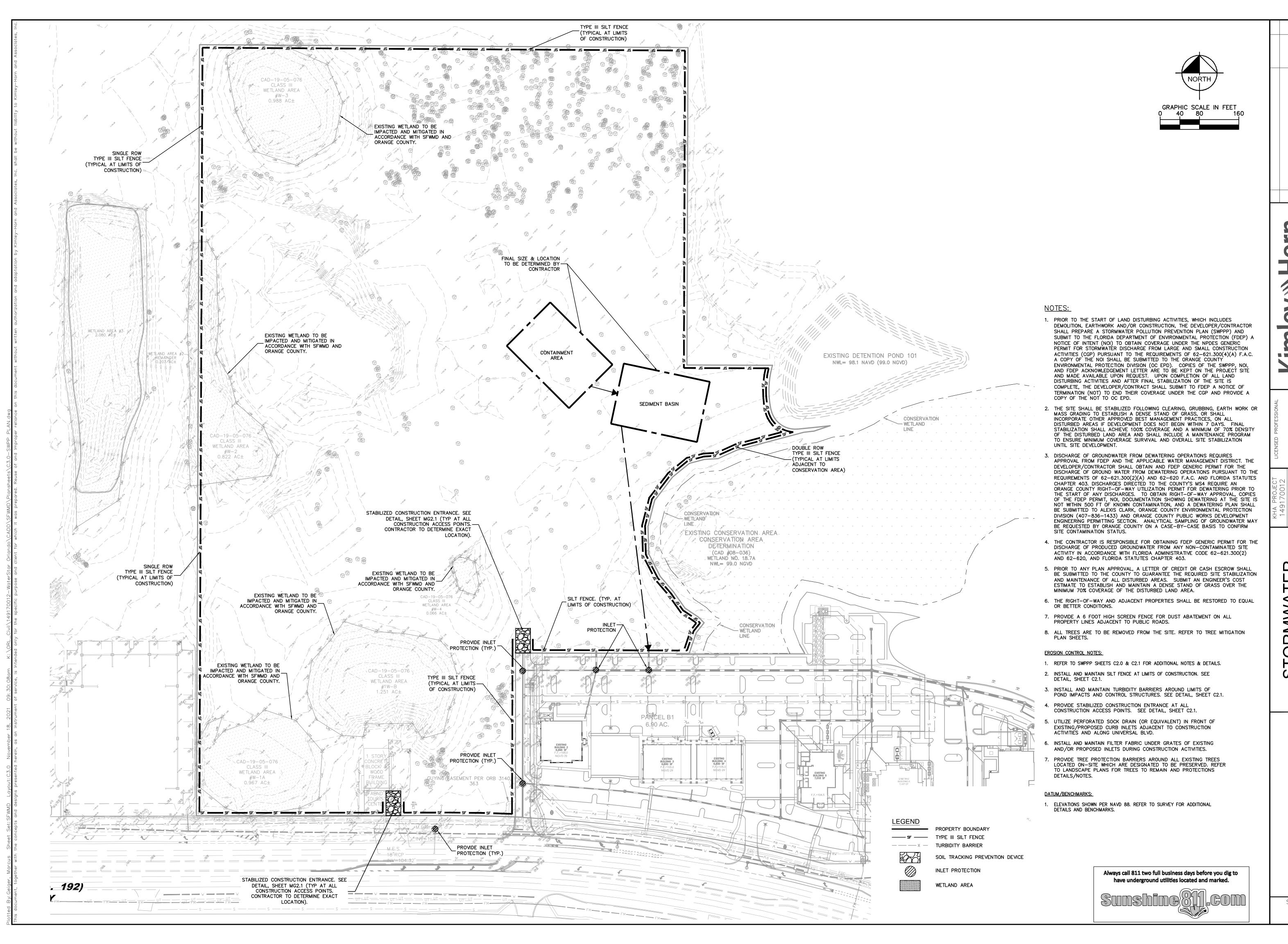
NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER. FLOATING TURBIDITY BARRIERS



1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.

2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES. 3. FOR ADDITIONAL INFORMATION REFER TO FDOT INDEX #103

TURBIDITY BARRIER



-HORN AND ASSOCIATES, INC.
JE, SUITE 1000, ORLANDO, FL 32801
JE: 407-898-1511

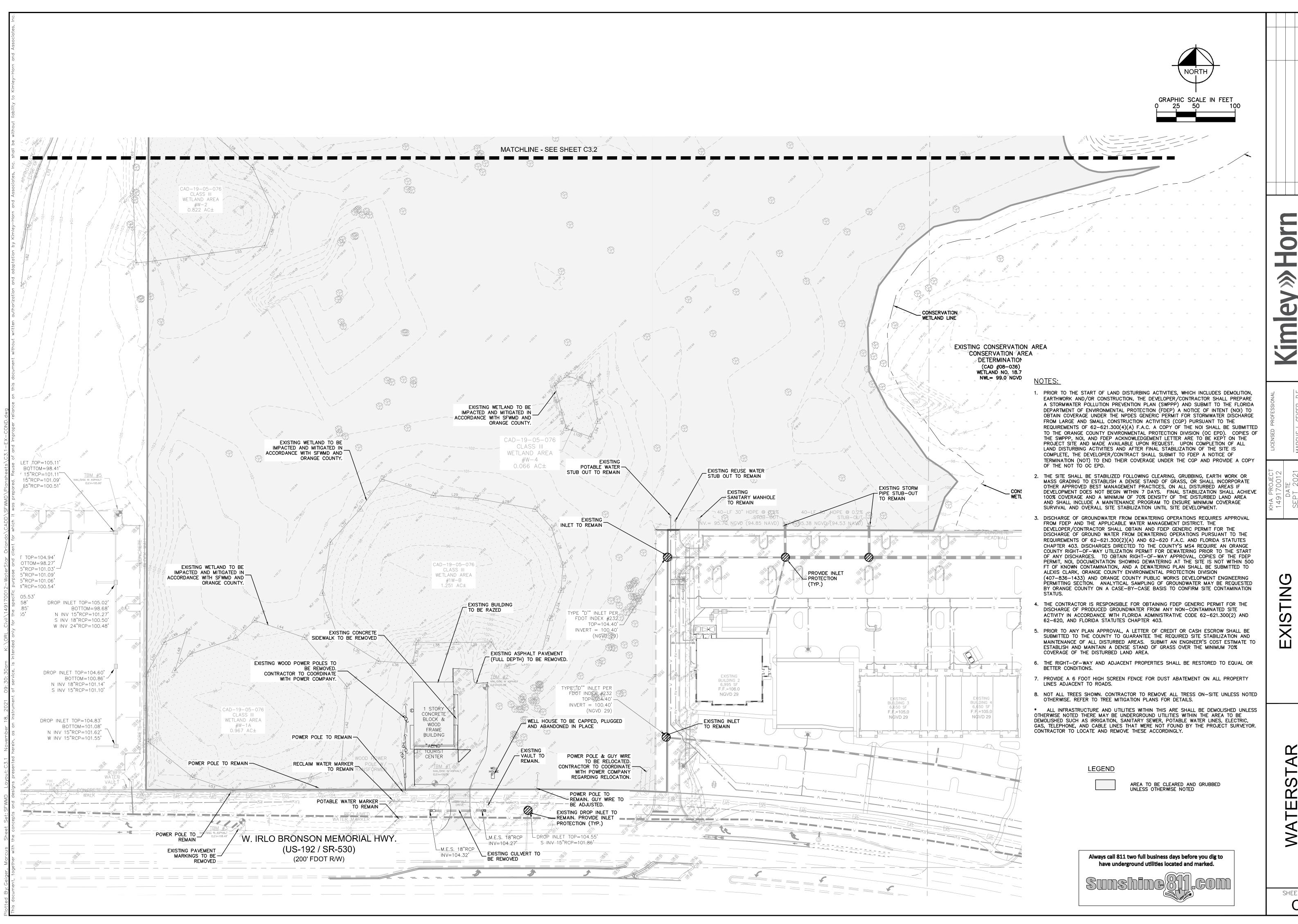
MARCUS I. GEIGER, P.E. FLORIDA LICENSE NUMBER

SCALE AS SHOWN
DESIGNED BY RJO F

SE SCALE DESIGN

PREVENTION P

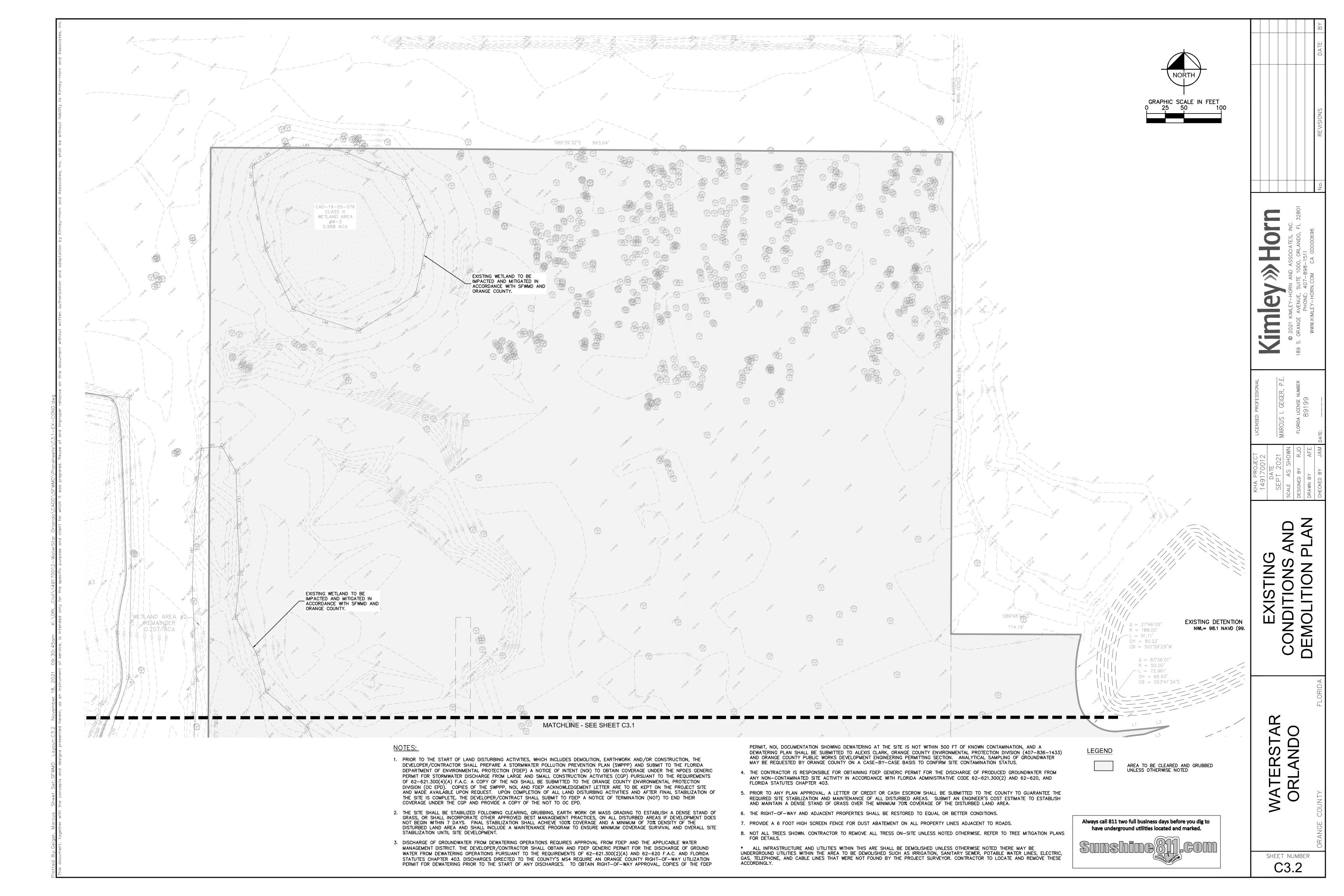
/ATERSTAR ORLANDO

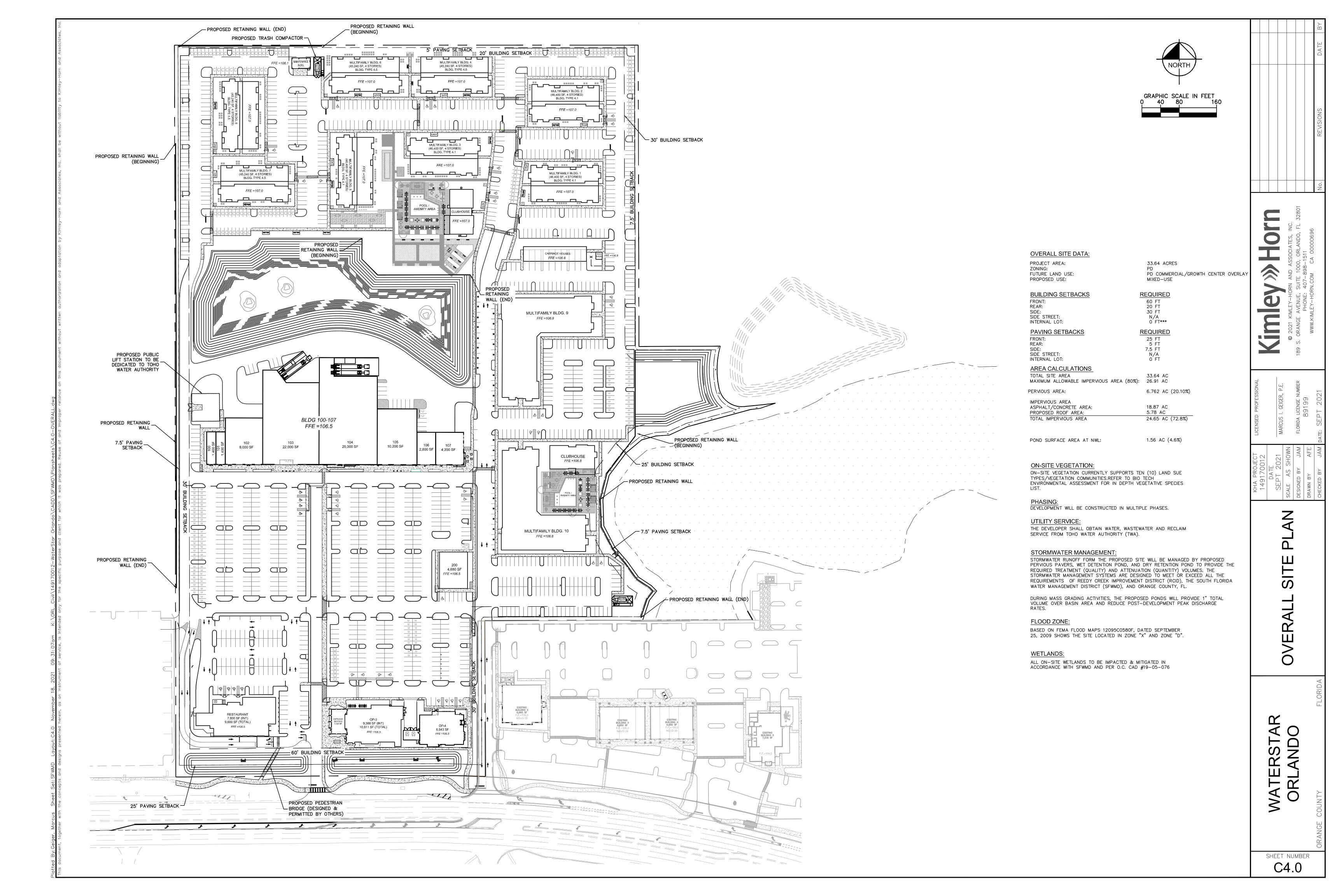


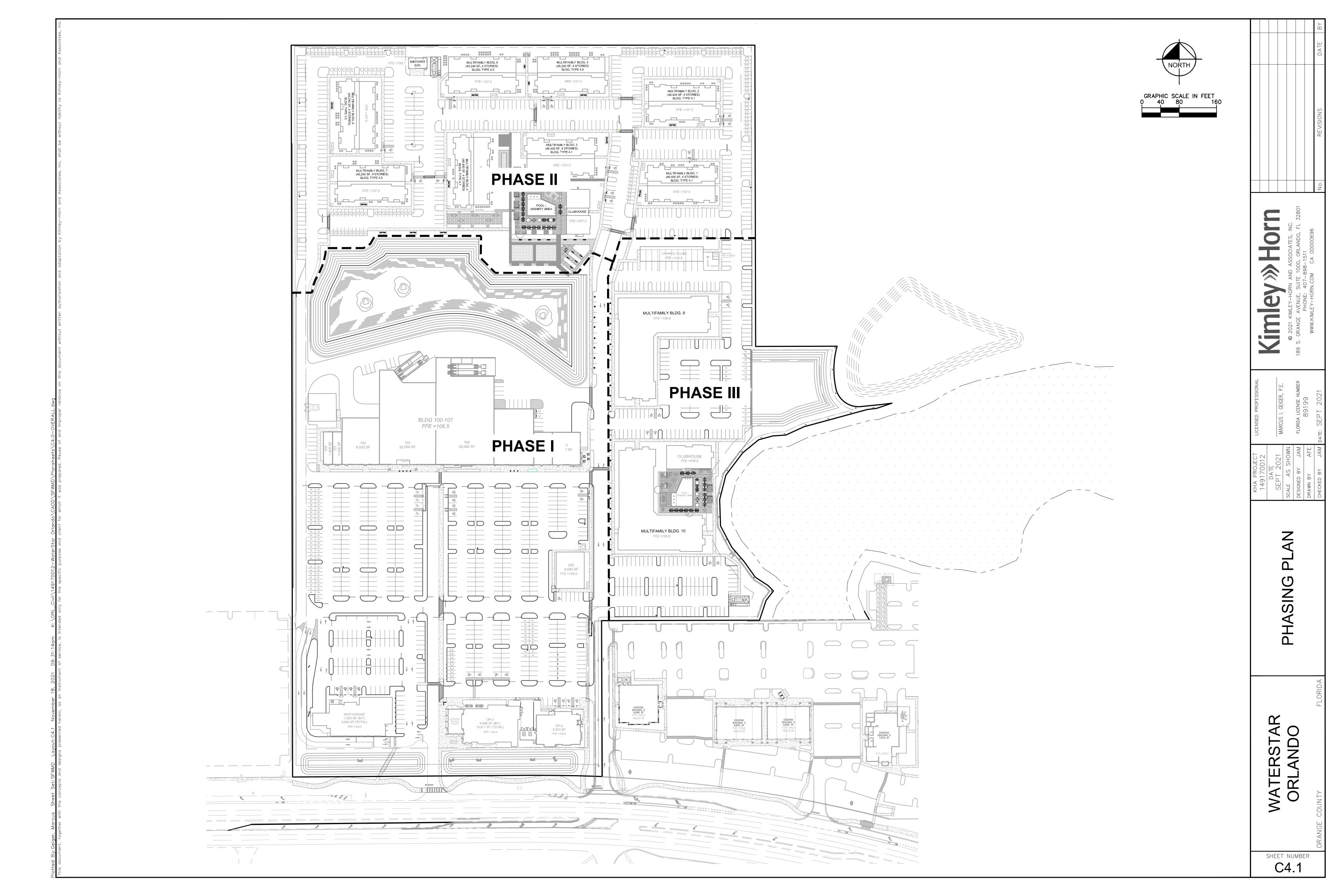
AND

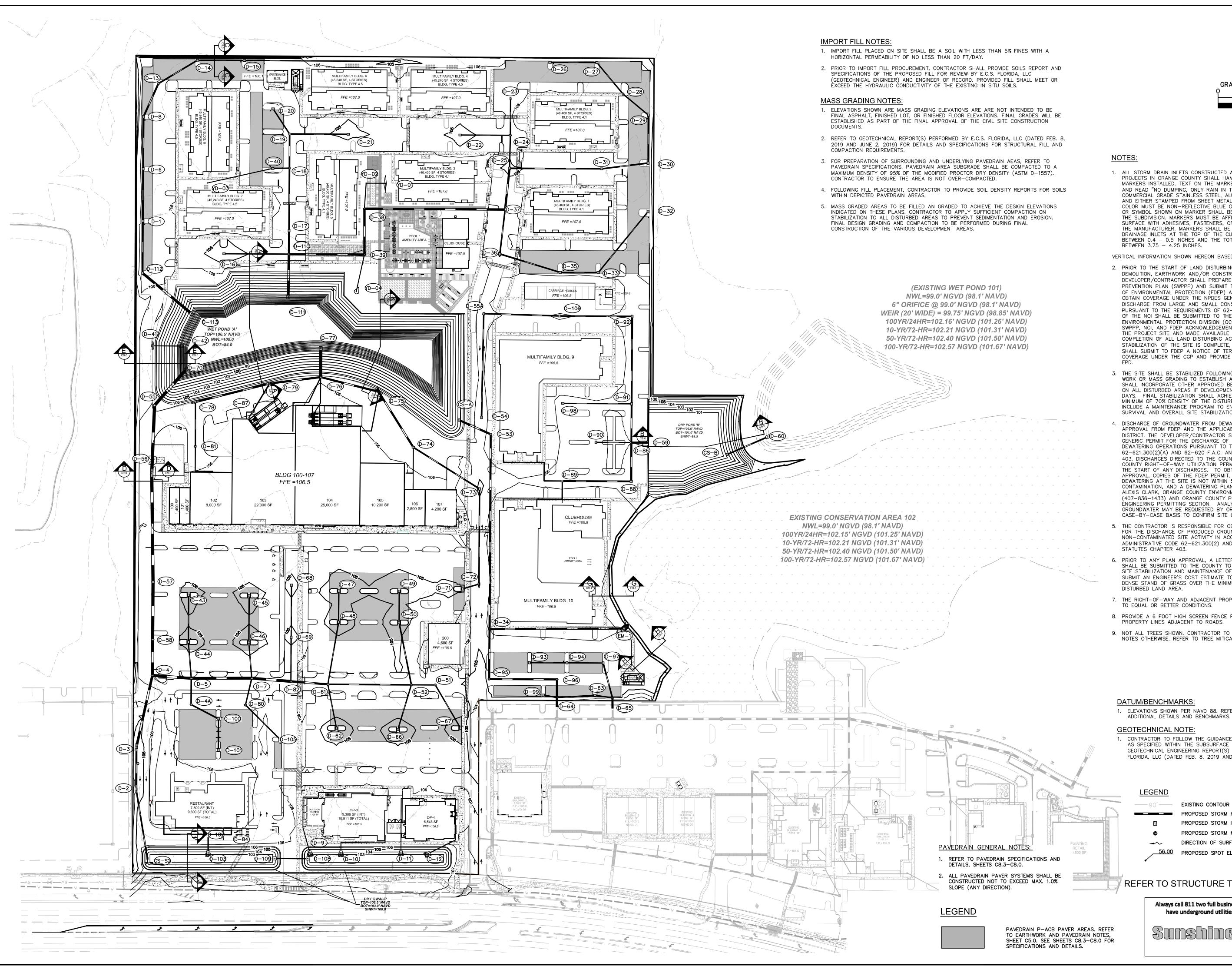
ORL

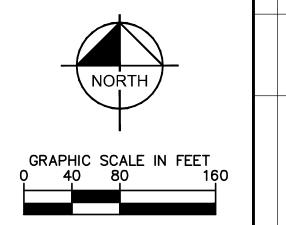
SHEET NUMBER C3.1











1. ALL STORM DRAIN INLETS CONSTRUCTED AS PART OF NEW DEVELOPMENT PROJECTS IN ORANGE COUNTY SHALL HAVE METAL MEDALLION INLET MARKERS INSTALLED. TEXT ON THE MARKER SHALL BE EVENLY SPACED AND READ "NO DUMPING, ONLY RAIN IN THE DRAIN". MARKERS MUST BE COMMERCIAL GRADE STAINLESS STEEL, ALUMINUM, BRASS OR BRONZE AND EITHER STAMPED FROM SHEET METAL OR CAST. METAL MARKER COLOR MUST BE NON-REFLECTIVE BLUE OR GREEN. AQUATIC CREATURE OR SYMBOL SHOWN ON MARKER SHALL BE CONSISTENT THROUGHOUT THE SUBDIVISION. MARKERS MUST BE AFFIXED TO A CLEAN, PREPARED SURFACE WITH ADHESIVES, FASTENERS, OR HEAT AS RECOMMENDED BY THE MANUFACTURER. MARKERS SHALL BE ALIGNED WITH THE CENTER OF DRAINAGE INLETS AT THE TOP OF THE CURB. LETTERING MUST BE BETWEEN 0.4 - 0.5 INCHES AND THE TOTAL DIAMETER OF THE MARKER

VERTICAL INFORMATION SHOWN HEREON BASED ON NAVD88.

- 2. PRIOR TO THE START OF LAND DISTURBING ACTIVITIES, WHICH INCLUDES DEMOLITION, EARTHWORK AND/OR CONSTRUCTION, THE DEVELOPER/CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND SUBMIT TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) A NOTICE OF INTENT (NOI) TO OBTAIN COVERAGE UNDER THE NPDES GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (CGP) PURSUANT TO THE REQUIREMENTS OF 62-621.300(4)(A) F.A.C. A COPY OF THE NOI SHALL BE SUBMITTED TO THE ORANGE COUNTY ENVIRONMENTAL PROTECTION DIVISION (OC EPD). COPIES OF THE SWPPP, NOI, AND FDEP ACKNOWLEDGEMENT LETTER ARE TO BE KEPT ON THE PROJECT SITE AND MADE AVAILABLE UPON REQUEST. UPON COMPLETION OF ALL LAND DISTURBING ACTIVITIES AND AFTER FINAL STABILIZATION OF THE SITE IS COMPLETE, THE DEVELOPER/CONTRACT SHALL SUBMIT TO FDEP A NOTICE OF TERMINATION (NOT) TO END THEIR COVERAGE UNDER THE CGP AND PROVIDE A COPY OF THE NOT TO OC
- 3. THE SITE SHALL BE STABILIZED FOLLOWING CLEARING, GRUBBING, EARTH WORK OR MASS GRADING TO ESTABLISH A DENSE STAND OF GRASS, OR SHALL INCORPORATE OTHER APPROVED BEST MANAGEMENT PRACTICES, ON ALL DISTURBED AREAS IF DEVELOPMENT DOES NOT BEGIN WITHIN 7 DAYS. FINAL STABILIZATION SHALL ACHIEVE 100% COVERAGE AND A MINIMUM OF 70% DENSITY OF THE DISTURBED LAND AREA AND SHALL INCLUDE A MAINTENANCE PROGRAM TO ENSURE MINIMUM COVERAGE SURVIVAL AND OVERALL SITE STABILIZATION UNTIL SITE DEVELOPMENT.
- 4. DISCHARGE OF GROUNDWATER FROM DEWATERING OPERATIONS REQUIRES APPROVAL FROM FDEP AND THE APPLICABLE WATER MANAGEMENT DISTRICT. THE DEVELOPER/CONTRACTOR SHALL OBTAIN AND FDEP GENERIC PERMIT FOR THE DISCHARGE OF GROUND WATER FROM DEWATERING OPERATIONS PURSUANT TO THE REQUIREMENTS OF 62-621.300(2)(A) AND 62-620 F.A.C. AND FLORIDA STATUTES CHAPTER 403. DISCHARGES DIRECTED TO THE COUNTY'S MS4 REQUIRE AN ORANGE COUNTY RIGHT-OF-WAY UTILIZATION PERMIT FOR DEWATERING PRIOR TO THE START OF ANY DISCHARGES. TO OBTAIN RIGHT-OF-WAY APPROVAL, COPIES OF THE FDEP PERMIT, NOI, DOCUMENTATION SHOWING DEWATERING AT THE SITE IS NOT WITHIN 500 FT OF KNOWN CONTAMINATION, AND A DEWATERING PLAN SHALL BE SUBMITTED TO ALEXIS CLARK, ORANGE COUNTY ENVIRONMENTAL PROTECTION DIVISION (407-836-1433) AND ORANGE COUNTY PUBLIC WORKS DEVELOPMENT ENGINEERING PERMITTING SECTION. ANALYTICAL SAMPLING OF GROUNDWATER MAY BE REQUESTED BY ORANGE COUNTY ON A CASE-BY-CASE BASIS TO CONFIRM SITE CONTAMINATION STATUS.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING FDEP GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUNDWATER FROM ANY NON-CONTAMINATED SITE ACTIVITY IN ACCORDANCE WITH FLORIDA ADMINISTRATIVE CODE 62-621.300(2) AND 62-620, AND FLORIDA
- 6. PRIOR TO ANY PLAN APPROVAL, A LETTER OF CREDIT OR CASH ESCROW SHALL BE SUBMITTED TO THE COUNTY TO GUARANTEE THE REQUIRED SITE STABILIZATION AND MAINTENANCE OF ALL DISTURBED AREAS. SUBMIT AN ENGINEER'S COST ESTIMATE TO ESTABLISH AND MAINTAIN A DENSE STAND OF GRASS OVER THE MINIMUM 70% COVERAGE OF THE
- 7. THE RIGHT-OF-WAY AND ADJACENT PROPERTIES SHALL BE RESTORED TO EQUAL OR BETTER CONDITIONS.
- 8. PROVIDE A 6 FOOT HIGH SCREEN FENCE FOR DUST ABATEMENT ON ALL PROPERTY LINES ADJACENT TO ROADS.
- 9. NOT ALL TREES SHOWN. CONTRACTOR TO REMOVE ALL TREES UNLESS NOTES OTHERWISE. REFER TO TREE MITIGATION PLANS FOR DETAILS.

1. ELEVATIONS SHOWN PER NAVD 88. REFER TO SURVEY FOR

1. CONTRACTOR TO FOLLOW THE GUIDANCE AND RECOMMENDATIONS AS SPECIFIED WITHIN THE SUBSURFACE SOIL EXPLORATION GEOTECHNICAL ENGINEERING REPORT(S) PERFORMED BY E.C.S. FLORIDA, LLC (DATED FEB. 8, 2019 AND JUNE 2, 2019.)

> EXISTING CONTOUR PROPOSED STORM PIPE PROPOSED STORM INLET PROPOSED STORM MANHOLE

DIRECTION OF SURFACE WATER RUNOFF PROPOSED SPOT ELEVATION

REFER TO STRUCTURE TABLE, SHEET C5.1



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AND Ζ

SHEET NUMBER C5.0

STO	RM STRUCTURE TABLE	STORI	M STRUCTURE TABLE
TRUCTURE NAME:	DETAILS:	STRUCTURE NAME:	DETAILS:
CS-A	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 106.00 SE. INV OUT: 99.50 (36" RCP)	D-16	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 104.65 E. INV OUT: 100.94 (18" RCP)
CS-B	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 105.50 NE. INV OUT: 99.00 (24" RCP)	D-17	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.09 N. INV IN: 99.67 (24" RCP) S. INV OUT: 99.13 (30" RCP)
CS-S2	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 104.00 N. INV OUT: 98.06 (24" RCP) TYPE "D" INLET	D-18	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.42 N. INV IN: 99.97 (24" RCP)
D-1	PER FDOT INDEX# 425-052 TOP: 105.08 N. INV IN: 98.06 (30" RCP) S. INV OUT: 98.06 (30" RCP)		W. INV IN: 101.05 (18" RCP) S. INV OUT: 99.97 (24" RCP) TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022
D-2	TYPE "6" CURB INLET PER FDOT INDEX #425-021 TOP: 104.78 S. INV IN: 97.79 (24" RCP) N. INV OUT: 97.79 (30" RCP)	D-19	TOP: 105.61 E. INV IN: 100.13 (24" RCP) NW. INV IN: 101.25 (18" RCP) S. INV OUT: 100.13 (24" RCP) TYPE "D" INLET
D-3	TYPE "6" CURB INLET PER FDOT INDEX #425-021 TOP: 104.78 S. INV IN: 97.64 (30" RCP)	D-20	PER FDOT INDEX# 425-052 TOP: 105.08 SE. INV OUT: 101.38 (18" RCP)
	N. INV OUT: 97.64 (45" x29" ERCP) TYPE "J7" MANHOLE PER FDOT INDEX #425-010, 022	D-21	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 104.71 W. INV OUT: 100.46 (24" RCP)
D-4	TOP: 105.71 E. INV IN: 97.34 (54" RCP) S. INV IN: 97.34 (45" x29" ERCP) N. INV OUT: 97.34 (60" RCP)	D-22	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 104.78 E. INV OUT: 101.08 (18" RCP)
D-4A	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.67 SE. INV IN: 100.00 (24" RCP) N. INV OUT: 100.00 (24" RCP)	D-23	TYPE "C" INLET PER FDOT INDEX# 425-052 TOP: 105.52 S. INV OUT: 101.82 (18" RCP)
D-5	TYPE "J7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.51 E. INV IN: 97.51 (54" RCP) S. INV IN: 99.90 (24" RCP) N. INV IN: 98.00 (18" RCP)	D-24	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.46 W. INV IN: 100.79 (18" RCP) N. INV IN: 101.61 (18" RCP) S. INV OUT: 98.72 (18" RCP)
D-6	W. INV OUT: 97.51 (54" RCP) TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 N. INV IN: 98.31 (30" RCP)	D-25	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 104.83 N. INV IN: 98.47 (18" RCP) E. INV IN: 96.83 (24" RCP) S. INV OUT: 96.83 (36" RCP)
	S. INV OUT: 98.31 (30" RCP) TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.47	D-26	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 E. INV OUT: 100.71 (18" RCP)
D-7	E. INV IN: 97.96 (54" RCP) N. INV IN: 98.00 (18" RCP) S. INV IN: 99.95 (18" RCP) W. INV OUT: 97.96 (54" RCP) TYPE "D" INLET	D-27	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 W. INV IN: 100.44 (18" RCP) SE. INV OUT: 100.44 (18" RCP)
D-7A	PER FDOT INDEX# 425-052 TOP: 104.50 W. INV OUT: 100.13 (18" RCP)	D-28	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 106.30 NW. INV IN: 100.20 (18" RCP)
D-8	PER FDOT INDEX# 425-052 TOP: 105.08 NE. INV IN: 98.56 (30" RCP) S. INV OUT: 98.56 (30" RCP) MITERED END SECTION	D-29	SE. INV OUT: 100.20 (18" RCP) TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 NW. INV IN: 100.02 (18" RCP)
D-9	PER FDOT INDEX #430-021 TOP: 103.71 N. INV IN: 103.00 (8" HDPE)		S. INV OUT: 100.02 (24" RCP) TYPE "D" INLET
D-10	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 103.71 N. INV IN: 103.00 (8" HDPE)	D-30	PER FDOT INDEX# 425-052 TOP: 105.08 N. INV IN: 99.79 (24" RCP) W. INV OUT: 99.78 (24" RCP)
D-11	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 103.71 N. INV IN: 103.00 (8" HDPE)	D-31	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.11 E. INV IN: 99.56 (24" RCP) W. INV OUT: 97.27 (24" RCP)
D-12	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 103.71 NE. INV IN: 103.00 (8" HDPE)	D-32	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 SW. INV OUT: 100.71 (18" RCP)
D-13	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.73 NE. INV IN: 98.73 (24" RCP) SW. INV OUT: 98.73 (30" RCP)	D-33	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 NE. INV IN: 100.27 (18" RCP) W. INV OUT: 100.27 (18" RCP)
D-14	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 E. INV IN: 98.96 (18" RCP) SW. INV OUT: 98.96 (24" RCP)	D-34	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.87 N. INV IN: 97.83 (36" RCP) S. INV OUT: 97.83 (36" RCP)
D-15	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 E. INV IN: 99.24 (18" RCP) W. INV OUT: 99.23 (18" RCP)	D-35	E. INV OUT: 99.30 (36" RCP) TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 E. INV IN: 98.68 (18" RCP) W. INV OUT: 98.68 (24" RCP)
			11. 111 OUI. 30.00 (24 KCP)

STORM STRUCTURE TABLE			
STRUCTURE NAME:			
D-36	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 104.94 E. INV IN: 98.38 (24" RCP) N. INV OUT: 98.38 (24" RCP)		
D-37	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.55 S. INV IN: 98.18 (24" RCP) N. INV IN: 96.62 (36" RCP) W. INV OUT: 95.36 (42" RCP)		
D-38	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 106.15 E. INV IN: 94.69 (42" RCP) N. INV IN: 101.06 (10" HDPE) S. INV OUT: 94.69 (42" RCP)		
D-39	TYPE "C" INLET PER FDOT INDEX #425-052 TOP: 105.85 N. INV IN: 94.47 (42" RCP) S. INV IN: 102.62 (8" HDPE) W. INV OUT: 94.48 (42" RCP)		
D-40	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.08 W. INV IN: 101.77 (8" HDPE) E. INV OUT: 101.37 (18" RCP)		
D-41	TYPE "6" CURB INLET PER FDOT INDEX #425-021 TOP: 106.05 E. INV OUT: 96.34 (12" RCP)		
D-42	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 93.19 W. INV IN: 92.02 (12" RCP)		
D-43	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.68 S. INV OUT: 98.36 (18" RCP)		
D-44	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.91 N. INV IN: 98.16 (18" RCP) S. INV OUT: 98.16 (18" RCP)		
D-45	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.77 S. INV OUT: 98.36 (18" RCP)		
D-46	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.85 N. INV IN: 98.16 (18" RCP) S. INV OUT: 98.16 (18" RCP)		
D-47	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.52 S. INV OUT: 100.00 (18" RCP)		
D-48	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.68 N. INV IN: 99.70 (18" RCP) S. INV OUT: 99.70 (18" RCP)		
D-49	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.52 S. INV OUT: 100.00 (18" RCP)		
D-50	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.68 N. INV IN: 99.70 (18" RCP) S. INV OUT: 99.70 (24" RCP)		
D-51	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.21 SE. INV IN: 99.73 (18" RCP) W. INV OUT: 99.73 (18" RCP)		
D-52	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.38 E. INV IN: 99.59 (18" RCP) N. INV IN: 99.41 (24" RCP) S. INV IN: 99.72 (18" RCP) W. INV OUT: 99.42 (24" RCP)		
D-54	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 105.60 N. INV OUT: 101.65 (24" RCP)		
D-55	TYPE "J7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 106.46 S. INV IN: 96.09 (60" RCP) NE. INV OUT: 89.32 (60" RCP)		
D-55A	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 105.62 S. INV IN: 101.45 (24" RCP) E. INV OUT: 101.08 (24" RCP)		

STRUCTURE NAME:	DETAILS:
	TYPE "6" CURB INLET PER FDOT INDEX #425-021
D-56	TOP: 105.28 S. INV IN: 96.35 (60" RCP) N. INV OUT: 96.35 (60" RCP)
	TYPE "D" INLET PER FDOT INDEX #425-052
D-57	TOP: 105.18 S. INV IN: 96.77 (60" RCP) N. INV OUT: 96.77 (60" RCP)
	TYPE "D" INLET
D-58	PER FDOT INDEX #425-052 TOP: 105.10 S. INV IN: 97.12 (60" RCP) N. INV OUT: 97.12 (60" RCP)
D-59	NULL STRUCTURE TOP: 103.52
D 33	W. INV IN: 100.00 (36" RCP) MITERED END SECTION
D-60	PER FDOT INDEX #430-021 TOP: 102.33 SW. INV IN: 98.00 (24" RCP)
	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022
D-61	TOP: 105.94 E. INV IN: 99.09 (24" RCP) S. INV IN: 99.75 (18" RCP)
	N. INV IN: 99.43 (18" RCP) W. INV OUT: 99.10 (36" RCP)
D-62	TYPE "D" INLET PER FDOT INDEX #425-052
	TOP: 104.68 N. INV OUT: 100.00 (18" RCP)
D-63	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 105.23
	W. INV OUT: 101.22 (18" RCP) E. INV OUT: 100.86 (18" RCP)
	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 104.86
D-64	E. INV IN: 101.00 (18" RCP) N. INV IN: 94.85 (36" RCP) S. INV OUT: 94.85 (36" HDPE)
	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022
D-65	TOP: 104.64 W. INV IN: 100.76 (18" RCP) N. INV IN: 99.35 (24" RCP)
	S. INV OUT: 94.85 (36" HDPE) TYPE "D" INLET
D-66	PER FDOT INDEX #425-052 TOP: 104.68 N. INV OUT: 100.00 (18" RCP)
	TYPE "D" INLET PER FDOT INDEX #425-052
D-67	TOP: 104.84 NW. INV OUT: 100.00 (18" RCP)
D-68	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.85
	S. INV OUT: 100.00 (18" RCP)
D-69	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 104.85
	N. INV IN: 99.70 (18" RCP) S. INV OUT: 99.70 (18" RCP)
D-70	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 93.50
	SW. INV IN: 88.00 (60" RCP) TYPE "D" INLET
D-71	PER FDOT INDEX #425-052 TOP: 104.79 E. INV OUT: 100.00 (18" RCP)
	TYPE "D" INLET
D-72	PER FDOT INDEX #425-052 TOP: 104.95 W. INV IN: 99.76 (18" RCP)
	N. INV OUT: 99.76 (24" RCP) TYPE "D" INLET
D-73	PER FDOT INDEX #425-052 TOP: 104.85
	S. INV IN: 99.39 (24" RCP) NW. INV OUT: 99.39 (24" RCP)
	TYPE "D" INLET PER FDOT INDEX #425-052 TOP: 105.10
D-74	SE. INV IN: 99.07 (24" RCP) S. INV IN: 103.21 (12" HDPE)
	NW. INV OUT: 99.07 (36" RCP) TYPE "6" CURB INLET
D-75	PER FDOT INDEX #425-021 TOP: 105.00 SE. INV IN: 98.82 (36" RCP)
	S. INV IN: 100.26 (12" HDPE) W. INV OUT: 98.82 (36" RCP)

STRUCTURE	M STRUCTURE TABLE DETAILS:	
NAME:		
D-76	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.86 E. INV IN: 98.59 (36" RCP) W. INV IN: 98.34 (36" RCP) SW. INV IN: 101.77 (12" HDPE) S. INV IN: 100.60 (8" HDPE) N. INV OUT: 89.75 (60" RCP)	
D-77	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 94.96 S. INV IN: 89.46 (60" RCP)	
D-78	TYPE "6" CURB INLET PER FDOT INDEX #425-021 TOP: 105.00 S. INV IN: 100.58 (18" RCP) E. INV OUT: 99.67 (36" RCP)	
D-79	TYPE "6" CURB INLET PER FDOT INDEX #425-021 TOP: 105.00 W. INV IN: 98.93 (36" RCP) SW. INV IN: 100.51 (18" RCP) E. INV OUT: 98.83 (36" RCP)	
D-80	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.67 SE. INV IN: 100.06 (18" RCP) N. INV OUT: 100.06 (18" RCP)	
D-84	NULL STRUCTURE TOP: 105.07 N. INV IN: 103.43 (18" HDPE) W. INV OUT: 103.43 (18" HDPE)	
D-86	TYPE "P7" MANHOLE PER FDOT INDEX #200, 201 TOP: 106.00 N. INV IN: 100.11 (30" RCP) W. INV IN: 100.92 (18" RCP) S. INV IN: 100.11 (36" RCP) E. INV OUT: 100.11 (36" RCP)	
D-87	TYPE "P7" MANHOLE PER FDOT INDEX #200, 201 TOP: 105.94 SW. INV IN: 101.03 (12" HDPE) W. INV IN: 102.96 (12" HDPE) NE. INV OUT: 101.03 (18" RCP)	
D-88	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 W. INV IN: 100.26 (30" RCP) N. INV OUT: 100.26 (36" RCP)	
D-89	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 W. INV IN: 100.85 (18" HDPE) S. INV IN: 100.85 (18" HDPE) E. INV OUT: 100.52 (30" RCP)	
D-90	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 E. INV OUT: 101.06 (18" RCP)	
D-91	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 N. INV IN: 100.18 (30" RCP) W. INV IN: 101.18 (18" RCP) S. INV OUT: 100.18 (30" RCP)	
D-92	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 W. INV IN: 100.79 (24" RCP) S. INV OUT: 100.35 (30" RCP)	
D-93	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.21 E. INV OUT: 100.06 (18" RCP)	
D-94	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.21 W. INV IN: 99.99 (18" RCP) E. INV OUT: 99.99 (18" RCP)	
D-95	TYPE "P7" MANHOLE PER FDOT INDEX #200, 201 TOP: 105.19 N. INV IN: 97.58 (36" RCP) E. INV OUT: 97.48 (36" RCP)	
D-96	TYPE "P7" MANHOLE PER FDOT INDEX #200, 201 TOP: 105.55 W. INV IN: 97.23 (36" RCP) S. INV OUT: -2.93 (36" RCP)	
D-97	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.27 W. INV IN: 99.92 (18" RCP) S. INV OUT: 99.42 (24" RCP)	
D-98	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.60 E. INV OUT: 101.45 (18" RCP)	
	TYPE "D" INLET PER FDOT INDEX #232	

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STRUCTURE NAME:	DETAILS:
D-100	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.38 S. INV OUT: 100.12 (18" RCP) NW. INV OUT: 100.12 (24" RCP)
D-101	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.45 N. INV IN: 100.24 (18" RCP)
D-102	TYPE "D" INLET PER FDOT INDEX #232 TOP: 106.34 W. INV IN: 103.13 (18" HDPE) E. INV IN: 103.21 (18" HDPE) S. INV OUT: 103.13 (18" RCP)
D-103	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 N. INV IN: 103.00 (18" RCP)
D-105	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.27 NW. INV OUT: 100.24 (18" RCP)
D-106	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.86 W. INV IN: 100.94 (24" RCP) E. INV OUT: 100.94 (24" RCP)
D-108	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 W. INV OUT: 103.00 (18" RCP)
D-109	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 E. INV IN: 103.00 (18" RCP)
D-110	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.58 W. INV IN: 100.57 (18" RCP) N. INV IN: 99.01 (30" RCP) E. INV IN: 94.12 (42" RCP) S. INV OUT: 93.49 (48" RCP)
D-111	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 97.42 N. INV IN: 93.00 (48" RCP)
D-112	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.83 N. INV IN: 97.81 (30" RCP) SE. INV OUT: 97.81 (48" RCP)
D-113	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 100.97 NW. INV IN: 96.55 (48" RCP)
EM-1	TYPE "D" INLET PER FDOT INDEX #232 TOP: 104.50 W. INV IN: 99.30 (36" RCP)
YD-02	18" NYLOPLAST INLINE DRAIN W/ PEDESTRAIN H-10 GRATE TOP: 106.00 E. INV IN: 101.61 (8" HDPE) S. INV OUT: 101.61 (10" HDPE)
YD-03	18" NYLOPLAST INLINE DRAIN W/ PEDESTRAIN H-10 GRATE TOP: 106.00 E. INV OUT: 102.41 (8" HDPE)
YD-04	YARD DRAIN TOP: 105.90

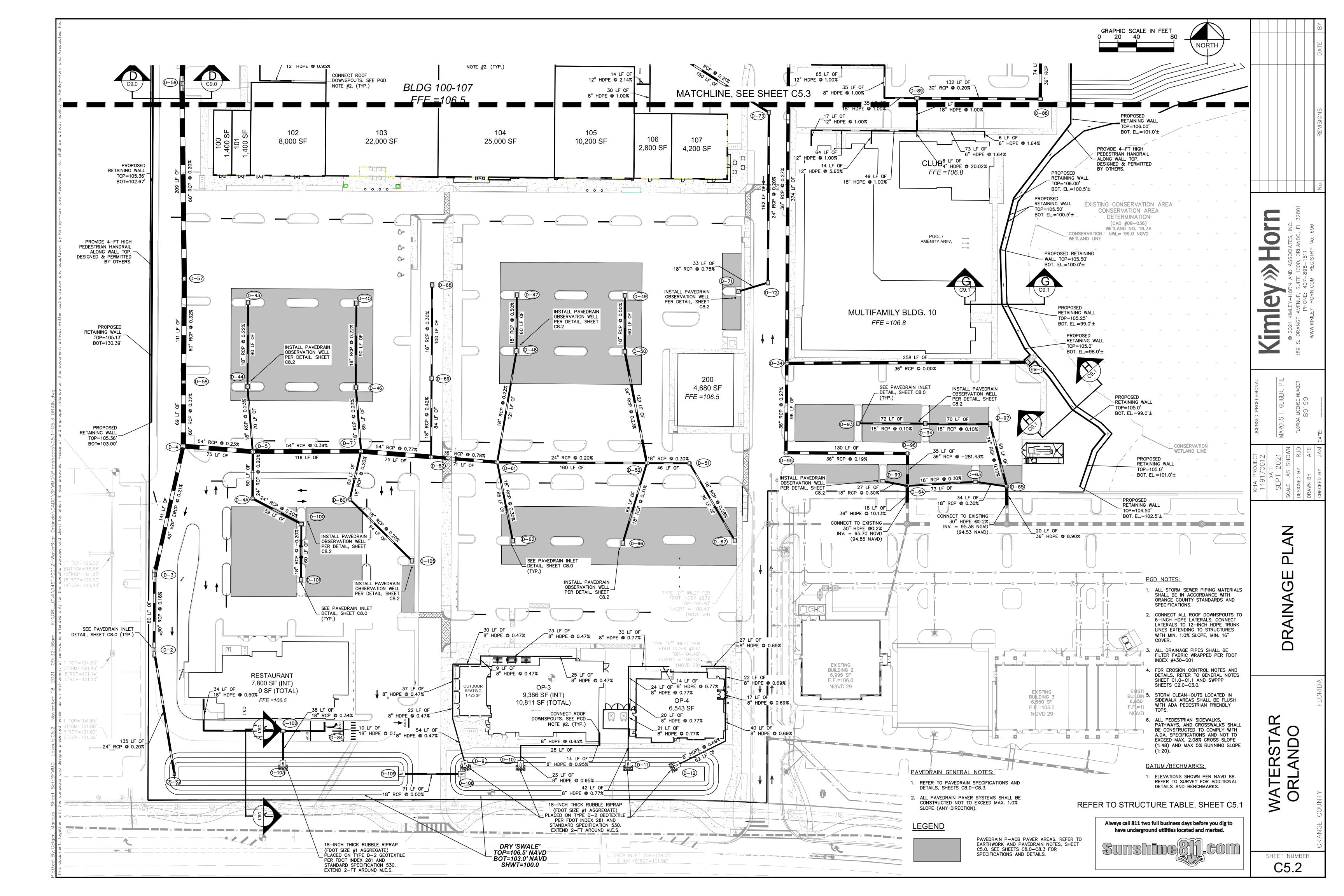
STRUCTURE NAME:	DETAILS:	
D-100	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.38 S. INV OUT: 100.12 (18" RCP) NW. INV OUT: 100.12 (24" RCP)	
D-101	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.45 N. INV IN: 100.24 (18" RCP)	
D-102	TYPE "D" INLET PER FDOT INDEX #232 TOP: 106.34 W. INV IN: 103.13 (18" HDPE) E. INV IN: 103.21 (18" HDPE) S. INV OUT: 103.13 (18" RCP)	
D-103	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 N. INV IN: 103.00 (18" RCP)	
D-105	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.27 NW. INV OUT: 100.24 (18" RCP)	
D-106	TYPE "D" INLET PER FDOT INDEX #232 TOP: 105.86 W. INV IN: 100.94 (24" RCP) E. INV OUT: 100.94 (24" RCP)	
D-108	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 W. INV OUT: 103.00 (18" RCP)	
D-109	MITERED END SECTION PER FDOT INDEX #272 TOP: 104.71 E. INV IN: 103.00 (18" RCP)	
D-110	TYPE "P7" MANHOLE PER FDOT INDEX #425-010, 022 TOP: 105.58 W. INV IN: 100.57 (18" RCP) N. INV IN: 99.01 (30" RCP) E. INV IN: 94.12 (42" RCP) S. INV OUT: 93.49 (48" RCP)	
D-111	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 97.42 N. INV IN: 93.00 (48" RCP)	
D-112	TYPE "D" INLET PER FDOT INDEX# 425-052 TOP: 105.83 N. INV IN: 97.81 (30" RCP) SE. INV OUT: 97.81 (48" RCP)	
D-113	MITERED END SECTION PER FDOT INDEX #430-021 TOP: 100.97 NW. INV IN: 96.55 (48" RCP)	
EM-1	TYPE "D" INLET PER FDOT INDEX #232 TOP: 104.50 W. INV IN: 99.30 (36" RCP)	
YD-02	18" NYLOPLAST INLINE DRAIN W/ PEDESTRAIN H-10 GRATE TOP: 106.00 E. INV IN: 101.61 (8" HDPE) S. INV OUT: 101.61 (10" HDPE)	
YD-03	18" NYLOPLAST INLINE DRAIN W/ PEDESTRAIN H-10 GRATE TOP: 106.00 E. INV OUT: 102.41 (8" HDPE)	
	YARD DRAIN	

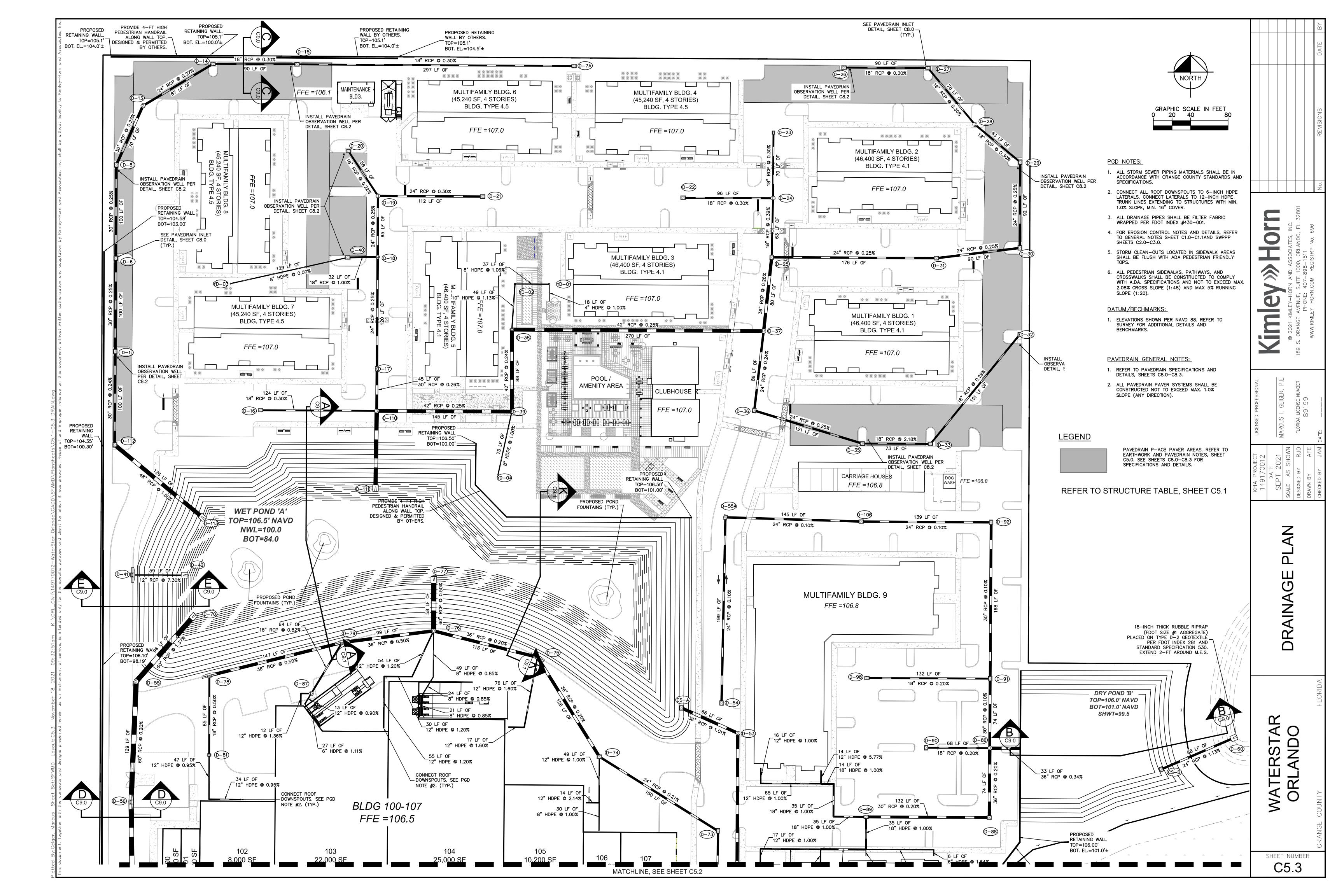
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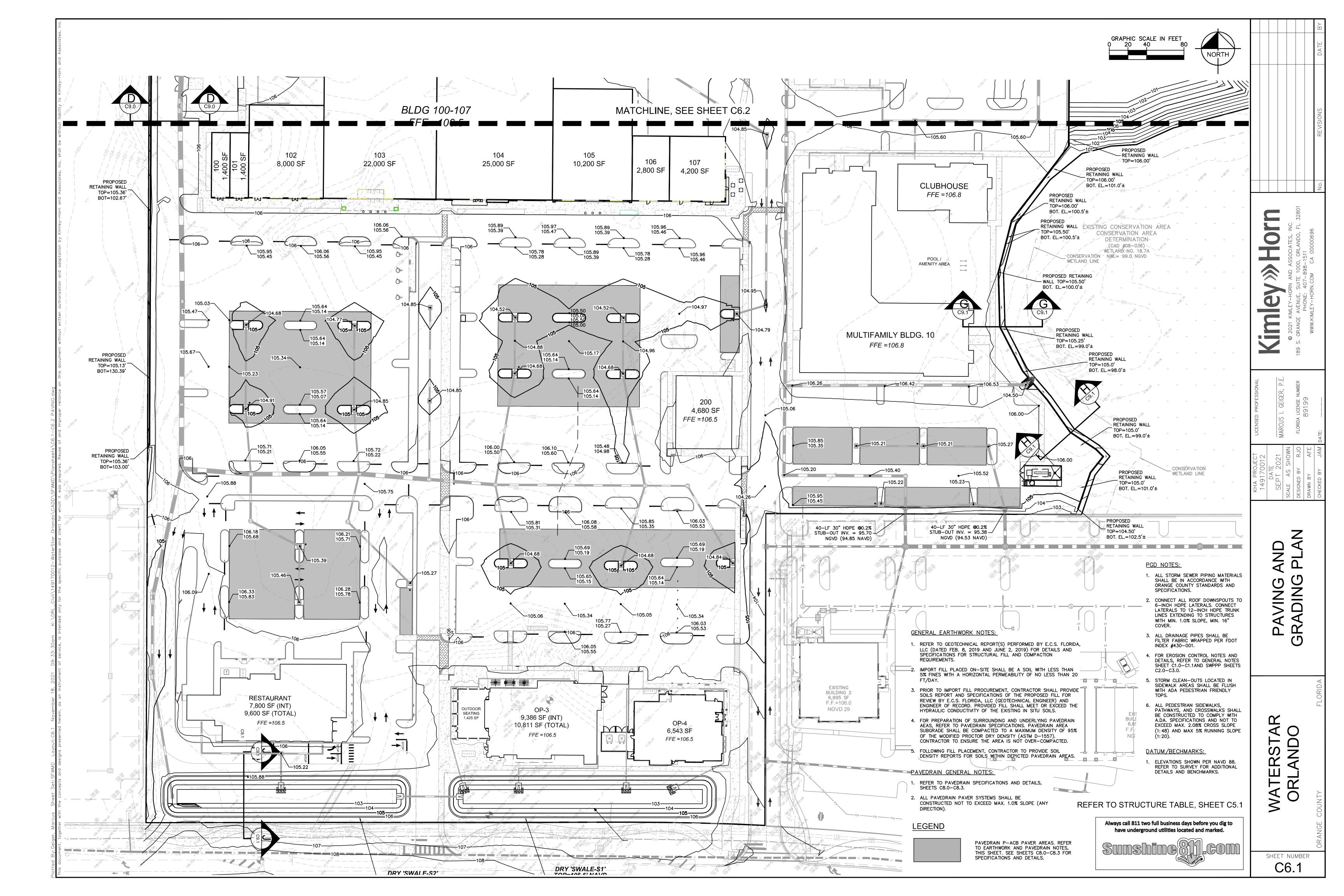
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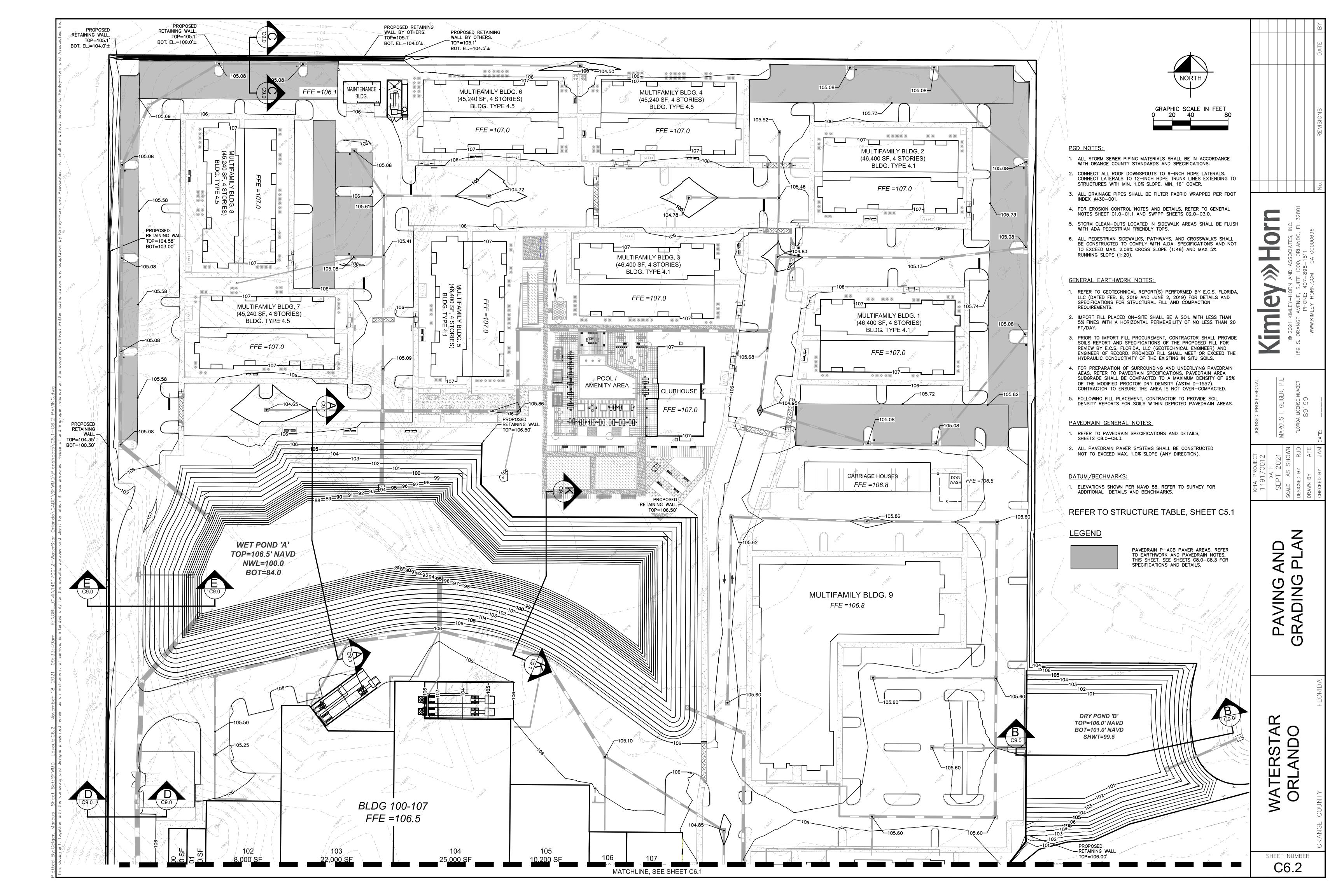
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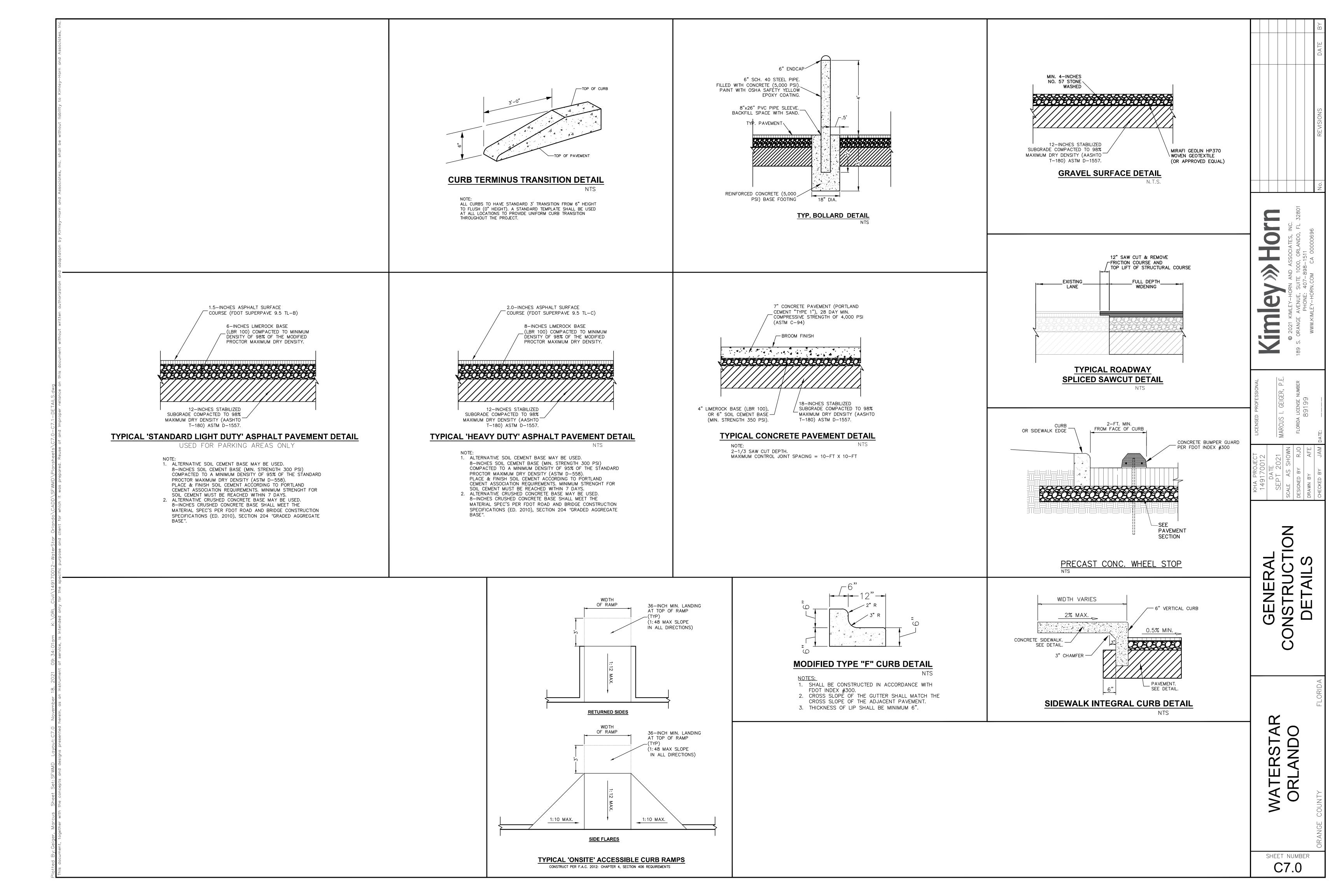
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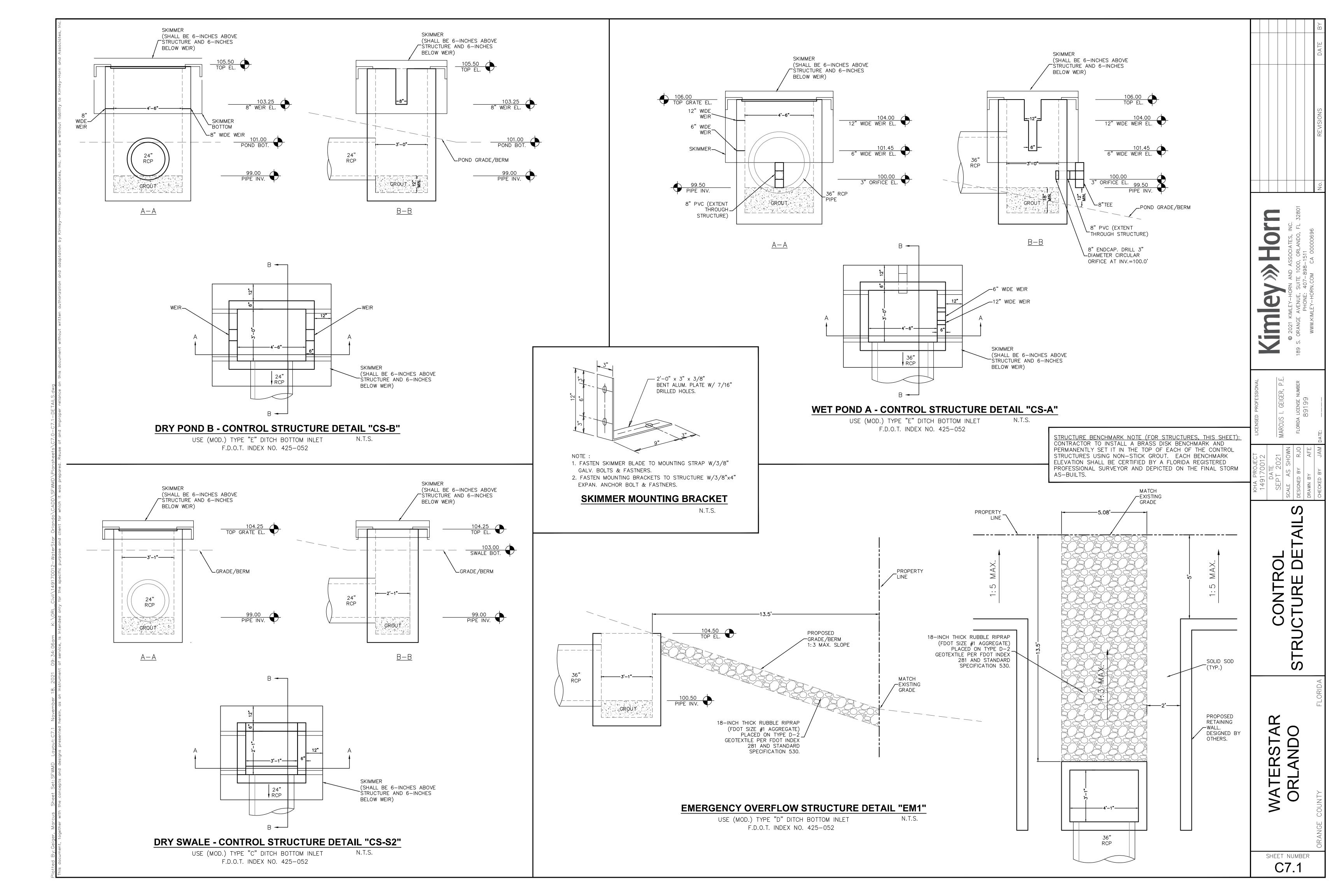


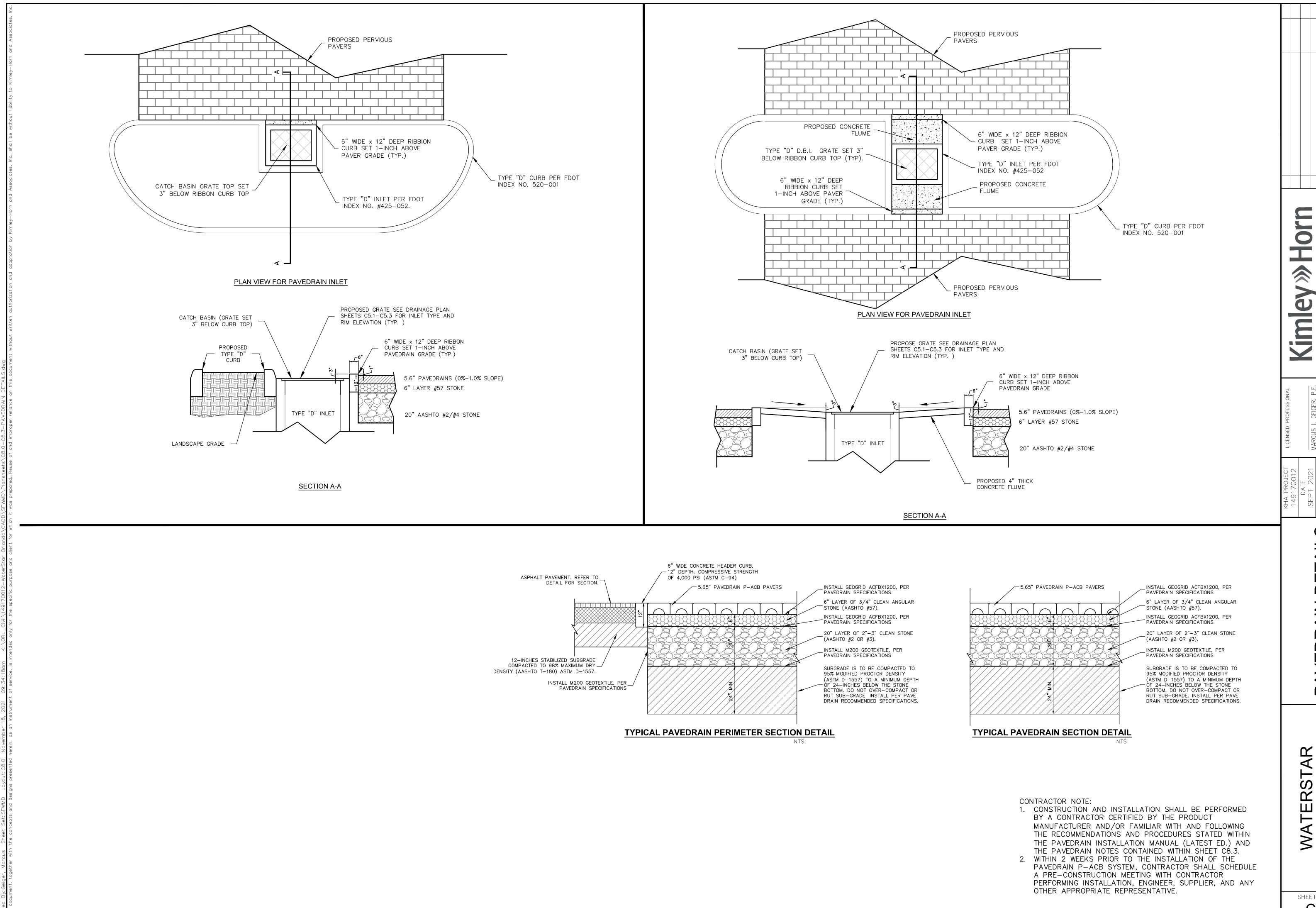










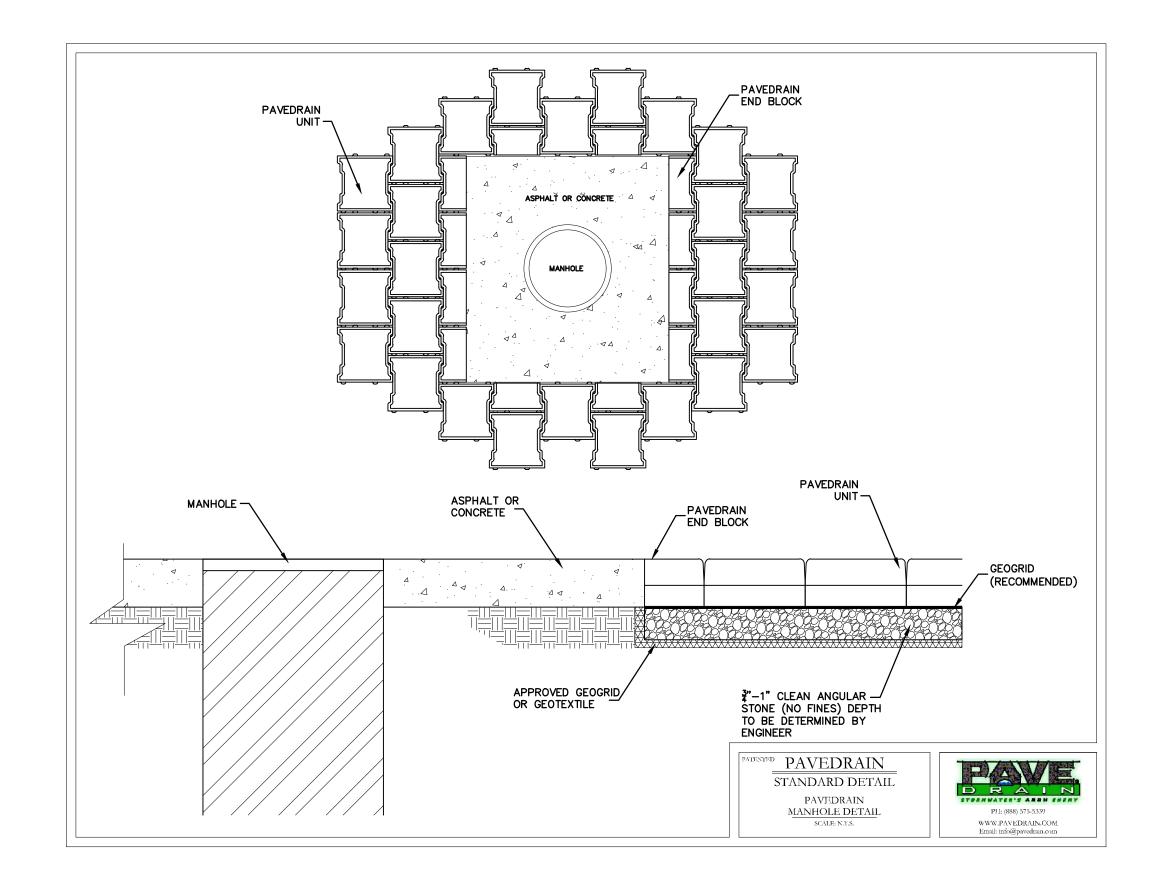


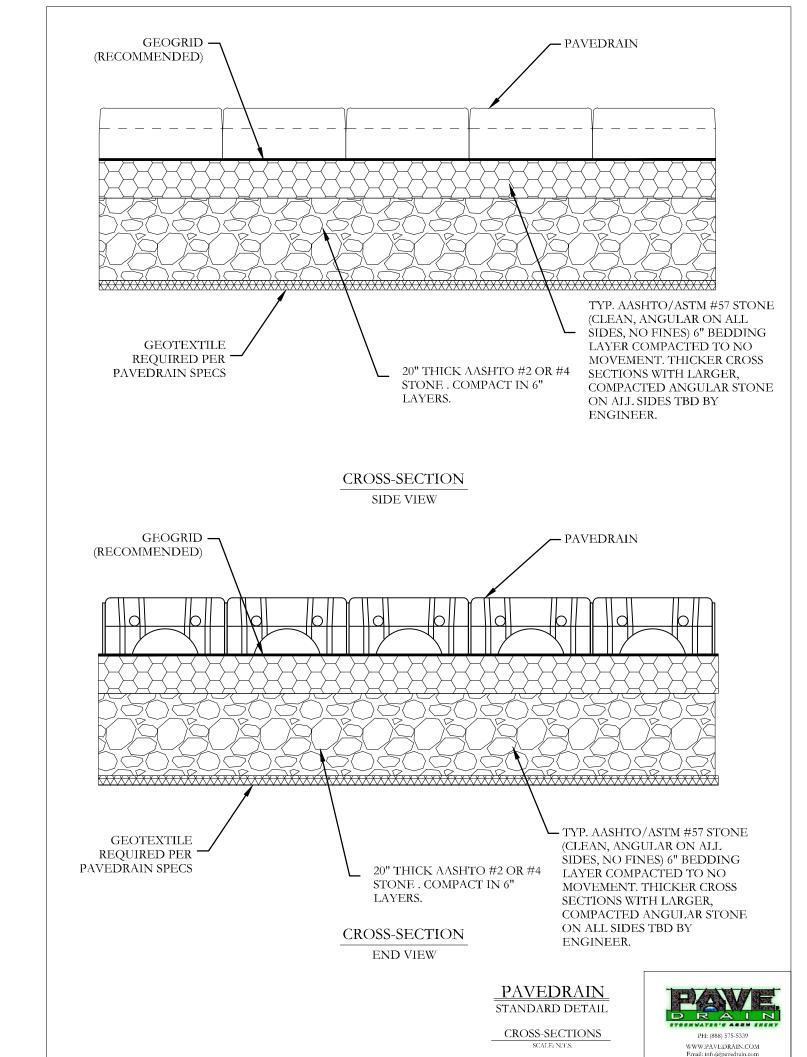
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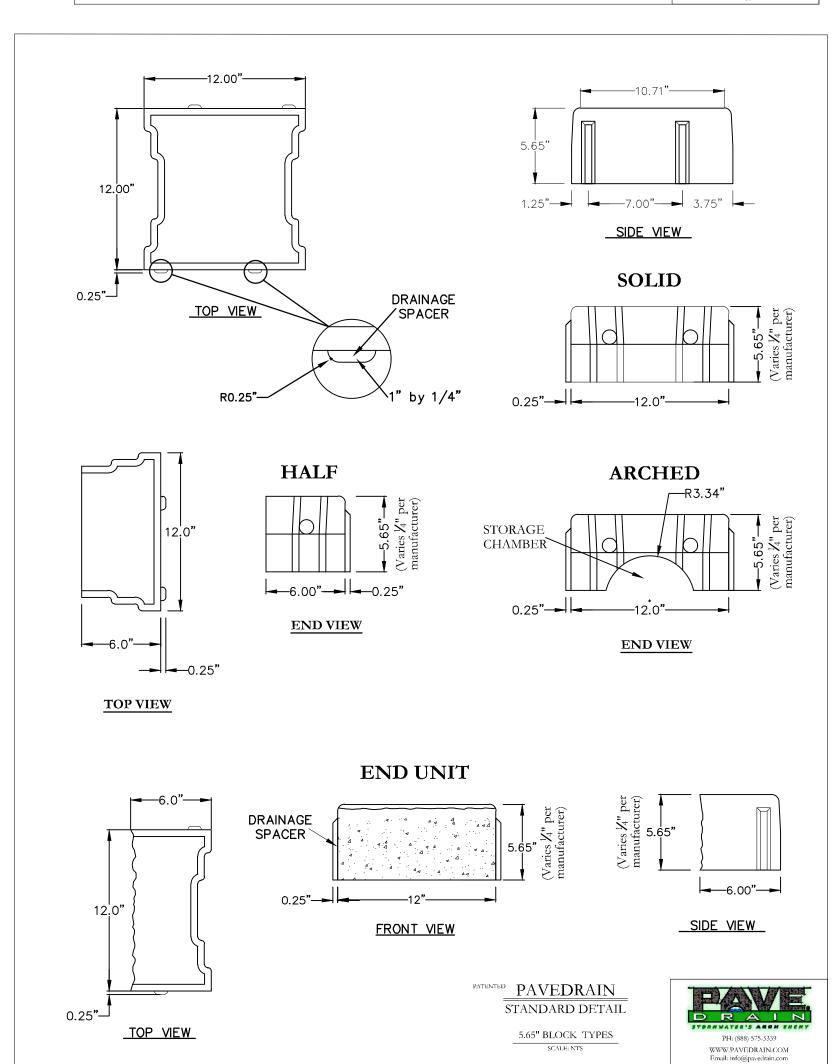
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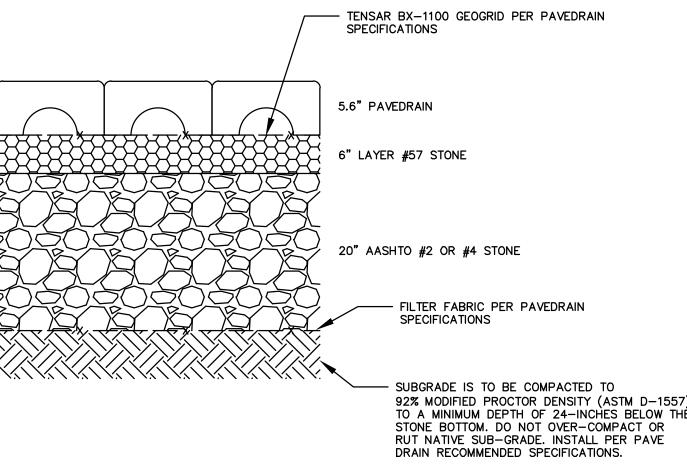
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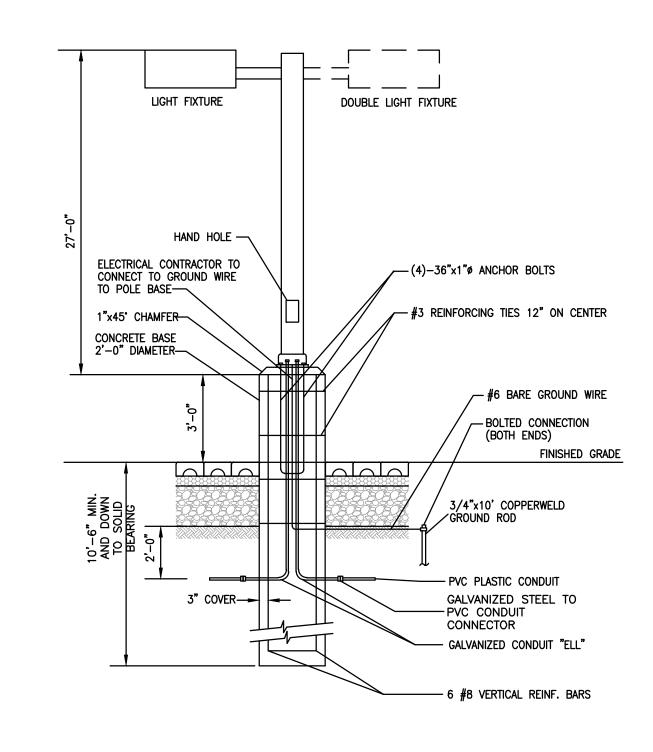






PAVEDRAIN TYPICAL SECTION

CONSTRUCT PER PAVEDRAIN SPECIFICATIONS AND DETAILS, SEE SHEETS C8.0—C8.3.



MODIFIED LIGHT POLE FOUNDATION

LOCATED IN THE PAVEDRAIN SECTIONS

NOT TO SCALE

CONTRACTOR NOTE:

1. CONSTRUCTION AND INSTALLATION SHALL BE PERFORMED BY A CONTRACTOR CERTIFIED BY THE PRODUCT MANUFACTURER AND/OR FAMILIAR WITH AND FOLLOWING THE RECOMMENDATIONS AND PROCEDURES STATED WITHIN THE PAVEDRAIN INSTALLATION MANUAL (LATEST ED.) AND THE PAVEDRAIN NOTES CONTAINED WITHIN SHEET C8.3.

2. WITHIN 2 WEEKS PRIOR TO THE INSTALLATION OF THE PAVEDRAIN P-ACB SYSTEM, CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH CONTRACTOR PERFORMING INSTALLATION, ENGINEER, SUPPLIER, AND ANY OTHER APPROPRIATE REPRESENTATIVE.

EXIMITED PHONE: 407-898-1511

SEPT 2021
SCALE AS SHOWN
DESIGNED BY RJO
DRAWN BY AFE

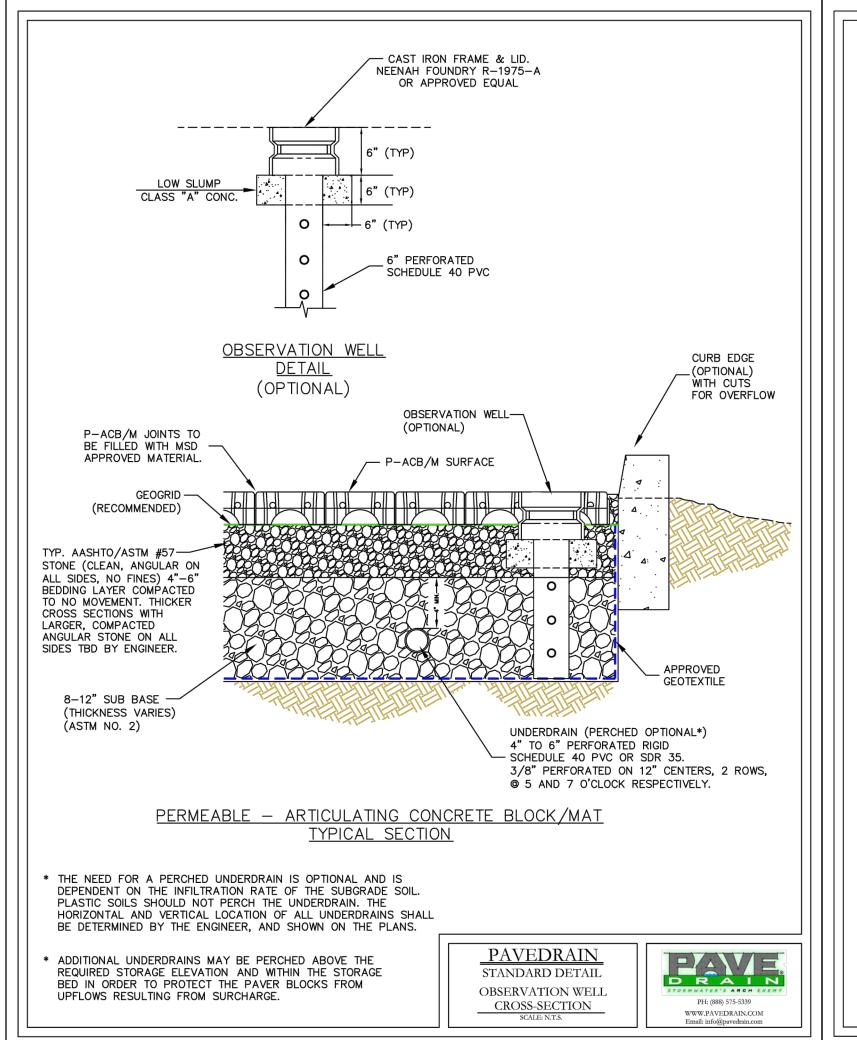
PAVEDRAIN DETAIL

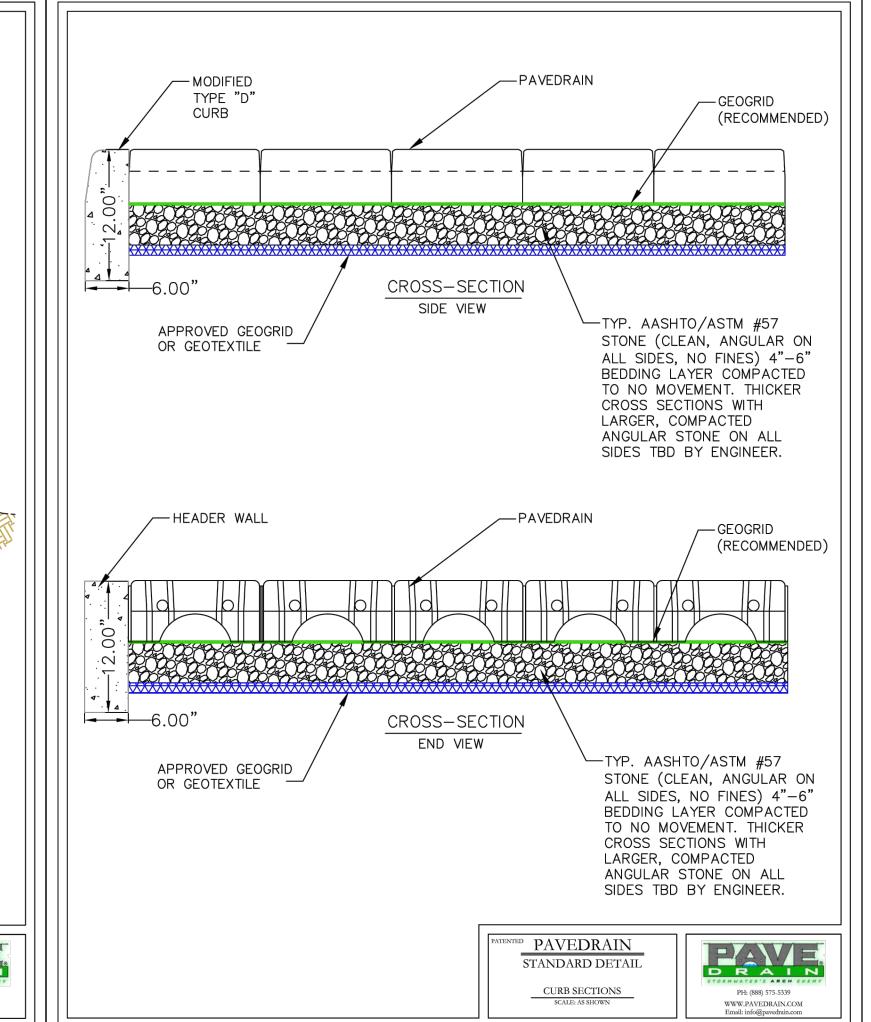
WATERSTAR ORLANDO

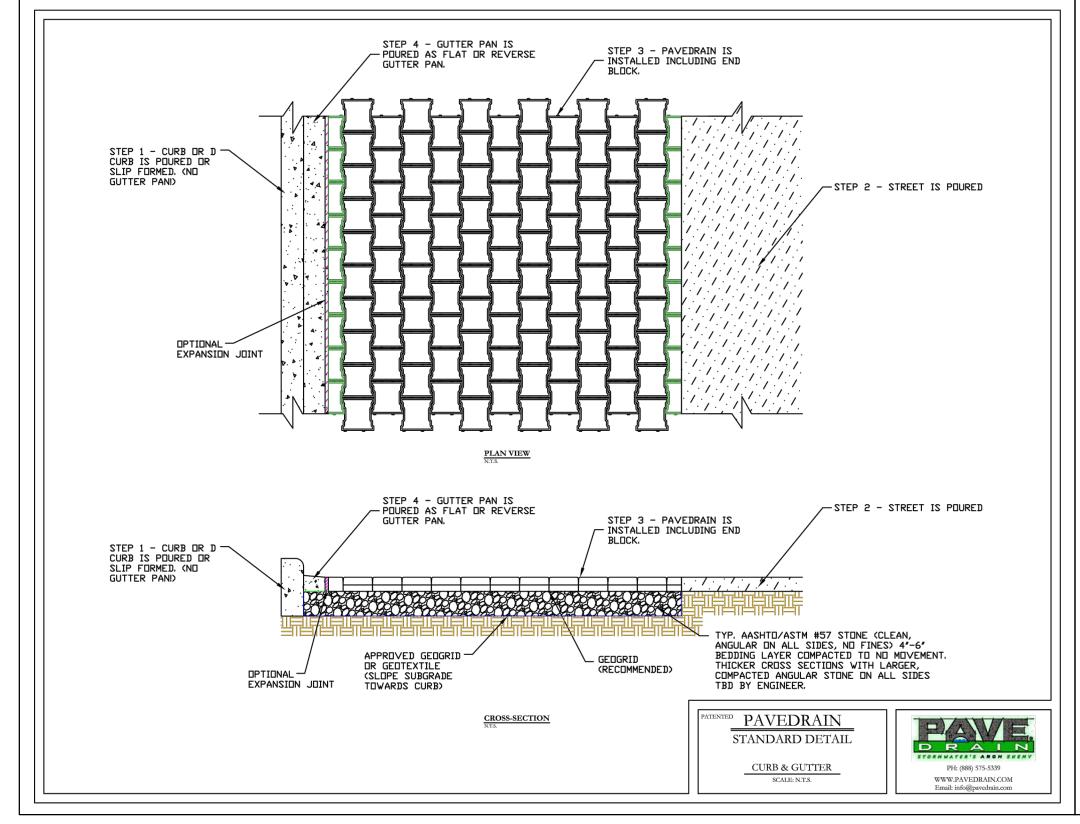
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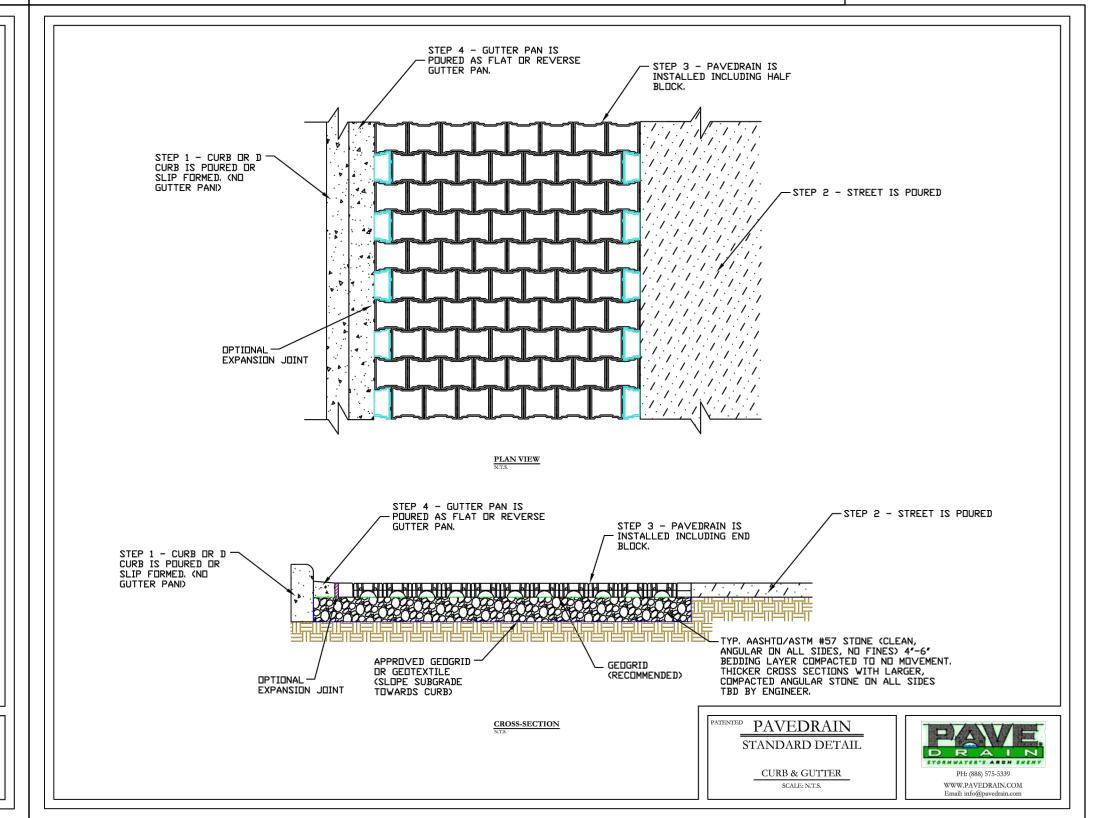
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CONTRACTOR NOTE:

- 1. CONSTRUCTION AND INSTALLATION SHALL BE PERFORMED BY A CONTRACTOR CERTIFIED BY THE PRODUCT MANUFACTURER AND/OR FAMILIAR WITH AND FOLLOWING THE RECOMMENDATIONS AND PROCEDURES STATED WITHIN THE PAVEDRAIN INSTALLATION MANUAL (LATEST ED.) AND THE PAVEDRAIN NOTES CONTAINED WITHIN SHEET C8.3.
- 2. WITHIN 2 WEEKS PRIOR TO THE INSTALLATION OF THE PAVEDRAIN P-ACB SYSTEM, CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH CONTRACTOR PERFORMING INSTALLATION, ENGINEER, SUPPLIER, AND ANY OTHER APPROPRIATE REPRESENTATIVE.

No. REVISIONS DATE

© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
9 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 328
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM CA 00000696

0012 TE 2021 \$ SHOWN Y RJO

SCALE AS SHOWN
DESIGNED BY RJO
DRAWN BY AFE

PAVEDRAIN DETAII

VATERSTAR ORLANDO

SHEET NUMBER
C8.2

PAVEDRAIN SPECIFICATIONS PAVEDRAIN SPECIFICATIONS PAVEDRAIN SPECIFICATIONS 1.0 SUBMITTALS B. ACCEPTABLE MANUFACTURERS AND DISTRIBUTION PARTNERS: 3.7 POST INSTALLATION CERTIFICATION A. UPON COMPLETION OF THE PAVEDRAIN INSTALLATION, THE SURFACE INFILTRATION RATE OF THE PERMEABLE A. REFER TO SECTION 01 33 00 — SUBMITTAL PROCEDURES 1. LOCAL - ACF ENVIRONMENTAL. (800) 448-3636, SALES@ACFENVIRONMENTAL.COM PAVEMENT AREA SHALL BE VERIFIED IN ACCORDANCE WITH ASTM C1781 OR C1701 TO CONFIRM THE REQUIRED WWW.ACFENVIRONMENTAL.COM B. SHOP DRAWINGS: SUBMIT DESIGN DETAILS, UNIT DETAILS, CROSS—SECTIONS AND LAYOUTS AS PER CONTRACT INFILTRATION RATE AS PER TABLE 1 IN THIS SPECIFICATION. DOCUMENTS TO ENGINEER OF RECORD (EOR). 2. NATIONAL - PAVEDRAIN, LLC. (888) 575-5339, INFO@PAVEDRAIN.COM B. IF THE SYSTEM FAILS TO PERFORM AS REQUIRED IN TABLE 1 OF THIS SPECIFICATION, IT SHALL BE REMOVED AND WWW.PAVEDRAIN.COM C. SAMPLES: REPLACED AT THE SUPPLIER'S EXPENSE 3. MANUFACTURER — TITAN AMERICA. CONTACT: GREG STRICKLAND 1. NATURAL GRAY: SUBMIT ONE (1) FULL-SIZED P-ACB SAMPLE. C. THE EXPENSES ASSOCIATED WITH THIS POST INSTALLATION INFILTRATION VERIFICATION ARE INCLUDED IN THE COST 561-291-3459, GSTRICKLAND@TITANAMERICA.COM OF THE PERMEABLE SYSTEM AND PROVIDED BY THE SUPPLIER. 2. COLOR: SUBMIT 4" X 4" SAMPLES REPRESENTATIVE OF COLOR(S) SELECTED WITHIN THIS SPECIFICATION OR 2.2 AGGREGATE MATERIALS NOTED ON CONTRACT DOCUMENTS 3.8 INSPECTION AND MAINTENANCE OF P-ACB SYSTEM A. OPEN-GRADED COARSE AGGREGATE: SELECT COARSE AGGREGATE SHALL BE CLEAN MATERIAL FREE FROM 3. MINIMUM 3 LB. SAMPLES OF PROPOSED SUBBASE &/OR BASE AGGREGATE MATERIALS. A. REFER TO: PAVEDRAIN MAINTENANCE MANUAL (LATEST EDITION) ORGANIC MATERIALS AND ANGULAR ON ALL SIDES. SELECT COARSE AGGREGATE SHALL MEET THE GRADATIONS B. THE MANUFACTURER'S REPRESENTATIVE OF THE P-ACB SHALL PROVIDE A MINIMUM 36 MONTH MAINTENANCE D. GEOSYNTHETIC: SUBMIT PRODUCT DATA SHEET(S) AND TEST REPORTS FOR GEOSYNTHETIC(S) PROPOSED FOR USE THAT ARE LISTED IN TABLE 1 OF ASTM D448 AND BASED ON SIEVE ANALYSIS IN ACCORDANCE TO ASTM C136. PROGRAM; INCLUDING A VISUAL INSPECTION REPORT WITH PHOTOS AND A RECOMMENDED CLEANING SCHEDULE WITH BY EOR WITHIN THIS SPECIFICATION OR ON CONTRACT DOCUMENTS. RECYCLED AGGREGATE MATERIAL IS NOT ALLOWED WITHIN THE TOP 4-6" ELEVATION DIRECTLY CONTACTING THE A VACUUM TRUCK SUCH AS THE ELGIN® WHIRLWIND® OR MEGAWIND® OR WITH THE PAVEDRAIN® VAC HEAD AND BOTTOM OF THE PAVEDRAIN UNITS. E. SUBMIT TO THE EOR MANUFACTURERS' PRINTED INSTALLATION MANUAL, LITERATURE, LAYOUT DRAWINGS, AND ASSOCIATED COMBINATION SANITATION VAC TRUCK. REFER TO THE PAVEDRAIN VAC HEAD INSTRUCTION MANUAL BASE COURSE AGGREGATE: ASTM GRADE #57 STONE SHALL BE USED AS THE FINISH (TOP) 4-6" LAYER OF PRODUCT SPECIFICATIONS. (LATEST EDITION). STONE DIRECTLY UNDERNEATH THE PAVEDRAIN UNITS. F. CERTIFICATION OF COMPLIANCE C. MAINTENANCE SHALL BE REQUIRED WHEN <u>EITHER</u> OF THE FOLLOWING TWO CONDITIONS ARE MET: 2. SECONDARY SUB-BASE AGGREGATE: ASTM GRADE #2, #3 OR #4 AS DETERMINED BY ENGINEER OF RECORD, 1. THE SURFACE INFILTRATION RATES OF MORE THAN 75% OF THE TOTAL PERMEABLE SURFACE FALLS BELOW 10% TEST REPORTS — INDICATE COMPLIANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS INCLUDING: THICKNESS AS INDICATED BY CROSS-SECTIONS ON THE SHOP DRAWINGS &/OR CONTRACT DOCUMENTS. OF THE RATE REQUIRED IN TABLE 1. a. P-ACB UNIT COMPRESSIVE STRENGTH, MOISTURE CONTENT AND DENSITY ON LIKE UNITS, TESTED IN CONTACT MANUFACTURER OR DISTRIBUTOR ABOUT LOCAL AVAILABILITY OF DIFFERENT AGGREGATE GRADES ACCORDANCE TO ASTM C140 BY INDEPENDENT LABORATORY PER UNIT REQUIREMENTS OF ASTM D6684. 2. SURFACE PONDING REMAINS FOR 24 HOURS IN AN AREA GREATER THAN 10 SQUARE FEET OF THE PERMEABLE 2.3 TRANSITION AND EDGE RETRAINTS SURFACE. A. TRANSITION: UTILIZE PAVEDRAIN END BLOCK. SOLID BLOCK AND HALF BLOCK SHAPES TO MAKE SMOOTH b. SIEVE ANALYSIS OF ALL AGGREGATE GRADES INDICATED IN CONTRACT DOCUMENTS, SAMPLED ACCORDING TO TRANSITIONS WITH CURBS AND OTHER RIGID SURFACES AS PER SHOP DRAWINGS &/OR CONTRACT DOCUMENTS. ASTM D75 AND TESTED IN ACCORDANCE TO ASTM C136. B. EDGE RESTRAINT: TYPE AND DIMENSIONS SHALL BE INDICATED BY EOR AS PER SHOP DRAWINGS &/OR CONTRACT c. SPECIFIED STANDARD SIZES OF COARSE AGGREGATES SHALL COMPLY WITH SIZES GIVEN IN ACCORDANCE TO ASTM D448, TABLE 1. DOCUMENTS. 2. PERFORMANCE COMPLIANCE - INDICATE COMPLIANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS INCLUDING: 2.4 GEOSYNTHETIC MATERIALS a. INFILTRATION PERFORMANCE - SUBMIT INDEPENDENT LABORATORY TEST REPORT INDICATING IN-PLACE

CONTRACTOR NOTE:

1. CONSTRUCTION AND INSTALLATION SHALL BE PERFORMED

MANUFACTURER AND/OR FAMILIAR WITH AND FOLLOWING

THE RECOMMENDATIONS AND PROCEDURES STATED WITHIN

THE PAVEDRAIN INSTALLATION MANUAL (LATEST ED.) AND THE PAVEDRAIN NOTES CONTAINED WITHIN THIS SHEET.

PAVEDRAIN P-ACB SYSTEM, CONTRACTOR SHALL SCHEDULE

PERFORMING INSTALLATION, ENGINEER, SUPPLIER, AND ANY

BY A CONTRACTOR CERTIFIED BY THE PRODUCT

2. WITHIN 2 WEEKS PRIOR TO THE INSTALLATION OF THE

A PRE-CONSTRUCTION MEETING WITH CONTRACTOR

OTHER APPROPRIATE REPRESENTATIVE.

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SHEET NUMBER C8.3

- INFILTRATION PERFORMANCE OF: AVERAGE OF THREE (3) TESTS OF ONE THOUSAND (1,000) INCHES PER HOUR (IN/HR.). TEST SHALL BE PERFORMED IN ACCORDANCE TO ASTM C1781 OR C1701 AND BASED ON AN OUTDOOR WORKING SURFACE WITH TYPICAL BASE MATERIAL AND INSTALLATION.
- b. STRUCTURAL PERFORMANCE DESIGN OF THE P—ACB SHALL BE CAPABLE OF SUPPORTING AASHTO H—20, HS-20 AND HS-25 TRUCK LOADING WITH PROPER SUBGRADE AND BASE INSTALLATION. THE P-ACB'S SHALL BE ANALYZED AS UNREINFORCED CONCRETE ARCHES SUPPORTING A UNIFORM TRUCK TIRE LOAD WITH IMPACT PER AASHTO STANDARDS AS TESTED BY AN INDEPENDENT LABORATORY.
- c. MAINTAINABILITY PROVIDE MAINTENANCE STUDY BASED ON AT LEAST 24 MONTHS BY AN INDEPENDENT OR THIRD PARTY REPRESENTATIVE WHICH INCLUDES PRE AND POST INFILTRATION TESTING DOCUMENTATION IN MULTIPLE LOCATIONS IN ACCORDANCE WITH ASTM C1781 OR C1701. THE STUDY SHALL SHOW THAT AFTER MANUFACTURERS' RECOMMENDED MAINTENANCE THAT THE ORIGINAL INFILTRATION PERFORMANCE OF THE PERMEABLE SYSTEM CAN EFFECTIVELY BE RESTORED TO 80% + /- 10% OF INITIAL INFILTRATION RATES.
- G. SUBSTITUTIONS 1. NO MATERIAL SHALL BE CONSIDERED AS AN EQUIVALENT TO THE P-ACB SPECIFIED HEREIN UNLESS IT MEETS ALL AREAS OF THIS SPECIFICATION WITHOUT EXCEPTION.

2. MANUFACTURER'S REQUESTING TO SUBMIT MATERIALS AS EQUIVALENT MUST PROVIDE RECORDS, DATA, INDEPENDENT LABORATORY TEST RESULTS, SAMPLES, CERTIFICATIONS, AND DOCUMENTATION MEETING ALL AREAS OF THIS SPECIFICATION WITHOUT EXCEPTION. ANY REQUESTS MUST BE SUBMITTED TO EOR 15 DAYS PRIOR TO BID

1.1 SCHEDULING

- A. CONTRACTOR SHALL CONTACT P-ACB MANUFACTURER TO DETERMINE NECESSARY LEAD TIME TO PRODUCE UNIT MATERIAL ORDER.
- B. SCHEDULE MANUFACTURE AND DELIVERY OF P-ACB'S TO COINCIDE WITH CONSTRUCTION SCHEDULE TO PREVENT STORAGE FOR EXTENDED PERIODS.
- C. APPROXIMATELY TWO (2) WEEKS PRIOR TO THE START OF THE INSTALLATION, A PRECONSTRUCTION MEETING SHALL OCCUR WITH REPRESENTATIVE(S) FROM THE DESIGN TEAM, GENERAL CONTRACTOR, SITE CONTRACTOR, INSTALLATION CONTRACTOR AND MANUFACTURERS' REPRESENTATIVE.

1.2 DELIVERY, STORAGE AND HANDLING

- A. P-ACB INDIVIDUAL BLOCKS MUST BE DELIVERED ON WOODEN PALLETS AND MARKED ACCORDINGLY.
- B. ALL P-ACB'S SHALL BE SOUND AND FREE OF DEFECTS THAT WOULD INTERFERE WITH PROPER PLACEMENT OR THAT WOULD IMPAIR THE STRENGTH OF LONGEVITY OF THE INSTALLATION.
- C. MINOR CRACKS INCIDENTAL TO THE USUAL METHOD OF MANUFACTURE: SCUFFING OR CHIPPING THAT RESULTS FROM CUSTOMARY METHODS OF HANDLING IN SHIPPING, DELIVERY AND PLACEMENT SHALL NOT BE DEEMED GROUNDS FOR REJECTION.

PART 2 - PRODUCTS

2.1 MANUFACTURED PERMEABLE ARTICULATING CONCRETE BLOCK (P-ACB)

A. PAVEDRAIN® P-ACB

1. COLOR(S): DARK GREY TO BE REVIEWED AND APPROVED BY THE OWNER AND EOR PRIOR TO FABRICATION. 2. TYPE: CLOSED—CELL PRE—MANUFACTURED INDIVIDUAL CONCRETE BLOCKS WITH AN ARCHED STORAGE CHAMBER FOR ADDITIONAL STORMWATER RUNOFF CAPACITIES AS PER SHOP DRAWINGS &/OR CONTRACT DOCUMENTS. BLOCKS MAY BE HAND-PLACED OR MECHANICALLY INSTALLED.

3. PHYSICAL AND PERFORMANCE REQUIREMENTS: AT THE TIME OF DELIVERY TO THE WORK SITE, THE UNITS SHALL CONFORM TO THE REQUIREMENTS PRESCRIBED IN TABLE 1 BELOW.

Item	Description	Values
Dimensional Tolerance	Length x Width x Height ASTM D6684 Section 5.3.2	12" x 12" x 5.65" (+/- 1/8")
Compressive Strength	ASTM D6684 / ASTM C140	Avg. of three units: 4,000 psi min. Individual units: 3,500 psi min.
Block Unit Weight		Arched Block: 45-50 lbs/sf Solid Block: 55-60 lbs/sf
Loading Capabilities	Truck Load Traffic Rating	AASHTO H-20,HS-20, HS-25
Joint Filler Between Blocks	Material Used	NONE Required
Percent Open Space		Surface: 7% Storage: 20%
Water Absorption (Max. %)	ASTM D6684 Table 1/ ASTM C140	Avg. of three units: 9.1% lb/ft³ Individual units: 11.7% lb/ft³
Density (Min. lb/ft³)		Avg. of three units: 130 lb/ft ³ Individual units: 125 lb/ft ³
Storage Capacity	Above Aggregate Within Arch	0.0833 cf/block
Post-Installation, Verified Surface Infiltration Rates	ASTM C1781 Test Method	Avg. of three tests: 1,000 in/hr min.

- A. GEOTEXTILE: ACF M200 (OR APPROVED EQUAL), A HIGH STRENGTH, HIGH WATER FLOW, WOVEN MONOFILAMENT OR MULTIFILAMENT GEOTEXTILE AS SPECIFIED BY EOR BASED ON NATIVE SOIL PROPERTIES.
- B. GEOGRID: TENSAR BX-1100 OR SYNTEEN STF-P11 (OR APPROVED EQUAL) AS SPECIFIED BY EOR BASED ON NATIVE SOIL PROPERTIES. REQUIREMENT OF GEOGRID SEPARATOR TO BE DETERMINED BY THE ENGINEER OF RECORD

PART 3 - EXECUTION

3.1 EXAMINATION AND INSPECTION

- A. THE CONTRACTOR SHALL VERIFY THAT THE SUBGRADE HAS BEEN EXCAVATED, SHAPED, STABILIZED AND COMPACTED IN ACCORDANCE TO SECTIONS 31 22 00, 31 23 00, 31 32 00 & 31 34 00 AND CONFORMS TO THE LINES, GRADES AND CROSS-SECTIONS SHOWN ON CONTRACT DOCUMENTS.
- B. VERIFY THAT NATIVE SUBGRADE HAS BEEN COMPACTED TO A MAXIMUM OF 95% MODIFIED PROCTOR IN ACCORDANCE TO ASTM D 1557. DO NOT OVER OVER-COMPACT OR RUT NATIVE SUBGRADE. OVER-COMPACTION OF THE NATIVE SOIL SUBGRADE COULD REDUCE THE INFILTRATION RATE OF THE NATIVE SOIL AND MUST BE MINIMIZED
- IMMEDIATELY PRIOR TO PLACING THE PAVEDRAIN UNITS, THE FINAL PREPARED SUB-BASE AGGREGATE SHALL BE INSPECTED BY THE EOR AND WITNESS TO A PROOF ROLL TEST BY A FULLY LOADED DUMP TRUCK. UNSATISFACTORY CONDITIONS MUST BE CORRECTED PRIOR TO INSTALLATION OF THE PAVEDRAIN UNITS.

3.2 GEOSYNTHETIC INSTALLATION

- A. GEOTEXTILE: THE CONTRACTOR SHALL PLACE ACF M200 (OR APPROVED EQUAL) WOVEN MONOFILAMENT OR MULTIFILAMENT GEOTEXTILE FLAT ON SUBGRADE AND VERTICAL SECTIONS OF BASE AGGREGATE FREE OF WRINKLES AND OVERLAPPING A MINIMUM OF TWELVE (12) INCHES. BASED ON THE SOIL PROPERTIES OF THE SITE, THE GEOTECHNICAL ENGINEER SHALL DETERMINE WHAT STRENGTH GEOTEXTILE IS REQUIRED
- GEOGRID: INSTALL TENSAR BX-1100 OR SYNTEEN STF-P11 (OR APPROVED EQUAL) DIRECTLY ON TOP OF PROPERLY PREPARED AND LEVELED FINAL AGGREGATE BASE. REQUIREMENT OF GEOGRID SEPARATOR TO BE DETERMINED BY THE ENGINEER OF RECORD

3.3 AGGREGATE SUB BASE INSTALLATION

- A. THE THICKNESS OF THE SUB-BASE, REQUIREMENT OF MULTIPLE GRADATIONS OF OPEN-GRADED COARSE AGGREGATE AND INTERMEDIATE GEOSYNTHETIC SHALL BE INDICATED BY THE EOR AND DETAILED ON THE CONTRACT DOCUMENTS. THE MINIMUM THICKNESS OF OPEN-GRADED COARSE AGGREGATE IS SIX (6) INCHES. IF MORE THAN SIX (6) INCHES OF BASE AGGREGATE IS REQUIRED, ONLY THE TOP FOUR TO SIX (4-6) INCHES SHALL BE ASTM GRADE #57.
- B. ALL BASE AGGREGATES SHALL BE COMPACTED IN SIX TO EIGHT (6-8") INCH LIFTS WILL A ROLLER COMPACTOR AND FINAL GRADE LEVEL COMPACTED WITH A MINIMUM 10,000 LB. VIBRATORY PLATE COMPACTOR IN WITH AT LEAST TWO PASSES IN BOTH THE PERPENDICULAR AND PARALLEL DIRECTIONS. OPEN-GRADED BASE AGGREGATE INSTALLATION SHALL NOT DAMAGE OR DISLODGE THE GEOTEXTILE. 1. WHEN USING MULTIPLE AGGREGATE LAYERS INCLUDING ASTM #2, #3 OR #4, THE CONTRACTOR SHALL COMPACT
- A 2" LAYER OF ASTM #57 INTO THE ASTM #2, #3 OR #4. C. FINISHED GRADE SHALL BE A SMOOTH, PLANE SURFACE WITH NO SIGN OF MOVEMENT AND CONFORM TO THE LINES, GRADES AND CROSS-SECTIONS SHOWN ON CONTRACT DOCUMENTS.

3.4 PAVEDRAIN PERMEABLE ARTICULATING CONCRETE BLOCK INSTALLATION

A. REFER TO: PAVEDRAIN INSTALLATION MANUAL (LATEST EDITION)

INCH GAPS UTILIZING SOLID, END AND HALF PAVEDRAIN UNITS.

B. HAND OR MECHANICAL PLACING PAVEDRAIN UNITS

1. THE CONTRACTOR SHALL DETERMINE THE BEST STARTING POINT OF THE PAVEDRAIN UNIT INSTALLATION TO CONFORM TO THE LINES. GRADES AND ELEVATIONS SHOWN ON THE CONTRACT DOCUMENTS. 2. PLACE PAVEDRAIN UNITS TIGHT TOGETHER IN RUNNING BOND PATTERN SUCH THAT ONE UNIT IS DIRECTLY IN CONTACT WITH ONE HALF OF THE TWO ADJACENT UNITS. PLACE UNITS IN SUCH A MANNER AS TO ENSURE THAT THE PATTERN REMAINS SQUARE TO CURBS, TRANSITIONS OR ADJACENT PAVEMENTS

3. VERIFY THAT EACH PAVEDRAIN UNIT MAKES CONTACT WITH THE GEOGRID OR OPEN-GRADED AGGREGATE SUB-BASE AND IS TIGHTLY ENGAGED WITH ADJACENT UNITS. 4. WHEN NECESSARY, MAKE PARTIAL UNITS FROM SAW CUTTING SOLID, ARCH-LESS PAVEDRAIN UNITS. TRANSITIONS AGAINST CURBS AND OTHER RIGID PAVEMENTS SHOULD BE MADE WITH MAXIMUM ONE-HALF (1/2)

C. ADJUSTMENTS 1. MINOR ADJUSTMENTS TO PROPERLY ENGAGE PAVEDRAIN UNITS SHALL BE MADE WITH A DEAD BLOW HAMMER OR

RUBBER MALLET. 2. ONCE ALL PAVEDRAIN UNITS HAVE BEEN INSTALLED, MINOR DIFFERENTIAL HEIGHTS BETWEEN UNITS CAN BE CORRECTED WITH A SMALL NON-VIBRATORY SINGLE OR DOUBLE BARREL ROLLER COMPACTOR OR VIBRATORY PLATE COMPACTOR. WHEN USING PLATE COMPACTOR, PROTECT UNITS WITH NONWOVEN GEOTEXTILE OR MAT TO ELIMINATE

SCUFFING. 3. INSPECT COMPLETED INSTALLATION AND REPLACE ANY CRACKED OR DAMAGED UNITS.

3.5 TOLERANCES

- A. NO INDIVIDUAL PAVEDRAIN UNIT SHALL PROTRUDE MORE THAN ONE-QUARTER (1/4) INCH WITHIN THE PLANE OF FINAL PLACED UNITS/MATS.
- B. NO GAP BETWEEN THE INDIVIDUAL PAVEDRAIN UNITS SHALL EXCEED ONE-HALF (1/2) INCH.

3.6 FINISHING

A. THE JOINTS BETWEEN THE PAVEDRAIN UNITS DO NOT REQUIRE BACKFILLING WITH SMALLER AGGREGATE JOINT MATERIAL OR SAND IN ORDER TO FUNCTION PROPERLY. THE JOINTS ARE DESIGNED TO BE LEFT OPEN; THIS INCLUDES FOLLOWING MAINTENANCE OF THE PAVEDRAIN SYSTEM.

