WILDERNESS LAKES

PRELIMINARY SITE PLANS, CONSTRUCTION PLAN, STORMWATER MANAGEMENT PLAN

SECTION 35 - TOWNSHIP 25 S - RANGE 18 E
PARCEL NO. 35-25-18-0040-00100-0000
PASCO COUNTY

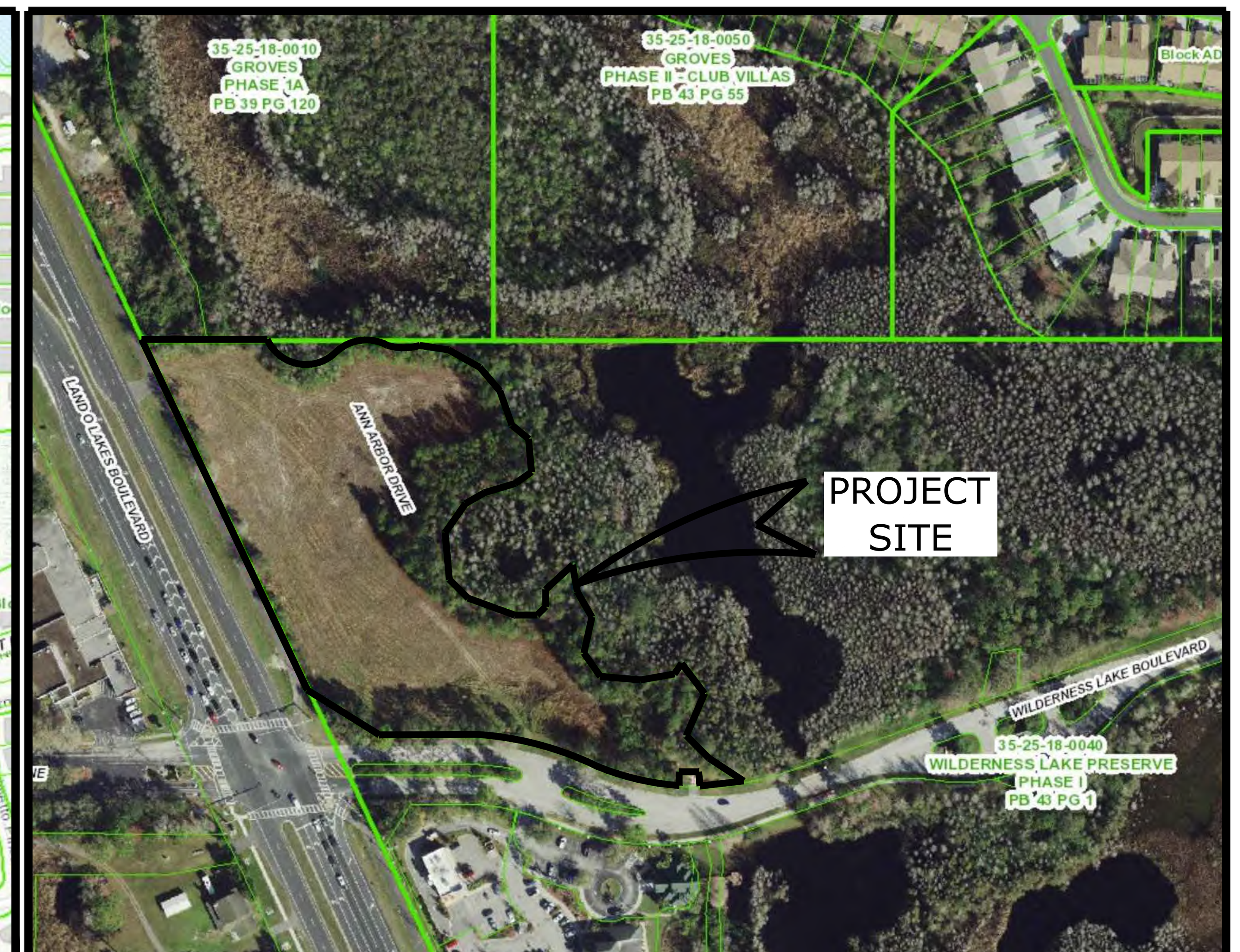
LEGAL DESCRIPTION

DESCRIPTION:

TRACT "1" (COMMERCIAL OUT PARCEL NORTH), WILDERNESS LAKE PRESERVE - PHASE I, AS RECORDED IN PLAT BOOK 43, PAGE 1-35, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA.

STREET MAP

NORTH



AERIAL MAP

INDEX OF SHEETS

SITE DATA

MATRIX		EXISTING		PROPOSED		ALLOWED/CODE
ZONING:		MPUD		MPUD		OK.
USAGE:		VACANT LAND		COMMERCIAL		OK.
FUTURE LAND USE:		RES-3		RES-3		OK.
LOT AREA (GROSS):	UPLAND	253,615.3 S.F. 5.822 ACRES	226,668.9 S.F. 5.204 ACRES	253,615.3 S.F. 5.822 ACRES	226,668.9 S.F. 5.204 ACRES	-
	WETLAND		26,946.4 S.F. 0.618 ACRES		26,946.4 S.F. 0.618 ACRES	
BUILDING COVERAGE:		0 S.F.		18,265 S.F.		-
FLOOR AREA RATIO: (FAR)		0 S.F. 0.0		18.265 S.F. (0.08)		0.27 (MAX) (61,202 S.F. MAX.)
BLDG. SETBACKS:	FRONT (SOUTH)	-		145.8'		25'
	FRONT (WEST)	-		35.7'		25'
	SIDE (EAST)	-		89.7'		0'
	REAR (NORTH)	-		32.1'		0'
BLDG. HEIGHT:		-		35' MAX.		35'
VEHICULAR USE AREA (VUA):		-		87,272 S.F.		-
INTERIOR LANDSCAPING:		-		-		-
IMPERVIOUS SURFACE RATIO: (I.S.R.)		-		111,341.22 S.F. 0.491		-
OPEN SPACE: (S.F. & % OF GROSS SITE)		-		115,327.68 S.F. 50.9%		-
PARKING:		-		120 SPACES (INCLUDED 6 ADA PARKING SPACES)		114 SPACES

PARKING CALCULATIONS:
- ON-PREMISES WITH DRIVE-THROUGH = 1 / 150 GFA = 5,310 / 150 GFA = 35.4 SPACES
- ON-PREMISES WITH NO DRIVE-THROUGH = 1 / 100 GFA = 6,125 / 100 GFA = 61.25 SPACES
- FREE-STANDING RETAIL = 1 / 300 GFA = 5,170 / 300 = 17.2 SPACES

TOTAL REQUIRED: 114 PARKING SPACES

OWNER CONTACT

ARBOR CAPITAL DEVELOPMENTS LLC

27658 CASHFORD CIR STE 101
WESLEY CHAPEL, FL 33544

CONTACT: AIHAB GERGES
PHONE: 813-263-8168
EMAIL: aihab@arborcapital.org

DESIGN PROFESSIONALS

CIVIL ENGINEER/PLANNER:
NORTHSIDE ENGINEERING, INC.

300 SOUTH BELCHER ROAD
CLEARWATER, FLORIDA 33765
CONTACT: HOUSH GHOVAEE
PHONE: 727-443-2869
EMAIL: housh@northsideengineering.net

ARCHITECT
.

SURVEY
GEOPOINT SURVEYING, INC.

555 WINDERLY PLACE,SUITE 109
MAITLAND, FLORIDA 32751
CONTACT: MATT CHEPOLIS
PHONE: 321-270-0440
EMAIL: MattChepolis@geopointsurvey.com

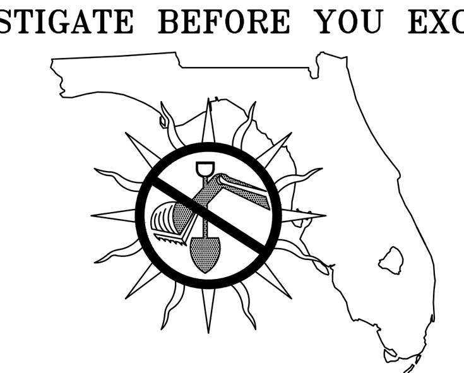
GEOTECH
GEO-TECH, INC.

1016 SE 3RD AVENUE
OCALA, FLORIDA
PHONE: 325-694-7711
WWW.GEOTECHFL.COM

FLOOD ZONE INFORMATION

THE SUBJECT PARCEL LIES IN FLOOD ZONE "A" AND "AE", ACCORDING TO FLOOD INSURANCE RATE MAP, MAP NO. 12101C0238F FOR PASCO COUNTY, COMMUNITY NO. 120230, PASCO COUNTY, FLORIDA, DATED SEPTEMBER 26, 2014 AND ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

"INVESTIGATE BEFORE YOU EXCAVATE"



CALL SUNSHINE @ 1-800-432-4770
FL. STATUTE 553.851 (1979) REQUIRES A MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

UTILITY PROVIDER

SEWER:
PASCO COUNTY UTILITIES
19420 CENTRAL BLVD
LAND O LAKES , FL 34637
(727) 847-8145

WATER:
PASCO COUNTY UTILITIES
19420 CENTRAL BLVD
LAND O LAKES , FL 34637
(727) 847-8145

ELECTRIC:
DUKE ENERGY
13338 INTERLAKEN ROAD
ODESSA, FL 34655
(800) 777-9898

FIRE:
PASCO COUNTY FIRE RESCUE - STATION 22
9930 LAND O' LAKES BLVD,
LAND O' LAKES, FL 34637
(813) 929-2750

AGENCY RESPONSE STAMPS

Northside Engineering, Inc.
300 South Belcher Road, Clearwater, Florida 33765
Tel: 727-443-2869 Fax: 727-446-8036
tech@northsideengineering.net
Est. 1989
Civil · Land Planning · Traffic Studies · Landscape
Due Diligence Reports · Land Use · Re-Zoning
Stormwater Management · Utility Design
Construction Administration

Digitally signed by Donald B Fairbairn
DN: E=don@northsideengineering.net, CN=Donald B Fairbairn, O="NORTHSIDE ENGINEERING, INC.", SERIALNUMBER=AATL20240603352162, L=Clearwater, S=Florida, C=US
Reason: I have reviewed this document
Date: 2025.01.23 12:33:01-05'00'

Registry # 31306

Donald B. Fairbairn, P.E. #44971

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY Donald B. Fairbairn, P.E. ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PROJECT # 2332
ISSUE DATE: 09/09/24
REVISIONS:

No.	Date	Description
1	11/06/24	1st Submittal
	/ /	
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	/ /	
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DRAWN BY : KB

CIVIL SITE DATA

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.

C1.1

GENERAL CONSTRUCTION NOTES

1. ALL DESIGN AND CONSTRUCTION MUST CONFORM TO THE MINIMUM STANDARDS SET DOWN IN THE PASCO COUNTY LAND DEVELOPMENT, ZONING AND / OR RELATED ORDINANCES.
2. DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE APPROVED MASTER DEVELOPMENT PLAN. THESE CONSTRUCTION PLANS SHALL BE GOVERNED BY THE LAND DEVELOPMENT CODE IN EFFECT AT THE TIME OF SUBMITAL.
3. ALL ELEVATIONS ARE REFERENCED FROM N.A.V.D. 1988.
4. 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 CONTRACTOR WILL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL CHECK THE PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
6. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES, AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES, IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, IN ADVANCE OF CONSTRUCTION, BY CALLING "SUNSHINE" AT 1-800-432-4770 MINIMUM OF 2 DAYS AND MAXIMUM OF 5 DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES NOT INCLUDED IN THE "SUNSHINE" PROGRAM.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY.
8. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED AND INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTION AND THE CONTRACTOR SHALL PAY ANY FINE IMPOSED BY ANY AGENCY.
10. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE OWNER'S ENGINEER; SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS FOR THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. ALL SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER'S ENGINEER.
11. AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES, AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER, OR WITHOUT AGENCY INSPECTOR PRESENT, MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
12. BACKFILL MATERIAL SHALL BE SOLIDLY TAMPED AROUND PIPES IN 6" LAYERS UP TO A LEVEL OF AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE. IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
13. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3,000 P.S.I. IN 28 DAYS, UNLESS OTHERWISE NOTED.
14. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THE WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.
15. ALL DISTURBED AREAS WHICH ARE NOT TO BE SODDED, ARE TO BE SEEDED AND MULCHED TO DOT STANDARDS, AND MAINTAINED UNTIL A SATISFACTORY STAND OF GRASS, ACCEPTABLE TO THE REGULATORY AGENCY AND ENGINEER OF RECORD, HAVE BEEN OBTAINED. ANY WASHOUTS, REGRADING, RESEEDING, AND GRASSING WORK, AND OTHER EROSION WORK REQUIRED, WILL BE PERFORMED BY THE CONTRACTOR, AT HIS EXPENSE, UNTIL THE SYSTEM IS ACCEPTED FOR MAINTENANCE, BY THE REGULATORY AGENCY AND ENGINEER OF RECORD.
16. THE SOILS ENGINEER IS TO SUPPLY THE ENGINEER WITH A PHOTOCOPY OF ALL COMPACTION TESTS, AND ASPHALT RESULTS. THE SOILS ENGINEER IS TO CERTIFY TO THE ENGINEER OF RECORD, IN WRITING, THAT ALL TESTING REQUIREMENTS, REQUIRED BY THE LOCAL REGULATORY AGENCY, AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), FOR THE IMPROVEMENTS, AS REQUIRED BY THE ENGINEERING CONSTRUCTION DRAWINGS, HAVE BEEN SATISFIED.
17. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLANS AND PERMITS.
18. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.
19. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.
20. ALL PIPE LENGTHS ARE PLUS OR MINUS. PIPE MEASUREMENTS ARE CENTER TO CENTER OF STRUCTURES OR FITTINGS. PIPE MEASUREMENTS FOR MITERED END SECTIONS ARE TO END OF PIPE.
21. EXISTING PAVEMENT SHALL BE SAW-CUT WHERE NEW PAVEMENT IS TO BE ADDED OR EXISTING PAVEMENT TO BE ELIMINATED.
22. ADJUSTMENTS OF INLETS, JUNCTION BOXES, MANHOLE TOPS, WATER VALVES, WATER METERS, ETC., SHALL BE INCLUDED IN THE CONTRACTOR'S BID AND NO CLAIM SHALL BE MADE AGAINST THE OWNER OR ENGINEER FOR THESE ADJUSTMENTS, IF REQUIRED.
23. ALL BACKFILL OVER ANY PIPE (STORM SEWER, SANITARY SEWER, OR WATERLINES) THAT IS INSTALLED UNDER ROADWAYS OR WITHIN THE EMBANKMENT OF THE ROADWAY, SHALL BE COMPACTED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS, SECTION 125-8.3, LATEST EDITION.
24. THE CONTRACTOR PERFORMING TRENCH EXCAVATION, IN EXCESS OF 5' FEET IN DEPTH, SHALL COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S (OSHA) TRENCH EXCAVATION SAFETY STANDARDS, 29 C.F.R., S.1926.650, SUBPART P, INCLUDING ALL SUBSEQUENT REVISIONS OR UPDATES TO THE STANDARDS AS ADOPTED BY THE DEPARTMENT OF LABOR AND EMPLOYMENT SECURITY (DLES).
25. CONTRACTOR TO COORDINATE THE POINTS OF CONNECTIONS OF THE UTILITIES WITH DIFFERENT SUBS. SITE CONTRACTOR TO CONSTRUCT THE UNDERGROUND INFRASTRUCTURES I.E. SANITARY SEWER, STORM SEWER, WATER LINES, FIRE LINES, ETC., TO 5' OUTSIDE OF THE BLDG(S). THE PLUMBING CONTRACTOR IS TO CONNECT AND MEET THE INVERT ELEVATIONS OF THE SAID UTILITIES. ANY UTILITY WORK PERFORMED WITHIN 5' OF THE BUILDING. SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REQUIREMENTS.
26. ALL WORK SHALL BE PERFORMED AND FINISHED IN A WORKMANLIKE MANNER TO COMPLETE SATISFACTION OF THE ARCHITECT/ENGINEER IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
27. DEVIATIONS TO THESE PLANS AND SPECIFICATIONS WITHOUT CONSENT OF THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE. DEVIATIONS SHALL RECEIVE WRITTEN APPROVAL FROM THE ENGINEER.
28. SIGNS, BUFFER WALLS & FENCES ARE SUBJECT TO SEPARATE SUBMITTAL(S) AND PERMITTING. DEVIATIONS SHALL RECEIVE WRITTEN APPROVAL FROM THE ENGINEER.
29. SAFE PEDESTRIAN TRAFFIC TO BE MAINTAINED AT ALL TIMES.
30. ANY SIDEWALK WHICH BECOMES UNDERMINED MUST BE REMOVED AND REPLACED. SIDEWALKS TO BE RECONSTRUCTED WITHIN THREE DAYS AFTER REMOVAL. WHEN EXISTING SIDEWALK IS REMOVED IT IS TO BE REMOVED TO THE NEAREST JOINT.THIS APPLIES TO ALL SIDEWALK.
31. SAW CUT EXISTING EDGE OF PAVEMENT PRIOR TO PLACING ASPHALT.
32. CONSTRUCTION EQUIPMENT IS NOT ALLOWED ON SITE UNTIL THE HABITAT MANAGEMENT AND LANDSCAPE PERMIT IS IN HAND.

CLEARING AND GRUBBING NOTES

1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION.
2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING THE ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.
3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE,NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.
5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.
6. THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS FOR REMOVING ANY EXISTING STRUCTURES.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES TO DISCONNECT OR REMOVE THEIR FACILITIES PRIOR TO REMOVING OR DEMOLISHING.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING A VISUAL INSPECTION OF THE SITE AND WILL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL UNDERGROUND AND ABOVE GROUND STRUCTURES THAT WILL NOT BE INCORPORATED INTO THE NEW FACILITIES. SHOULD ANY DISCREPANCIES EXIST WITH THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING THE OWNER AND REQUESTING A CLARIFICATION OF THE PLANS PRIOR TO DEMOLITION.
9. DURING CONSTRUCTION, ALL STORM SEWER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC. WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
10. ALL EROSION AND SILTATION CONTROL METHODS SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
11. WHEN CONSTRUCTION IS COMPLETED, THE RETENTION/ DETENTION AREAS WILL BE RESHAPED, CLEANED OF SILT, MUD AND DEBRIS, AND RE-SODDED IN ACCORDANCE WITH THE PLANS.
12. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTIES, STREETS, STORM SEWERS, WATERWAYS, AND EXISTING WETLANDS.

EROSION AND SILTATION CONTROL NOTES

1. SEDIMENT TRAPPING MEASURES: SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, FILTER FENCES, BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING WATER BODIES, MUST BE INSTALLED, CONSTRUCTED OR, IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE AND INSPECTED BY THE ENGINEER BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS.
2. PROTECTION OF EXISTING STORM SEWER SYSTEMS: DURING CONSTRUCTION, ALL STORM SEWER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS, AND WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION.
3. SEDIMENTATION BASIN: THE CONTRACTOR WILL BE REQUIRED TO PROHIBIT DISCHARGE OF SILT THROUGH THE OUTFALL STRUCTURE DURING CONSTRUCTION OF ANY RETENTION AREA AND WILL BE REQUIRED TO CLEAN OUT THE RETENTION AREA BEFORE INSTALLING ANY PERMANENT SUBDRAIN PIPE. IN ADDITION, PERMANENT RETENTION AREAS MUST BE TOTALLY CLEANED OUT AND OPERATE PROPERLY AT FINAL INSPECTION AND AT THE END OF THE WARRANTY PERIOD.
4. SWALES, DITCHES AND CHANNELS: ALL SWALES, DITCHES AND CHANNELS LEADING FROM THE SITE SHALL BE SODDED WITHIN (3) DAYS OF EXCAVATION. ALL OTHER INTERIOR SWALES, ETC., INCLUDING DETENTION AREAS WILL BE SODDED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
5. PROTECTION AND STABILIZATION OF SOIL STOCKPILES: FILL MATERIAL STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON-SITE DRAINAGE CONTROLS WHICH PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILED MATERIAL, MAY BE REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL UNSTABILIZED STOCKPILE REMAIN AFTER THIRTY (30) CALENDAR DAYS.
6. MAINTENANCE: ALL EROSION AND SILTATION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND WILL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
7. REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS, AS PROVIDED BY CHAPTERS 40D-4 & 40D-40 F.A.C. CAN RESULT IN A PENALTY NOT TO EXCEED $10,000 PEROFFENSE WITH EACH DATE DURING WHICH SUCH VIOLATION OCCURS CONSTITUTING A OFFENSE.
8. ALL DISTURBED CONDITIONS SHALL BE RESTORED TO NATURAL CONDITIONS OR BETTER.
9. DURING CONSTRUCTION SEDIMENT IS TO REMAIN ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES PRIOR TO INITIATING AND DURING ALL PHASES OF LAND CLEARING AND CONSTRUCTION TO PREVENT SOIL EROSION AND SILTATION.

WATER SYSTEM SPECIFICATIONS AND NOTES

1. CONTRACTOR SHALL NOT BEGIN CONSTRUCTION ON ANY PART OF THE WATER SYSTEM UNLESS D.E.P. PERMIT HAS BEEN ISSUED.
2. ALL WATER MAINS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.
3. ALL WATER SYSTEM WORK SHALL CONFORM WITH LOCAL AND STATE REGULATORY STANDARDS AND SPECIFICATIONS.
4. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH ANSI A 21.50 (AWWA C 150) AND ANSI A 21.31 (AWWA C 151) AND PIPE SHALL RECEIVE EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH ANSI A 21.6, A 21.8 OR A 21.51 AND SHALL BE MORTAR LINED, STANDARD THICKNESS, AND BITUMINOUS SEALED IN ACCORDANCE WITH ANSI A 21.4 (AWWA C 104-71).
5. ALL FITTINGS LARGER THAN 2" SHALL BE DUCTILE IRON CLASS 53 IN ACCORDANCE WITH AWWA C-110 WITH A PRESSURE RATING OF 350 PSI. JOINTS SHALL BE MECHANICAL JOINTS IN ACCORDANCE WITH AWWA C-111. FITTINGS SHALL BE CEMENT MORTAR LINED AND COATED IN ACCORDANCE WITH AWWA C-104.
6. ALL PVC WATER MAINS 4" THROUGH 12" SHALL BE IN ACCORDANCE WITH AWWA C-900. PIPE SHALL BE CLASS 150 AND MEET THE REQUIREMENTS OF SDR 18 IN ACCORDANCE WITH ASTM D-2241.
7. WATER MAIN PIPING OF LESS THAN 4" SHALL BE PER ASTM D2241-89.
8. ALL FITTINGS 2" AND SMALLER SHALL BE SDR21.
9. ALL GATE VALVES 2" OR LARGER SHALL BE RESILIENT SEAT OR RESILIENT WEDGE MEETING THE REQUIREMENTS OF AWWA C509.
10. ALL FIRE HYDRANTS SHALL MEET THE REQUIREMENTS OF AWWA C502 AND SHALL BE APPROVED BY THE LOCAL UTILITY AND FIRE MARSHALL.
11. THE CONTRACTOR IS TO INSTALL TEMPORARY BLOW-OFFS AT THE END OF WATER SERVICE LATERALS TO ASSURE ADEQUATE FLUSHING AND DISINFECTION.
12. RESTRAINED JOINTS SHALL BE PROVIDED AT ALL FITTINGS AND HYDRANTS.
13. MATERIALS AND CONSTRUCTION METHODS FOR WATER DISTRIBUTION SYSTEM SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY CODES.
14. THE IRRIGATION SYSTEM SHALL HAVE PURPLE COLOR PIPING AND LABELING ON THE PIPE TO INSURE DIFFERENTIATION FROM POTABLE WATER PIPING.

WATER SYSTEM INSPECTION, TESTING AND CERTIFICATION REQUIREMENTS

1. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, CONNECTIONS, VALVES AND FIRE HYDRANTS SHALL REMAIN UNCOVERED UNTIL PROPERLY PRESSURE TESTED AND ACCEPTED BY NORTHSIDE ENGINEERING AND COUNTY/CITY INSPECTOR. CONTRACTOR TO NOTIFY NORTHSIDE ENGINEERING SERVICES AND PINELLAS COUNTY WATER DEPT. INSPECTORS 48 HOURS IN ADVANCE OF PERFORMING INSPECTIONS.
2. AFTER COMPLETION OF INSTALLATION OF NEW WATER MAINS, PRESSURE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PASCO COUNTY WATER SYSTEM STANDARDS, SPECIFICATIONS AND CHLORINATION REQUIREMENTS. SAMPLING OF NEW WATER MAINS SHALL CONFORM WITH F.D.E.P. REQUIREMENTS AND RESULTS FORWARDED TO NORTHSIDE ENGINEERING, INC. WITHIN 3 DAYS.
3. CONTRACTOR SHALL PROVIDE AND FORWARD TO NORTHSIDE ENGINEERING, INC. 6 COPIES OF THE CERTIFIED RECORD DRAWINGS PREPARED, SIGNED AND SEALED BY A LAND SURVEYOR. DRAWINGS SHALL SHOW THE EXACT LOCATION OF THE ENTIRE WATER AND FIRE NETWORK SYSTEM WITH THE TOP ELEVATION OF THE PIPES INDICATED IN CRITICAL LOCATIONS.CRITICAL LOCATIONS REFER TO AREAS WHERE WATER LINES CROSS SANITARY AND STORM PIPES, TO INSURE MIN. COVER, HORIZONTAL AND VERTICAL DIMENSIONS ARE MET. CRITICAL ELEVATIONS AND DIMENSIONS MUST MEET OR EXCEED MINIMUM CLEARANCE STANDARDS AS SET BY F.D.E.P., DEVIATION SHALL CONSTITUTE REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE.
4. NORTHSIDE ENGINEERING, INC. WILL SUBMIT FINAL AS-BUILT, CHLORINATION TEST RESULTS ALONG WITH THE CERTIFICATION FORM TO F.D.E.P. TO OBTAIN CLEARANCE TO PLACE WATER SYSTEM INTO SERVICE.
5. CONTRACTOR UNDER NO CIRCUMSTANCES SHALL PLACE THE WATER/FIRE SYSTEM INTO SERVICE UNLESS A LETTER OF CLEARANCE/CERTIFICATION HAS BEEN ISSUED BY F.D.E.P.
6. ANY DEVIATION FROM THE REQUIREMENTS AS STIPULATED HEREWITH COULD RESULT IN FINES AS DETERMINED BY F.D.E.P. WHICH SHALL BE PAID BY THE CONTRACTOR.

SANITARY SEWER SPECIFICATIONS AND NOTES

1. CONTRACTOR SHALL NOT BEGIN CONSTRUCTION OF ANY PORTION OF THE SANITARY SYSTEM UNLESS F.D.E.P. PERMIT HAS BEEN ISSUED.
2. ALL SANITARY SEWER MAINS & LATERALS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.
3. ALL SANITARY SEWER MAINS & SERVICE LATERALS SHALL BE CONSTRUCTED OF POLYVINYL CHLORIDE PIPE, SDR 35 OR AS OTHERWISE INDICATED ON THE CONSTRUCTION DRAWINGS.
4. ALL SANITARY SEWER WORK SHALL CONFORM WITH LOCAL & STATE REGULATORY STANDARDS, SPECIFICATIONS AND INSPECTIONS.
5. PRIOR TO COMMENCING WORK WHICH REQUIRES CONNECTING NEW LINES TO EXISTING LINES OR APPURTENANCES, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING CONNECTION POINTS AND NOTIFY NORTHSIDE ENGINEERING, INC. OF ANY CONFLICTS OR DISCREPANCIES.
6. PVC PIPE AND FITTINGS SHALL CONFORM TO ASTM SPECIFICATIONS DESIGNATION D-3034-77C, SDR 35. INSTALLATION OF SDR 35 PIPE SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF ASTM SPECIFICATION SECTION D2321. ALL SANITARY SEWER PIPELINES SHALL BE SOLID GREEN IN COLOR.
7. ALL PVC FORCE MAINS SHALL BE CLASS 2000, SDR 21, COLOR GREEN, WITH A GREEN MAGNETIC TAPE A MINIMUM OF 2" WIDE, PLACED 1 FOOT BELOW THE PROPOSED GRADE. THE PRINTING ON THE MAGNETIC TAPE SHOULD READ "FORCEMAIN".
8. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH ANSI A 21.50 (AWWA C 150) AND ANSI A21.51 (AWWA C 151). DUCTILE IRON PIPE SHALL RECEIVE INTERIOR AND EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH ANSI A 21.6, A 21.8, OR A 21.51.
9. ALL SANITARY SEWER GRAVITY MAINS OR SANITARY SEWER FORCEMAINS THAT REQUIRE D.I.P. ARE TO BE POLYLINED OR EPOXY LINED.
10. ALL SANITARY SEWER MANHOLE COVERS SHALL BE TRAFFIC RATED FOR HS-20 LOADING.

SANITARY SEWER INSPECTION, TESTING AND CERTIFICATION REQUIREMENTS

1. ALL COMPONENTS OF THE SANITARY SEWER SYSTEM INCLUDING FITTINGS, WYE CONNECTIONS, CLEAN-OUTS, MANHOLES SHALL REMAIN UNCOVERED UNTIL PROPERLY INSPECTED, TESTED AND ACCEPTED BY NORTHSIDE ENGINEERING, INC. AND THE COUNTY/CITY INSPECTORS.
2. CONTRACTOR SHALL PROVIDE AND FORWARD TO NORTHSIDE ENGINEERING, INC. 6 COPIES OF THE CERTIFIED RECORD DRAWINGS PREPARED, SIGNED AND SEALED BY A LAND SURVEYOR. DRAWINGS SHALL SHOW THE EXACT LOCATION OF THE SANITARY SEWER STRUCTURES AND THE ENTIRE SANITARY SEWER SYSTEM. SAID DRAWINGS SHALL ALSO SHOW THE TOP AND INVERT ELEVATION OF THE STRUCTURES AS WELL AS THE INVERT ELEVATION OF THE SANITARY SEWER PIPES IN CRITICAL LOCATIONS. CRITICAL LOCATIONS REFER TO AREAS WHERE SANITARY SEWER LINES CROSS WATER, FIRE AND STORM PIPES. CRITICAL ELEVATIONS AND DIMENSIONS MUST MEET OR EXCEED MINIMUM CLEARANCE STANDARDS AS SET BY F.D.E.P. DEVIATION SHALL CONSTITUTE REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE.
3. AFTER COMPLETION OF INSTALLATION OF THE NEW SANITARY SEWER STRUCTURES AND PIPES. ALL GRAVITY SEWER PIPING SHALL BE SUBJECT TO A TELEVISION INSPECTION, PERFORMED BY THE CONTRACTOR. CONTRACTOR TO NOTIFY NORTHSIDE ENGINEERING 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION.
4. THE CONTRACTOR SHALL PERFORM AN EXFILTRATION TEST ON ALL GRAVITY SEWERS INSTALLED IN ACCORDANCE WITH THE REGULATION AGENCY HAVING JURISDICTION MAXIMUM ALLOWABLE LEAKAGE RATE: 100 GPD PER INCH PIPE DIAMETER PER MILE. TEST RESULTS ARE TO BE SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.
5. ALL FORCE MAINS SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST IN ACCORDANCE WITH THE REGULATORY AGENCY HAVING JURISDICTION. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.
6. NORTHSIDE ENGINEERING, INC. WILL SUBMIT FINAL AS-BUILT AND EXFILTRATION TESTS WITH THE CERTIFICATION FORM TO F.D.E.P. TO OBTAIN CLEARANCE TO PLACE SANITARY SEWER SYSTEM INTO SERVICE.
7. CONTRACTOR UNDER NO CIRCUMSTANCES SHALL PLACE THE SANITARY SEWER SYSTEM INTO SERVICE UNLESS A LETTER OF CLEARANCE/CERTIFICATION HAS BEEN ISSUED BY F.D.E.P.
8. ANY DEVIATION FROM THE REQUIREMENTS AS STIPULATED HEREWITH COULD RESULT IN FINES AS DETERMINED BY F.D.E.P. WHICH SHALL BE PAID BY THE CONTRACTOR.

WATER/SEWER CLEARANCE REQUIREMENTS

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS

FOR THE PURPOSE OF THIS SECTION, THE PHASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER, FIRE HYDRANT LEADS, AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPING CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(C) AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY-OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIES OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

(1) TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.

(2) A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.

(3) ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW.

(A) EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTING BETWEEN THE MAIN AND THE MANHOLE.

(B) WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).

(C) EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.

(D) GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE -TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S. AND RULE 64E-6.002, F.A.C.

(5) EXCEPTIONS, WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIES OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES, INCLUDING THE FOLLOWING.

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE.

(1) USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY-OR, VACUUM-TYPE PIPELINE.

(2) USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(3) USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE.

(1) USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN, AND

(2) USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

GRADING & DRAINAGE TESTING AND INSPECTION REQUIREMENTS

1. ALL DELETERIOUS SUBSTANCE MATERIAL, (I.E. MUCK, PEAT, BURIED DEBRIS), IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS, OR AS DIRECTED BY THE OWNER'S ENGINEER, OR OWNER'S SOIL 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.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATING AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING, OR SHORING, AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED. DEWATERING SHALL BE USED AS REQUIRED.
3. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS. HAVE FABRIC WRAPS PER F.D.O.T. INDEX 280.
4. PVC STORM PIPE, 12" AND SMALLER SHALL CONFORM TO AWWA C-900, CLASS 150 STANDARDS, UNLESS OTHERWISE NOTED.
5. ALL DRAINAGE STRUCTURE GRATES AND COVERS WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR HS-20 LOADINGS.
6. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY.
7. ALL STORM STRUCTURES SHALL BE GROUTED TO THE INVERT ELEVATION(S) OF THE STORM PIPES(S). STORM PIPE SHALL BE SAW-CUT EVEN WITH THE STRUCTURE WALL(S). GROUT AROUND PIPES FOR WATER TIGHT AND SMOOTH FINISH.
8. THE STORM DRAINAGE PIPING AND FILTRATION SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S SOILS ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL.
9. THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEMS UNTIL FINAL ACCEPTANCE OF THE PROJECT.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE TESTING SCHEDULE FOUND IN THE ENGINEERING CONSTRUCTION DRAWINGS. UPON COMPLETION OF THE WORK, THE SOILS ENGINEER MUST SUBMIT CERTIFICATIONS TO THE OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.

STORM WATER AND DRAINAGE SYSTEM CRITERIA

1. RETENTION PONDS MUST BE ROUGH GRADED EARLY ON IN PHASE CONSTRUCTION WITH STORM PIPES DIRECTED TO IT.
2. PROPOSED BERMS MUST BE PROPERLY CONSTRUCTED AND COMPACTED TO PROPERLY RETAIN STORM WATER IMPACTS.
3. CONTROL STRUCTURE(S) MUST BE CONSTRUCTED WITH THEIR GREASE SKIMMER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS WHEN RETENTION POND IS ROUGH GRADED. CONTRACTOR SHALL NOT CONSTRUCT UNDERDRAIN AT THIS STAGE - PLUG UNDERDRAIN OPENING TEMPORARILY UNTIL FINAL PHASE.
4. ALL STORM STRUCTURES AND STORM PIPES MUST MEET SPECIFICATIONS AND CONSTRUCTION AS DETERMINED BY F.D.O.T. REFER TO DETAILS AND INDEXES SPECIFIED ON THESE PLANS.

PAVING NOTES

1. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.
2. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.
3. ALL PAVEMENT MARKINGS SHALL BE MADE WITH TRAFFIC PAINT IN ACCORDANCE TO FDOT STANDARD SPECIFICATIONS 971-12. PARKING STALL STRIPING TO BE 4" WIDE PAINTED WHITE STRIPES.
4. THE CONTRACTOR IS TO INSTALL EXTRA BASE MATERIAL WHEN THE DISTANCE BETWEEN THE PAVEMENT ELEVATION AND THE TOP OF THE PIPE OR BELL IS LESS THAN TWELVE (12) INCHES.
5. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS."
6. THE CONSTRUCTION OF PAVEMENT WITHIN THE PROPERTY MUST MEET THE FOLLOWING CRITERIA:

A. THE SURFACE COURSE SHOULD CONSIST OF FDOT SP-9.5 FINE MIX FOR LIGHT-DUTY AND FDOT SP-12.5 AND/OR SP-9.5 FINE MIX FOR HEAVY DUTY AREAS. THE ASPHALTIC CONCRETE SHOULD BE COMPACTED TO AN AVERAGE FIELD DENSITY OF 93 PERCENT OF THE LABORATORY MAXIMUM DENSITY DETERMINED FROM SPECIFIC GRAVITY (G_{MM}) METHODS, WITH AN INDIVIDUAL TEST TOLERANCE OF ±2 PERCENT.

B. WE RECOMMEND USING EITHER LIMEROCK OR A CRUSHED CONCRETE BASE COURSE MATERIAL. CRUSHED CONCRETE GENERALLY PROVIDES A COST-EFFECTIVE ALTERNATIVE MATERIAL IN LIEU OF LIMEROCK AND IS PARTICULARLY RESISTANT TO ADVERSE EFFECTS FROM HIGH GROUNDWATER CONDITIONS. IF LIMEROCK BASE MATERIAL IS TO BE USED, ADEQUATE SEPARATION BETWEEN GROUNDWATER AND THE BASE MUST BE MAINTAINED (SEE SECTION 4.4.7). LIMEROCK IS HIGHLY MOISTURE SENSITIVE AND BECOMES UNSTABLE WHEN IT BECOMES EXCESSIVELY WET. THEREFORE, IF THE GUIDELINES DISCUSSED IN SECTION 4.4.7 CANNOT BE MET, THE USE OF LIMEROCK BASE ON THIS PROJECT IS NOT RECOMMENDED. WITH EITHER OPTION, AT LEAST 12 INCHES OF FREE-DRAINING SUBGRADE MUST EXIST BELOW THE BASE COURSE TO PREVENT

C. THE BASE UTILIZED SHOULD HAVE A MINIMUM LBR OF 100, AND SHOULD MEET CURRENT FDOT REQUIREMENTS FOR GRADED AGGREGATE BASE. PLACE THE BASE IN MAXIMUM 6-INCH LIFTS AND COMPACT EACH LIFT TO A MINIMUM DENSITY OF 98% MPMDD.

D. BASE LAYERS SHALL BE AS FOLLOWING:
- CERTIFIED CRUSHED CONCRETE PER FDOT SPECS.
- CERTIFIED LIMEROCK AS PER FDOT SPECS.
- CERTIFIED SHELL AS PER FDOT SPECS.

7. CONSTRUCTION OF CONCRETE PAVEMENT MUST MEET THE FOLLOWING CRITERIA:
   7.1 VEHICULAR USE AREA: 5" THICK (LIGHT DUTY) AND 6" THICK (HEAVY DUTY), 4000 PSI CONCRETE OVER COMPACTED GROUND TO 98% OF MAX. DENSITY.
   7.2 SIDEWALK: 4" THICK, 3000 PSI CONCRETE OVER COMPACTED GROUND TO 95% OF MAX. DENSITY.

RIGHT OF WAY NOTES (PRIVATE)

1. ALL R.O.W. INSTALLATIONS WILL BE IN ACCORDANCE WITH PRACTICES REFERENCED IN THE STATE OF FLORIDA UTILITIES ACCOMMODATIONS MANUAL.
2. ALL DESIGN AND CONSTRUCTION MUST CONFORM TO THE MINIMUM STANDARDS SET DOWN IN PASCO COUNTY LAND DEVELOPMENT, ZONING AND/OR RELATED ORDINANCES, AND MINIMUM TESTING FREQUENCY REQUIREMENTS.
3. SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH THE US DEPARTMENT OF TRANSPORTATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "DESIGN STANDARDS" INDEXES 600 THROUGH 670 (LATEST EDITIONS).
4. INSTALLATION INVOLVING CONCRETE AND ASPHALT DRIVEWAY, IN GOOD CONDITION MUST BE ACCOMPLISHED BY JACK AND BORE OR PUSHING. NO JETTING IS ALLOWED.
5. COMPACTION FOR PIPE BACKFILL SHALL COMPLY WITH AASHTO T-99(100%).
6. DISTURBED AREA WITHIN THE R.O.W. WILL BE COMPACTED TO 100% OF MAXIMUM DENSITY AND SODDED.
7. ANY PORTION OF THE ROADWAY THAT SUSTAINS EXCESSIVE CONSTRUCTION RELATED DAMAGE, IN THE OPINION OF ENGINEER, SHALL BE REPAIRED AT CONTRACTOR EXPENSE.
8. SAFE PEDESTRIAN TRAFFIC IS TO BE MAINTAINED AT ALL TIMES.
9. NO STOCKING OF MATERIAL IN ROADWAY OR ON SIDEWALK; ALL DIRT OR DEBRIS WILL BE REMOVED FROM THE JOB SITE DAILY. ROADS AND SIDEWALKS ARE TO BE SWEPT DAILY AS PART OF DAILY CLEAN-UP.
10. SAW CUT EXISTING EDGE-OF-PAVEMENT PRIOR TO CONSTRUCTION.
11. PROVIDE A MINIMUM OF 3' COVER OVER UTILITIES AT ALL DITCH CROSSINGS.
11. NO STREET SHALL BE CLOSED WITHOUT THE WRITTEN PERMISSION OF THE PASCO COUNTY TRAFFIC DIVISION. AT LEAST 48 HOUR ADVANCE COORDINATION IS REQUIRED.
13. DRIVEWAY TO BE CONSTRUCTED TO FDOT INDEX 515 (REV.).
14. EROSION CONTROL AND SHOULDER SODDING SHALL CONFORM TO FDOT INDEX #104.

TRENCH EXCAVATION SAFETY REQUIREMENTS

1. INCLUDE OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P, WHICH IS NOW A PART OF LAWS OF FLORIDA CHAPTER 90-96.
2. THE CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE OF COMPLIANCE WITH THIS LAW.
3. A SEPARATE COST ITEM IDENTIFYING THE COST OF COMPLIANCE.
4. A TRENCH SAFETY SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR, AND APPROVED BY THE ENGINEER.
5. ALL RETENTION AREAS, STORM SEWER PIPING, STORM SEWER STRUCTURES, ETC. MUST BE IN PLACE AS PART OF THE FIRST PHASE OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCOMMODATE POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION TO AVOID FLOODING OF THE ADJACENT PROPERTIES. ANY FLOODING THAT MAY OCCUR DUE TO HIS WORK WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. THE USE OF ELECTRONICALLY STORED DATA IS INTENDED FOR INFORMATIONAL PURPOSES ONLY AND NOT TO BE USED FOR CONSTRUCTION. CONTRACTOR MUST UTILIZE SIGNED AND SEALED DOCUMENTS FOR CONSTRUCTION.

NOTE TO CONTRACTOR

1. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR. THE RECORD DRAWINGS SHALL SHOW FINAL GRADES FOR INLETS & PIPES WITH TOP & BOTTOM ELEVATIONS, INVERTS, & LOCATIONS OF ALL UTILITIES INCLUDING THE SANITARY SEWER AND WATER PIPING. THE CONTRACTOR SHALL PROVIDE TWO COPIES OF THE CERTIFIED RECORD DRAWINGS TO THE ENGINEER. THE AFOREMENTIONED RECORD DRAWINGS SHALL BE SUFFICIENT ENOUGH IN DETAIL TO BE ACCEPTABLE BY AGENCIES HAVING JURISDICTION.
2. TREE BARRICADES AND EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. ENCROACHMENT INTO OR FAILURE TO MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS AND/OR PERMIT REVOCATION.
3. PROVIDE A SUITABLE ON-SITE WASH DOWN & CREATE A DISPOSAL AREA. DISPOSAL OF OF CONCRETE SLURRY DIRECTLY OF INDIRECTLY INTO PUBLIC DRAINAGE SYSTEMS IS A VIOLATION OF THE ILLICIT DISCHARGE "PROVISION OF THE PASCO COUNTY LAND DEVELOPMENT CODE." SEC. 58-239 OF THE PASCO COUNTY AUTHORIZES PENALTY OF UP TO $10,000.00 FOR EACH OFFENSE.

PRIOR TO DEMOLITION, CONSTRUCTION SHALL ADDRESS THE FOLLOWING REQUIREMENTS:

1. VIDEO RECORD SITE AND OFF-SITE IMPROVEMENTS AND MAKE NOTE OF CRACKS AND DAMAGES TO EX. SIDEWALKS, ROADWAYS, TREES, ETC. AND KEEP ON FILE FOR RECORD.
2. ALL PROPERTY CORNER MONUMENTS SHALL BE IDENTIFIED AND PROTECTED DURING CONSTRUCTION.
3. SILT SCREEN SHALL BE ERECTED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. SILT SCREEN SHALL BE REMOVED ONLY AFTER PROJECT IS FULLY CONSTRUCTED AND SOIL IS STABILIZED.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR EXISTING AND PROPOSED DRAINAGE PATTERN. DRAINAGE SHALL NOT BE DIRECTED TO ADJOINING NEIGHBORS' PROPERTIES AND DRAINAGE FROM OFF-SITE SHALL NOT BE BLOCKED.
5. DEMOLITION OF EXISTING BLDGS. MAYBE SUBJECT TO LOCAL, STATE AND FEDERAL PERMITS. PRIOR TO DEMOLITION, CONTRACTOR SHALL OBTAIN AN ASBESTOS REMOVAL PERMIT IF NEEDED.
6. ALL ASPH PAVING SHALL BE SAW CUT WITH A SMOOTH EDGE TO ACCEPT NEW CONCRETE CURBING.
7. ALL SIDEWALKS SHALL BE REMOVED AT THE NEAREST JOINT, WHERE WALKS ARE SHOWN TO BE REMOVED.
8. ALL POTABLE AND RECLAIMED WATER LINES AT RIGHT OF WAYS SHALL BE SEVERED AND CAPPED PER CODE. THRUST BLOCKS OR RESTRAINING RODS MAYBE REQUIRED.
9. ALL GRAVITY SANITARY SEWER LINE SHALL BE SEVERED AND CAPPED AT THE RIGHT OF WAYS PER CODE.
10. ALL WATER METERS SHALL BE REMOVED AND RETURNED TO THE WATER DEPT. FOR CREDIT.
11. ALL EXISTING PALMS TREES AND GRATES IN THE RIGHT OF WAY SHALL BE RETURNED TO THE CITY.
12. ALL PARKING METERS SHALL BE REMOVED AND RETURNED TO THE CITY.
13. ALL PAVEMENT STRIPING SHALL BE REMOVED IN CONFLICT WITH PAVEMENT IMPROVEMENT, AND RE-STRIPED PER PLANS.

PASCO COUNTY DEVELOPMENT REVIEW – STANDARD SITE PLAN NOTES

1. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH THE PASCO COUNTY STANDARDS FOR DESIGN AND CONSTRUCTION OF WATER AND WASTEWATER FACILITIES SPECIFICATIONS, LATEST EDITION.
2. ALL ON-SITE WATER AND SEWER FACILITIES SHALL BE OWNED AND MAINTAINED BY THE OWNER-DEVELOPER.
3. INSTALLATION OF FUEL STORAGE TANKS REQUIRES REVIEW AND APPROVAL BY THE FIRE MARSHAL AND THE ISSUANCE OF A SEPARATE BUILDING PERMIT. APPROVAL OF THE SITE PLAN DOES NOT CONSTITUTE APPROVAL OF THE LOCATION OF THE FUEL TANKS.
4. ALL PROPOSED SIGNS MUST BE APPLIED FOR, APPROVED, AND PERMITTED ON AN INDIVIDUAL BASIS APART FROM ANY ULTIMATELY APPROVED SITE PLAN . APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF ANY SIGNAGE.
5. HANDICAP PARKING SPACES WILL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FLORIDA STATUTE 316, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR OTHER APPLICABLE STANDARDS.
6. THE ARCHITECT/ENGINEER CERTIFIES THAT THE SITE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT. ACT.
7. ALL ON-SITE PARKING SPACES WILL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. PARKING SPACES, DIRECTIONAL ARROWS, AND STOP BARS SHALL BE STRIPED IN WHITE. IT SHALL BE THE OWNER/DEVELOPER'S RESPONSIBILITY TO PROPERLY SIGN AND STRIPE IN ACCORDANCE WITH APPLICABLE STANDARDS.
8. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THIS APPROVAL DOES NOT INCLUDE ANY WORK IN THE COUNTY RIGHT-OF-WAY. ALL RIGHT-OF-WAY WORK SHALL BE A FUNCTION OF AN APPROVED PASCO RIGHT-OF-WAY USE PERMIT.
9. ALL CLEAR-SITE AREAS SHALL BE KEPT FREE OF ANY SIGNAGE PLANTINGS, TREES, ETC. IN EXCESS OF THREE-AND-A-HALF (3-1/2) FEET IN HEIGHT.
10. NO IRRIGATION SYSTEM OR LANDSCAPING SHALL BE INSTALLED IN ANY COUNTY OR STATE RIGHT-OF-WAY WITHOUT ISSUANCE OF APPROPRIATE RIGHT-OF-WAY USE PERMIT.
11. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.
12. ALL STRUCTURES, INCLUDING BUFFER WALLS, RETAINING WALLS, SIGNAGE, ETC. REQUIRE BUILDING PERMITS.
13. IF DURING CONSTRUCTION ACTIVITIES ANY EVIDENCE OF THE PRESENCE OF STATE AND FEDERALLY PROTECTED PLANT AND/OR ANIMAL SPECIES IS DISCOVERED, WORK SHALL COME TO AN IMMEDIATE STOP AND PASCO COUNTY SHALL BE NOTIFIED WITHIN TWO WORKING DAYS OF THE PLANT AND/OR ANIMAL SPECIES FOUND ON THE SITE.
14. IF DURING CONSTRUCTION ACTIVITIES ANY EVIDENCE OF HISTORIC RESOURCES, INCLUDING BUT NOT LIMITED TO ABORIGINAL OR HISTORIC POTTERY, PREHISTORIC STONE TOOL, BONE OR SHELL TOOLS, HISTORIC TRASH PITS, OR HISTORIC BUILDING FOUNDATION, ARE DISCOVERED, WORK SHALL COME TO AN IMMEDIATE STOP AND THE FLORIDA DEPARTMENT OF HISTORIC RESOURCES (STATE HISTORIC PRESERVATION OFFICER) AND PASCO COUNTY SHALL BE NOTIFIED WITHIN TWO WORKING DAYS OF THE RESOURCES FOUND ON THE SITE.
15. ANY STORAGE AREAS INCLUDING "TEMPORARY" STORAGE, MODULAR UNITS, TRACTOR TRAILERS, PODS, COLLECTION BIND, OR THE LIKE ARE REQUIRED TO BE SCREENED. IF THERE IS A POSSIBILITY SUCH UNITS WILL BE USED IN THE FUTURE, THERE MUST BE AN AREA DESIGNATED FOR THEM ON THE SITE PLAN. SUCH UNITS CANNOT BE PLACED ON DESIGNATED PARKING SPACES, DRIVE AISLE AREAS, OPEN SPACE OR SIMILAR REQUIRED ARES, THIRTY DAYS OR LONGER USE OF STORAGE AREAS.

COA NOTE:

IN CONSIDERATION OF PASCO COUNTY'S AGREEMENT TO PROVIDE POTABLE WATER AND/OR RECLAIMED WATER TO THE SUBJECT PROPERTY, DEVELOPER/OWNER, AND ITS SUCCESSORS AND ASSIGNS, AGREE TO THE FOLLOWING:

1. IN THE EVENT OF PRODUCTION FAILURE OR SHORTFALL BY TAMPA BAY WATER, AS SET FORTH IN SECTION 3.19 OF THE INTER LOCAL AGREEMENT CREATING TAMPA BAY WATER, DEVELOPER/OWNER SHALL TRANSFER TO PASCO COUNTY ANY AND ALL WATER USE PERMITS OR WATER USE RIGHTS THE DEVELOPER/OWNER MAY HAVE TO USE OR CONSUME SURFACE OR GROUND WATER WITHIN PASCO COUNTY.
2. PRIOR TO THE DEVELOPER/OWNER SELLING WATER OR WATER USE PERMITS OR WATER USE RIGHTS, DEVELOPER/OWNER SHALL NOTIFY PASCO COUNTY, AND PASCO COUNTY SHALL HAVE A RIGHT OF FIRST REFUSAL TO PURCHASE SUCH WATER OR WATER USE PERMITS OR WATER USE RIGHTS.

FIRE NOTE:

A SEPARATE PLAN AND PERMIT, ISSUED TO A CONTRACTOR LICENSED BY THE FLORIDA STATE FIRE MARSHALL'S OFFICE, IS REQUIRED FOR THE INSTALLATION OF UNDERGROUND FIRE LINES.

GEOTECHNICAL NOTES:

SHOULD ANY NOTICEABLE SOIL SLUMPING OR SINKHOLE FORMATION BECOME EVIDENT, THE APPLICANT/DEVELOPER SHALL IMMEDIATELY NOTIFY THE COUNTY, TAMPA BAY WATER, AND THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) AND ADOPT ONE (1) OR MORE OF THE FOLLOWING PROCEDURES AS DETERMINED TO BE APPROPRIATE BY THE COUNTY AND SWFWMD:

1. IF THE SLUMPING OR SINKHOLE FORMATION BECOMES EVIDENT BEFORE OR DURING CONSTRUCTION ACTIVITIES, STOP ALL WORK (EXCEPT FOR MITIGATION ACTIVITIES) IN THE AFFECTED AREA AND REMAIN STOPPED UNTIL THE COUNTY AND SWFWMD APPROVE RESUMING CONSTRUCTION ACTIVITIES.
2. TAKE IMMEDIATE MEASURES TO ENSURE NO SURFACE WATER DRAINS INTO THE AFFECTED AREAS.
3. VISUALLY INSPECT THE AFFECTED AREA.
4. EXCAVATE AND BACKFILL OR GROUT, AS REQUIRED, TO FILL THE AFFECTED AREA AND PREVENT FURTHER SUBSIDENCE.
5. USE SOIL REINFORCEMENT MATERIALS IN THE BACKFILLING OPERATION WHEN APPROPRIATE.
6. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA, MAINTAIN A MINIMUM DISTANCE OF TWO (2) FEET FROM THE BOTTOM OF THE RETENTION POND TO THE SURFACE OF THE LIMEROCK OR KARST CONNECTION.
7. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA AND THE ABOVE METHODS DO NOT STABILIZE THE COLLAPSE, RELOCATE THE RETENTION AREA.

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PROJECT # 2332
ISSUE DATE: 09/09/24

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CIVIL SPECIFICATIONS

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

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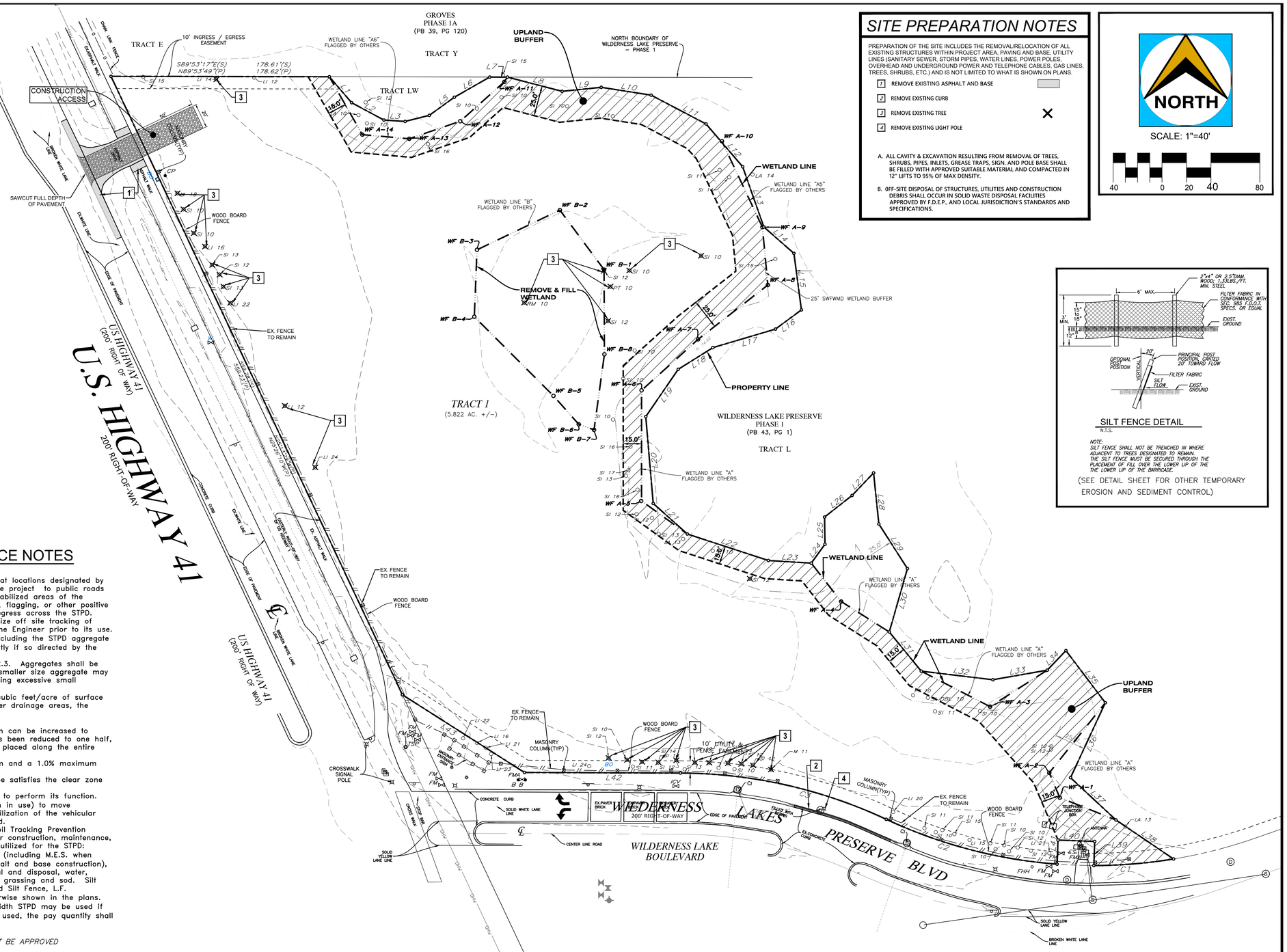
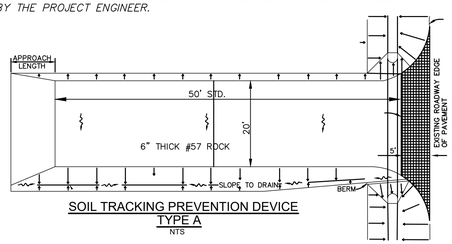
C1.2



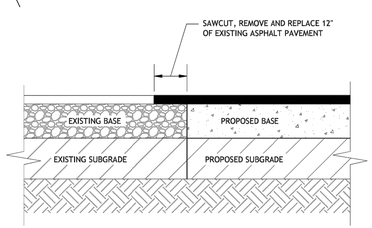
SOIL TRACKING PREVENTION DEVICE NOTES

1. A Soil Tracking Prevention Device (STPD) shall be constructed at locations designated by the Engineer for points of egress from unstabilized areas of the project to public roads where off site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed through a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The contractor may propose an alternative technique to minimize off site tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
3. All materials spilled, dropped or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregated shall be described in section 901 excluding 901-2.3. Aggregates shall be FDOT side #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 and are not suitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
   15'x50'=100 ft.³ 30'x50'=200 ft.³
   as an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.2% minimum and a 1.0% maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the side drain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent offset tracking, the STPD shall be rinsed (daily when in use) to move accumulated mud downward through the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD: including but not limited to excavation, grading, temporary pipe (including M.E.S. when required), filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rinsing and cleaning of the STPD and cleaning of public roads, grassing and sod. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, L.F.
10. The nominal size of a standard STPD is 15'X50' unless otherwise shown in the plans. If the volume of entering and exiting vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

NOTE: THESE DIMENSIONS ARE APPROXIMATE AND MUST BE APPROVED BY THE PROJECT ENGINEER.



SOIL TRACKING PREVENTION DEVICE
TYPE A
NTS



NOTES:

1. PROVIDE ASPHALT SPLICE AT ALL TRANSITIONS BETWEEN NEW AND EXISTING PAVEMENT SECTIONS.
2. 12-INCH MINIMUM ASPHALT REMOVAL, MAY VARY AT THE DISCRETION OF THE OWNER'S/JURISDICTIONAL'S REPRESENTATIVE. (MORE BUT NOT LESS THAN 12 INCHES)
3. RESTORE EXISTING BASE TO ORIGINAL CONDITION OR BETTER.

ASPHALT PAVEMENT INTERFACE DETAIL
N.T.S.

SITE PREPARATION NOTES

PREPARATION OF THE SITE INCLUDES THE REMOVAL/RELOCATION OF ALL EXISTING STRUCTURES WITHIN PROJECT AREA, PAVING AND BASE, UTILITY LINES (SANITARY SEWER, STORM PIPES, WATER LINES, POWER POLES, OVERHEAD AND UNDERGROUND POWER AND TELEPHONE CABLES, GAS LINES, TREES, SHRUBS, ETC.) AND IS NOT LIMITED TO WHAT IS SHOWN ON PLANS.

1. REMOVE EXISTING ASPHALT AND BASE
2. REMOVE EXISTING CURB
3. REMOVE EXISTING TREE
4. REMOVE EXISTING LIGHT POLE

A. ALL CAVITY & EXCAVATION RESULTING FROM REMOVAL OF TREES, SHRUBS, PIPES, INLETS, GREASE TRAPS, SIGN, AND POLE BASE SHALL BE FILLED WITH APPROVED SUITABLE MATERIAL AND COMPACTED IN 12" LIFTS TO 95% OF MAX DENSITY.

B. OFF-SITE DISPOSAL OF STRUCTURES, UTILITIES AND CONSTRUCTION DEBRIS SHALL OCCUR IN SOLID WASTE DISPOSAL FACILITIES APPROVED BY F.D.E.P., AND LOCAL JURISDICTION'S STANDARDS AND SPECIFICATIONS.

NORTH

SCALE: 1"=40'

40 0 20 40 80

SILT FENCE DETAIL
N.T.S.

NOTE:
SILT FENCE SHALL NOT BE TRENCHED IN WHERE ADJACENT TO TREES DESIGNATED TO REMAIN. THE SILT FENCE MUST BE SECURED THROUGH THE PLACEMENT OF FILL OVER THE LOWER LIP OF THE THE LOWER LIP OF THE BARRICADE.

(SEE DETAIL SHEET FOR OTHER TEMPORARY EROSION AND SEDIMENT CONTROL)

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EXISTING CONDITION AND DEMOLITION PLAN

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.
C2.1

COFFEE SHOP LOT
AREA = 50,520 SF, 1.16 AC

U.S. HIGHWAY 41
200' RIGHT-OF-WAY

NEW COFFEE SHOP 2,500 S.F.
NEW RESTAURANT 5,000 SF
NEW RESTAURANT W/ DRIVE THRU 2,360 S.F.
NEW RETAIL 2,585 S.F.
NEW RETAIL 2,585 S.F.

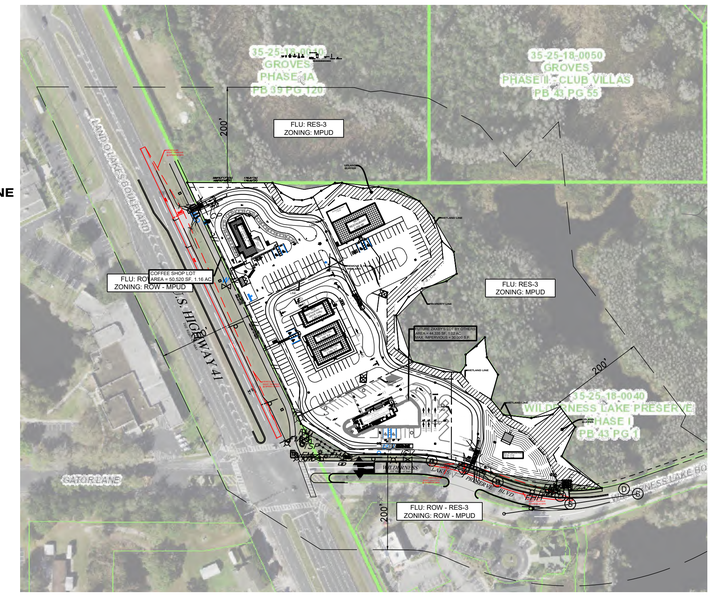
FUTURE ZAXBY'S LOT BY OTHERS
AREA = 44,335 SF, 1.02 AC
MAX. IMPERVIOUS = 30,000 S.F.

PROPOSED ZAXBY'S
67 SEATS
(REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS)

WILDERNESS LAKES PRESERVE BLVD
200' RIGHT-OF-WAY

WETLAND LINE
LEASE LINE
PROPERTY LINE
REMOVE & FILL WETLAND
UPLAND BUFFER

CONNECT NEW DRIVE @ EDGE OF TRAVELED ROAD (WHITE LINE) SEE C6.1 FOR SAW CUT DETAIL
SPECIAL EMPHASIS CROSSWALK FDOT INDEX 711-001
THROUGH LANE-USE ARROW FDOT INDEX 711-001
DOUBLE SOLID LINES (YELLOW) FDOT INDEX 711-001
INTEGRAL BLACK CONCRETE FROM 12' AHEAD OF ORDER POINT TO 12' BEYOND PICK UP WINDOW
GREASE TRAP SIZE & LOCATION TBD BY STARBUCKS
PRE-MENU BOARD WITH BOLLARD
CLEARANCE BAR WITH BOLLARD
DIRECTIONAL SIGN LOCATIONS TBD BY STARBUCKS
RATIO WILL HAVE PAVERS AND PERIMETER BOLLARDS
(3) MOBILE ORDER PAY PARKING SPACES
STARBUCKS DUMPSTER ENCLOSURE
OUTDOOR SEATING 1,126 SF
FUTURE GROSS ACCESS TO THE NORTHERN PROPERTY
R1-1 "STOP" SIGN (30"X30") & 24" STOP BAR FDOT 711-001
VEHICULAR SIGHT TRIANGLE @ SPEED 55 MPH
VEHICULAR SIGHT TRIANGLE @ SPEED 25 MPH
BEGINNING NEW TYPE 'F' CURB FDOT INDEX 520-001
NEW 3' VALLEY GUTTER FDOT INDEX 520-001 6" BLACK BORDER CONTRAST
SIDEWALK CURB RAMP TYPE 'CR-F' w/TRUNCATED DOME (RED) FDOT INDEX 522-002
NEW 6' CONC SIDEWALK FDOT INDEX 522-001
EXISTING CROSSWALK
6' WIDE SPECIAL EMPHASIS CROSSWALK FDOT INDEX 711-001
ENDING NEW TYPE 'F' CURB FDOT INDEX 520-001
NEW RETENTION POND TOP EL. 77.50 BOT EL. 73.50
BYPASS LANE
DRIVE THRU
ONE WAY



EXISTING SURROUNDINGS WITHIN 200 FEET
SCALE 1" = 150'

LEGEND

- PROPERTY LINE
- PROPOSED BUILDING
- PROPOSED ASPHALT
- PROPOSED CONC.

NORTH
SCALE: 1"=30'
30 0 15 30 60

FDOT TEMPORARY TRAFFIC CONTROL PROCEDURE:

1. DURING THE WORK WITHIN THE FDOT RIGHT OF WAY, FDOT INDEX 102-613 "MULTILANE ROADWAY, LANE CLOSURE" AND 102-66- "SIDEWALK CLOSURE" TEMPORARY TRAFFIC CONTROL SHALL BE UTILIZED.
2. FOR WORK WITHIN FDOT RIGHT-OF-WAY, THE CONTRACTOR SHALL PROVIDE A TEMPORARY TRAFFIC CONTROL PLAN PREPARED UNDER THE DIRECTION OF, AND SIGNED AND SEALED BY, A LICENSED FLORIDA PROFESSIONAL ENGINEER WHO IS EXPERIENCE IN PREPARING TRAFFIC CONTROL PLANS AND WHO IS CERTIFIED PER FDOT PROCEDURE, TOPIC NO. 625-010-010.
3. FOR WORK WITHIN FDOT RIGHT-OF-WAY, THE FDOT REQUIRES DOCUMENTATION FOR SUCCESSFUL COMPLETION OF AN APPROVED WORK ZONE TRAFFIC CONTROL TRAINING COURSE FOR THE AGENCY, UTILITY, OR CONTRACTOR EMPLOYEE(S) DESIGNING, INSTALLING, AND/OR MAINTAINING THE APPROVED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH DEPARTMENT PROCEDURE, TOPIC NO. 625-010-010.
4. ALL TEMPORARY TRAFFIC CONTROL DEVICE FOR THE FOLLOWING FACILITIES SHALL BE DESIGNED AND INSTALLED TO MEET THE EXISTING POSTED SPEEDS AS STATED FOR ALL TRAFFIC CONTROL PHASES: SR 54 45/50 MPH

NOTE:

1. ALL MARKING IN FDOT RIGHT-OF-WAY ARE TO BE THERMOPLASTIC.
2. ALL IMPROVEMENTS ARE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH FDOT DESIGN MANUAL CRITERIA AND STANDARD PLAN INDEX.

SITE INFORMATION:

SITE DATA

TOTAL SITE AREA:	5.822 AC (253,615.3 SF)
ZONING JURISDICTION:	PASCO COUNTY
PARCEL ID:	35-25-18-0040-00100-0000
EXISTING USE:	VACANT COM
PROPOSED USE:	COMMERCIAL
FLOOD ZONE:	ZONE "A" AND "AE" PER FEMA FIRM PANEL NUMBER: 12101C0238F DATED 9/26/2014
ZONING:	MPUD (RZ6124)
FUTURE LAND USE:	RES-3
BUILDING HEIGHT:	VARIES - 35' MAX.
BUILDING SQ. FOOTAGE:	18,265 SF
FLOOR AREA RATIO (FAR):	0.08 = 18,265 SQ FT. / 226,668.9 SQ. FT.(UPLAND)

SETBACKS

BUILDING:	REQUIRED:	PROVIDED:
FRONT (SOUTH):	25'	145.8'
FRONT (WEST):	25'	35.7'
SIDE (EAST):	0'	89.7'
REAR (NORTH):	0'	32.1'

PARKING/LOADING

PARKING CALCULATION:
- ON-PREMISES WITH DRIVE-THROUGH = 1 / 150 GFA = 5,310 / 150 GFA = 35.4 SPACES
- ON-PREMISES WITH NO DRIVE-THROUGH = 1 / 100 GFA = 6,125 / 100 GFA = 61.25 SPACES
- FREE-STANDING RETAIL = 1 / 300 GFA = 5,170 / 300 = 17.2 SPACES

REQUIRED PARKING: 114 SPACES

PROPOSED PARKING: 114 REGULAR SPACES (20'x9') + 6 HC SPACES (20'X12')
TOTAL = 120 SPACES

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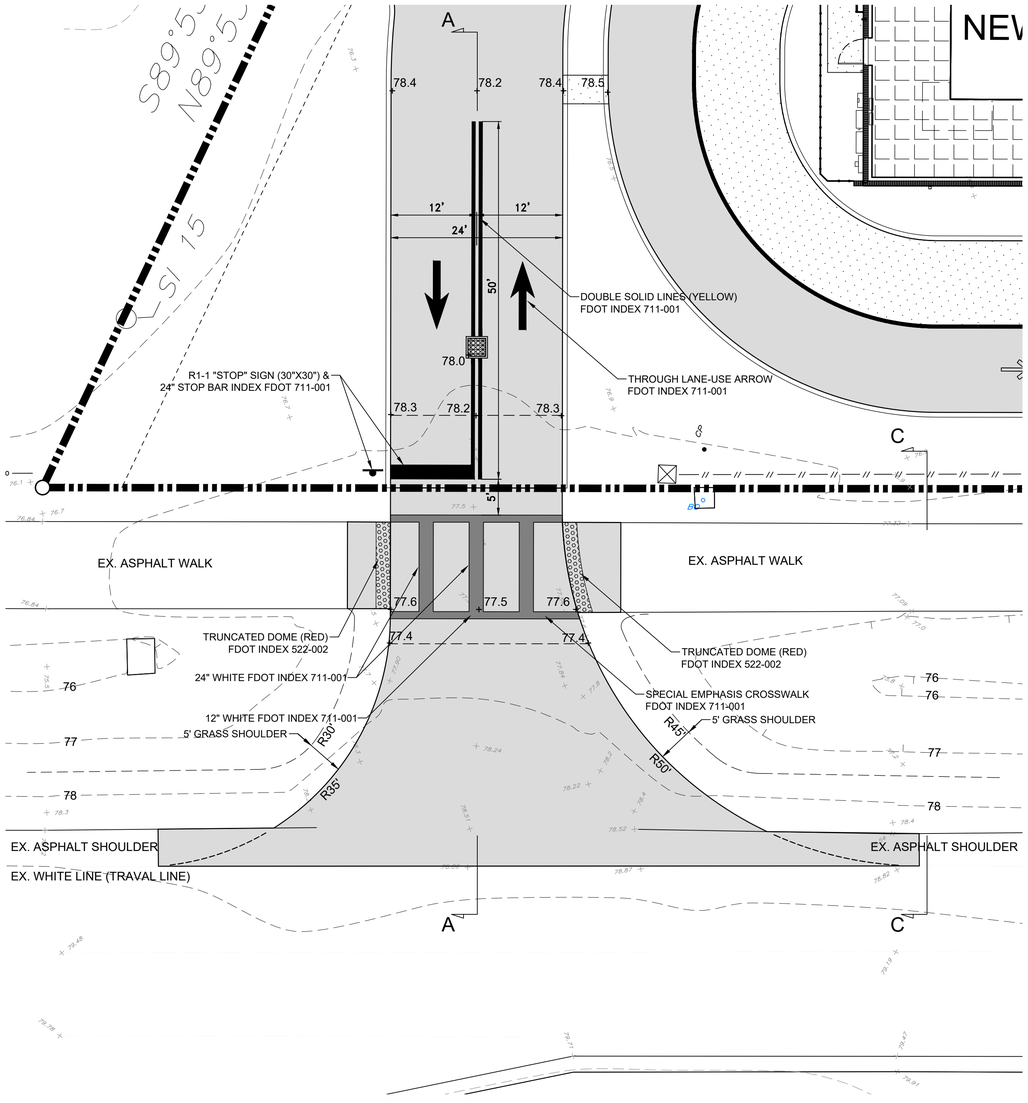
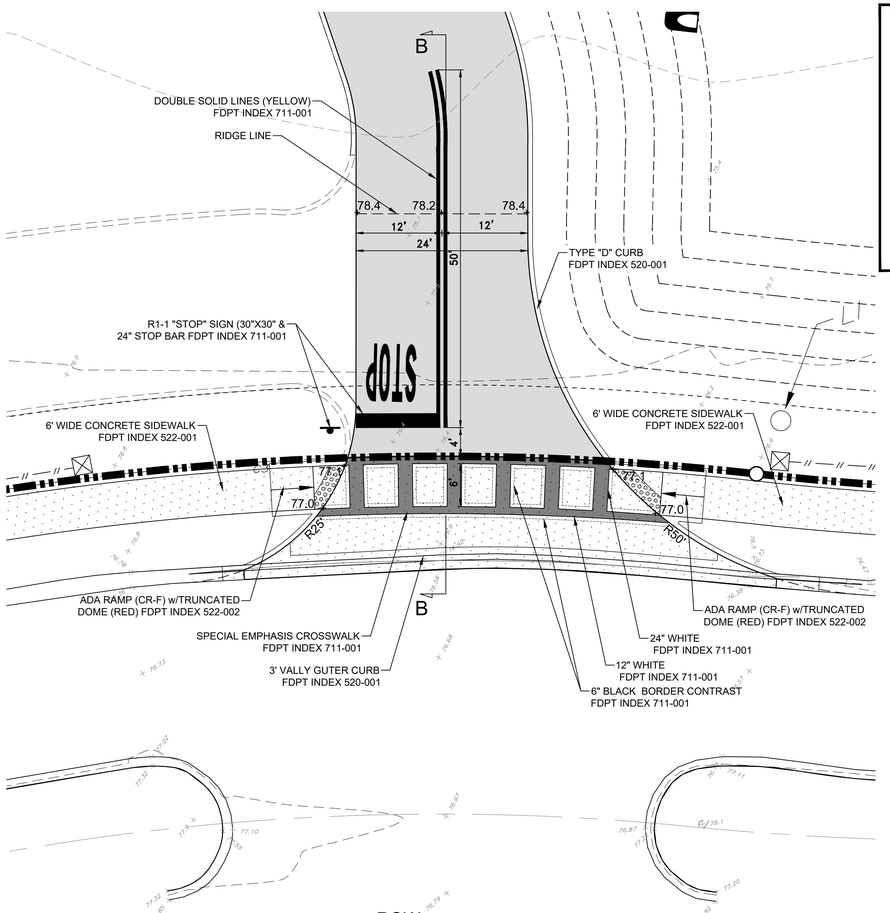
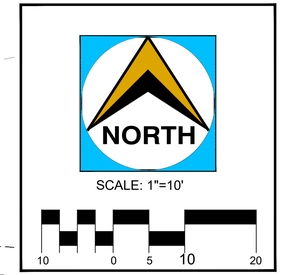
CIVIL SITE PLAN

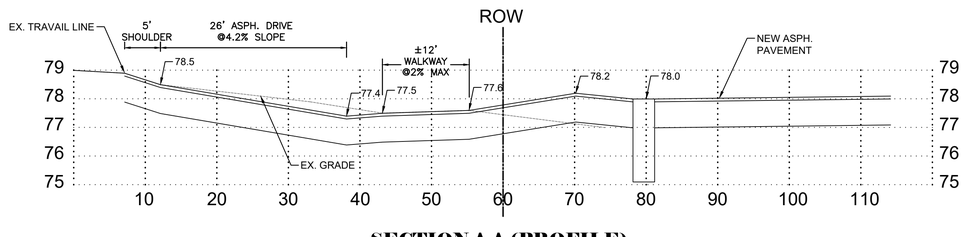
WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.
C3.1

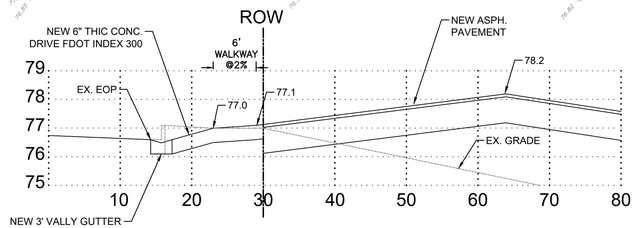




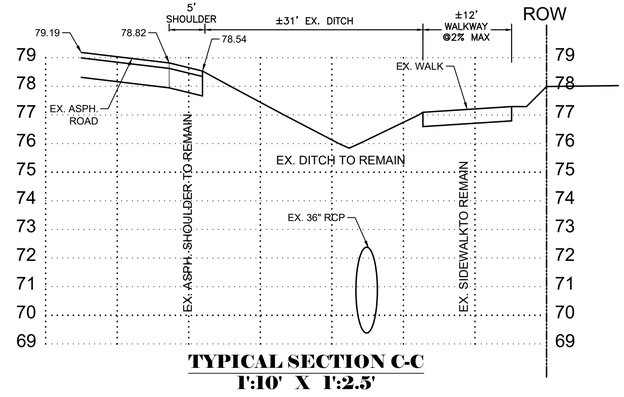




SECTION A-A (PROFILE)
1':10' X 1':2.5'



SECTION B-B (PROFILE)
1':10' X 1':2.5'



TYPICAL SECTION C-C
1':10' X 1':2.5'

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DRIVEWAY SITE PLAN & PROFILE

WILDERNESS LAKES
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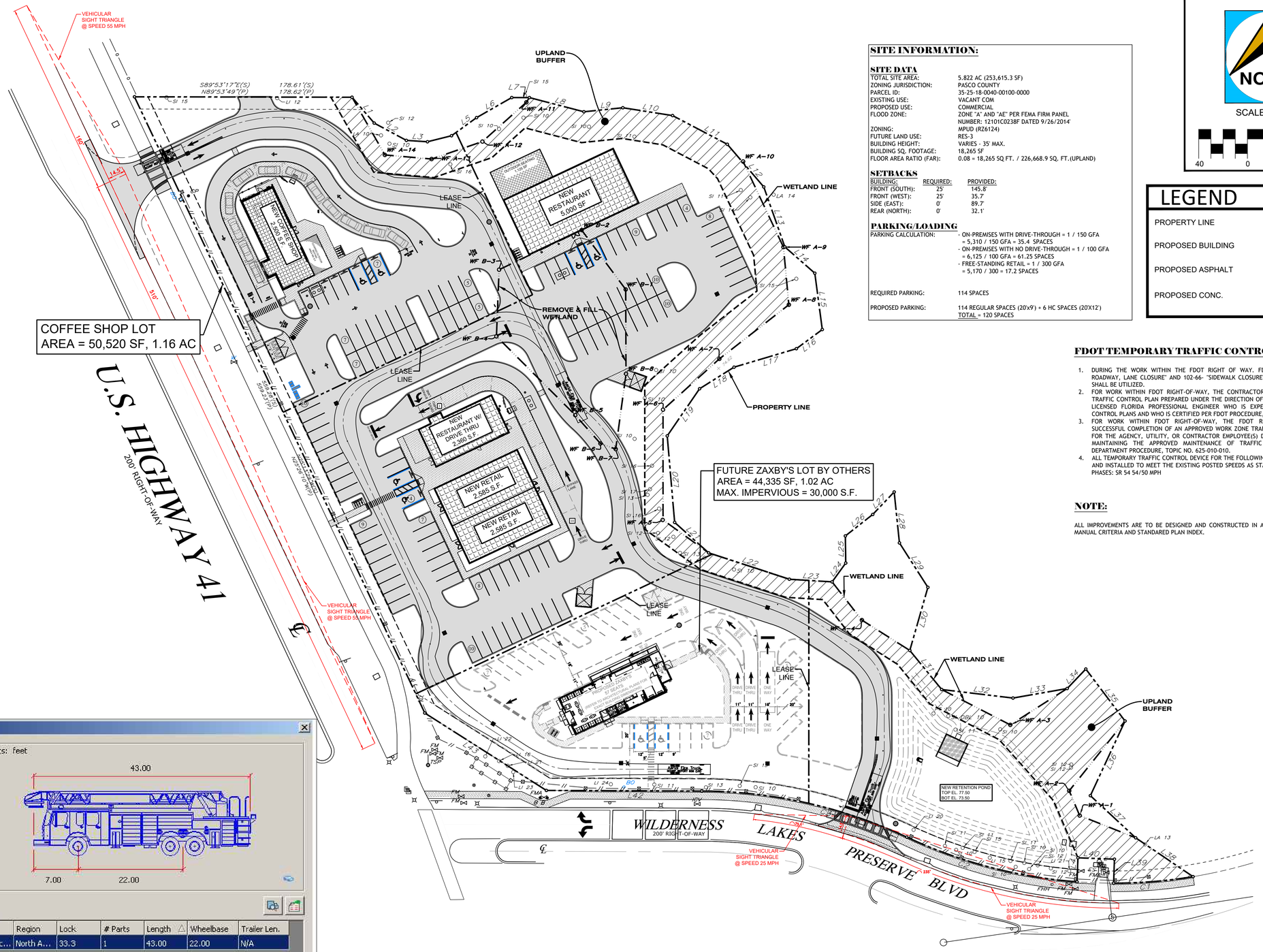
LAND O LAKES, FL 34637

Northside Engineering, Inc.

C3.2



SITE INFORMATION:

SITE DATA

TOTAL SITE AREA:	5.822 AC (253,615.3 SF)
ZONING JURISDICTION:	PASCO COUNTY
PARCEL ID:	35-25-18-0040-00100-0000
EXISTING USE:	VACANT COM
PROPOSED USE:	COMMERCIAL
FLOOD ZONE:	ZONE "A" AND "AE" PER FEMA FIRM PANEL NUMBER: 12101C0238F DATED 9/26/2014'
ZONING:	MPUD (RZ6124)
FUTURE LAND USE:	RES-3
BUILDING HEIGHT:	VARIES - 35' MAX.
BUILDING SQ. FOOTAGE:	18,265 SF
FLOOR AREA RATIO (FAR):	0.08 = 18,265 SQ.FT. / 226,668.9 SQ. FT.(UPLAND)

SETBACKS

BUILDING:	REQUIRED:	PROVIDED:
FRONT (SOUTH):	25'	145.8'
FRONT (WEST):	25'	35.7'
SIDE (EAST):	0'	89.7'
REAR (NORTH):	0'	32.1'

PARKING/LOADING

PARKING CALCULATION:	- ON-PREMISES WITH DRIVE-THROUGH = 1 / 150 GFA = 5,310 / 150 GFA = 35.4 SPACES - ON-PREMISES WITH NO DRIVE-THROUGH = 1 / 100 GFA = 6,125 / 100 GFA = 61.25 SPACES - FREE-STANDING RETAIL = 1 / 300 GFA = 5,170 / 300 = 17.2 SPACES
REQUIRED PARKING:	114 SPACES
PROPOSED PARKING:	114 REGULAR SPACES (20'x9') + 6 HC SPACES (20'X12') TOTAL = 120 SPACES

NORTH

SCALE: 1"=40'

40 0 20 40 80

LEGEND

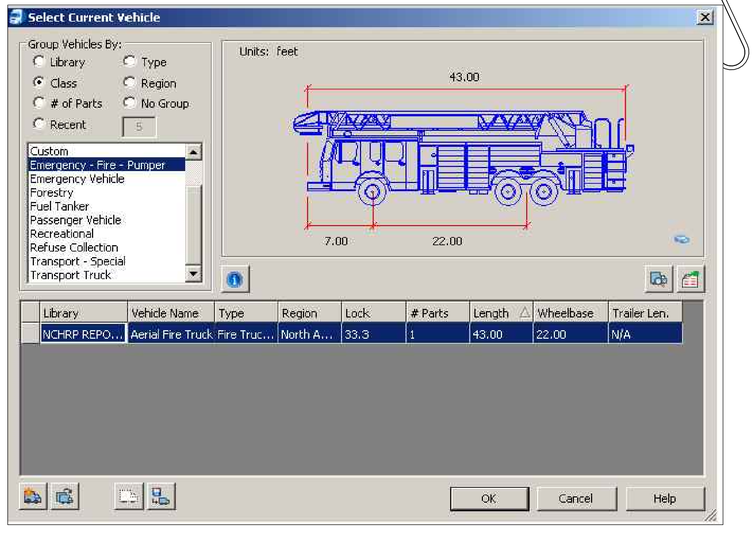
- PROPERTY LINE
- PROPOSED BUILDING
- PROPOSED ASPHALT
- PROPOSED CONC.

FDOT TEMPORARY TRAFFIC CONTROL PROCEDURE:

1. DURING THE WORK WITHIN THE FDOT RIGHT OF WAY, FDOT INDEX 102-613 "MULTILANE ROADWAY, LANE CLOSURE" AND 102-66- "SIDEWALK CLOSURE" TEMPORARY TRAFFIC CONTROL SHALL BE UTILIZED.
2. FOR WORK WITHIN FDOT RIGHT-OF-WAY, THE CONTRACTOR SHALL PROVIDE A TEMPORARY TRAFFIC CONTROL PLAN PREPARED UNDER THE DIRECTION OF, AND SIGNED AND SEALED BY, A LICENSED FLORIDA PROFESSIONAL ENGINEER WHO IS EXPERIENCE IN PREPARING TRAFFIC CONTROL PLANS AND WHO IS CERTIFIED PER FDOT PROCEDURE, TOPIC NO. 625-010-010.
3. FOR WORK WITHIN FDOT RIGHT-OF-WAY, THE FDOT REQUIRES DOCUMENTATION FOR SUCCESSFUL COMPLETION OF AN APPROVED WORK ZONE TRAFFIC CONTROL TRAINING COURSE FOR THE AGENCY, UTILITY, OR CONTRACTOR EMPLOYEE(S) DESIGNING, INSTALLING, AND/OR MAINTAINING THE APPROVED MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH DEPARTMENT PROCEDURE, TOPIC NO. 625-010-010.
4. ALL TEMPORARY TRAFFIC CONTROL DEVICE FOR THE FOLLOWING FACILITIES SHALL BE DESIGNED AND INSTALLED TO MEET THE EXISTING POSTED SPEEDS AS STATED FOR ALL TRAFFIC CONTROL PHASES: SR 54 54/50 MPH

NOTE:

ALL IMPROVEMENTS ARE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH FDOT DESIGN MANUAL CRITERIA AND STANDARED PLAN INDEX.



Northside Engineering, Inc.
300 South Belcher Road, Clearwater, Florida 33765
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tech@northsideengineering.net
Est. 1989

Civil - Land Planning - Traffic Studies - Landscape
Due Diligence Reports - Land Use - Re-Zoning
Stormwater Management - Utility Design
Construction Administration

Donald B. Fairbairn, P.E. #44971 Registry # 31306

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PROJECT #	2332
ISSUE DATE:	09/09/24

REVISIONS:

No.	Date	Description
1	11/06 /24	1st Submittal

DRAWN BY : KB

AUTO TURN EXHIBIT

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.

C3.3

COFFEE SHOP LOT
AREA = 50,520 SF, 1.16 AC

FUTURE ZAXBY'S LOT BY OTHERS
AREA = 44,335 SF, 1.02 AC
MAX. IMPERVIOUS = 30,000 S.F.

STORM STRUCTURE TABLE			
#	STRUCTURE TYPE	RIM ELEV.	INV. ELEV.
1	FDOT TYPE "C" INLET	78.0	75.11(S.)
2	FDOT TYPE "C" INLET	78.0	74.61(N.) 75.0(E.) 74.61(S.)
3	FDOT TYPE "C" INLET	78.0	74.41(N.) 74.41(S.)
4	FDOT TYPE "C" INLET	78.0	74.41(N.) 74.41(S.) 74.75(E.)
5	FDOT TYPE "C" INLET	78.0	74.21(N.) 74.21(E.)
6	FDOT TYPE "C" INLET	78.0	74.0(E.) 74.0(W.)
7	FDOT TYPE "C" INLET	78.0	75.0(S.) 75.0(W.)
8	FDOT TYPE "C" INLET	78.0	74.75(W.)
9	FDOT TYPE "C" INLET	78.0	74.70(N.) 74.70(S.) 74.75(E.)
10	FDOT TYPE "C" INLET	78.0	74.50(N.) 74.50(E.) 74.75(W.)
11	FDOT TYPE "C" INLET	78.0	74.20(W.) 74.20(S.)
12	FDOT TYPE "C" INLET	78.0	73.80(N.) 73.80(E.) 73.80(W.)
13	FDOT TYPE "C" INLET	78.0	73.63(E.) 73.63(W.)
14	NEW MITERED END	–	73.50(W.)

STORM DRAIN TABLE				
PIPE	LENGTH	DIAMETER	TYPE	SLOPE
1-2	173'	15"	A–2000	0.29%
2-3	69'	18"	A–2000	0.29%
3-4	209'	18"	A–2000	0.00%
4-5	85'	24"	A–2000	0.23%
4-10	170'	15"	A–2000	0.00%
5-6	110'	30"	A–2000	0.19%
6-12	120'	30"	A–2000	0.17%
7-9	128'	15"	A–2000	0.23%
7-2	190'	12"	A-2000	0.00%
8-9	150'	15"	A–2000	0.00%
9-10	145'	18"	A–2000	0.14%
10-11	122'	24"	A–2000	0.25%
11-12	128'	24"	A–2000	0.31%
12-13	92'	30"	A–2000	0.16%
13-14	40'	30"	A–2000	0.32%

NORTH
SCALE: 1"=30'
30 0 15 30 60

LEGEND

- PROPERTY LINE
- PROPOSED BUILDING
- PROPOSED ASPHALT
- PROPOSED CONC.
- EXIST. SAN. SEWER
- NEW SAN. SEWER (GRAVITY)
- NEW SAN. SEWER (F.M.)
- EXIST. WATER SERVICE
- NEW WATER SERVICE
- EXIST. STORM SERVICE
- NEW STORM SERVICE
- RIDGE LINE
- SWALE
- EXIST. CONTOUR LINE (65)
- NEW CONTOUR LINE 65
- BASIN AREA
- NEW INLET
- NEW MITERED END
- FLOW ARROW
- EX. ELEV. +XXX
- NEW ELEV. +XXX
- GEOTECH BORE HOLES B-1 GW: 4.0

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GRADING & DRAINAGE PLAN

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.
C4.1

Advanced Drainage Systems, Inc.

SiteAssist®
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%, THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL 0.1" (3 mm)DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

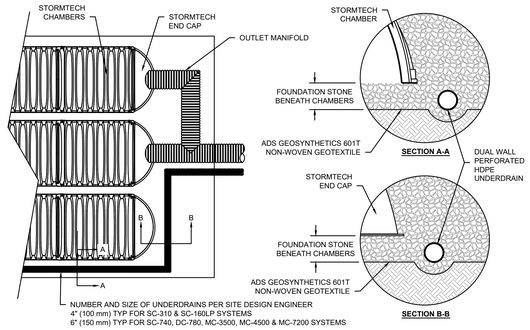
1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

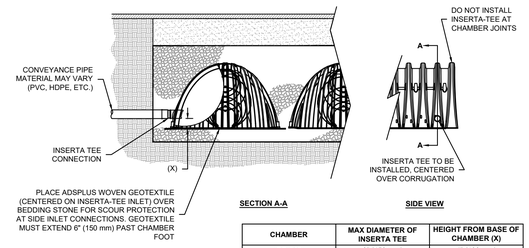
1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



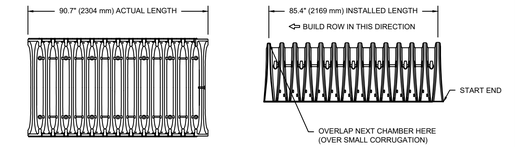
5 UNDERDRAIN DETAIL



NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

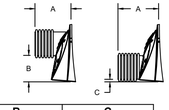
6 INSERTA-TEE SIDE INLET DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

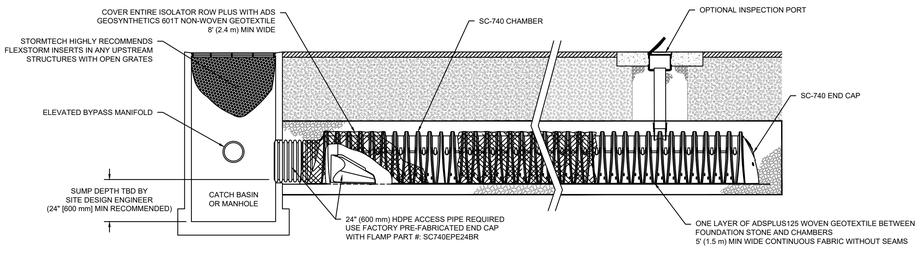
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)
SC740EPE24BR*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B/SC740EPE24BR ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

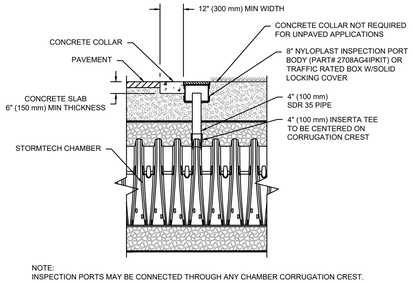
* FOR THE SC740EPE24B/SC740EPE24BR THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-740 TECHNICAL SPECIFICATIONS



3 SC-740 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

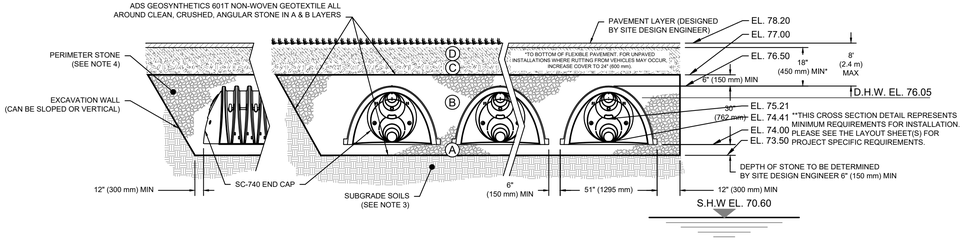
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-740 CROSS SECTION DETAIL

DRAWN: | DATE:
REVIEWED: | PROJECT NO:
REV:

SC-740
STANDARD DETAILS

StormTech® Chamber System
888-892-2694 | www.stormtech.com

4640 TRUEMAN BLVD
HILLIARD, OH 43026

SHEET

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET S OR EXCEED S THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

Northside Engineering, Inc.
300 South Belcher Road, Clearwater, Florida 33765
Tel: 727-443-2869 Fax: 727-446-8036
tech@northsideengineering.net
Est. 1989
Civil · Land Planning · Traffic Studies · Landscape
Due Diligence Reports · Land Use · Re-Zoning
Stormwater Management · Utility Design
Construction Administration

Donald B. Fairbairn, P.E. #44971 | Registry # 31306

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PROJECT #	2332
ISSUE DATE:	09/09/24

REVISIONS:

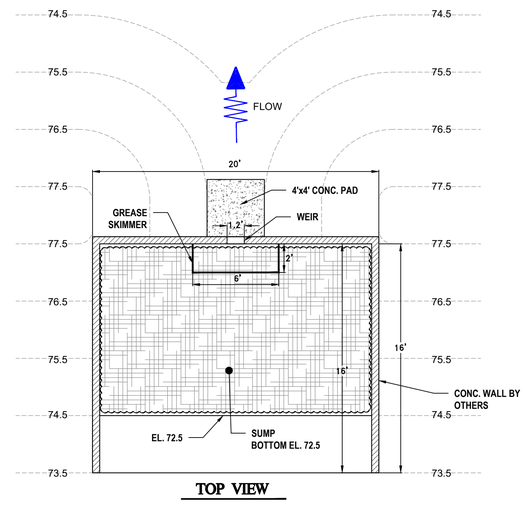
No.	Date	Description
1	11/06/24	1st Submittal

DRAWN BY : KB

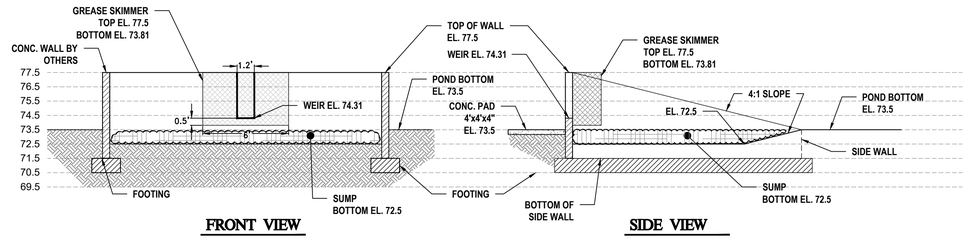
STORMTECH DETAILS

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.
C4.2



TOP VIEW



FRONT VIEW

SIDE VIEW

CONTROL STRUCTURE AND SUMP

SCALE: 1"=5'

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	/ /	
	/ /	
	/ /	
	/ /	

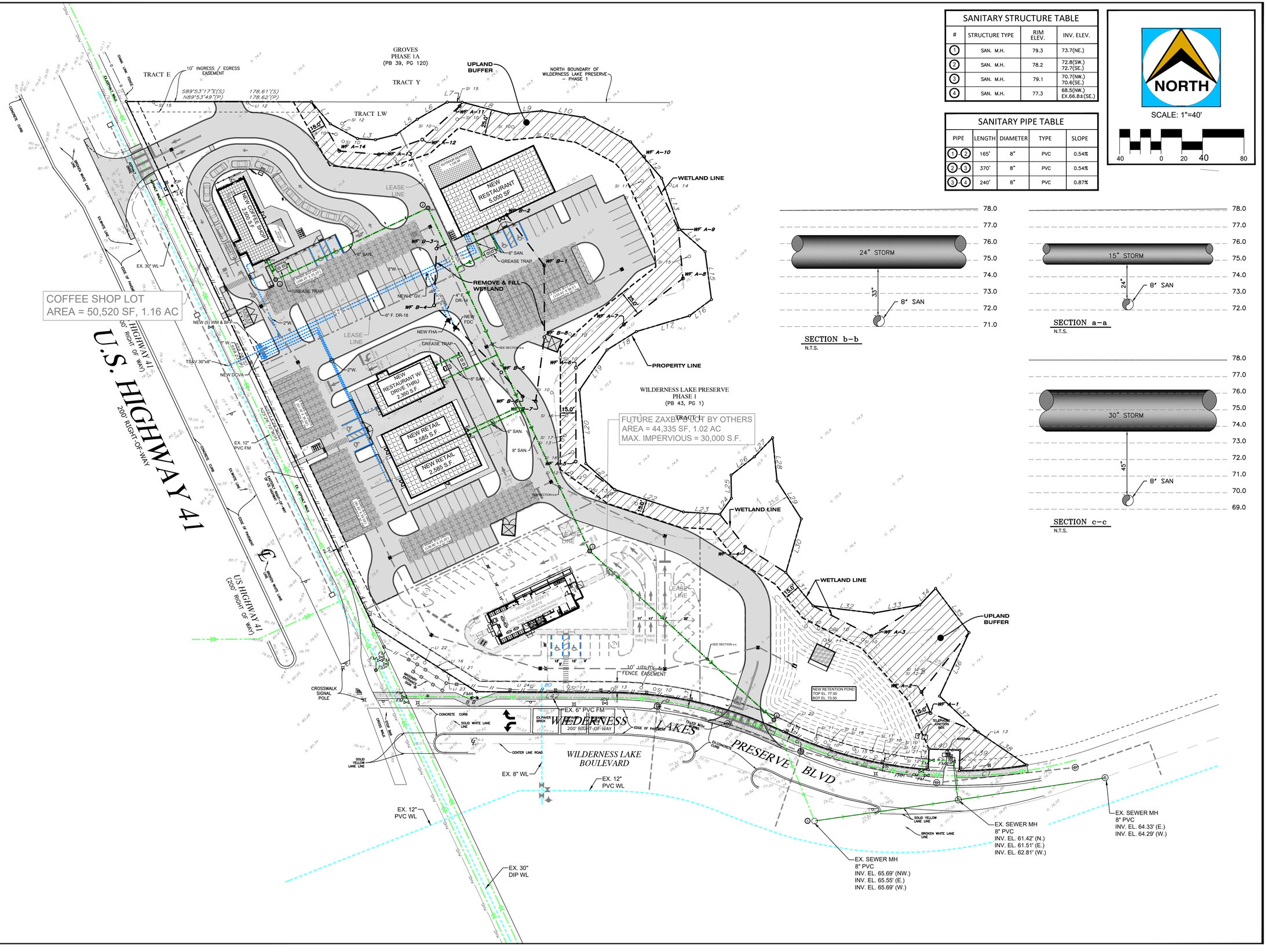
DRAWN BY : KB

DRAINAGE DETAILS

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside Engineering, Inc.

C4.3



SANITARY STRUCTURE TABLE

#	STRUCTURE TYPE	RIM ELEV.	INV. ELEV.
1	SAN. M.H.	79.3	73.7(NE.)
2	SAN. M.H.	78.2	72.8(SW.) 72.7(SE.)
3	SAN. M.H.	79.1	70.7(NW.) 70.6(SE.)
4	SAN. M.H.	77.3	68.5(NW.) EX.66.8±(SE.)

SANITARY PIPE TABLE

PIPE	LENGTH	DIAMETER	TYPE	SLOPE
1-2	165'	8"	PVC	0.54%
2-3	370'	8"	PVC	0.54%
3-4	240'	8"	PVC	0.87%

NORTH

SCALE: 1"=40'

40 0 20 40 80

SECTION b-b
N.T.S.

SECTION a-a
N.T.S.

SECTION c-c
N.T.S.

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	/ /	
	/ /	

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UTILITY PLAN

WILDERNESS LAKES
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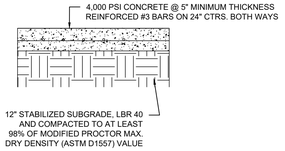
LAND O LAKES, FL 34637

Northside Engineering, Inc.
C5.1

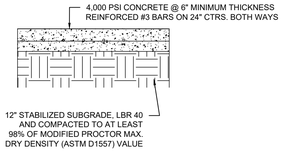


NOTES

1. THE SURFACE OF THE SUBGRADE SOILS MUST BE SMOOTH, AND ANY DISTURBANCES OR WHEEL RUTTING CORRECTED PRIOR TO PLACEMENT OF CONCRETE.
2. THE SUBGRADE SOILS MUST BE MOISTENED PRIOR TO PLACEMENT OF CONCRETE.
3. CONCRETE PAVEMENT THICKNESS SHOULD BE UNIFORM THROUGHOUT, WITH EXCEPTION TO THE THICKENED EDGES (CURB OR FOOTING).
4. THE BOTTOM OF THE PAVEMENT SHOULD BE SEPARATED FROM THE ESTIMATED SHWT LEVEL BY AT LEAST 18 TO 24 INCHES.
5. MAXIMUM CONTROL JOINT SPACING SHALL BE 10'x10'.

CONCRETE PAVING DETAIL (LIGHT DUTY)

N.T.S.



NOTES

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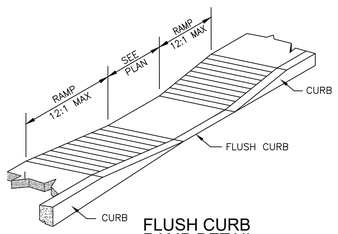
3. CONCRETE PAVEMENT THICKNESS SHOULD BE UNIFORM THROUGHOUT, WITH EXCEPTION TO THE THICKENED EDGES (CURB OR FOOTING).
4. THE BOTTOM OF THE PAVEMENT SHOULD BE SEPARATED FROM THE ESTIMATED SHWT LEVEL BY AT LEAST 18 TO 24 INCHES.
5. MAXIMUM CONTROL JOINT SPACING SHALL BE 14'x14'.

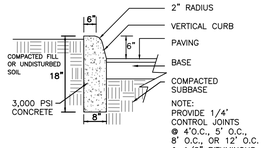
CONCRETE PAVING DETAIL (HEAVY DUTY)

N.T.S.



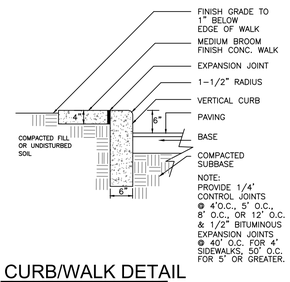
FLUSH CURB RAMP DETAIL

N.T.S.



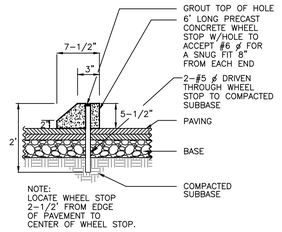
TYPE "D" CURB

N.T.S.



CURB/WALK DETAIL

N.T.S.



WHEEL STOP DETAIL

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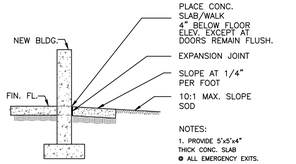
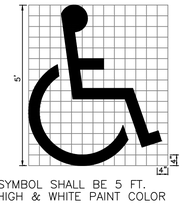


PLACEMENT OF CONCRETE SLAB AT ALL BUILDINGS

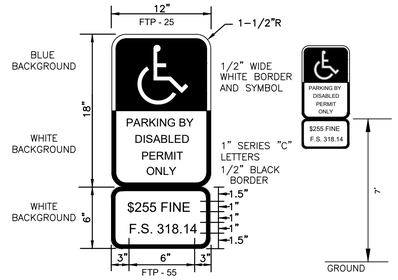
N.T.S.



SYMBOL SHALL BE 5 FT.
HIGH & WHITE PAINT COLOR

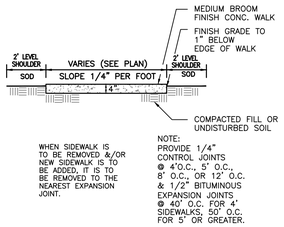
HANDICAPPED PAVEMENT SYMBOL

N.T.S.



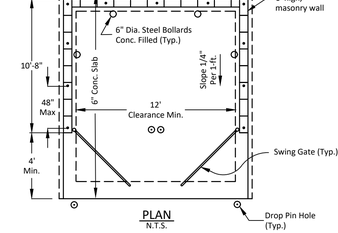
HANDICAP PARKING SIGN DETAIL

N.T.S.



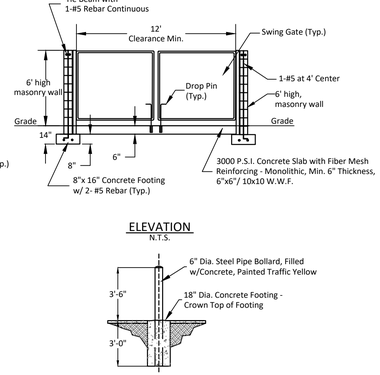
CONCRETE WALK DETAIL

N.T.S.



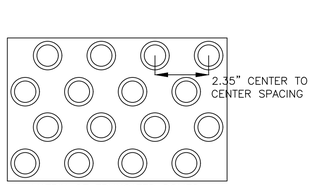
TYPICAL DUMPSTER ENCLOSURE

N.T.S.



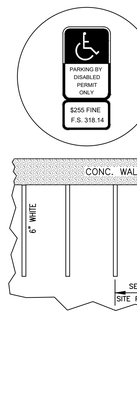
BOLLARD DETAIL

N.T.S.



BOMANITE DETECTABLE WARNING PAVEMENT

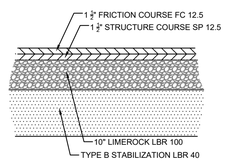
N.T.S.



EACH PARKING SPACE SHALL BE CONSPICUOUSLY STRIPED IN BLUE AND WHITE PAINT, AND SHALL BE POSTED AND MAINTAINED WITH A PERMANENT, ABOVE-GRADE SIGN BEARING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND THE CAPTION "PARKING BY DISABLED PERMIT ONLY". SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE. ALL HANDICAPPED PARKING SPACES MUST BE SIGNED & MARKED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE DEPARTMENT OF TRANSPORTATION AND A.D.A.

HANDICAP PARKING STRIPING DETAIL

N.T.S.

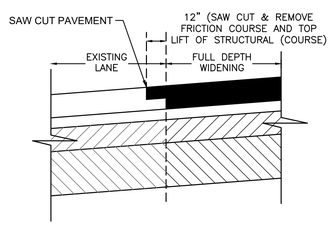


STRUCTURE NUMBER CALCULATION

FRICTION COURSE FC 12.5 1.5" @ 0.44 = 0.66
STRUCTURE COURSE SP 12.5 1.5" @ 0.44 = 0.66
OPTION BASE GROUP 9 (10" LIMEROCK LBR 100) @ 0.18 = 1.80
12" SUBBASE TYPE "B" STABILIZATION (LBR 40) @ 0.08 = 0.96
TOTAL SN = 4.08

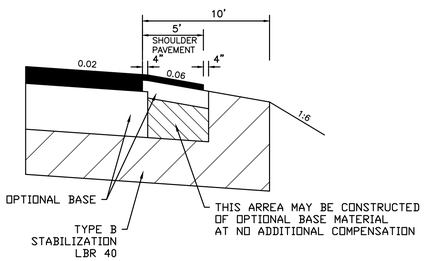
PAVEMENT DESIGN DETAIL

N.T.S.



SAW CUT DETAIL

N.T.S.



SHOULAER PAVEMENT DETAIL

N.T.S.

Northside Engineering, Inc.
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tech@northsideengineering.net
Est. 1989
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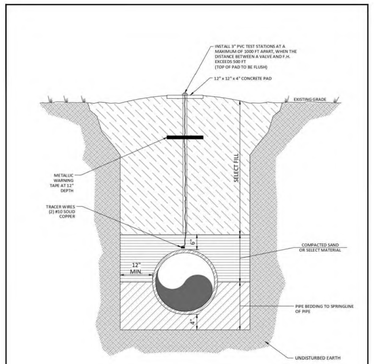
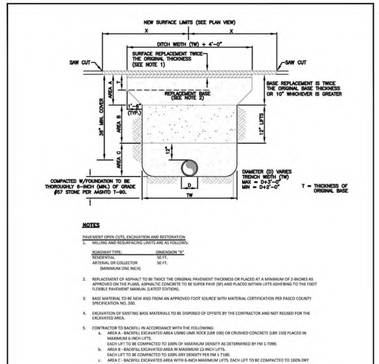
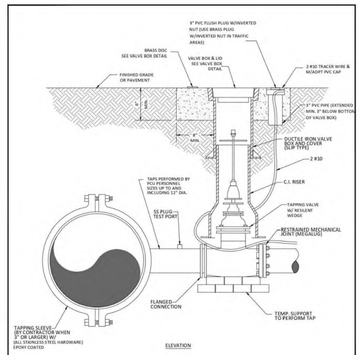
CIVIL DETAILS

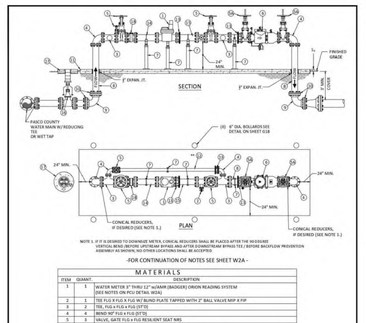
WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

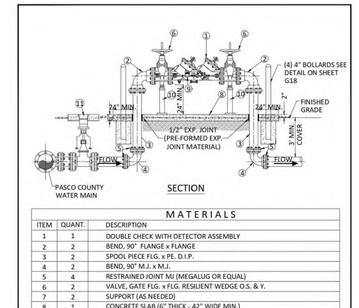
Northside Engineering, Inc.
C6.1

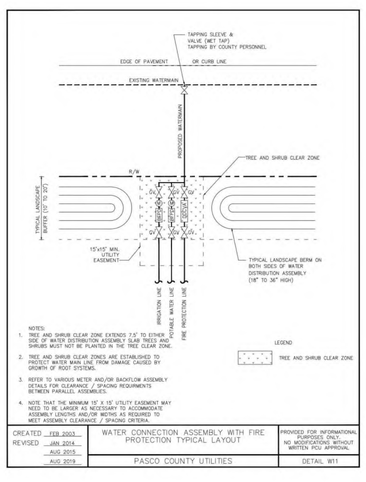












CREATED JUNE 2017
REVISED MAY 2021

PIPE LAYING CONDITIONS
UNPAVED AREAS

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL G2

NOTES

PAVEMENT OPEN CUTS, EXCAVATION AND RESTORATION

1. MILLING AND RESURFACING LIMITS ARE AS FOLLOWS:

ROADWAY TYPE:	DIMENSION "X"
RESIDENTIAL	50 FT.
ARTERIAL OR COLLECTOR (MINIMUM ONE INCH)	50 FT.

2. REPLACEMENT OF ASPHALT TO BE TWICE THE ORIGINAL PAVEMENT THICKNESS OR PLACED AT A MINIMUM OF 2-INCHES AS APPROVED ON THE PLANS. ASPHALTIC CONCRETE TO BE SUPER PAVE (SP) AND PLACED WITHIN LIFTS ADHERING TO THE FDOT FLEXIBLE PAVEMENT MANUAL (LATEST EDITION).
3. BASE MATERIAL TO BE NEW AND FROM AN APPROVED FDOT SOURCE WITH MATERIAL CERTIFICATION PER PASCO COUNTY SPECIFICATION NO. 200.
4. EXCAVATION OF EXISTING BASE MATERIALS TO BE DISPOSED OF OFFSITE BY THE CONTRACTOR AND NOT REUSED FOR THE EXCAVATED AREA.
5. CONTRACTOR TO BACKFILL IN ACCORDANCE WITH THE FOLLOWING:
   a. AREA A - BACKFILL EXCAVATED AREA USING LIME ROCK (LBR 100) OR CRUSHED CONCRETE (LBR 150) PLACED IN MAXIMUM 6-INCH LIFTS.
      EACH LIFT TO BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY FM 1-T099.
   b. AREA B - BACKFILL EXCAVATED AREA IN MAXIMUM 12-INCH LIFTS.
      EACH LIFT TO BE COMPACTED TO 100% DRY DENSITY PER FM 1-T180.
   c. AREA C - BACKFILL EXCAVATED AREA WITH 6-INCH MAXIMUM LIFTS. EACH LIFT TO BE COMPACTED TO 100% DRY DENSITY PER FM 1-T180.
6. IN LIEU OF COMPACTED BASE MATERIAL THE CONTRACTOR CAN UTILIZE LEVEL C ASPHALTIC CONCRETE (SP 12.5) PLACED AT 2-INCH MAXIMUM LIFTS. SP12.5 ASPHALTIC CONCRETE TO MATCH THE THICKNESS OF THE EXISTING BASE AND MUST NOT BE PLACED BELOW SPRING LINE OF THE PIPE.
7. TESTING AND COMPACTION RATES MUST BE SUBMITTED TO PASCO COUNTY ENGINEERING INSPECTION VERIFYING OPEN CUT RESTORATION IS IN ACCORDANCE WITH FDOT AND COUNTY SPECIFICATIONS.

NOTE:
NO DEVIATIONS TO THIS DETAIL WILL BE PERMITTED UNLESS APPROVED BY THE COUNTY ENGINEER.
ANY PROPOSED ALTERATIONS SHALL BE CLEARLY IDENTIFIED AND HIGHLIGHTED ON DETAIL.

CREATED APR 2021
REVISED MAY 2021

PIPE LAYING CONDITIONS
EXISTING PAVED AREAS

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL G3

NOTES:
- SADDLE TO BE INSTALLED 2'-0" MIN. FROM ANY BELL OR FITTING.
- MECHANICAL JOINTS/UNDERGROUND PIPING SHALL BE RESTRAINED AS SPECIFIED BY COUNTY/ENGINEER.
- VALVE EXTENSION ROD SHALL BE UTILIZED, AS NECESSARY, SO THAT VALVE OPERATING NUT IS A MAXIMUM OF 3' BELOW GRADE.
- AFTER SETTING OF SLEEVE, CONTRACTOR TO NOTIFY PCU MAINTENANCE DEPT. FOR WET TAP.
- PRESSURE TEST 150 PSI FOR A MIN. OF 1/2 HOUR AFTER INSTALLATION
- BACK FILL PER REQUIREMENTS OF DETAIL G-3

W, RW, FM

CREATED AUG 2019
REVISED MAY 2021

TAPPING VALVE AND SLEEVE

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL G6

SEE NOTES DETAIL G-11

LARGE END	4"	6"	8"	12"	16"	18"	20"	24"	30"
6"	31(44)								
8"	55(79)	32(46)							
12"	94(134)	79(113)	57(82)						
16"		117(166)	101(144)	59(84)					
18"			120(171)	83(118)	31(44)				
20"				104(149)	58(83)	31(44)	58(83)		
24"				143(204)	106(151)	83(119)	58(83)		
30"					163(232)	145(207)	126(180)	81(115)	
36"							181(258)	145(207)	80(114)
48"							266(381)	241(345)	196(280)

REDUCER RESTRAINED JOINTS (150 PSI)
MINIMUM LINEAR FEET OF BRANCH PIPE TO BE RESTRAINED FROM JOINT TEE

TEE

	BRANCH										
RUN	4"	6"	8"	12"	16"	18"	20"	24"	30"	36"	48"
4"	21(29)										
6"	10(15)	38(54)									
8"	0(0)	30(43)	55(78)								
12"	0(0)	15(21)	43(62)	86(123)							
16"		0(0)	30(43)	78(111)	116(185)						
18"		0(0)	24(34)	73(104)	112(161)	130(186)					
20"		0(0)	16(23)	68(98)	109(156)	127(181)	143(205)				
24"		0(0)	1(2)	58(83)	102(145)	120(172)	128(197)	170(243)			
30"		0(0)	0(0)	42(61)	90(128)	110(157)	129(184)	163(233)	207(296)		
36"			0(0)	25(35)	77(110)	99(141)	118(169)	155(221)	201(287)	241(344)	
48"				0(0)	48(68)	73(104)	96(136)	136(194)	186(266)	229(328)	300(429)

TEE RESTRAINED JOINTS (150 PSI)
MINIMUM LINEAR FEET OF BRANCH PIPE TO BE RESTRAINED FROM JOINT TEE

PIPE SIZE	4"	6"	8"	12"	16"	18"	20"	24"	30"	36"	48"
CAPPED ENDS	–	–	–	–	–	–	–	–	–	–	–
90° BENDS	42(60)	59(85)	77(110)	108(155)	138(198)	153(218)	166(238)	194(277)	231(330)	265(379)	325(465)
45° BENDS	17(25)	25(35)	32(45)	45(64)	57(82)	63(90)	69(987)	80(115)	96(137)	110(157)	135(192)
22 1/2° BENDS	8(12)	12(17)	15(22)	22(31)	28(39)	30(43)	33(47)	39(55)	46(66)	53(75)	65(92)
11 1/4° BENDS	4(6)	6(8)	8(11)	11(15)	14(19)	15(21)	16(23)	19(27)	23(32)	26(37)	32(46)
VALVE	–	–	–	–	–	–	–	–	–	–	–

DUCTILE IRON RESTRAINED JOINTS
FOR VERTICALLY ORIENTED FITTINGS (150 PSI)
MINIMUM LINEAR FEET OF PIPE TO BE RESTRAINED JOINTS TEE AT BENDS VALVE OR END CAPS

PIPE SIZE	4"	6"	8"	12"	16"	18"	20"	24"	30"	36"	48"
CAPPED ENDS	42(60)	59(85)	77(110)	108(155)	138(198)	153(218)	166(238)	194(277)	231(330)	265(379)	325(465)
90° BENDS	20(24)	29(33)	37(43)	51(60)	65(76)	72(83)	78(90)	89(104)	104(122)	120(138)	144(167)
45° BENDS	8(10)	12(14)	15(18)	21(25)	27(31)	30(35)	32(37)	37(43)	44(52)	50(57)	60(69)
22 1/2° BENDS	4(5)	6(7)	7(9)	10(12)	13(15)	15(17)	16(18)	18(21)	21(24)	24(28)	29(33)
11 1/4° BENDS	2(2)	3(3)	4(4)	5(6)	7(8)	8(9)	8(9)	9(11)	11(12)	12(14)	14(16)
VALVE	35(50)	49(71)	64(92)	90(130)	115(165)	128(182)	139(198)	160(230)	193(275)	220(320)	325(465)

DUCTILE IRON RESTRAINED JOINTS
FOR HORIZONTAL FITTINGS (150 PSI)
MINIMUM LINEAR FEET OF PIPE TO BE RESTRAINED JOINTS TEE AT BENDS VALVE OR END CAPS

* NUMBER IN PARENTHESIS REPRESENTS LINEAL FEET OF RESTRAINT FOR POLY WRAP AND FOR PVC PIPE

CREATED JULY 2015
REVISED NOV. 2015
MAY 2016
JUNE 2017

RESTRAINED JOINT TABLES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL G10

RESTRAINED JOINT NOTES

1. THE PROGRAM, "THRUST RESTRAINT" DISTRIBUTED BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) WAS USED TO CALCULATE THE LENGTH OF RESTRAINED JOINTS BASED ON TYPE 3 STANDARD ANSI/AWWA C150/A21.50 LAYING CONDITIONS FOR DUCTILE IRON PIPE. SANDY/ SILTY SOIL 3.0 FT MIN. COVERAGE AND 150PSI OPERATING PRESSURE APPROPRIATE ADJUSTMENTS MUST BE MADE FOR DEVIATIONS FROM THESE ASSUMPTIONS.
2. SELECTED COMMON FILL FROM ORIGINAL EXCAVATION, SEE SPECIFICATIONS.
3. USE OF ALTERNATIVE TYPES OF PIPE BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE ENGINEER.
4. FOR COMBINED BENDS FORMING OFFSETS, THE LENGTHS QUOTED SHALL BE DOUBLED AND PROVIDED EACH SIDE OF THE CENTROID OF THE OFFSET.
5. VALVES LOCATED NEAR BENDS OR TEES SHALL TAKE ACCOUNT OF ADDITIONAL PASSIVE SOIL RESISTANCE.
6. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION, DEWATER AS NECESSARY.
7. EXISTING CONCRETE / ASPHALT SURFACES AND BASE SHALL BE CUT SQUARE WITH CONCRETE SAW.
8. ALL FITTINGS AND VALVES SHALL BE MECHANICALLY RESTRAINED. IN ADDITION TO THE FITTING BEING RESTRAINED, THE MINIMUM LINEAR FEET TO BE RESTRAINED ON BOTH SIDES OF THE FITTING SHALL BE AS SHOWN IN THE TABLE UNLESS OTHERWISE NOTED. THE RESTRAINED JOINT LENGTH FOR DUCTILE IRON PIPE ARE AS SHOWN. APPROPRIATE ADJUSTMENTS MUST BE MADE FOR PIPE MATERIALS OTHER THAN DUCTILE IRON.
9. IF THE PIPE IS DEFLECTED, THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE 75% OF THE MANUFACTURERS RECOMMENDED DEFLECTION, FOR THE JOINT TYPE USED.
10. RESTRAINED JOINTS IN CARRIER PIPES (JACK AND BORE) SHALL NOT BE INCLUDED IN RESTRAINED LENGTHS.

* NUMBERS IN PARENTHESES REPRESENT LINEAL FEET OF RESTRAINT FOR POLY WRAPPED DIP AND FOR PVC PIPE.

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RESTRAINED JOINT NOTES

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PASCO COUNTY UTILITIES
DETAIL G11

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH RULE 2-555.314, F.A.C.

The following table summarizes the required separation distances from public water mains to other pipes as provided in rule 62-62-555.314, F.A.C.

Separation Requirements for Public Water System Mains:

Other Pipe	Horizontal Separation (X)	Crossings Vertical Separation (Y)	Joint Spacing (Z) @ Crossings (Full Joint Centered)
• **Storm Sewers** • **Stormwater Force Mains** • **Reclaimed Water Pipelines regulated under Part III of Chapter 62-610, F.A.C.**	3ft. minimum	For water main installed above other pipe (preferred), 12 inches is the minimum except for storm sewer, then 6 inches is the minimum and 12 inches is preferred 12 inches minimum if water main is below other pipe	Alternate 3 ft. minimum
• **Vacuum Sanitary Sewer**	10 ft. preferred 3 ft. minimum	For water main installed above other pipe, 12 inches preferred and 6 inches minimum 12 inches minimum if water main below other pipe	Alternate 3 ft. minimum
• **Gravity or Pressure Sanitary Sewer** • **Sanitary sewer Force Main** • **Reclaimed Water Pipelines not regulated under Part III of Chapter 62-610, F.A.C.**	10 ft. preferred 6 ft. minimum (note – 3 ft. minimum for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer)	For water main installed above other pipe (preferred), 12 inches is the minimum except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred 12 inches minimum if water main is below other pipe	Alternate 6 ft. minimum
• **On-Site Sewage Treatment & Disposal System**	10 ft. minimum	NA	NA

Disclaimer – This document is provided for your convenience only. Please refer to Rule 62-555.314, F.A.C., for exceptions and additional construction requirements.

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LOCATION OF PUBLIC WATER SYSTEM MAINS
IN A ACCORDANCE TO 66–555.314.F.A.C.

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL G19

NOTE 1. IF IT IS DESIRED TO DOWNSIZE METER, CONICAL REDUCERS SHALL BE PLACED AFTER THE 90 DEGREE VERTICAL BEND /BEFORE UPSTREAM BYPASS AND AFTER DOWNSTREAM BYPASS TEE / BEFORE BACKFLOW PREVENTION ASSEMBLY AS SHOWN; NO OTHER LOCATIONS SHALL BE ACCEPTED.

-FOR CONTINUATION OF NOTES SEE SHEET W2A -

MATERIALS

ITEM	QUANT.	DESCRIPTION
1	1	WATER METER 3" THRU 12" w/AMR (BADGER) ORION READING SYSTEM (SEE NOTES ON PCU DETAIL W2A)
2	1	TEE FLG X FLG X FLG W/ BLIND PLATE TAPPED WITH 2" BALL VALVE MIP X FIP
3	2	TEE, FLG x FLG x FLG (ST'D)
4	4	BEND 90° FLG x FLG (ST'D)
5	3	VALVE, GATE FLG x FLG RESILIENT SEAT NRS
5A	2	VALVE, GATE FLG x FLG RESILIENT SEAT 0, S & Y
6	1	BACK FLOW PREVENTER (BFP) - R.P. PRINCIPLE
7	3	ADJ. PIPE SUPPORTS - ANVIL FIG. 265 W/ 63T STANCHION & BASE PLATE
8	2	SPOOL PIECE FLG x PE D.I.P.
9	2	BEND 90° MJ x MJ
10	4	RESTRAINED JOINT MJ (MEGALUG OR EQUAL)
11	1	CONCRETE SLAB 6" THICK W/ 6"x6" 10/10 W.W.F. OR FIBERMESH REINFORCING
** 12	1	BY-PASS PIPE D.I.P. FLG x PE
13	2	FLANGE ADAPTER (EBAA SERIES 2100 MEGAFLANGE, DRESSER 128, O/E)
14	1	SPOOL PIECE FLG x FLG - LENGTH TO BE > 5 PIPE DIAMETERS W/ STRAINER
15	1	SPOOL PIECE FLG x PE - LENGTH TO BE > 3 PIPE DIAMETERS
16	1	BELOW GRADE ISOLATION GATE VALVE W/ VAULT BOX, SLIP TYPE
17	1	VALVE BOX, SLIP TYPE AS PER PCU STANDARD DETAIL G-5
18	1	DUAL-FLANGE PLATE STRAINER

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LARGE METER 3" AND ABOVE
WITH SINGLE BACKFLOW PREVENTER

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL W2

NOTES CONTINUED FROM W-2

1. IF IT IS DESIRED TO DOWNSIZE METER, CONICAL REDUCERS SHALL BE PLACED AFTER THE 90 DEGREE VERTICAL BEND /BEFORE UPSTREAM BYPASS AND AFTER DOWNSTREAM BYPASS TEE / BEFORE BACKFLOW PREVENTION ASSEMBLY AS SHOWN; NO OTHER LOCATIONS SHALL BE ACCEPTED.
2. METER & BFP ASSEMBLY TO BE INSTALLED LEVEL & PLUMB.

**3. METER BY-PASS TO BE SIZED NO LESS THAN 1/2 METER SIZE, 3" MIN.

4. ENTIRE ASSEMBLY TO BE PAINTED SAFETY BLUE.
5. BFP TO BE SIZED EQUAL TO OR GREATER THAN METER SIZE.
6. MECHANICAL JOINTS SHALL BE RESTRAINED AS SPECIFIED BY COUNTY/ENGINEER.
7. BELL JOINT RESTRAINERS SHALL BE PROVIDED ON ALL UNDERGROUND PIPING.
8. ALL ABOVE GROUND PIPING SHALL BE FLANGED DUCTILE IRON PIPE CEMENT LINED (NO GALVANIZED OR PVC)
9. PASCO COUNTY MAY REQUIRE THE ENTIRE ASSEMBLY TO BE ENCLOSED IN 6' BLACK VINYL CHAIN LINK FENCE.
10. BFP MUST BE LISTED WITH THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH (USC APPROVED).
11. ABOVE GROUND INLET AND DISCHARGE PIPING SHALL BE SIZED IDENTICAL TO METER INLET SIZE.
12. ALL METERING EQUIPMENT SHALL BE FULLY COMPATIBLE WITH THE CURRENT PCU AUTOMATIC METER READING (AMR) SYSTEM.
13. IF METER IS PROVIDING FIRE PROTECTION AS WELL AS DOMESTIC WATER USE BY PASS MUST BE A MIN. 6" DIA D.I. PIPE FLG X PE.
14. IF METER IS FOR DOMESTIC USE ONLY (I.E. THERE IS A SEPARATE STAND-ALONE FIRE CONNECTION) A BADGER E-SERIES ULTRASONIC METER WITH NICOR LEADS AND ORION AMR ME TRANSMITTER OR APPROVED EQUAL.
15. IF METER IS USED FOR BOTH DOMESTIC AND FIRE PROTECTION USE, A FIRE SERVICE METER WITH LOW-FLOW TURBINE BYPASS METER SHALL BE USED.
16. NO TIE RODS OR EYE BOLT RETAINERS PERMITTED ABOVE GROUND.
17. IF OTHER ASSEMBLIES ARE PROPOSED TO BE PLACED PARALLEL TO METER FOR BACKFLOW ASSEMBLY (I.E. FIRE SERVICES, IRRIGATION METERS, ETC.) THERE SHALL BE A MINIMUM OF 36IN OF SEPARATION BETWEEN ASSEMBLIES AS MEASURED FROM OUTSIDE TO OUTSIDE.
18. CONTRACTOR SHALL TEST AND CERTIFY BACKFLOW PREVENTION DEVICE.
19. FOR METERS UP TO 6 INCHES, USE BADGER PLATE STRAINER MODEL STR-PS-00058 OR EQUAL; FOR METERS GREATER THAN 6 INCHES, USE BADGER PLATE STRAINER ML-MS, MODEL NUMBER STR-PS-OOO55.

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LARGE METER 3" AND ABOVE
WITH SINGLE BACKFLOW PREVENTER
NOTES CONTINUED

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL W2A

605.24 JOINTS BETWEEN DIFFERENT MATERIALS

JOINTS BETWEEN DIFFERENT MATERIAL SHALL BE MADE WITH A MECHANICAL JOINT OF COMPRESSION OR MECHANICAL–SEALING TYPE. OR AS PERMITTED IN SECTION 605.24.1, 605.24.2 AND 605.24.3. CONNECTORS OR ADAPTERS SHALL HAVE AN ELASTOMERIC SEAL CONFORMING TO ASTM F477.
JOINTS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.

605.24.1 COPPER OR COPPER–ALLOY TUBING TO GALVANIZED STEEL PIPE.

JOINTS BETWEEN COPPER OR COPPER–ALLOY TUBING AND GALVANIZED STEEL PIPE SHALL BE MADE WITH A BRASS FITTING OR DIELECTRIC UNION CONFORMING TO ASSE 1079. THE COPPER TUBING SHALL BE SOLDERED TO THE FITTING IN AN APPROVED MANNER, AND THE FITTING SHALL BE SCREWED TO THE THREADED PIPE

605.24.2 PLASTIC PIPE OR TUBING TO OTHER PIPING MATERIALS

JOINTS BETWEEN DIFFERENT TYPES OF PLASTIC PIPE AND OTHER PIPING MATERIALS SHALL BE MADE WITH APPROVED ADAPTERS OR TRANSITION FITTINGS

605.24.3 STAINLESS STEEL

JOINTS BETWEEN STAINLESS STEEL AND DIFFERENT PIPING MATERIALS SHALL BE MADE WITH A MECHANICAL SEALING TYPE OR A DIELECTRIC FITTING OR DIELECTRIC UNION CONFORMING TO ASSE 1079

607.3 THERMAL EXPANSION CONTROL

WHERE A STORAGE WATER HEATER IS SUPPLIED WITH COLD WATER PASSING THROUGH A CHECK VALVE. PRESSURE REDUCING VALVE OR BACKFLOW PREVENTER, A THERMAL EXPANSION CONTROL DEVICE SHALL BE CONNECTED TO THE WATER HEATER COLD WATER SUPPLY AT A POINT THAT IS DOWNSTREAM OF ALL CHECK VALVES, PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER. THERMAL EXPANSION CONTROL DEVICES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SIZED SUCH THAT THE PRESSURE IN THE DISTRIBUTION SYSTEM SHALL NOT EXCEED THAT REQUIRED BY SECTION 604.8

305.7 PROTECTION OF COMPONENTS OF PLUMBING SYSTEM

COMPONENTS OF A PLUMBING SYSTEM INSTALLED ALONG ALLEYWAYS, DRIVEWAYS, PARKING GARAGES OR OTHER LOCATIONS EXPOSED TO DAMAGE SHALL BE RECESSED INTO THE WALL OR OTHERWISE PROTECTED IN AN APPROVED MANNER.

608.14 LOCATION OF BACKFLOW PREVENTER

ACCESS SHALL BE PROVIDED TO BACKFLOW PREVENTER AS SPECIFIED BY THE MANUFACTURERS SPECIFICATIONS

605.2.1 LEAD CONTENT OF DRINKING WATER PIPE AND FITTINGS.

PIPE, PIPE FITTINGS, JOINTS, VALVES, FAUCETS AND FIXTURE FITTINGS UTILIZED TO SUPPLY WATER FOR DRINKING OR COOKING PURPOSES SHALL COMPLY WITH NSF 372 AND SHALL HAVE A WEIGHTED AVERAGE CONTENT OF 0.25% OR LESS

CREATED FEB 2003
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AUG 2015
AUG 2019

NOTES
(FLORIDA PLUMBING CODES)

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PASCO COUNTY UTILITIES
DETAIL W4

MATERIALS

ITEM	QUANT.	DESCRIPTION
1	1	DOUBLE CHECK WITH DETECTOR ASSEMBLY
2	2	BEND, 90° FLANGE x FLANGE
3	2	SPOOL PIECE FLG. x PE. D.I.P.
4	2	BEND, 90° M.J. x M.J.
5	4	RESTRAINED JOINT MJ (MEGALUG OR EQUAL)
6	2	VALVE, GATE FLG. x FLG. RESILIENT WEDGE O.S. & Y.
7	2	SUPPORT (AS NEEDED)
8	1	CONCRETE SLAB (6" THICK - 42" WIDE MIN.)
9	1	AMR (BADGER) ORION READING SYSTEM
10	2	ADJ. PIPE SUPPORTS - ANVIL FIG. 265 W/ 63T STANCHION & BASE PLATE
11	1	ISOLATION VALVE AND VALVE BOX, SLIP TYPE AS PER PCU STANDARD DETAIL G-5 LOCATED AT BRANCH NEAREST TO COUNTY WATER MAIN.

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DOUBLE CHECK WITH DETECTOR ASSEMBLY
FOR FIRE SERVICE LINES
(3", 4", 6", 8", 12")

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL W7

NOTES:
- NO TIE RODS OR EYE BOLT RETAINERS PERMITTED ABOVE GROUND.
- B.F.P. ASSEMBLY TO BE INSTALLED LEVEL & PLUMB.
- MINIMUM CLEARANCE OF 36" TO BE MAINTAINED AROUND ENTIRE DEVICE FOR TESTING
- ENTIRE ASSEMBLY TO BE PAINTED SAFETY RED.
- DETECTOR BY-PASS ASSEMBLY TO BE FACTORY INSTALLED AND CERTIFIED
- ALL MECHANICAL JOINTS SHALL BE RESTRAINED WITH MEGALUGS OR APPROVED EQUAL
- ALL ABOVE GROUND PIPING SHALL BE FLANGED DUCTILE IRON PIPE CEMENT LINED (NO GALVANIZED OR PVC)
- PASCO COUNTY SHALL HAVE THE OPTION OF REQUIRING THE ENTIRE ASSEMBLY TO BE ENCLOSED IN 6' CHAIN LINK FENCE.
- BFP DEVICE MUST BE LISTED WITH THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
- ALL METERING EQUIPMENT SHALL BE FULLY COMPATIBLE WITH PCU CURRENTLY EXISTING AUTOMATIC METER READING SYSTEM (AMR) ON WATER, REUSE AND SEWER METERS, AS APPLICABLE
- CONTRACTOR SHALL TEST AND CERTIFY BACKFLOW PREVENTION DEVICE.
- IF OTHER ASSEMBLIES ARE PROPOSED TO BE PLACED PARALLEL TO THIS BACKFLOW ASSEMBLY (I.E. METER ASSEMBLIES) THERE SHALL BE A MIN. OF 36" OF SEPARATION BETWEEN ASSEMBLIES, AS MEASURED FROM OUTSIDE TO OUTSIDE.

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DOUBLE CHECK WITH DETECTOR ASSEMBLY
FOR FIRE SERVICE LINES
(3", 4", 6", 8", 12") NOTES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL W7A

NOTES:
1. TREE AND SHRUB CLEAR ZONE EXTENDS 7.5' TO EITHER SIDE OF WATER DISTRIBUTION ASSEMBLY SLAB TREES AND SHRUBS MUST NOT BE PLANTED IN THE TREE CLEAR ZONE.
2. TREE AND SHRUB CLEAR ZONES ARE ESTABLISHED TO PROTECT WATER MAIN LINE FROM DAMAGE CAUSED BY GROWTH OF ROOT SYSTEMS.
3. REFER TO VARIOUS METER AND/OR BACKFLOW ASSEMBLY DETAILS FOR CLEARANCE / SPACING REQUIRMENTS BETWEEN PARALLEL ASSEMBLIES.
4. NOTE THAT THE MINIMUM 15' X 15' UTILITY EASEMENT MAY NEED TO BE LARGER AS NECESSARY TO ACCOMMODATE ASSEMBLY LENGTHS AND/OR WIDTHS AS REQUIRED TO MEET ASSEMBLY CLEARANCE / SPACING CRITERIA.

LEGEND

▨	TREE AND SHRUB CLEAR ZONE

CREATED FEB 2003
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AUG 2019

WATER CONNECTION ASSEMBLY WITH FIRE
PROTECTION TYPICAL LAYOUT

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PASCO COUNTY UTILITIES
DETAIL W11

PERPENDICULAR TO THE MAIN

MATERIALS

ITEM	QUANT.	DESCRIPTION
1	1	FIRE HYDRANT (5 1/4" VALVE MIN.), PAINTED YELLOW
2	•	RESERVED
3	1	VALVE BOX, SLIP TYPE
4	1	6" VALVE, GATE, M.J. RESILIENT WEDGE, N.R.S.
5	1	ANCHOR TEE, M.J.
6	•	6" RESTRAINED JOINT M.J. (MEGALUG OR EQUAL)
7	•	VALVE EXTENSION ROD, AS NECESSARY (3' MAX. BELOW GRADE)
8	•	6" 90° BEND, D.I., RESTRAINED

NOTES:
1. MINIMUM CLEARANCE OF 18" FROM C/L OF STEAMER NOZZLE TO FINAL GRADE, TO BE ADJUSTED BY CONTRACTOR.
2. ADD REFLECTIVE PAVEMENT MARKER (RPM, BLUE/BLUE) IN CENTER OF LANE IMMEDIATELY ADJACENT TO HYDRANT.
3. A 3–FT CLEAR ZONE SURROUNDING THE HYDRANT SHALL BE FREE OF ANY TREES, SHRUBS, AND DRIVEWAYS.
4. HYDRANT CAPS SHALL BE COLOR CODED BASED ON FLOW RATES:
   - BELOW 500 GPM: RED
   - 500–1,000 GPM: ORANGE
   - 1,000–1,500 GPM: GREEN
   - ABOVE–1,500 GPM: BLUE
5. THE FOLLOWING FIRE HYDRANTS ARE ACCEPTABLE – AMERICAN FLOW B–84–B; KENNEDY K–81 OR EQUAL

CREATED FEB 2003
REVISED SEPT 2014
AUG 2015
FEB 2020

STANDARD FIRE HYDRANT
CONFIGURATION

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL W13

NOTES:
1. ALL CONCRETE SHALL BE TYP II CEMENT, MEETING LATEST ASTM REQUIRMENTS AND PROVIDED WITHON LABORATORY CERTIFICATION.
2. BOA TAPE MUST BE USED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. THE TYPE OF INTERIOR LINING USED SHALL BE QUADEX GEOKRETE ON ALL STRUCTURES TO BE LINED.
4. A FORCE MAIN CONNECTION REQUIRES THE RECEIVING MANHOLE AND THE FOUR DOWNSTREAM & FOUR UPSTREAM MANHOLES TO BE LINED. AT PUMP STATIONS THE "KING" MANHOLE AND 4 UPSTREAM MANHOLES (EACH INVERT) SHALL BE LINED.
5. PASCO COUNTY MAY REQUIRE ADDITIONAL MANHOLES TO BE LINED BASED ON MANHOLE SPACING.
6. PASCO COUNTY SHALL HAVE THE OPTION OF REQUIRING A NEGATIVE PRESSURE TEST PER ASTM C-1244.
7. LIFT HOLES MUST NOT PENETRATE THE WALLS.
8. PRECAST CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
9. USE OF ECCENTRIC CONES REQUIRES SPECIAL APPROVAL.
10. EXTERIOR AND INTERIOR COATING, CONSEAL CS-55 OR PROTECH EW-1 AQUAPOXY OR APPROVED EQUAL AT THE MINIMUM RATE /THICKNESS RECOMMENDED BY THE MANUFACTURER COAL TAR IS NOT ALLOWED
11. MANHOLE W/ CONNECTION SHALL HAVE 24 HR HYDROSTATIC LEAK TEST.
12. ALL LINED MANHOLES SHALL HAVE COMPOSITE FRAME AND COVER AS MANUFACTURED BY CAP OR EQUAL. COMPOSITE FRAMES AND COVERS NOT TO BE PLACED ON THE PAVEMENT AREA

CREATED FEB 2021
REVISED MAY 2021

STANDARD MANHOLE

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL S1

CREATED FEB 2021
REVISED MAY 2021

STANDARD MANHOLE
BENCH AND INVERTS

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

PASCO COUNTY UTILITIES
DETAIL S2

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tech@northsideengineering.net
Est. 1989

Civil · Land Planning · Traffic Studies · Landscape
Due Diligence Reports · Land Use · Re-Zoning
Stormwater Management · Utility Design
Construction Administration

Donald B. Fairbairn, P.E. #44971
Registry # 31306

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PROJECT # 2332
ISSUE DATE: 09/09/24

REVISIONS:

No.	Date	Description
1	11/06/24	1st Submittal
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	

DRAWN BY : **KB**

CIVIL DETAILS

WILDERNESS LAKES
7183 ANN ARBOR DRIVE,
LAND O LAKES, FL 34637

Northside
Engineering, Inc.

C6.2

GENERAL NOTES:

1. Work this Index with Index 425-001 and Index 425-010.
2. Chamfer all exposed edges and corners ¾" chamfer or tooled to ½" radius.
3. All reinforcing is Grade 60 bars with 2" minimum cover unless otherwise noted. Cut or bend bars for 1½" clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.
4. Use Concrete Apron on inlets without slots and inlets with non-traversable slots only when called for in the Plans.
5. Quantities are for informational and estimating purposes only.
6. Slots are not permitted on sides with grate seats.

DITCH BOTTOM INLET TYPE C
TRAVERSABLE
(Without Slot - Type D, E, and H Similar, Pipe Connection Not Shown)

DITCH BOTTOM INLET TYPE C
NON-TRAVERSABLE
(Slot > 7" Shown - Type D, E, and H Similar, Pipe Connection Not Shown)

DITCH BOTTOM INLET TYPE C
TRAVERSABLE
(Single Slot < 7" Shown, Double Slot, Type D, and E Similar, Pipe Connection Not Shown)

TABLE OF CONTENTS:

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX	SHEET
11/01/23					425-052	1 of 14

STEEL GRATE DETAIL
(Approx. 104 Lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 1
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in²/ft)	MAX. SPACING BARS	MAX. SPACING WWF
0 - 15'	A12	0.20	12"	8"

NOTES:
1. Grate, Concrete Apron, and Sod not shown on structure detail.
2. See Sheet 8, 9, and 10 For Concrete Apron and Slotted Area details.

DIMENSIONAL AND REINFORCING DETAILS

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX	SHEET
11/01/20					425-052	2 of 14

GENERAL NOTES:

1. For curb, gutter and curb & gutter provide ⅛" - ½" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers.
2. Locate expansion joints for curb, gutter and curb & gutter in accordance with Specification 520.

TABLE OF CONTENTS:

TYPE A, TYPE E, TYPE F, AND SHOULDER GUTTER
(Other Types Similar)

CONCRETE BUMPER GUARD

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	CURB AND GUTTER	INDEX	SHEET
11/01/21					520-001	1 of 3

NOTES:
1. For Type A, Type B, and Type D Curb: Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 3.
2. For Type E, Type F, Drop Curb, and Valley Gutter: Where the longitudinal slope of roadway match the cross slope of the gutter to the cross slope of the adjacent pavement. The thickness of the lip is 6", unless otherwise shown on Plans.
3. For Type RA, rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.
4. For details depicting usage of Type A Curb adjacent to flexible pavement see Sheet 3.

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	CURB AND GUTTER	INDEX	SHEET
11/01/21					520-001	2 of 3

CURB AND GUTTER JOINTS AND ENDINGS, CONCRETE BUMPER GUARD, AND ASPHALTIC CONCRETE CURB

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	CURB AND GUTTER	INDEX	SHEET
11/01/21					520-001	3 of 3

SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/21					522-002	4 of 7

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PROJECT #	2332
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FDOT DETAILS

WILDERNESS LAKES
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Northside Engineering, Inc.
C6.3