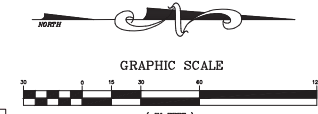
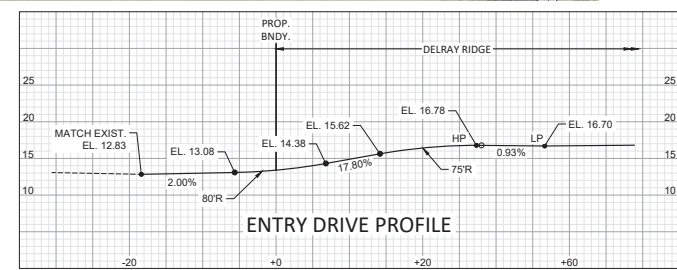


LEGEND

- FINISHED FLOOR EL. LOT NUMBER
- PROPOSED GRADE
- EXISTING GRADE
- FLOW ARROW
- HHH @ 0.4% ROADWAY PROFILE DISTANCE, GRADE AND DIRECTION
- PROPOSED PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PAVERS
- DETECTABLE WARNING MAT
- LITTORAL ZONE
- PROPOSED SWALE
- MATCH EXISTING ELEVATION
- GRADING CROSS-SECTION



DATE	BY
07/19/2010	RHT
REVISIONS	DATE
REV. NAME: 8/7/2010	

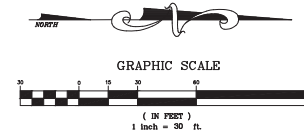
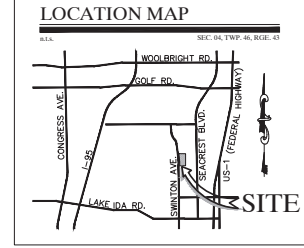
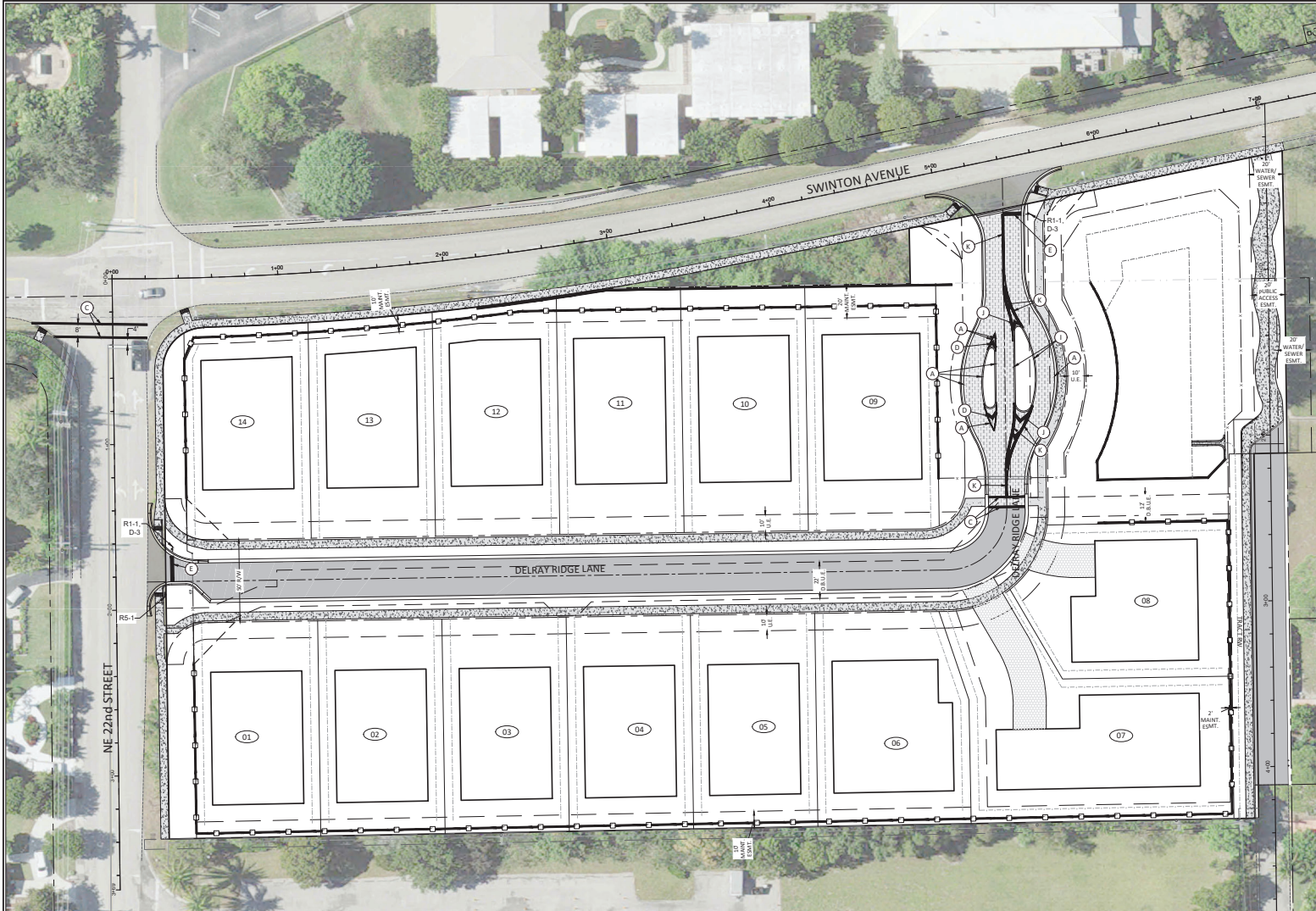
CAULFIELD & WHEELER, INC.
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD, SUITE 100
PALM BEACH, FL 33411
PHONE (561) 992-7671 / FAX (561) 759-4429

DELRAY RIDGE
PAVING, GRADING, & DRAINAGE PLAN

DATE 12/17/20
DRAWN BY RHT
F.B./P.C. N/A
SCALE 1"=30'

Ryan Wheeler
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71473
STATE OF FLORIDA
- FOR THE FIRM -
DATE Jun 07, 2023

JOB #577
SHEET NO.
PD-02
OF 11 SHEETS



PAVEMENT MARKING LEGEND

- A - 6" SOLID WHITE
- B - 8" SOLID WHITE
- C - 12" SOLID WHITE
- D - 18" SOLID WHITE
- E - 24" SOLID WHITE
- F - 6" WHITE - SKIP (10'-30')
- G - 6" WHITE - SKIP (6'-10')
- H - 6" WHITE - SKIP (2'-4')
- I - 6" SOLID YELLOW
- J - 18" SOLID YELLOW
- K - 6" DOUBLE SOLID YELLOW
- L - 6" YELLOW - SKIP (10'-30')
- M - 6" YELLOW - SKIP (6'-10')
- N - 6" YELLOW - SKIP (2'-4')
- P - RPM BI-DIRECTIONAL AMBER/AMBER
- R - FDP WHITE
- S - FDP YELLOW
- T - RPM BI-DIRECTIONAL WHITE/RED
- U - RPM BI-DIRECTIONAL RED/YELLOW



MIN. ROADWAY CROWN EL. = 16.70-FT (10yr-24hr PEAK STAGE = 15.19-FT)
 MIN. PERIMETER BERM EL. = 16.52-FT (25yr-72hr PEAK STAGE = 16.52-FT)
 MIN. FINISHED FLOOR EL. = 19.50-FT (100yr-72hr ZD PEAK STAGE = 18.53-FT)

ALL ELEVATIONS SHOWN IN NAVD88 UNLESS OTHERWISE NOTED
 CONVERSION: NAVD88 - NGVD - 1.53

REVISIONS	DATE	BY
07/19/2018		RHT

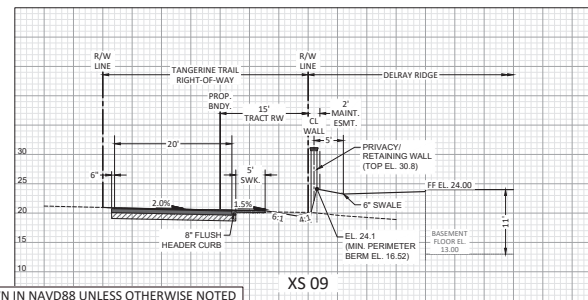
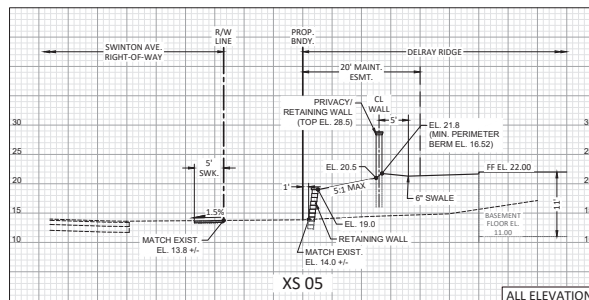
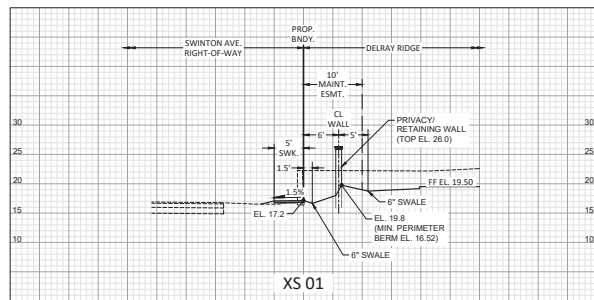
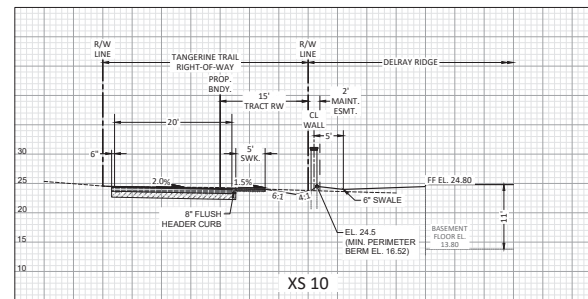
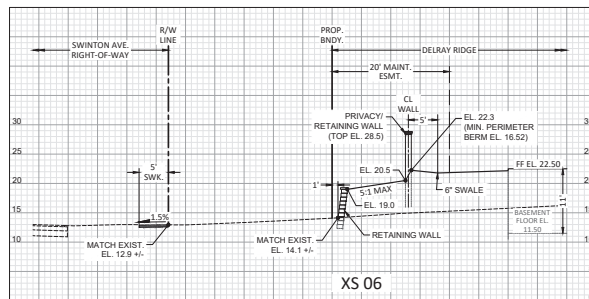
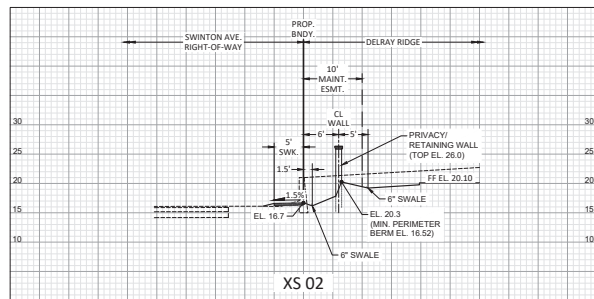
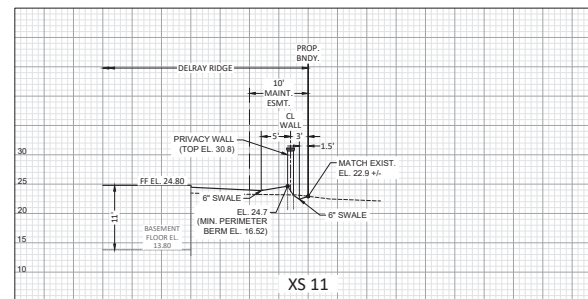
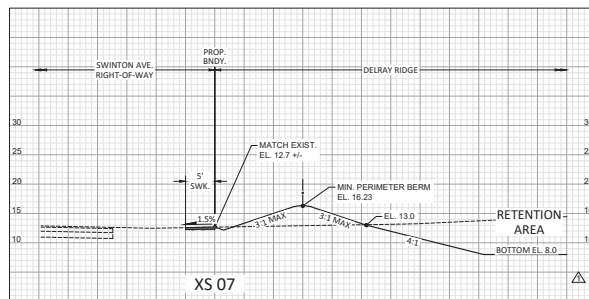
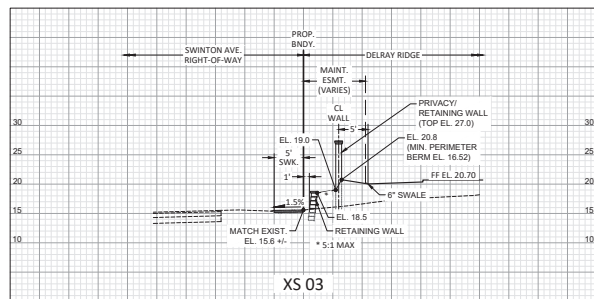
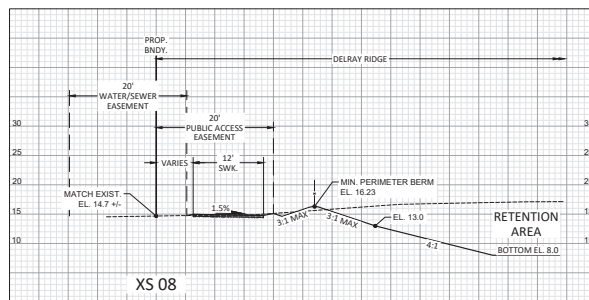
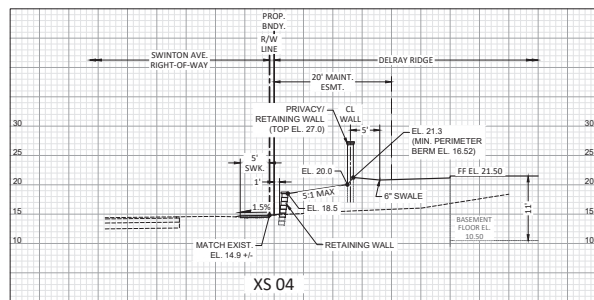
CALLFIELD & WHEELER, INC.
 7900 GLADES ROAD - SUITE 100
 LANESBORO, MASSACHUSETTS 01927
 PHONE (508) 592-7691 / FAX (508) 759-4429

DELRAY RIDGE SIGNING & PAVEMENT MARKING PLAN

DATE	06/08/20
DRAWN BY	RHT
F.B. / P.C.	N/A
SCALE	1"=30'

RYAN D. WHEELER
 PROFESSIONAL ENGINEER
 LICENSE NO. 71477
 STATE OF FLORIDA
 - FOR THE FIRM -
 DATE Jun 07, 2022

JOB #6577
 SHEET
 PD-03
 OF 11 SHEETS



ALL ELEVATIONS SHOWN IN NAVD88 UNLESS OTHERWISE NOTED
CONVERSION: NAVD88 = NGVD + 1.53'

DATE	BY
07/19/2010	RHT
REVISIONS	DATE
REVISED DRAWING FROM TANGERINE TRAIL CROSS-SECTION	
FILE NAME: 80790.DWG	

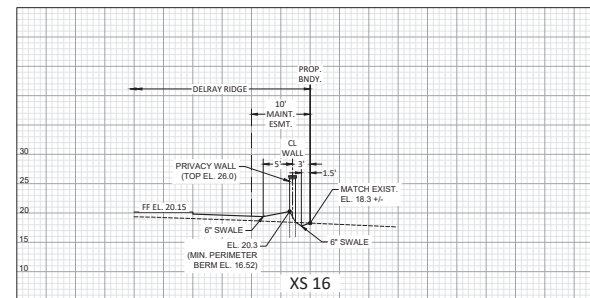
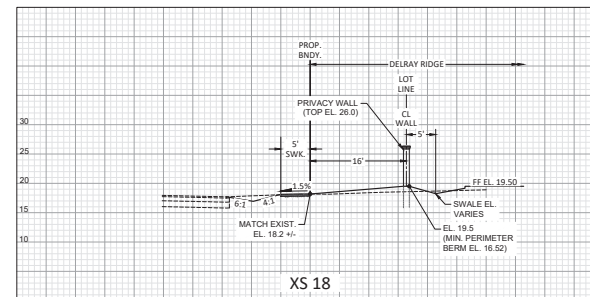
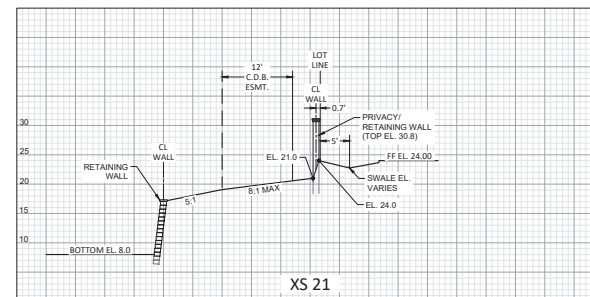
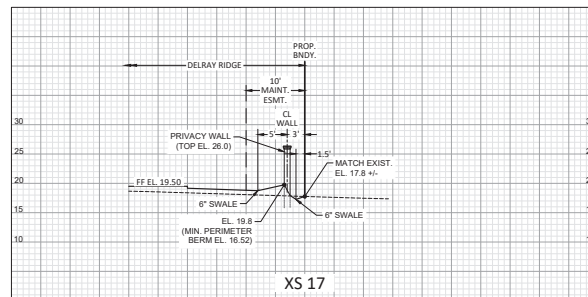
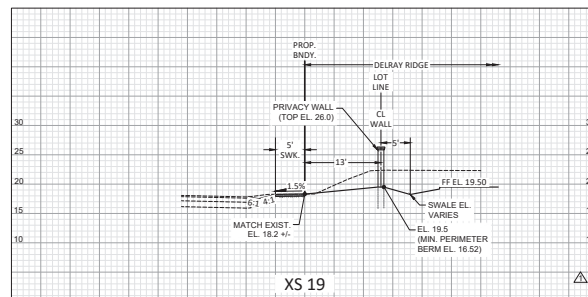
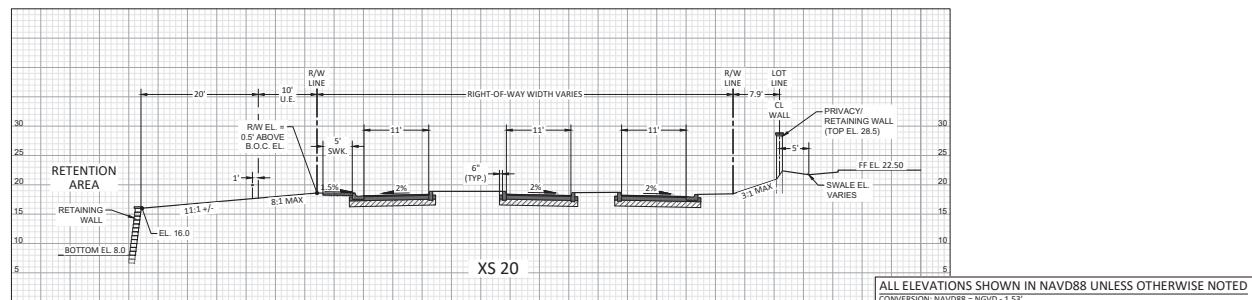
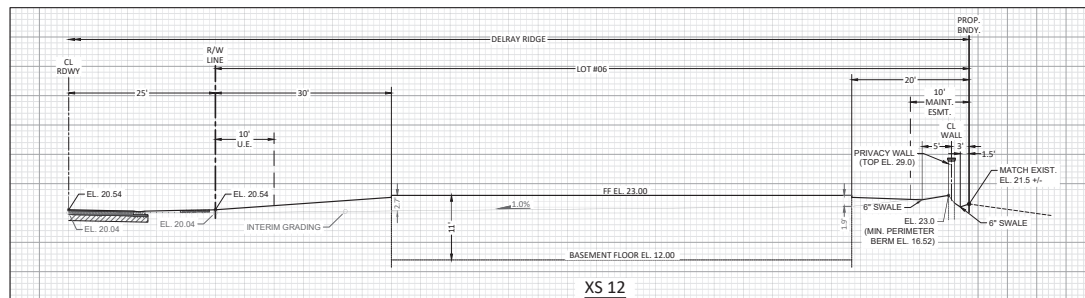
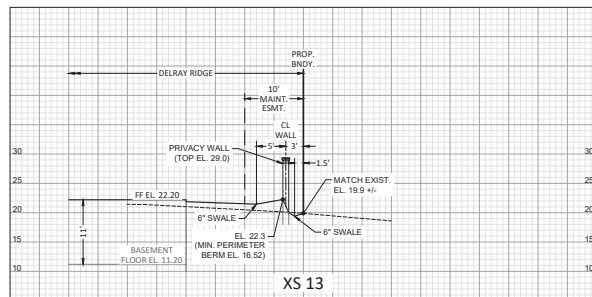
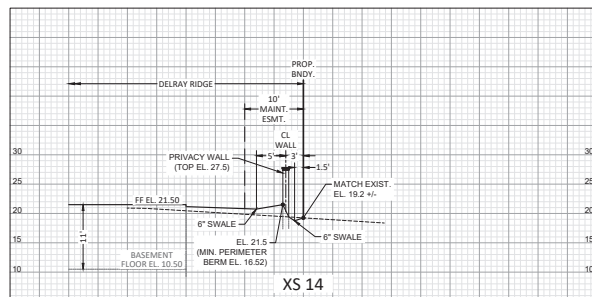
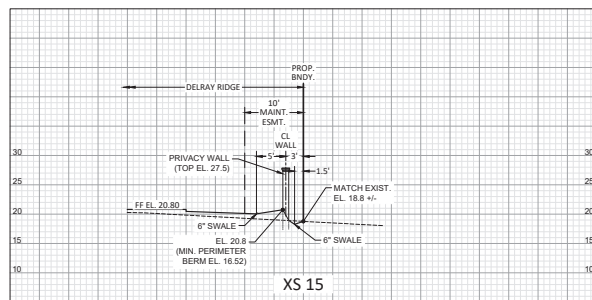
CAULFIELD & WHEELER, INC.
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
JANISVILLE, FLORIDA 32053
PHONE (561) 592-9991 / FAX (561) 750-4439

DELAY RIDGE GRADING CROSS-SECTIONS

DATE	06/08/20
DRAWN BY	RHT
F.B. / P.C.	N/A
SCALE	N/A

Ryan Wheeler
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
- FOR THE FIRM -
DATE: Jun 07, 2022

JOB #577
SHEET NO.
PD-04
OF 11 SHEETS

[illegible]

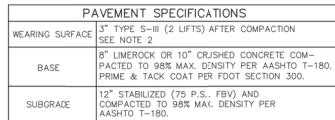
CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-1452

DELRAY RIDGE
GRADING CROSS-SECTIONS

DATE	06/08/20
DRAWN BY	RH
F.B./ PG.	N/A
SCALE	N/A

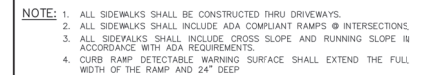
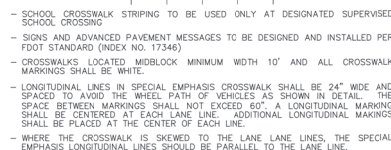
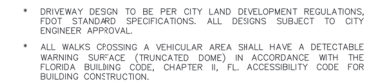
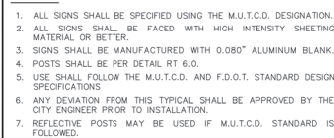
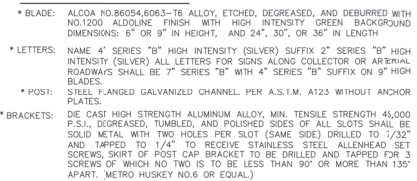
**Ryan
Wheeler**
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 7147
STATE OF FLORIDA
— FOR THE FIRM —
DATE Jun 07, 202

JOB #8577
SHT.NO.
PD-05
OF 11 SHEETS

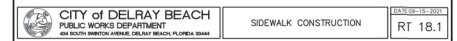


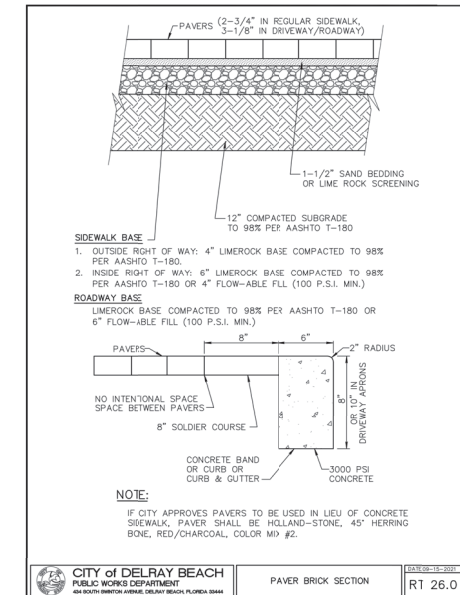
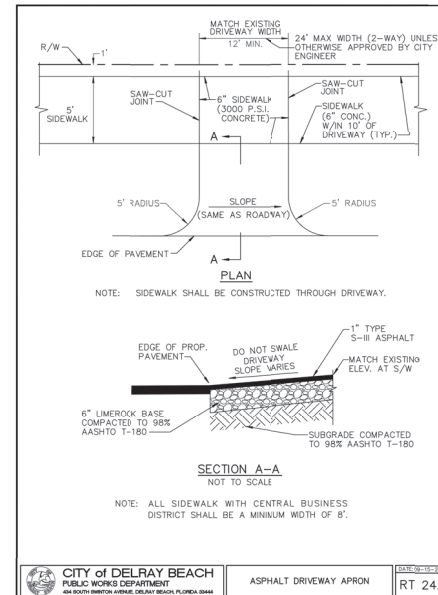
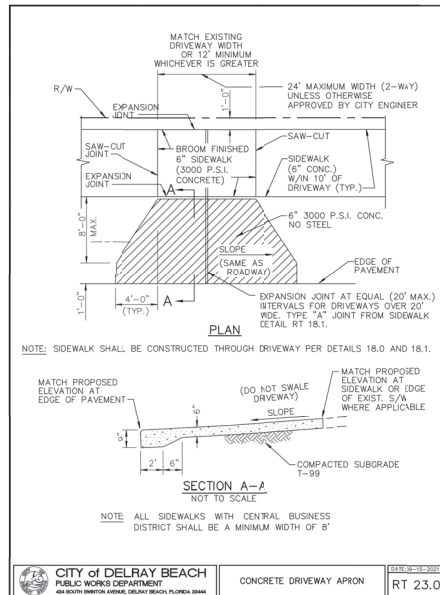
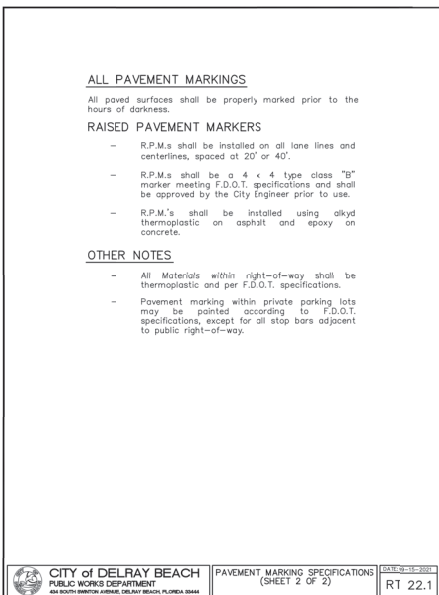
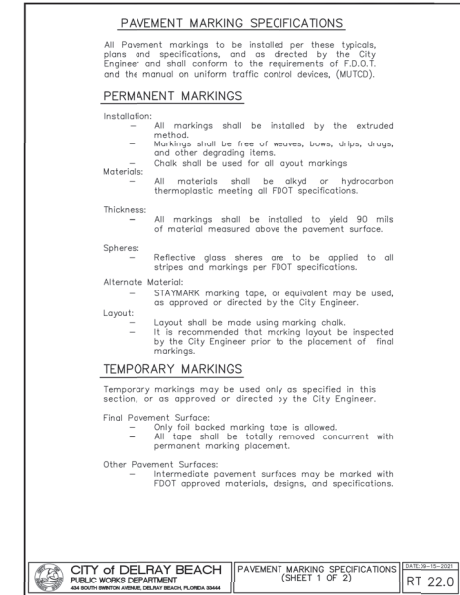
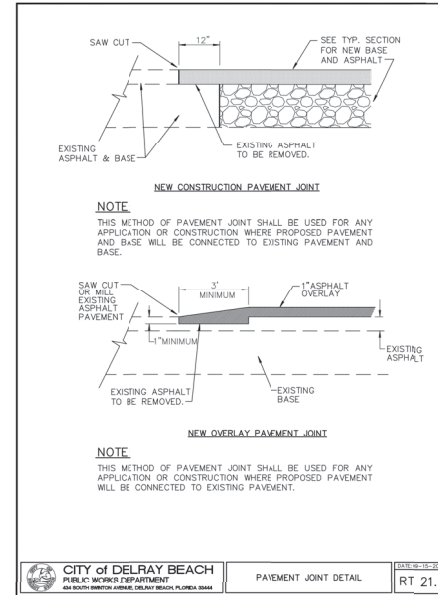
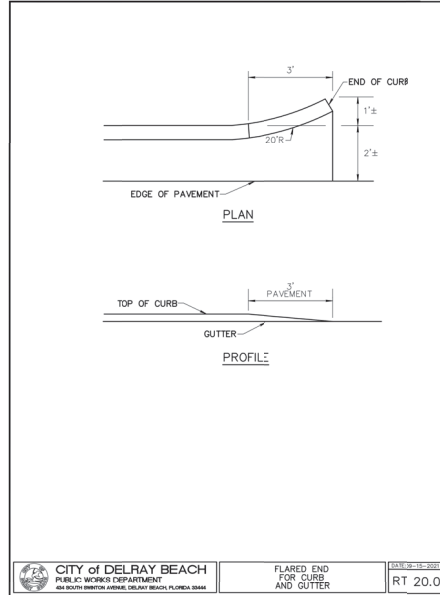
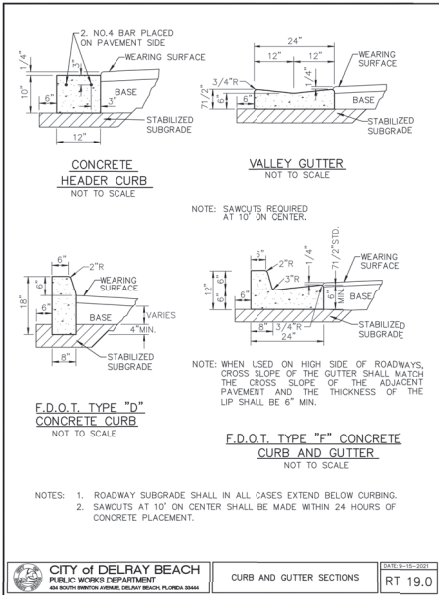
1. VARIATION FROM MATERIAL SPECIFICATIONS WILL BE CONSIDERED ON A CASE BY CASE BASIS BY THE CITY ENGINEER.
2. 2ND LIF SHALL NOT BE PAVED UNTIL CONSTRUCTION VEHICLES AND EQUIPMENT HAVE COMPLETED WORK.
3. IN UNDEVELOPED LOCATION, ELEVATION TO BE SET EQUAL TO ROADWAY CROWN. IN PREVIOUSLY DEVELOPED AREAS, MATCH EXISTING GRADES.

* LAKE WIDTHS MUST BE APPROVED BY CITY ENGINEERING PRIOR TO DESIGN.



TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES JUNCTION OF EXISTING & NEW SIDEWALKS & EVERY 30'
"3"	5'-0" CENTER TO CENTER ON SIDEWALKS SCORED DURING PLACEMENT OR SAWCUT WITHIN 24 HOURS OF PLACEMENT.
"4"	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES.





REVISIONS	DATE	BY

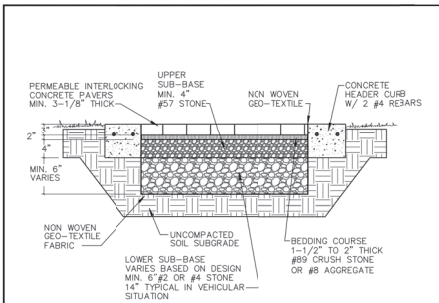
CALLFIELD & WHEELER, INC.
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
DELRAY BEACH, FLORIDA 33446
PHONE (561) 592-9911 FAX (561) 592-9912

DELRAY RIDGE
PAVING, GRADING, & DRAINAGE DETAILS

DATE	06/08/20
DRAWN BY	RHT
F.B./P.C.	N/A
SCALE	N/A

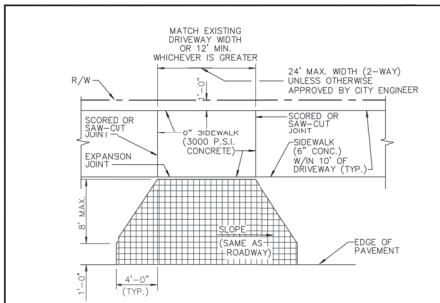
Ryan Wheeler
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
- FOR THE FIRM -
DATE: Jun 07, 2023

JOB #557
SHEET
PD-07
OF 11 SHEETS



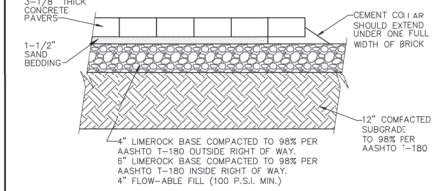
NOTE:

- CONTRACTOR TO FIELD VERIFY EXACT LOCATION, SIZE AND DEPTH OF ALL EXISTING UTILITIES AT THE TIME OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE CITY ENGINEER.
- FOR VEHICULAR APPLICATIONS, SUBGRADE WOULD NEED TO BE EVALUATED BY QUALIFIED CIVIL OR GEOTECHNICAL ENGINEER FOR COMPACTION.
- PERMEABLE INTERLOCKING CONCRETE PAVERS SHALL BE DESIGNED IN ACCORDANCE WITH THE STANDARDS SET FORTH BY THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE (ICPI).
- PERMEABLE PAVERS TO BE INSTALLED IN CITY RIGHT-OF-WAY MUST BE INSTALLED BY AN ICPI INSTALLER CERTIFIED.
- PAVERS SHALL BE 45° HERRING-BONE, RED/CHARCOAL, MIX #2.

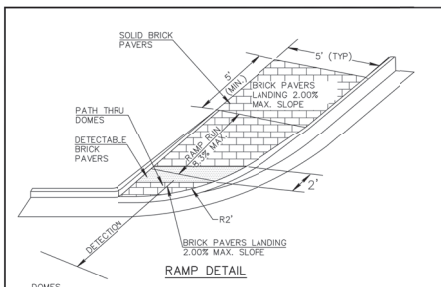


PLAN

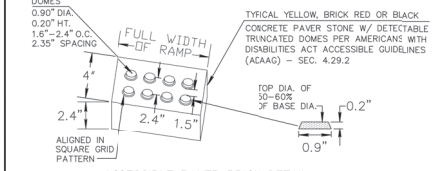
NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.



SECTION

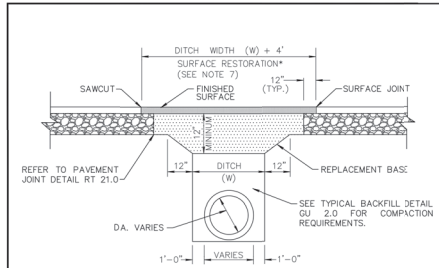


RAMP DETAIL

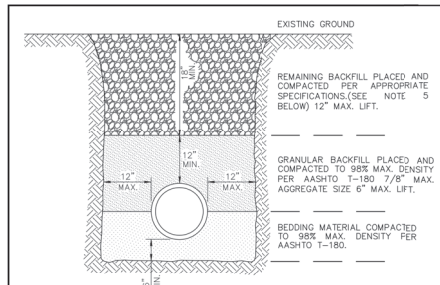


ACCESSIBLE PAVES BRICK DETAIL

- IN ADDITION TO CURB RAMPS TRUNCATED DOMES ARE REQUIRED AT ALL AREAS OF PERIL. NOT REQUIRED AT RESIDENTIAL DRIVEWAYS CROSSINGS OF CUT-THROUGH REFUGE ISLANDS LESS THAN 6' IN LENGTH.

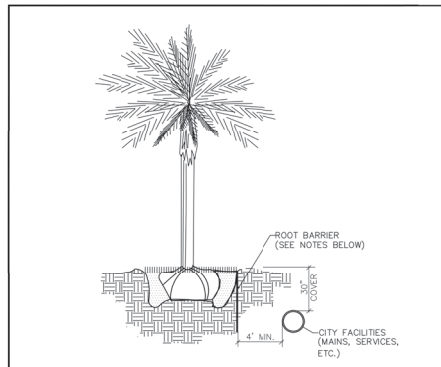


- REPLACEMENT BASE TO BE AT MIN. 12\"/>
- BASE MATERIAL SHALL BE PLACED IN TWO LIFTS AND EACH LIFT COMPACTED TO 98% MAXIMUM DENSITY PER AASHTO T-180 (MAX. LIFT THICKNESS = 6\").
- 24\"/>
- ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
- ALL DISTURBED PAVEMENT MARKINGS SHALL BE RESTORED IN ACCORDANCE WITH CITY STANDARDS.
- SURFACE MATERIAL SHALL BE 5-11 ASPHALTIC CONCRETE. THICKNESS SHOULD BE TWICE THE THICKNESS OF THE ADJACENT EXISTING ASPHALT.
- ANY PAVEMENT CUTS SHALL BE COLD PATCHED AT END OF EACH WORKING DAY TO FACILITATE UNHINDERED TRAFFIC FLOW.
- ROADWAYS SHALL BE MILLED AND RESURFACED 50' IN EACH DIRECTION AT TIME OF PAVEMENT REPAIR. THE SURFACE RESTORATION SHALL EXTEND 50' IN EACH DIRECTION.



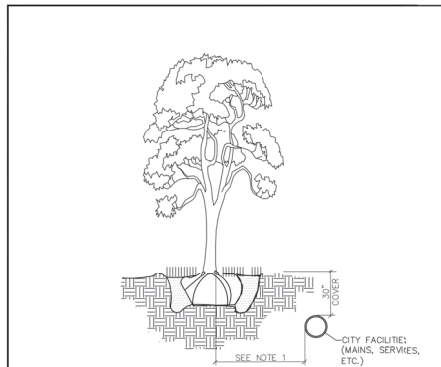
NOTES:

- UNSATURABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGE ROCKS SHALL BE REMOVED OFF SITE AND DISPOSED IN A PROPER LANDFILL. BEDDING MATERIAL AND BACKFILL CONSISTING OF WASHED AND GRADED LIMEROCK 3/8\"/>
- THE PIPE AND/OR STRUCTURE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
- THE PIPE AND/OR STRUCTURE SHALL BE PLACED IN A DRY TRENCH.
- BACKFILL SHALL BE FREE OF UNSATURABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.
- COMPACT BACKFILL TO 98% DENSITY UNDER PAVEMENT AND TO 95% DENSITY ELSEWHERE (AASHTO T-180)
- COMPACTION AND DENSITY TESTS SHALL BE COMPLETED DURING BACKFILL OPERATIONS. CONTRACTORS NOT FOLLOWING THIS PROCEDURE, FOR WHATEVER REASONS, SHALL BE REQUIRED TO RE-EXCAVATE THE AREA IN QUESTION, DOWN TO THE BEDDING MATERIAL, THEN BACKFILL FOLLOWING THE ABOVE PROCEDURES.



NOTES:

- ALL ROOT BARRIERS SHALL BE 4\"/>
- THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH CITY AND INSPECTED BY CITY PRIOR TO BACKFILLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
- ROOT BARRIERS SHALL BE MINIMUM 36\"/>
- ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



NOTES:

- THIS DISTANCE SHALL BE 10\"/>

REVISIONS	DATE	BY

CALLFIELD & WHEELER, INC.
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD, SUITE 100
DELRAY BEACH, FLORIDA 33446
PHONE (561) 592-9911 / FAX (561) 592-9912

DELRAY RIDGE
PAVING, GRADING, & DRAINAGE DETAILS

DATE	06/08/20
DRAWN BY	RHT
FB / PG	N/A
SCALE	N/A

Ryan Wheeler
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71473
STATE OF FLORIDA
- FOR THE FIRM -
DATE: Jun 07, 2023

JOB #577
SHEET NO.
PD-08
OF 11 SHEETS

1. ALL DIMENSIONS SHOWN ON THESE DRAWINGS ARE SCALED DISTANCES. THE CONTRACTOR SHALL CONFIRM ALL MEASUREMENTS IN THE FIELD AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCY PRIOR TO PERFORMING THE WORK. ALL QUANTITIES SHALL BE PAID ON THE BASIS OF FIELD MEASUREMENTS OF COMPLETED WORK.
2. REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARDS SPECIFICATIONS SEC. 941. CORRUGATED ALUMINUM PIPE (C.A.P.) SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARDS SPECIFICATIONS SEC. 942.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE SIGHT EXAMINATION OF THE SITE OF THE WORK, AND OF ANY MATERIAL SOURCES INDICATED IN THE PLANS, AS WELL AS NECESSARY TO INFORM HIMSELF OF THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED.
4. PROPOSED GRADES SHOWN IN PAVED AREAS REFER TO FINISH PAVEMENT GRADES.
5. PAVEMENT MARKING AND GEOMETRICS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND PALM BEACH COUNTY TYPICAL NO. T-1-P-18.
6. ALL LOTS, ROADSWAYS AND BORROW AREAS SHALL BE STRIPPED OF ALL DELTERIOUS (UNSATISFACTORY) MATERIALS AND MATERIALS SHALL BE DISPOSED WITHIN THE SITE.
7. ALL GRADING OF STREETS, INCLUDING THE REMOVAL OF ALL MATERIALS AND THE FINISHING OF ALL SHOULDERS, SUBGRADE PREPARATION, SWALES AND BASKETPOLES, IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN HEREON SHALL BE INCLUDED IN THE BID PRICE FOR PAVING.
8. ANY EXISTING ROADWAY AND/OR UTILITY THAT IS DAMAGED BY THE CONTRACTOR SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER, AND UTILITY.
9. THE FULL DEPTH OF ALL EXISTING ORIGIN AND DELTERIOUS MATERIALS WITHIN THE RIGHT-OF-WAY AND UTILITIES AND DRAINAGE EASEMENT SHALL BE COMPLETELY REMOVED. NO MATERIALS OF F.D.O.T. CLASS A-5, A-7, OR A-8 SHALL BE ALLOWED.
10. ANY MUCK POCKETS OR GUMBO ENCOUNTERED SHALL BE REMOVED WITHIN THE ROADWAY TO 1.0' BELOW SUBGRADE AND TO OUTSIDE EDGE OF BOTH SHOULDERS. THE MUCK AND GUMBO SHOULD BE REMOVED IN THE AREA OF AND WITHIN 10 FEET OF PROPOSED PAVEMENT OR FOUNDATION AREAS.
11. ALL PAVING AND DRAINAGE WORK TO BE CONSTRUCTED IN FULL ACCORDANCE WITH PALM BEACH COUNTY STANDARDS AND SPECIFICATIONS.
12. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF EVERY KIND THAT WILL BE BENEATH THE PAVEMENT CURRENTLY TO BE CONSTRUCTED SHALL BE INSTALLED PRIOR TO THE COMPLETION OF SUBGRADE.
13. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER AND COUNTY ON ALL PIPE, PIPE BANDS, DRAINAGE STRUCTURES, GRATES, FRAMES AND COVERS.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN ON THESE DRAWINGS AND SHALL VERIFY ALL ELEVATIONS BEFORE STARTING CONSTRUCTION. ALL EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO EXISTING OR BETTER CONDITIONS BY THE CONTRACTOR AT NO EXPENSE TO THE COUNTY.
15. WHERE CONNECTIONS TO AN EXISTING DRAINAGE SYSTEM ARE PROPOSED, SAID EXISTING DRAINAGE STRUCTURES AND LINES SHALL BE PURGED OF ALL SILT AND DEBRIS PRIOR TO SUE CONNECTION, AND WHERE EXISTING DRAINAGE SYSTEM INCLUDES DITCHES, SAID DITCHES SHALL BE CLEARED AND REWORKED, AS NECESSARY, TO RESTORE THEM TO THEIR APPROVED DESIGN SECTION.
16. ALL PIPE JOINTS ARE TO BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEER PRIOR TO BACKFILLING. ALL INSPECTIONS SHOULD BE ARRANGED NO LESS THAN 48 HOURS IN ADVANCE.
17. ALL CATCH BASIN GRATES MUST HAVE LOCKING CHAINS IN ACCORDANCE WITH FDOT INDEX 201.

18. WORK SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF ALL BUILDINGS, TREES, BRUSH, STUMPS, ROOTS, RUBBISH, AND DEBRIS AND ALL OTHER OBSTRUCTIONS RESTING ON OR PROJECTING THROUGH THE SURFACE OF THE EXISTING GROUND AND THE SURFACE OF EXCAVATED AREAS, AND OF ALL OTHER STRUCTURES AND OBSTRUCTIONS NECESSARY TO BE REMOVED, INCLUDING SEPTIC TANKS, FOUNDATIONS, AND PILES.
19. ROOTS AND OTHER DEBRIS SHALL BE REMOVED TO A DEPTH OF AT LEAST ONE FOOT BELOW THE GROUND SURFACE. ALL STUMPS WITHIN THE CONSTRUCTION AREA SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR.
20. EXISTING TREES TO REMAIN SO DIRECTED BY THE ENGINEER, SHALL BE TRIMMED, PROTECTED AND LEFT STANDING.
21. PROPERTY OBSTRUCTIONS WHICH ARE TO BE REMOVED IN PLACE, SUCH AS BUILDINGS, SEWERS, DRAIN, WATER OR GAS PIPES, CONDUIITS, POLES, WALLS, POSTS, BRIDGES, ETC. ARE TO BE CAREFULLY PROTECTED FROM INJURY AND ARE NOT TO BE DISPLACED.
22. CLEANING AND GRUBBING MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR IN LOCATIONS AND BY METHODS APPROVED BY THE ENGINEER.

23. UTILIZATION OF MATERIAL IN SUBGRADE CONSTRUCTION SHALL BE IN ACCORDANCE WITH PLAN DETAILS OR AS DIRECTED BY THE ENGINEER.

24. A PROCTOR TEST SHALL BE PERFORMED ON THE PROPOSED SUBGRADE MATERIAL TO DETERMINE THE OPTIMUM MOISTURE CONTENT AND MAXIMUM DENSITY OF THE MATERIAL. IN-PLACE DENSITY TESTS OF THE FINISH SUBGRADE SHALL BE PERFORMED AT A FREQUENCY OF AT LEAST ONE TEST FOR EVERY 7,000 SQ. FT. OF PROPOSED PAVEMENT AREA TO BE CONSTRUCTED. THE COMBINATION OF MOISTURE AND DENSITY OF THE FINISH SUBGRADE SHALL BE AT LEAST 98% OF THE PROCTOR TEST RESULTS.
25. FINISHED SUBGRADE SHALL HAVE A MINIMUM UNWEIGHTED AVERAGE OF 95% OR BETTER, AS COMPARED TO THE PROPOSED FINISH SUBGRADE. FINISHED SUBGRADE SHALL CONFORM TO THE LINES, GRADES, AND STATIONS SHOWN ON THE PLANS. ALL ROOTS, TREES, OR OBSTRUCTIONS UNDER OR PROTRUDING THROUGH THE SURFACE SHALL BE COMPLETELY REMOVED FROM THE SUBGRADE. THE FINISHED SURFACE OF THE SUBGRADE SHALL BE STRING-LINED PRIOR TO PLACEMENT OF ROCK BASE TO VERIFY THAT THE BASE HAS BEEN CONSTRUCTED TO THE PROPER LINES, CROSS-SECTIONS, AND ELEVATIONS WITHIN AN ALLOWABLE TOLERANCE OF 1/2" OF THE PROPOSED FINISH SUBGRADE ELEVATIONS.

26. LIMEROCK COMPOSITION - THE FOLLOWING TESTS ARE REQUIRED ON THE LIMEROCK MATERIAL: A. CHEMICAL COMPOSITION TEST TO DETERMINE THAT MATERIAL HAS A MINIMUM PERCENT CARBONATES OF 60%. B. LIMEROCK BEARING RATIO TEST TO DETERMINE THAT MATERIAL CAN ACHIEVE AN LBR OF 100. C. SIEVE ANALYSIS TO INSURE THAT AT LEAST 97% (BY WEIGHT) OF THE MATERIAL SHALL PASS A 3-1/2" SIEVE AND MATERIAL SHALL BE GRADED UNIFORMLY DOWN TO DUST. THE FINE MATERIAL SHALL CONSIST ENTIRELY OF DUST OF FRACTURE. ALL CRUSHING OR BREAKING-UP WHICH MIGHT BE NECESSARY IN ORDER TO MEET SUCH SIZE REQUIREMENTS SHALL BE DONE BEFORE THE MATERIAL IS PLACED ON THE ROAD.

27. A PROCTOR TEST SHALL BE PERFORMED IN THE PROPOSED LIME/ROCK MATERIAL TO DETERMINE THE MAXIMUM DENSITY OF THE MATERIAL. IN-PLACE DENSITY TESTS SHALL BE TAKEN AT A FREQUENCY OF AT LEAST ONE TEST FOR EVERY 7,000 SQ.FT. OF PROPOSED PAVEMENT TO DETERMINE COMPLIANCE WITH THE DESIGN SPECIFICATIONS OF 98% OF MAX. DENSITY PER AASHTO T-180 TESTING METHODS.
28. THE COMPACTED BASE SHALL CONFORM TO THE LINES, GRADES, AND CROSS-SECTION SHOWN ON THE PLANS. THE FINISH BASE SURFACE SHALL BE STRINGERED OR CHECKED WITH A TEMPLATE TO VERIFY CONFORMANCE WITH THE PLAN GRADES WITHIN AN ALLOWABLE TOLERANCE OF 1/4" OF THE PROPOSED BASE ELEVATIONS. PRIME COAT SHALL BE APPLIED AT A RATE OF 0.25 GALLONS PER SQUARE YARD.

29. TACK COAT A. PRIOR TO INSTALLATION OF THE OVERLAY, THE SURFACE OF THE EXISTING ASPHALT SHALL BE BROOMED TO REMOVE ALL LOOSE MATERIAL WHICH MIGHT INTERFERE WITH THE ADHESION OF THE EXISTING ASPHALT AND OVERLAY. B. A TACK COAT SHALL BE APPLIED TO THE TOP OF THE CLEAN ASPHALT SURFACE AT A RATE OF 0.10 GALLONS/SQ.FT. IN THE PRESENCE OF THE ENGINEER'S REPRESENTATIVE.

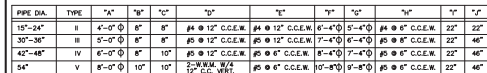
30. PRIME COAT SHALL BE APPLIED AT A RATE OF 0.25 GALLONS PER SQUARE YARD. PRIME AND TACK COAT FOR BASE SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF SECTION 300.1 THROUGH 300.7 OF F.D.O.T. STANDARDS SPECIFICATIONS.
31. ASPHALTIC CONCRETE SHALL CONFORM TO FLORIDA D.O.T. REQUIREMENTS OF TYPE S-1 AND S-3. CERTIFICATIONS OF THE ASPHALT MIX SHALL BE SUBMITTED BY THE ASPHALT TACK TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
32. THE TEMPERATURE OF THE ASPHALT SHALL BE AT LEAST 230 DEGREES F. DURING THE LAYING OPERATION.
33. THE THICKNESS OF THE FINISHED SURFACE COURSE SHALL BE CHECKED AT VARIOUS INTERVALS TO INSURE THE CONSTRUCTED SURFACE COURSE IS WITHIN 1/8" OF THE DESIGN THICKNESS (NO NEGATIVE TOLERANCE WILL BE ACCEPTABLE).
34. THE FINISHED SURFACE OF THE ASPHALT SHALL BE CHECKED WITH A STRAIGHT EDGE TO INSURE THAT THE LINE, GRADE, AND CROSS-SECTION OF THE FINISHED PAVEMENT SECTION IS IN CONFORMANCE WITH THE DESIGN PLANS. THE FINISHED SURFACE SHALL BE OF UNIFORM TEXTURE AND COMPACTION. THE SURFACE SHALL HAVE NO PULLED, DISINTEGRATED, OR FRIED PORTLAND CEMENT PATCHES, SAND SPOTS, OR RIMPLES. ALL AREAS OF THE SURFACE WHICH DOES NOT MEET THE FOREGOING REQUIREMENTS SHALL BE CORRECTED TO THE ENGINEER'S SATISFACTION.
35. ALL REPAIRS TO EXISTING PAVEMENT SHALL RECEIVE SAWCUT EDGE PRIOR TO RELAYING ASPHALT. UNDER PAVEMENT UTILITY PIPING OR WIRING LESS THAN FOUR (4) INCHES IN DIAMETER REQUIRES A SCHEDULE 40 PVC CASING PIPE WITH SAND BACKFILL.
36. ALL PERMANENT CONCRETE, FORDS AND/OR REFERENCE MARKERS SHOWN ON PLAN SHALL BE RAISED TO FINAL GRADE IF LOCATED IN PAVEMENT OR CONCRETE. THESE POINTS AND REFERENCE MARKERS SHALL BE LOCATED AND IDENTIFIED BY THE CONTRACTOR.

37. NOTIFICATION - THE CONTRACTOR SHALL NOTIFY THE ENGINEER, THE COUNTY AND UTILITIES 48 HOURS PRIOR TO SCHEDULING FIELD OBSERVATIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO TEST THE COMPLETED WORK. CALL U.N.C.L.E. PRIOR TO ANY EXCAVATION.

38. ALL DRAINAGE SYSTEMS SHALL BE PUMPED DOWN TO BELOW 1/3 OF THE DIAMETER OF THE PIPE (FROM THE INVERT) AND LAMPED AS A REQUIREMENT OF THE FINAL DRAINAGE INSPECTION.

39. GRATE AND RIM ELEVATION ARE BASED ON PROPOSED FINISHED GRADE. ADJUSTMENTS MAY BE NECESSARY DUE TO FIELD CONDITIONS. ADJUSTMENTS ARE TO BE MADE BY THE CONTRACTOR WHEN THE BASE COURSE IS IN PLACE OR SITE GRADING IS COMPLETE. COST OF ADJUSTING RIMS AND GRATES IS TO BE INCLUDED IN BASE BID.

40. WORK CONSISTS OF THE ESTABLISHING OF A STAND OF GRASS WITHIN THE AREAS CALLED FOR BY THE FURNISHING AND PLACING OF GRASS SOD AND PREPARING, WATERING, AND MAINTAINING SODDED AREAS SUCH AS TO ASSURE A HEALTHY STAND OF GRASS.
41. THE AREA OVER WHICH THE SOD IS TO BE PLACED SHALL BE SCARIFIED OR PEGGED TO SUITABLE DEPTH. THE SOD SHALL BE PLACED ON THE PREPARED SURFACE WITH EXACT CONTACT AND SHALL BE PLACED WITH A SMOOTH AND SMOOTHED WITH APPROPRIATE TOOLS. ON AREAS WHERE THE SOD MAY SLIDE DUE TO HEIGHT AND SLOPE, THE ENGINEER MAY DIRECT THAT THE SOD BE LOGGED WITH PEGS DRIVEN THROUGH THE SOD BLOCKS INTO FIRM EARTH AT SUITABLE INTERVALS.



-ELEVATIONS SHOWN ARE IN NAVD 88
DATUM

-ALL DRAINAGE SYSTEMS SHALL BE PUMPED COMPLETELY DRY AND LAMPED AS A REQUIREMENT OF THE FINAL DRAINAGE INSPECTIONS.

Installation:

- All markings shall be installed by the extruded method.
- Markings shall be free of weaves, bows, drips, drags, and other degrading items.
- Chalk shall be used for all layout markings

Materials:

- All materials shall be alkyd thermoplastic meeting all State specifications.

Thickness:

- All markings shall be installed to yield 90 mills of material measured above the pavement surface.

- Reflective beads are to be installed per FDOT specifications on all markings.

Layout:

- Layout shall be made using marking chalk.
- It is recommended that marking layout be inspected by the City Engineer prior to the placement of final markings.

Temporary markings may be used only as specified in this section, or as approved or directed by the Palm Beach County Engineer.

- Only foil backed marking tape is allowed.
- All tape shall be totally removed concurrent with permanent marking placement.

Other Pavement Surfaces:

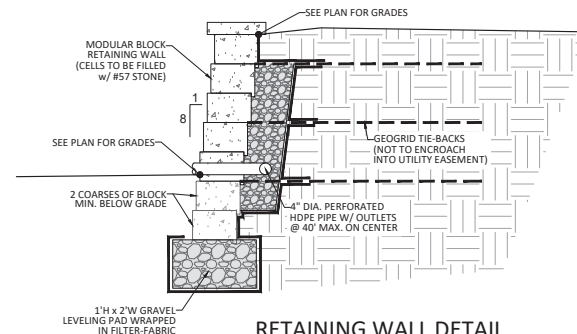
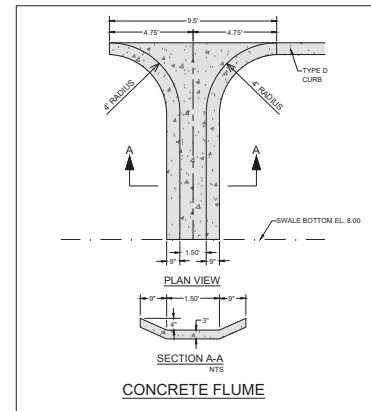
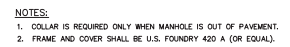
- Intermediate pavement surfaces may be marked with FDOT approved materials, designs, and specifications.

All paved surfaces shall be properly marked prior to the hours of darkness.

- R.P.M.s shall be installed on all lane lines and centerlines, spaced at 20' or 40'.
- R.P.M.s shall be a 4 x 4 type class "B" marker meeting FDOT specifications and shall be approved by the Engineer prior to use.
- R.P.M.'s shall be installed using alkyd thermoplastic on asphalt and epoxy on concrete.



NOTE:
PROVIDE 8" TOP SLAB &
USF 5113-6194 VALLEY GUTTER FOR
TYPE "E" VALLEY GRATE



NTS

[illegible]

FIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1455



DELRAY RIDGE PAVING, GRADING, & DRAINAGE DETAILS

DATE	06/08/20
DRAWN BY	RHT
F.B./ PG.	N/A
SCALE	N/A

**Ryan
Wheeler**
Ryann D. Wheeler, P.E.
Professional Engineer
License No. 71477
State of Florida
- FOR THE FIRM -
DATE Jun 07, 2022

JOB #8577
SHT. NO.
PD-09
OF 11 SHEETS

1. COUNTY - PALM BEACH COUNTY
2. CONTRACTOR - UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS
3. ENGINEER - ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION

1. A PRE-CONSTRUCTION MEETING TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF ANY WATER AND SEWER CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE COUNTY, CONTRACTOR, SUBCONTRACTORS, ENGINEER AND OTHER INTERESTED PARTIES.
2. ANY REVISIONS TO THE APPROVED PLANS MUST BE APPROVED BY THE COUNTY PRIOR TO THE PRE-CONSTRUCTION MEETING.
3. A MINIMUM OF THREE (3) COPIES OF THE CURRENT APPROVED PRODUCT LIST AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF EACH PRODUCT AND THE PIPE AND COATINGS WERE MANUFACTURED IN ACCORDANCE WITH AWWA C151/A21.51-91.
4. ALL APPLICABLE PERMITS MUST BE OBTAINED WITH COPIES PROVIDED TO THE COUNTY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
6. ALL MATERIALS SUBMITTED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY THE COUNTY PRIOR TO CONSTRUCTION. REQUESTS FOR MATERIALS NOT LISTED SHALL BE APPROVED BY THE COUNTY PRIOR TO ORDERING THESE MATERIALS TO THE PROJECT.
7. THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. ONLY THE EXACT LOCATIONS SHALL BE DETERMINED BY THE COUNTY PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL OTHER UTILITIES (NOT SHOWN ON THE PLAN) EXIST WITHIN THE AREA OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL OTHER UTILITIES AND NOTIFY THE RESPECTIVE UTILITY COMPANY TO RESOLVE THE UTILITY CONFLICTS AND THE UTILITY ADJUSTMENTS AS REQUIRED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO CONDUCT CONSTRUCTION. THE CONTRACTOR OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT EXISTING UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE TO THE WORK SITE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL OTHER UTILITY FACILITIES.
10. THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE COUNTY A MINIMUM OF 24 HOURS IN ADVANCE.
11. THE CONTRACTOR SHALL NOT DISTURB EXISTING COUNTY MAINS OR STRUCTURES WITHOUT THE PRESENCE OF A COUNTY INSPECTOR. COUNTY UTILITY SYSTEM VALVES AND APPURTENANCES MAY ONLY BE OPERATED BY COUNTY PERSONNEL.
12. FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED BY THE COUNTY PRIOR TO CONSTRUCTION.
13. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF THE WORK, A FINAL INSPECTION SHALL VERIFY PROPER ADHERENCE TO ALL FACETS OF THE PLANS AND SPECIFICATIONS.
14. PAVING, DRAINAGE AND TRAFFIC CONTROL SHALL CONFORM TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND DESIGN STANDARDS, SPECIFICATIONS AND DETAILS AND BRIDGE CONSTRUCTION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PALM BEACH COUNTY TYPICAL NO. 1-7-18 UNLESS SHOWN OTHERWISE.
15. A DESIGN PROFESSIONAL PREPARED BY A REGISTERED LAND SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, AND SUBMITTED BY THE CONTRACTOR TO THE COUNTY.
16. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 353-851 FOR PROTECTION OF EXCAVATIONS.
17. CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE (1-800-432-4770) 48 HOURS IN ADVANCE OF CONSTRUCTION.
18. GRADES SHOWN ON PLANS ARE FINISHED GRADES. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST EXISTING SANITARY SEWER MANHOLE TOPS AND VALVE BOX COVERS TO FINISHED GRADE.
19. CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION AND SHALL BE REQUIRED TO PROVIDE ALL BARRICADES, TRAFFIC SIGNALS AND TRAFFIC CONTROL DEVICES TO MAINTAIN THE SAFETY OF THE PUBLIC IN THE WORK AREA. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC MAINTENANCE PLAN PRIOR TO CONSTRUCTION.
20. EXISTING BASE MATERIAL THAT IS REMOVED DURING CONSTRUCTION SHALL NOT BE USED IN THE CONSTRUCTION OF NEW LIMBWORK BASE.
21. WASTING, DEBRIS, CONCRETE OR OTHER UNSUITABLE MATERIAL SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA AT THE DISCRETION OF THE COUNTY.
22. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES, SUCH AS TURBIDITY SCREENS, CURTAINS AND FLOATING SILT BARRIERS WHERE NECESSARY IN ORDER TO COMPLY WITH ALL STATE AND LOCAL WATER QUALITY STANDARDS.
23. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
24. ALL MAJOR SURFACING AND REPAIRS SHALL BE DONE PRIOR TO COMMENCEMENT OF CONSTRUCTION. MAJOR MAINTENANCE SHALL BE LAID OUT USING MARKING KHA. LAYOUT TO BE REVIEWED BY THE COUNTY PRIOR TO PLACEMENT OF FINAL MARKING.
25. EMBANKMENT (FILL) AND EXCESS MATERIAL REQUIRED FOR ROADWAY RECONSTRUCTION AND UTILITY INSTALLATIONS SHALL BE SUPPLIED AND/OR OBTAINED FROM THE COUNTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NECESSARY PERMITS TO COMPLETE THE ROADWAY RECONSTRUCTION AND UTILITY IMPROVEMENTS SHALL BE INCLUDED IN THE COSTS OF OTHER APPROPRIATE PAY ITEMS.
26. CONTINUITY OF WATER AND SEWER SERVICE TO COUNTY UTILITY CUSTOMERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS PROJECT. ALL MAJOR SURFACING AND REPAIRS SHALL BE COMPLETED PRIOR TO CONSTRUCTION. MAJOR MAINTENANCE SHALL BE SCHEDULED FOR OFF PEAK HOURS WITH THE COUNTY. DETERMINATION OF SERVICE AHEAD REQUIREMENT WILL BE MADE BY THE COUNTY.
27. SITE INFORMATION BASED ON A SURVEY PREPARED BY: CAULFIELD & WHEELER, INC.
28. RELOCATION OF UTILITY POLES AND GAS PIPE LINES SHALL BE COORDINATED BY THE CONTRACTOR WITH THE COUNTY, POWER AND LIGHT, AND FLORIDA HIGHWAY AND TRANSPORTATION DEPARTMENT.



1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.

A SEDIMENT TRAP WILL BE EXCAVATED BEHIND THE CURB AT THE INLET. THE BASIN SHALL BE AT LEAST 12 TO 14 INCHES IN DEPTH, APPROXIMATELY 36 INCHES IN WIDTH, AND APPROXIMATELY 7 TO 10 FEET IN LENGTH PARALLEL TO THE CURB.

STORM WATER WILL REACH THE SEDIMENT TRAP VIA CURB CUTS ADJACENT TO EACH SIDE OF THE INLET STRUCTURE. THESE OPENINGS SHALL BE AT LEAST 12 INCHES IN LENGTH. STORM WATER MAY ALSO REACH THE BASIN VIA OVERLAND FLOW LAND AREA BEHIND THE CURB. THE CURB CUTS SHALL BE REPAIRED WHEN THE SEDIMENT TRAP IS REMOVED.

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CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-1451



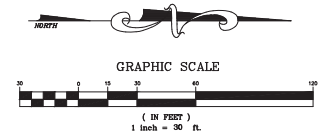
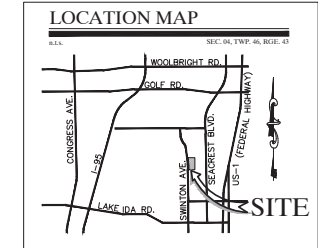
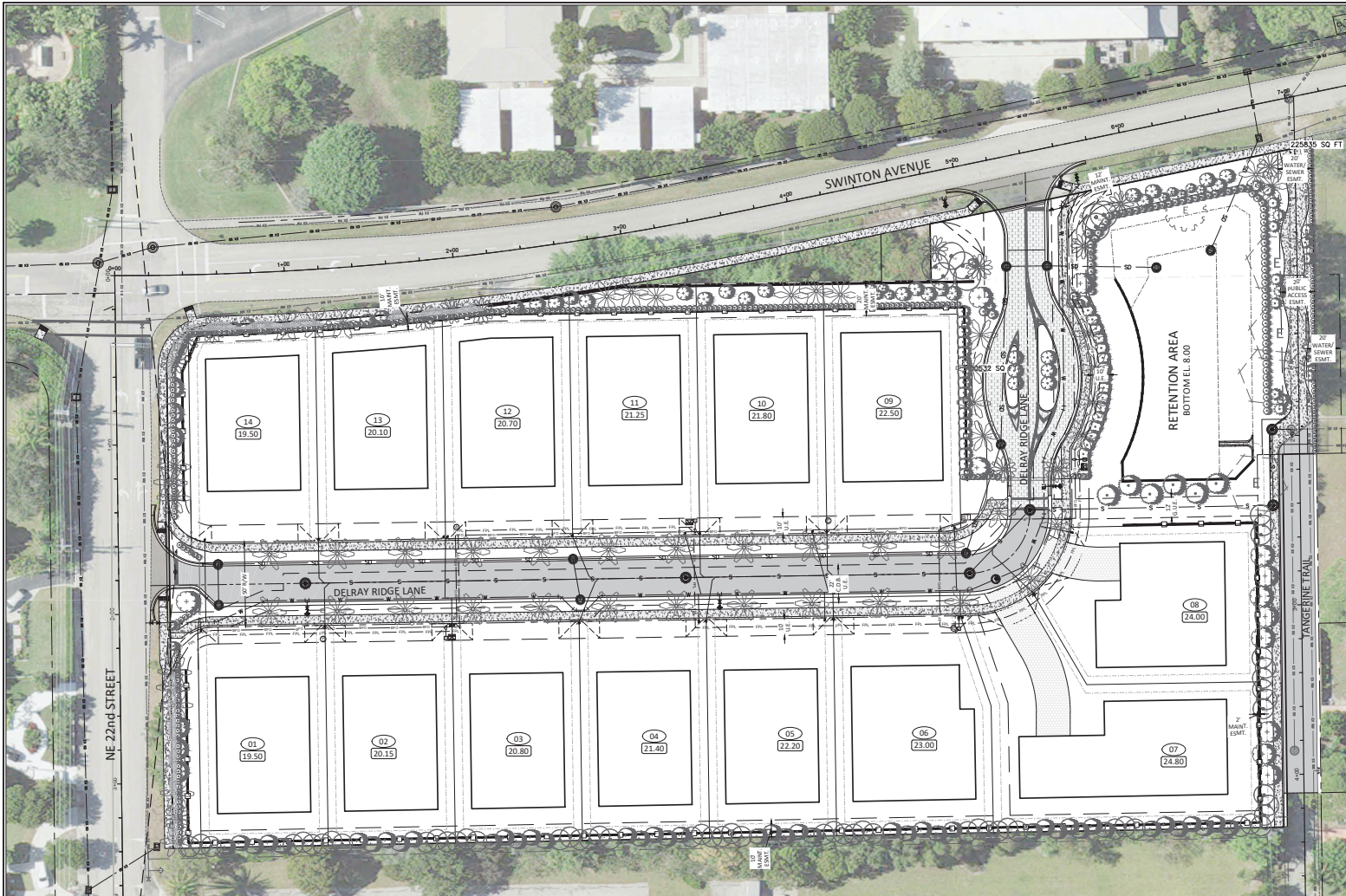
DELRAY RIDGE
POLLUTION PREVENTION PLAN

[illegible]

DATE	06/08/20
DRAWN BY	RHT
F.B./ PG.	N/A
SCALE	N/A

**Ryan
Wheeler**
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 7147
STATE OF FLORIDA
— FOR THE FIRM —
DATE Jun 07, 202

JOB #8577
SHT. NO.
PD-11
OF 11 SHEETS



UTILITY PROVIDER SIGN-OFF:

FPL: _____
 SIGNATURE _____ TITLE _____
 PRINT NAME _____ DATE _____

COMCAST: _____
 SIGNATURE _____ TITLE _____
 PRINT NAME _____ DATE _____

AT&T: _____
 SIGNATURE _____ TITLE _____
 PRINT NAME _____ DATE _____

FPU: _____
 SIGNATURE _____ TITLE _____
 PRINT NAME _____ DATE _____

LEGEND:

PROPOSED WATERMAIN: ——— W ——— W ———
 PROPOSED GRAVITY SEWER MAIN: ——— S ——— S ———
 PROPOSED STORM DRAIN PIPE: ——— SD ——— SD ———
 PROPOSED EXFILTRATION TRENCH: ——— SD ——— SD ———
 PROPOSED BURIED ELECTRIC: ——— E ——— E ——— E ——— E ———
 PROPOSED BURIED FIBER-OPTIC CABLE: ——— FO ——— FO ———



CONTRACTOR NOTE:
 CONSULT TO ANY EIGHT AND
 LOCATION OF EXISTING UTILITIES PRIOR
 TO ANY CONSTRUCTION.

ALL ELEVATIONS SHOWN IN NAVD88 UNLESS OTHERWISE NOTED
 CONVERSION: NAVD88 - NGVD - 1.53

REVISIONS	DATE	BY

CAULFIELD & WHEELER, INC.
 LANDSCAPE ARCHITECTURE & SURVEYING
 7800 GLADES ROAD - SUITE 100
 BOCA RATON, FL 33433
 PHONE (561) 592-9911 / FAX (561) 759-4429

DELRAY RIDGE COMPOSITE UTILITY PLAN

DATE 12/18/20
 DRAWN BY RHT
 F.B. / PG. N/A
 SCALE 1"=30'

Ryan Wheeler
 RYAN D. WHEELER
 PROFESSIONAL ENGINEER
 LICENSE NO. 71477
 STATE OF FLORIDA
 - FOR THE FIRM -
 (DATE Nov 29, 2021)

JOB #557
 SHEET
CU-01
 OF 10 SHEETS

WATER DISTRIBUTION & SANITARY SEWER PLANS & DETAILS

n.t.s. SEC. 04, TWP. 46, RGE. 43



WS-01..... Cover Page
WS-02..... Water Distribution & Sanitary Sewer Plan
WS-03..... Sanitary Sewer Profiles
WS-04 - WS-06..... Utility Details

REVISIONS		DATE	BY
FILE NAME: RC77MS.DWG			

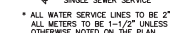
CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-4452

DEL RAY RIDGE
COVER PAGE
DEL RAY BEACH, FLORIDA

DATE	12/17/20
DRAWN BY	RHT
F.B./ PG.	N/A
SCALE	N/A

**Ryan
Wheeler**
RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
- FOR THE FIRM -
DATE May 24, 2021

JOB #8577
SHT.NO.
WS-01
OF 06 SHEETS



JOB #8577
SHT.NO.
WS-02
OF 06 SHEETS

ALL ELEVATIONS SHOWN IN NAVD88 UNLESS OTHERWISE NOTED
CONVERSION: NAVD88 = NGVD - 1.53'

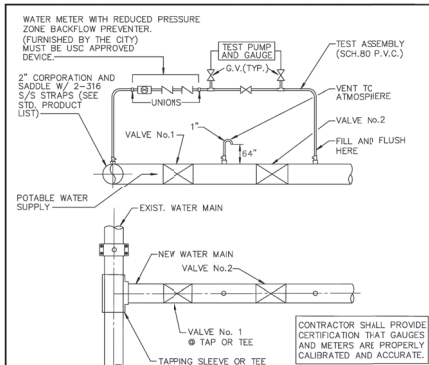


CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
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BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-4532

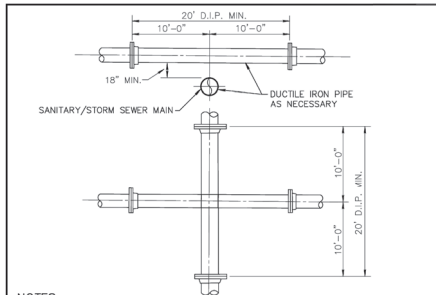
DELRAY BEACH, FLORIDA

RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
- FOR THE FIRM -
DATE May 24, 2021

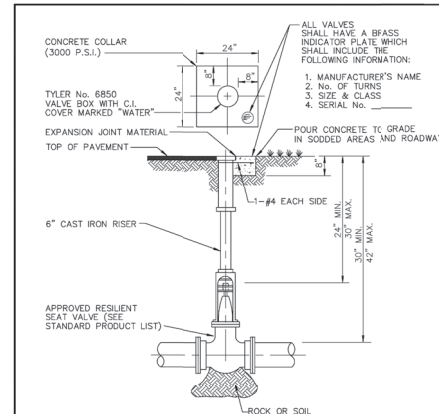
JOB #8577
SHT.NO.
WS-03
OF 06 SHEETS



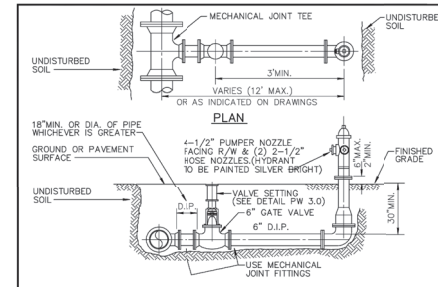
- NOTES:**
- BOTH VALVES SHALL BE KEPT CLOSED UNTIL FILLING, FLUSHING, AND BACTERIOLOGICAL TESTING IS COMPLETED AND APPROVED.
 - GAUGE AND RISER TO BE REMOVED AFTER PRESSURE TEST.
 - CITY SHALL BE NOTIFIED BEFORE FILLING AND FLUSHING.
 - AFTER RELEASE FROM THE HEALTH DEPARTMENT, BOTH VALVES TO BE LEFT OPEN WITH VALVE BOX INSTALLED ON BOTH VALVES.
 - PRESSURE TEST PUMP MAY CONNECT TO SERVICE LINE, FIRE HYDRANTS OR BLOWOFF; NO EXTRA TAPS ARE PERMITTED SOLELY FOR TESTING PURPOSES UNLESS PRECEDING ARE NOT PRESENT IN TEST SECTION.
 - TAPPING SADDLE OR SLEEVE (PER CURRENT CITY PRODUCT LIST) IS REQUIRED ON EXISTING MAIN.
 - SETUP FOR ALL DOUBLE VALVE CONNECTIONS TO INCLUDE ATMOSPHERIC VENTS AS SHOWN ABOVE.
 - OUTLET ON VENT TO ATMOSPHERE A MINIMUM 24" ABOVE EXISTING GRADE.



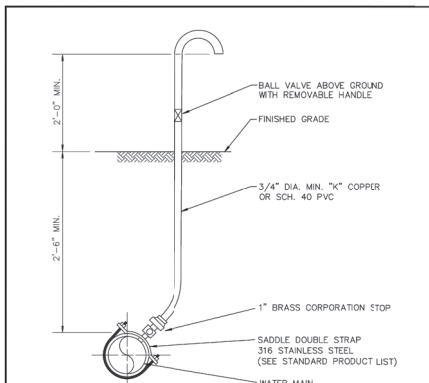
- NOTES:**
- STORM AND SANITARY SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM POINT OF CROSSING WITH NO LESS THAN (10) FEET BETWEEN ANY TWO JOINTS AND BOTH PIPES SHALL BE D.I.P. AND THE MINIMUM VERTICAL SEPARATION SHALL BE 8 INCHES. WHERE THERE IS NO ALTERNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MINIMUM 18\"/>



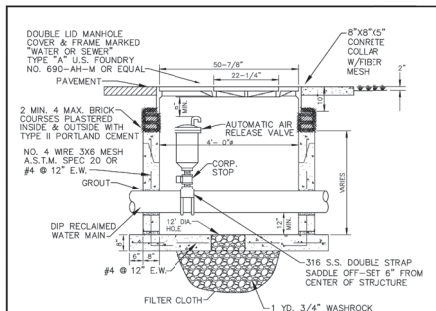
- NOTES:**
- WHEN VALVE IS DEEPER THAN 30" AN EXTENSION WITH UNIVERSAL JOINT SHALL BE REQUIRED TO BRING OPERATING NUT 24"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS SHALL BE 316 STAINLESS STEEL. A 316 STAINLESS STEEL CENTERING PLATE SHALL ALSO BE REQUIRED.
 - AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINTS, THE RODS, OR OTHER RESTRAINT APPROVED BY UTILITIES DEPARTMENT (NO THRUST BLOCKS ALLOWED).



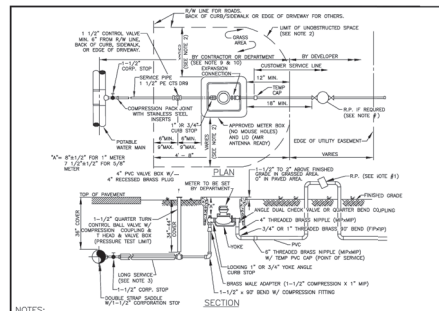
- NOTES:**
- HYDRANT SHALL BE INSTALLED PLUMB AND TRUE IN UNOBSTRUCTED LOCATION. (7.5' CLEARANCE ON THREE SIDES, 4' CLEARANCE AT REAR, WITH 3' ACCESS LANE).
 - NO BARREL EXTENSION SHALL BE PERMITTED.
 - VALVE SHALL BE PLACED ADJACENT TO MAIN.
 - ANCHOR TEES AND FITTINGS ARE PERMITTED.
 - HYDRANT SHALL BE MUELLER SUPER DENTURION, #4423 6\"/>



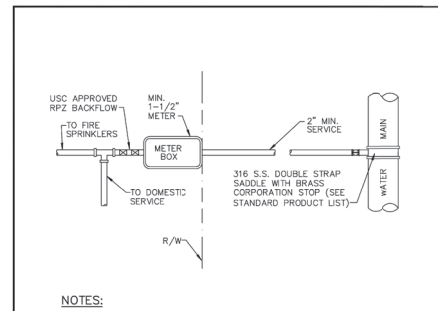
- NOTES:**
- SAMPLE POINT SHOULD BE AT SERVICE LINE OR FIRE HYDRANT IF POSSIBLE.
 - IF SAMPLE POINT IS NOT AT SERVICE LINE OR FIRE HYDRANT, CORP. STOP SHALL BE SHUT OFF AT MAIN AND ALL TUBING SHALL BE REMOVED, AND CORP. STOP SHALL HAVE A BRASS PLUG OR CAP INSTALLED AFTER RELEASE OF WATER MAIN BY PALM BEACH COUNTY HEALTH DEPARTMENT.
 - IF AT ALL POSSIBLE SAMPLE POINT SHALL NOT BE LOCATED IN A TRAFFIC AREA.
 - SAMPLE POINTS SHALL KEEP RUNNING UNTIL PALM BEACH COUNTY HEALTH DEPARTMENT RELEASE AND ALL MAIN LINE VALVES ARE OPENED.



- NOTES:**
- PREFABRICATED CONCRETE TYPE # 4000 P.S.I.
 - ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
 - LIFT HOLES ARE PERMITTED.
 - ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
 - MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
 - CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT; SEE DETAIL.
 - AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.
 - AIR RELEASE VALVE AND PIPING TO BE IDENTIFIED AS "WATER OR SEWER".
 - TWO PIECE MANHOLE WITH JOINT AT BASE IS PERMITTED, NO PIPE JOINTS INSIDE MANHOLE.
 - DUCTILE IRON PIPE IS REQUIRED THROUGH THE VAULT.
 - THREADED AREAS OF CORPORATION STOP SHALL BE COMPLETELY SPIRAL WRAPPED WITH TWO WRAPS OF TEFLOON TAPE.
 - CORPORATION STOP REFER TO STANDARD PRODUCT LIST.



- NOTES:**
- ALL NON-RESIDENTIAL SERVICES SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (RPA). THE RPA SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 40' WITHOUT PRIOR DEPARTMENT APPROVAL.
 - LIMIT OF UNOBSTRUCTED SPACE FROM SIZE OF WATER METER BOX SHALL BE 30' MINIMUM FOR SPACES AND SIMILAR OBSTRUCTIONS WITH 60' MINIMUM FOR TRENCH WALLS AND OTHER SIMILAR OBSTRUCTIONS.
 - FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 1\"/>



- NOTES:**
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18\"/>

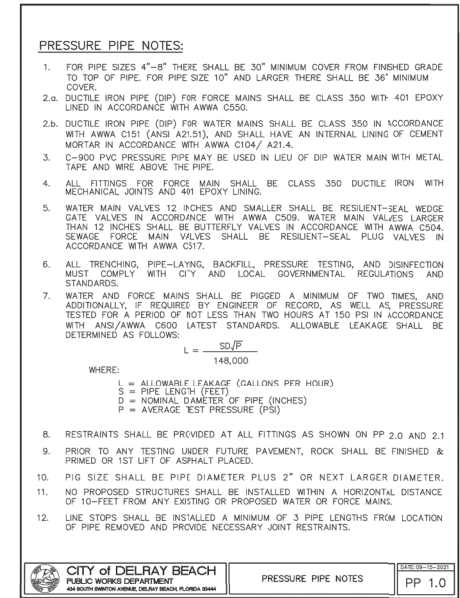
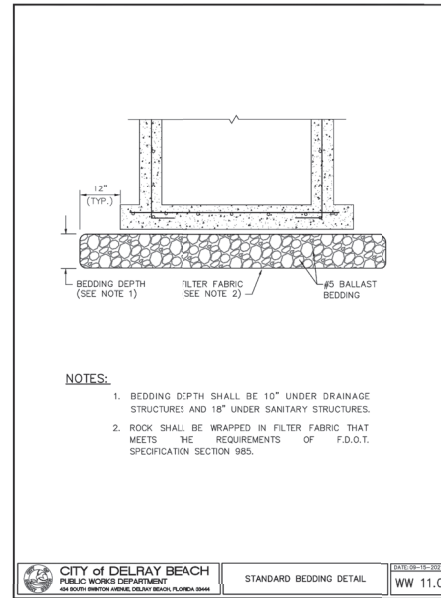
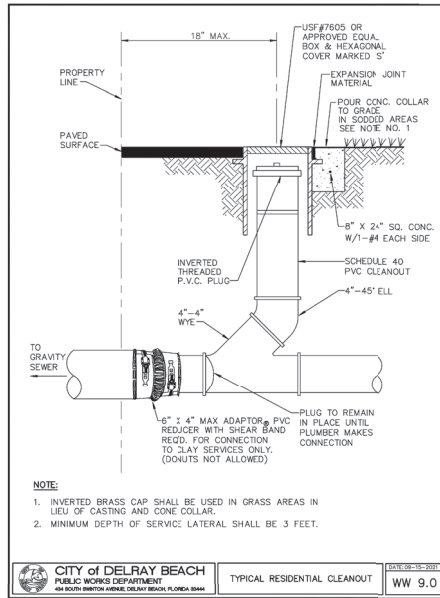
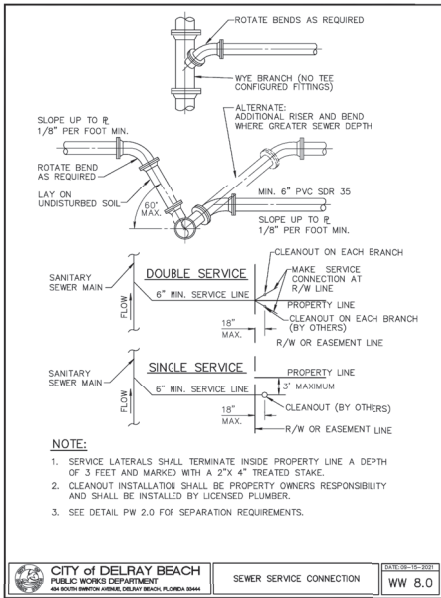
REVISIONS	DATE	BY

CAULFIELD & WHEELER, INC.
LANDSCAPE ARCHITECTURE & SURVEYING
7900 GLADES ROAD - SUITE 100
DELTA, FLORIDA 33424
PHONE (561) 592-1991 / FAX (561) 750-4452

DELRAY RIDGE
UTILITY DETAILS

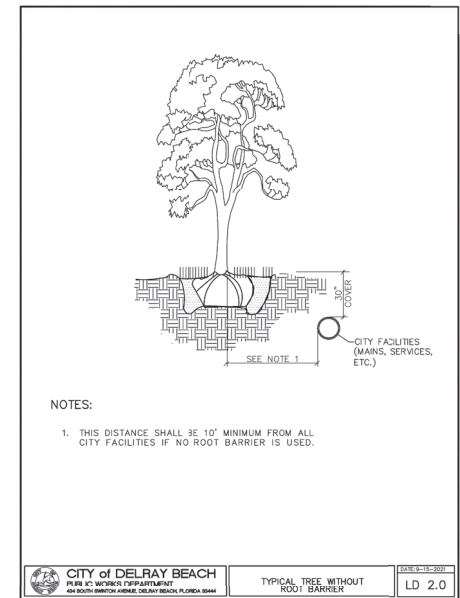
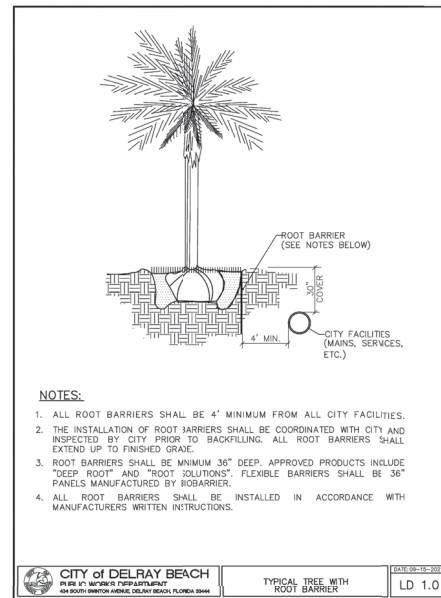
DATE 12/17/20
DRAWN BY RHT
F.B./PG. N/A
SCALE N/A

JOB #8577
SHT. NO. WS-04
OF 06 SHEETS



MINIMUM LENGTHS OF PIPE (FT) TO BE RESTRAINED									
FITTING TYPE	PIPE SIZE								
	4"	6"	8"	10"	12"	16"	20"	24"	
90° HORIZ. BEND	14	20	25	30	35	45	54	62	
45° HORIZ. BEND	6	8	11	13	15	19	22	26	
22.5° HORIZ. BEND	3	4	5	6	7	9	11	12	
11.25° HORIZ. BEND	1	2	3	3	4	4	5	6	
90° VERT. OFFSET	55	79	103	125	147	189	228	266	
45° VERT. OFFSET	UPPER BEND	22	38	49	59	69	88	105	123
	LOWER BEND	22	32	42	51	60	77	13	109
22.5° VERT. OFFSET	UPPER BEND	10	14	19	23	28	35	43	50
	LOWER BEND	7	12	17	21	26	34	42	49
11.25° VERT. OFFSET	UPPER BEND	2	4	6	8	10	14	17	21
	LOWER BEND	3	4	6	9	11	15	19	22
PLUG (DEAD END)	1	1	1	2	3	5	7	8	
INLINE VALVE	32	45	59	70	83	107	129	151	
TEE (BRANCH RESTRAINT)	4" x 4"	23							
	6" x 6"	21	35						
	8" x 8"	18	34	47					
	10" x 8"	16	32	46	58				
	12" x 8"	13	30	44	57	69			
	16" x 8"	7	26	41	55	67	90		
	20" x 8"	1	21	38	52	65	88	109	
	24" x 8"	1	16	34	49	62	86	108	129
REDUCER (LARGER PIPE RESTRAINT)	6" x 6"	23							
	8" x 8"	38	25						
	10" x 8"	57	43	24					
	12" x 8"	72	60	44	41				
	16" x 8"	99	90	78	75	45			
	20" x 8"	123	116	107	105	81	45		
	24" x 8"	146	140	132	131	111	82	45	
RESTRAIN PIPE ONE BELL PAST MINIMUM DISTANCE									

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DELRAY RIDGE
UTILITY DETAILS
DELRAY BEACH, FLORIDA

DATE 12/17/20
DRAWN BY RHT
F.B./ PG. N/A
SCALE N/A

RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
FOR THE FIRM
DATE MAY 24, 2022

JOB #8577
SHEET NO.
WS-06
OF 06 SHEETS