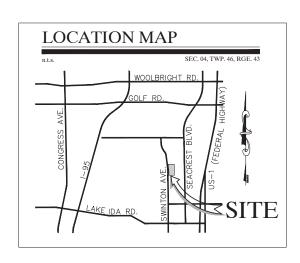
DELRAY RIDGE

Delray Beach, Florida

PAVING, GRADING, & DRAINAGE PLANS & DETAILS

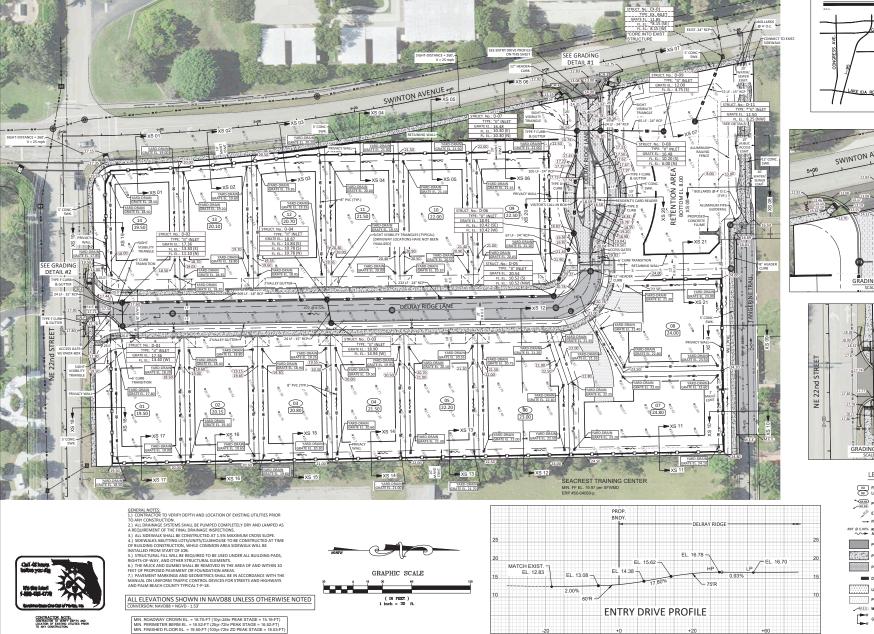


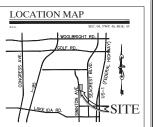
INDEX

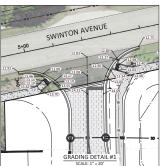
PD-01	Cover Page
PD-01A	Demolition Plan
PD-02	Paving, Grading, & Drainage Plan
PD-03	Signing & Pavement Marking Plan
PD-04 - PD-05	Grading Cross-Sections
PD-06 - PD-10	Paving, Grading, & Drainage Details
PD-11	Pollution Prevention Plan

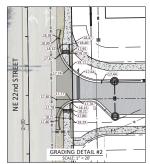












LEGEND FINISHED FLOOR EL.

PROPOSED GRADE EXISTING GRADE

· → FLOW ARROW ###'@0.##% ROADWAY PROFILE DISTANCE, GRADE

AND DIRECTION

PROPOSED PAVEMENT

PROPOSED CONCRETE

PROPOSED SWALE

MEE MATCH EXISTING ELEVATION GRADING CROSS-SECTION

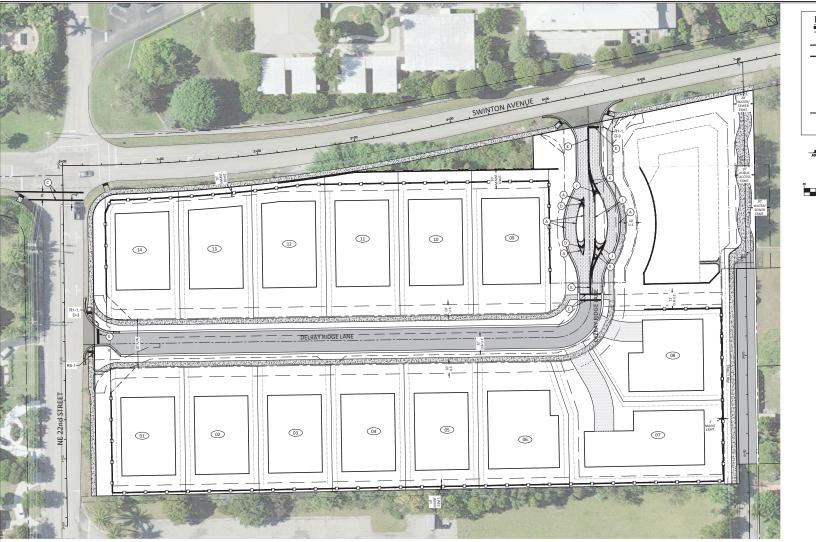
OF 11 SHEETS

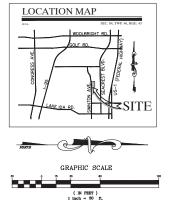
DELRAY RIDGE PAVING, GRADING, & DRAINAGE PLAN

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

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

JOB #8577





PAVEMENT MARKING LEGEND

A - 6" SOLID WHITE

B - 8" SOLID WHITE C - 12" SOLID WHITE

C - 12" SOLID WHITE
D - 18" SOLID WHITE
E - 24" SOLID WHITE
F - 6" WHITE - SKIP (10"-30")
G - 6" WHITE - SKIP (2"-4")
H - 6" WHITE - SKIP (2"-4")
J - 18" 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



DATE 06/08/20 DRAWN BY RHT

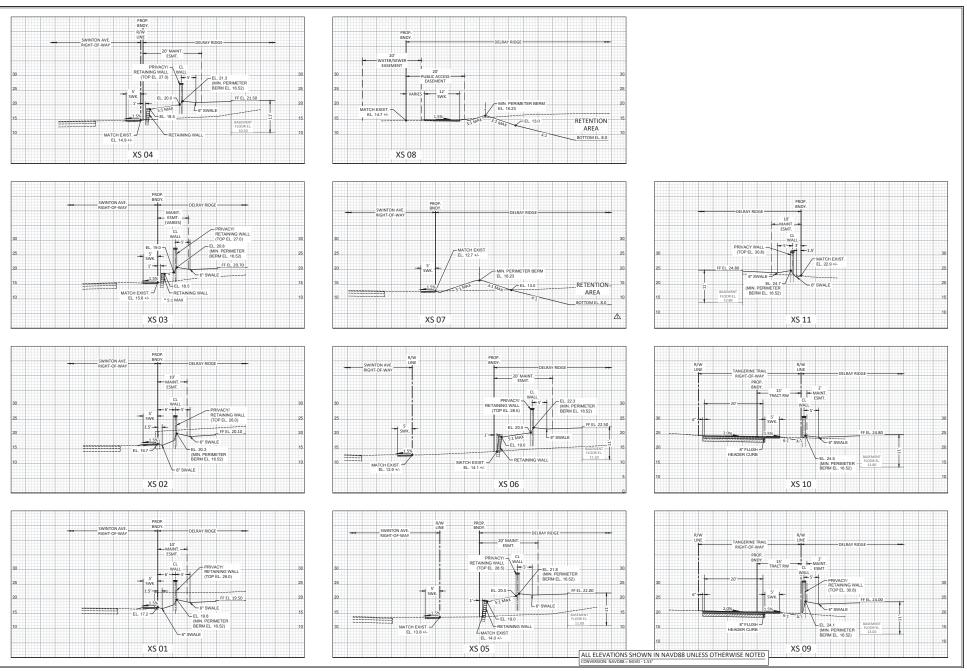
F.B./ PG. N/A

SCALE 1"=30'

DELRAY RIDGE SIGNING & PAVEMENT MARKING PLAN



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



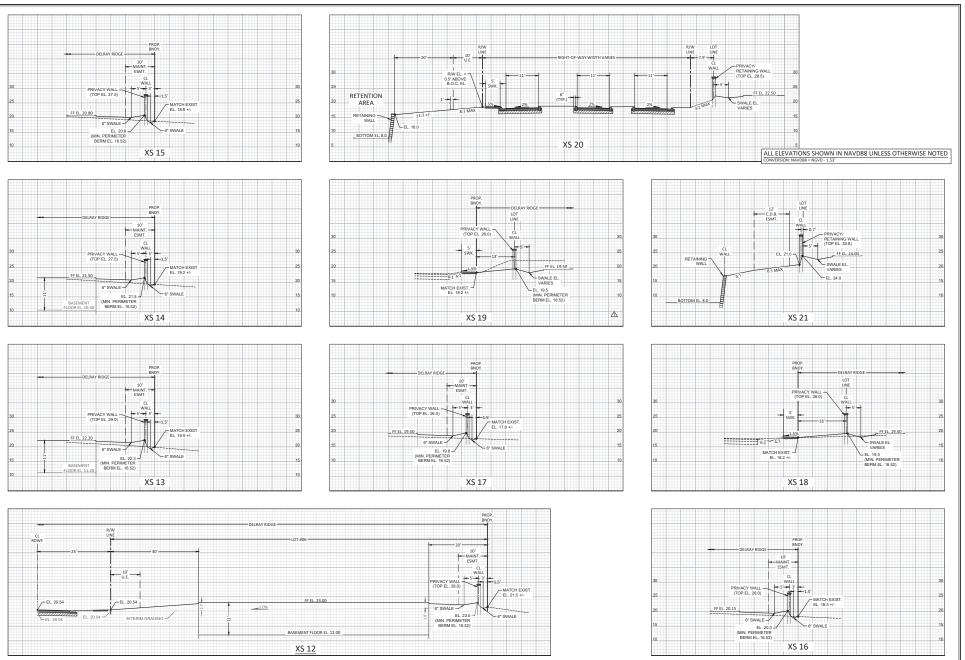
CAULFIELD & WHEELER, INC OVL BROWNERS - LANG LONGSAE ARTHERIOR - SURVIN ROOGLOBS ROOD - SURF IN ROOM - SURF IN ROOM - SURF IN HOVE (501) 35 LWW | TAX (501) 37

DELRAY RIDGE
GRADING CROSS-SECTIONS

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

Ryan Wheeler
RYAN D. WHEELER
RROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
FOR THE FIRM –
DATEJUN 07, 2022

J08 #8577 SHT.NO. PD — 04 OF 11 SHEETS



CAULFIELD 8. WHEELER, INC.
(OVI. ROYBENS LAND TANNEL
LANGSARE APHIECITE S. SEPTE
TO CAUSE ROD - SINTE TO
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PROJUCI S. SEPTE

DELRAY RIDGE
GRADING CROSS-SECTIONS
DEBRANDING TO THE PROPERTY OF THE PROPERTY

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

Ryan Wheeler WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA FOR THE FIRM DATEJUM 07, 2022



WEARING SURFACE 3" TYPE S-III (2 LIFTS) AFTER COMPACTION SEE NOTE 2 "" LIMEROCK OR 10" CRJSHED CONCRETE COM-PACTED TO 98% MAX. DENSITY PER AASHTO T-180. PRIME & TACK COAT PER FDOT SECTION 300. 12" STABILIZED (75 P.S., FBV) AND COMPACTED TO 98% MAK DENSITY PER AASHTO T-180. SUBGRADE

NOTE:

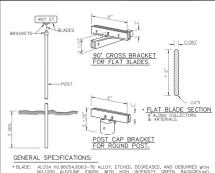
- VARIATION FROM MATERIAL SPECIFICATIONS WILL BE CONSIDERED ON A CASE BY CASE BASIS BY THE CITY ENGINEER.
- 2. 2ND LIF* SHALL NOT BE PAVED UNTL CONSTRUCTION VEHICLES AND EQUIPMENT HAVE COMPLETED WORK.
- 3. IN UNDEYELOPED LOCATION, ELEVATION TO BE SET EQUAL TO ROADWAY CROWN. N PREVIOUSLY DEVELOPED AREAS, MATCH EXISTING GRADES.
- * LANE WIETHS MUST BE APPROVED BY CITY ENGINEERING PRIOR TO DESIGN.



CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
AN BOUTH SPRITTON AVENUE DE RAY SEACH P. OPEN SOMM

TYPICAL 50' R/W SECTION WITH VALLEY GUTTER

R~ 1.0



* BLADE: ALCOA NO.86054,6063-T6 ALLOY, ETCHED, DEGREASED, AND DEBURRED WITH NO.1200 ALDOLINE FINISH WITH HIGH INTENSITY GREEN BACKGROUND DIMENSICINE: 6" OR 9" IN HEIGHT, AND 24", 30", OR 36" IN LEICHT

NAME 4' SERS 5" HIGH HITSTY (SILVER) SHETZ 2' SERS 5" HIGH HITSTY (SILVER) SHETZ 2' SERS 5" HIGH HITSTY (SILVER) SHETZ 2' SERS 5" HIGH HITSTY (SILVER) SHETZ 3' SERS 5" HIGH HITSTY (SILVER) ALL EITERS FOR SIDNS ALONG COLLECTOR OR AFEWHAD RADWAYS SHALL BE 7' SERS 5" WITH 4" SERSE 7" SERFEX NO "SHETZ AND SHALL BE 7' SERS 5" WITH 4" SERSE 7" SERFEX NO "SHETZ AND SHETZ 3' SH

PLATES.

DIE CAST HIGH STRENGTH ALUMINUM ALLOY, MIN. TENSLE STRENGTH 45,000
P.S.L, DOREASED, TUMBLED, AND POUSHED SDES OF ALL SCIS SHALL BE
SOLID METAL WITH TWO HOLES PER SIGT (SAME SOE) DRILLED TO 7,32°
AND IMPED TO 1/4" TO RECEIVE STANLESS STEEL ALLEHBLAD SET
APPED TO 1/4" TO RECEIVE STANLESS STEEL ALLEHBLAD SET
SCHOOL STRENGTH NOT THE PROPERT TO SEE DRILLED AND TAPPED PR 3
APART, METRO HUSKEY NO.6 OR EQUAL)

APART, METRO HUSKEY NO.6 OR EQUAL)



R~ 6.0

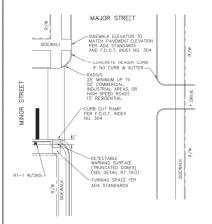
STREET SIGN DETAIL (SHEET 1 of 2)

TYPICAL SIGN PLAN SYMBOL: 6'(MIN.) - 12'(MAX.) W/OUT CURB 2'(MIN.) W/ CURB

- ALL SIGNS SHALL BE SPECIFIED USING THE M.U.T.C.D. DESIGNATION.
 ALL SIGNS SHALL BE FACED WITH HIGH INTENSITY SHEETING MATERIAL OR BETTER.
- 3. SIGNS SHALL BE MANUFACTURED WITH 0.080" ALUMINUM BLANK
- 4. POSTS SHALL BE PER DETAIL RT 6.0.
- USE SHALL FOLLOW THE M.U.T.C.D. AND F.D.O.T. STANDARD DESIGN SPECIFICATIONS
- ANY DEVIATION FROM THIS TYPICAL SHALL BE APPROVED BY THE CITY ENGINEER PROR TO INSTALLATION.
- REFLECTIVE POSTS MAY BE USED IF M.U.T.C.D. STANDARD IS FOLLOWED.

CITY of DELRAY BEACH

STREET SIGN DETAIL (SHEET 2 of 2) R~ 7.0



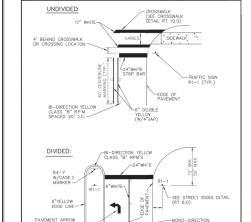
DRIVEWAY DESON TO BE PER CITY LAND DEVELOPMENT REGULATIONS, FDOT STANDARD SPECIFICATIONS. ALL DESIGNS SUBJECT TO CITY ENGINEER APPROVAL.

ALL WALKS CROSSING A VEHICULAR AREA SHALL HAVE A DETECTABLE WARNING SURFACE (TRUNCATED DOME) IN ACCORDANCE WITH THE FURDIDA BUILDING CODE, CHAPTER II, FL. ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
404 BOUTH BRINTION AND BELIANT BEACH FLORED SOMME

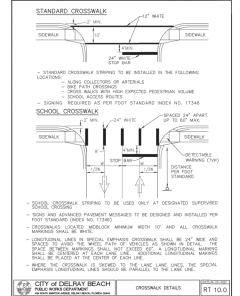
INTERSECTION DETAIL

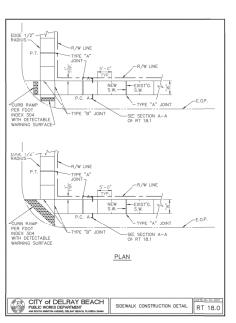
RT 8.0



INTERSECTION TRAFFIC CONTROL STOP CONDITION

RT 9.0





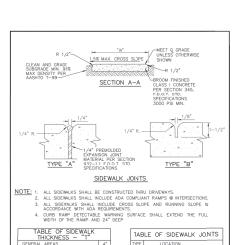






TABLE OF SIDEWALK

WIDTHS - "W" SINGLE-FAMILY AREAS OTHER AREAS AS SPECIFIED BY THE CITY ENGINEER.



SIDEWALK CONSTRUCTION RT 18.1

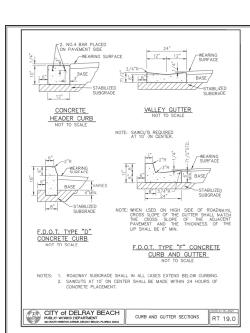


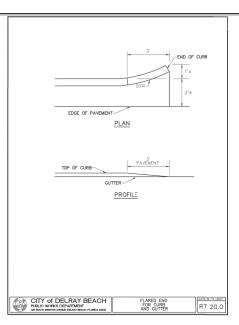
DELRAY RIDGE GRADING, & DRAINAGE DETAILS

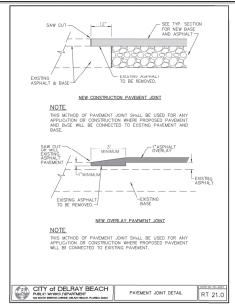
DATE 06/08/20 DRAWN BY RHT F.B./ PG. N/A SCALE

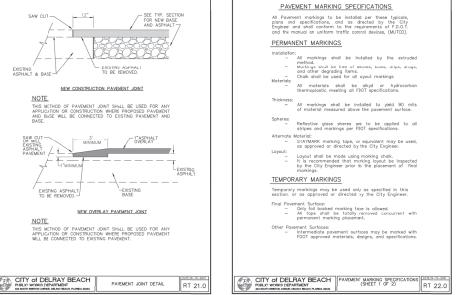
PAVING, (

Rvan Wheeler RYAN D. WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA - FOR THE FIRM -DATEJUN 07, 2022













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

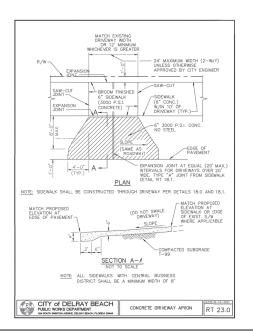
RAISED PAVEMENT MARKERS

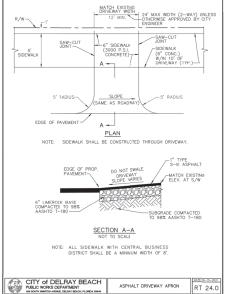
- R.P.M.s shall be installed on all lane lines and centerlines, spaced at 20' or 40'.
- R.P.M.s shall be a 4 < 4 type class "B" marker meeting F.D.O.T. specifications and shall be approved by the City Engineer prior to use.
- R.P.M.'s shall be installed using alkyd thermoplastic on asphilt and epoxy on concrete.

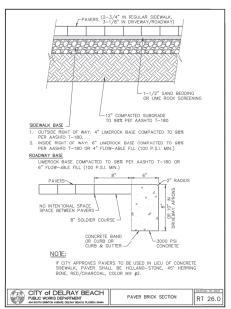
OTHER NOTES

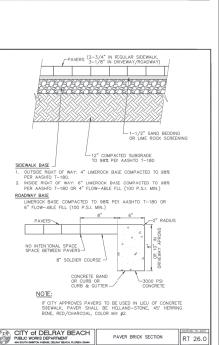
- All Materials within right-of-way shall be thermoplastic and per F.D.O.T. specifications.
- Pavement marking within private parking lots may be painted according to F.D.O.T. specifications, except for all stop bars adjacent to public right-of-way.











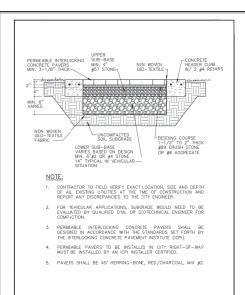


DETAILS DELRAY RIDGE 3, GRADING, & DRAINAGE D PAVING,

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

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

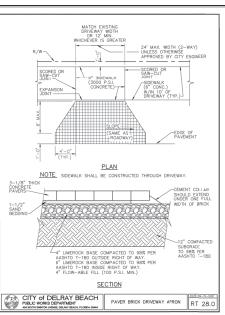


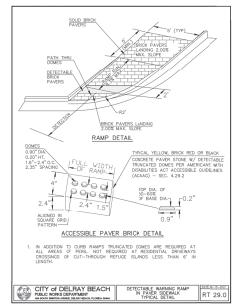


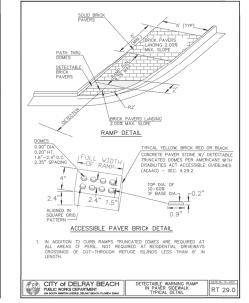
PERMEABLE PAVER SECTION DETAIL

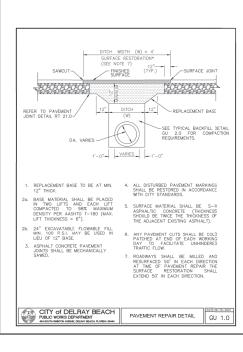
RT 27.0

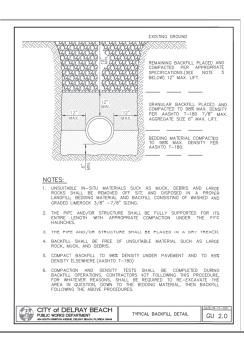
CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
AN BOUTH BIRRTON AVENUE DELIAN SEACH PLONEDA SMAAL

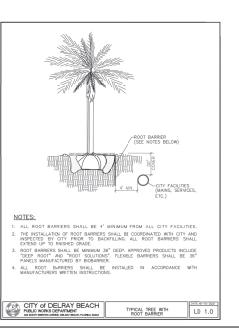


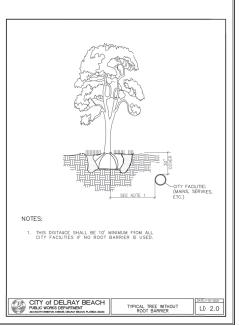


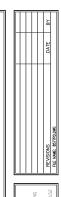












DELRAY RIDGE GRADING, & DRAINAGE DETAILS PAVING,

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

Rvan Wheeler RYAN D. WHEELER RYAN D. WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA - FOR THE FIRM -DATEJun 07, 2022



- 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. 945.
- 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. 1-P-18.
- 6. ALL LOTS, ROADWAYS AND BORROW AREAS SHALL BE STRIPPED OF ALL DELETERIOUS (UNSUITABLE) MATERIALS AND MATERIALS SHALL BE DISPOSED WITHIN THE SITE.
- ALL GRADING OF STREETS, INCLUDING THE REMOVAL OF ALL MATERIALS AND THE FINISHING OF ALL SHOULDERS, SUBGRADE PREPARATION, SWALES AND BACKSLOPES, IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN HEREON SHALL BE INCLUDED IN THE BID PRICE FOR PANING.
- 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 ORGANIC AND DELETERIOUS MATERIALS WITHIN THE RIGHT -OF- WAY AND UTILITIES AND DRAINAGE EASEMENT. SHALL BE COMPLETE 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 PAYING 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 COMPACTION 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 CONTRACTON'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN ON THESE DRAWNOS AND SHALL VERFY ALL ELEVATIONS BEFORE STARTING CONSTRUCTION, ALL EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO EXISTING OR BETTER CONDITIONS BY CONTRACTOR AT NO EXPENSE OF OWNER.
- 15. WHERE CONNECTIONS TO AN EXISTING DRAINAGE SYSTEM ARE PROPOSED, SAID EXISTING DRAINAGE STRUCTURES AND LINES SHALL BE PURGED OF ALL SLT AND DEBRIS PRIOR TO SAID CONNECTION, AND WHERE EXISTING DRAINAGE SYSTEM INCLUDES DITCHES, SAID DITCHES SHALL BE CLEARED AND REWORKED, AS NECESSARY, TO RESTORE THEM TO THEIR APPROPRIO DESION SECURED.
- 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.

CLEARING AND GRUBBING:

- 18. WORK SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF ALL BUILDINGS, TIMBER, BRUSH, STUMPS, ROOTS, RUBBISH, AND DEBRIS AND ALL OTHER OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE EMSTING GROUND AND THE SURFACE OF EXCAVATED AREAS, AND OF ALL OTHER STRUCTURES AND OBSTRUCTIONS NECESSARY TO BE REMOVED, NUCLIONIC SPETIC TAXES, BUILDING FOUNDATIONS, AND PICE.
- 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 WHERE SO DIRECTED BY THE ENGINEER, SHALL BE TRIMMED, PROTECTED AND LEFT STANDING.
- 21. PROPERTY OBSTRUCTIONS WHICH ARE TO REMAIN IN PLACE, SUCH AS BUILDINGS, SEWERS, DRAINS, WATER OR GAS PIPES, CONDUITS, POLES, WALLS, POSTS, BRIDGES, ETC. ARE TO BE CAREFULLY PROTECTED FROM INJURY AND ARE NOT TO BE DISPLACED.
- 22. CLEARING 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 PORPOSED PAYMENTH AREA TO DETERMINE COMPLIANCE IN THE DESSON SPOTICATIONS OF TOOK OF MAX. DENSITY POR AMSTOT T-99 TESTING METHODS.
- 25. STABLIZED SIRBOAGE SHALL HARE A MANUAL LILEGISCO: BEARINE PART, CIRB, OF 40.5 LICE, COMPACTES SIRBOAGE SHALL CHIEFON THE LIKES, CRUEES, MO CORS-SECTIONS SHOWN ON THE PLANS. ALL HOTTS, STUME, OR GRECTIONABLE MATERIAL PRESENT ON LINEER, OR PROTECTION THOUGHT HE SHAPE SHAPE SHALL BE SHAPE SHA

- 26. LMEROOK COMPOSITION THE FOLLOWNO TESTS ARE REQUIRED ON THE LMEROOK MATERIAL: A CHEMICAL COMPOSITION TEST TO DETERMINE THAT MATERIAL HAS A MINIMAM PERCENT CARBONATES OF FORM. B. LMEROOK BEARING RATIO TEST TO DETERMINE THAT MATERIAL CAN ADHER AN LIBR OF TIOD. C. SEME ANALYSIS TO INSIDE THAT AT LAST 37 ME, WEIGHT) OF THE MITERIAL SHALL PASS A 3-1/2" SEME AND MATERIAL SHALL CAN STEM ENDED THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THAT OF THE SHALL CAN STEM THAT OF THE SHALL BE DONE BEFORE THE MATERIAL SHALL CAN STEM THE SHALL SHALL CAN STEM THAT OF THE SHALL SHA
- 27. A PROCTOR TEST SHALL BE PERFORMED ON THE PROPOSED LIMEROOK MATERIAL TO DETERMINE THE MAXIMUM DENSITY OF THE MATERIAL. IN-PLACE DENSITY TESTS SHALL BE TAKEN AT A PREQUENCY OF AT LEAST ONE TEST FOR EVERY 7,000 SQ.FT. OF PROPOSED PAVEMENT TO DETERMINE COMPLIANCE WITH THE DESIGN SPEC
- 28. THE COMPACTED BASE SHALL CONFORM TO THE LINES, GRADES, AND CROSS-SECTION SHOWN ON THE PLANS. THE FINISH BASE SURFACE SHALL BE STRINGLINED OR CHECKED WITH A TEMPLATE TO VERTRY COMPONANCE 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 GALLOWS PER SOLARE FAND.

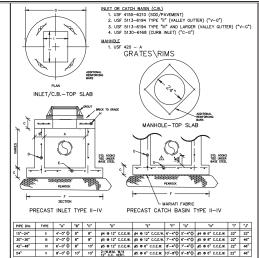
ASPHALTIC CONCRETE SURFACE COURSE:

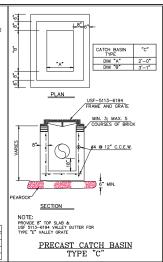
- 29. TACK COAT A. PRIOR TO INSTALLATION OF THE OVERLAY, THE SURFACE OF THE EXISTING ASPHALT SHALL BE BROOMED TO REMOVE ALL LOOSE MATERIAL WHICH MIGHT MITERIZER WITH THE ADMESSION OF THE EXISTING ASPHALT AND OVERLAY. B. A TACK COAT SHALL BE APPLIED TO THE TOLEAN ASPHALT SURFACE AT A RATE OF 0.10 GALLONS/OSFIT. IN THE PRESENCE OF THE DEMOMENT'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.
- 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 FLANT 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).
- A. THE PRIVATED SMEARLS OF THE ASPIRATE FAILL BE CHECKED WITH A STRANGHT EDGE TO HIGHER THAT THE LINE, CONCEL, AND CONSSS-SECTION OF THE PRIVATED PRIVATED SCHOOL BOY OF CONSSISSANCES AND A PRIVATE AND A PRIVATE SCHOOL BOY OF CONSSISSANCES AND A PRIVATE AND A PRIVATE SCHOOL BOY OF CONSISSANCES AND A PRIVATE AND A PRIVATE SCHOOL BOY OF CONSISSANCES AND A PRIVATE AND A PRIVATE SCHOOL BOY OF CONSISSANCES AND A PRIVATE SCHOOL BOY OF CONSISSANCE
- 35. ALL REPAIRS TO EXISTING PAVEMENT SHALL RECEIVE SAWCUT EDGE PRIOR TO RELAYING ASPHALT. UNDER PAVEMENT UTILITY PIPING OR WRING LESS THAN FOUR (4) INCHES IN DIAMETER REQUIRES A SCHEDULE 40 PVC CASING PIPE WITH SAND BACKFILLS.
- 36. ALL PERMANENT CONTROL POINTS AND/OR REFERENCE MARKERS SHOWN ON PLAT SHALL BE RAISED TO FINAL GRADE IF LOCATED IN PAVEMENT OR CONCRETE. THESE POINTS AND REFERENCE MARKERS SHALL BE LOCATED AND NOTED ON THE PLAT.

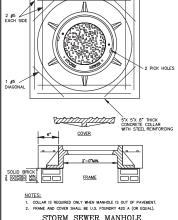
NOTIFICATION, TESTING

- 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 ADJUSTMEN 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 FERTILIZING, WATERING, AND MAINTAINING SODDED AREAS SUCH AS TO ASSURE A HEALTHY STAND OF GRASS.
- 41. THE AREA OVER WHICH THE SOO IS TO BE PLACED SHALL BE SCARPED OR LOOSENED TO SUITABLE DEPTH, THE SOO SHALL BE PLACED ON THE PREPARED SURFACE WITH EDGES IN CLOSE CONTACT AND SHALL BE FRALKY AND SMOOTHLY EMBEDDED BY LIGHT TAMPING WITH APPROPRIATE TOOLS. ON ARESS WHERE THE SOO MAY SLIDE DUE TO WHICH THE STOP BY ONE THE PROPARED MAY DIRECT THAT THE STOP BY ONE THE PROPARED MAY DIRECT THAT THE STOP BY ONE THE STOP BY ONE THE STOP BY ONE AREA THAT STRIKE IN EXTREME.







FRAME AND COVER

-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.

Pavement marking and geometric shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", and "Palm Beach County" typical No. T-P-18 (Or latest version).

PERMANENT MARKINGS

- Installation:

 Mil morkings shall be installed by the extruded method.

 Mil morkings shall be free of weaves, bows, drips, drags, and other degrading items.

 Chalk shall be used for all layout markings

eriuls: All materials shall be alkyd thermoplastic meeting all State specifications.

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

Beads:

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

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

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

Final Pavement Surface:

Only foil backed marking tape is allowed.

All tape shall be totally removed concurrent with permanent marking placement.

Other Pavement Surfaces:

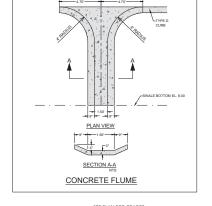
— Intermediate pavement surfaces may be marked with FDOT approved materials, designs, and specifications.

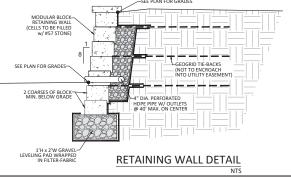
ALL PAVEMENT MARKINGS

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

RAISED PAVEMENT MARKERS

- 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
- R.P.M.'s shall be installed using alkyd thermoplastic on asphalt







DETAILS DELRAY RIDGE GRADING, & DRAINAGE D PAVING,

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

RYAN D. WHEELER PROFESSIONAL ENGINE LICENSE NO. 71473 STATE OF FLORIDA - FOR THE FIRM -DATEJun 07, 202



I DESCRIPTION

1.1. GENERAL:

Scope of Work:
 Furnish and place sand bedding course.
 Furnish and install concrete interlocking paving stones in the quality, shape,
 Furnish and install all accessory items as required by the contract.

B. Reloted Work:

1. Furnish and install subgrade per Table 100.6 of the Palm Beach County Land Development Design Standards Manual.

2. Furnish and install base per Table 100.6 of the Palm Beach County Land Development Design Standards Manual.

Product Handling:
 Paying stones shall be delivered and unloaded at jobsite in such a manner that no damage occurs during shipping, handling and storage.

References:
 Solid concrete interlocking paving stones shall meet or exceed the requirements in ASTM C-936 Standard Specifications for Solid Concrete Interlocking Paving Units.

II. MATERIALS:

2.1. SOLID CONCRETE INTERLOCKING PAVING STONES:

A. Insuress, Loice and Pattern:

1. Poving stone thickness shall be between 3-1/8" min - 4" max...

2. All paving stones shall be colored through the full depth of pover and not just the surface.

3. A multi-colored paving stone pattern shall be used.

B. Cementitious Materials:
1. Portland cements shall conform to ASTM C-150.

C. Aggregates:
 1. Aggregates shall conform to ASTM C-33 for normal weight concrete except that grading requirements shall not necessarily apply.

Other Materials:
 Coloring pigments, air entraining agents, integral water repellents, finely ground silica, etc., shall conform to ASTM standard where applicable or shall be previously established as suitable for use in concrete.

. Compressive Strength:

1. At the time of delivery to the work site, the average compressive strength shall not be less than 8,000 psi with no individual unit strength less than 7,200 psi, with testing procedures in accordance with ASTM C-140.

F. Absorption:

1. The average absorption shall not be greater than 5% with no individual unit absorption greater than 7%.

Proven Field Performance:
Satisfying field performance is indicated when paving stones similar in composition, and made with the same manufacturing equipment as those supplied to the purchaser, do not exhibit deterforation after one year.

CONORETE BAND SHALL BE 12" x 10" CAST - IN - P F.D.O.T. CLASS II CONORETE WITH 1 CONTINUOUS #4 REBAR. EDGE TREATMENT SHALL BE STRAIGHT FOR A FLUSH IT OF PAMERS.

1 1/2 - INCH (COMPACIED THOISMESS APPLIED IN TWO 3/4" LIFTS) TYPE S-III ASPHALTIC CONCRETE SURFACE COURSE OVER PRIMED BASE, AND TRACK COAT BETWEEN PAVING COURSES, OR 1 1/2" (PLUCED IN ONE LIFT) (SN = 0.44 + 1.5 = 0.69)

9 1/2" LIMEROCK BASE OR 8" CRUSHED CONCRETE COMPACTED TO A MINIMUM OF 98% OF MAX. DENSITY PER AGSHTO T-180; MIN % CARBONATE = 80% AND LBR OF 100. (SN = 0.18 x 9.5 = 1.71)

Naual inspection.
All powing stores shall be sound and free of defects that would interfere with the proper placement of the powing store or impoir the strength or permanence of the constructions leasted to the usual methods of morulacture, or chipping resulting from customory methods of handling in shipment and delivery, shall not be deemed grounds for rejection.

Sompling and Testing:
 The purchaser shall be accorded proper facilities to inspect and sample the paving stones at the place of manufacture from lots ready for delivery.
 Paving stones will be sampled and tested in accordance with ASTM C-140.

J. Rejection: 1, if the shipment falls to conform to the specified requirements, the manufacturer may sort it, and new test powing stones shall be selected at random by the purchaser from the retained lot and tested at the expense of the manufacturer. If the second set of test powing stones fall to conform to the specified requirements, the entire to thall be rejected.

RELIEF TOOLING

8 8 8

լ 3"

CONCRETE UNIT PAVERS

A. The bedding course shall be a well graded, clean, washed sand $\,$ with 100% passing a 3/8" sieve size and a maximum of 3% passing a No. 200 sieve size. The use of mason sand shall not be opproved.

B. The bedding course shall be the responsibility of the paving stone installer. 2.3 FDGE RESTRAINT-

A. All edges of the installed paving stones shall be restrained. The type of edge restraint, shall be approved at locations and to details noted on plans.

III. CONSTRUCTION METHODS:

3.1 PREPARATION OF THE BASE COURSE:

A. A suitable base shall be prepared as specified in Section B.2. of this specification.

B. The base course shall be shaped to grade and cross section with $\;$ allowable tolerance of $\chi \!\!\!/''$.

3.2 CONSTRUCTION OF THE BEDDING COURSE:

A. The finished base course shall be approved before the placement of the bedding course.

B. The sand bedding course shall be spread evenly over the area to receive the paving stones and the screeded level to produce a 1" thickness when the paving stones have been placed and vibrated.

C. The final elevation of paving stones should be nominally 1 to 3/6° higher than the adjacent curb, gutter, etc., to allow for free drainage from chamfers on paving stone edges.

D. The bedding course shall not be disturbed, once screeded and leveled to the desired elevation.

9.5" LIMEROCK BASE COMPACTED TO A MINIMUM OF 98% OF MAX. DENSITY PER AASHTO T-180; MIN 78 CARBONATE = 600°, AND LIBR OF 100. (SN = 0.18 × 9.5 = 1.710)

- 12" COMPACTED SUBGRADE, COMPACTED TO A MINIMUM OF 98% OF MAX, DENSITY PER ABSHTO T-180

PAVER SECTION SN = 2.429

A. The paving stones shall be placed as shown on the drawings.

B. The paving stones shall be placed in such a manner that the desired pattern is maintained and that no intentional space is left between the stones for maximum interlock.

C. String lines should be used to hold all patterns true.

D. The gaps at the edge of the poving stone surface shall be filled with standard edge stone or with stones cut to fit. Cutting of concrete poving stone shall be accomplished to leave a clean edge to the traffic surface using a double-headed breaker or a masonry saw. Whenever possible, no cut should result with a paving stone less than 1/3 of original dimension.

F. After vibration, clean, sharp sand containing at least 30% of 1/8" particles shall be spread over the paining stone surface, clieved to dry and vibrated into the joints with additional plate vibrator passes and brushing so as to completely fill the joints.

G. Surplus material shall then be swept from the surface or left on the surface during construction to insure complete filling of joints during initial use.

during construction to insure complete filling of joints during initial use.

I. Upon completion of work cowed in this section, the Contractor shall cleen up all work crees by removing all debris, surplus material and equipment from the site.

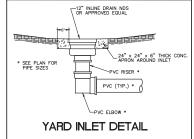
I. Power brick shall conform with Polim Beach County Land Development Design Standards Manual with the following exceptions: A) Under II Material 2.1 # A.1, Poliving state thickness shall be 3.1/8 (fin.), to 4 "fame", b) Under II Material 2.1 # A.3, The cotoring shall be 'throughout' the entire brick with the and Bridge Construction (lates edition) section 7.10—4, 7

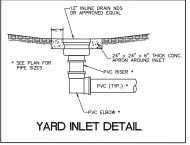
2. Glass spheres to meet the requirements of sections 371—1 and 971—14 with retroflectivity to be not less than 300 minicandies.

3. When header curb is used to outline a crosswalk the curb shall be white concrete with glass beds in the white concrete.

4. Head of the control of the white concrete with glass beds in the white concrete.

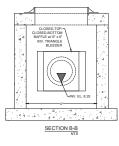
Beach Country Traffic Engineering Division.





15" RCP HNV. EL. 8.25

PLAN VIEW



-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.

CONTROL STRUCTURE (D-11) DETAILS

SECTION A-A

DETAILS DELRAY RIDGE GRADING, & DRAINAGE I PAVING,

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

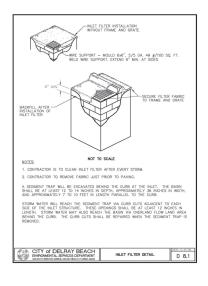
Wheeler RYAN D. WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA – FOR THE FIRM – DATEJUN 07, 2022



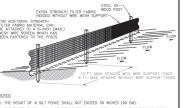
- 2. CONTRACTOR UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS
- 3. ENGINEER ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION

- A PRE-CONSTRUCTION MEETING IS 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.
- A MINIMUM OF THREE (3) COPIES OF THE CURRENT APPROVED PRODUCT LIST AND ALL NECESSARY SHOP DRAWNOS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO SOFIDILING THE PRE-CONSTRUCTION MEETING, ALL PIPE MANUFACTURERS SHALL SUBMIT THREE (3) COPIES OF AN AFRIDANT THAT THE PIPE AND COATNOS WERE MANUFACTURED IN ACCORDANCE WITH AWAY CIST/ACI-3-91.
- ALL APPLICABLE PERMITS MUST BE OBTAINED WITH COPIES PROVIDED TO THE COUNTY PRIOR TO COMMENCEMENT OF CONSTRUCTIO
- 5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
- ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY THE COUNTY PRIOR TO CONSTRUCTION. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE APPROVED PRIOR TO DELIVERY OF THESE MATERIALS TO THE JOB SITE.
- THE LOCATION OF THE DISTINGUILLIES AS SHOWN ON THE PLANS ARE APPROXIMET. ONLY, THE PLANT LOCATIONS SHALL BE DETERMINED BY THE LOCATION OF THE DISTINGUILLIES AS SHOWN ON THE PLANT DESCRIPTION OF TH
- . THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISKUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS MECESSARY TO ROTRECT THE HEALTH, SAFETY, AND MELFARE OF THOSE PERSONS HAMPO ACCESS 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. 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 IN ADVANCE BY THE COUNTY.
- 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.
- . PAWING, DRAINAGE AND TRAFFIC CONSTRUCTION SHALL CONFORM TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND DESIGN STANDARDS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PAUM BEACH OLDWITY TYPICA. IN. TP-P-18 UNIESS SHOWN OTHERWISE.
- 15. AS-BUILT DRAWINGS SHALL BE 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 553-851 FOR PROTECTION OF UNDERGROUND GAS PIPE LINES.
- 17. CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE (1-800-432-4770) 48 HOURS IN ADVANCE OF CONSTRUCTION
- 18. GRADES SHOWN ON PLANS ARE PINISHED 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, LIGHTING, SIGNAGE AND FLAGMEN AS RECESSARY TO PROVIDE FOR THE FAFETY OF THE PUBLIC IN THE WORK AREA. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFOR MAINTENANCE FUAN PRIOR TO CONSTRUCTION.
- 20. EXISTING BASE MATERIAL THAT IS REMOVED DURING CONSTRUCTION SHALL NOT BE USED IN THE CONSTRUCTION OF NEW LIMEROCK BASE.
- 21. ALL VEGETATION, DEBRIS, CONCRETE OR OTHER UNSUITABLE MATERIAL SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA AT THE CONTRACTORS EXPENSE.
- 22. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES, SUCH AS TURBIDITY SCREENS, CURTAINS AND FLOATING SLT 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 PAVED SURFACES SHALL BE PROPERLY MARKED PRIOR TO HOURS OF DARKNESS. PERMANENT PAVEMENT MARKING STALLS SHALL BE LAID OUT USING MARKING CHALK. LAYOUT TO BE REVIEWED BY THE COUNTY PRIOR TO PLACEMENT OF FINAL MARKING.
- 25. EMBANKWENT (FILL) AND EXCESS MATERIAL REQUIRED FOR ROADWAY RECONSTRUCTION AND UTILITY INSTALLATIONS SHALL BE SUPPLIED AND/OR DISPOSED OF BY THE CONTRACTOR. ALL COSTS ASSOCIATED WITH LEARTHMORK REQUIREMENTS TO COMPLETE THE ROADWAY RECONSTRUCTION AND UTILITY INPROVIMENTS SHALL BE INJUDIED IN THE COSTS OF OTHER APPROPRIATE PAY LOST.
- 26. CONTINUITY OF WATER AND SEWER SERVICE TO COUNTY UTILITY CUSTOMERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS PROJECT. IF A BREAK IN SERVICE IS UNANODIABLE TO ACCOMMODATE CONSECTION OF HEM FACILITIES, IT SHALL BE SCHEDULED FOR OFF PEAK HOURS WITH THE COUNTY, DETERMINATION OF SERVICE BERKER 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 FLORIDA POWER AND LIGHT, AND FLORIDA PUBLIC UTILITIES, RESPECTIVELY, EACH UTILITY HAS BEEN NOTIFIED THAT THEY WILL BE REQUIRED TO RELOCATE THEIR UTILITIES.





POLLUTION PREVENTION DETAIL



- 1. THE HEIGHT OF A SIT FINCE SHALL NOT EXCESS OR MICHES (50 DM).

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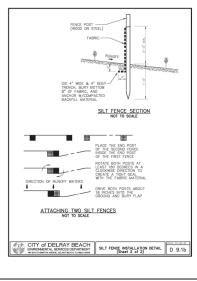
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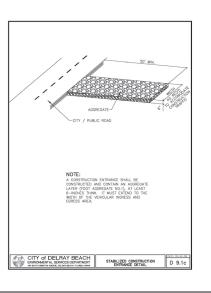
- THAN 36 NOVES (90 CM) ABOVE THE ORIGINAL ORIGINAD SURFACE.

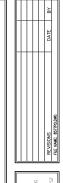
 THE STRANDARD SERRICHE FILTER FRANCE SHALL BE STRANDED OR WREID TO THE FENALE.

 THE STRANDARD SERVICE THE STRAND SHALL BE STRAND TO THE FENALE FABRIC SHALL NOT EXTERN MORE THAN 30 NOVES (90 CM) ABOVE THE ORIGINAL SHALL BE SHALL BE
- ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

CITY of DELRAY BEACH ENVIRONMENTAL SERVICES DEPARTMENT	SILT FENCE INSTALLATION DETAIL	D 9.1a	l







DELRAY RIDGE POLLUTION PREVENTION PLAN

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

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





INSPECTION OF ALL ERGISION CONTROL MEASURES SHALL BE CONDUCTED WEEKLY OR AFTER EACH RAINFALL EVENT, REPAIR, AND/OR RELACEMENT OF SUCH MEASURES SHALL BE MADE PROMPTY, AS NEEDED.

KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.

 ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY ONSITE INSPECTION. FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL PRACTICES SHALL RESULT IN CONSTRUCTION BEING HALTED.

DRAINAGE INLETS SHALL BE PROTECTED BY FILTER AND GRADED ROOK AS PER INLET PROTECTION DETAIL.

BROSON CONTROL MEASURES ARE TO BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
 WHENEVER FEASBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.

ALL WORK IS TO BE IN COMPLIANCE WITH THE RULES AND REGULATIONS SET FORTH BY THE STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE CITY OF DURAY BEACH.

12. DISCHARGE FROM DEWATERING OPERATIONS SHALL BE RETAINED ONSITE IN A CONTAINMENT AREA.



RECISIONS DATE 6

CAULFIELD & WHEELER, IN CIVI ENVERSING - LANDRAN FOOT COLDIS ENAL'S SUITE PROPERTY - SUITE FOOT BATON, I CORDA AND HONE (56) 592-1091 - FAX (56)

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 ENGNEER LICENSE NO. 71477 STATE OF FLORIDA - FOR THE FIRM — DATENOV 29, 2021

JOB #8577
SHT.NO.
OF 10 SHEETS

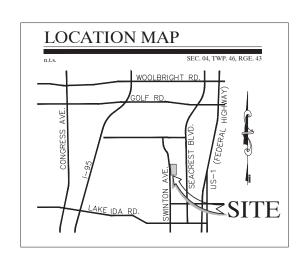
PROPOSED BURIED FIBER-OPTIC CABLE:

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

DELRAY RIDGE

Delray Beach, Florida

WATER DISTRIBUTION & SANITARY SEWER PLANS & DETAILS

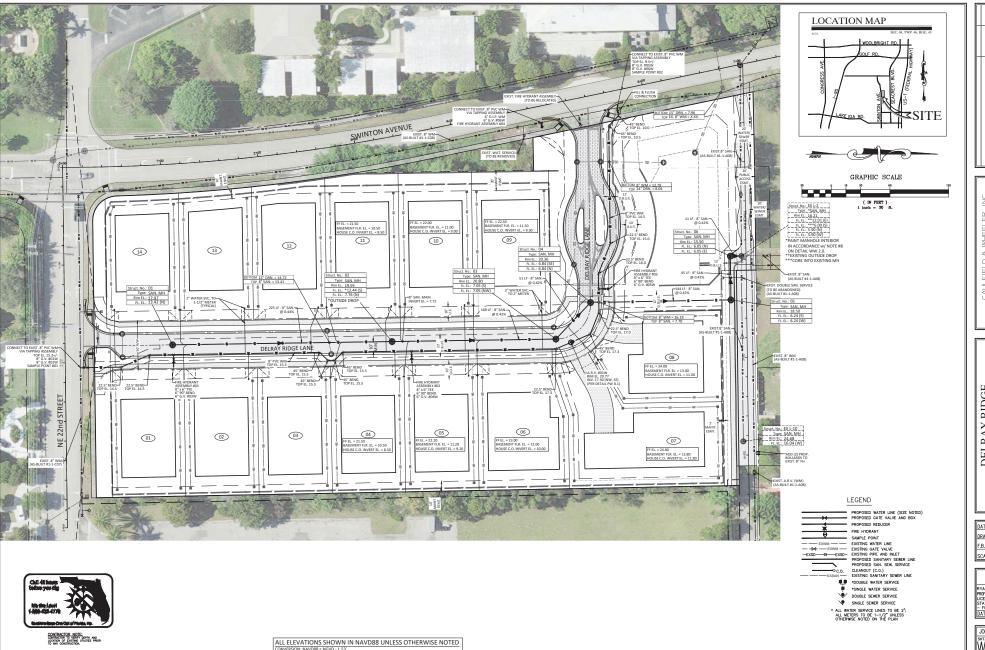


INDEX

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







CZ ECUSONS DATE TO THE ESTIMATE STOREGING

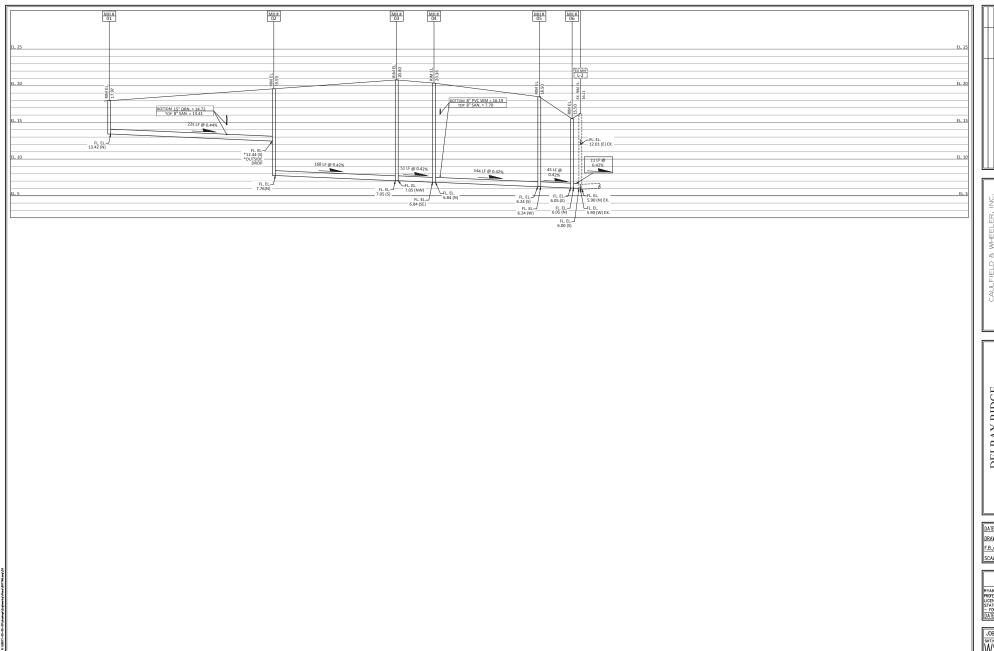
CAULFILLD & WHEELER, INC CML ENSINEERINS - LAMD FLAND LANGSORE REPHIETURE - SURG 7000 GLADES ROAD - SUITE (DE BOXA RATON, ELGRIDA 351.34. HHORE (56))-302-1909 / FAX (56))-756.

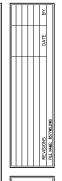
DELRAY RIDGE WATER DISTRIBUTION & SANITARY SEWER PLAN

DATE 02/17/2021 DRAWN BY RHT F.B./ PG. N/A SCALE 1"=30"

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

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







DELRAY RIDGE SANITARY SEWER PROFILES







CITY SHALL BE NOTIFIED BEFORE FILLING AND FLUSHING

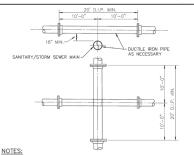
PRESSURE TEST PUMP MAY CONNECT TO SERVICE LINE, FIRE HYDRANTS OR BLOWOFF. NO EXTRA TAPS ARE PERMITTED SOLELY FOR TESTING PURPOSES UNLESS PRECEEDING ARE NOT PRESENT IN TEST SECTION.

TAPPING SADDLE OR SLEEVE (PER CURRENT CITY PRODUCT LIST) IS REQUIRED ON EXISTING MAIN.

SETUP FOR ALL DOUBLE VALVE CONNECTIONS TO INCLUDE ATMOSPHERE VENTS AS SHOWN ABOVE.

8. OUTLET ON VENT TO ATMOSPHERE A MINIMUM 24" ABOVE EXISTING GRADE.

CITY of DELRAY BEACH FILL & FLUSH DETAIL



AND SANTAPY SEREC POSSING UNDER WIFE MAINS SHALL E LAD TO
PROVIDE A MAINLAW VERTICAL STANCE OF 18 NOVES SEREND HE RIVETT O' THE
UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MANUAU SEPARATION
THE LOWER PIPE WHERE THIS MANUAU SEPARATION
PIPE JOHNS AND WATER MAIN OWNS ARE COUNDETEN FROM PORT OF CRISSING WITH
NO LESS THAM (10) FEET BETWEEN ANY TWO DOIN'S AND BOTH PIPES SHALL BE DLY.
ALTERNATIVE OF SEWER PIPES COSSING OVER A WATER MAIN, THE
STANFED ABOVE. SHALL BE REQUIRED MAY DO DOTH PIPES SHALL BE CHEEN A FOR
STANFED ABOVE. SHALL BE REQUIRED MAY DO THE PIPES SHALL BE CLESS. SO DUP.

MAINTAIN (10) FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND STORM OR SANITARY SEWER MAIN, AS A MNIMUM.

FORCE MAIN CROSSING WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN WITH WATER MAIN CROSSING OVER FORCE MAIN.

OF THE WATER MAIN WITH WATER MAIN CROSSING OVER FORCE MAIN.
SEWER SERVICE LATERALS SHALL GROSS LUNGER MATERIAMS WITH A MINIMIM VERTICAL
SEPARATION OF IGNITED (18) INCHES IN TRANSITION (18) INCHES VERTICAL
SERVICE MAIN CONTRACTOR OF INCHES IN TRANSITION (18) INCHES WATER
SANTARY LATERAL C-500 SORRE OF BETTER AND HE MINIMIMUS SERVARION SHALL BE
SIX (6) INCHES.
WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OFER THE SEARCH SERVICE
MAINTAINED. THE WATERMAIN SHALL BE
OLIP. AND THE SEWER CATERIAL SHALL BE
C-500 SORTH SOR BETTER.

CITY of DELRAY BEACH WATER MAIN & SEWER CONFLICTS PW 20

4'- 0"ø

2. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT

5. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.

6. CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT, SEE DETAIL

7. AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.

8. AIR RELEASE VALVE AND PIPING TO BE IDENTIFIED AS "WATER OF SEWER".

TWO PIECE MANHOLE WITH JOINT AT BASE IS PERMITTED. NO PIPE JOINTS INSIDE MANHOLE.

THREADED AREAS OF CORPORATION STOP SHALL BE COMPLETELY SPRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.

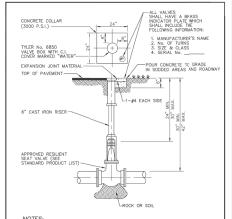
DOUBLE LID MANHOLE COVER & FRAME MARKED "WATER OR SEWER" TYPE "A" U.S. FOUNDRY NO. 690-AH-M OR EQUAL

PAVEMENT-

NO. 4 WRE 3X6 MESH A.S.T.M. SPEC 20 OR #4 @ 12" E.W.

GROUT-

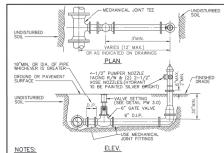
DIP RECLAIMED WATER MAIN



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.

2. AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINTS, TIE RODS, OF OTHER RESTRAINT APPROVED BY UTILITIES DEPARTMENT (NO THRUST BLOCKS

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
40 OURS BEACH
PUBLIC WORK TYPICAL GATE VALVE DETAIL PW 3.0



HYDRANT SHALL BE INSTALLED PLUMB AND TRUE IN UNOBSTRUCTED LOCATION. (7.5' CLEARANCE ON THREE SDES, 4' CLEARANCE AT REAR, WITH 3' ACCESS LANE)

2. NO BARREL EXTENSION SHALL 3E PERMITTED. 3. VALVE SHALL BE PLACED ADJACENT TO MAIN

4. ANCHOR TEES AND FITTINGS ARE PERMITTED.

HYDRANT SHALL BE MUELLER SUPER CENTURION, AA123 6_4^{10} WITH TRAFFIC BREAKAWAY FLANGE AND 5_4^{10} YALVE. HYDRANTS SHALL NOT ENCRYACH IN SIDEWALKS, ROADWAYS, OR BIKE PATHS.

7. ON RUNS LONGER THAN 20 FEET A SECOND VALVE IS REQUIRED AT THE HYDRANT.

8. ALL HYDRANT INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF DELRAY BEACH FIRE PREVENTION CODE SEC. 96.05.

IN CERTAIN SITUATIONS, PROTECTIVE BOLLARDS MAY BE REQUIRED AS DIRECTED BY THE ENGINEERING DEPT. (SEE FOLLARD DETAIL PW 7.0)

FIRE HYDRANTS INSTALLED BU' NOT YET IN SERVICE SHALL BE COVERED WITH A BURLAP, OR PLASTIC SACK, OR HAVE OUT OF SERVICE RING IN PLACE.

BORDARY, ON PLASTIC SACA, ON HAVE OUT OF SERVICE NING IN PLACE.

II. ALL HYDRANT LEADS GREATEF THAN 20-FEET MUST HAVE AUTOMATIC FLUSHER INSTALLED AT HYDRANT END (KUPFERLE #9400-WC STANDARD).

12. REMOVE CHAINS FROM HYDRINT AND PAINT SHERWIN WILLIAMS SILVER BRITE.

13. NO THRUST BLOCKS SHALL BE PERMITTED.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PUBLIC WORKS DEPARTMENT

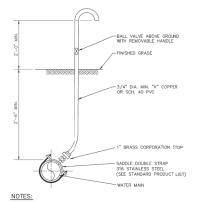
TYPICAL FIRE HYDRANT INSTALLATION

PW 60

RIDGE

DELRAY

UTILITY DETAILS



- 1. SAMPLE POINT SHOULD EE 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 MAIS PY PALM BEACH COUNTY HEALTH DEPARTMENT.
- IF AT ALL POSSIBLE SAMPLE POINT SHALL NOT BE LOCATED IN A TRAFFIC AREA.



TYPICAL SAMPLE POINT PW 10.0

PW 1 0

CITY of DELRAY BEACH UNDERGROUND AIR RELEASE VALVE AND VAULT

12. CORPORATION STOP REFER TO STANDARD PRODUCT LIST.

PRECAST CONCRETE TYPE # 4000 P.S.I.

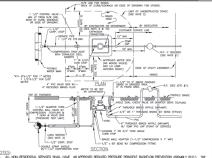
4. ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.

3. LIFT HOLES ARE PERMITTED.

W/FIBER MESH

-316 S.S. DOUBLE STRAP SADDLE OFF-SET 6" FROM CENTER OF STRUCTURE

-1 YD. 3/4" WASHROCK



OTTO: "STATE OF CHARGE AND A SECURITY OF CHARG

SUCCESSOR THIS BITCH SHE WITH WHAT SHELL BE SPECIAL NAMEAUM OF IT APPAIL THES OF SHE SEC OF A POWE SECTION SHELL BE AND OFFICE AND THE SHELL BE AND THE SHELL B

MATERIAS SICH AS MOD, CIERRS MO LARGE FOOS SPUL DE REMONDE WIT 2" MARIAM SIZ.

MERCPERSTRUK MU TOR E RISCHLIGGATURIS UNTIL

A. ALL FORM BONDS FOR REPENY MOORE SERMIC MUST BE COMPLETLY INSTALLED OR THE DRIVINGY MOORE SECONDLY MUST
MERCBEN INSTALLED SPACE" AS SHOWN IN NOTE 2 AND ON THE PLAN MEW IS PROMISED WITH 12" MARIAM MORTICAL SEPARATION
ROUGHED TO ALL OHER UTUINES.

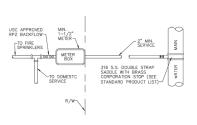
RECURSED TO ALL OFFER TUTLIES.

SEE EXCURSED DOING MERCHANDIN SESSIAL PROVIDE IS NOTIFIED AND HIS PASSED IN THE. TISST.

BE EXCURSED DOING ON PROBINGING SHE SHE WAY SETON IN ELECTRICAL WAY. TO BE REFILLED BY THE DEVELOPER ON THE DEPARTMENT DEPENDING ON THE THREE OF SERVICE NOTIFICATION FOLLOWS.

FOR CONCENTRATION OFFER OF SERVICE SHALL BE REPORTED FOR INSENTALIZATION OF SERVICES BEYOND FRESSAFE. TISST LIMITS AN

CITY of DELRAY BEACH
POTABLE WATER SERVICE SINGLE
1" METER INSTALLATION DETAIL.



- 1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" ON CENTER.
- 2. SERVICE LINES SHALL NOT BE PLACED UNDER DRIVEWAYS.
- ALL SERVICE LINES REQUIRE A LOCKING BRASS CURB STOP WITH LOCK WING (1"MIN.).
- 4. NO FITTINGS BETWEEN CORPORATION STOP AND BRANCH ASSEMBLY. 5. MAXIMUM SERVICE LENGTH IS 100' TO METER.
- 6. CASING PIPE I.D. SHALL BE SERVICE O.D. PLUS 1" MINIMUM.
- MINIMUM BEND RADIUS ON SERVICES SHALL BE 14" ON ALL SERVICES BEHIND METER.
- 8. ALL VALVES TO BE BALL VALVES.
- 9. METER BOX SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
- 10. ALL EXISTING SERVICES TO BE FIELD VERIFIED BY BUILDER/CONTRACTOR/DEVELOPER; IF EXISTING SERVICE IS GALVANZED, BUILDER/CONTRACTOF/DEVELOPER SHALL REPLACE WITH POLYETHYLENE PIPING FROM MAIN TO METER.

CITY of DELRAY BEACH

TYPICAL FIRE SERVICE CONNECTION PW 14.0

JOB #8577 ₩Ŝ-04

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

DATE 12/17/20

DRAWN BY RHT

F.B. / PG. N/A

SCALE

SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" ON CENTER.

2. SERVICE LINES SHALL NOT BE PLACED UNDER DRIVEWAYS.

3. ALL METERS REQUIRE A LOCKING BRASS CURB STOP WITH LOCK WING (1" MIN.).
4. NO FITTINGS BETWEEN CORPORATION STOP AND BRANCH ASSEMBLY.

5. MAXIMUM SERVICE LENGTH IS 100' TO METER.

6. CASING PIPE I.D. SHALL BE SERVICE O.D. PLUS 1" MINIMUM

7. MINIMUM BEND RADIUS ON SERVICES SHALL BE 14" ON ALL SERVICES BEHIND METER.

METER SIZE WILL BE DETERMNED BY PUBLIC UTILITIES DEPT. UPON APPLICATION FOR SERVICE.

9. ALL VALVES TO BE BALL VALVES.

9. ALL VALVES TO BE BALL VALVES.
10. METER BOX SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
11. ABOVE CONFIGURATION APPLES TO PLACEMENT AT SINGE FAMILY RESIDENCES. FOR DOUBLE SERVICES PLACED WINLIH AD OUBLE METER BOX.
12. ALL ENSTRING SERVICES TO BE FIELD VERIFIED BY BUILDER/CONTRACTOR/DEVELOPER, FE ENSTRING SERVICE IS ALL-VANIZED, BUILDER/CONTRACTOR/DEVELOPER.
14. SHANNO SERVICES TO BE FIRED FROM FAMILY TO METER.

15. THE SERVICE SHALL STANDARD TO METER BOX.

CITY of DELRAY BEACH

TYPICAL DOUBLE SERVICE

PW 15.0

BALL VALVES -USC APPROVED BACKFLOW PREVENTER TYPE L COPPER 6" PIPE NIPPLE--BALL VALVES - TYPE L COPPER **-90**° TYPE I COPPER OR BRASS PIPE SUPFORT (TYP.) (SEE DETAIL BELOW) CONCRETE COLUMN — ELEVATION -WRAP PIPE W/ NEOPRENE AT "U" BOLTS 6" DIA. CONCRETE COLUMN— S/S NUT AND BOLT (TYP) NOTES:

1. FOR ALL SERVICES LESS THAN OR FOUAL TO 2" DIA.

2. ABOVE GRADE PIPING SHALL BE BRASS OR TYPE "L" COPPER OR BRASS TUBING.

3. ALL COPPER JOINTS SHALL BE MADE WITH 95/5 SOLDER.

CITY of DELRAY BEACH

FRAME & COVER (SEE DETAIL WW 6.0) --

SOLID RED BRICK (MIN. 2 COURSE MAX. 4 COURSE)

NOT TO EXCEED 12"---

FLOW CHANNEL (SEE WW 5.0)

NOTES:

USC APPROVED RPZ BACKFLOW PREVENTER IS REQUIRED IN ACCORDANCE WITH CITY OF DELRAY BEACH CODE OF ORDINANCES TITLE V, CHAFTER 52:83.

REDUCED PRESSURE ZONE

TWO 3/4" 316 S/S BOLTS & NUTS

AND WASHERS. (TYP.) CAST IN CORBEL ALL THREAD MAY BE USE! (J SHAPED)

-STANDARD "T" 3RANCH

RESILENT PIPE - RESILENT PIPE CONNECTOR (LOCK JOINT FLEXIBLE SLEEVE ELASTOMER EPDM OR EQUAL) -8" MIN THICKNESS POUR ALL AROUND

STANDARD ELBOW (PVC) 30"

USC APPROVED RPZ BACKFLOW PREVENTER IS REQUIRED FOR ALL COMMERCIAL PROPERTIES AND ALL RESIDENTIAL PROPERTIES WITH FIRE SPRINKLER SYSTEMS.

PW 17.0

MANHOLES SHALL BE INSPECTED BY THE ENGINEER BEFORE PLACEMENT AND SURFACE TREATMENT.

ALL OPENINGS IN PRECAST NANHOLES SHALL BE CAST AT TIME OF MANUFACTURE CONNECTIONS TO EXISTING MANIOLES SHALL BE CORE ENTRY ONLY.

EACH LINE SEGMENT SHALL BE LAMPED TO DETERMINE PROPER ROUNDNESS.

THE END OF THE ONE (1) YEAR WARRANTY PERIOD THE DEVELOPER/CONTRACTOR WILL INSPECT, AIR TEST EVERY JOINT, AND CHECK MANHOLE JOINTS AND CONNECTION: DETERMINE IF REPAIRS ARE NECESSARY BEFORE THE WARRANTY BOND IS RELEASED.

NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10-FEET FROM ANY EXISTING OF PROPOSED SANITARY SEWER FACILITY.

ANY REHABILITATION TO AN EXSTING MANHOLE MUST BE INTERNALLY STRIPPED AND LINES WITH SEWPER COAT OR APPROVED EQUAL.

CITY of DELRAY BEACH

GRAVITY SEWER NOTES

WW 1 0

GRAVITY SEWER NOTES

ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE.

(PVC) GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D 3034, SDR 35, LATEST REVISIONS, WITH PUSH ON RUBEER GASKET JOINTS.

CIPID (ARVIT PUSH ON MURBER GANKET JOINTS.

(DIP) GRAVIT SWER PIPE SHALL BE CLASS 350, 401 EPOXY LINED OR AS OTHERWISE APPROVED BY UTILITIES DEPARTMENT.

NO SERVICE CONNECTIONS, YYES, SERVICES OR VALVES WILL BE PERMITTED IN RESIDENTIAL DATIVENAYS.

RESIDENTIAL DRIVEWAYS:

MARHOLE FRANKS SHALL BE ATTACHED TO THE PRECAST STRUCTURE WITH A MINIMUM OF TWO 3/4 316 STANKESS STEE, BOLTS, WILLS AND WASHES, FRANKS SHALL BE SEALED TO ENABLE PIPE AND APPUTEDANCES TO BE INSTAIL THE PREVAILED BY THE PROPERTY OF MATTER OF MA

ALL EXCAVATION IN EXISTING FIGHT OF WAY SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY TO PREMIT PEDESTRIAN AND VEHICULAR TRAFFIC PRIOR TO THE CONTRACTOR LEAVING THE SITE.

WHERE SEWER IS NOT WITHIN PUBLIC R/W, IT IS TO BE LOCATED IN A 12' UTILITY EASEMENT. CITY MAINTENANCE RESPONSIBILITY IS MANHOLE TO MANHOLE ONLY.

EASEMENT, CITY MANIERANCE, RESPONSIBILITY IS MANUELL TO MANHOLE OVER, UPON COMPLETION OF THE WORK AND PRIOR TO PLACEMENT OF ASPHALT A VISUA INSPECTION BY THE ENGINEER SHALL BE MADE OF THE COMPLETED SYSTEM ALONG WITH A CONTROL OF THE COMPLETED SYSTEM ALONG WITH A CONTROL OF THE COMPLETED SYSTEM ALONG WITH A CONTROL OF THE CONTROL OF TH

COMPLETE "AS BUILT" INFORMATION RELATIVE TO MANHOLES, VALVES, SERVICES FITTING PIPE LENGTHS, INVERTS AND SLOPES SHALL BE ACCURATELY RECORDED & SUBMITTED THE ENGINEER CITY SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.

ANY PIPE INTRODUCED INTO AN EXISTING MANHOLE MUST HAVE CARBOLINE BITUMASTIS 300M OR APPROVED EQUAL APPLIED EXTERNALLY WITHIN A MINIMUM 2-FCOT RADIUS OF OPENING AND THE ENTIRE MAHOLE MUST HAVE SEWPER COAT OR APPROVED EQUAL APPLIED INTERNALLY.

FRAME & COVER (SEE DETAIL WW 6.0)-BOLTS NUTS & WASHERS (TYP.) CAST IN CORBEL ALL THREAD ROD MAY BE USED (J SHAPED) 2 COURSES SOLID BRICK 4 MAX. W/ MORTAR FINISH NOT TO EXCEED 12" TWO (2) CONTINUOUS RINGS OF RAMNECK MAX. -PRECAST REINFORCED CONCRETE SECTION (KEYED TO LOWER WALL) CONE SHALL BE ECCENTR OR CONCENTRIC 6"OR MORE PREFERABLE (4 1/2" MIN.) HOLE DIAMETER
APPROPRIATE FOR
SIZE OF RIPE
(SEE NOTE 7) SLOPE 3/4" /FT 0

NOTES:

1. PRECAST CONCRETE TYPE II 4000 P.S.I.

RAMNECK AT ALL RISER JOIN'S WITH GROUT ON INSIDE AND OUTSIDE AT ALL RISER JOIN'S.

3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.

4. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM

5 LIFT HOLES SHALL BE FILLED WITH EXPANDABLE CROLLE

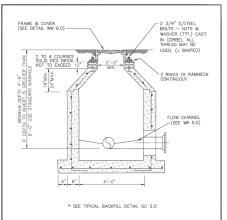
6. ALL PIPE HOLES SHALL BE PRECAST.

CAST IN PLACE FLEXIBLE PIPE-TO MANHOLE CONNECTOR (LOCK JOINT FLEXIBLE SLEEVE ELASTOMER EPDM OR RUBBEP GASKET WITH GLASS FIBER REINFORCED NYLON 6/6 INTERNAL EXPANSION RING) INSTALLED PER MANUFACTURER.

8. PAINT MANULE INSIDE AND JUSTICE WITH ONE (1) COAT RED CARBOLINE BITUMASTIC 300M THEN ONE (1) COAT BLACK OR APPROVED EQUAL, to 8-10 MILS D.F.T./COAT, FIRST COAT RED THEN BLACK.

9. MANHOLE FABRICATION SHALL BE IN ACCORDANCE W/ ASTM C-478, LATES' STANDARD. 10. IF THE STRUCTURE IS INSTALLED IN WATER TABLE MUST HAVE BEDDING. (SEE DETAIL

CITY of DELRAY BEACH STANDARD MANHOLE DETAIL WW 20



NOTE: ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE (DETAIL WW 2.0).

CITY of DELRAY BEACH

SHALLOW MANHOLE DETAIL

WW 3.0

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT

3. NO INSIDE DROP SHALL BE ALLOWED.

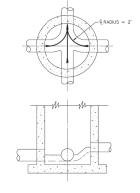
DROP MANHOLE DETAIL

* SEE TYPICAL BACKFILL DETAIL GU 2.0

ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.

2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.

WW 4.0



NOTES

ALL INVERT CHANNELS AR: TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION OR TURBULENCE.

PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.

3. SERVICE LATERALS SHALL NOT ENTER MANHOLES.

4. 2500 PSI CONCRETE ONLY PERMITTED AS FLOW CHANNEL BUILDUP.

5. NO DOG HOUSE MANHOLE ALLOWED.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT

INVERT FLOW CHANNELS

WW 5.0

-(2)-3" LG.X1" WIDE ANCHOR SLOT OF DELRA 2 #5 EACH SIDE PENETRATING PICKHOLES HOLES TANTARY SENE COVER SOLID BRICK 2 COURSES MIN. -4 COURSES MAX. 212 FRAME NOTES

COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.

COVER SHALL BE U.S. MR—ORS AND RING SHALL BE USF 576 RING WITH BITUMASTIC COAL TAR.

3. MANHOLE ADJUSTING RNGS SHALL BE CAST IRON, USF TYPE MR.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT

SANITARY SEWER MANHOLE FRAME AND COVER

WW 6.0

RYAN D. WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA - FOR THE FIRM -DATEMOY 24, 2022 JOB #8577 ₩S-05

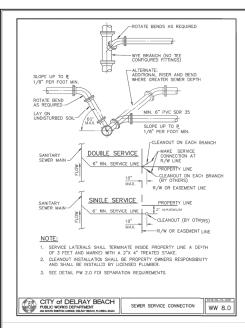
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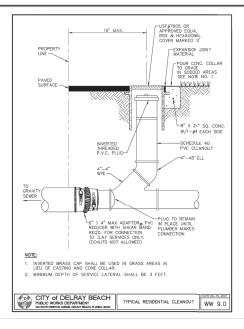
SCALE

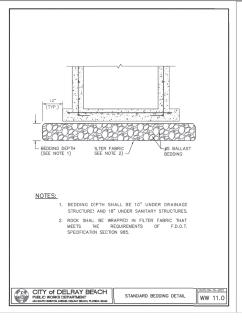
RIDGE

DELRAY

UTILITY DETAILS









- FOR PIPE SIZES 4"-8" THERE SHALL BE 30" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE. FOR PIPE SIZE 10" AND LARGER THERE SHALL BE 36" MINIMUM COVER.
- COVER.

 2.a. DUCTILE IRON PIPE (DIP) FOR FORCE MAINS SHALL BE CLASS 350 WITH 401 EPOXY LINED IN ACCORDANCE WITH AWWA C550.
- DUCTILE IRON PIPE (DIP) FOR WATER MAINS SHALL BE CLASS 350 IN ACCORDANCE
 WITH AWWA C151 (ANSI AZI.S1), AND SHALL HAVE AN INTERNAL LINING OF CEMENT
 MORTAR IN ACCORDANCE WITH AWWA C104/ AZI.4.
- C-900 PVC PRESSURE PIPE MAY BE USED IN LIEU OF DIP WATER MAIN WITH METAL TAPE AND WIRE ABOVE THE PIPE.
- ALL FITTINGS FOR FORCE MAIN SHALL BE CLASS 350 DUCTILE IRON WITH MECHANICAL JOINTS AND 401 EPOXY LINING.
- WATER MAIN VALVES 12 INCHES AND SMALLER SHALL BE RESILIENT-SEAL WEDGE GATE VALVES IN ACCORDANCE WITH AWWA C509, WATER MAIN VALVES LARGER THAN 12 INCHES SHALL BE BUTTERETY VALVES IN ACCORDANCE WITH AWWA C504. SEWAGE FORCE MAIN VALVES SHALL BE RESILIENT-SEAL PLUG VALVES IN ACCORDANCE WITH AWWA C517.
- ALL TRENCHING, PIPE-LAYNG, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH CITY AND LOCAL GOVERNMENTAL REGULATIONS AND
- SIANUARUS.

 WATER AND FORCE MAINS SHALL BE PIGGED A MINIMUM OF TWO TIMES, AND ADDITIONALLY, IF RECURRED BY ENGINEER OF RECORD, AS WELL AS PRESSURE TESTED FOR A PERIOD OF NOT LESS THAN TWO HOURS AT 150 PS IN ACCORDANCE WITH ANS/AWMA CODD LATEST STANDARDS, ALLOWABLE LEAKAGE SHALL BE DETERMINED AS FOLLOWS:

148.000

- RE:

 L = ALLOWABLE LEAKAGE (GALLONS PER HOUR)
 S = PIPE LENGTH (FEET)
 D = NOMINAL DAMETER OF PIPE (INCHES)
 P = AVERAGE TEST PRESSURE (PSI)
- 8. RESTRAINTS SHALL BE PROVIDED AT ALL FITTINGS AS SHOWN ON PP 2.0 AND 2.1
- PRIOR TO ANY TESTING UNDER FUTURE PAVEMENT, ROCK SHALL BE FINISHED & PRIMED OR 1ST LIFT OF ASPHALT PLACED.
- 10. PIG SIZE SHALL BE PIPE DIAMETER PLUS 2" OR NEXT LARGER DIAMETER.
- NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10-FEET FROM ANY EXISTING OR PROPOSED WATER OR FORCE MAINS.
- LINE STOPS SHALL BE INSTALLED A MINIMUM OF 3 PIPE LENGTHS FROM LOCATION OF PIPE REMOVED AND PROVIDE NECESSARY JOINT RESTRAINTS.

CITY of DELRAY BEACH

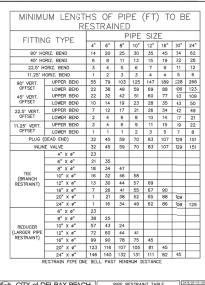
PRESSURE PIPE NOTES

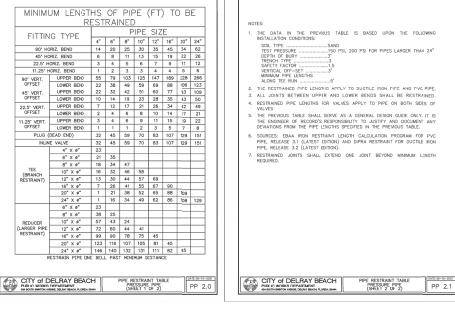
PP 1.0

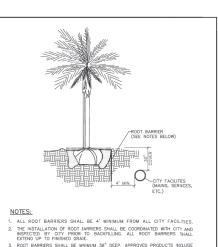
RIDGE

DELRAY

UTILITY DETAILS





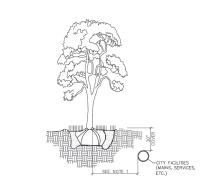


- 3. ROOT BARRIERS SHALL BE MINIMUM 36" DEEP, APPROVED PRODUCTS INCLUDE "DEEP ROOT" AND "ROOT SOLUTIONS, FLEXIBLE BARRIERS SHALL BE 36" PANELS MANUFACTURED BY BIOBARRIER.
- ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

CITY OF DELRAY BEACH
PI IRI IC WORKS DEPARTMENT
444 BOUTH BRINTON AVENUE, DELANT BEACH, FLORIDA 59444

TYPICAL TREE WITH ROOT BARRIER

LD 1.0



NOTES:

THIS DISTANCE SHALL 3E 10' MINIMUM FROM ALL CITY FACILITIES IF NO ROOT BARRIER IS USED

CITY OF DELRAY BEACH
PIJRI IC: WORKS DEPARTMENT
44 500% GRATCH KIDNA, DELAY SEACH, PLONDA 50444

TYPICAL TREE WITHOUT ROOT BARRIER

LD 2.0

RYAN D. WHEELER PROFESSIONAL ENGINEER LICENSE NO. 71477 STATE OF FLORIDA - FOR THE FIRM -DATEMOY 24, 2022 JOB #8577 ||\|\|\|\|\|\|\|\|-06

DATE 12/17/20

DRAWN BY RHT

F.B./ PG. N/A

SCALE