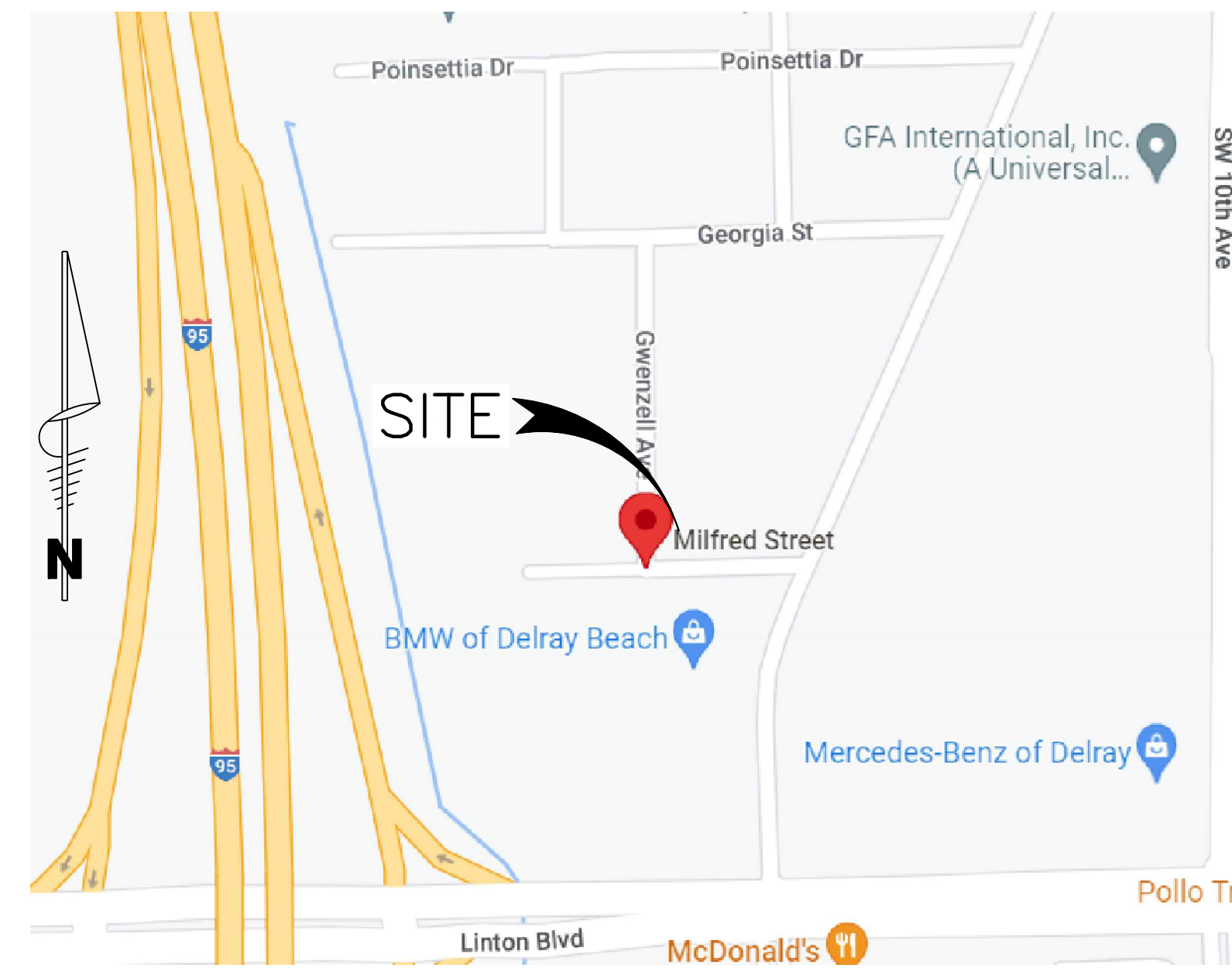


PRELIMINARY SITE IMPROVEMENT PLANS
 FOR
MILFRED INDUSTRIAL
 DELRAY BEACH, FLORIDA

ARCHITECT: **HNM ARCHITECTURE**
 3705 NORTH FEDERAL HIGHWAY
 DELRAY BEACH, FL 33483

INDEX OF SHEETS

<u>SHEET No.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	PRELIMINARY PAVING, GRADING & DRAINAGE PLAN
3	PRELIMINARY WATER & SEWER PLAN
4	POLLUTION PREVENTION PLAN & DETAILS
5-8	CONSTRUCTION DETAILS



LOCATION MAP

N.T.S.
 SEC. 20 TWP. 46 S RGE. 43 E

LDi PREPARED BY:
Last Devenport, Inc.

1860 Old Okeechobee Road, Suite 504
 West Palm Beach, FL 33409
 phone (561)615-6567 fax (561)683-0872
 EB 9889

RONALD W. LAST, STATE OF FLORIDA, PROFESSIONAL ENGINEER,
 LICENSE NO. 38707

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY RONALD
 W. LAST ON THE DATE INDICATED HERE.

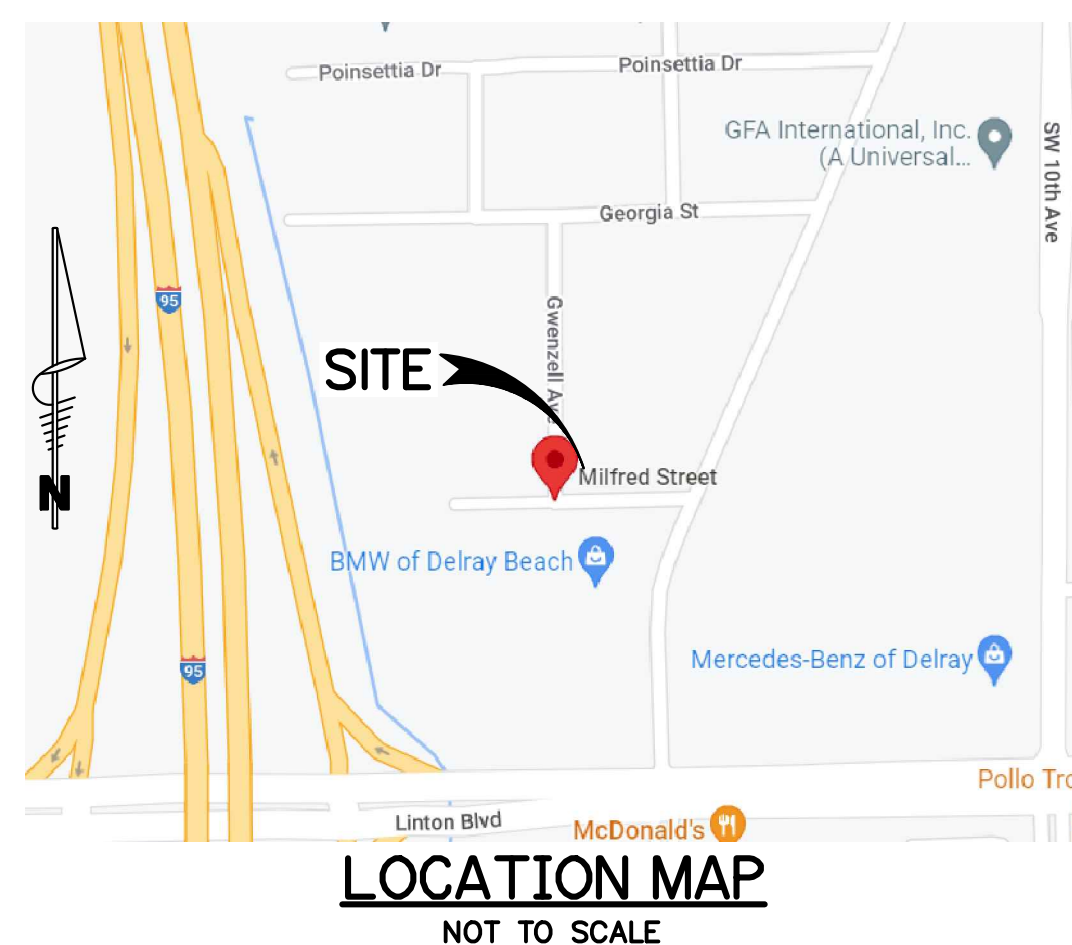
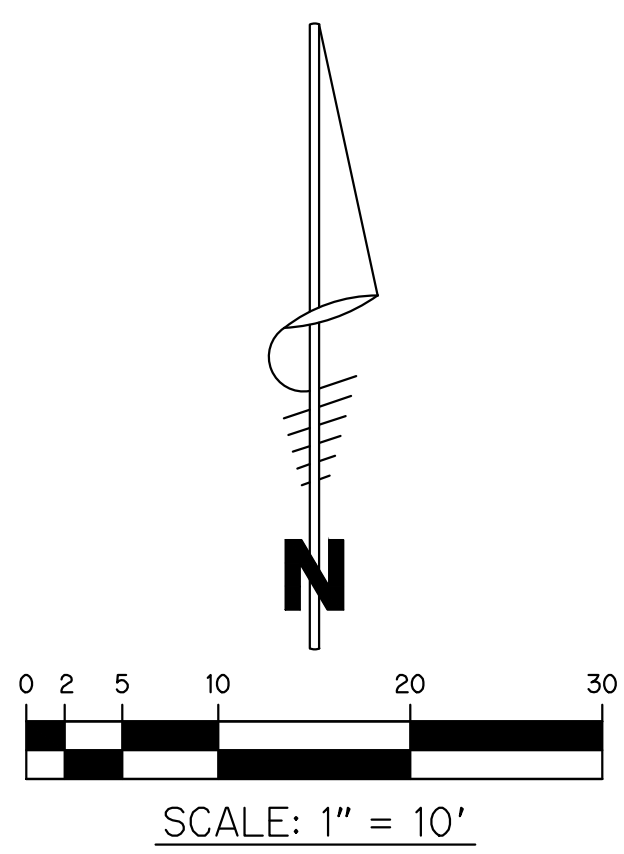
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 SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON
 ANY ELECTRONIC COPIES.

- PRELIMINARY
- PROGRESS SET
- BID SET
- PERMIT SET
- CONSTRUCTION SET

2/13/2024
 RONALD W. LAST, P.E.
 FLORIDA P.E. #38707

21-075 SI

SHEET 1 OF 8



LEGEND:

BOTTOM OF SWALE (w/DIRECTION OF FLOW)	
DIRECTION OF FLOW	
FINISH FLOOR ELEVATION	FFE
EXISTING ELEVATION	
PROPOSED ELEVATION	
EXISTING ASPHALT PAVEMENT	
PROPOSED ASPHALT PAVEMENT	
PROPOSED CONCRETE PAVEMENT	

- NOTES:**
- BOUNDARY AND TOPOGRAPHIC INFORMATION OBTAINED FROM REMNER BURGESS INC, JOB NO 9-22-025 DATED 10-6-2022.
 - ALL ELEVATIONS SHOWN ARE BASED ON NAVD 1988 DATUM.
 - ANY DAMAGE TO EXISTING ROADWAY FROM PROPOSED CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION BY CONTRACTOR.
 - SILT FENCE TO BE INSTALLED AT PROPERTY LINE IN AREAS OF DISTURBED SOIL DURING CONSTRUCTION.
 - CONTRACTOR TO MAINTAIN ALL POLLUTION PREVENTION MEASURES AT ALL TIMES UNTIL LANDSCAPING IS COMPLETE.
 - ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER OR DRAINAGE EASEMENTS SHALL CONFORM TO THE AIM OF DELRAY BEACH STANDARD DETAILS, LD 1.0 AND LD 2.0

LAND USE CALCULATIONS: (POST R/W DEDICATION)

TOTAL LOT AREA =	16302 SF
IMPERVIOUS AREA =	11850 SF (73%)
PERVIOUS AREA =	4452 SF (27%)

PRELIMINARY PAVING, GRADING & DRAINAGE PLAN
FOR
MILFRED INDUSTRIAL
 1215 Milfred Street
 Delray Beach, FL 33444

REVISIONS	DATE	BY	CHK
REV. PER CITY OF DELRAY BEACH	1/29/24	RWL	RWL
REV. FOR UPDATED SITE PLAN	2/13/24	RWL	RWL

EB 9889

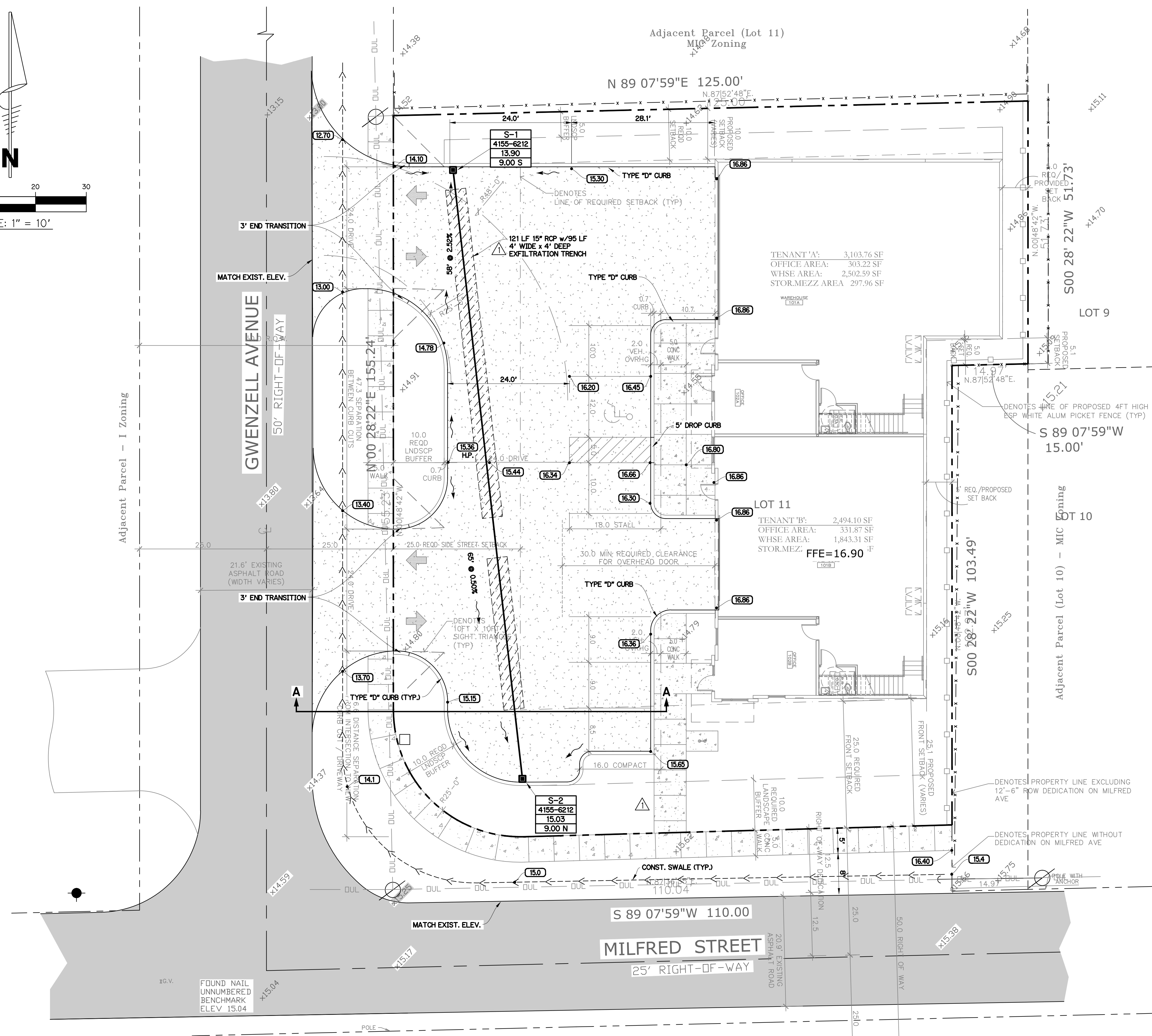
LDI
 Last Devenport, Inc.
 1860 Old Okeechobee Road, Suite 504
 West Palm Beach, FL 33409
 phone (561)615-6567 fax (561)615-3986

SCALE: 1"=20'
 DATE: NOV. 2022
 DESIGNED BY: RWL
 CHECKED BY: RWL
 DRAWING FILE:
 21-075

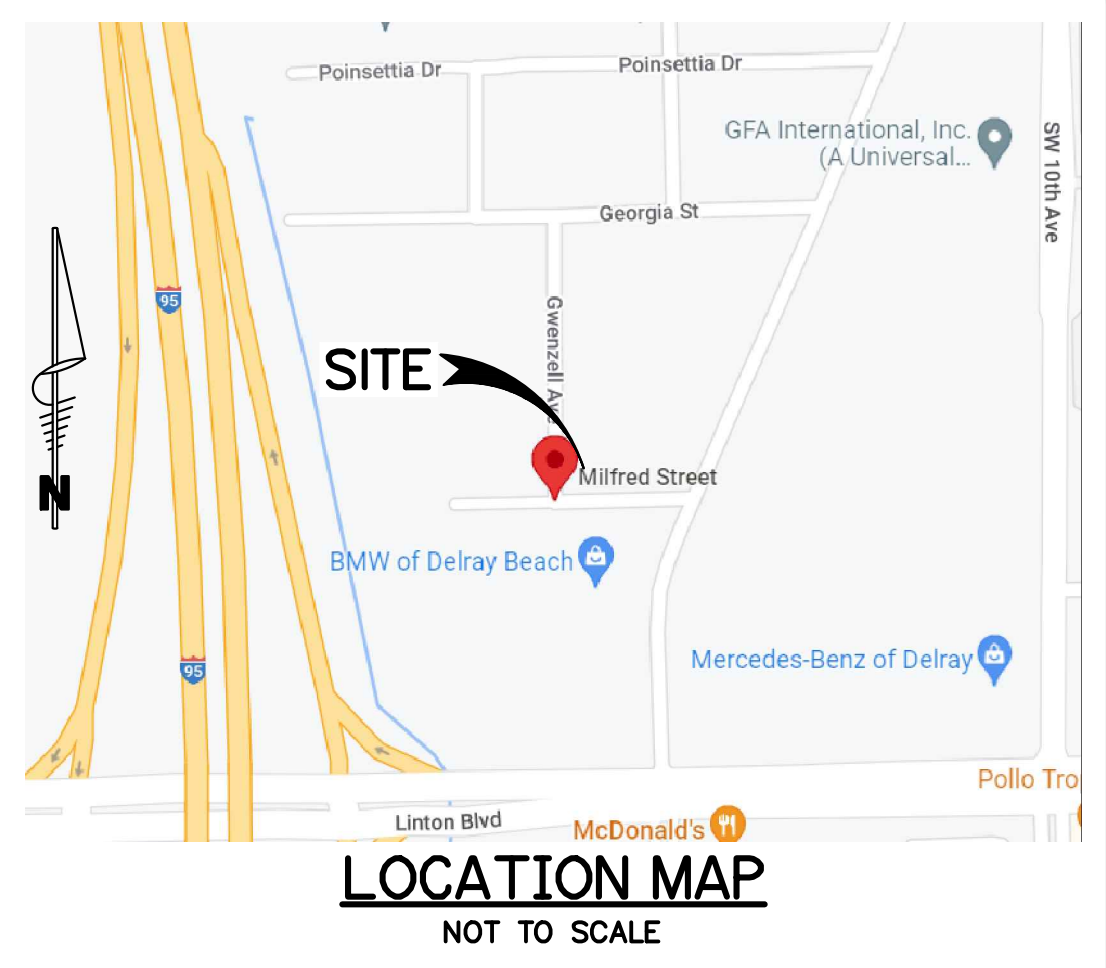
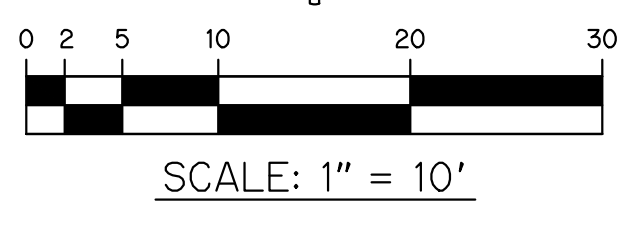
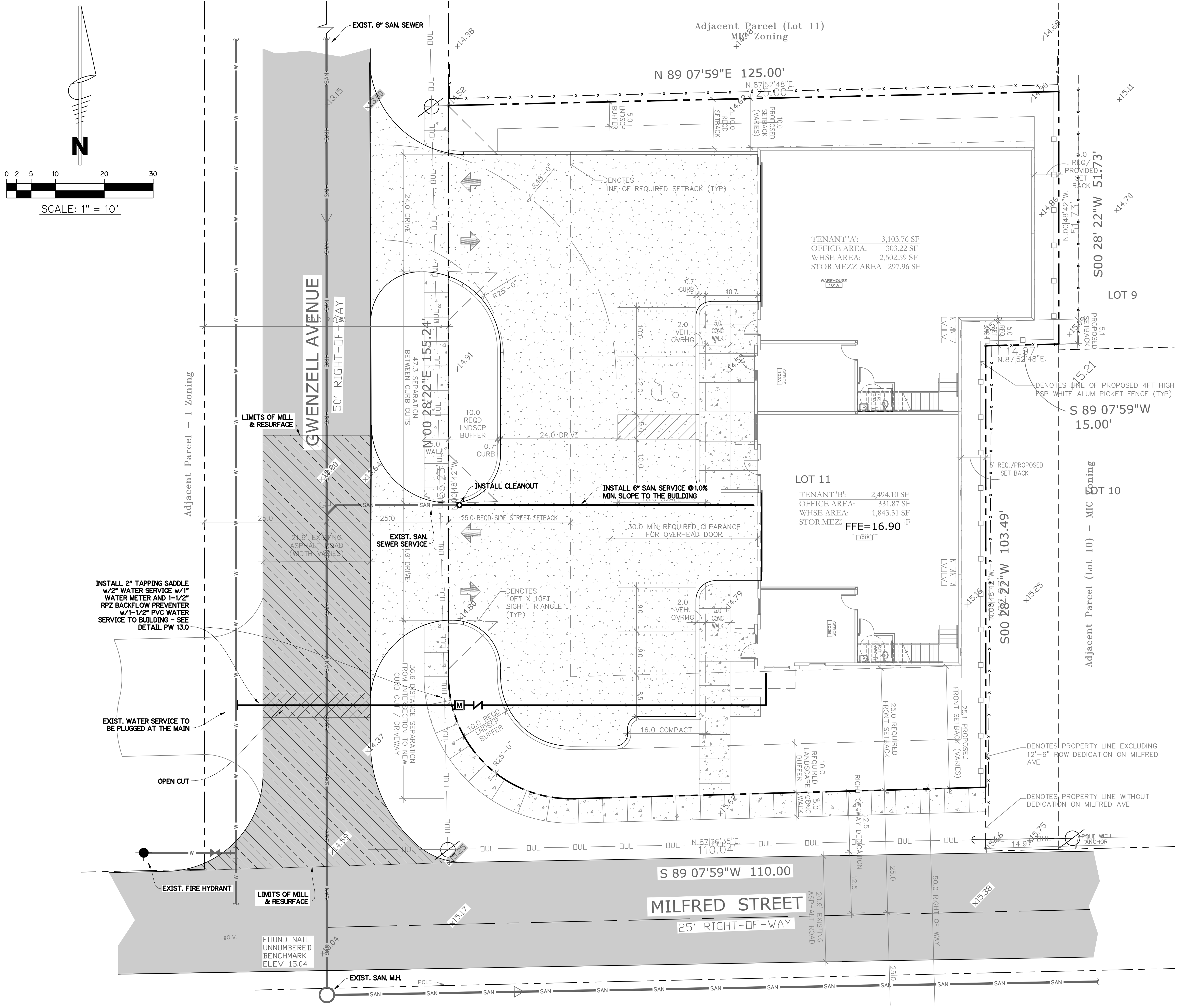
2/13/2024
 RONALD W. LAST, P.E.
 FLORIDA P.E. #38707

21-075	SI
--------	----

SHEET 2 OF 8



S:\LAST DEVENPORT\21-075 MILFRED AVE\21-075.DWG - PUBLISHED 02/13/2024 3:15 PM BY: JONESR



LEGEND:

FINISH FLOOR ELEVATION	FFE
EXISTING ELEVATION	X14.48
EXISTING ASPHALT PAVEMENT	[Pattern]
PROPOSED ASPHALT PAVEMENT	[Pattern]
PROPOSED CONCRETE PAVEMENT	[Pattern]
EXISTING SANITARY SEWER LINE	SAN
EXISTING WATER LINE	W
MILL & RESURFACE EXIST. PAVEMENT	[Pattern]
OPEN CUT	[Pattern]

- NOTES:**
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 - ALL ELEVATIONS SHOWN ARE BASED ON NAVD 1988 DATUM.
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 - SILT FENCE TO BE INSTALLED AT PROPERTY LINE IN AREAS OF DISTURBED SOIL DURING CONSTRUCTION.
 - CONTRACTOR TO MAINTAIN ALL POLLUTION PREVENTION MEASURES AT ALL TIMES UNTIL LANDSCAPING IS COMPLETE.
 - ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER OR DRAINAGE EASEMENTS SHALL CONFORM TO THE AIM OF DELRAY BEACH STANDARD DETAILS, LD 1.0 AND LD 2.0

PRELIMINARY WATER & SEWER PLAN FOR MILFRED INDUSTRIAL 1215 Milfred Street Delray Beach, FL 33444

REVISIONS	DATE	BY	CK
REV. PER CITY OF DELRAY BEACH	1/29/24	RWL	RWL
REV. FOR UPDATED SITE PLAN	2/12/24	RWL	RWL

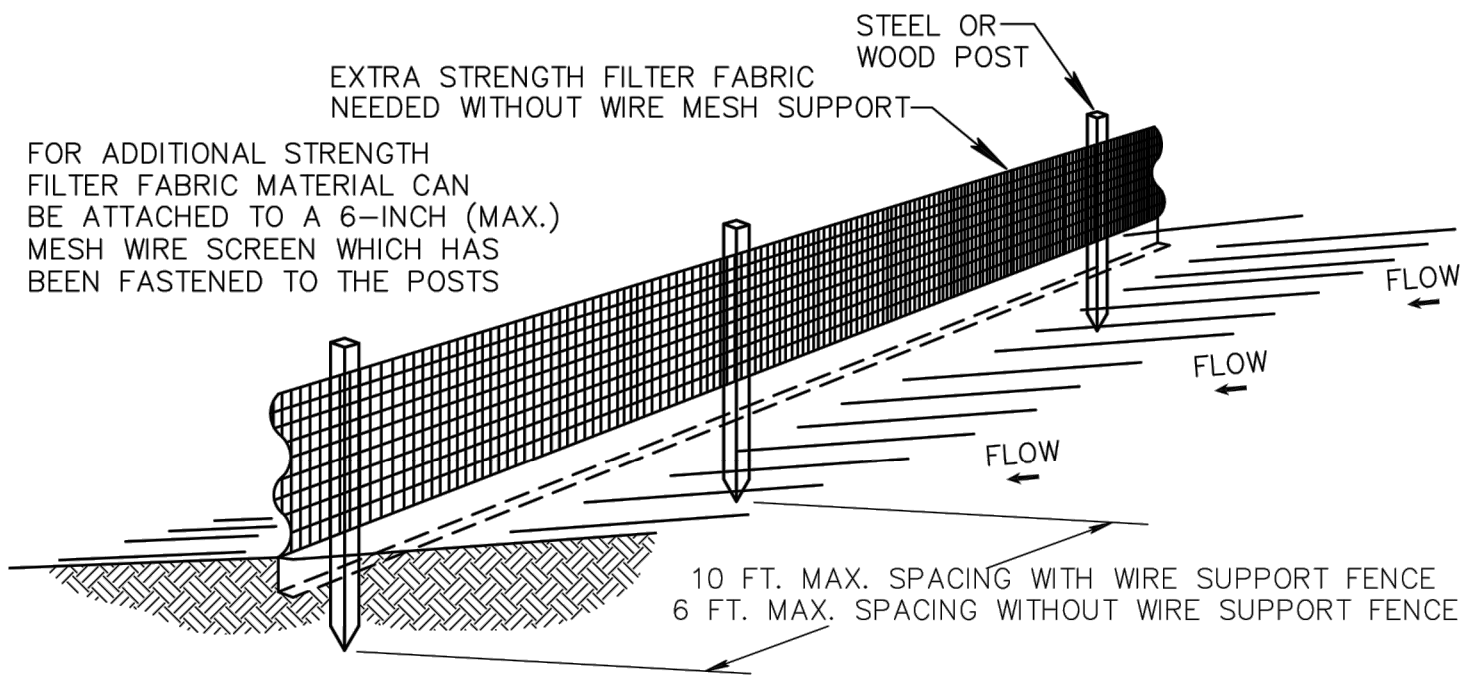
LDI Last Devenport, Inc.
 1860 Old Okesechobee Road, Suite 504
 West Palm Beach, FL 33409
 phone (561)615-6567 fax (561)615-3986

SCALE: 1"=20'
 DATE: NOV. 2022
 DESIGNED BY: RWL
 CHECKED BY: RWL
 DRAWING FILE: 21-075

2/13/2024
 RONALD W. LAST, P.E.
 FLORIDA P.E. #38707

21-075 SI

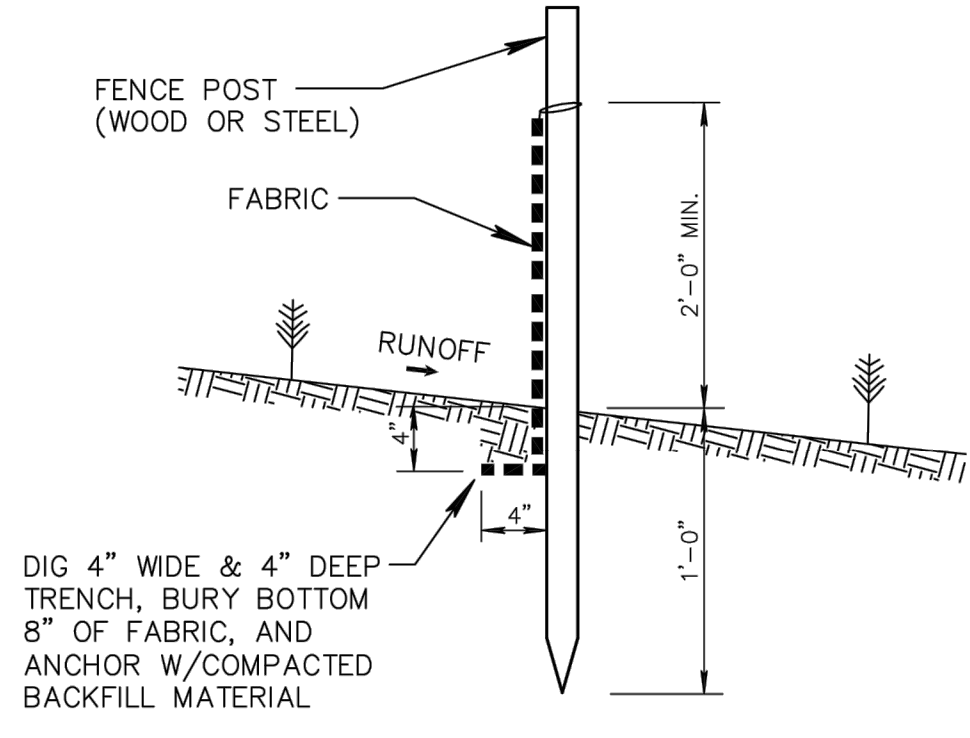
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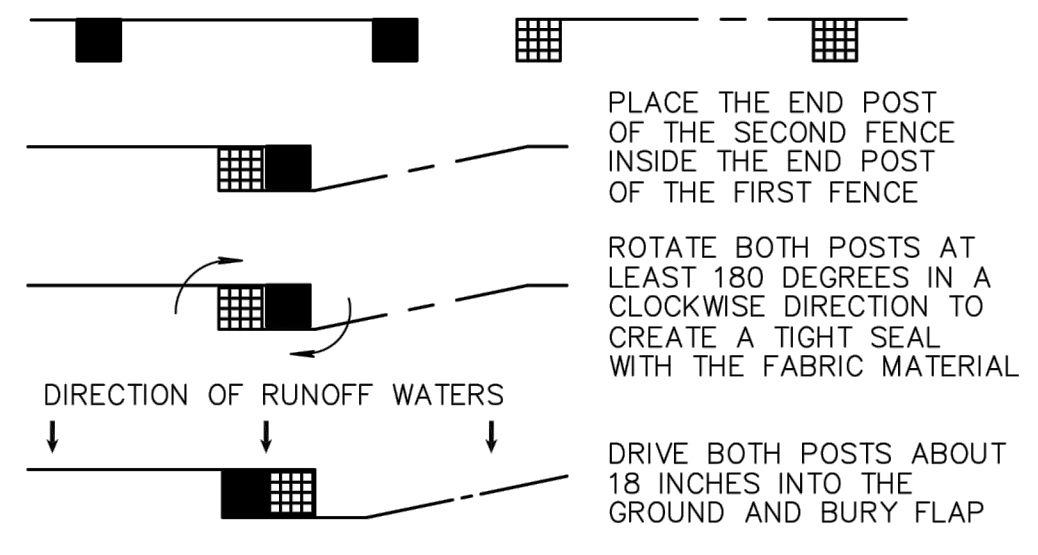
- NOTES:
1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES.
 2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
 3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES. WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
 4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
 5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 7. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
 8. ALL PROJECTS REQUIRE SUBMITTAL OF POLLUTION PREVENTION PLAN (PPP).
 9. ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

SILT FENCE INSTALLATION DETAIL
(DETAIL 1 OF 2)
N.T.S.

DATE: 09-15-2021
D12.0



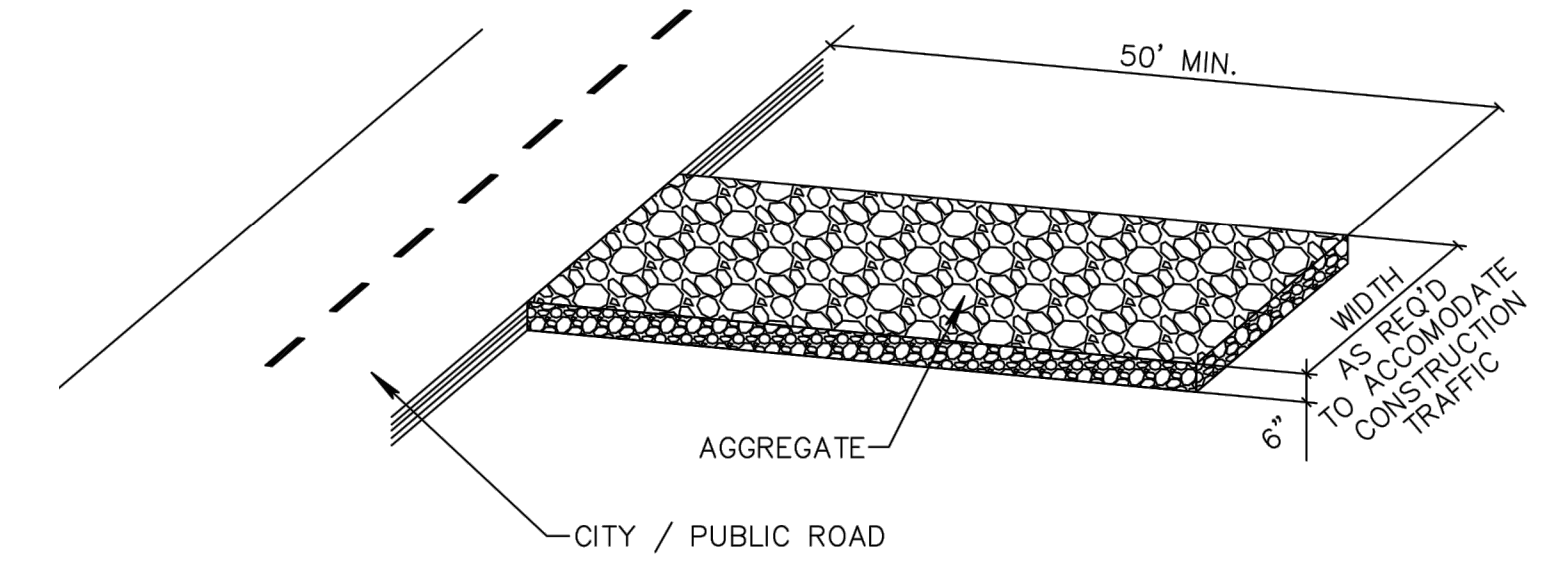
SILT FENCE SECTION
NOT TO SCALE



ATTACHING TWO SILT FENCES
NOT TO SCALE

SILT FENCE INSTALLATION DETAIL
(DETAIL 2 OF 2)
N.T.S.

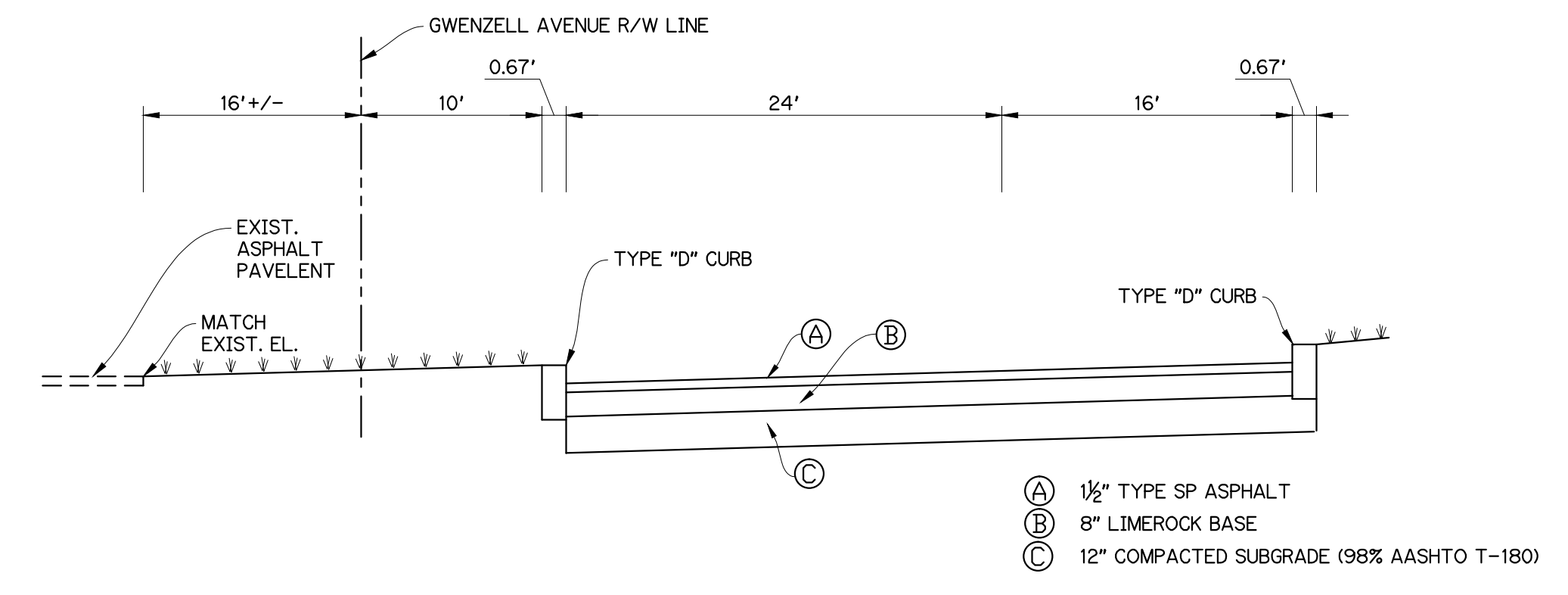
DATE: 09-15-2021
D12.1



NOTE:
A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AND CONTAIN AN AGGREGATE LAYER (FDOT AGGREGATE NO.1), AT LEAST 6-INCHES THICK. IT MUST EXTEND TO THE WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA.

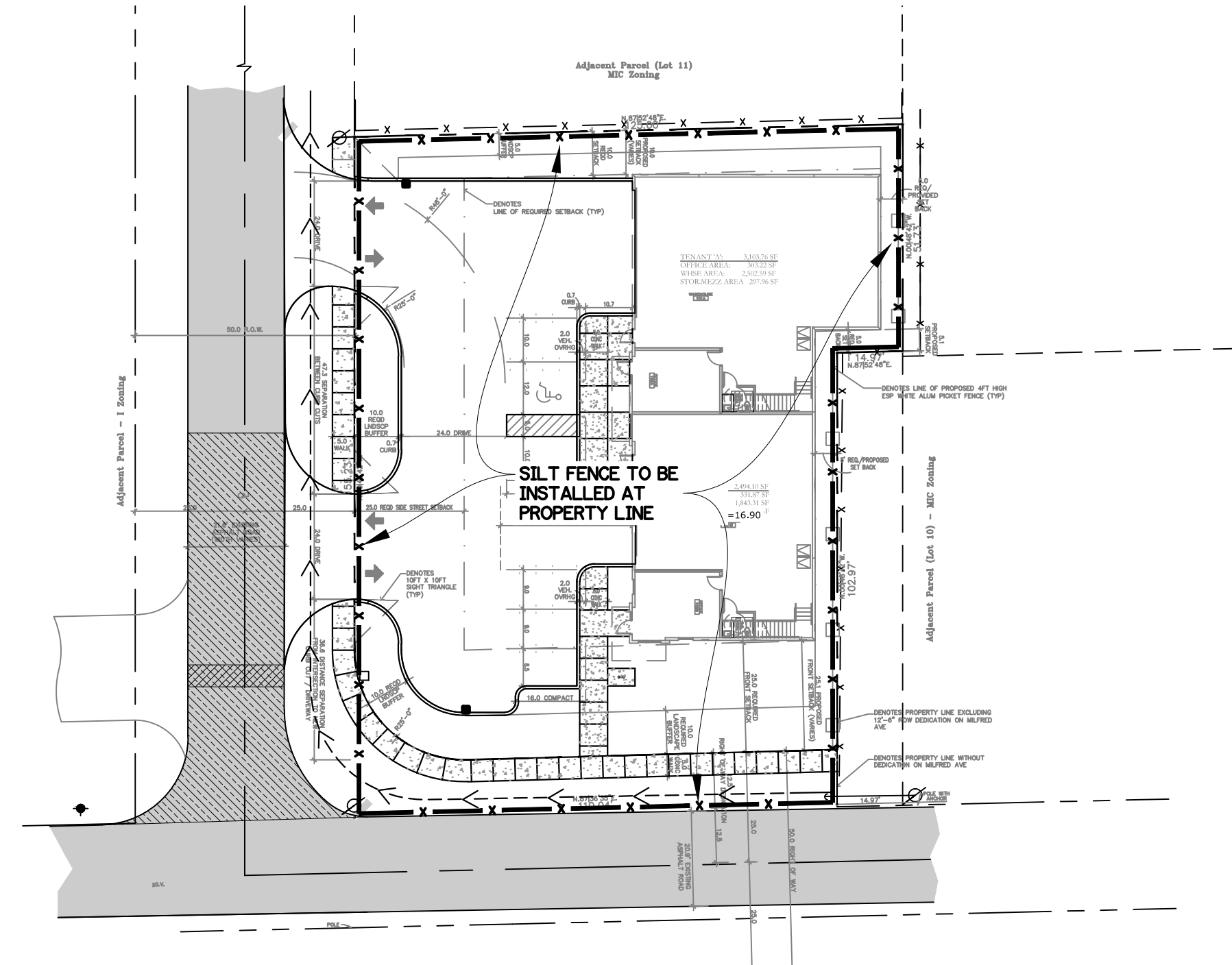
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

DATE: 09-15-2021
D13.0



SECTION "A-A"
N.T.S.

S:\LAST DEVENPORT\21-075 MILFRED AVE\22-075 DET.DWG - PUBLISHED 02/13/2024 3:16 PM BY JONER



NOTES:
1. CONTRACTOR TO MAINTAIN ALL POLLUTION PREVENTION MEASURES AT ALL TIMES UNTIL LANDSCAPING IS COMPLETE.

SITE PLAN
SCALE: 1"=30'

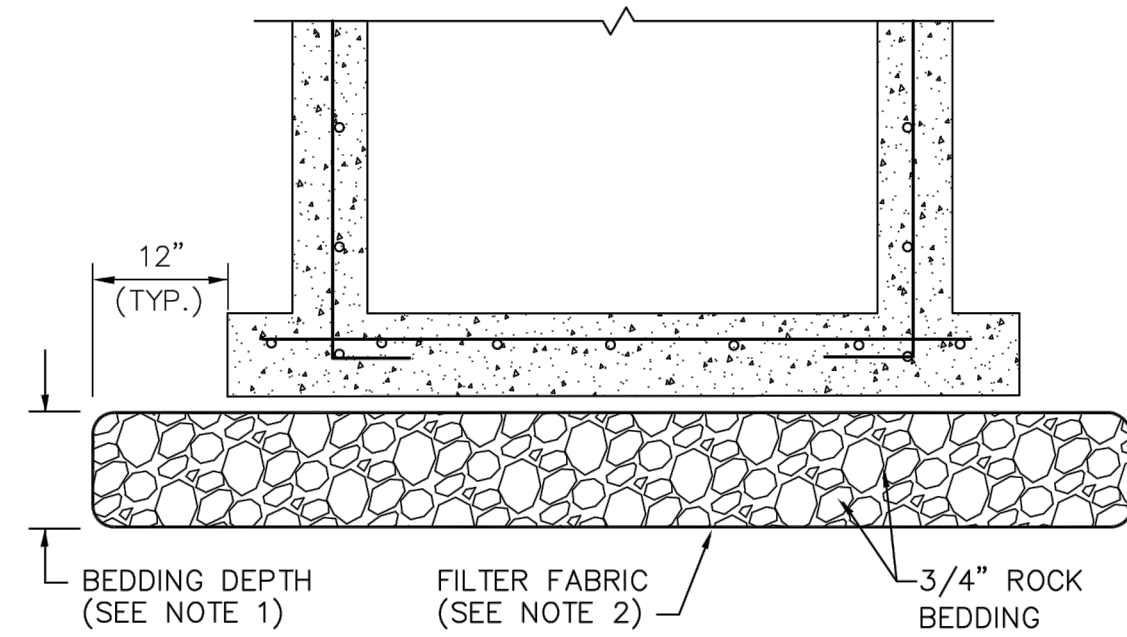
POLLUTION PREVENTION PLAN & DETAILS
FOR
MILFRED INDUSTRIAL
1215 Milfred Street
Delray Beach, FL 33444

REVISIONS	DATE	BY	CHK

EB 9889
LDI
Last Devenport, Inc.
1860 Old Okesechopee Road, Suite 504
West Palm Beach, FL 33409
phone (561)615-6567 fax (561)615-3986

SCALE: N/A
DATE: NOV. 2022
DESIGNED BY: RWL
CHECKED BY: RWL
DRAWING FILE:
22-075 DET

2/13/2024
RONALD W. LAST, P.E.
FLORIDA P.E. #38707

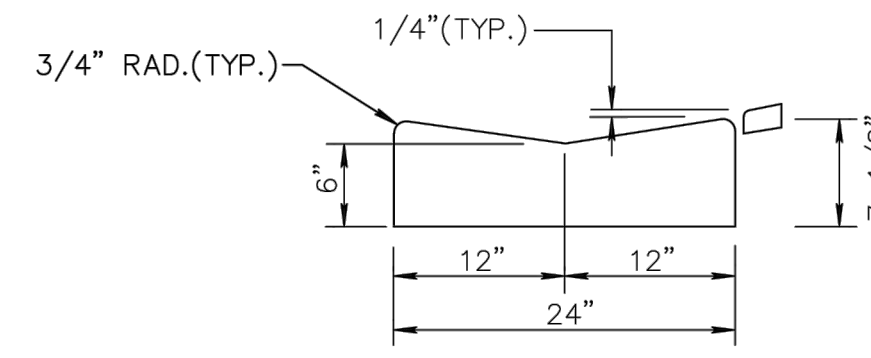


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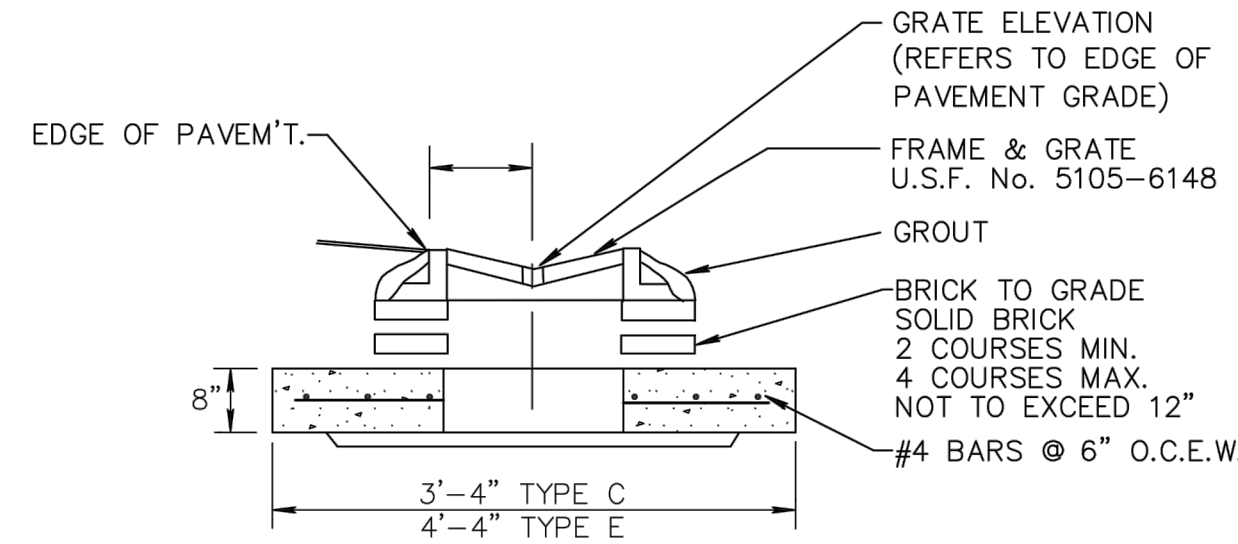
1. BEDDING DEPTH SHALL BE 10" UNDER DRAINAGE STRUCTURES AND 18" UNDER SANITARY STRUCTURES.
2. ROCK SHALL BE WRAPPED IN FILTER FABRIC THAT MEETS THE REQUIREMENTS OF F.D.O.T. SPECIFICATION SECTION 985.

STANDARD BEDDING DETAIL
N.T.S.

DATE: 09-15-2021
D4.0



2' VALLEY CURB
NOT TO SCALE

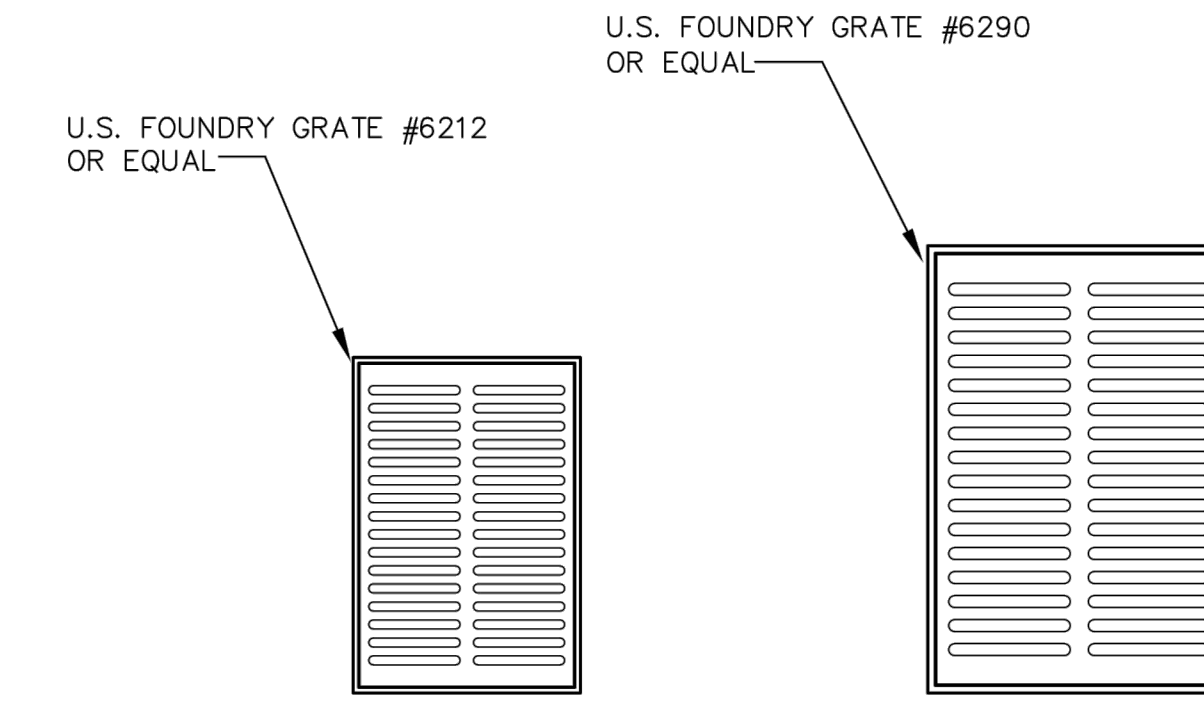


VALLEY GUTTER FRAME & GRATE
NOT TO SCALE

TYPE C & E INLET VALLEY GUTTER & GRATE DETAILS
N.T.S.

DATE: 09-15-2021
D5.0

INLET TYPE	DIMENSIONS		GRATE TYPE	MAX. PIPE SIZE	
	A	B		WALL A	WALL B
'C'	2'-0"	3'-1"	U.S. FOUNDRY No. 6212	15" R.C.P.	24" R.C.P.
'E'	3'-0"	4'-5"	U.S. FOUNDRY No. 6290	24" R.C.P.	36" R.C.P.



TYPE "C"

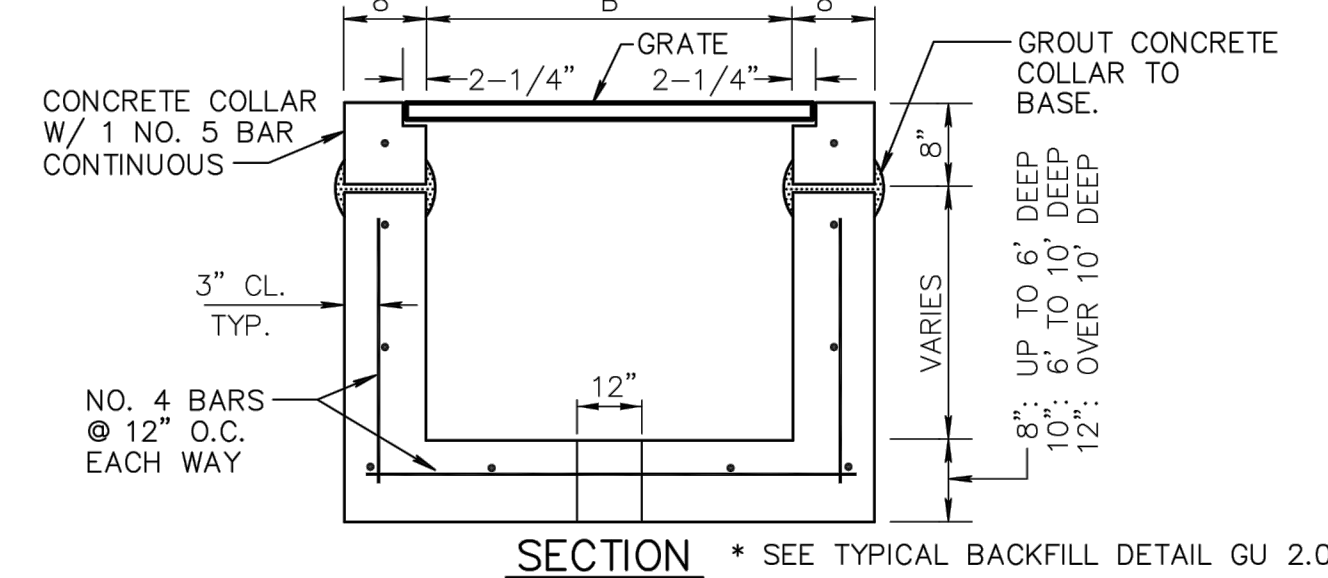
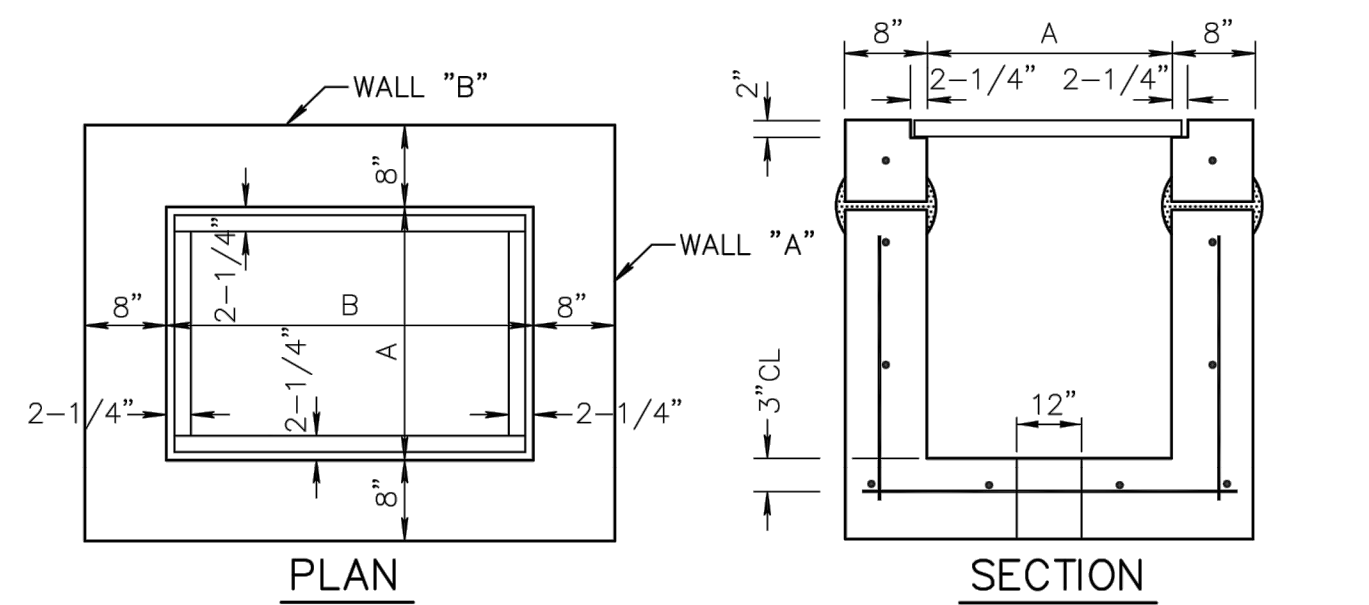
TYPE "E"

NOTES:

1. ALL GRATES SHALL BE SUITABLE FOR H-20 LOADING (HIGHWAY TRAFFIC LOADS)
2. WHEN INSTALLED IN PAVEMENT OR WITHIN 6" OF PAVEMENT USE U.S.F. 4160-6210

TYPE C & E GRATE DETAIL
N.T.S.

DATE: 09-15-2021
D8.0



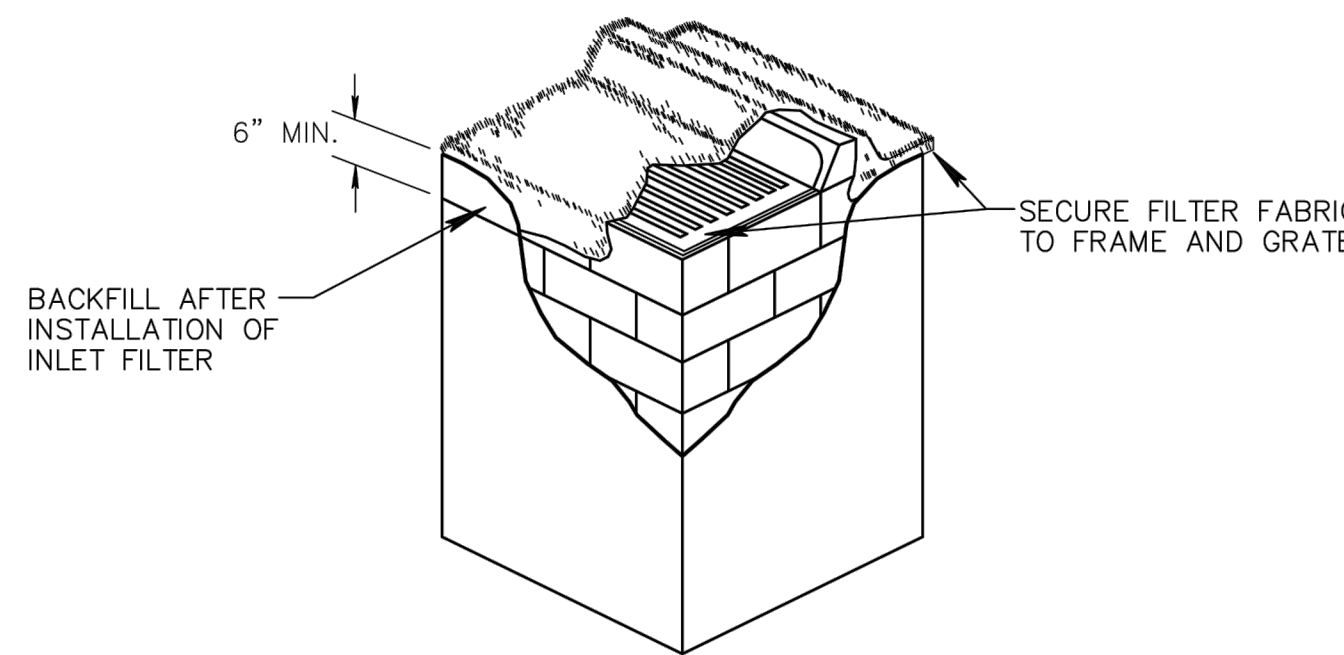
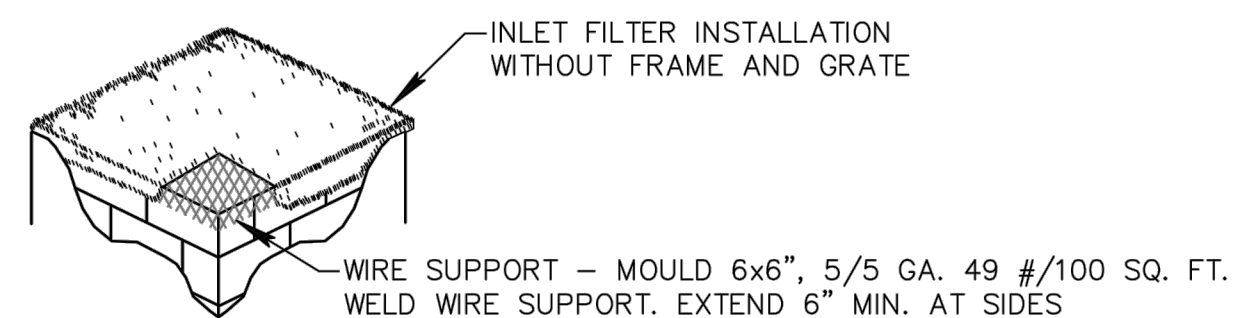
INLET TYPE	DIMENSIONS		GRATE TYPE	MAX. PIPE SIZE	
	A	B		WALL A	WALL B
'C'	2'0"	3'1"	U.S. FOUNDRY NO. 6212	15" R.C.P.	24" R.C.P.
'E'	3'0"	4'6"	U.S. FOUNDRY NO. 6290	24" R.C.P.	36" R.C.P.

NOTES:

1. INLET TO BE PRECAST WITH CLASS 'A' 4000 P.S.I. CONCRETE.
2. ALL EXPOSED CORNERS AND EDGES TO BE CHAMFERED 3/4".
3. 12" DIAMETER WEEP HOLE REQUIRED ON ALL STRUCTURES WHICH HAVE A BOTTOM ELEVATION ABOVE THE WATER TABLE EXCEPT IN WELLFIELDS.
4. 18" SUMP REQUIRED IN ALL DRAINAGE STRUCTURES.
5. SEE BEDDING DETAIL D 3.0
6. ALL STRUCTURES TO BE 4 SIDED ANGLE SHOULDERS.

TYPE C & E INLET DETAIL
N.T.S.

DATE: 09-15-2021
D9.0



NOTES:

1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

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.

INLET FILTER DETAIL
N.T.S.

DATE: 09-15-2021
D10.0

1. THE INTENT OF EROSION CONTROL MEASURES INDICATED GRAPHICALLY ON PLANS IS TO PROVIDE A BARRIER TO CONTAIN SILT AND SEDIMENT ON THE PROJECT SITE. THIS REPRESENTATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE TEST OF EROSION CONTROL EFFECTIVENESS IS NOT TO BE DETERMINED BY ADHERENCE TO THE REPRESENT SET FORTH ON THE DRAWINGS AND SPECIFICATIONS, BUT BY MEETING THE REGULATIONS SET FORTH BY THE AUTHORITY HAVING JURISDICTION OVER WATER QUALITY CONTROL AND OTHER SEDIMENTATION RESTRICTION REQUIREMENTS IN THE REGION.
2. APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBANCE ACTIVITIES, EXCEPT THOSE OPERATIONS NEEDED TO INSTALL SUCH MEASURES.
3. INSPECTION OF ALL EROSION CONTROL MEASURES SHALL BE CONDUCTED WEEKLY, OR AFTER EACH RAINFALL EVENT. REPAIR, AND/OR REPLACEMENT OF SUCH MEASURES SHALL BE MADE PROMPTLY, AS NEEDED.
4. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.
5. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY ONSITE INSPECTION.
6. FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL PRACTICES SHALL RESULT IN CONSTRUCTION BEING HALTED.
7. DRAINAGE INLETS SHALL BE PROTECTED BY FILTER AND GRADED ROCK AS PER INLET PROTECTION DETAIL.
8. ANY ACCESS ROUTES TO SITE SHALL BE BASED WITH CRUSHED STONE, WHERE PRACTICAL.
9. EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
10. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
11. 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 DELRAY BEACH.
12. DISCHARGE FROM DEWATERING OPERATIONS SHALL BE RETAINED ONSITE IN A CONTAINMENT AREA.

EROSION CONTROL NOTES DETAIL
N.T.S.

DATE: 09-15-2021
D11.0

CONSTRUCTION DETAILS FOR
MILFRED INDUSTRIAL
1215 Milfred Street
Delray Beach, FL 33444

REVISIONS	DATE	BY	CHK

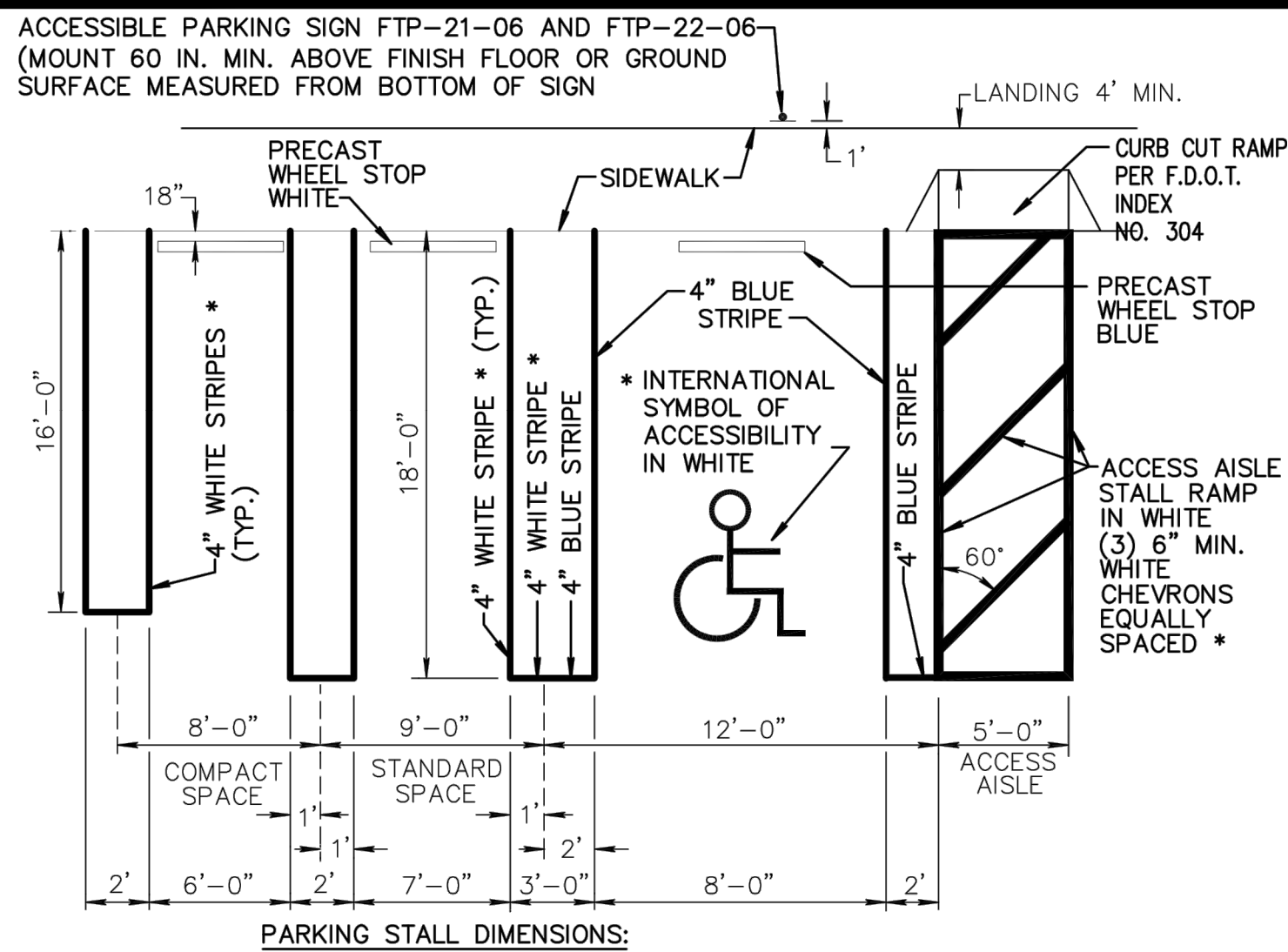
EB 9889
LDI
Last Devenport, Inc.
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West Palm Beach, FL 33409
phone (561)615-6567 fax (561)615-3986

SCALE: N/A
DATE: NOV. 2022
DESIGNED BY: RWL
CHECKED BY: RWL
DRAWING FILE:
22-075 DET

2/13/2024
RONALD W. LAST, P.E.
FLORIDA P.E. #38707

22-075 | SI

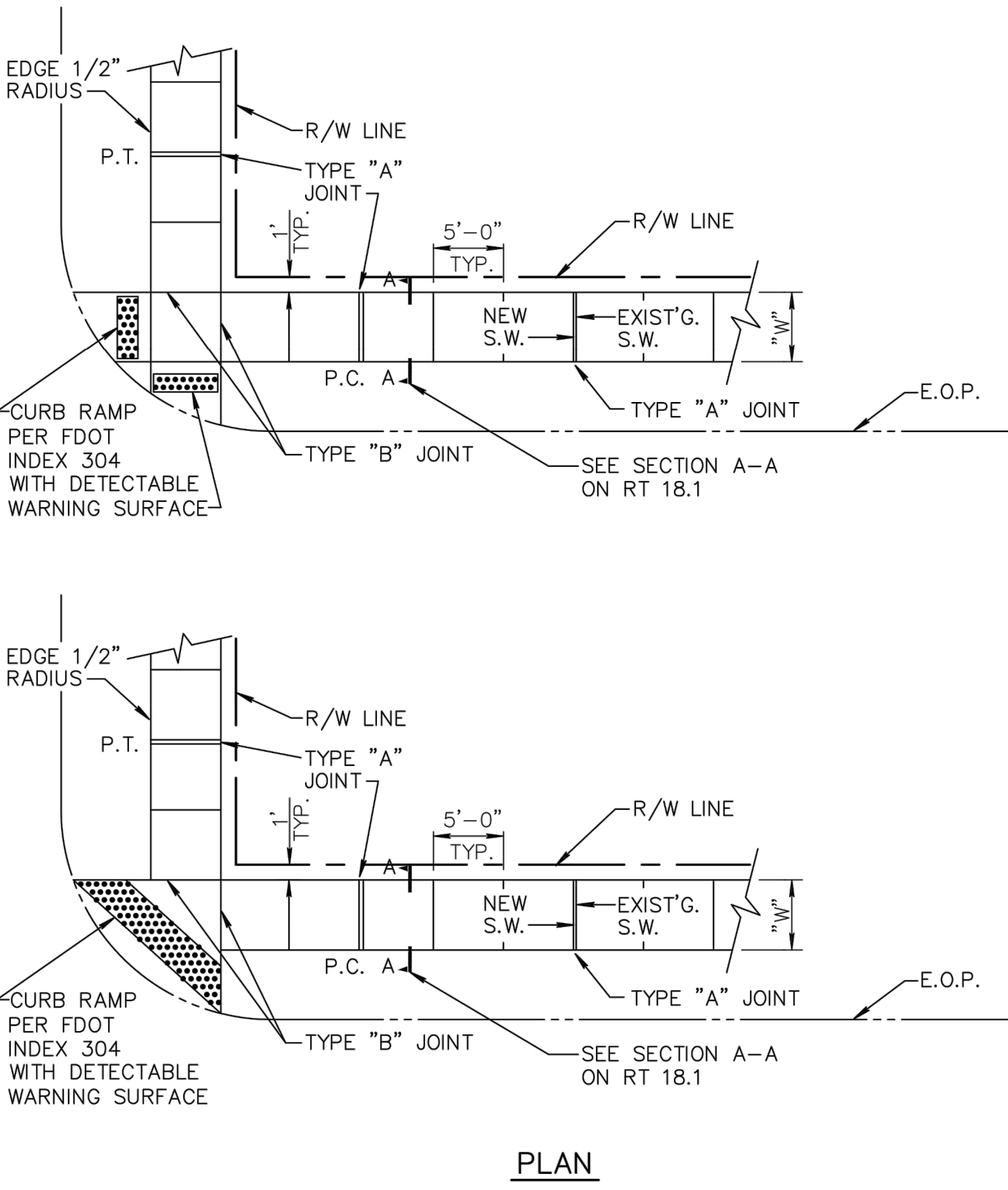
SHEET 5 OF 8



- * NOTES:
- ON LIGHT COLORED SURFACE I.E. CONCRETE ALL ACCESSIBLE MARKINGS SHALL BE BLUE AND STANDARD PARKING STRIPING SHALL BE 3" WHITE WITH 1" BLACK BORDER.
 - ALL STRIPING WITHIN PUBLIC RIGHT-OF-WAY SHALL BE 6 INCHES.
 - ALL MEASUREMENTS ARE FROM CENTER LINE.
 - ALL COMPACT SPACES MUST HAVE "COMPACT" STENCILED WITH BLACK PAINT ON WHEEL STOP.
 - BLUE STRIPE & INTERNATIONAL SYMBOL OF ACCESSIBILITY AND WALKWAY ON CONCRETE.
 - 24" STOP BAR BETWEEN ALL PARKING LOTS AND PUBLIC R/W SHALL BE THERMOPLASTIC AND PER FDOT SPECIFICATIONS AND STOP SIGN R1-1 THERMOPLASTIC AND PER FDOT SPECIFICATIONS AND STOP SIGN R1-1
 - CHANGES IN LEVEL ARE NOT PERMITTED IN ACCESSIBLE PARKING STALLS AND ACCESS AISLES SERVING THE STALLS. SLOPES NOT STEEPER THAN 1:48 SHALL BE PERMITTED.

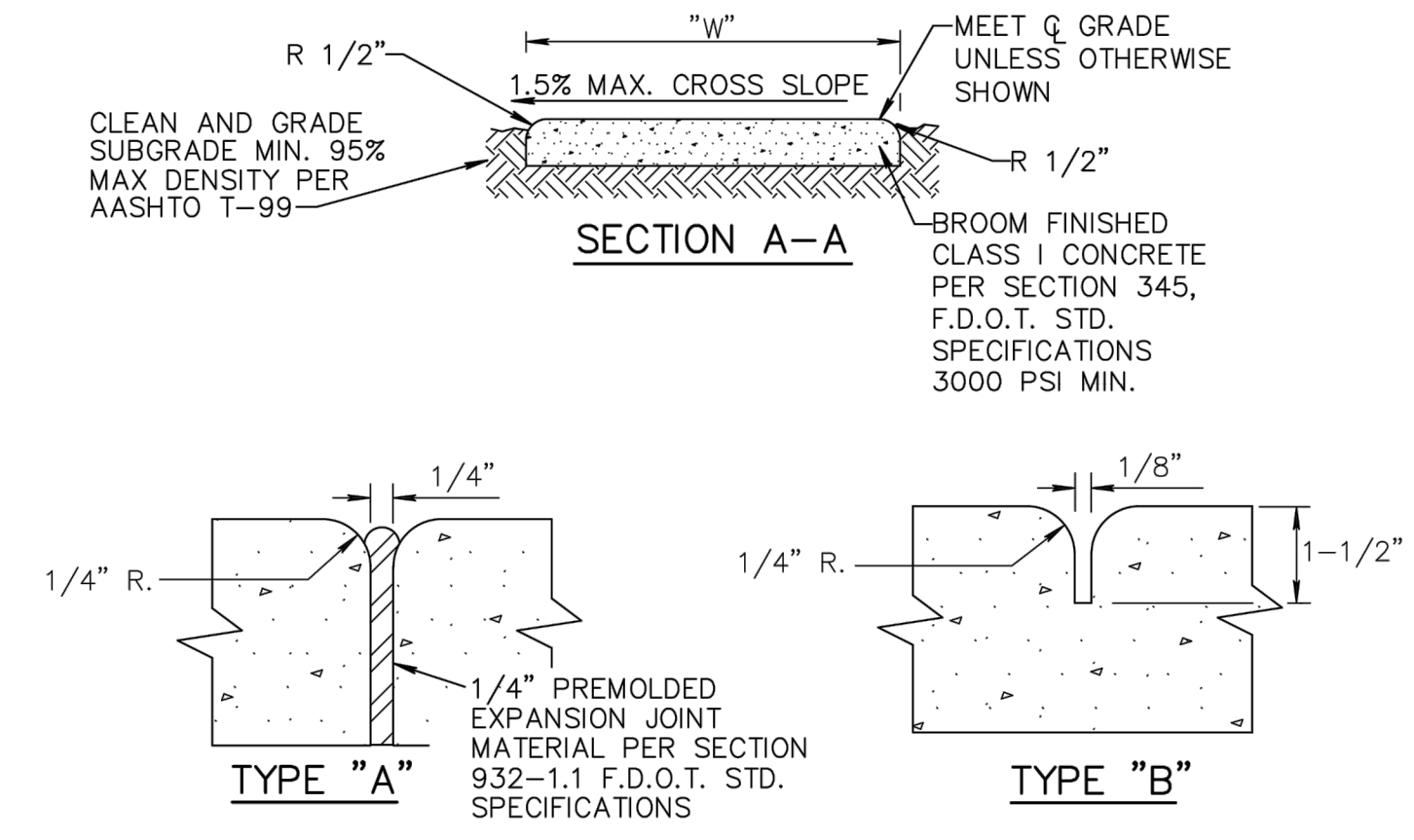
TYPICAL PARKING SPACES
(DETAIL 1 OF 3)
N.T.S.

DATE: 09-15-2021
RT16.0



SIDEWALK CONSTRUCTION DETAIL
N.T.S.

DATE: 09-15-2021
RT18.0



SIDEWALK JOINTS

- NOTE:
- ALL SIDEWALKS SHALL BE CONSTRUCTED THRU DRIVEWAYS.
 - ALL SIDEWALKS SHALL INCLUDE ADA COMPLIANT RAMPS @ INTERSECTIONS.
 - ALL SIDEWALKS SHALL INCLUDE CROSS SLOPE AND RUNNING SLOPE IN ACCORDANCE WITH ADA REQUIREMENTS.
 - CURB RAMP DETECTABLE WARNING SURFACE SHALL EXTEND THE FULL WIDTH OF THE RAMP AND 24" DEEP

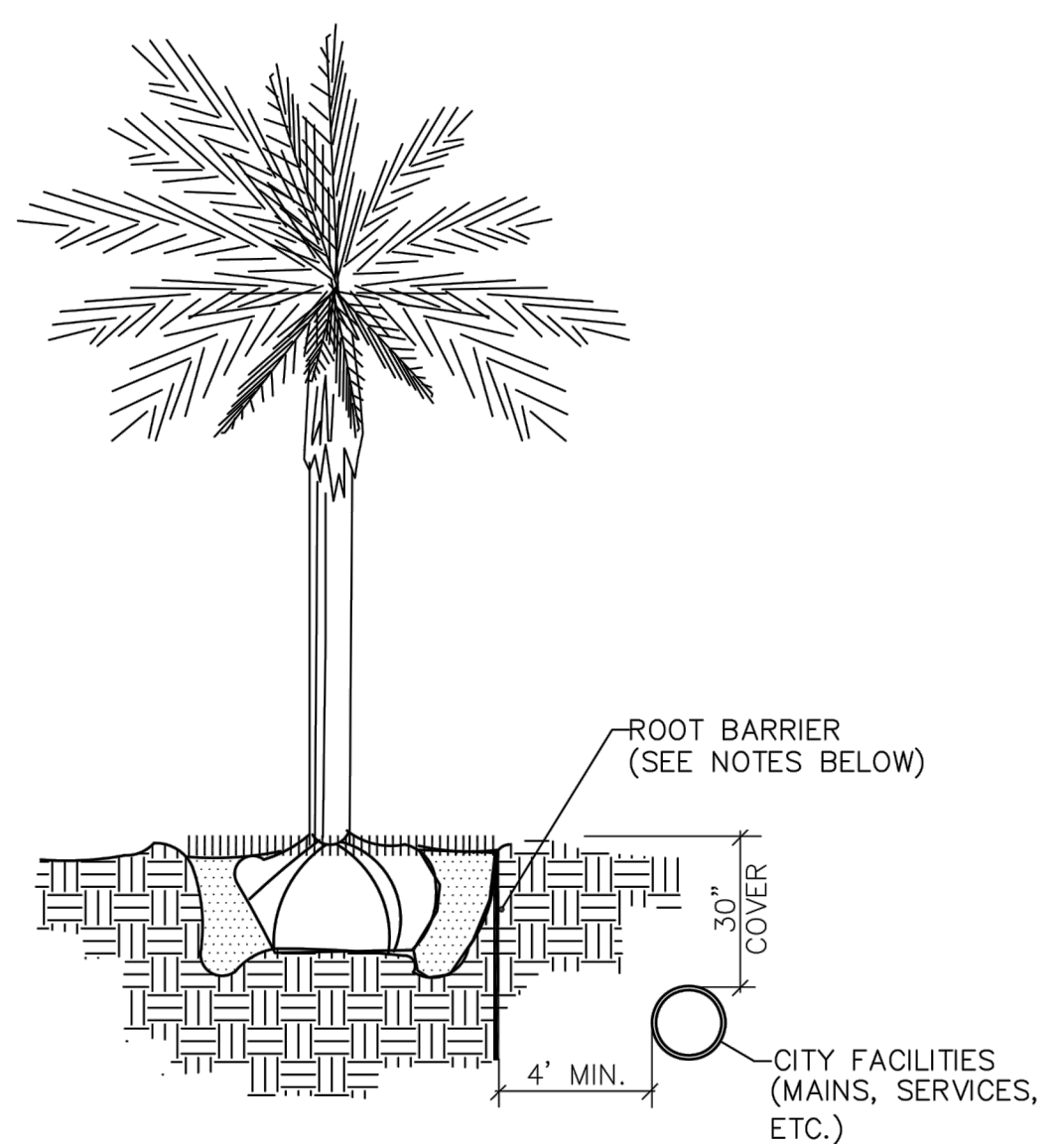
TABLE OF SIDEWALK THICKNESS - "T"	
GENERAL AREAS	4"
WITHIN 10' OF CROSS-STREETS, AT DRIVEWAYS & OTHER AREAS	6" @ E.O.P.

TABLE OF SIDEWALK WIDTHS - "W"	
SINGLE-FAMILY AREAS	5'
MULTI-FAMILY AREAS	5'

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

SIDEWALK CONSTRUCTION
N.T.S.

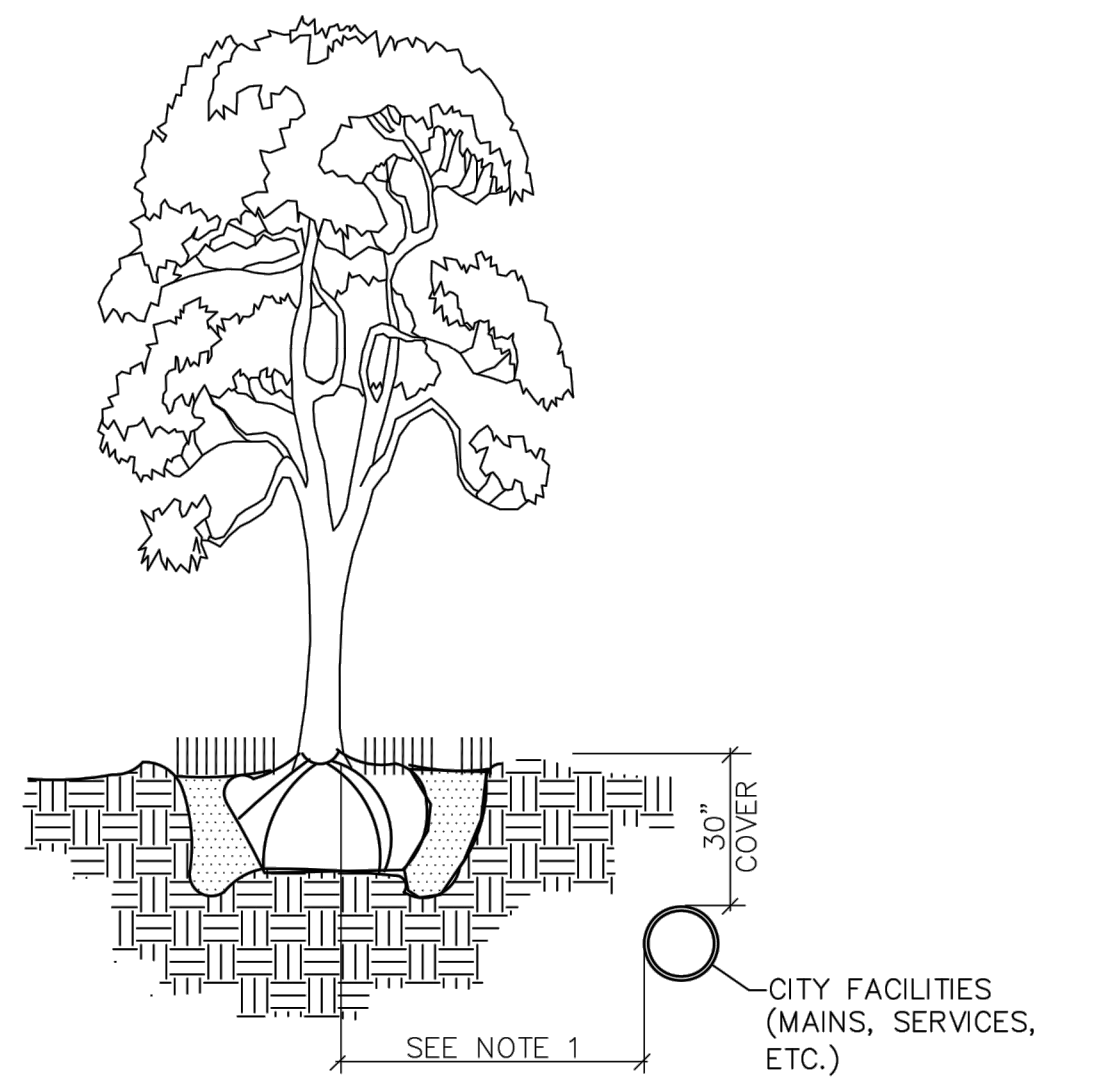
DATE: 09-15-2021
RT18.1



- NOTES:
- ALL ROOT BARRIERS SHALL BE 4' MINIMUM FROM ALL CITY FACILITIES.
 - 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" 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.

TYPICAL TREE WITH ROOT BARRIER
N.T.S.

DATE: 09-15-2021
LD1.0



- NOTES:
- THIS DISTANCE SHALL BE 10' MINIMUM FROM ALL CITY FACILITIES IF NO ROOT BARRIER IS USED.

TYPICAL TREE WITHOUT ROOT BARRIER
N.T.S.

DATE: 09-15-2021
LD2.0

CONSTRUCTION DETAILS FOR

MILFRED INDUSTRIAL
1215 Milfred Street
Delray Beach, FL 33444

REVISIONS	DATE	BY	CHK

EB 9889

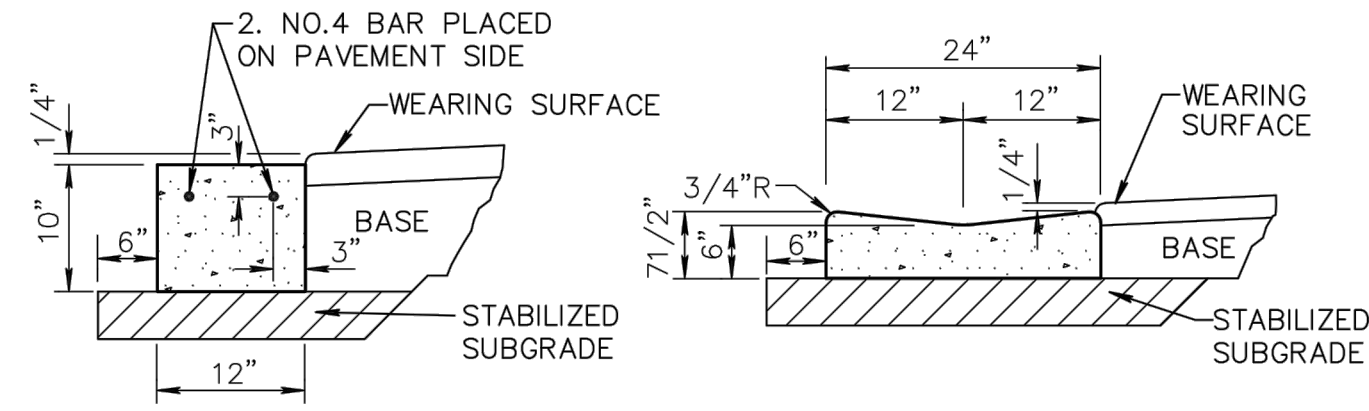
LDI
Last Devenport, Inc.
1860 Old Okesechobee Road, Suite 504
West Palm Beach, FL 33409
phone (561)615-6567 fax (561)615-3986

SCALE: N/A
DATE: NOV. 2022
DESIGNED BY: RWL
CHECKED BY: RWL
DRAWING FILE:
22-075 DET

2/13/2024
RONALD W. LAST, P.E.
FLORIDA P.E. #38707

22-075 | SI
SHEET 6 OF 8

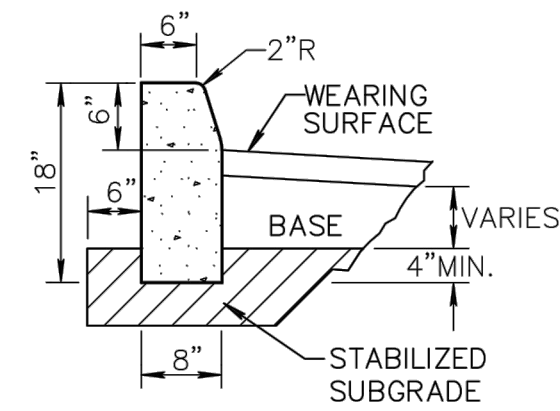
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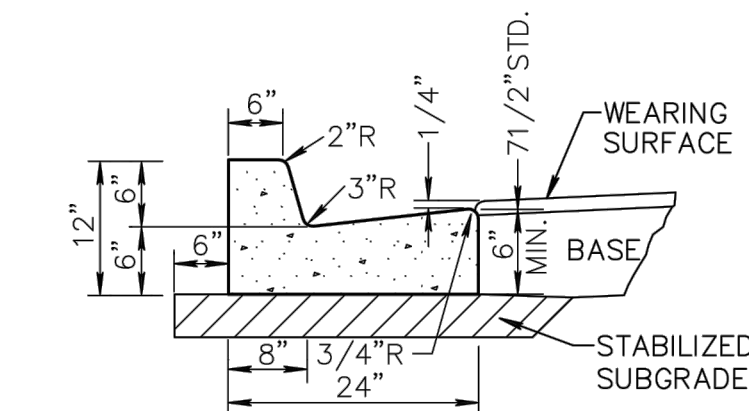
**CONCRETE
HEADER CURB**
NOT TO SCALE

VALLEY GUTTER
NOT TO SCALE

NOTE: SAWCUTS REQUIRED AT 10' ON CENTER.



**F.D.O.T. TYPE "D"
CONCRETE CURB**
NOT TO SCALE



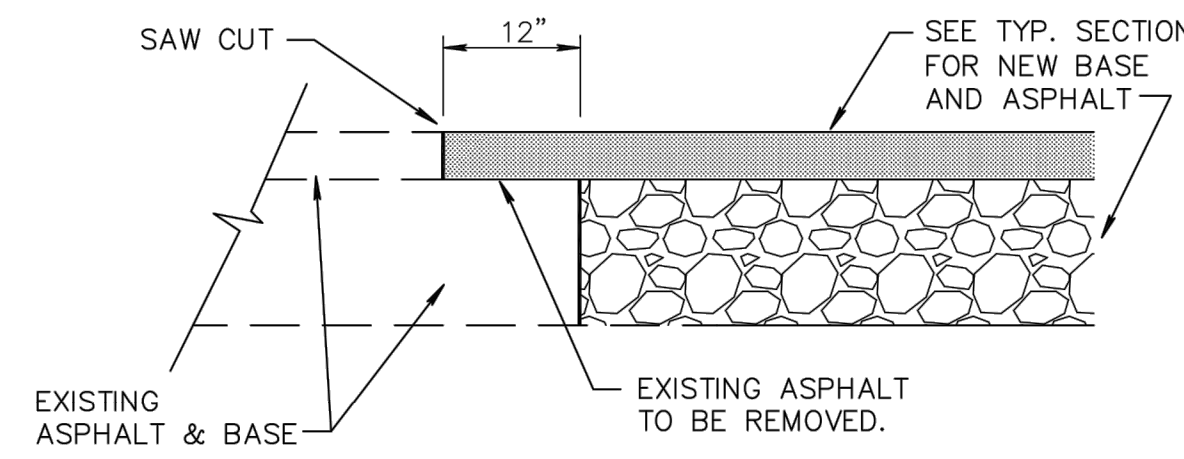
**F.D.O.T. TYPE "F" CONCRETE
CURB AND GUTTER**
NOT TO SCALE

NOTE: WHEN USED ON HIGH SIDE OF ROADWAYS, CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" MIN.

NOTES: 1. ROADWAY SUBGRADE SHALL IN ALL CASES EXTEND BELOW CURBING.
2. SAWCUTS AT 10' ON CENTER SHALL BE MADE WITHIN 24 HOURS OF CONCRETE PLACEMENT.

CURB AND GUTTER SECTIONS
N.T.S.

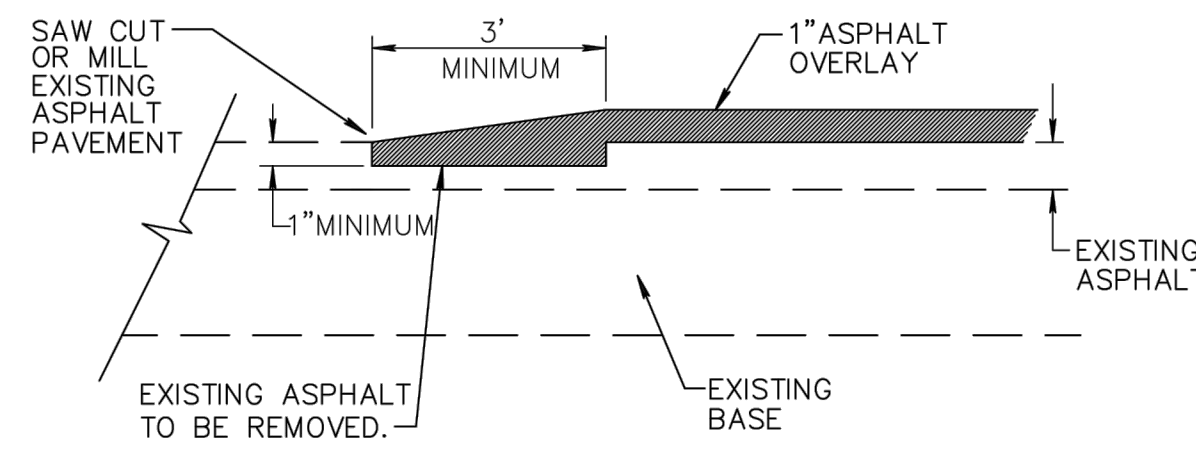
DATE: 09-15-2021
RT19.0



NEW CONSTRUCTION PAVEMENT JOINT

NOTE:

THIS METHOD OF PAVEMENT JOINT SHALL BE USED FOR ANY APPLICATION OR CONSTRUCTION WHERE PROPOSED PAVEMENT AND BASE WILL BE CONNECTED TO EXISTING PAVEMENT AND BASE.



NEW OVERLAY PAVEMENT JOINT

NOTE:

THIS METHOD OF PAVEMENT JOINT SHALL BE USED FOR ANY APPLICATION OR CONSTRUCTION WHERE PROPOSED PAVEMENT WILL BE CONNECTED TO EXISTING PAVEMENT.

PAVEMENT JOINT DETAIL
N.T.S.

DATE: 09-15-2021
RT21.0

PAVEMENT MARKING SPECIFICATIONS

All Pavement markings to be installed per these typicals, plans and specifications, and as directed by the City Engineer and shall conform to the requirements of F.D.O.T. and the manual on uniform traffic control devices. (MUTCD).

PERMANENT MARKINGS

- 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 or hydrocarbon thermoplastic meeting all FDOT specifications.
- Thickness:
- All markings shall be installed to yield 90 mils of material measured above the pavement surface.
- Spheres:
- Reflective glass spheres are to be applied to all stripes and markings per FDOT specifications.
- Alternate Material:
- STAYMARK marking tape, or equivalent may be used, as approved or directed by the City Engineer.
- 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

- Temporary markings may be used only as specified in this section, or as approved or directed by the City 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.

**PAVEMENT MARKING SPECIFICATIONS
(DETAIL 1 OF 2)**
N.T.S.

DATE: 09-15-2021
RT22.0

ALL PAVEMENT MARKINGS

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

RAISED PAVEMENT MARKERS

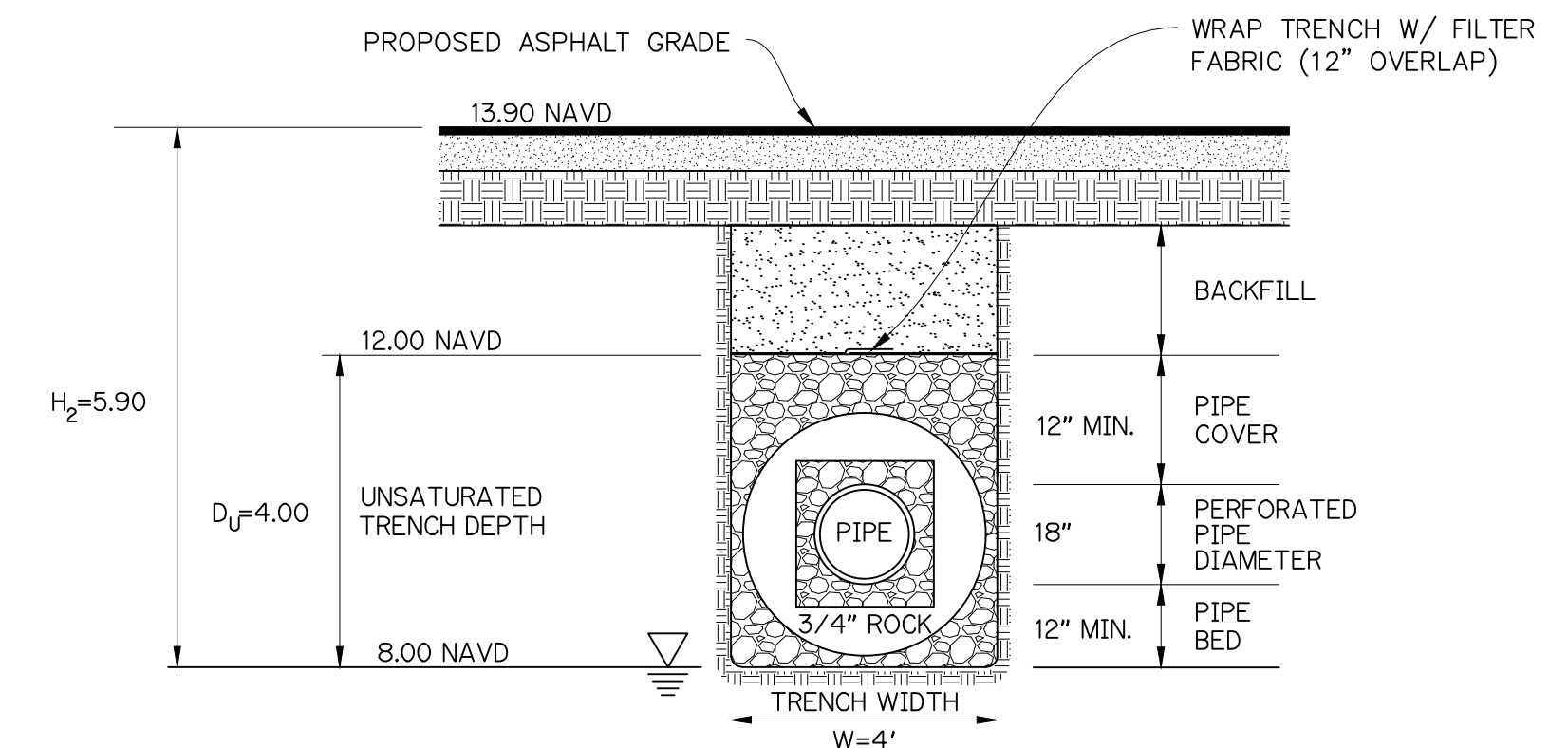
- R.P.M.s shall be installed on all lane lines and centerlines, spaced at 20' or 40'.
- R.P.M.s shall be a 4 x 4 type class "B" marker meeting F.D.O.T. specifications and shall be approved by the City Engineer prior to use.
- R.P.M.'s shall be installed using alkyd thermoplastic on asphalt and epoxy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

**PAVEMENT MARKING SPECIFICATIONS
(DETAIL 2 OF 2)**
N.T.S.

DATE: 09-15-2021
RT22.1



NOTES:
H₂ HEIGHT OF GROUND SURFACE ABOVE DESIGN WATER TABLE
D₀ UNSATURATED TRENCH DEPTH

EXFILTRATION TRENCH DETAIL
N.T.S.

CONSTRUCTION DETAILS
FOR

MILFRED INDUSTRIAL
1215 Milfred Street
Delray Beach, FL 33444

REVISIONS	DATE	BY	CK

EB 9889
LDI
Last Devenport, Inc.
1860 Old Okesechobee Road, Suite 504
West Palm Beach, FL 33409
phone (561)615-6567 fax (561)615-3986

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22-075 | SI

SHEET 7 OF 8

PRESSURE PIPE NOTES:

- 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.
- 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 A21.51), AND SHALL HAVE AN INTERNAL LINING OF CEMENT MORTAR IN ACCORDANCE WITH AWWA C104/ A21.4.
- 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 BUTTERFLY VALVES IN ACCORDANCE WITH AWWA C504. SEWAGE FORCE MAIN VALVES SHALL BE RESILIENT-SEAL PLUG VALVES IN ACCORDANCE WITH AWWA C517.
- ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH CITY AND LOCAL GOVERNMENTAL REGULATIONS AND STANDARDS.
- WATER AND FORCE MAINS SHALL BE PIGGED A MINIMUM OF TWO TIMES, AND ADDITIONALLY, IF REQUIRED BY ENGINEER OF RECORD, AS WELL AS, PRESSURE TESTED FOR A PERIOD OF NOT LESS THAN TWO HOURS AT 150 PSI IN ACCORDANCE WITH ANSI/AWWA C600 LATEST STANDARDS. ALLOWABLE LEAKAGE SHALL BE DETERMINED AS FOLLOWS:

$$L = \frac{SD\sqrt{P}}{148,000}$$

WHERE:

- L = ALLOWABLE LEAKAGE (GALLONS PER HOUR)
- S = PIPE LENGTH (FEET)
- D = NOMINAL DIAMETER OF PIPE (INCHES)
- P = AVERAGE TEST PRESSURE (PSI)

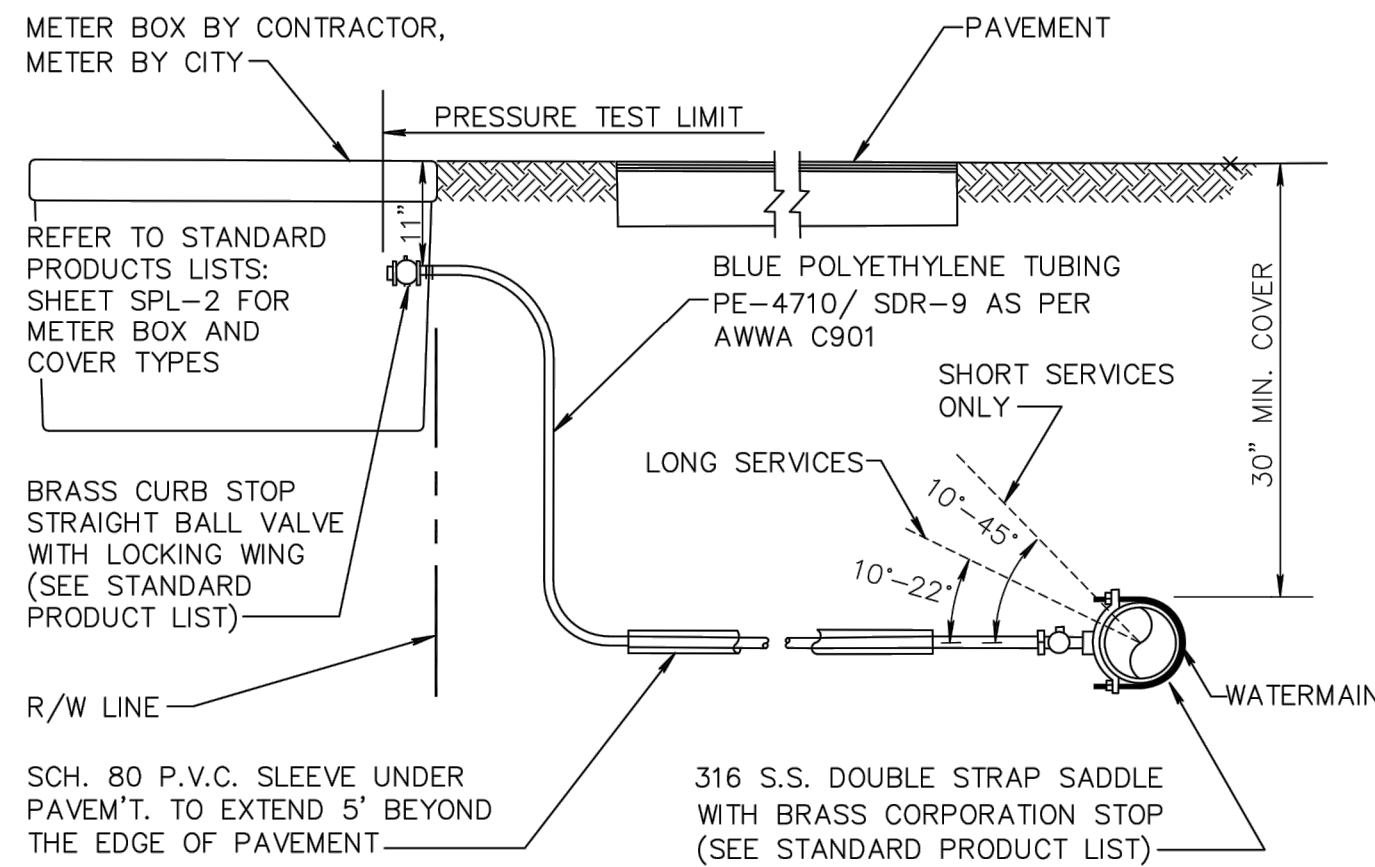
- RESTRAINTS SHALL BE PROVIDED AT ALL FITTINGS AS SHOWN ON PP 2.0 AND 2.1
- PRIOR TO ANY TESTING UNDER FUTURE PAVEMENT, ROCK SHALL BE FINISHED & PRIMED OR 1ST LIFT OF ASPHALT PLACED.
- PIG SIZE SHALL BE PIPE DIAMETER PLUS 2" OR NEXT LARGER DIAMETER.
- NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN 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.

PRESSURE PIPE NOTES

N.T.S.

DATE: 09-15-2021

PP1.0



NOTES:

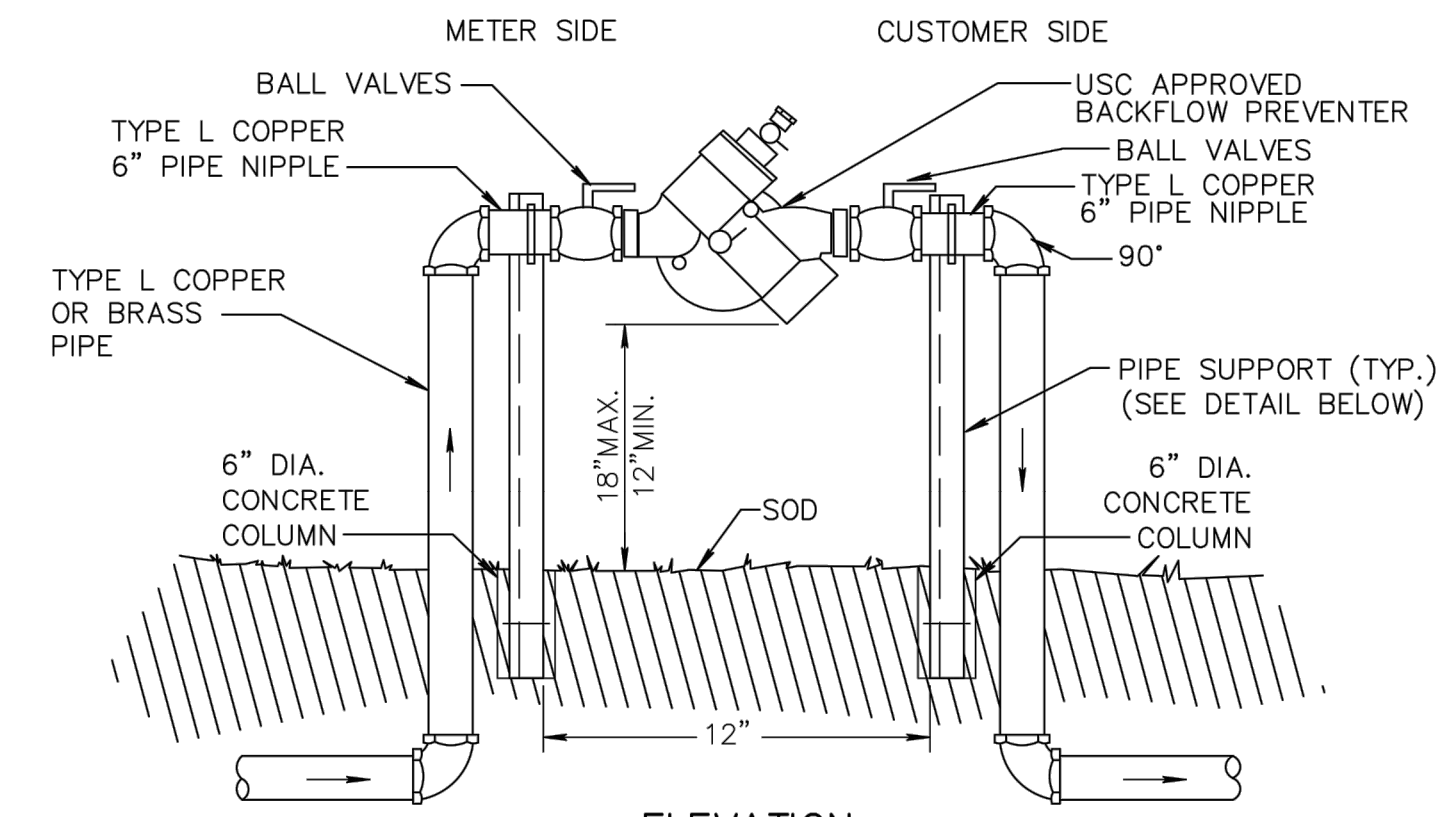
- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" ON CENTER.
- SERVICE LINES SHALL NOT BE PLACED UNDER DRIVEWAYS.
- ALL METERS REQUIRE A LOCKING BRASS CURB STOP WITH LOCK WING (1" MIN.).
- NO FITTINGS BETWEEN CORPORATION STOP AND BRANCH ASSEMBLY.
- MAXIMUM SERVICE LENGTH IS 100' TO METER.
- 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.
- METER SIZE WILL BE DETERMINED BY PUBLIC UTILITIES DEPT. UPON APPLICATION FOR SERVICE.
- ALL VALVES TO BE BALL VALVES.
- METER BOX SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
- ALL SERVICES UNDER ROADWAYS ARE TO BE INSTALLED BY TRENCHLESS METHOD, UNLESS OTHERWISE APPROVED.
- ALL EXISTING SERVICES TO BE FIELD VERIFIED BY BUILDER/CONTRACTOR/DEVELOPER; IF EXISTING SERVICE IS GALVANIZED, BUILDER/CONTRACTOR/DEVELOPER SHALL REPLACE WITH POLYETHYLENE PIPING FROM MAIN TO THE METER.
- ALL COMMERCIAL WATER SERVICE SHALL BE A MINIMUM OF 2".
- WATER METERS SHALL BE LOCATED OUTSIDE ANY DRIVEWAYS BY 2'

TYPICAL URBAN/REDEVELOPMENT AREA SERVICE CONNECTION IN DRIVEWAYS

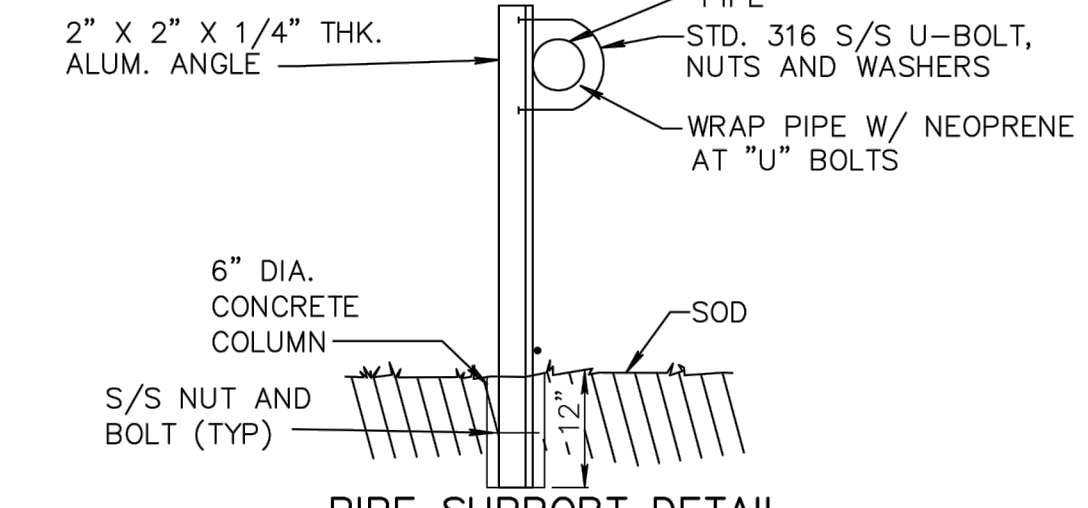
N.T.S.

DATE: 09-15-2021

PW 13.0



ELEVATION



PIPE SUPPORT DETAIL

NOTES:

- FOR ALL SERVICES LESS THAN OR EQUAL TO 2" DIA.
- ABOVE GRADE PIPING SHALL BE BRASS OR TYPE "L" COPPER OR BRASS TUBING.
- ALL COPPER JOINTS SHALL BE MADE WITH 95/5 SOLDER.
- USC APPROVED RPZ BACKFLOW PREVENTER IS REQUIRED IN ACCORDANCE WITH CITY OF DELRAY BEACH CODE OF ORDINANCES TITLE V, CHAPTER 52.8.3.
- USC APPROVED RPZ BACKFLOW PREVENTER IS REQUIRED FOR ALL COMMERCIAL PROPERTIES AND ALL RESIDENTIAL PROPERTIES WITH FIRE SPRINKLER SYSTEMS.

REDUCED PRESSURE ZONE BACKFLOW PREVENTER

N.T.S.

DATE: 09-15-2021

PW17.0

GRAVITY SEWER NOTES

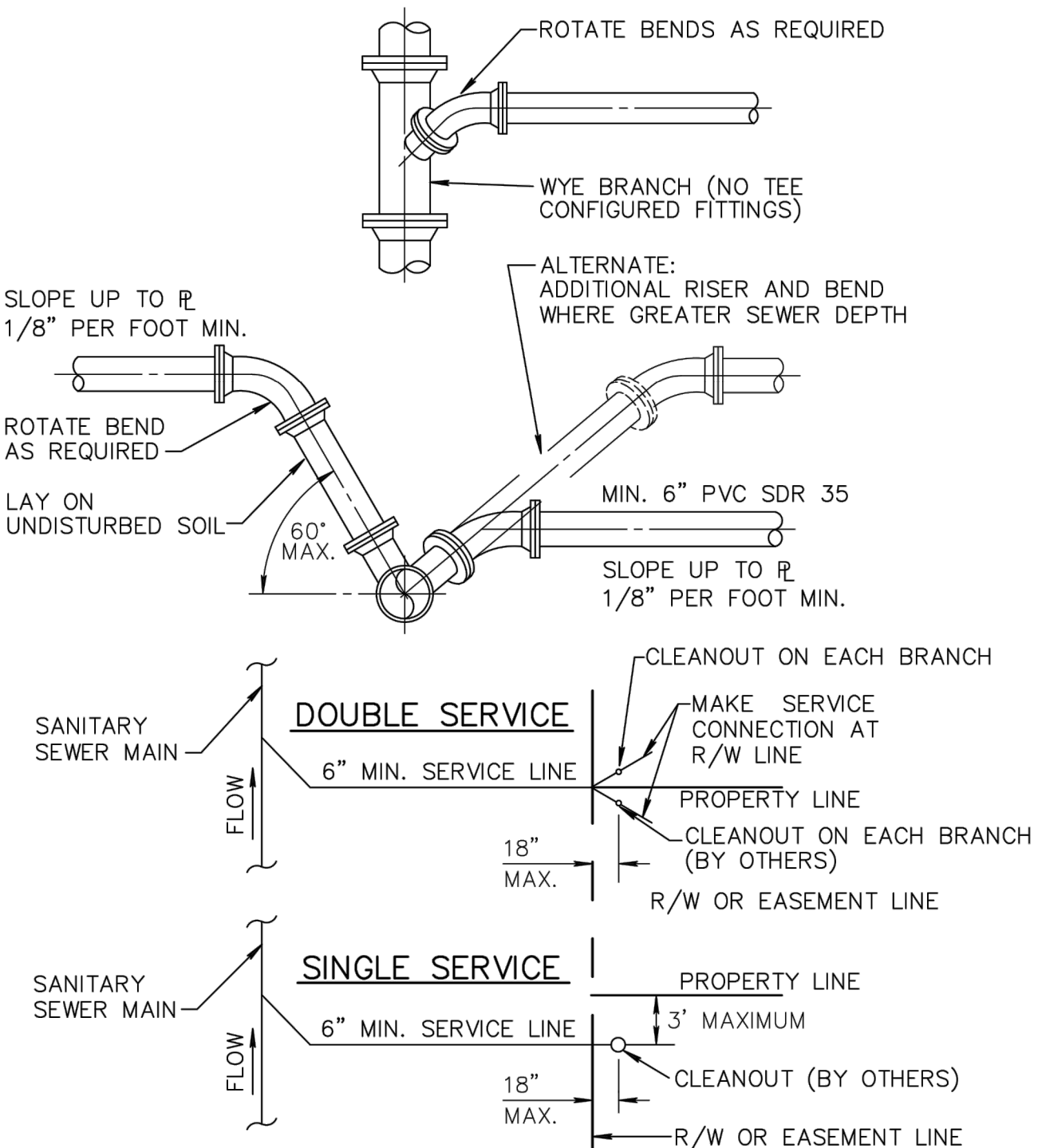
- MANHOLES SHALL BE INSPECTED BY THE ENGINEER BEFORE PLACEMENT AND SURFACE TREATMENT.
- ALL OPENINGS IN PRECAST MANHOLES SHALL BE CAST AT TIME OF MANUFACTURE. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE ENTRY ONLY.
- ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE.
- (PVC) GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D 3034, SDR 35, LATEST REVISIONS, WITH PUSH ON RUBBER GASKET JOINTS.
- (DIP) GRAVITY SEWER PIPE SHALL BE CLASS 350, 401 EPOXY LINED OR AS OTHERWISE APPROVED BY UTILITIES DEPARTMENT.
- NO SERVICE CONNECTIONS, WYES, SERVICES OR VALVES WILL BE PERMITTED IN RESIDENTIAL DRIVEWAYS.
- MANHOLE FRAMES SHALL BE ATTACHED TO THE PRECAST STRUCTURE WITH A MINIMUM OF TWO 3/4" 316 STAINLESS STEEL BOLTS, NUTS AND WASHERS. FRAMES SHALL BE SEALED WITH A MINIMUM OF TWO 1/2" BEADS OF RAM-NEK CAULKING.
- TRENCHES SHALL BE DE-WATERED TO ENABLE PIPE AND APPURTENANCES TO BE INSTALLED FREE OF WATER ON UNDISTURBED SOIL. IF UNSUITABLE SUBSURFACE MATERIAL IS ENCOUNTERED, EXCAVATE EXTRA 6" AND BACKFILL WITH 3/4" GRAVEL.
- PVC SHALL BE LAID IN STRICT CONFORMANCE TO MANUFACTURER'S SPEC (JOHNS MANVILLE RING TITE PVC PIPE INSTALLATION GUIDE OR EQUAL). BACKFILLING OF UTILITY TRENCHES WILL NOT BE ALLOWED UNTIL INSPECTED BY THE ENGINEER.
- BACKFILL MATERIAL FOR SEWER MAIN AND LINES SHALL BE NON-COHESIVE, NON PLASTIC MATERIAL FREE OF ALL DEBRIS, LUMPS AND ORGANIC MATTER. BACKFILL MATERIAL PLACED WITHIN ONE (1) FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO (2) INCHES IN DIAMETER (1" FOR PVC PIPE) AND NO STONES LARGER THAN SIX (6) INCHES IN DIAMETER WILL BE PERMITTED IN ANY BACKFILL.
- ALL EXCAVATION IN EXISTING RIGHT OF WAY SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY TO PERMIT 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.
- UPON COMPLETION OF THE WORK AND PRIOR TO PLACEMENT OF ASPHALT A VISUAL INSPECTION BY THE ENGINEER SHALL BE MADE OF THE COMPLETED SYSTEM ALONG WITH A LOW PRESSURE AIR TEST AFTER ROCK BASE FINISHED & PRIMED, OR 1ST LIFT OF ASPHALT PLACED. AFTER ALL OTHER TESTING HAS BEEN COMPLETED, A CD VIDEO RECORDING SHALL BE MADE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER, BEFORE THE LENGTHS ARE ACCEPTED FOR MAINTENANCE.
- EACH LINE SEGMENT SHALL BE LAMPED TO DETERMINE PROPER ROUNDNESS.
- COMPLETE "AS BUILT" INFORMATION RELATIVE TO MANHOLES, VALVES, SERVICES FITTINGS, PIPE LENGTHS, INVERTS AND SLOPES SHALL BE ACCURATELY RECORDED & SUBMITTED TO THE ENGINEER CITY SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
- AT THE END OF THE ONE (1) YEAR WARRANTY PERIOD THE DEVELOPER/CONTRACTOR WILL T.V. INSPECT, AIR TEST EVERY JOINT AND CHECK MANHOLE JOINTS AND CONNECTIONS TO 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 OR PROPOSED SANITARY SEWER FACILITY.
- ANY PIPE INTRODUCED INTO AN EXISTING MANHOLE MUST HAVE CARBOLINE BITUMASTIC 300M OR APPROVED EQUAL APPLIED EXTERNALLY WITHIN A MINIMUM 2-FOOT RADIUS OF OPENING AND THE ENTIRE MANHOLE MUST HAVE SEWPER COAT OR APPROVED EQUAL APPLIED INTERNALLY.
- ANY REHABILITATION TO AN EXISTING MANHOLE MUST BE INTERNALLY STRIPPED AND LINED WITH SEWPER COAT OR APPROVED EQUAL.

GRAVITY SEWER NOTES

N.T.S.

DATE: 09-15-2021

WW1.0



NOTE:

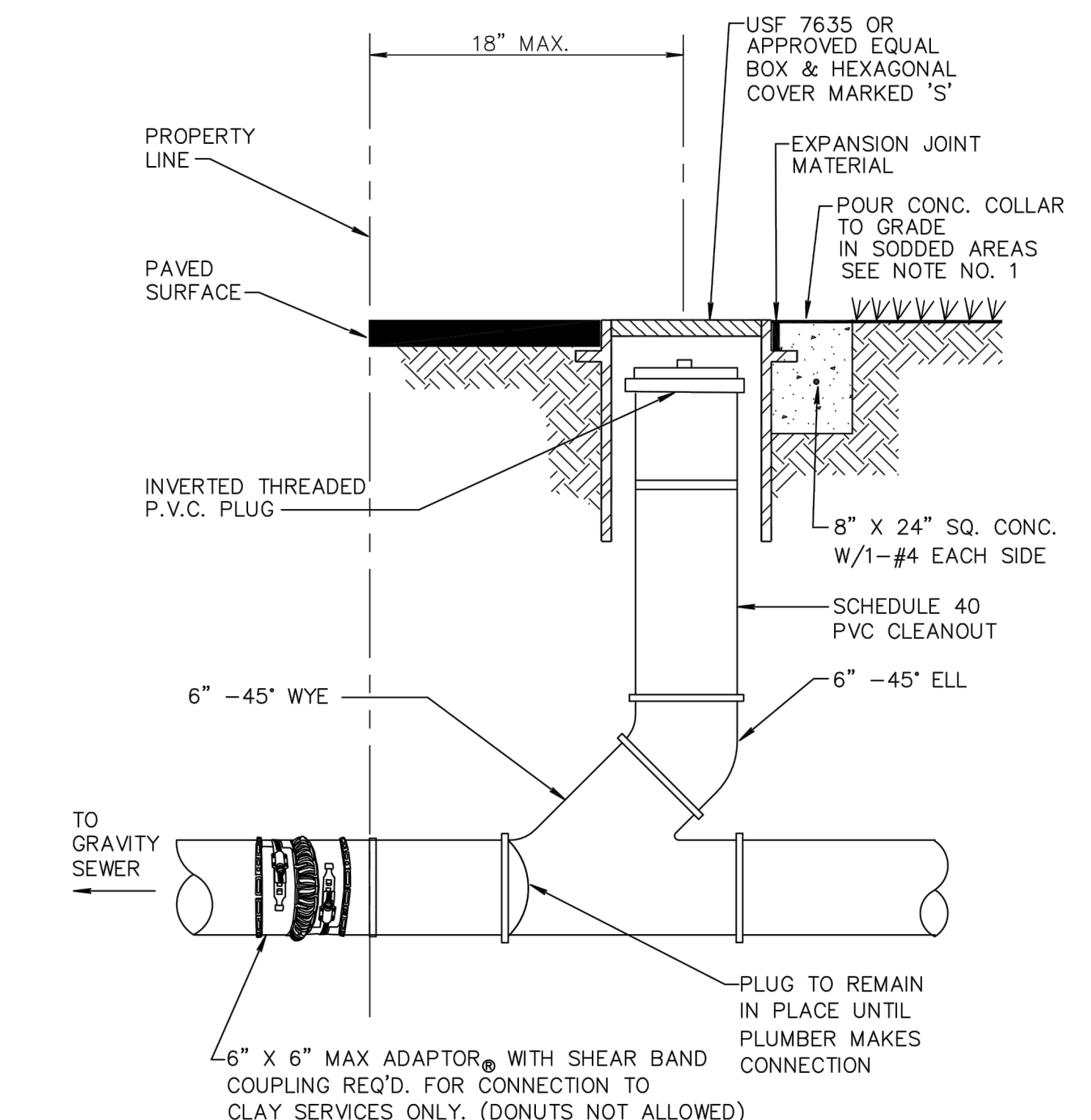
- SERVICE LATERALS SHALL TERMINATE INSIDE PROPERTY LINE A DEPTH OF 3 FEET AND MARKED WITH A 2" X 4" TREATED STAKE.
- CLEANOUT INSTALLATION SHALL BE PROPERTY OWNERS RESPONSIBILITY AND SHALL BE INSTALLED BY LICENSED PLUMBER.
- SEE DETAIL PW 2.0 FOR SEPARATION REQUIREMENTS.

SEWER SERVICE CONNECTION

N.T.S.

DATE: 09-15-2021

WW8.0



NOTE:

- INVERTED BRASS CAP SHALL BE USED IN GRASS AREAS IN LIEU OF CASTING AND CONE COLLAR.
- MINIMUM DEPTH OF SERVICE LATERAL SHALL BE 3 FEET.

TYPICAL COMMERCIAL CLEANOUT

N.T.S.

DATE: 09-15-2021

WW10.0

CONSTRUCTION DETAILS FOR
MILFRED INDUSTRIAL
 1215 Milfred Street
 Delray Beach, FL 33444

REVISIONS	DATE	BY	CHK
REV. FOR UPDATED SITE PLAN	2/13/24	RWL	RWL

EB 9889
LDI
Last Devenport, Inc.
 1860 Old Okeechobee Road, Suite 504
 West Palm Beach, FL 33409
 phone (561)615-6567 fax (561)615-3996

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 FLORIDA P.E. #38707

22-075 | SI
 SHEET 8 OF 8

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