

CONSTRUCTION PLANS FOR Mariner Village Square PUD

LOT 2 - BEE SAFE STORAGE

MARTIN COUNTY, FLORIDA

SECTION 31, TOWNSHIP 38 SOUTH, RANGE 42 EAST

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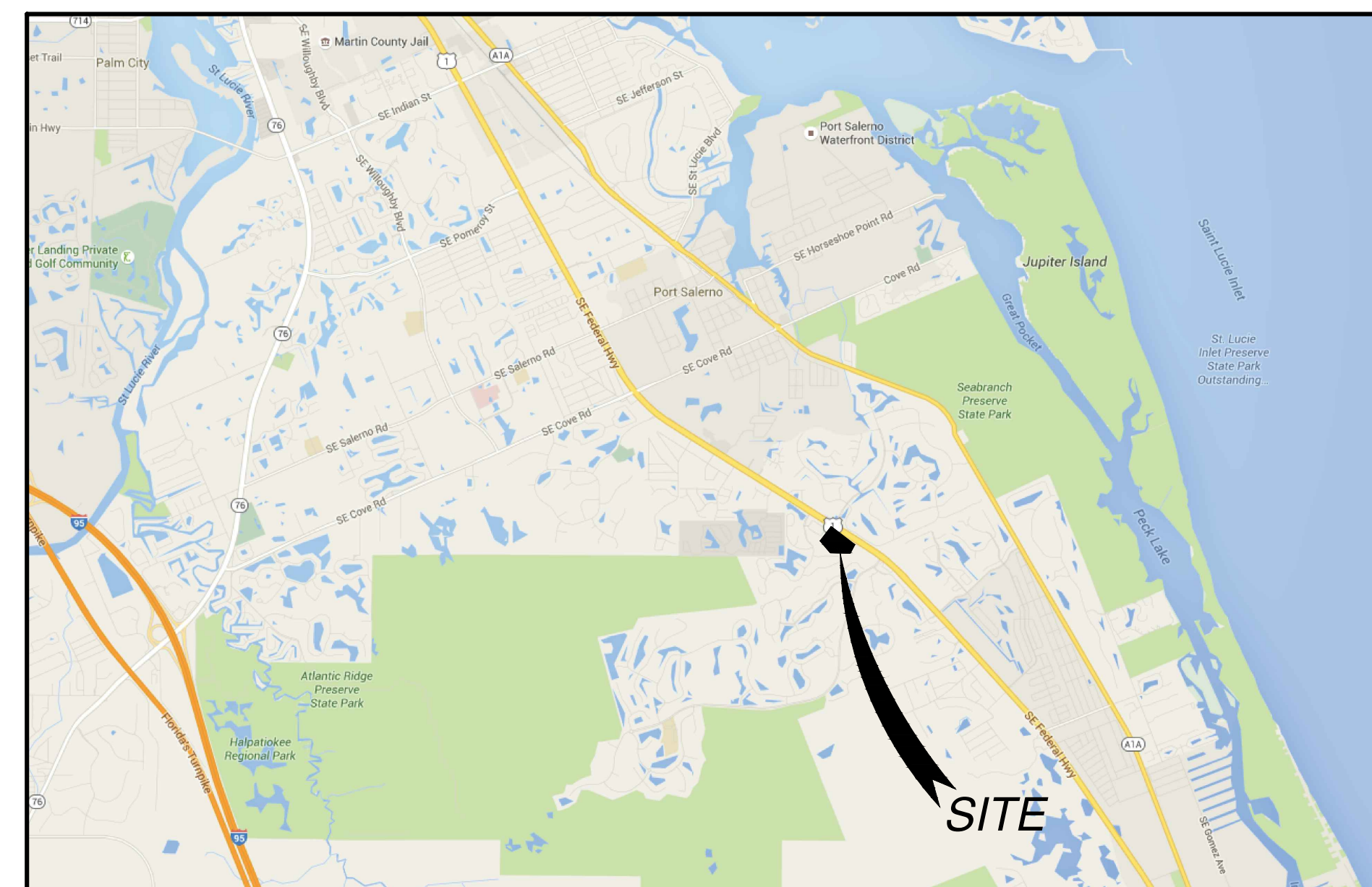
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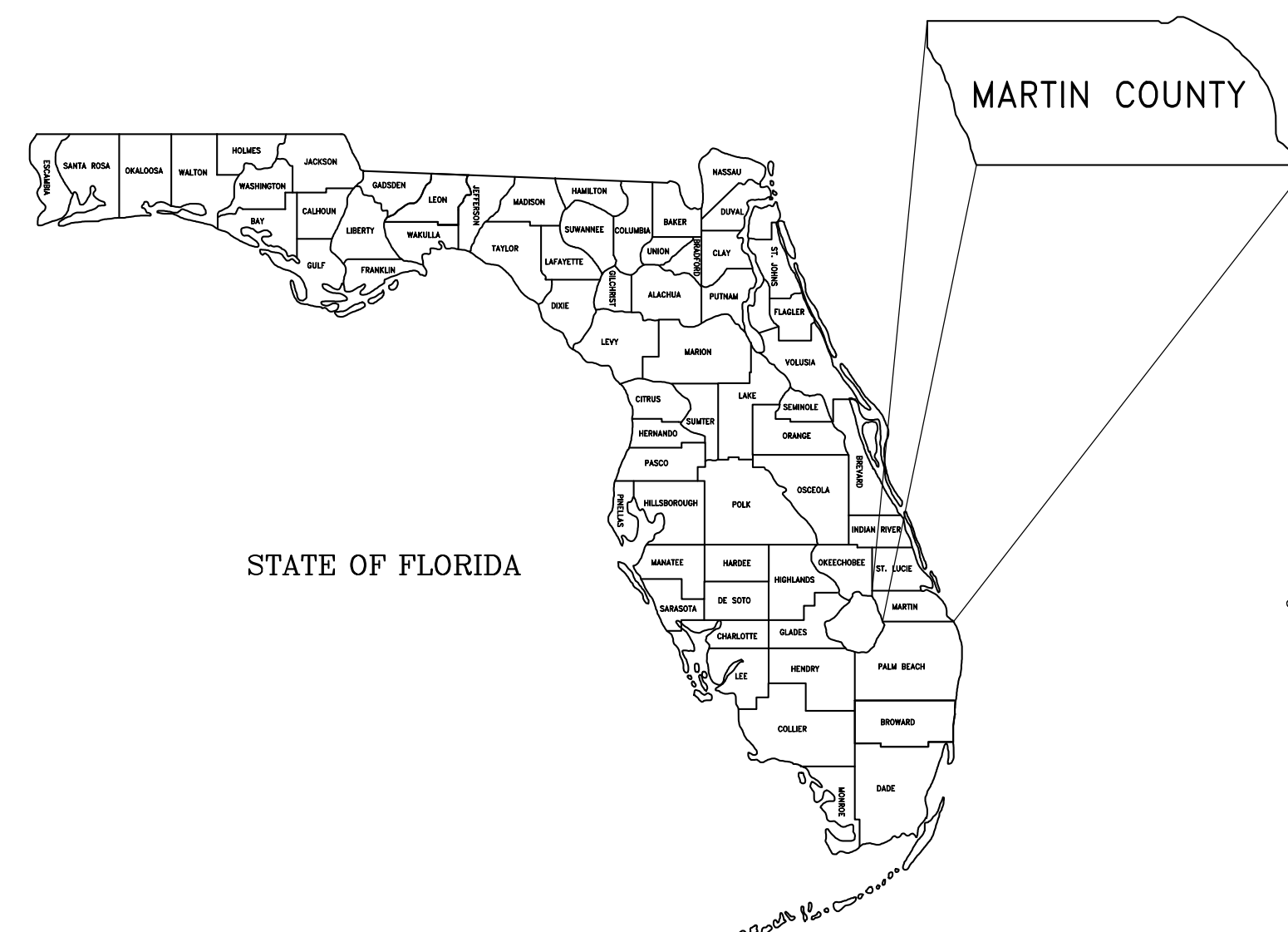
SURVEYOR

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LOCATION MAP

N.T.S.



VICINITY MAP

N.T.S.

DRAWING INDEX

SHEET NO.	SHEET LIST
C0	COVER SHEET
C1	STRIPING & SIGNAGE PLAN
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D7	WATER & WASTEWATER GENERAL NOTES
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GENERAL NOTES

1. THE CONTRACTOR SHALL HAVE ONE SIGNED COPY OF THE APPROVED PLANS AND THE APPROPRIATE STANDARDS AND SPECIFICATIONS ALONG WITH A COPY OF ALL APPLICABLE PERMITS AND AGREEMENTS NEEDED FOR THE JOB ON-SITE AT ALL TIMES.
2. THE CONTRACTOR SHALL MEET OR EXCEED ALL SITE WORK SPECIFICATIONS AND APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS FOR ALL MATERIALS AND CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS IS ENCOUNTERED.
5. NO REVISION SHALL BE MADE TO THESE PLANS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE. AT ALL TIMES.
7. ANY REFERENCE TO PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.



THE ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

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MARTIN COUNTY
COVER SHEET
LOT 2 - BEE SAFE STORAGE
MARINER VILLAGE SQUARE PUD
FLORIDA

PROJECT NO
010318-02-004

L. LEONARD, P.E.
FL LICENSE NO. 61737

PLAN STATUS

05-29-2019 COUNTY COMMENTS

01-27-2020 FDEP COMMENTS

DATE DESCRIPTION

LL GC/JB GMB
DESIGN DRAWN CHKD

SCALE AS SHOWN

JOB No. 010318-02-004

DATE 03/13/2019

FILE No. 318-CP-02-P2-COV

C0
SHEET

U.S. HIGHWAY NO. 1
(STATE ROAD NO. 5)
SE FEDERAL HIGHWAY

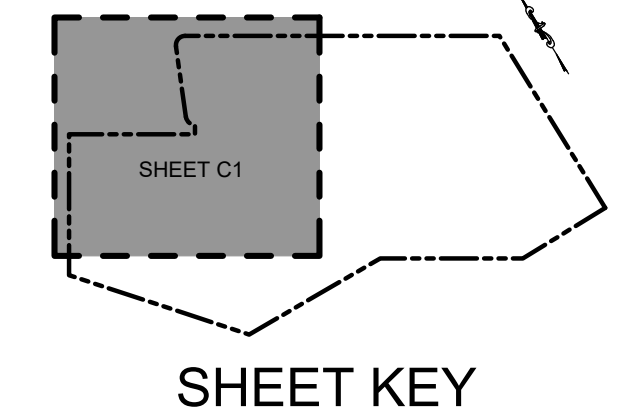
EXISTING OFFICE
(2-STORY)

SE MARINER SANDS DRIVE

LOT 3
(BY OTHERS)

KEYNOTE LEGEND

- (A) STOP BAR (TYP.) (SEE DETAIL).
- (B) "STOP" SIGN (TYP.) (SEE DETAIL).
- (C) 4" SOLID WHITE STRIPE.
- (D) 6" SOLID WHITE STRIPE.
- (E) DUMPSTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS).
- (F) 6'-0" WIDE (OR AS SHOWN) PEDESTRIAN CROSSWALK (SEE DETAIL).
- (G) ARROW PAVEMENT MARKINGS TYPICAL. (SEE DETAIL).
- (H) ACCESSIBLE PARKING SPACE TYPICAL. SEE DETAIL SHEET FOR ACCESSIBLE PARKING SPACE SIZE, SIGN AND SYMBOL.
- (I) ENTRANCE / EXIT GATE. (SEE DETAIL).
- (J) BUILDING SIGNAGE (300 SQUARE FEET) (REFER TO ARCH. PLANS).
- (K) 6' HIGH CHAIN LINK FENCE. (SEE DETAIL).
- (L) PEDESTRIAN CROSSING SIGN. TYPICAL AT PEDESTRIAN CROSSWALKS AS NOTED ON PLANS. (SEE DETAIL).
- (M) CURB RAMP AND DETECTABLE WARNING STRIP PER LATEST EDITIONS OF FDOT STANDARD PLANS FOR ROAD CONSTRUCTION INDEX 522-02.
- (N) FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION SECTION 527 AND PER ADA REQUIREMENTS.
- (O) 4" SOLID YELLOW STRIPE AT 2' O.C. AT 45°.
- (P) PROPOSED KNOX BOX.
- (Q) BIKE RACK (SEE DETAIL).
- (R) 200 SF PATIO (REFER TO ARCHITECTURAL PLANS FOR DETAILS).
- (S) PROPOSED BENCH (REFER TO ARCHITECTURAL PLANS FOR DETAILS).
- (T) EXISTING CROSSWALK STRIPING.
- (U) TYPE "F" CURB (TYP.).
- (V) 18" SOLID WHITE STRIPE AT 10' O.C. AT 45°.
- (W) 4" SOLID YELLOW STRIPE.



SHEET KEY

NOTES

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL MARTIN COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, CANOPIES, APRONS, SIDEWALKS, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
3. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH COUNTY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
4. ALL ISLANDS WITH CURB & GUTTER SHALL BE LANDSCAPED.
5. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
7. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY PERFORMED BY BOWMAN CONSULTING GROUP DATED OCTOBER 17, 2017.
8. MONUMENT SIGNS SHALL BE CONSTRUCTED BY OTHERS.
9. REFER TO ARCH. PLANS FOR SITE LIGHTING AND ELECTRICAL PLANS.
10. ALL SIDEWALKS AND ADA ACCESSIBLE AREAS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1V:20H & A MAXIMUM CROSS SLOPE OF 1V:50H.
11. ALL CURB RAMPS TO HAVE DETECTABLE WARNING STRIPS & BE CONSTRUCTED PER LATEST EDITION OF FDOT STANDARDS PLANS FOR ROAD CONSTRUCTION, INDEX 522-002, FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, SECTION 527 & PER ADA REQUIREMENTS.
12. F.I.R.M. NO. 12085C0310G, EFFECTIVE DATE MARCH 16, 2015 INDICATES THE SITE IS LOCATED IN ZONE X.
13. ALL STRIPING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF FDOT STANDARD PLANS FOR ROAD CONSTRUCTION INDEX 711-001 AND FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION SECTION 711 "THERMO PLASTIC TRAFFIC STRIPES AND MARKINGS" AND MARTIN COUNTY REQUIREMENTS. INSTALL RETRO-REFLECTIVE PAVEMENT MARKINGS (RPMs).
14. ALL STRIPING SHALL BE INSTALLED AFTER NEW PAVEMENT.

SITE DATA

TOTAL SITE AREA (LOT 2)	132,229 S.F. / 3.03 AC.
FUTURE LAND USE	COMMERCIAL / INDUSTRIAL (CI)
ZONING	GENERAL COMMERCIAL DISTRICT (CG)
OPEN SPACE PROVIDED*	29,478 S.F. / 0.67 AC. (22%)

BUILDING DATA

BEE SAFE STORAGE	HEIGHT	STORIES	SF
TOTAL	40' MAX	3	114,900

PARKING CALCULATIONS

UNIT DESCRIPTION	SF	RATIO	SPACES
LOT 2 (BEE SAFE STORAGE)	114,900	1 SPACE / 1,500 SF	77 SPACES
TOTAL			77 SPACES

PROPOSED PARKING SPACES	
LOT 2 (BEE SAFE STORAGE)	45
10' X 18' ACCESSIBLE	2
TOTAL	47

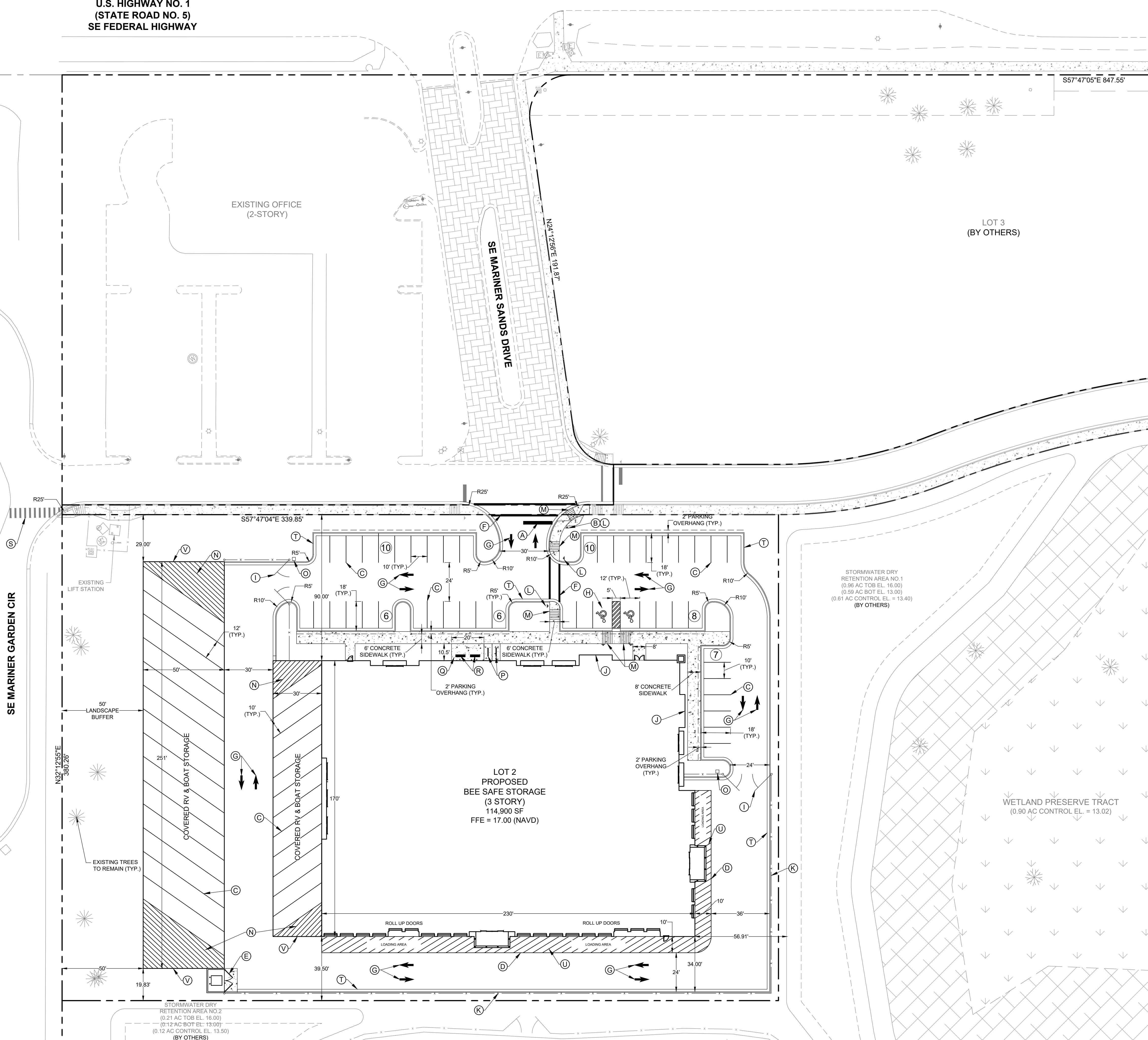
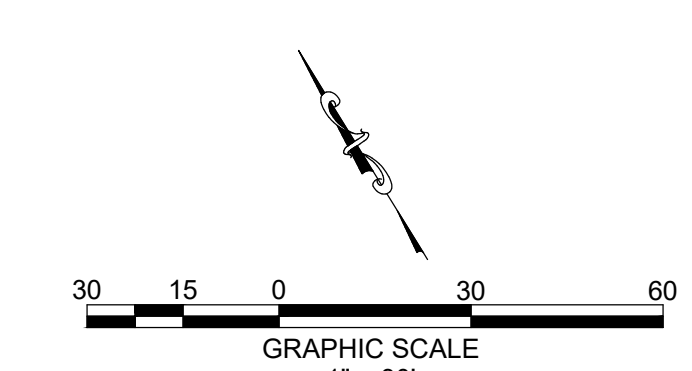
PROPOSED ACCESSIBLE PARKING SPACES	
REQUIRED = 26 TO 50 SPACES = 2 SPACES	
PROVIDED = 2 SPACES	

SITE STATISTICS

	ACRES	SF	PERCENTAGE%
LOT 2 (BEE SAFE STORAGE) SITE AREA	3.03	132,229	100%
IMPERVIOUS AREA	2.96	102,571	78%
BUILDING TOTAL	0.88	38,300	37%
PAVEMENT	0.93	40,346	40%
CONCRETE & SIDEWALK	0.55	23,925	23%
PERVIOUS AREA	0.67	29,478	22%
LANDSCAPE AREA	0.67	29,478	22%

LEGEND

- BOUNDARY / RIGHT OF WAY LINE
- [Hatched Pattern] WETLAND PRESERVE TRACT
- [Dotted Pattern] 50' WETLAND BUFFER
- [Cross-hatched Pattern] PROPOSED CONCRETE SIDEWALK



STORMWATER DRY RETENTION AREA NO. 2
(0.12 AC TOB EL. 13.00)
(0.12 AC BOT EL. 13.00)
(0.12 AC CONTROL EL. 13.50)
(BY OTHERS)

STORMWATER DRY RETENTION AREA NO. 1
(0.96 AC TOB EL. 16.00)
(0.59 AC BOT EL. 13.00)
(0.61 AC CONTROL EL. 13.40)
(BY OTHERS)



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MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
STRIPING & SIGNAGE PLAN

PROJECT NO
010318-02-004

L. LEONARD, P.E. FL. LICENSE NO. 61737
PLAN STATUS
05-29-2019 COUNTY COMMENTS
12-02-2019 COUNTY COMMENTS
01-27-2020 FDEP COMMENTS

DATE	DESCRIPTION
LL DESIGN	GC / JB DRAW
	GMB CHKD
SCALE	AS SHOWN
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-SIG

SHEET
C1

U.S. HIGHWAY NO. 1
(STATE ROAD NO. 5)
SE FEDERAL HIGHWAY

EXISTING OFFICE
(2-STORY)

SE MARINER SANDS DRIVE

LOT 3
(BY OTHERS)

COVERED RV & BOAT STORAGE

COVERED RV & BOAT STORAGE

LOT 2
PROPOSED
BEE SAFE STORAGE
(3 STORY)
114,900 SF
FFE = 17.00 (NAVD)

STORMWATER DRY
RETENTION AREA NO.1
(0.96 AC TOB EL. 16.00)
(0.59 AC BOT EL. 13.00)
(0.61 AC CONTROL EL. = 13.40)
(BY OTHERS)

WETLAND PRESERVE TRACT
(0.90 AC CONTROL EL. = 13.02)

STORMWATER DRY
RETENTION AREA NO.2
(0.21 AC TOB EL. 16.00)
(0.12 AC BOT EL. 13.00)
(0.12 AC CONTROL EL. 13.50)
(BY OTHERS)

EROSION CONTROL NOTES

- INSPECTIONS ARE REQUIRED BY CONTRACTOR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER.
- THE CONTRACTOR WILL BE THE OPERATOR AND SHALL PREPARE, SUBMIT AND OBTAIN THE NOTICE OF INTENT TO USE NPDES GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP).
- THE CONTRACTOR SHALL PREPARE AND SUBMIT THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER NOTICE OF TERMINATION TO THE FDEP AT THE CONCLUSION OF THE PROJECT ONCE THE SITE HAS BEEN DEEMED COMPLETE AND FULLY STABILIZED.
- THE CONTRACTOR SHALL PREPARE, SUBMIT, AND OBTAIN ALL REQUIRED PERMITS FOR ANY ASBESTOS THAT IS FOUND AT THE SITE.
- THE CONTRACTOR SHALL IMPLEMENT THE WORK IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACTS OF THE WORK ON NATURAL ENVIRONMENTAL FEATURES AND WATER QUALITY. THE CONTRACTOR SHALL INSTITUTE NECESSARY MEASURES DURING CONSTRUCTION TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING, AND SEDIMENTATION IN THE RECEIVING WATERS.
- OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL NOT BE PERMITTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ADVERSE OFF-SITE WATER-RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION AND REMOVAL OF DEBRIS AND SILT BEHIND EROSION CONTROL DEVICES. TRAPPED MATERIAL SHALL NOT EXCEED 1/2 HEIGHT OF DEVICES.
- ALL INLETS AND PIPES SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEMS BY WAY OF THE TEMPORARY PLUGS AND PLYWOOD OR GEOTEXTILE FABRIC OVER THE INLETS. THE DRAINAGE SYSTEM THAT HAS BEEN IMPACTED BY THE PROPOSED MODIFICATIONS SHALL BE CLEANED OF ALL DEBRIS PRIOR TO FINAL ACCEPTANCE.
- ALL OFF-SITE AREAS DISTURBED DURING CONSTRUCTION ACTIVITY SHALL BE IMMEDIATELY RESTORED TO PRIOR CONDITION UPON COMPLETION OF WORK.
- SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION, BLOWING SAND, AND THE IMPACT TO NEIGHBORING COMMUNITIES.
- ANY TOPSOIL OR EXCAVATED SOIL THAT IS TO REMAIN ON THE SITE MUST BE STOCKPILED. THE STOCKPILE MUST BE ENCLOSED IN SILT FENCE AND TEMPORARILY SEED OR OTHERWISE STABILIZED AGAINST EROSION. THE STOCKPILES SHALL BE A MAXIMUM 2:1 (H:V) SLOPE AND A MAXIMUM HEIGHT OF 20 FEET OR A HEIGHT ALLOWED BY PHYSICAL CONSTRAINTS, WHICHEVER IS LESS. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT AREAS WHERE THE STOCKPILES EXIST SHALL BE BUILT AFTER SAID STOCKPILES ARE USED OR MOVED AND PROTECTED AT A DIFFERENT APPROVED LOCATION.
- DATUM IS BASED ON N.A.V.D. 1988.

LAND CLEARING NOTES

- PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
- AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THIS AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
- TREES IDENTIFIED TO BE PROTECTED SHALL HAVE PROTECTIVE BARRICADES INSTALLED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF ANY CLEARING ACTIVITIES.
- PRESERVE AREAS SHALL HAVE ORANGE FENCE INSTALLED ALONG ENTIRE BOUNDARY PRIOR TO COMMENCEMENT OF ANY CLEARING ACTIVITIES.
- NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL STRUCTURES AND BARRICADES HAS BEEN OBTAINED.
- CONTRACTOR TO COORDINATE WITH EACH APPLICABLE UTILITY COMPANY.
- CONTRACTOR IS REQUIRED TO PRESERVE AND PROTECT ALL EXISTING POWER POLES.
- SOIL STABILIZATION SHALL BE COMPLETED WITHIN 7 DAYS OF VEGETATION REMOVAL.
- ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY THE PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.
- PRIOR TO SCHEDULING A FINAL ENVIRONMENTAL INSPECTION FOR THE INFRASTRUCTURE, ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- THE 50' WETLAND BUFFER TO BE RESTORED IN ACCORDANCE WITH THE APPROVED PAMP.

EROSION CONTROL CONSTRUCTION SEQUENCE

- FLAG AND FENCE ALL WORK LIMITS.
- NOTIFY SEDIMENT CONTROL INSPECTOR (24) HOURS PRIOR TO START OF CONSTRUCTION.
- PERFORM CLEARING AND GRADING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS.
- INSTALL PERIMETER RUNOFF CONTROLS; NOTIFY SEDIMENT INSPECTOR AND OBTAIN APPROVAL BEFORE PROCEEDING FURTHER.
- INSTALL ORANGE CONSTRUCTION FENCE AROUND PERIMETER OF DRY SITE.
- COMPLETE ALL REQUIRED STOCKPILING, SITE CLEARING, AND GRADING. STOCKPILE ANY EXCESS TOPSOIL OR OTHER EXCAVATED SOIL IN APPROVED STOCKPILES PER EROSION CONTROL NOTE 12 AND AS SHOWN ON THE PLAN OR REMOVE FROM SITE AND DISPOSE OF AT A PERMITTED SITE.
- SEED AND/OR SOD DISTURBED AREAS FOR FINAL STABILIZATION.
- NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL TO REMOVE SEDIMENT AND EROSION CONTROL.

TREE PRESERVATION NOTES

SEC. 4.666 - TREE PROTECTION

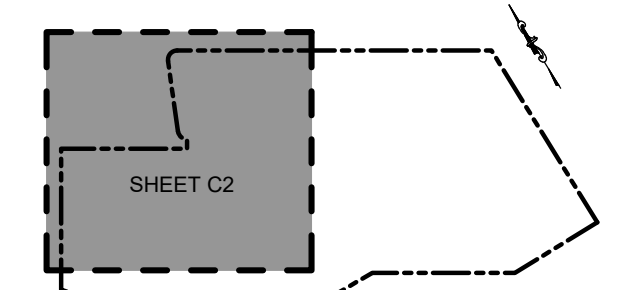
4.666.B LOCATION OF PROTECTED TREES. ALL PROTECTED TREES WHICH MAY BE IMPACTED WITHIN 75 PERCENT OF THEIR CANOPY DRIP-LINES BY PROPOSED DEVELOPMENT ACTIVITIES SHALL BE PHYSICALLY LOCATED ON SITE AND INDICATED ON THE TREE SURVEY AS REQUIRED IN SECTION 4.662.A.7. BARRICADES MUST BE CONSTRUCTED AROUND THE CRITICAL PROTECTION ZONE OF EACH TREE OR CLUSTER OF TREES. THESE BARRICADES MUST BE CONSTRUCTED OF A MINIMUM OF ONE-FOURTH-INCH DIAMETER ROPE WHICH IS YELLOW OR ORANGE IN COLOR AND MADE OF NYLON OR POLY. THE ROPE IS TO BE ATTACHED TO A MINIMUM OF TWO x TWO WOODEN POLES, IRON REBAR, TWO INCHES OR GREATER PVC PIPE OR OTHER MATERIAL WITH PRIOR APPROVAL OF THE GROWTH MANAGEMENT DEPARTMENT. THE ROPE MUST BE A MINIMUM OF FOUR FEET OFF THE GROUND AND MAY NOT BE ATTACHED TO ANY VEGETATION. ALL BARRICADES MUST BE MAINTAINED INTACT FOR THE DURATION OF CONSTRUCTION. THE LOCATION OF PROPOSED DEVELOPMENT ACTIVITIES THAT ARE WITHIN 15 FEET OF THE CRITICAL PROTECTION ZONE OF A PROTECTED TREE MUST BE LOCATED USING BRIGHTLY COLORED FLAGGING TO INDICATE CORNERS.

NOTES:

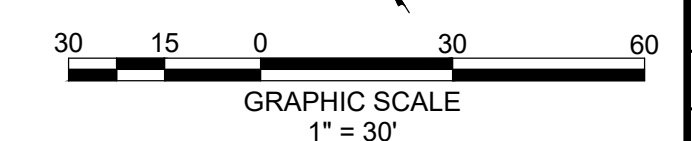
- TREE BARRICADES SYMBOL IS A SYMBOL ONLY. CONTRACTOR TO VERIFY EXACT DIMENSIONS OF BARRICADE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FULL REPLACEMENT VALUE FOR ANY DAMAGED TREES DESIGNATED TO BE PRESERVED.

LEGEND

- BOUNDARY / RIGHT OF WAY LINE
- EXISTING CONTOUR (NAVD)
- EDGE OF WATER (EXISTING LAKES)
- EXISTING STORM PIPE AND INLET
- PROPOSED STORM PIPE
- PROPOSED STORM STRUCTURE
- CONSTRUCTION ENTRANCE
- WETLAND PRESERVE TRACT
- 50' WETLAND BUFFER
- SILT FENCE / LIMITS OF CLEARING
- SILT FENCE INLET PROTECTION W/ INLET PROTECTION FILTER SACK
- CURB INLET FILTER PROTECTION



SHEET KEY



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PHASE 2 EROSION AND SEDIMENTATION CONTROL PLAN
MARTIN COUNTY
FLORIDA

PROJECT NO
010318-02-004

L. LEONARD, P.E.
FL LICENSE NO. 61737
PLAN STATUS

DATE	COUNTY COMMENTS
05-29-2019	
01-27-2020	FDEP COMMENTS

DATE	DESCRIPTION
LL	GC / JB
DESIGN	DRAWN
	GMB
	CHKD

SCALE AS SHOWN

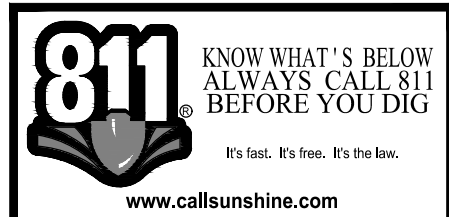
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DATE 03/13/2019

FILE No. 318-CP-02-P2-EC2

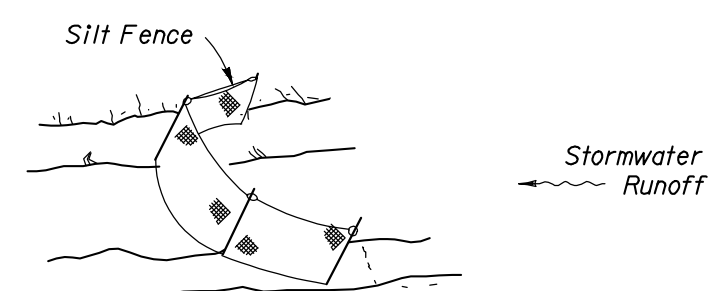
C2

SHEET

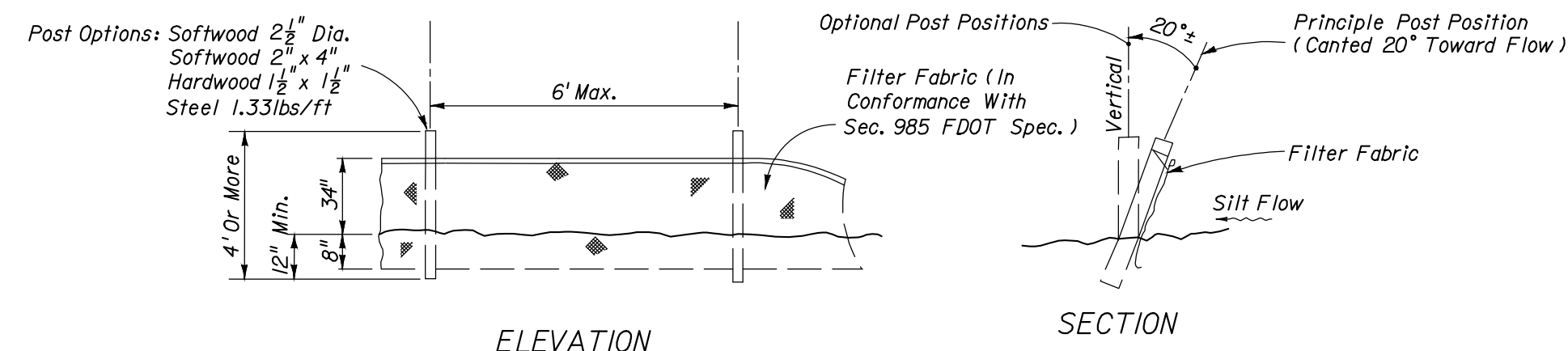


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Silt Fence Protection in Ditches with Intermittent Flow

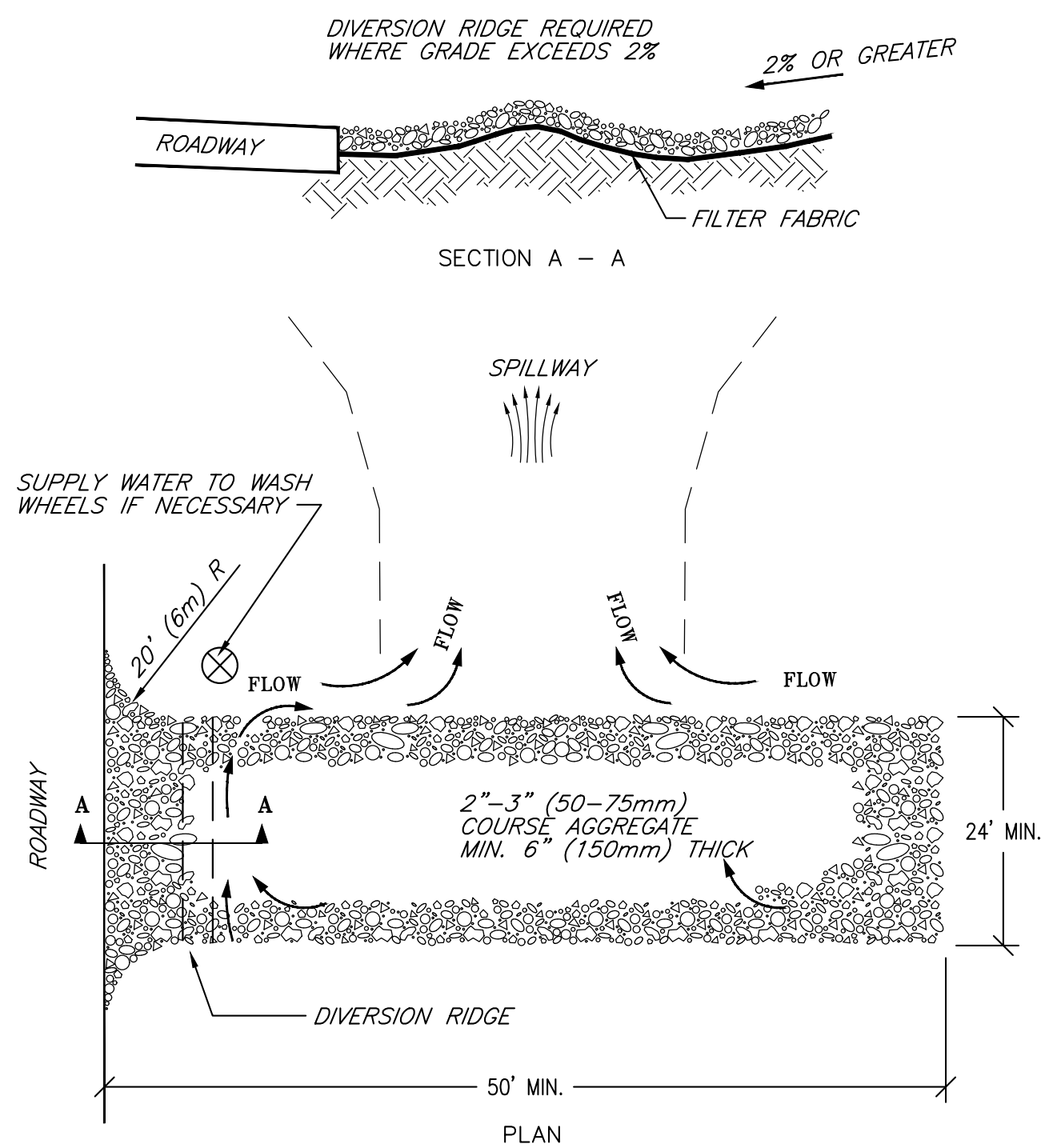


SILT FENCE

- NOTES:
- Do not construct silt fences across permanent flowing watercourses. Silt fences are to be at upland locations and turbidity barriers used at permanent bodies of water.
 - Where used as slope protection, Silt Fence is to be constructed on 0% longitudinal grade to avoid channelizing runoff along the length of the fence.

SEDIMENTATION/SILT FENCE DETAIL

N.T.S.

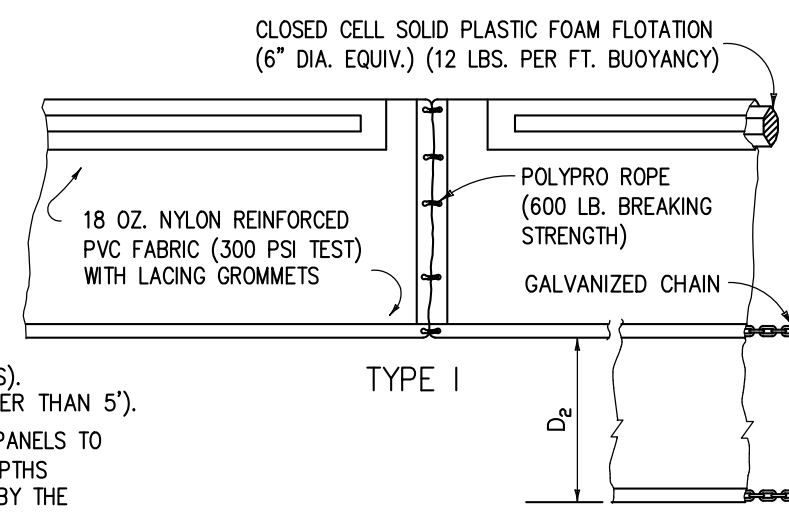


- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL

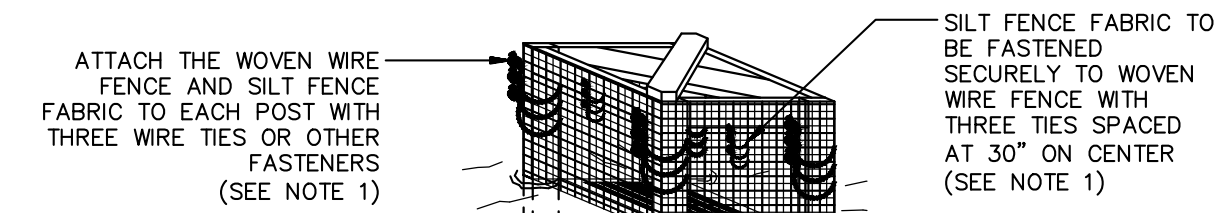
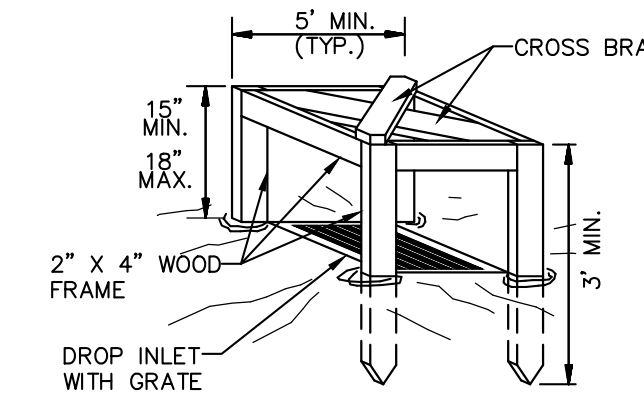
N.T.S.

- D = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
D = 5' STD. (ADDITIONAL PANEL FOR DEPTHS GREATER THAN 5').
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10'. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10' UNLESS SPECIAL DEPTHS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.



FLOATING TURBIDITY BARRIER DETAIL

N.T.S.



NOTES:

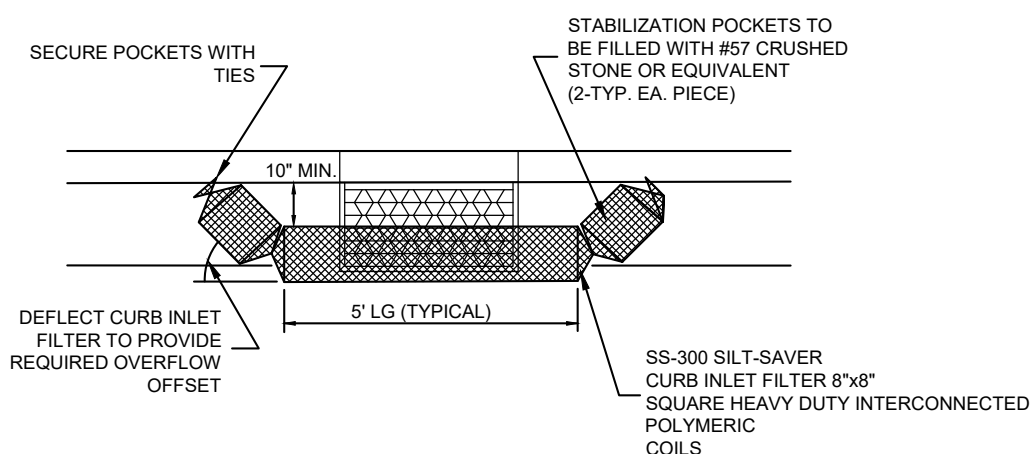
- ATTACH THE WOVEN WIRE FENCE AND THE GEOTEXTILE TO EACH POST (SPACED EVERY 30") WITH THREE WIRE TIES OR OTHER FASTENERS, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART.
- WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED ACROSS TWO POSTS.
- MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. DEPTH OF ACCUMULATED SEDIMENTS MAY NOT EXCEED ONE-THIRD THE HEIGHT OF THE FABRIC.
- ALL SILT FENCE INLET PROTECTIONS SHALL INCLUDE WIRE SUPPORT.

MAINTENANCE NOTES:

- INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN (IF USING INSERT-TYPE DEVICE) OR UPGRADING OF THE INLET.
- REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
- INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
- CONTACT THE ENGINEER FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPs, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

SILT FENCE INLET PROTECTION DETAIL AT UNPAVED AREAS

N.T.S.

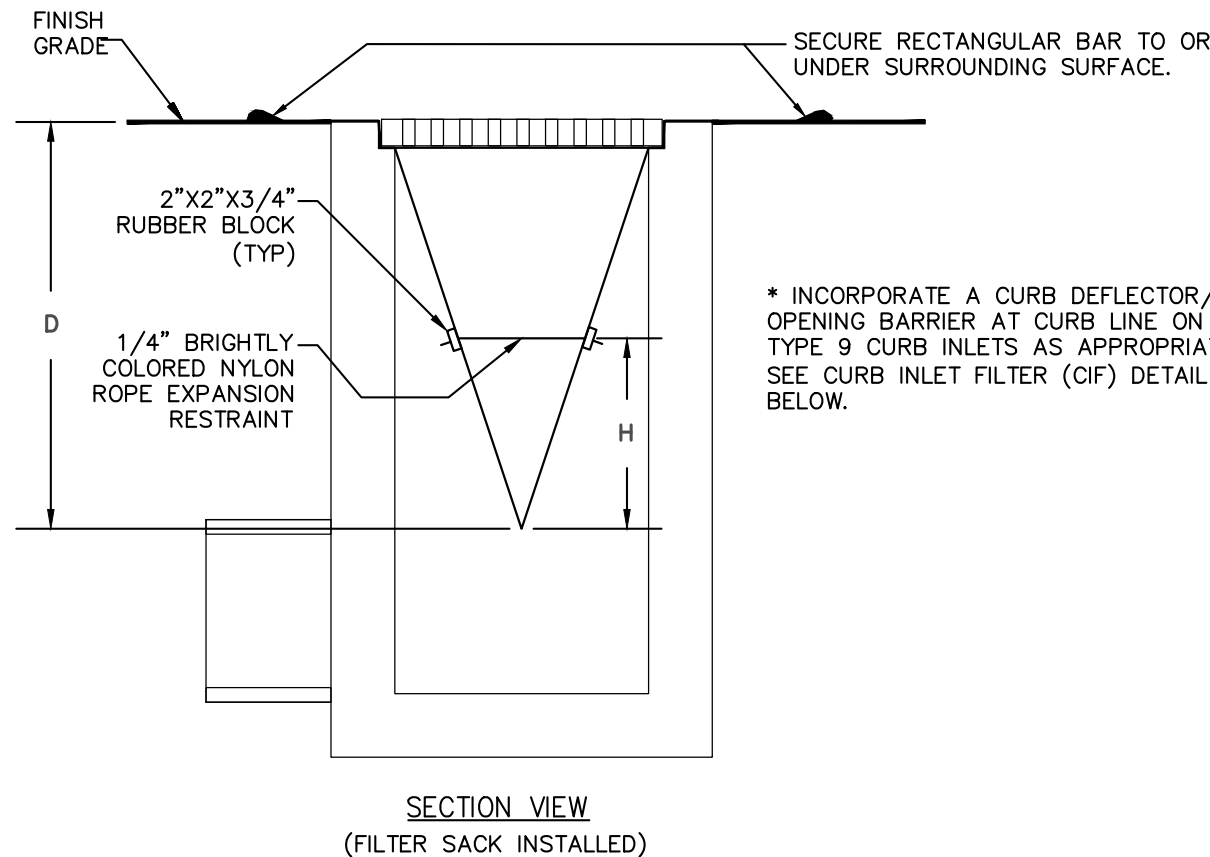
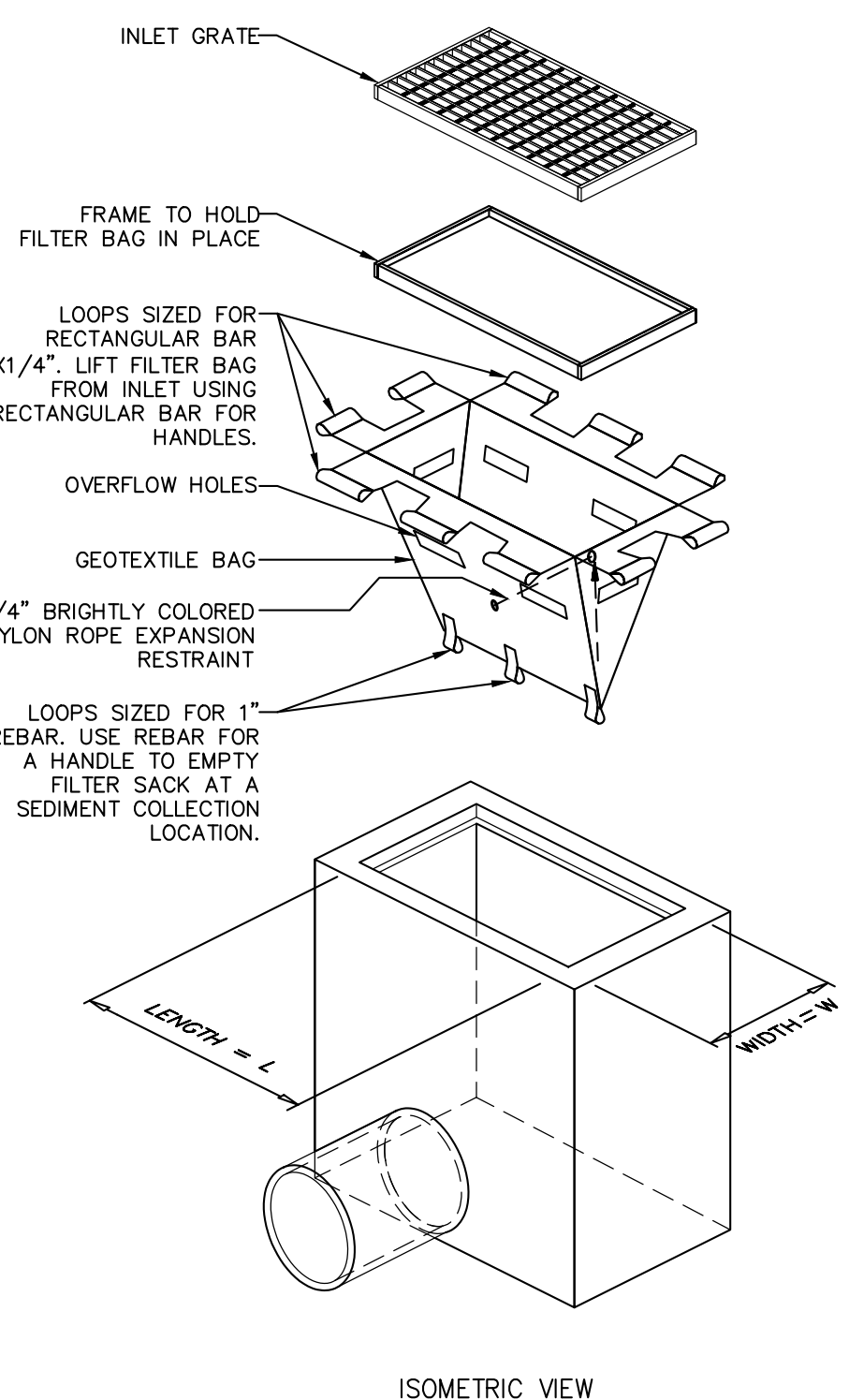


INSTALLATION PROCEDURE:

- IDENTIFY OPENING DIMENSIONS TO DETERMINE THE NUMBER OF SS-300 CURB INLET FILTERS THAT WILL BE REQUIRED.
- COMPLETELY FILL THE STABILIZATION CHAMBER ON EACH END OF EACH SS-300 CURB INLET FILTER WITH #57 CRUSHED STONE.
- SECURE ENDS OF THE STABILIZATION POCKETS WITH TIES.
- PLACE THE SS-300 CURB INLET FILTER(S) IN FRONT OF THE CURB INLET OR OPENING TO PREVENT THE MIGRATION OF SILT INTO THE STORM DRAIN SYSTEM.

CURB INLET FILTER DETAIL

N.T.S.



NOTES:

- GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
- PLACE AN OIL ABSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
- THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
- THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
- THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

MAINTENANCE NOTES:

- INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
- REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
- INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
- CONTACT THE ENGINEER FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPs, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

INLET PROTECTION FILTER SACK AT PAVED AREAS

N.T.S.

B.M.P.'s (BEST MANAGEMENT PRACTICES)

THESE PLANS ADDRESSES THE FOLLOWING AREAS:

- GENERAL EROSION CONTROL
- PROTECTION OF SURFACE WATER QUALITY DURING AND AFTER CONSTRUCTION
- CONTROL OF WIND EROSION.

THE VARIOUS TECHNIQUES OR ACTIONS IDENTIFIED UNDER EACH SECTION INDICATE THE APPROPRIATE SITUATION WHEN THE TECHNIQUES SHOULD BE EMPLOYED. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BMP(S). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS NECESSARY FOR EACH SPECIFIC APPLICATION.

SECTION A - GENERAL EROSION CONTROL

- GENERAL EROSION CONTROL BMPs SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND POTENTIAL LAKE SLOPE CAVES-INS, WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED AS SOON AS POSSIBLE DURING CONSTRUCTION ACTIVITIES.
- CLEARED SITE DEVELOPMENT AREAS NOT CONTINUALLY SCHEDULED FOR CONSTRUCTION ACTIVITIES SHALL BE SEEDED AND MULCHED AND PERIODICALLY WATERED SUFFICIENT TO STABILIZE THE TEMPORARY GROUND COVER.
- SLOPES OF BANKS OF WET DETENTION PONDS SHALL BE CONSTRUCTED NOT STEEPER THAN 4H:1V FROM TOP OF BANK TO (3) FEET BELOW NORMAL WATER LEVEL.
- ALL GRASS SLOPES CONSTRUCTED 4H:1V AND STEEPER SHALL BE SODDED AS SOON AS PRACTICAL AFTER THEIR CONSTRUCTION.
- SOD SHALL BE PLACED FOR A 3-FOOT WIDE STRIP ADJOINING ALL CURBING AND AROUND ALL INLETS AS REQUIRED BY PLAN. SOD SHALL BE PLACED AND A SATISFACTORY STAND OF GRASS ESTABLISHED BEFORE SILT BARRIERS ARE REMOVED.
- WHERE REQUIRED TO PREVENT EROSION FROM SHEET FLOW ACROSS BARE GROUND FROM ENTERING A LAKE OR SWALE, A TEMPORARY SEDIMENT SUMP SHALL BE CONSTRUCTED. THE TEMPORARY SEDIMENT SUMP SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED ON THE GROUND DRAINING TO THE SUMP.

SECTION B - PROTECTION OF SURFACE WATER QUALITY DURING & AFTER CONSTRUCTION

- SURFACE WATER QUALITY SHALL BE MAINTAINED BY EMPLOYING THE FOLLOWING BMPs, AT A MINIMUM, IN THE CONSTRUCTION PLANNING AND CONSTRUCTION OF ALL IMPROVEMENTS.
- WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES.
- EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:
 - IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.
 - STORMWATER INLETS SHALL BE PROTECTED DURING CONSTRUCTION AS SHOWN. PROTECTION MEASURES SHALL BE EMPLOYED AS SOON AS PRACTICAL DURING THE VARIOUS STAGES OF INLET CONSTRUCTION. SILT BARRIERS SHALL REMAIN IN PLACE UNTIL SODDING AROUND INLETS IS COMPLETE AND A SATISFACTORY STAND OF GRASS ESTABLISHED.
- HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES, HAY BALES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OF OIL, GREASE OR LUBRICANTS. CONTRACTORS SHALL HAVE AVAILABLE AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS AS SOON AS POSSIBLE AFTER OCCURRENCE.
- SILT BARRIERS, ANY SILT WHICH ACCUMULATES BEHIND THE BARRIERS, AND ANY FILL USED TO ANCHOR THE BARRIERS SHALL BE REMOVED PROMPTLY AFTER THE END OF THE MAINTENANCE PERIOD SPECIFIED FOR THE BARRIERS.

SECTION C - CONTROL OF WIND EROSION

- WIND EROSION SHALL BE CONTROLLED BY EMPLOYING THE FOLLOWING METHODS AS NECESSARY AND APPROPRIATE:
 - BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FUGITIVE DUST. IT MAY BE NECESSARY TO LIMIT CONSTRUCTION VEHICLE SPEED IF BARE EARTH HAS NOT BEEN EFFECTIVELY WATERED. IN NO CASE SHALL FUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.
 - AS SOON AS PRACTICAL AFTER COMPLETION OF CONSTRUCTION, BARE EARTH AREAS SHALL BE VEGETATED.
 - AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FUGITIVE DUST, OTHER METHODS AS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS MAY INCLUDE ERECTION OF DUST CONTROL FENCES. IF REQUIRED, DUST CONTROL FENCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAIL FOR A SILT FENCE, AS SHOWN, EXCEPT THE MINIMUM HEIGHT SHALL BE 4 FEET.

MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
EROSION AND SEDIMENTATION CONTROL
DETAILS
FLORIDA
MARTIN COUNTY

PROJECT NO
010318-02-004

L. LEONARD, P.E.
FL LICENSE NO. 61737

PLAN STATUS

05-28-2019 COUNTY COMMENTS

01-27-2020 FDEP COMMENTS

DATE DESCRIPTION

LL GC/JB GMB
DESIGN DRAWN CHKD

SCALE AS SHOWN

JOB No. 010318-02-004

DATE 03/13/2019

FILE No. 318-CP-02-P2-EC0

C3

SHEET

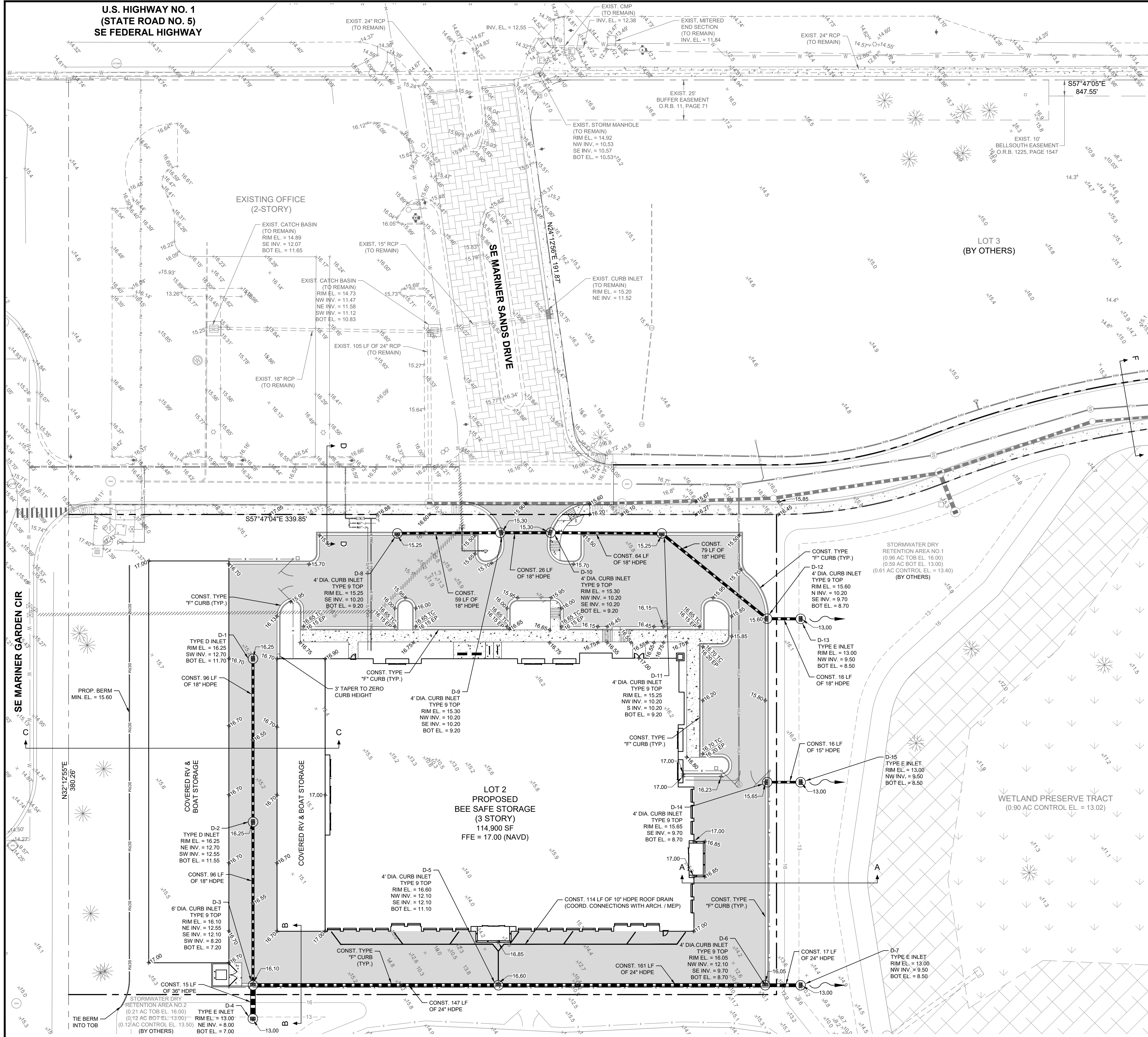


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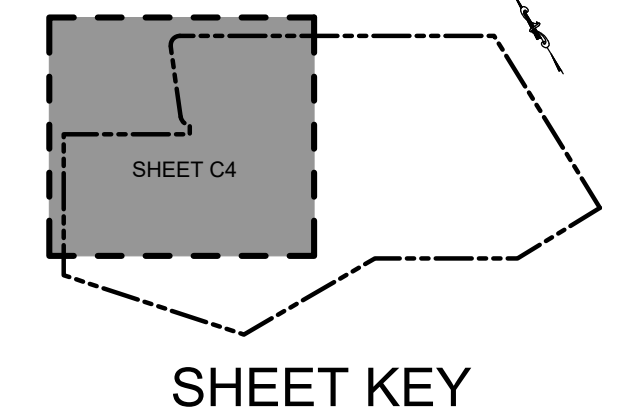
Certificate of Authorization License No. 30462

U.S. HIGHWAY NO. 1
(STATE ROAD NO. 5)
SE FEDERAL HIGHWAY



LEGEND

- BOUNDARY LINE / RIGHT OF WAY LINE
- - - EXISTING CONTOUR (NAVD)
- ×13.0 EXISTING SPOT EL. (NAVD)
- EDGE OF WATER (EXISTING LAKES)
- EXISTING STORM PIPE AND INLET
- WETLAND PRESERVE TRACT
- 50' WETLAND BUFFER
- PROPOSED WATER MAIN
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM PIPE
- PROPOSED STORM STRUCTURE
- DIRECTION OF FLOW
- - - PROPOSED CONTOUR (NAVD)
- PROPOSED PERIMETER BERM (EL. 15.50)
- PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRADE
- PROPOSED GRADES
- TC = TOP OF CURB
- EP = EDGE OF PAVEMENT



SHEET KEY

GRADING NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. CONTRACTOR TO VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
3. PRECAST STRUCTURES MAY BE USED AT CONTRACTOR'S OPTION.
4. STORM PIPE SHALL BE IN ACCORDANCE WITH SITE SPECIFICATIONS.
5. ALL EXISTING PIPES AND STRUCTURES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
6. ALL STORM PIPES & STRUCTURES TO BE CLEANED, VACUUMED & DESILTED PRIOR TO PROJECT TURN OVER. DRY DETENTION AREA TO BE DESILTED PRIOR TO PROJECT TURN OVER.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
8. ALL STORM PIPE ENTERING STORM STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STORM STRUCTURE IS WATERTIGHT.
9. SEE ARCHITECTURAL/MEP PLANS FOR STORM PIPE CONNECTIONS TO BUILDINGS.
10. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
11. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP), NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) "GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" AND THE PROJECT SPECIFICATIONS.
12. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
13. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
14. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY PREPARED BY BOWMAN CONSULTING GROUP. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
15. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED. ALSO REFER TO THE LANDSCAPE PLANS FOR ADDITIONAL REQUIREMENTS FOR LANDSCAPE/OPEN SPACE AREAS.
16. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE COVERING CODES AND BE CONSTRUCTED TO SAME.
17. PROPOSED GRADE ELEVATIONS SHOWN ARE AT THE EDGE OF PAVEMENT LINE OF UNLESS OTHERWISE NOTED.
18. CONTRACTOR TO PAY SPECIAL ATTENTION WHEN COMPACTING SOIL AROUND SANITARY AND DRAINAGE STRUCTURES AND SHALL ENSURE THAT THE SOIL IS PROPERLY COMPACTED TO ELIMINATE DIFFERENTIAL SETTLEMENT. THE PAVEMENT SUBGRADE FILL PLACED WITHIN 24 INCHES OF FINISHED SUBGRADE ELEVATION AND AT LEAST THE UPPER 24 INCHES OF SUBGRADE IN ALL CUT AREAS SHALL BE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D1557).
19. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SUFFICIENT COVER OVER ALL PIPES DURING ALL CONSTRUCTION PHASES IN ORDER TO PREVENT DAMAGE TO THE DRAINAGE SYSTEM AND TO COMPLY WITH INDIAN RIVER COUNTY REQUIREMENTS.
20. ANY DAMAGE TO THE DRAINAGE SYSTEM DURING CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR / REPLACE AND INCUR ALL COSTS.
21. CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID UNNECESSARY DISTURBANCE OF EXISTING SOILS, ESPECIALLY THOSE W/ SENSITIVE OPTIMAL MOISTURE CONTENT.
22. DRAINAGE STRUCTURE SYMBOLS SHOWN ON PLANS ARE NOT TO SCALE.
23. SAW CUT PAVEMENT AT CONFORMS AND PROTECT EDGE.
24. ALL CURB CUT RAMP SHALL HAVE DETECTABLE WARNING STRIPS AND CONSTRUCTED PER LATEST EDITION OF FDOT STANDARD SPECIFICATIONS SECTION 522-002 AND PER ADA REQUIREMENTS.
25. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF AND EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY.
26. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
27. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

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MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
PAVING GRADING AND DRAINAGE PLAN
FLORIDA
MARTIN COUNTY

PROJECT NO
010318-02-004

L. LEONARD, P.E.
FL LICENSE NO. 61737
PLAN STATUS

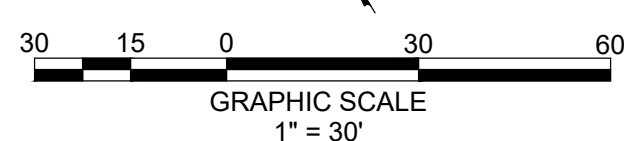
DATE	DESCRIPTION
05-29-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS

DATE	DESCRIPTION
LL	GC / JB
DESIGN	DRAWN
GMB	CHKD
SCALE	AS SHOWN
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-P00

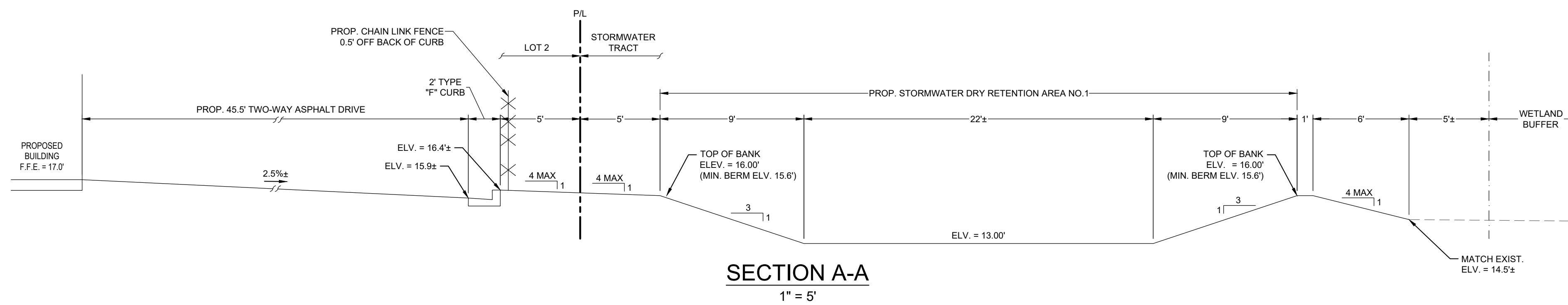
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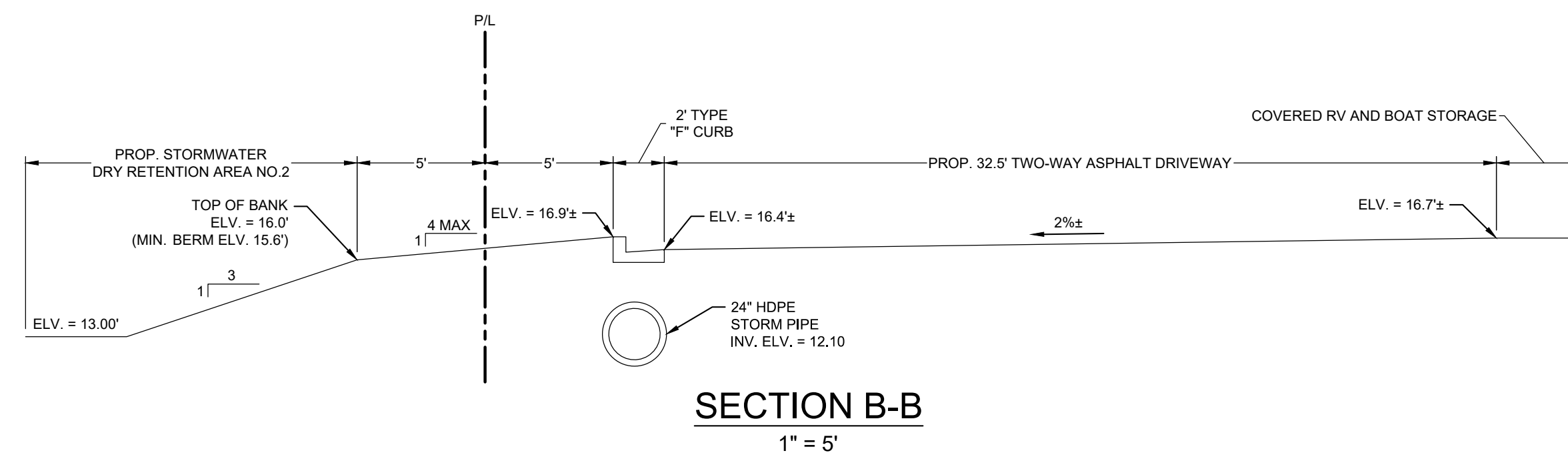
THE ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



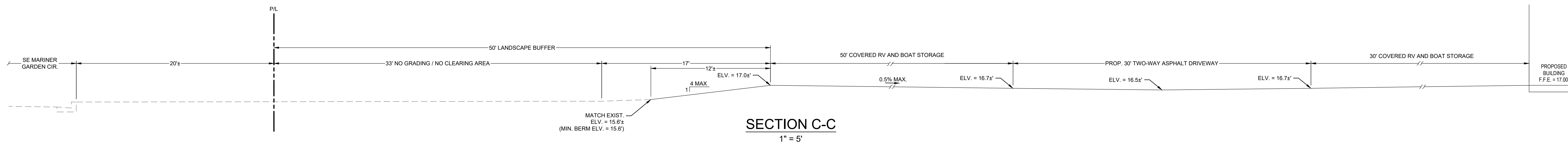
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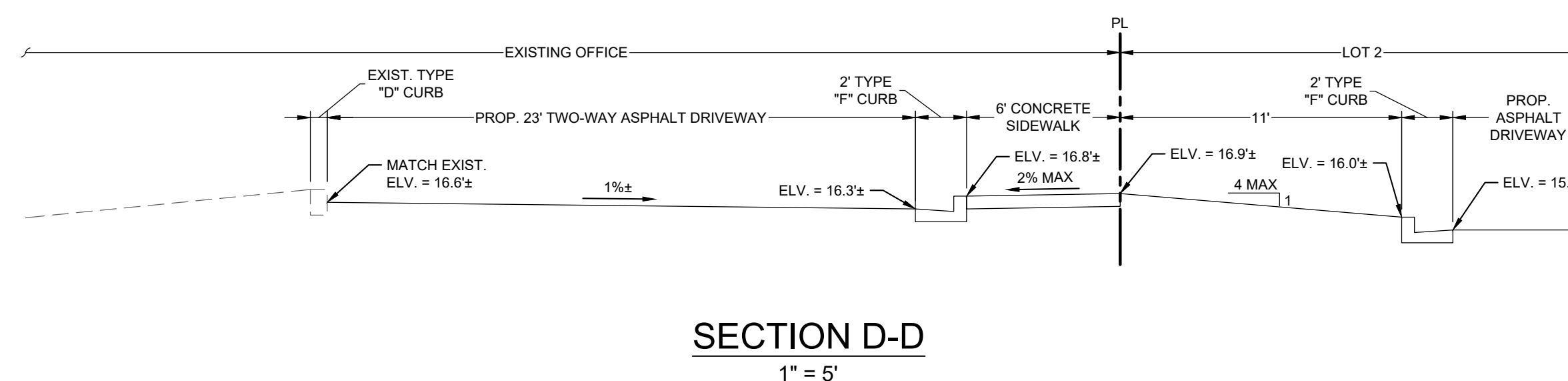
SECTION A-A
 1" = 5'



SECTION B-B
 1" = 5'



SECTION C-C
 1" = 5'



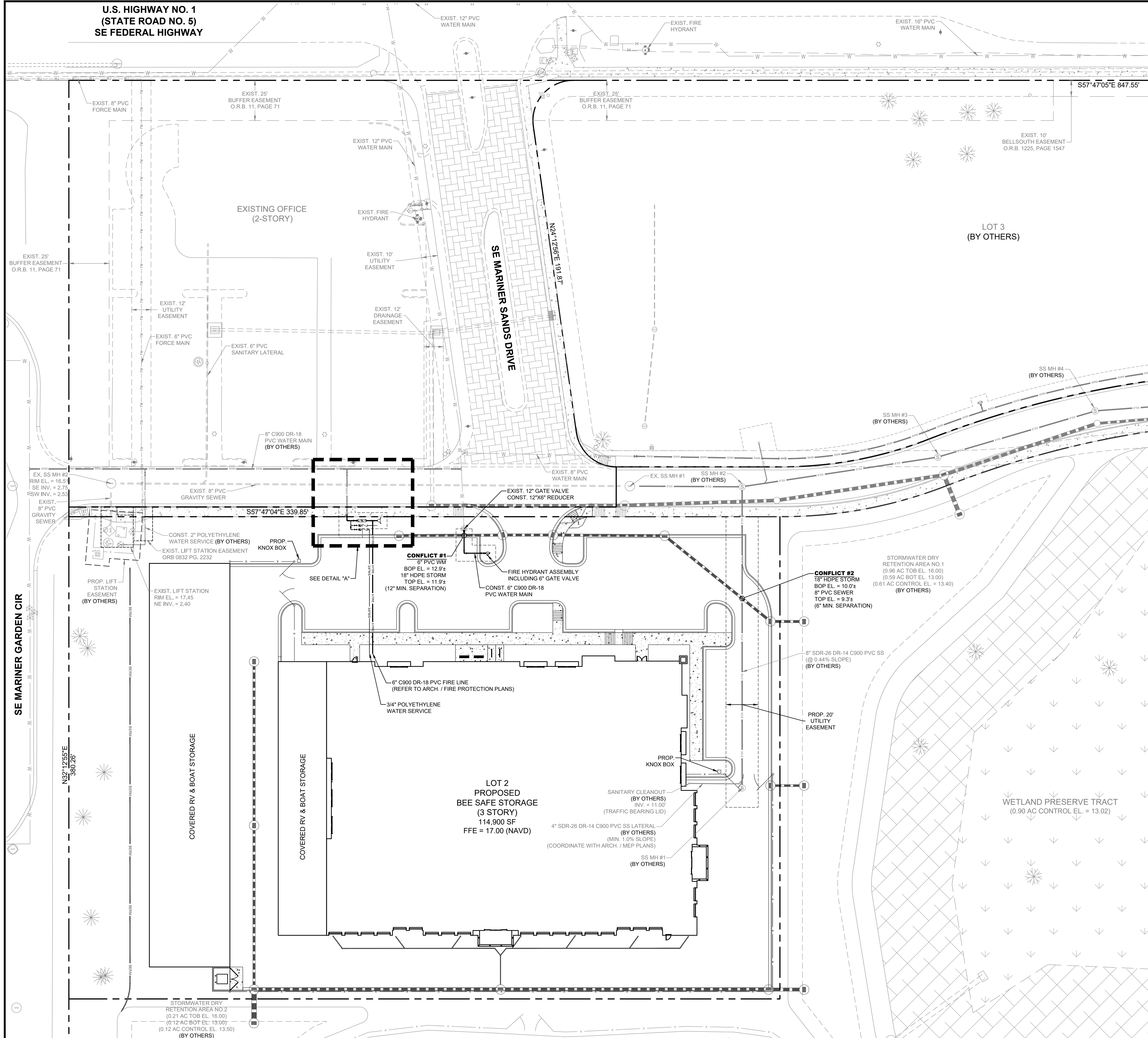
SECTION D-D
 1" = 5'



THE ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

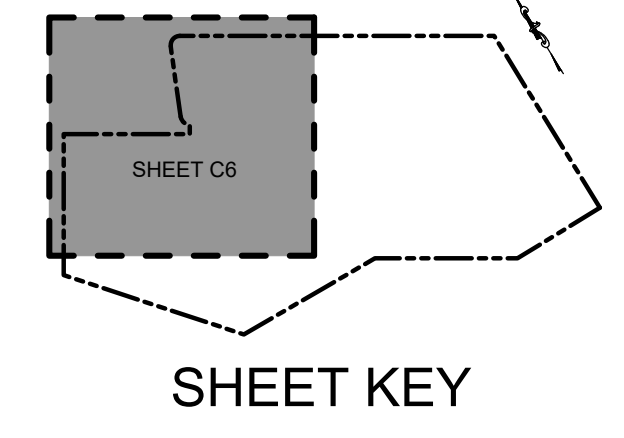
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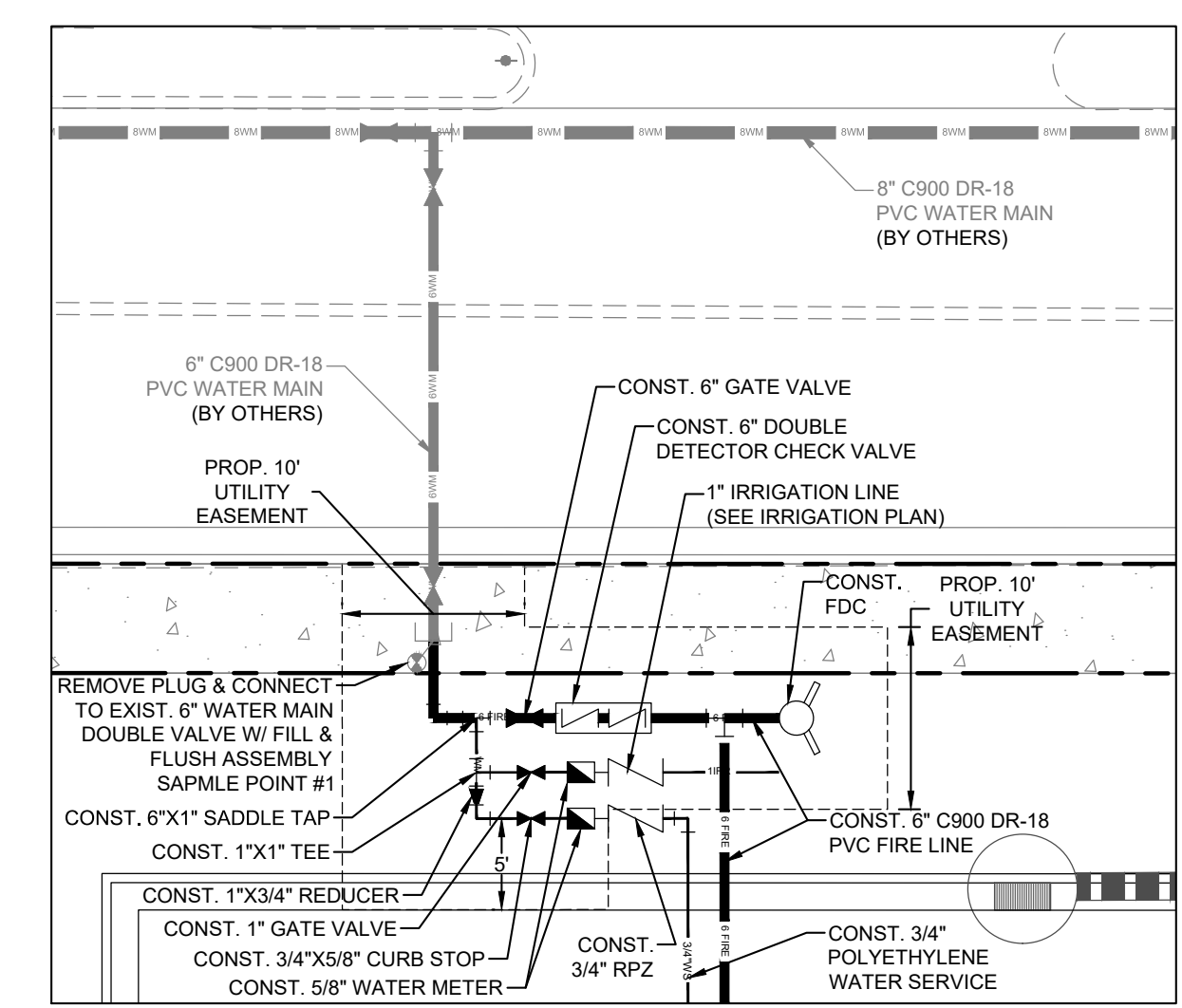
LEGEND

- BOUNDARY LINE / RIGHT OF WAY LINE
- - - EXISTING WATER MAIN
- - - EXISTING SANITARY SEWER AND MANHOLE
- - - EXISTING STORM PIPE AND INLET
- ▨ WETLAND PRESERVE TRACT
- ▨ 50' WETLAND BUFFER
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- PROPOSED DRAINAGE STRUCTURE
- PROPOSED STORM PIPE

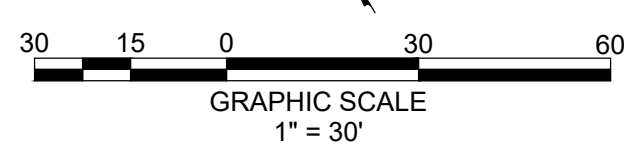


UTILITY NOTES

1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
3. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
 - 6" PVC SDR26 PER ASTM D 3034
 - 8" PVC SDR26 PER ASTM D 3034
4. WATER LINES SHALL BE AS FOLLOWS:
 - 2" AND SMALLER, POLYETHYLENE AS DEFINED BY ASTM D2737 SDR9 COPPER TUBE SIZE
 - 4"-12" PVC DR-18 C-900
5. DUCTILE IRON PIPE (DIP) SHALL BE REQUIRED WHEN WITHIN SIX (6) FEET HORIZONTALLY OF SEWAGE FACILITIES OR PIPES.
6. DUCTILE IRON PIPE (DIP) SHALL BE A MINIMUM OF PRESSURE CLASS 350 AND CONFORM TO THE LATEST STANDARDS OF ANSII/AWWA C150/A21.59 FOR THE THICKNESS DESIGN OF DIP.
7. ALL UTILITIES SHOULD HAVE A MINIMUM HORIZONTAL SEPARATION OF 3' TO POWER POLES, LIGHT POLES, OR OTHER UTILITIES, 15' TO BUILDINGS, TOP OF BANKS OF LAKES & CANALS AND OTHER STRUCTURES, OR ABSOLUTE MINIMUM OF 10' WITH DIP.
8. ALL WATER LINES SHALL BE TO BE DUCTILE IRON MECHANICAL JOINTS AS CALLED OUT IN MARTIN COUNTY MINIMUM DESIGN & CONSTRUCTION STANDARDS.
9. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 30" COVER ON ALL WATERLINES, 8" OR SMALLER, IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE WATER LINE SHALL HAVE APPROPRIATE RESTRAINTS AS REQUIRED BY MARTIN COUNTY UTILITIES E A MINIMUM OF 8" CLEARANCE (12" PREFERRED).
10. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
11. TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE ONE FOOT ABOVE FINISHED GROUND ELEVATIONS WITH WATER TIGHT LIDS WHEN LOCATED IN UNPAVED AREAS.
12. EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
13. REFER TO INTERIOR PLUMBING DRAWINGS BY THE MEP FOR TIE-IN OF ALL UTILITIES.
14. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES REGARDING TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
15. ALL EXISTING VALVES TO BE ADJUSTED TO FINAL FINISHED GRADE.
16. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD, THE INFORMATION IS NOT TO BE RELIED ON AS EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
17. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED AT LEAST 30 DAYS PRIOR TO C.O.
18. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
19. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION AT NO COST TO THE OWNER.
20. SEE MARTIN COUNTY UTILITIES MINIMUM DESIGN & CONSTRUCTION STANDARDS FOR BACKFILLING AND COMPACTION REQUIREMENTS ON UTILITY TRENCHES. CONTRACTOR SHALL COMPLY WITH MARTIN COUNTY UTILITIES MINIMUM DESIGN & CONSTRUCTION STANDARDS, LATEST EDITION.
21. CONTRACTOR SHALL GROUT ALL PIPE ENTRANCES AND PIPE REMOVALS TO/FROM MANHOLES TO ASSURE WATER TIGHT CONNECTIONS AND PLUGS.
22. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
23. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE, FIBER OPTIC, AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH MARTIN COUNTY UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR TIE-INS, CONNECTIONS AND INSPECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
24. CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANIES AND THE OWNER'S INSPECTING AUTHORITIES.
25. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND ANY OTHER MEANS OF PROTECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
26. THE INSTALLATION OR REPAIR OF ANY UNDERGROUND FACILITIES OF PIPING WHICH CONNECTS TO OR FURNISHES WATER FOR THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE PERFORMED ONLY BY A LICENSED UTILITY CONTRACTOR, FIRE PROTECTION SPRINKLER CONTRACTOR OR LICENSED PLUMBER. SEE O.C.G.A. TITLE 25-11-7(a). A COPY OF THE LICENSE OR CERTIFICATE OF COMPETENCY SHALL BE PROVIDED TO THE INSPECTOR AT THE FINAL INSPECTION.
27. CONTRACTOR SHALL COMPLY WITH MARTIN COUNTY UTILITIES MINIMUM DESIGN & CONSTRUCTION STANDARDS, LATEST EDITION.



DETAIL "A"
SCALE : 1" = 10'



THE ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY BOWMAN CONSULTING SHALL BE WITHOUT LIABILITY TO BOWMAN CONSULTING GROUP, LTD.

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CONSULTING GROUP

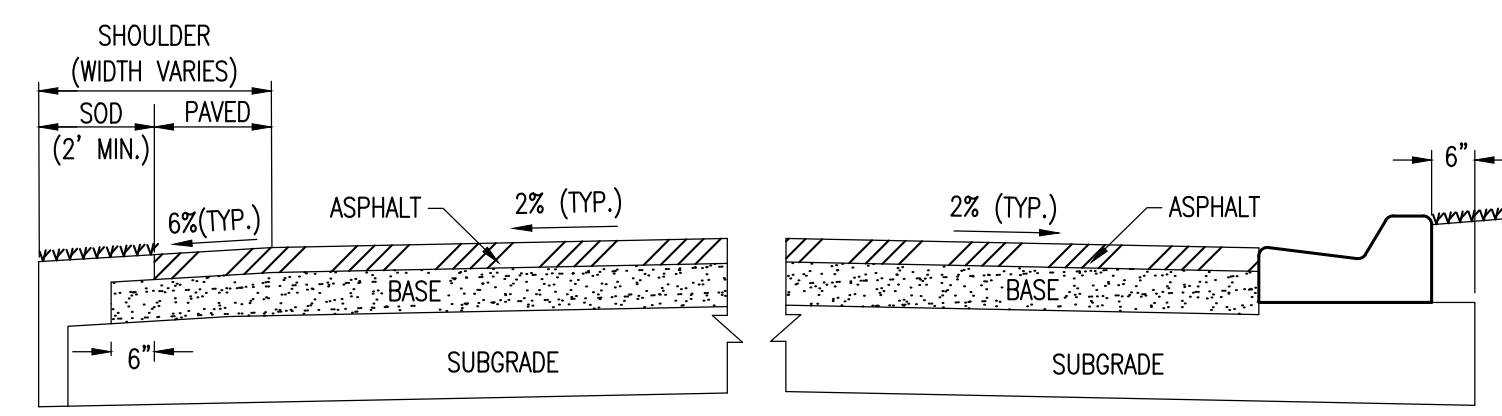
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MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
WATER & WASTEWATER PLAN
MARTIN COUNTY
FLORIDA

PROJECT NO
010318-02-004

DATE	DESCRIPTION
05-29-2019	COUNTY COMMENTS
12-02-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS

DATE	DESCRIPTION
LL	GC / JB
DESIGN	DRAWN
SCALE	AS SHOWN
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-UTP
SHEET	C6

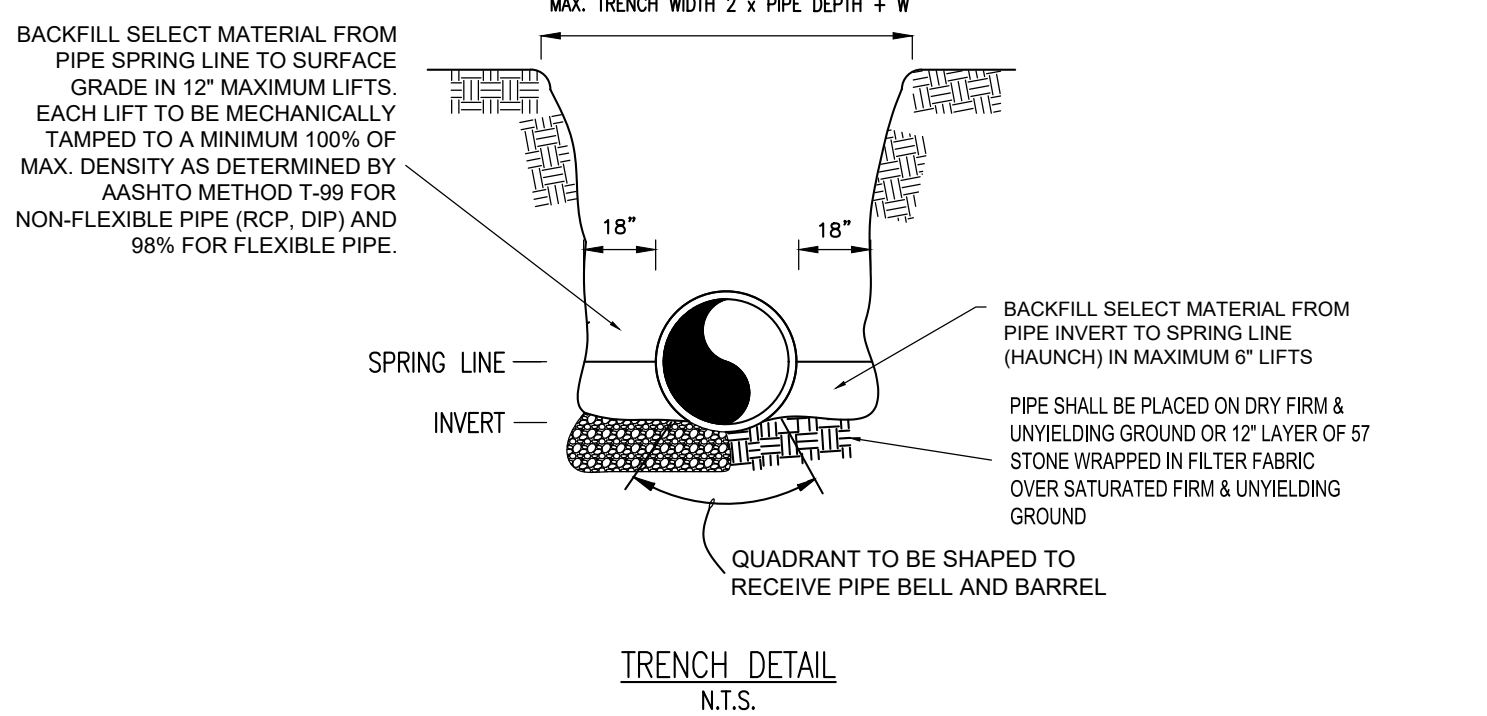
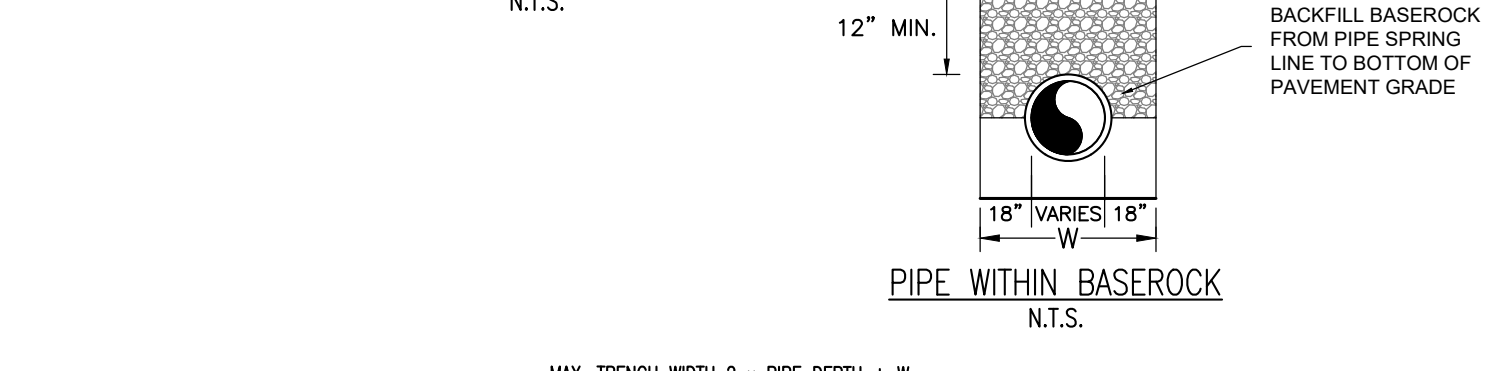
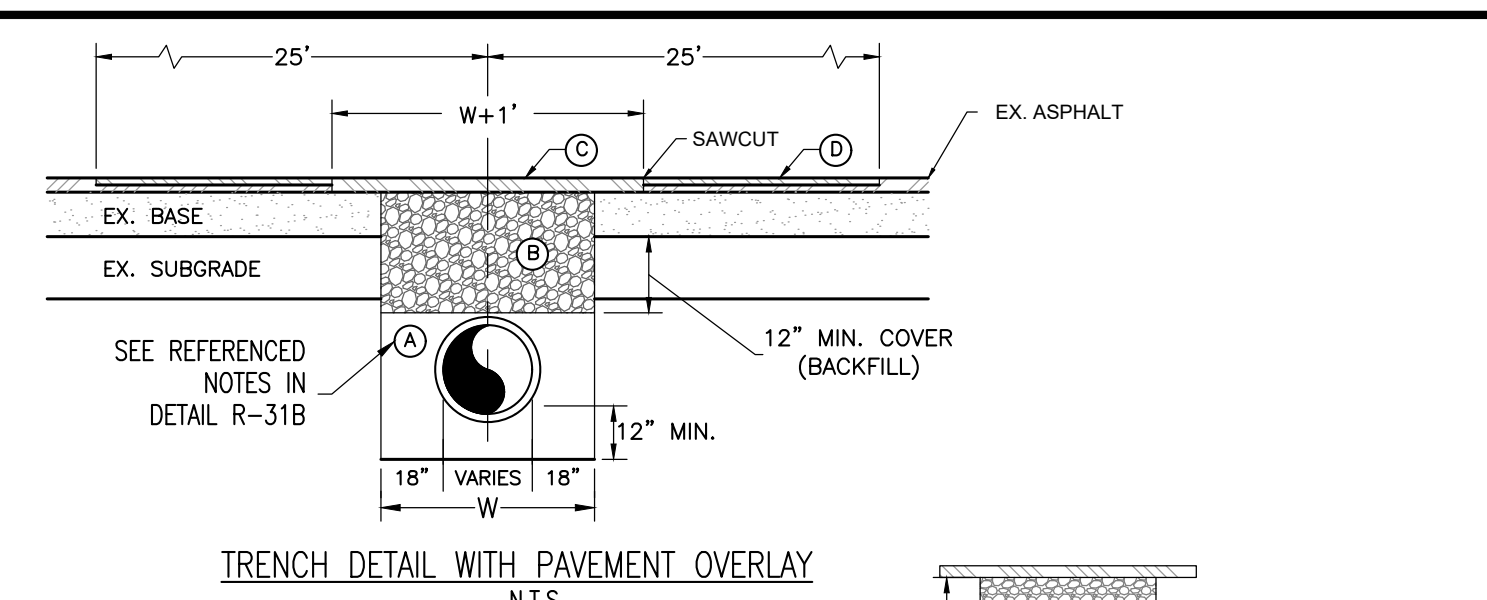


LOCAL RESIDENTIAL (SN-3.0 MIN.)
 MIN. E.O.P. ELEVATION - PEAK STAGE OF 10-YR / 24-HR STORM EVENT
 • SURFACE COURSE: 1 1/2" TYPE SP-9.5 ASPHALTIC CONCRETE
 • BASE COURSE: OPTIONAL BASE GROUP 6 PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6
 • SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)

COLLECTOR & LOCAL COMMERCIAL/INDUSTRIAL (SN-3.5 MIN.)
 MIN. E.O.P. ELEVATION - PEAK STAGE OF 10-YR / 24-HR STORM EVENT (MINOR)
 MIN. E.O.P. ELEVATION - PEAK STAGE OF 25-YR / 24-HR STORM EVENT (MAJOR)
 • SURFACE COURSE 1 1/2" TYPE SP-12.5 ASPHALTIC CONCRETE (1ST LIFT)
 • 1" TYPE SP-9.5 ASPHALTIC CONCRETE (2ND LIFT)
 • BASE COURSE: OPTIONAL BASE GROUP 6 PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6
 • SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)

ARTERIAL (SN-4.0 MIN.)
 MIN. E.O.P. ELEVATION - PEAK STAGE OF 25-YR / 72-HR STORM EVENT
 • SURFACE COURSE 2" TYPE S-1 OR SP-12.5 ASPHALTIC CONCRETE (1ST LIFT)
 • 1" TYPE SP-9.5 ASPHALTIC CONCRETE (2ND LIFT)
 • BASE COURSE: OPTIONAL BASE GROUP 9 PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6
 • SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)

- NOTES:**
- SHOULDER DESIGN:
 • SURFACE COURSE: SAME AS TRAVEL LANE SURFACE COURSE
 • BASE COURSE: OPTIONAL BASE GROUP 4 PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL TABLE 5.6
 - STRUCTURAL NUMBER (SN) PER FDOT STANDARDS (REFER TO FDOT FLEXIBLE PAVEMENT DESIGN MANUAL).
 - SUBSTITUTIONS MAY BE APPROVED BY MARTIN COUNTY, PROVIDED MINIMUM SN IS DEMONSTRATED.
 - ASPHALT MIX SHALL NOT CONTAIN MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (R.A.P.)
 - ALL MATERIAL USED WITHIN THE ROADWAY MUST MEET FDOT SPECIFICATIONS AND BE SUPPLIED FROM A FDOT CERTIFIED MINING OPERATION AND ASPHALT PLANT.
 - A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6) INCH LIFT OF SUB GRADE AND BASE. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 1/2) INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACK-FILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE COUNTY ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION.
 - CRUSHED CONCRETE MAY NOT BE USED WITHIN COUNTY-MAINTAINED ROADWAY.
 - ANY IN-LINE PARKING DEFICIENCIES SHALL BE ADDRESSED IN ACCORDANCE TO FDOT SPECIFICATION SECTION 330.



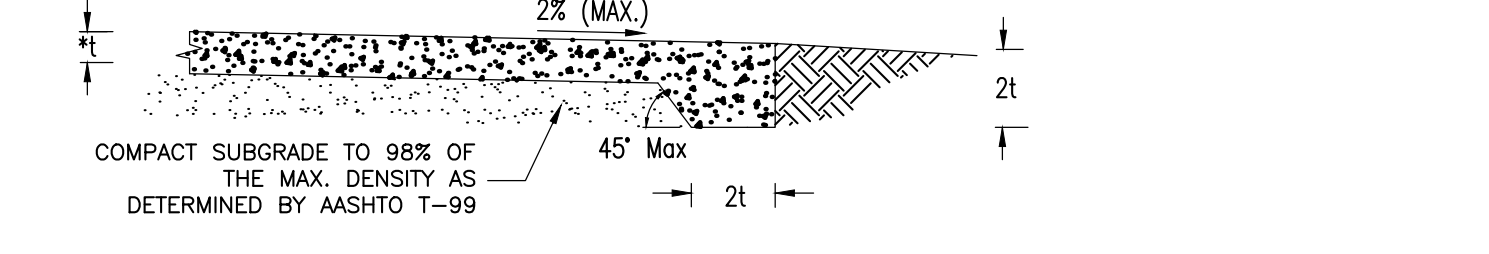
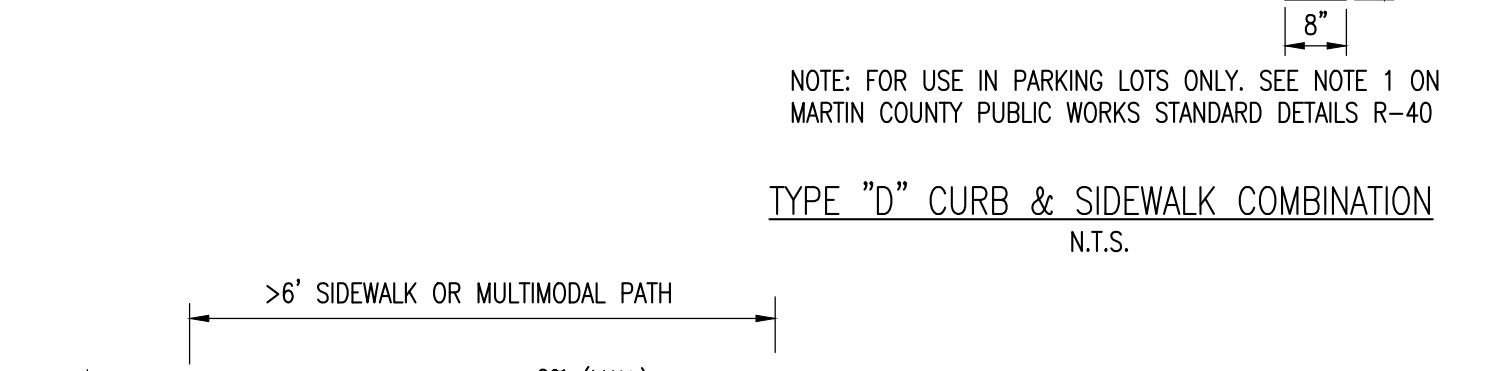
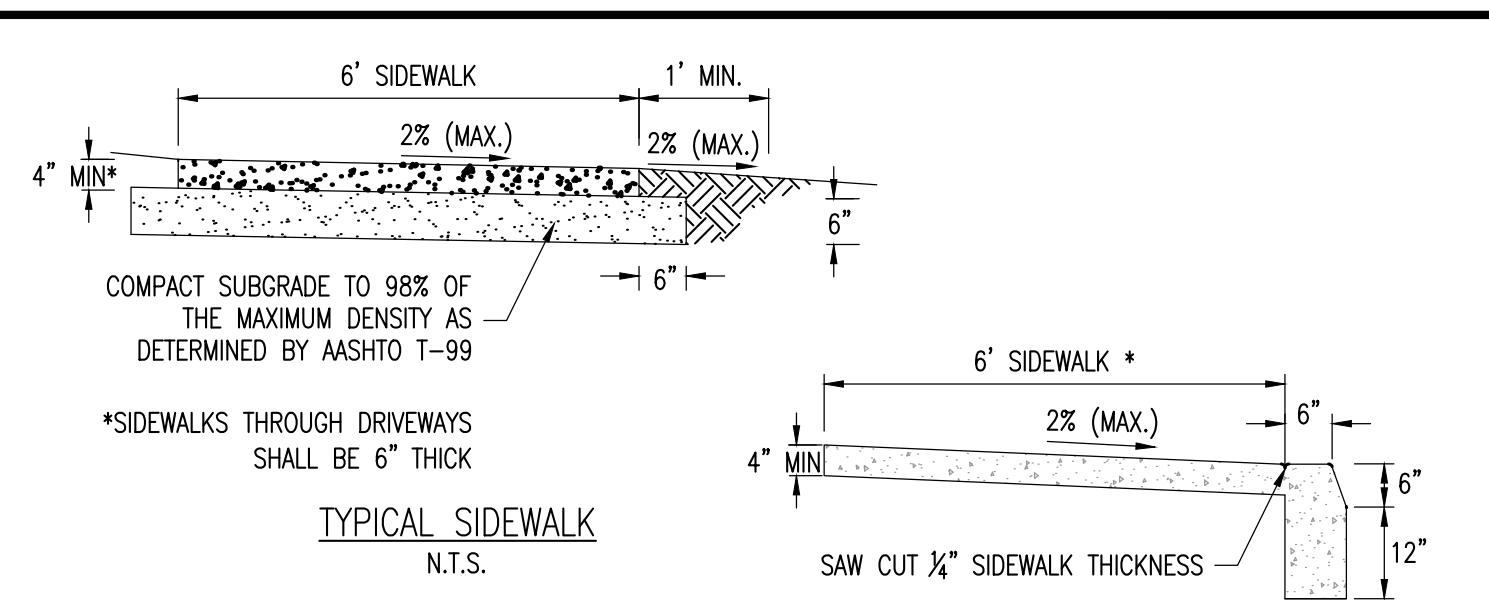
NOTES:
 BACKFILL SELECT MATERIAL FROM PIPE SPRING LINE TO SURFACE GRADE IN 12" MAXIMUM LIFTS. EACH LIFT TO BE MECHANICALLY TAMPED TO A MINIMUM 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99 FOR NON-FLEXIBLE PIPE (RCP, DIP) AND 98% FOR FLEXIBLE PIPE.

BACKFILL SELECT MATERIAL FROM PIPE INVERT TO SPRING LINE (HAUNCH) IN MAXIMUM 6" LIFTS

PIPE SHALL BE PLACED ON DRY FIRM & UNYIELDING GROUND OR 12" LAYER OF 57 STONE WRAPPED IN FILTER FABRIC OVER SATURATED FIRM & UNYIELDING GROUND

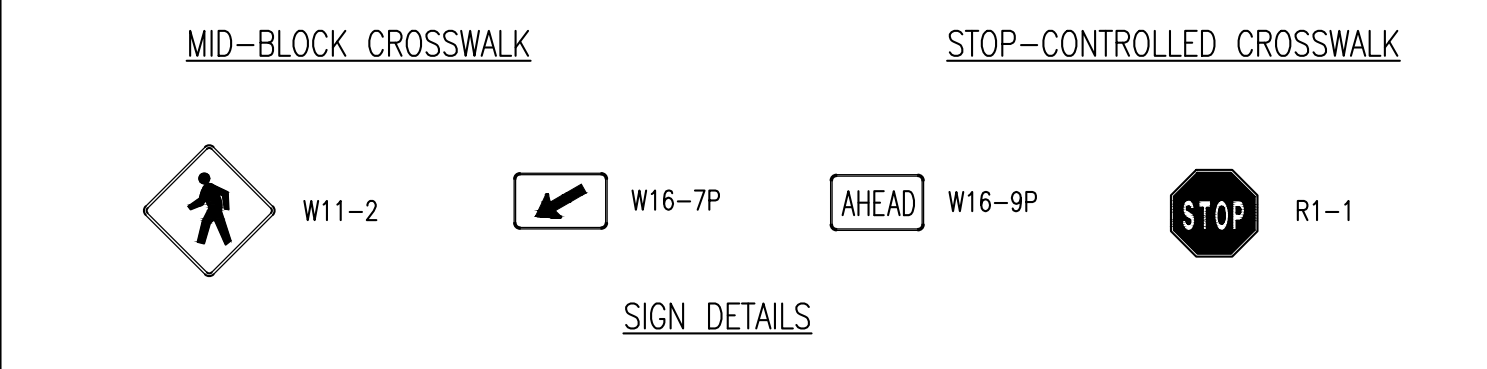
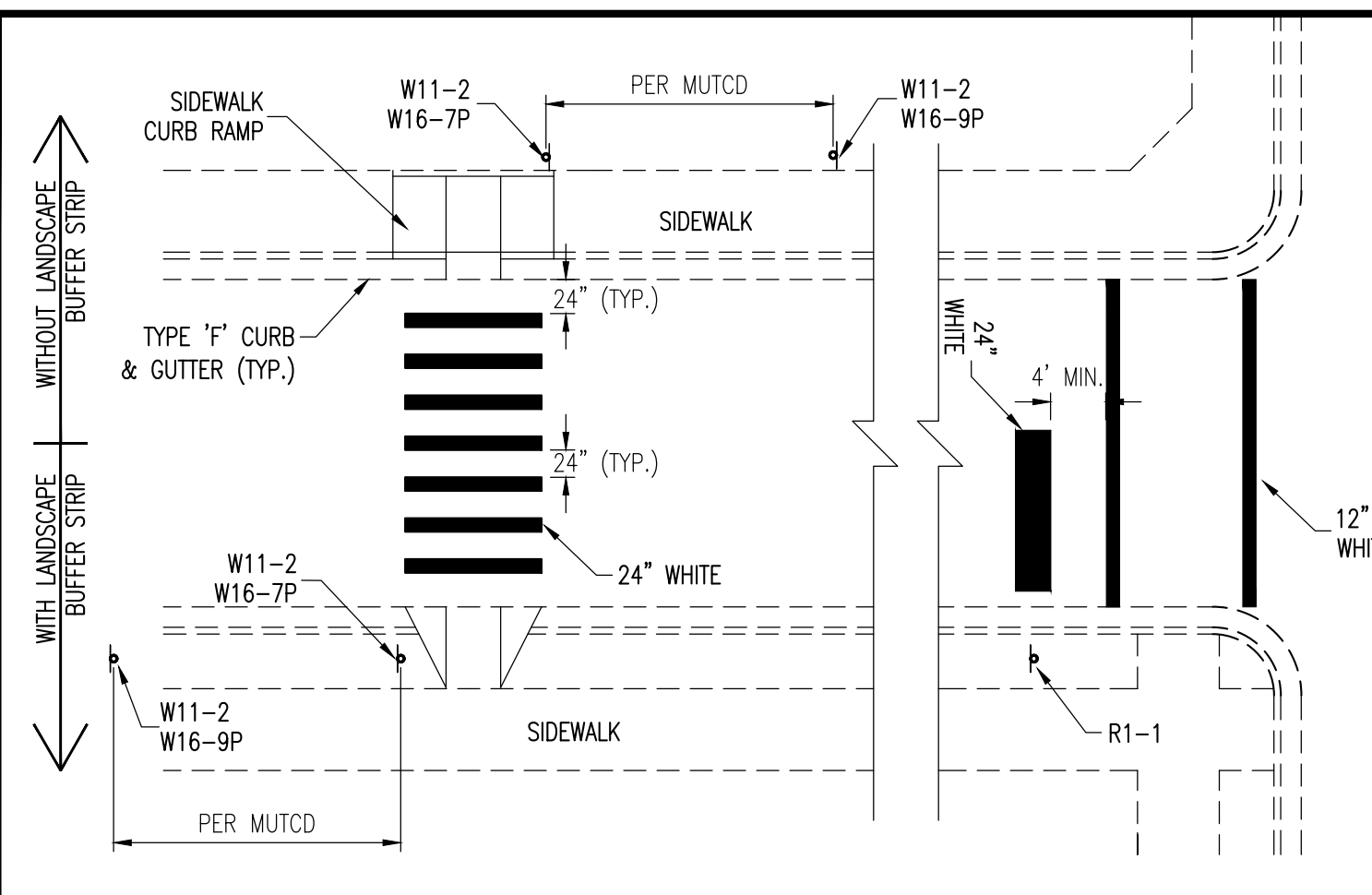
QUADRANT TO BE SHAPED TO RECEIVE PIPE BELL AND BARREL

SEE SPECIFICATIONS & NOTES ON DETAIL R-31B



*t IS TYPICALLY 4" - 6" AND SHALL BE SPECIFIED BY ENGINEER OF RECORD

- NOTES:**
- SIDEWALK MATERIALS AND CONSTRUCTION SHOWN HEREIN SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS 522 AND FDOT STANDARD PLANS INDEX 522.
 - FIBER-REINFORCED CONCRETE FOR CURBS AND SIDEWALKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO NOT MORE THAN 0.53 (LB/LB).
 - THICKENED EDGE SHALL CONTAIN APPLICABLE SUBGRADE COMPACTED TO 98% OF MAXIMUM DRY DENSITY (AASHTO T-99)
 - A DESIRED 8 FEET SHALL BE MAINTAINED BETWEEN EDGE OF TRAVEL LANE AND SIDEWALK WHERE CURB AND GUTTER DOES NOT EXIST (MINIMUM SHALL BE 4.5 FEET, UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER).



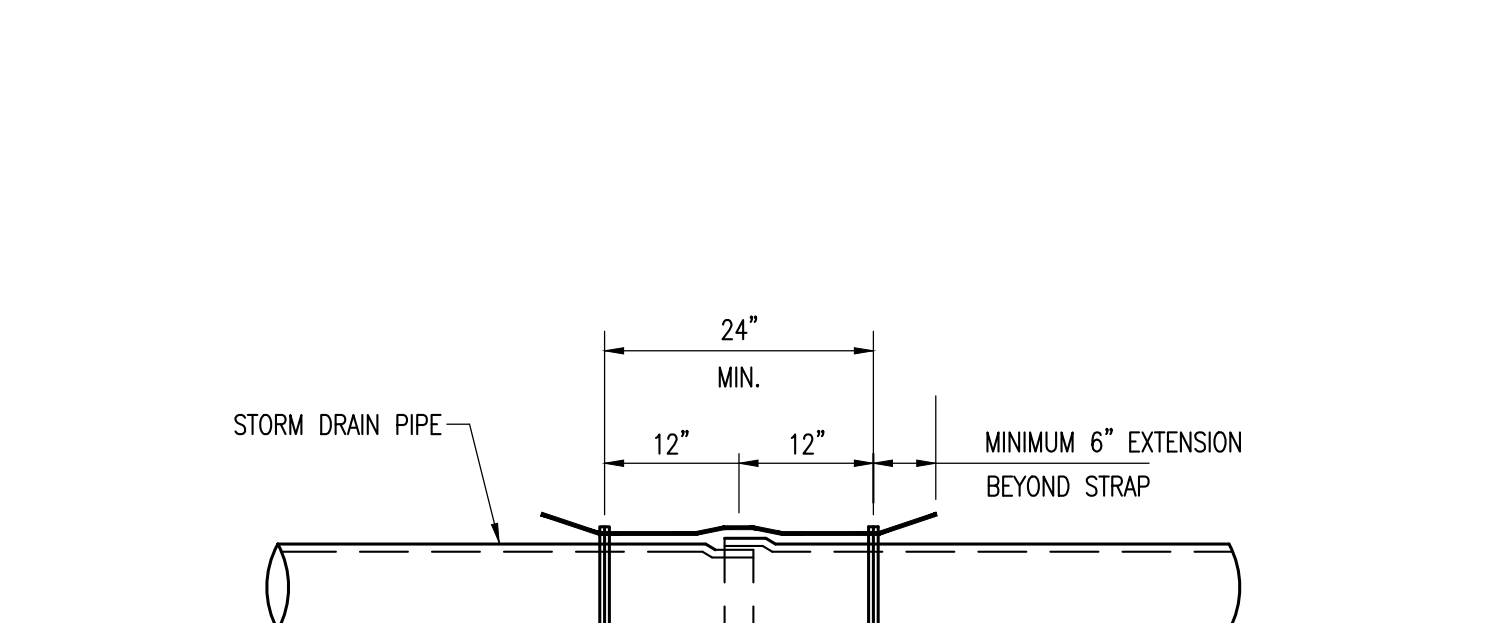
- NOTES:**
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 711.
 - MID-BLOCK CROSSWALK MARKINGS SHALL BE WHITE SPECIAL EMPHASIS.
 - STOP-CONTROLLED CROSSWALK MARKINGS SHALL BE STANDARD.
 - PUBLIC SIDEWALK CURB RAMP AND DETECTABLE WARNING SURFACES SHALL BE DESIGNED IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 522. DETECTABLE WARNING SURFACES SHALL BE CAST IN PLACE ARMOR TILE OR APPROVED EQUAL AND BRICK RED IN COLOR. BOLT OR SCREW DOWN TYPES ARE PROHIBITED.
 - CROSSWALK WARNING SIGNAGE SHALL BE YELLOW, UNLESS CROSSWALK IS LOCATED IN A SCHOOL ZONE WHERE LIME-GREEN SHALL BE USED.
 - SIGN INSTALLATION SHALL BE PER TRAFFIC CONTROL DETAIL, R-140A.

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-10
	FLEXIBLE PAVEMENT	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-31A
	TYPICAL OPEN CUT TRENCH	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-41
	SIDEWALK	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-120A
	CROSSWALK	DATE: 04/23/19



- NOTES:**
- ALL PIPE LOCATED UNDER ROADWAYS AND/OR RESIDENTIAL PARKING AREAS SHALL BE REINFORCED CONCRETE PIPE (RCP).
 - MINIMUM PIPE DIAMETER SHALL BE 15" OR ELLIPTICAL EQUIVALENT.
 - FILTER FABRIC SHALL BE OVERLAPPED 2'-0" MINIMUM AT ALL JOINTS, INCLUDING ALL END TREATMENTS, REGARDLESS OF PIPE CULVERT MATERIAL.
 - A CONTINUOUS PIECE OF FILTER FABRIC, CONFORMING TO TYPE "D-3" OF FDOT STANDARD SPECIFICATIONS 985, SHALL BE USED AT ALL JOINTS, INCLUDING STRUCTURES AND END TREATMENTS.

MAINTENANCE OF TRAFFIC CONTROL DEVICES

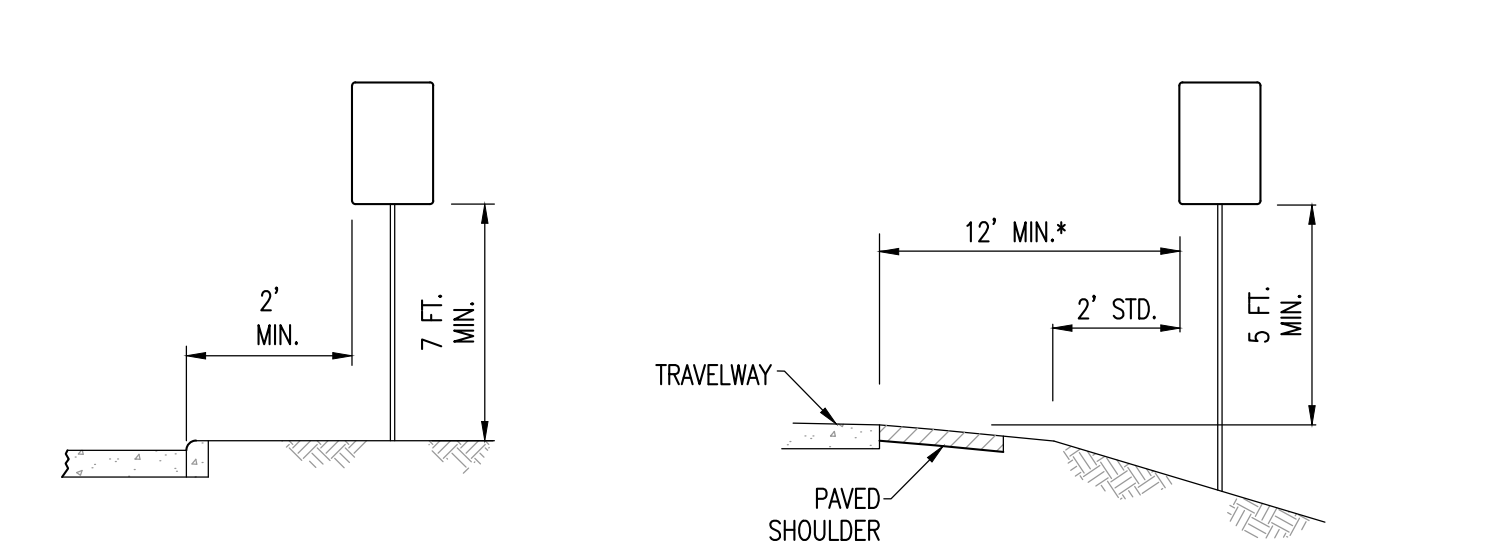
TRAFFIC SIGNS ON PRIVATELY MAINTAINED ROADS ARE THE RESPONSIBILITY OF THE MAINTAINING ENTITY. TYPICALLY, THE HOMEOWNERS OR PROPERTY OWNERS ASSOCIATION, WHERE PRIVATELY MAINTAINED ROADS INTERSECT STATE OR COUNTY MAINTAINED ROADS, THE TRAFFIC SIGNS (SUCH AS STREET NAME "BLADES" AND REGULATORY SIGNS) AND MARKINGS (SUCH AS STOP BARS) SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND CURRENT USER ENTITY NOT THE COUNTY OR THE STATE. PRIOR TO THE MARTIN COUNTY SHERIFF'S OFFICE PATROLLING ON PRIVATE ROADS, AN AGREEMENT FOR TRAFFIC CONTROL ON PRIVATE ROADS MUST BE EXECUTED WITH MARTIN COUNTY. THE HOMEOWNERS OR PROPERTY OWNERS ASSOCIATION SHALL SUBMIT A CERTIFICATION OF COMPLIANCE WITH THESE REGULATIONS PRIOR TO THE EXECUTION OF THE AGREEMENT FOR TRAFFIC CONTROL ON PRIVATE ROADS; THE CERTIFICATION MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA.

THE DESIGN AND MANUFACTURING OF ALL SIGNING AND MARKINGS REQUIRED FOR THE OPERATION OF THE CONNECTION (SUCH AS STOP BARS AND STOP SIGNS FOR THE CONNECTION) SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND CURRENT ENTITY RESPONSIBLE FOR THE CONNECTION, OR GOVERNMENTAL ENTITY HAVING JURISDICTION OVER THE CONNECTION, ROAD, OR INTERSECTION OF THE COUNTY ROAD REGARDLESS OF THE OWNER OF THE RIGHT-OF-WAY AS PROVIDED IN CHAPTER 316, FLORIDA STATUTES.

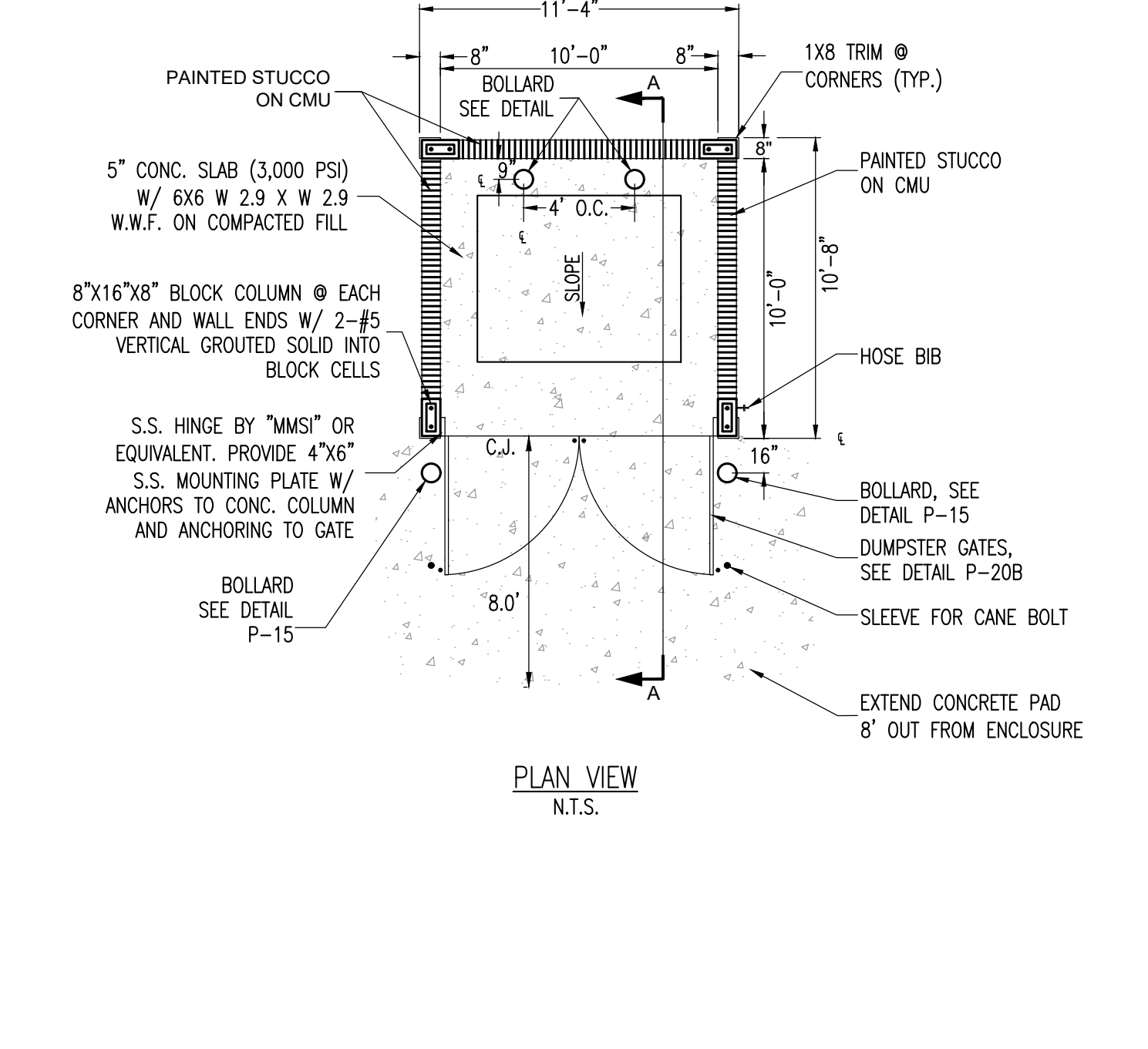
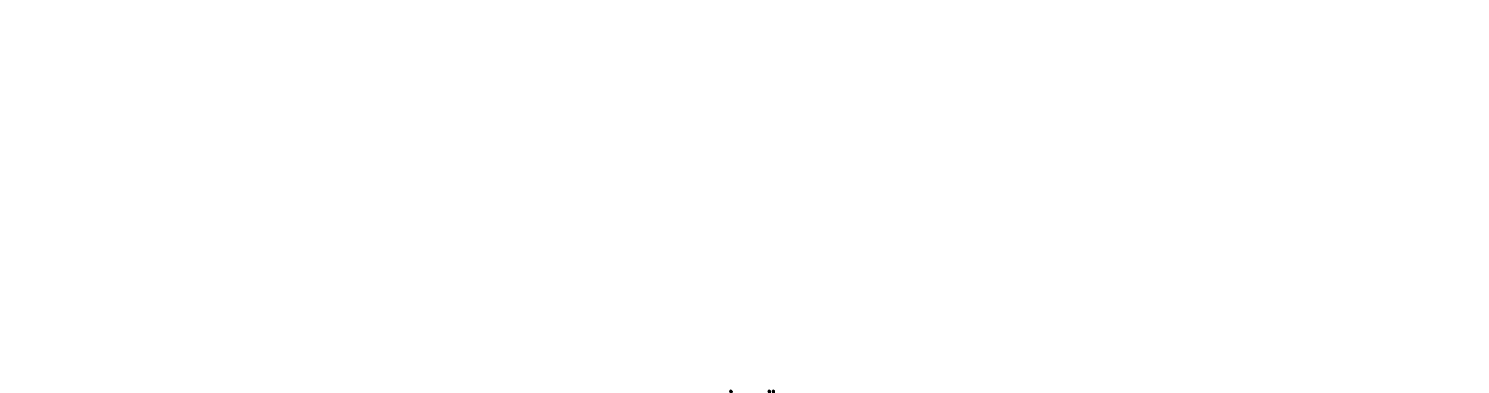
ALL TRAFFIC CONTROL DEVICES INSTALLED ON COUNTY OR PRIVATELY MAINTAINED ROADS SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD PLANS, AND THESE STANDARDS.

PLACEMENT OF TRAFFIC CONTROL DEVICES

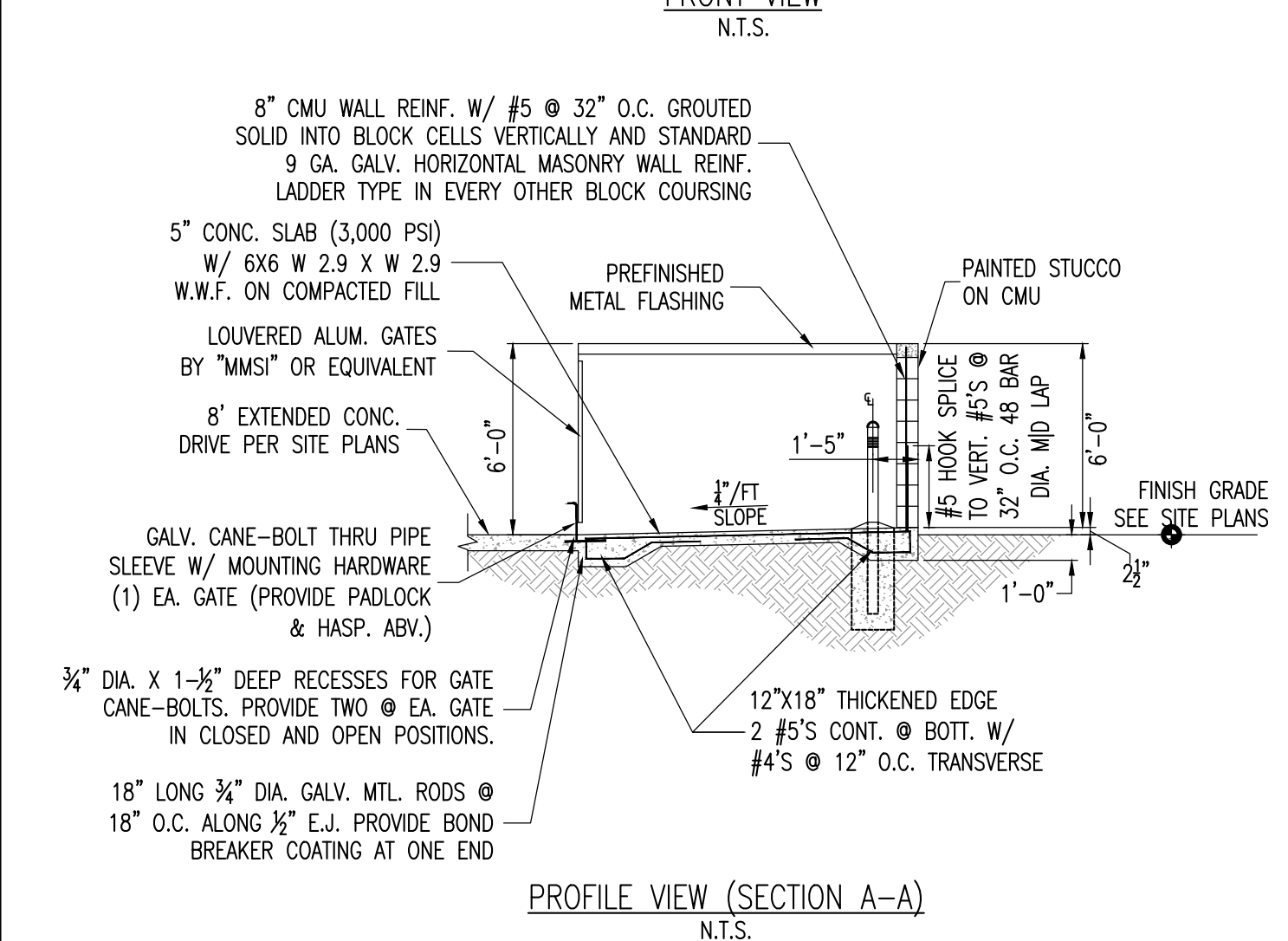
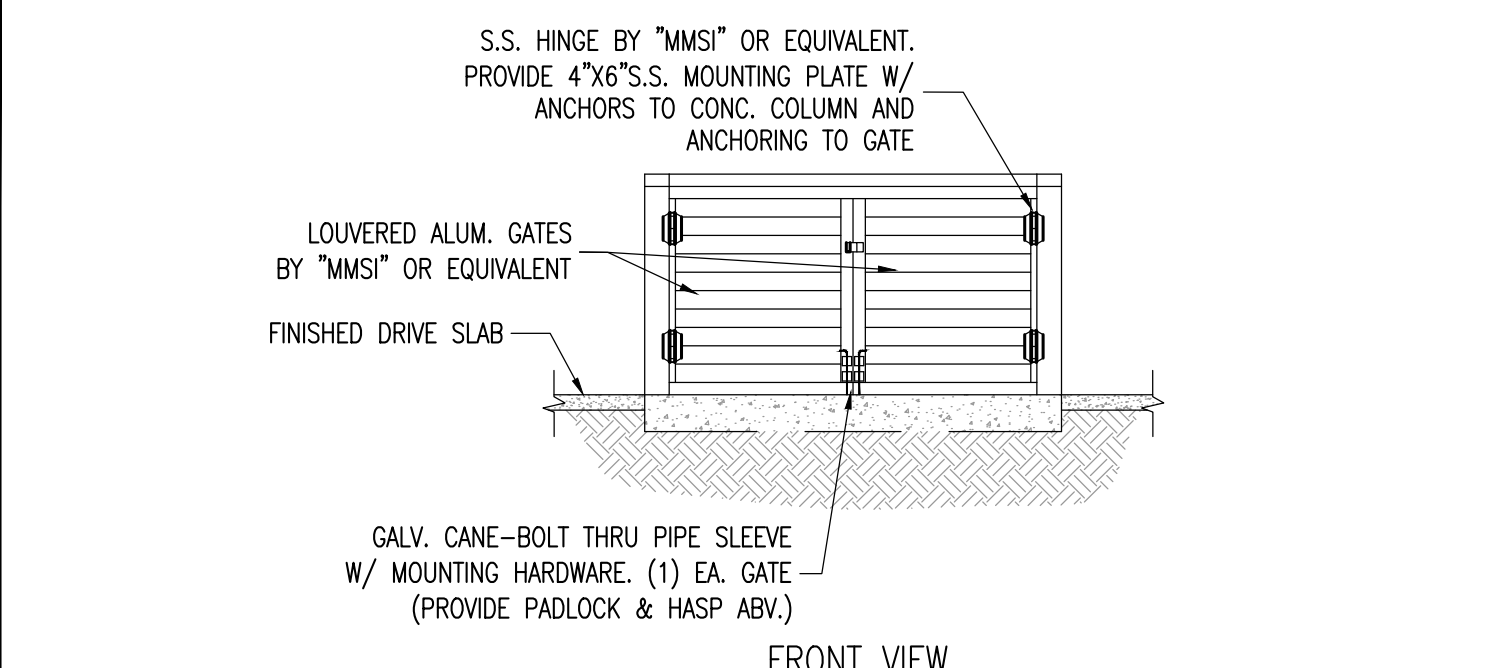
PER FLORIDA STATUTE 316.0747, THE PLACEMENT OR POSITION OF TRAFFIC CONTROL DEVICES ALONG ROADS WHERE THE PUBLIC IS INVITED, INCLUDING THOSE DEVICES INSTALLED ON PRIVATE PROPERTY, SHALL MEET THE STATE STANDARDS ADOPTED BY THE FDOT, WHICH INCLUDES THOSE IDENTIFIED IN THE MUTCD. IF THE STANDARD POSITION CANNOT BE ATTAINED DUE TO IMMOBILE OBSTRUCTIONS, ALTERNATIVE PLACEMENT MAY BE PERMITTED BY THE COUNTY ENGINEER.



*THE SETBACK FOR STOP OR YIELD SIGNS MAY BE REDUCED TO 3' MINIMUM FROM THE DRIVING LANE IF REQUIRED FOR VISIBILITY IN BUSINESS OR RESIDENTIAL AREAS WITH NO CURB AND SPEEDS OF 30 MPH OR LESS



	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL P-20A
	DUMPSTER ENCLOSURE	DATE: 04/23/19



	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL P-20B
	DUMPSTER ENCLOSURE	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-70
	STORM DRAIN PIPE AND PIPE JOINT	DATE: 04/23/19

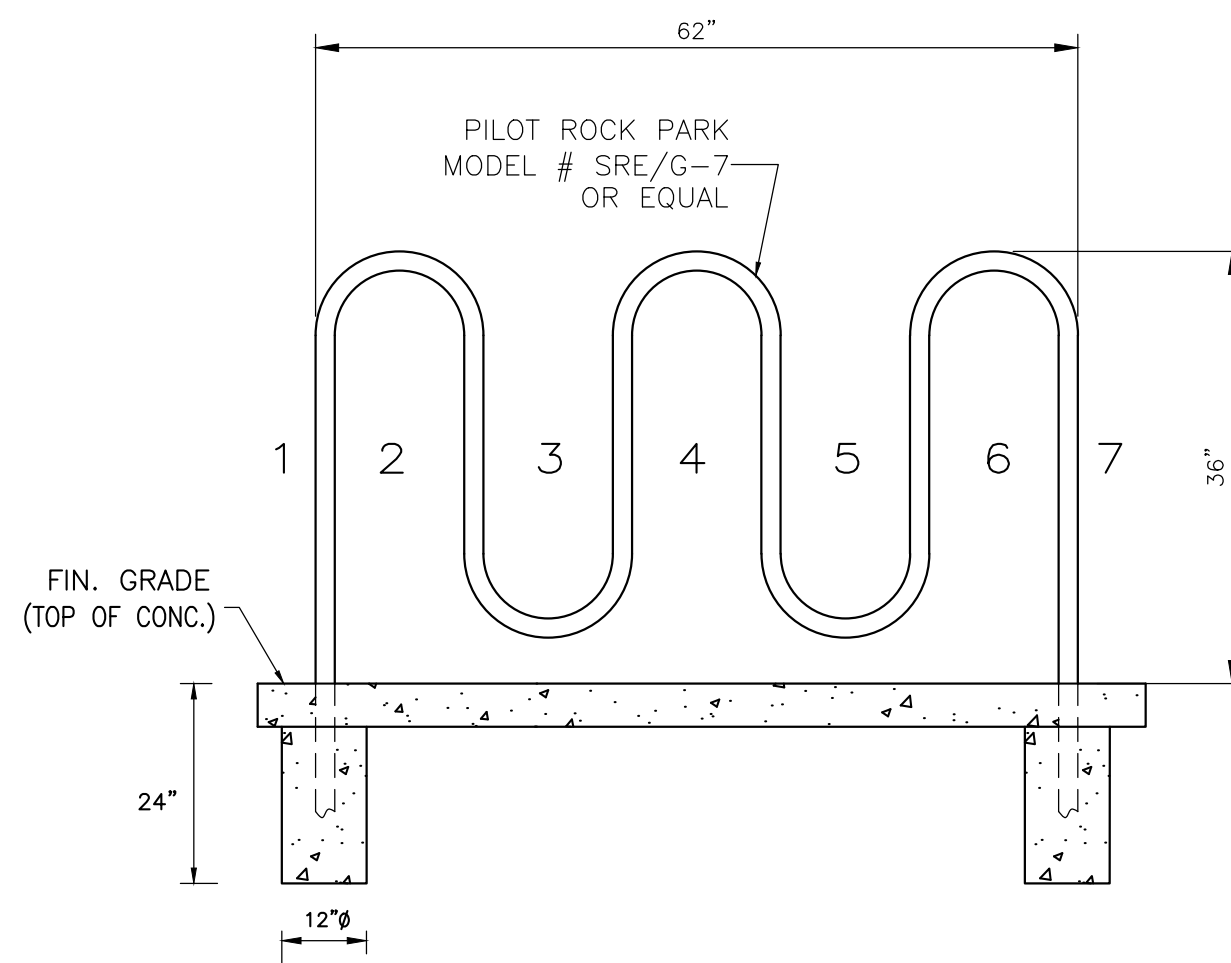
	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL R-140A
	TRAFFIC CONTROL	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL P-20A
	DUMPSTER ENCLOSURE	DATE: 04/23/19

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL P-20B
	DUMPSTER ENCLOSURE	DATE: 04/23/19



L. LEONARD, P.E. FL. LICENSE NO. 61737	PLAN STATUS
05-29-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS
DATE	DESCRIPTION
LL	GC/JB GMB
DESIGN	DRAWN CHKD
SCALE	AS SHOWN
JOB NO.	010318-02-004
DATE	03/13/2019
FILE NO.	318-CP-02-P2-P00



NOTES:

- BIKE RACK SHALL BE EMBEDDED INTO A 24" DEEP, 12" DIAMETER CONCRETE FOOTER

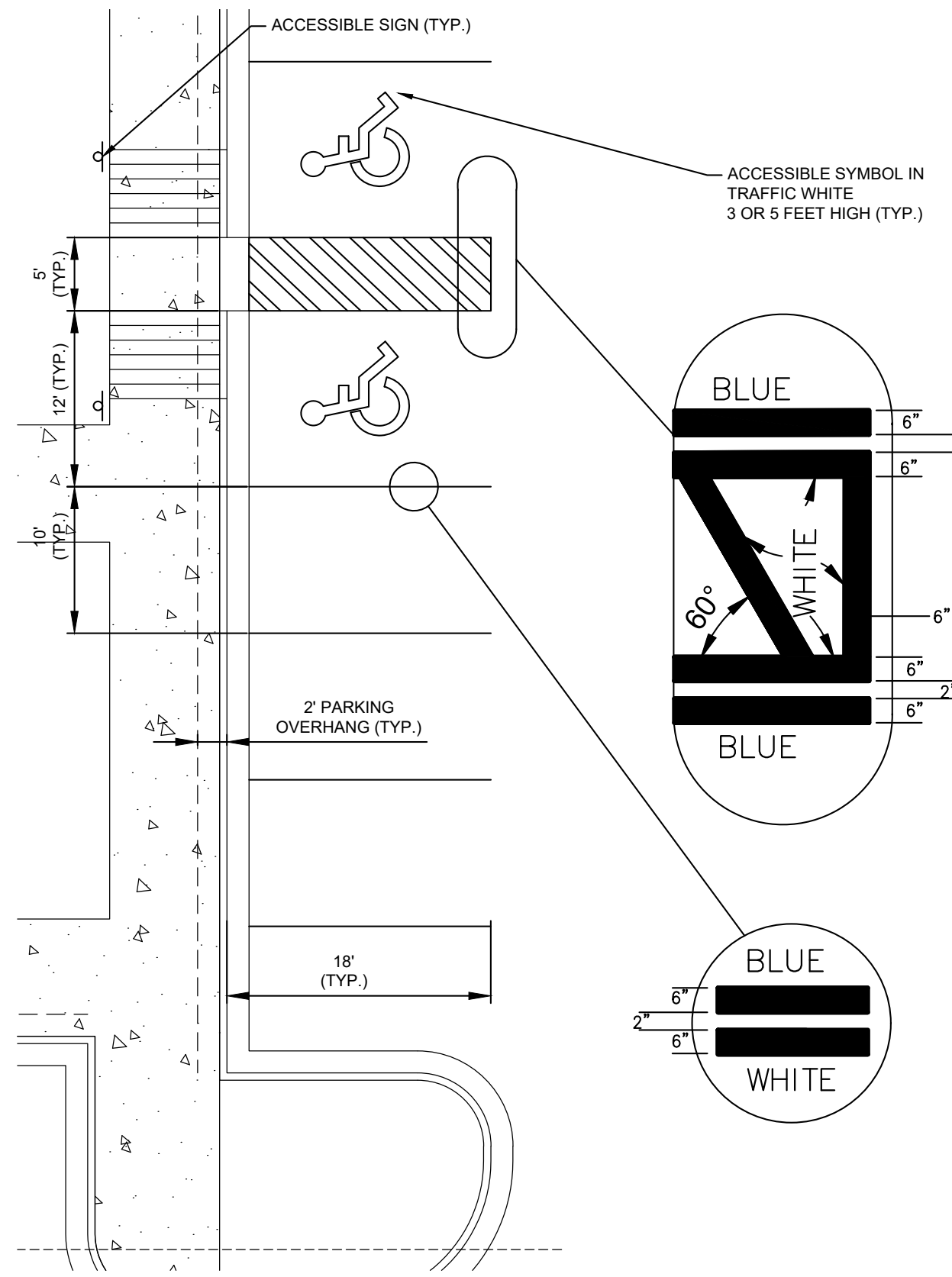


MARTIN COUNTY ENGINEERING - STANDARD DETAILS

BICYCLE RACK

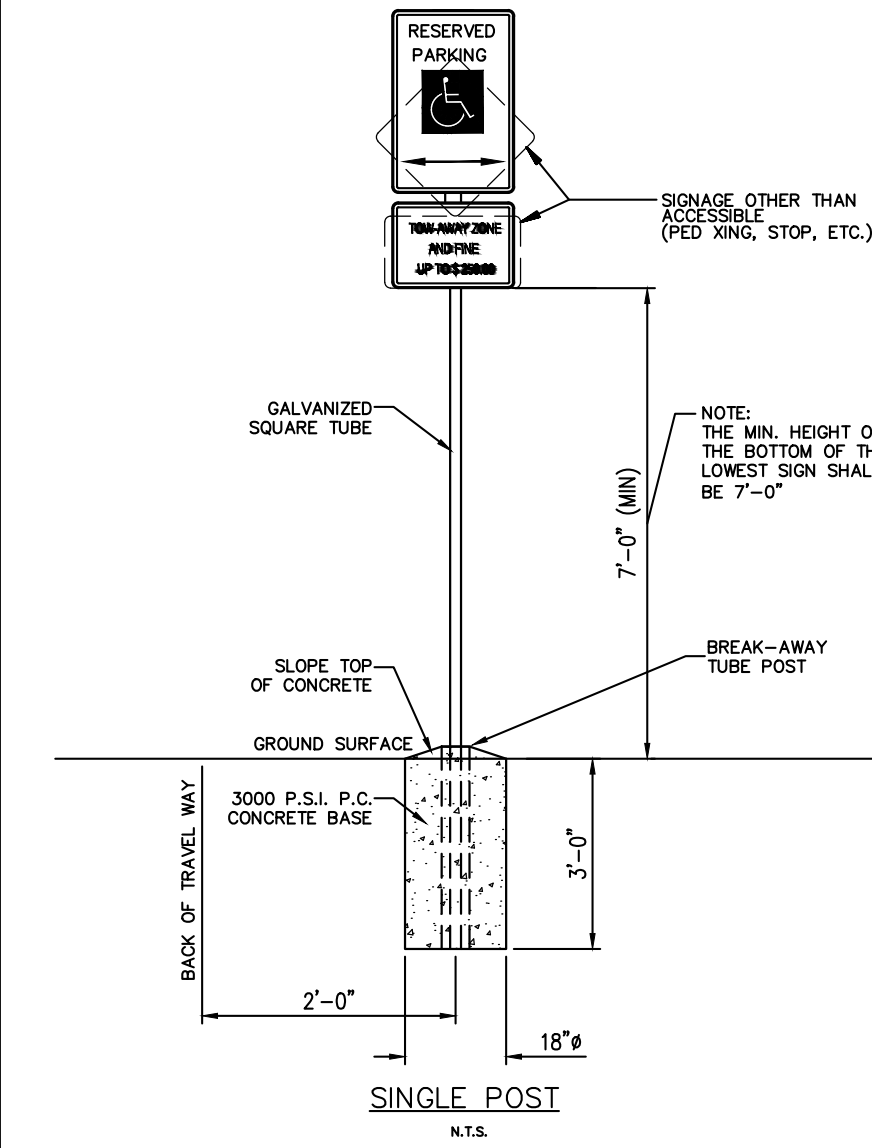
DETAIL
P-30

DATE: 04/23/19



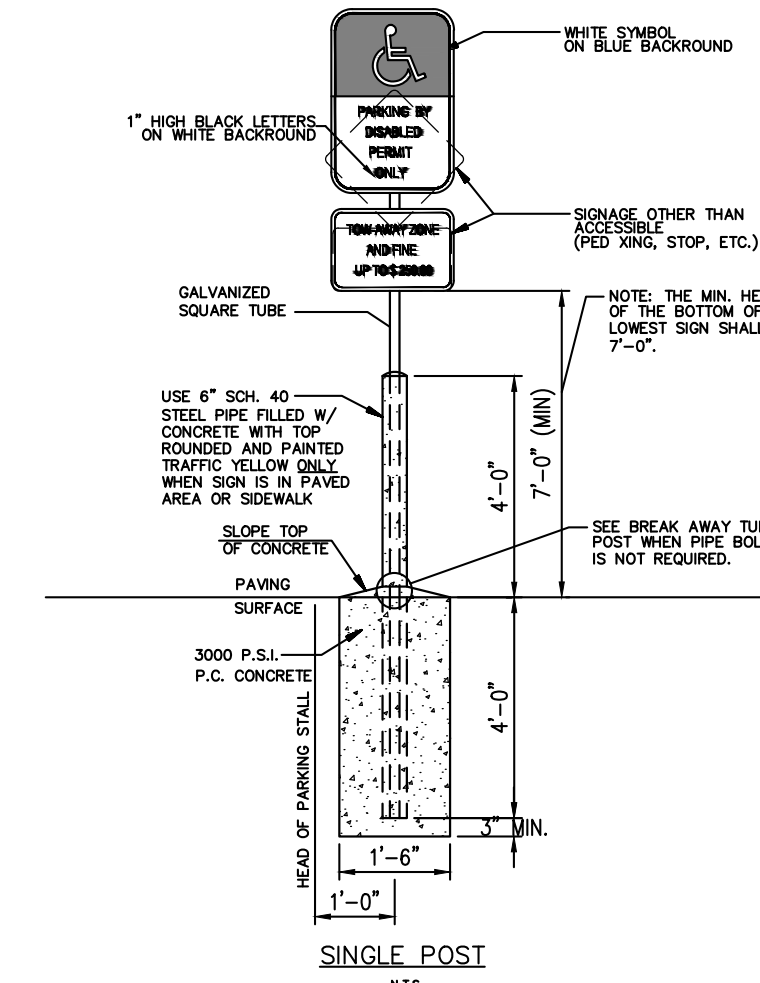
- NOTES:
- SEE SITE PLAN FOR TOTAL LAYOUT.
 - THESE DETAILS ARE FOR REFERENCE AND DIMENSION CONTROL ONLY.
 - ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE INDICATED.
 - ALL COLORS AS SHOWN OR AS SPECIFIED BY LOCAL CODES.
 - ADA PARKING & SIGNAGE TO CONFORM TO LOCAL CODES AND CURRENT ADA REQUIREMENTS.

ACCESSIBLE & STANDARD PARKING SPACE DETAIL
N.T.S.



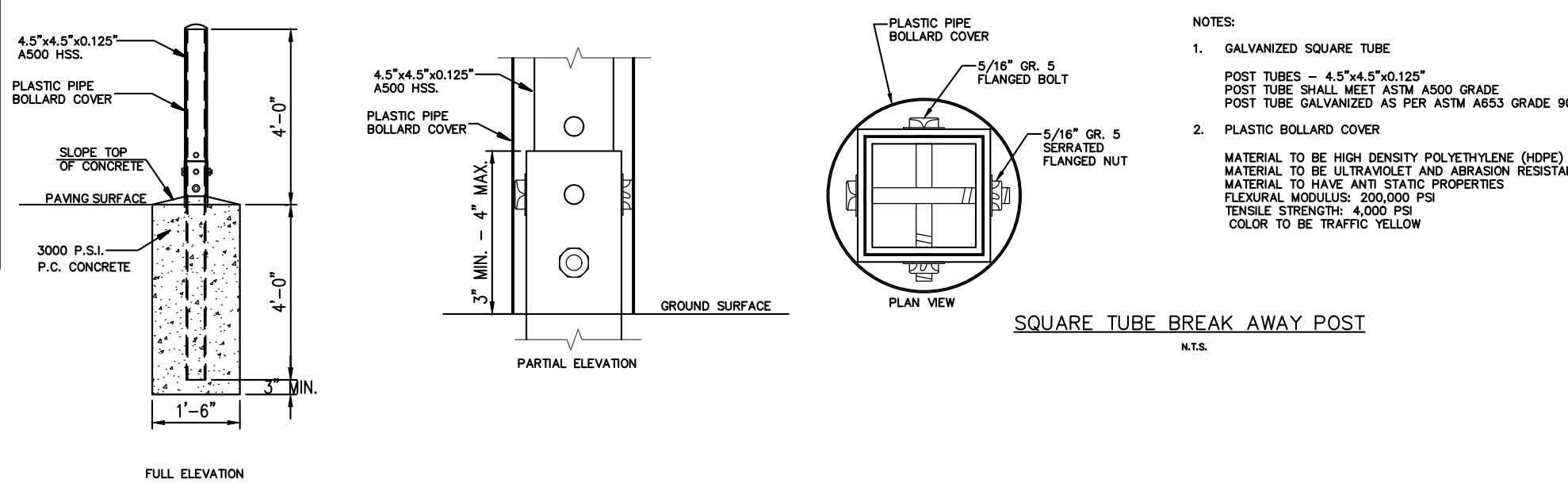
- NOTES:
- ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - GALVANIZED SQUARE TUBE
POST TUBES - 2 1/2"x1 1/2"x1/8" THICK
POST TUBE SHALL MEET ASTM A1011 GRADE 50.
POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.
ANCHOR TUBE - 2 1/2"x2 1/2"x1/4"x3/16" THICK
HEAVY DUTY ANCHOR TUBE SHALL MEET ASTM A500 GRADE B.
STRUCTURAL TUBE AND STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A133.
THE UPPER SIGN POST SHALL TELESCOPE INSIDE THE ANCHOR TUBE A MINIMUM OF 12".
THE ANCHOR TUBE SHALL BE A MINIMUM 48" DEEP WITH 3" MIN. 4" MAX. EXPOSED ABOVE FINISH GRADE.
 - SIGNAGE AS SHOWN IS ROTATED 90° FROM PARKING STALL FOR CLARITY. SIGN IS TO FACE THE PARKING STALL.

ISLAND MOUNTED SIGN
AND BASE DETAIL
N.T.S.

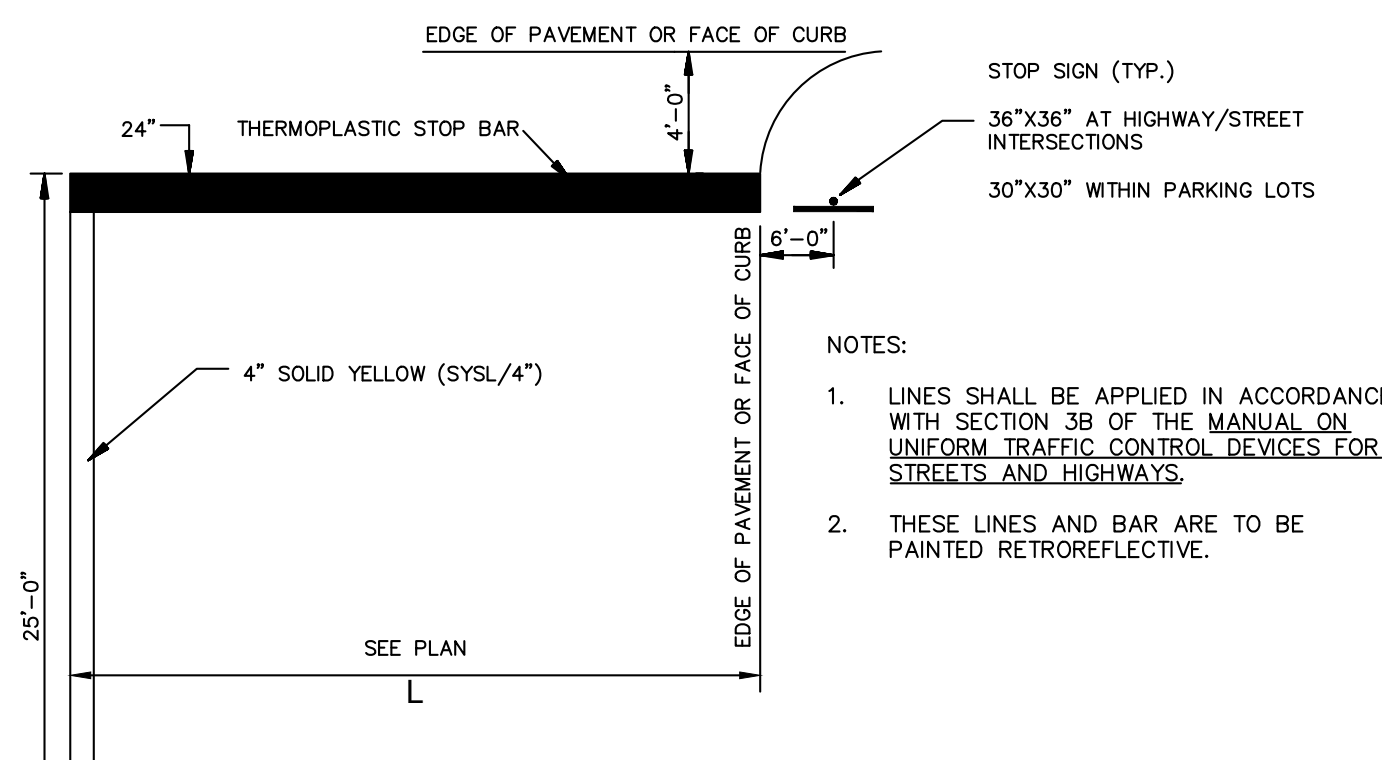


- NOTES:
- ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
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THE ANCHOR TUBE SHALL BE A MINIMUM 48" DEEP WITH 3" MIN. 4" MAX. EXPOSED ABOVE FINISH GRADE.
 - SIGNAGE AS SHOWN IS ROTATED 90° FROM PARKING STALL FOR CLARITY. SIGN IS TO FACE THE PARKING STALL.

PAVEMENT MOUNTED SIGN
AND BASE DETAIL
N.T.S.

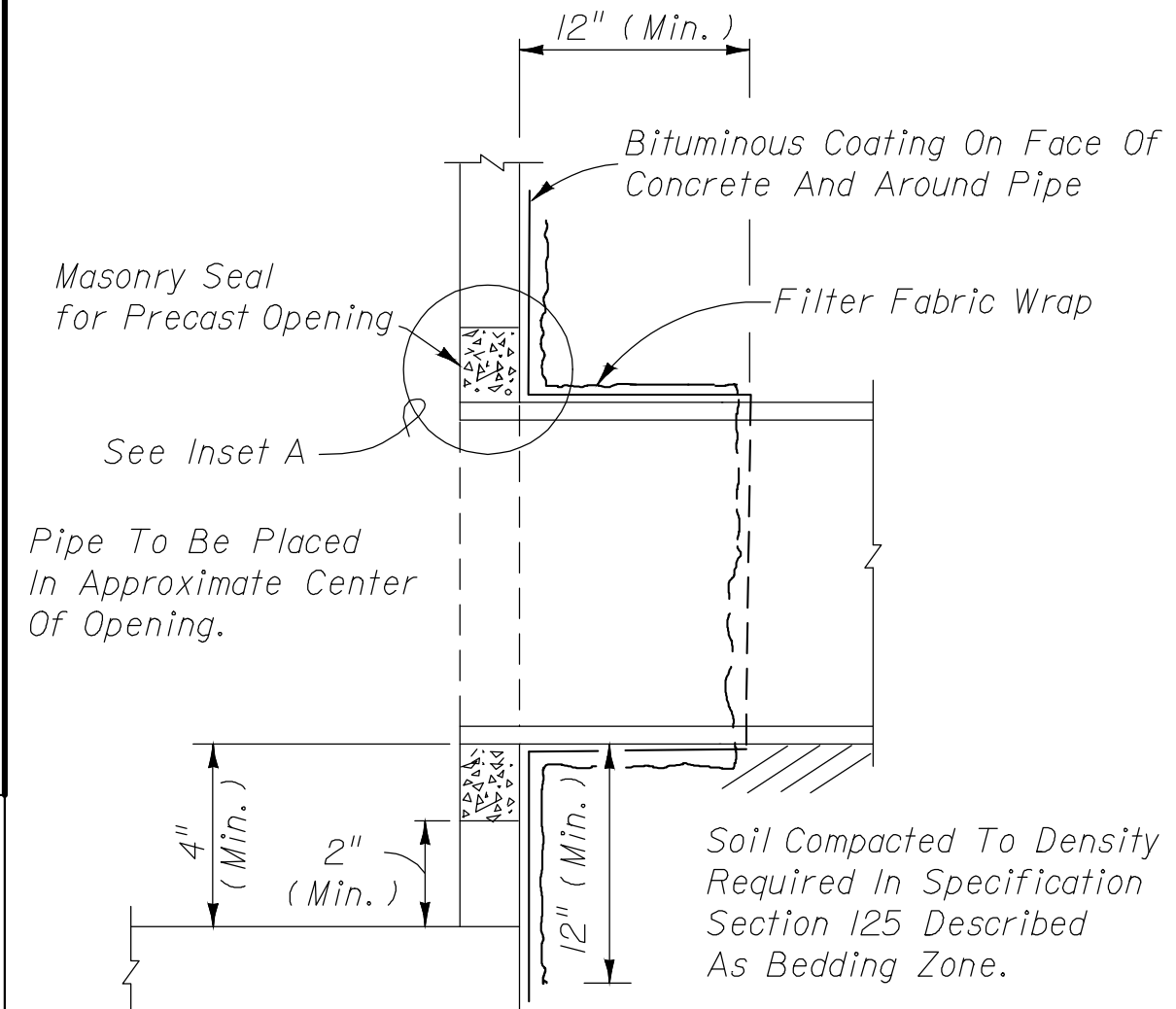


BREAK-AWAY PIPE BOLLARD
N.T.S.

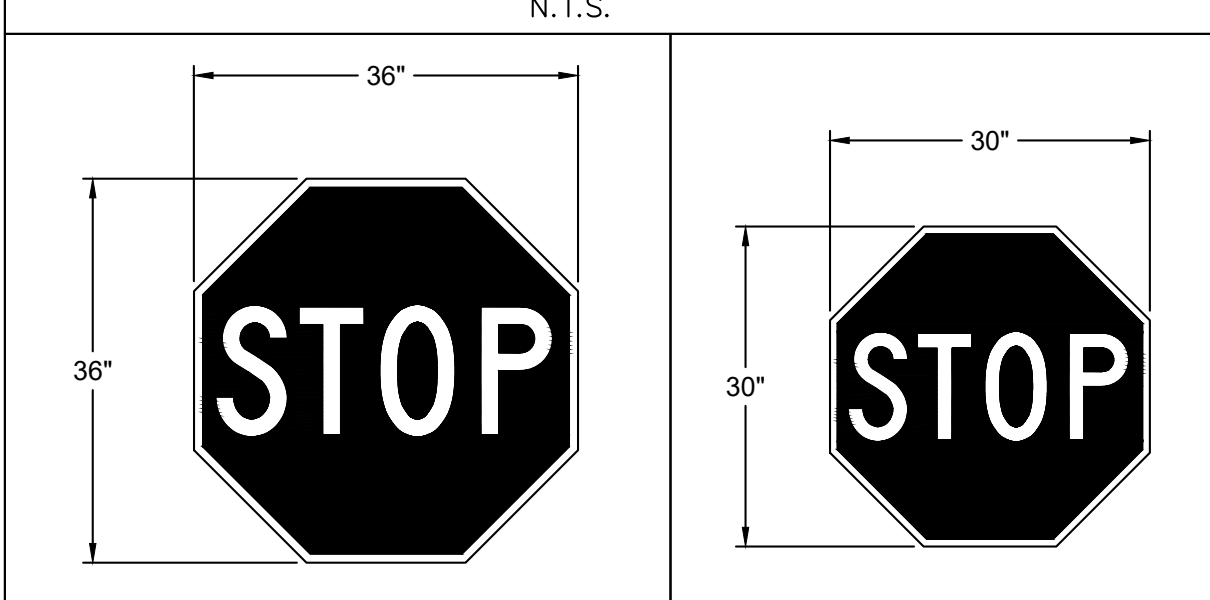


- NOTES:
- THIS BAR SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3B OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
 - THESE LINES AND BAR ARE TO BE PAINTED RETROREFLECTIVE.

STOP BAR
N.T.S.



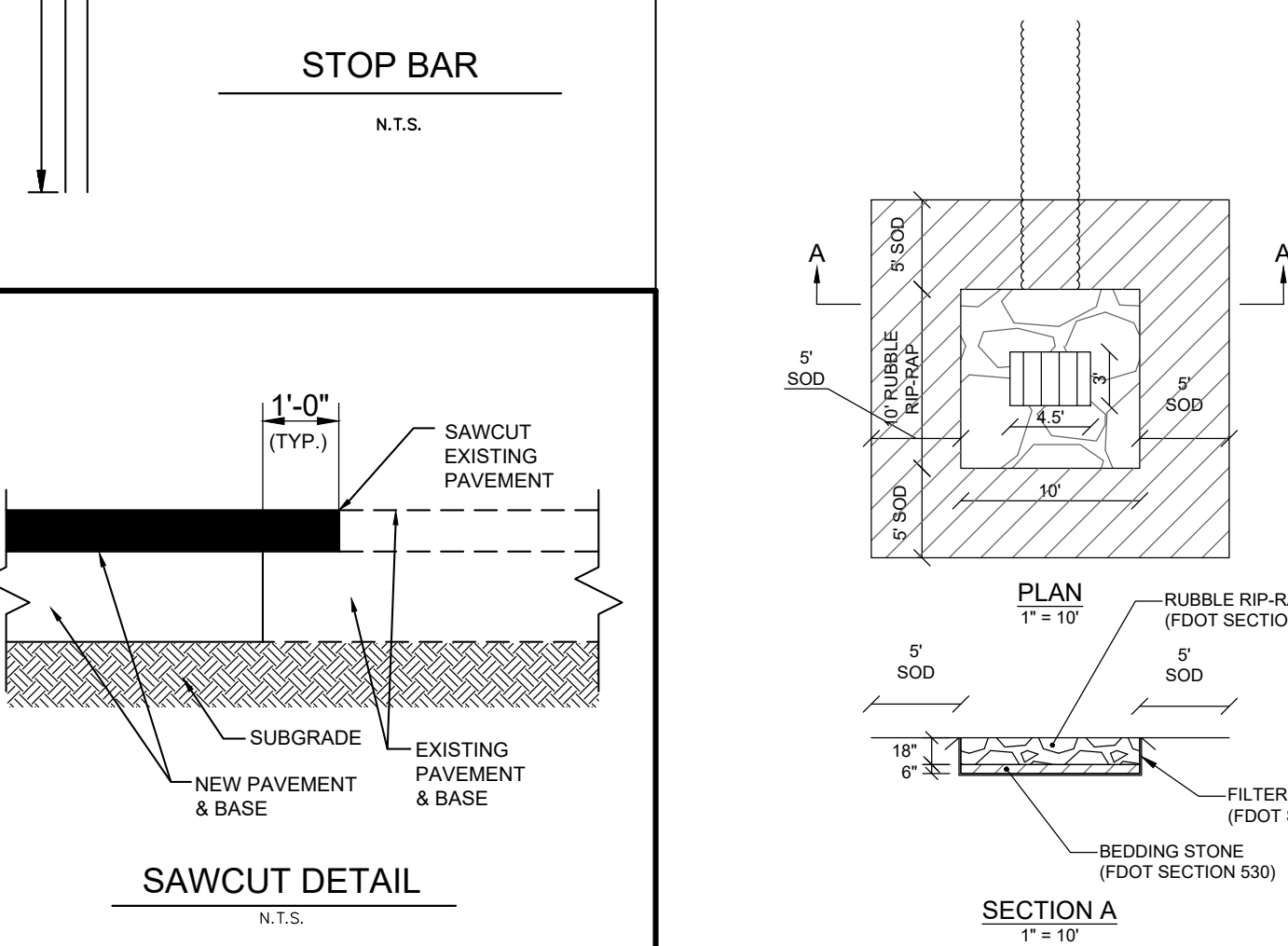
FILTER FABRIC WRAP ON GROUTED PIPE TO STRUCTURE JOINT
N.T.S.



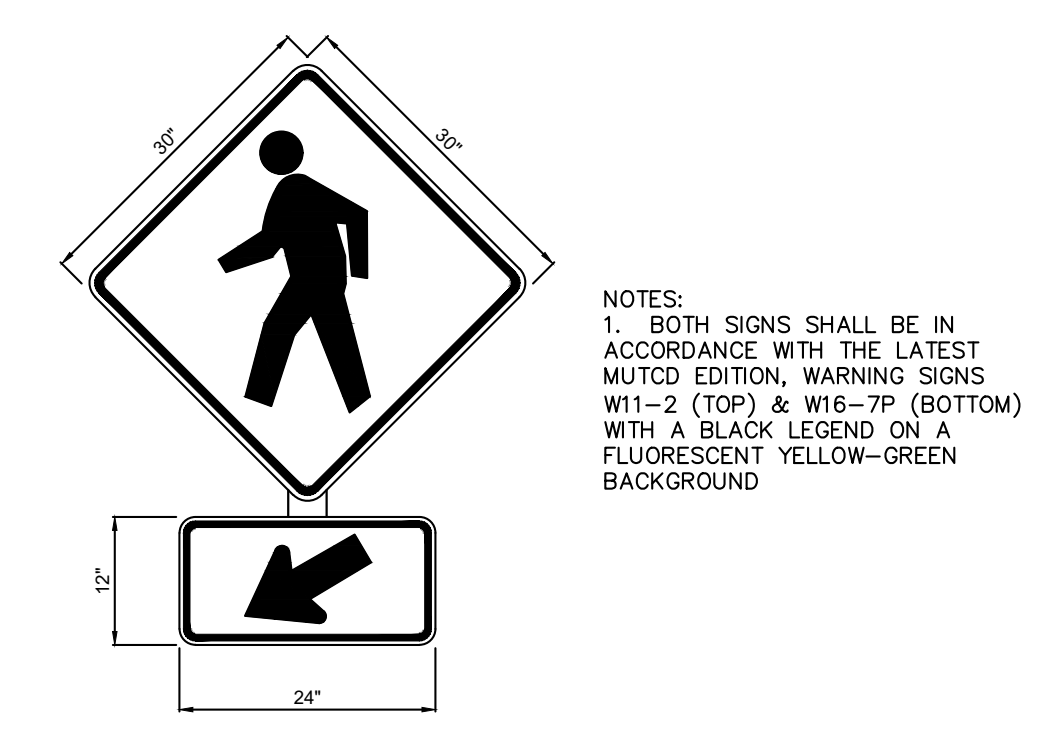
R1-1
36"x36"
"STOP" SIGN
N.T.S.

R1-1
30"x30"
"STOP" SIGN
N.T.S.

NOTE: REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DETAILS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.



DRY DETENTION AREA DETAIL
D-4, D-7, D-13, D-15
N.T.S.



"PEDESTRIAN CROSSING" SIGN

- NOTES:
- BOTH SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST MUTCD EDITION. WARNING SIGNS W11-2 (TOP) & W16-7P (BOTTOM) WITH A BLACK LEGEND ON A FLUORESCENT YELLOW-GREEN BACKGROUND.

MARTIN COUNTY
FLORIDA
PAVING GRADING AND DRAINAGE DETAILS
LOT 2 - BEE SAFE STORAGE
MARINER VILLAGE SQUARE PUD

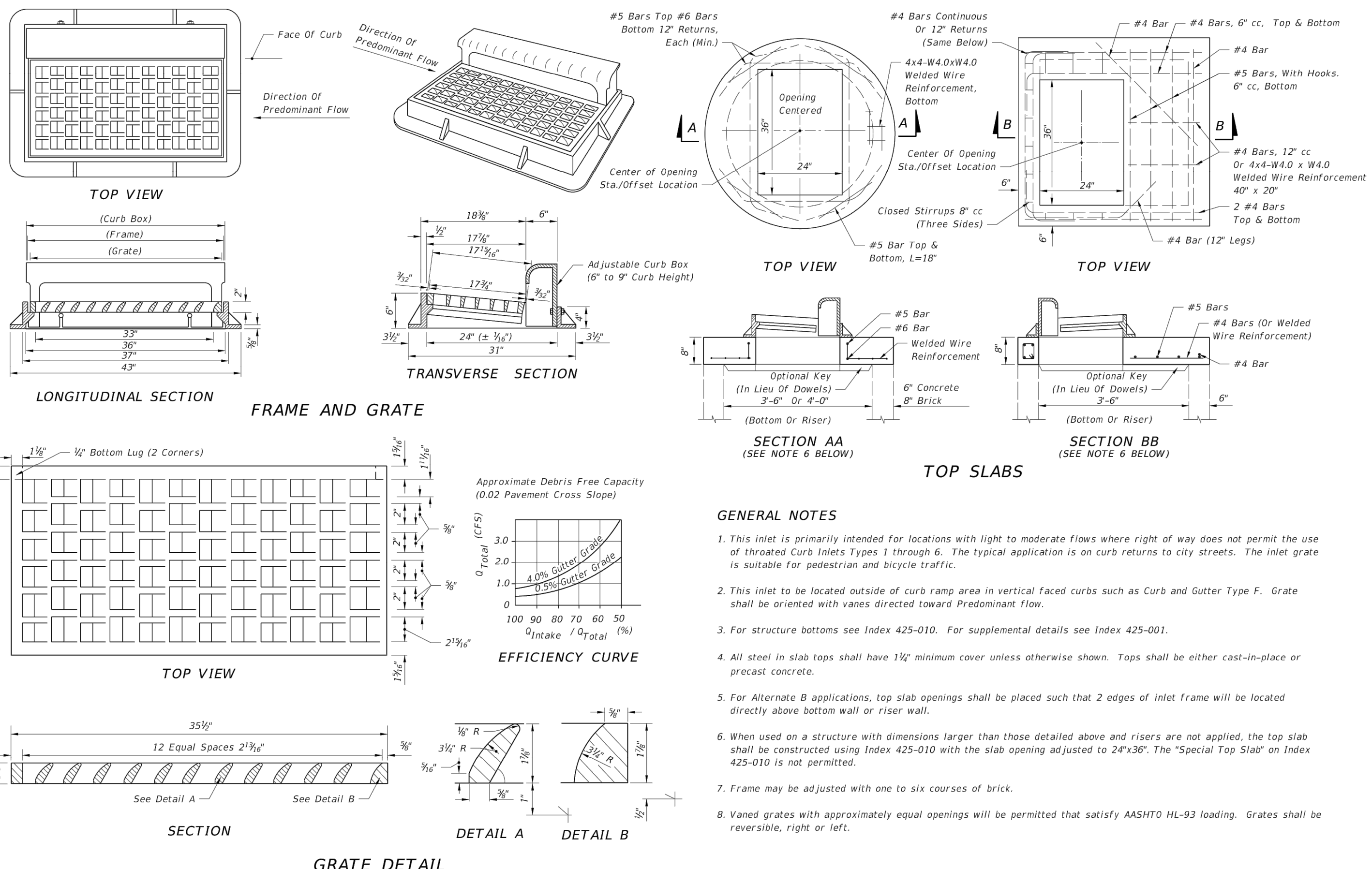
PROJECT NO
010318-02-004

DATE	DESCRIPTION
05-29-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS
LL	GC / JB
DESIGN	DRAWN
SCALE	AS SHOWN
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-P600
SHEET	D2

L. LEONARD, P.E.
FL LICENSE NO. 61737
PLAN STATUS

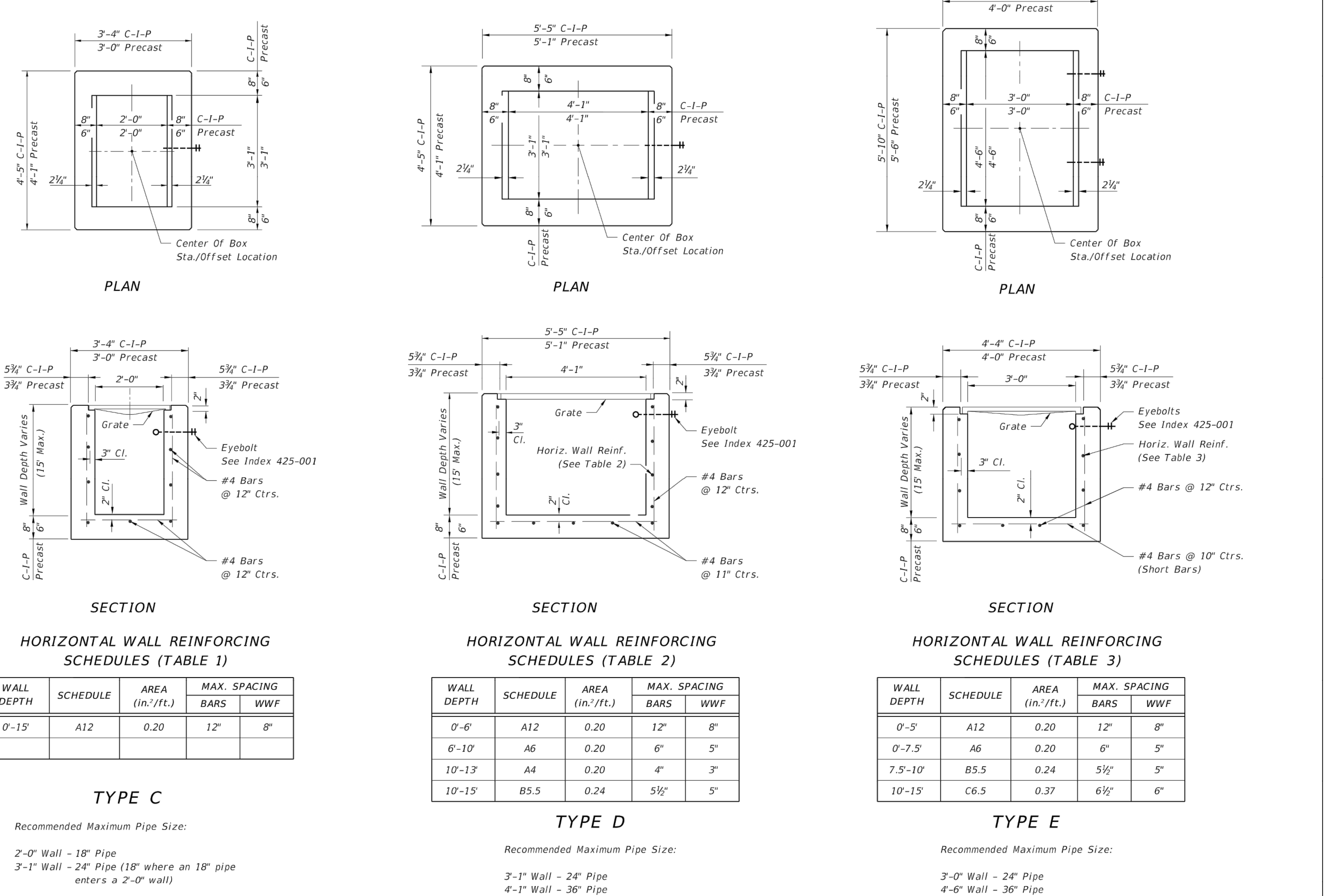
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GENERAL NOTES

- This inlet is primarily intended for locations with light to moderate flows where right of way does not permit the use of throat curb inlets Types 1 through 6. The typical application is on curb returns to city streets. The inlet grate is suitable for pedestrian and bicycle traffic.
- This inlet to be located outside of curb ramp area in vertical faced curbs such as Curb and Gutter Type F. Grate shall be oriented with vanes directed toward Predominant Flow.
- For structure bottoms see Index 425-010. For supplemental details see Index 425-001.
- All steel in slab tops shall have 1/2" minimum cover unless otherwise shown. Slabs shall be either cast-in-place or precast concrete.
- For Alternate B applications, top slab openings shall be placed such that 2 edges of inlet frame will be located directly above bottom wall or riser wall.
- When used on a structure with dimensions larger than those detailed above and risers are not applied, the top slab shall be constructed using Index 425-010 with the slab opening adjusted to 24"x36". The "Special Top Slab" on Index 425-010 is not permitted.
- Frame may be adjusted with one to six courses of brick.
- Vaned grates with approximately equal openings will be permitted that satisfy AASHTO HL-93 loading. Grates shall be reversible, right or left.



RECOMMENDED MAXIMUM PIPE SIZE:

2'-0" Wall - 18" Pipe
3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)

RECOMMENDED MAXIMUM PIPE SIZE:

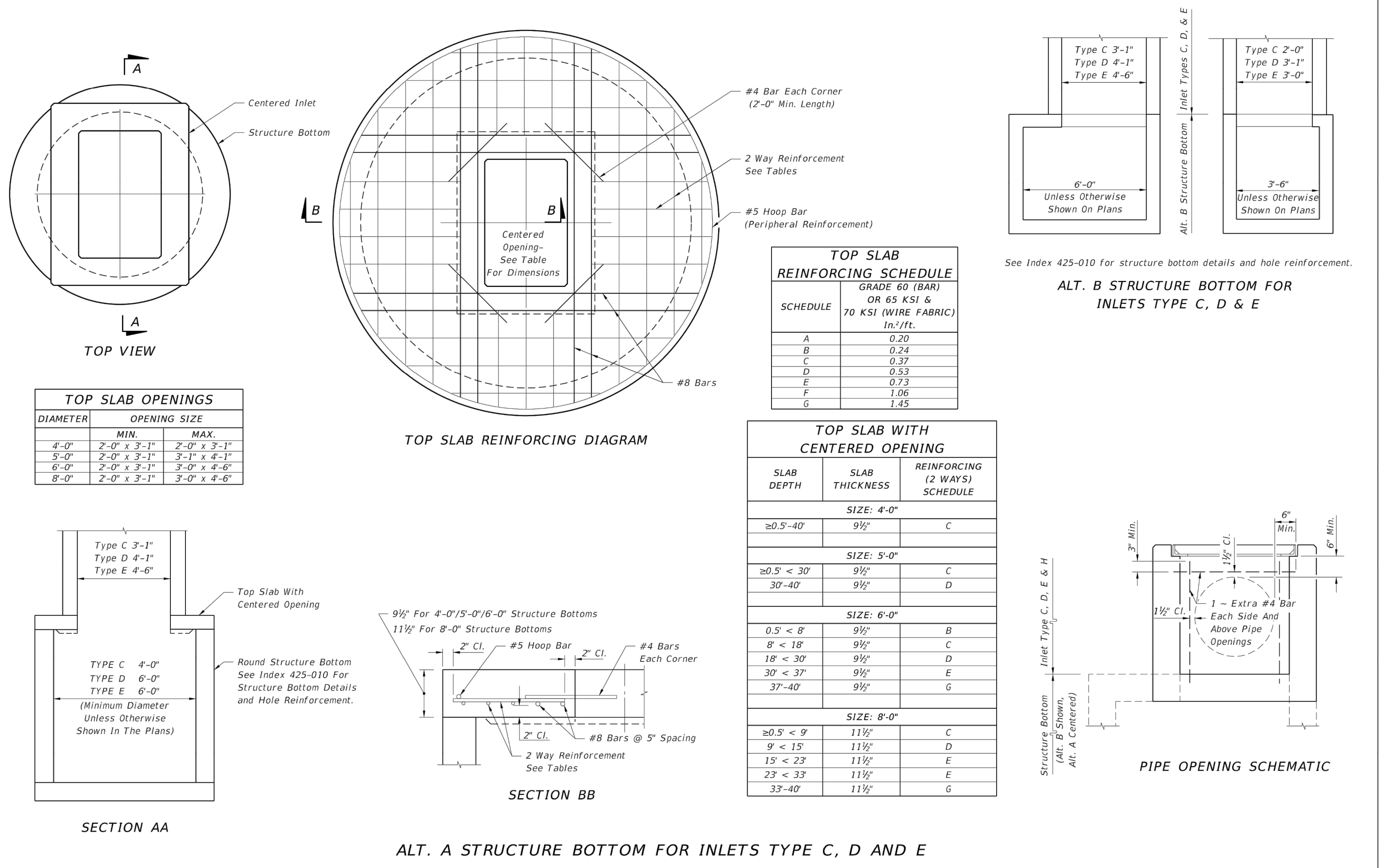
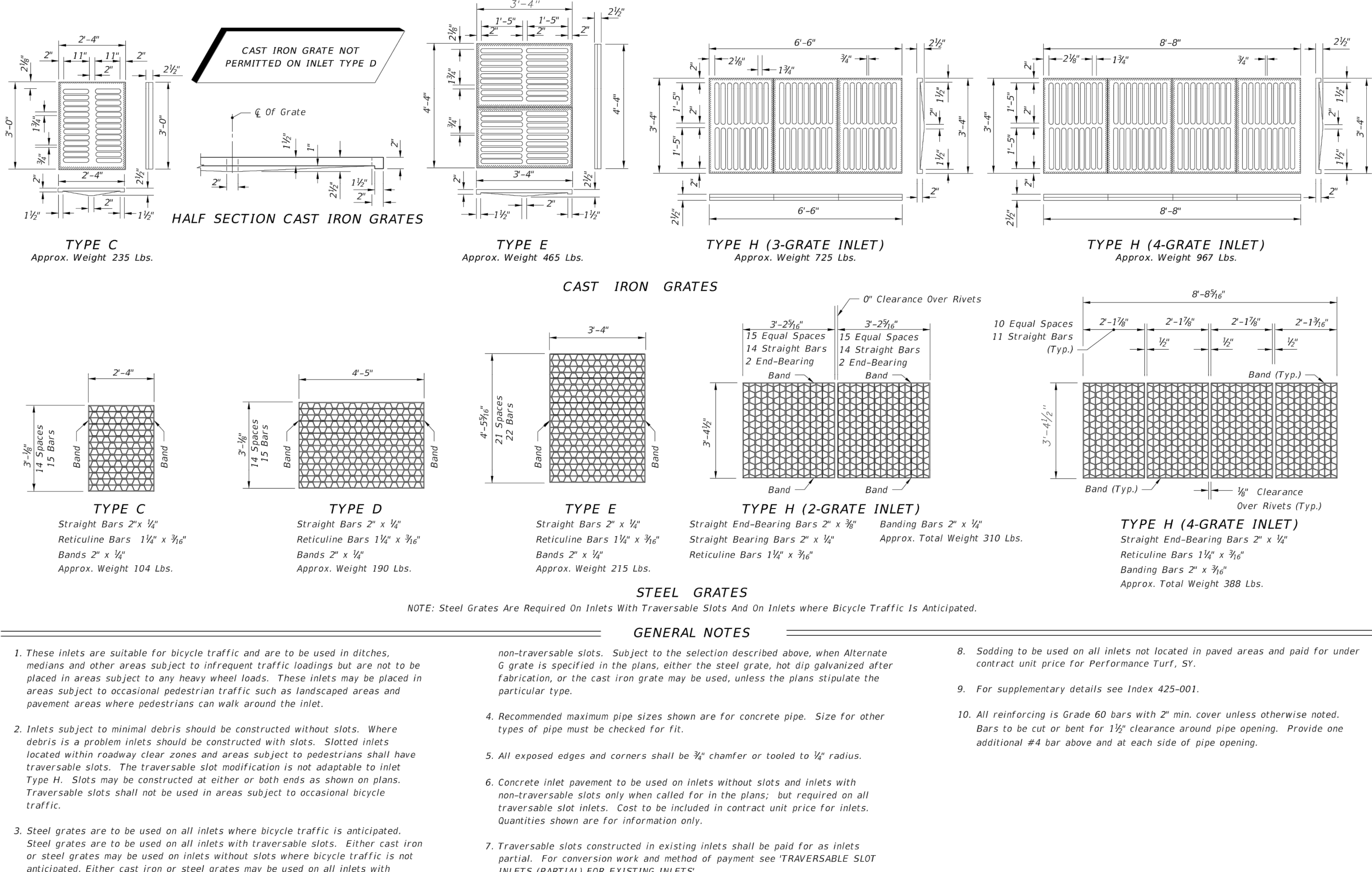
3'-1" Wall - 24" Pipe
4'-1" Wall - 36" Pipe

RECOMMENDED MAXIMUM PIPE SIZE:

3'-0" Wall - 24" Pipe
4'-6" Wall - 36" Pipe

LAST REVISION 11/01/17 DESCRIPTION: **FY 2019-20 STANDARD PLANS** INDEX 425-024 SHEET 1 of 1

LAST REVISION 11/01/17 DESCRIPTION: **FY 2019-20 STANDARD PLANS** INDEX 425-052 SHEET 1 of 7



LAST REVISION 11/01/17 DESCRIPTION: **FY 2019-20 STANDARD PLANS** INDEX 425-052 SHEET 3 of 7

LAST REVISION 11/01/17 DESCRIPTION: **FY 2019-20 STANDARD PLANS** INDEX 425-052 SHEET 7 of 7

DATE	DESCRIPTION
05-29-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS

DATE	DESCRIPTION
LL	GC/JB GMB
DESIGN	DRAWN CHKD
SCALE AS SHOWN	
JOB No. 010318-02-004	
DATE 03/13/2019	
FILE No. 318-CP-02-P2-PGD	
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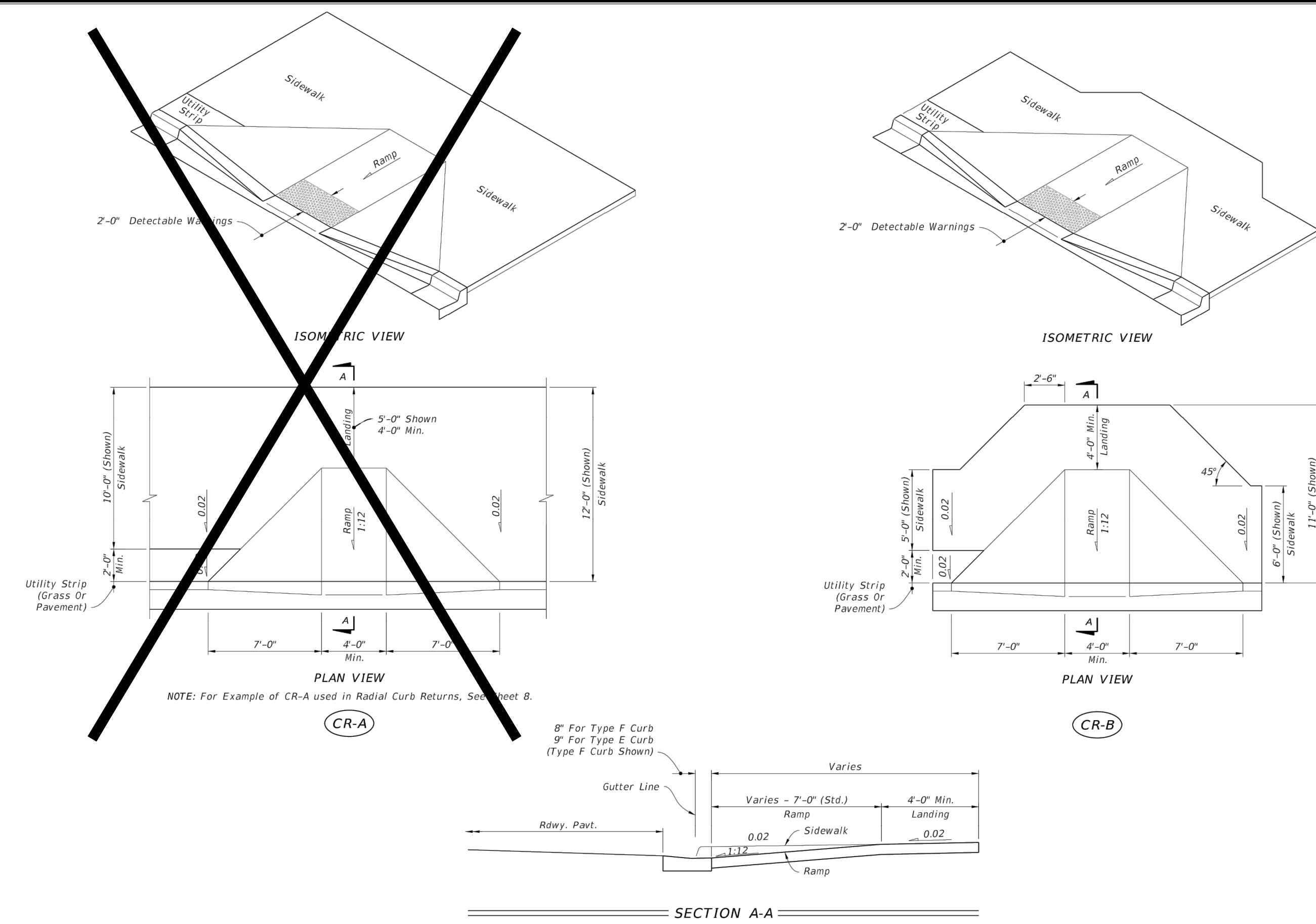
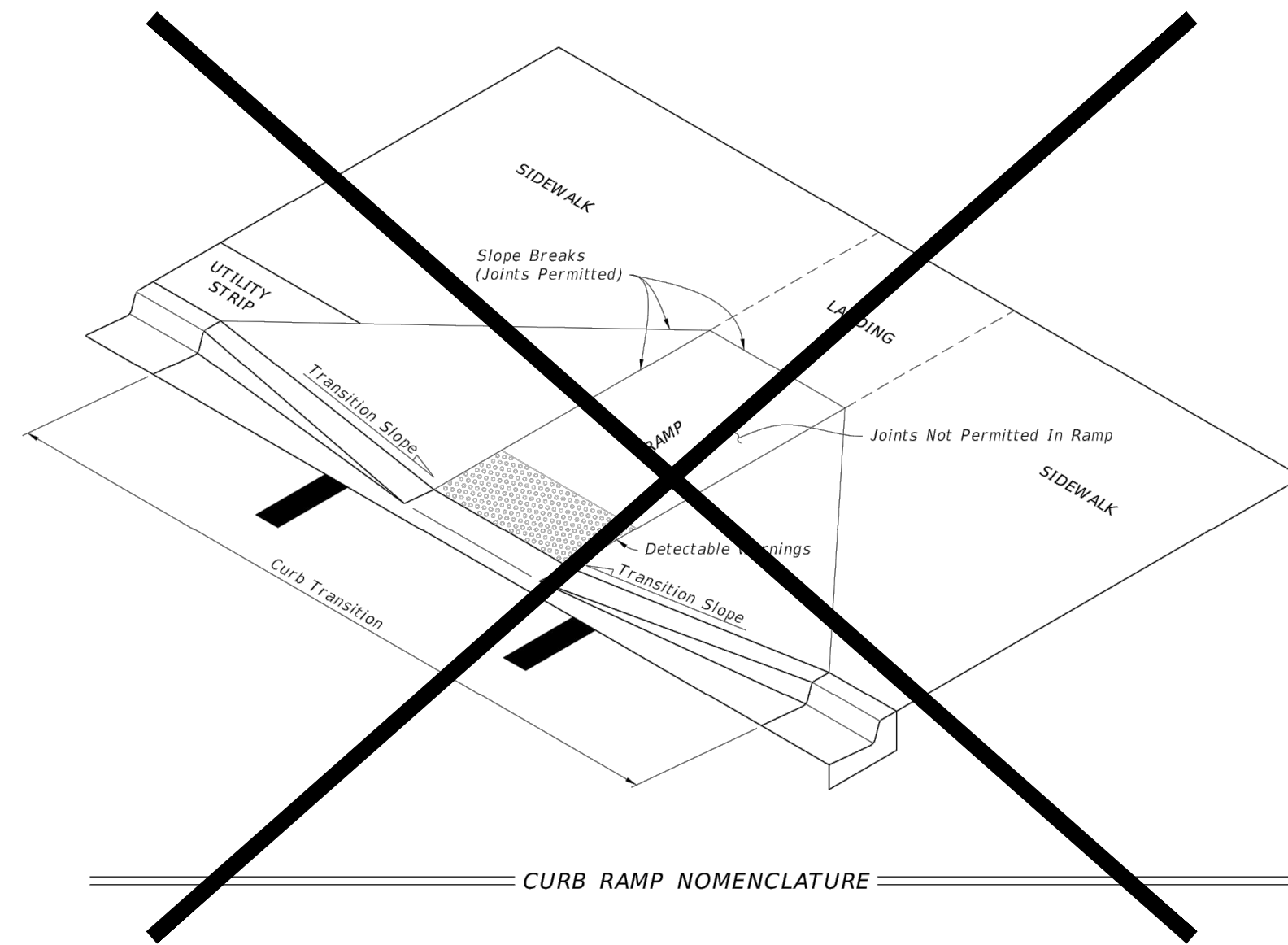


NOTE: REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DESIGNS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.

GENERAL NOTES:

- Cross Slopes and Grades:**
 - Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.
 - Landings must have cross-slopes less than or equal to 0.02 in any direction.
 - Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
 - Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.
- Grade Breaks:**

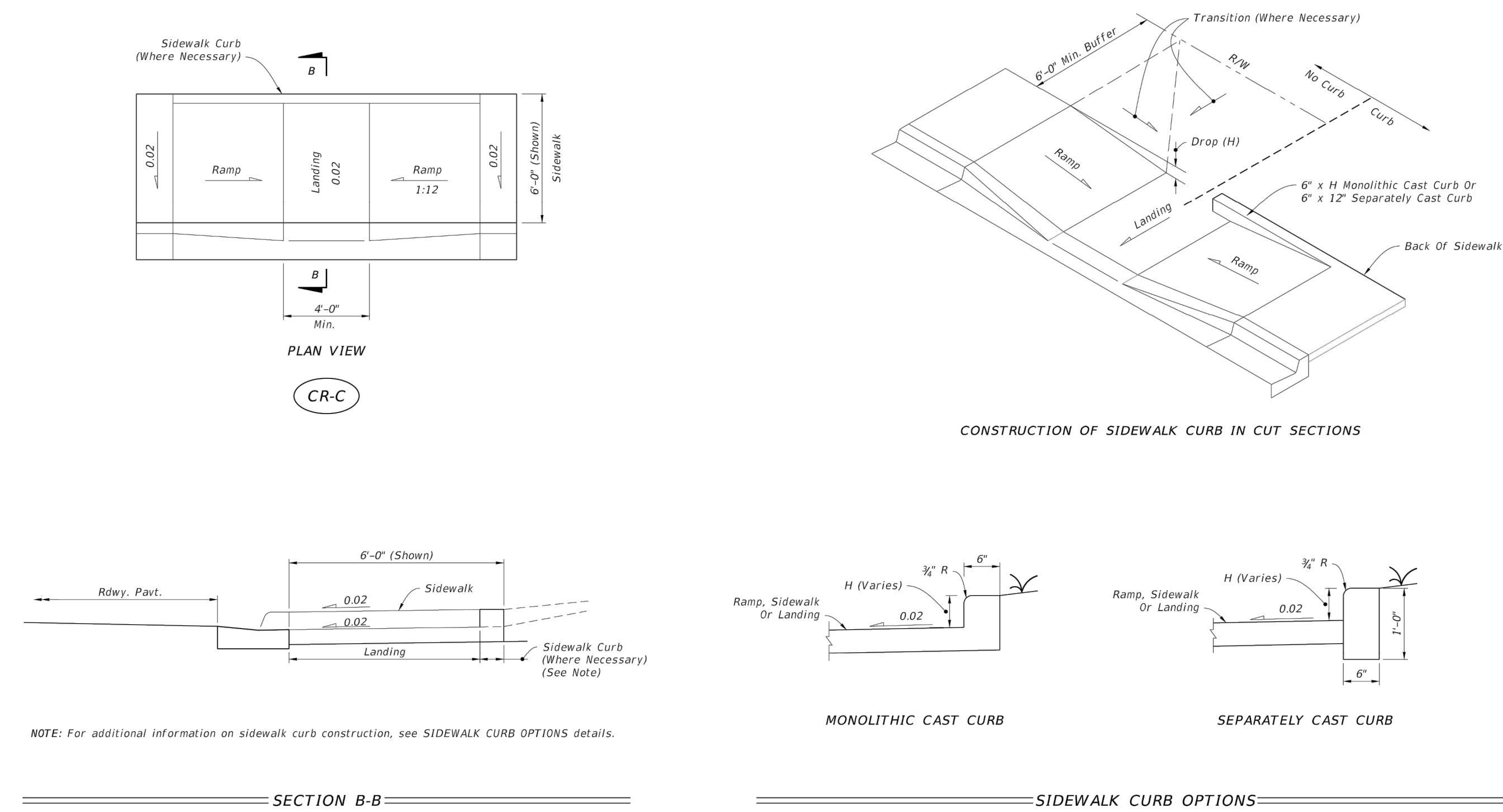
Grade breaks at the top and bottom of ramps must be parallel to each other and perpendicular to the direction of the ramp slope.
- Curb, Curb and Gutter and/or Sidewalk:**
 - Refer to Index 522-001 for concrete thickness and sidewalk details.
 - Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.
- Curb Ramp Alpha-Identification:**
 - Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
 - Alpha-identifications CR-I and CR-J are intentionally omitted.
- Detectable Warnings:**
 - Install detectable warnings in accordance with Specification 527.
 - Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
 - If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.
- Detectable Warnings - Acceptance Criteria:**
 - Color and texture shall be complete and uniform.
 - 90% of individual truncated domes shall be in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
 - There shall be no more than 4 non-compliant domes in any one square foot.
 - Non-compliant domes shall not be adjacent to other non-compliant domes.
 - Surfaces shall not deviate more than 0.10" from a true plane.



SIDEWALK CURB RAMPS CR-A AND CR-B

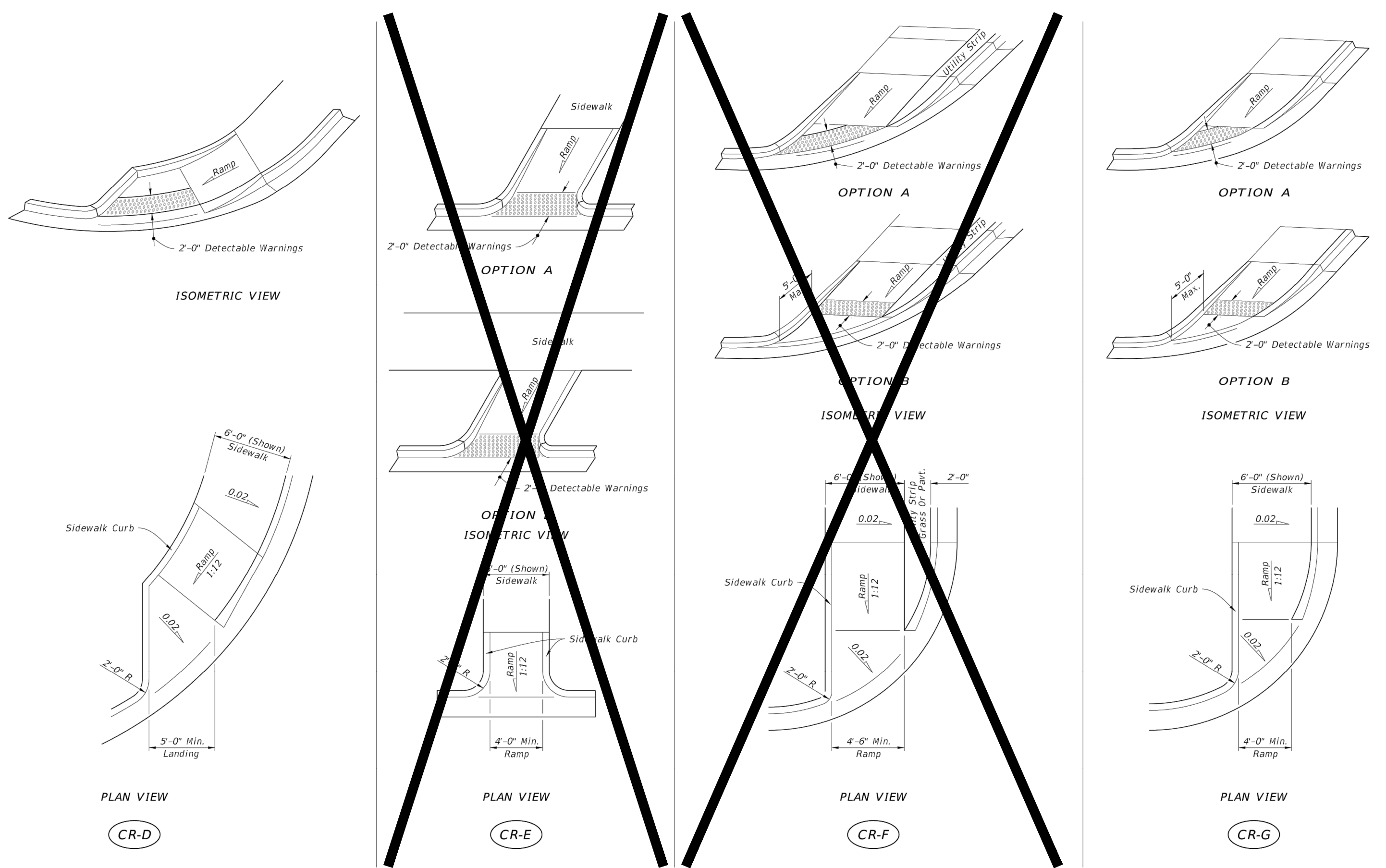
LAST REVISION 11/01/18	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 1 of 8
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LAST REVISION 11/01/18	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 2 of 8
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SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB

LAST REVISION 11/01/18	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 3 of 8
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SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION 11/01/18	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 4 of 8
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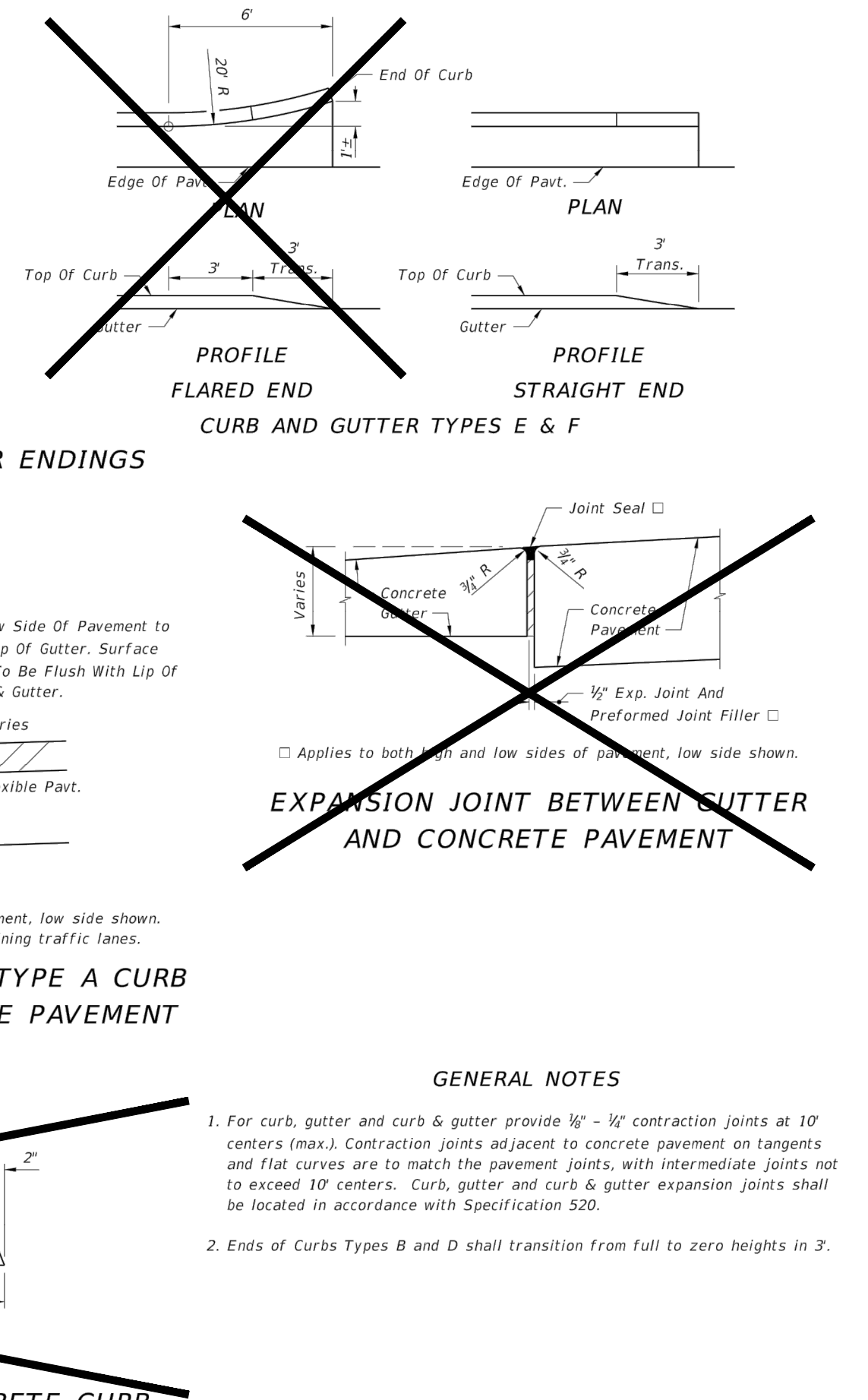
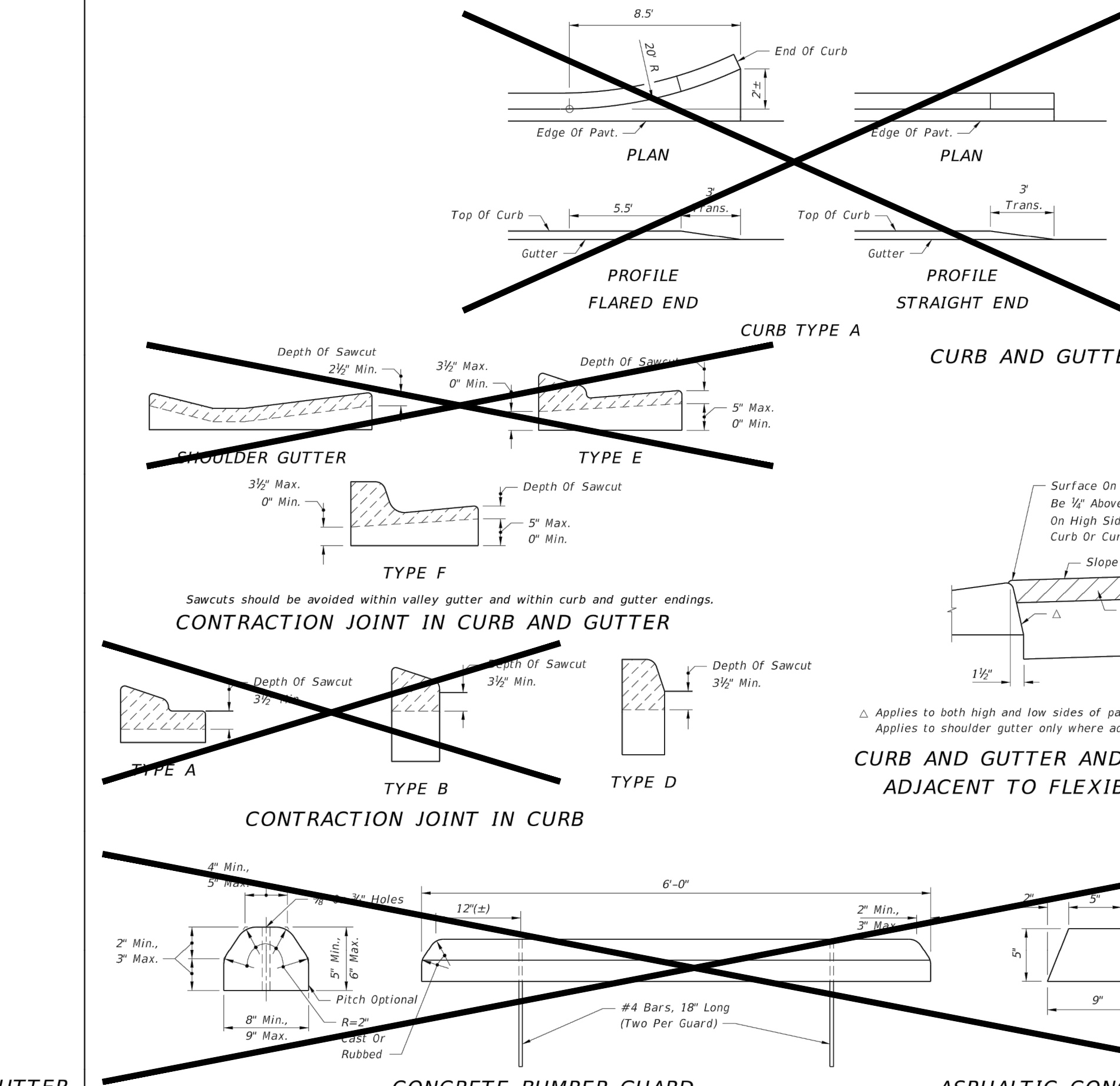
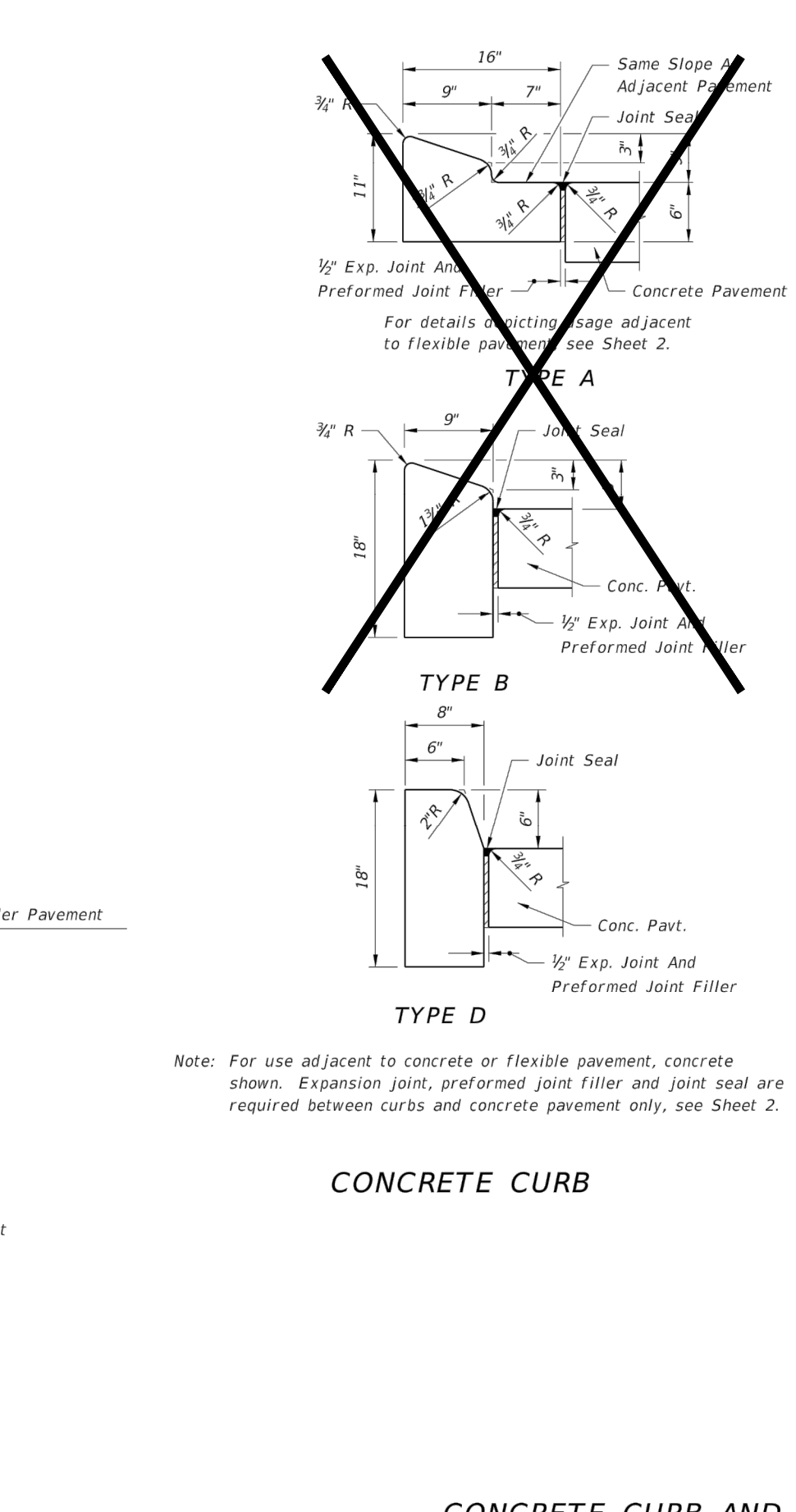
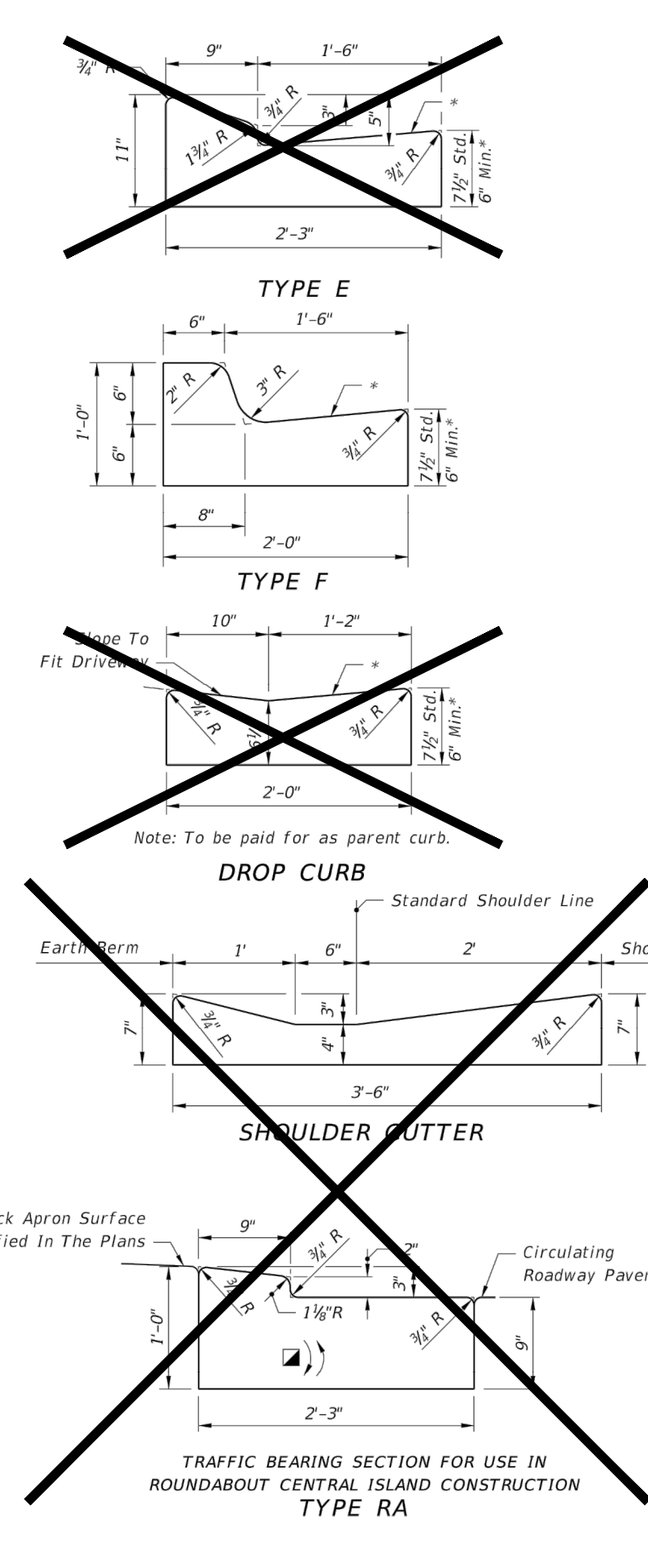
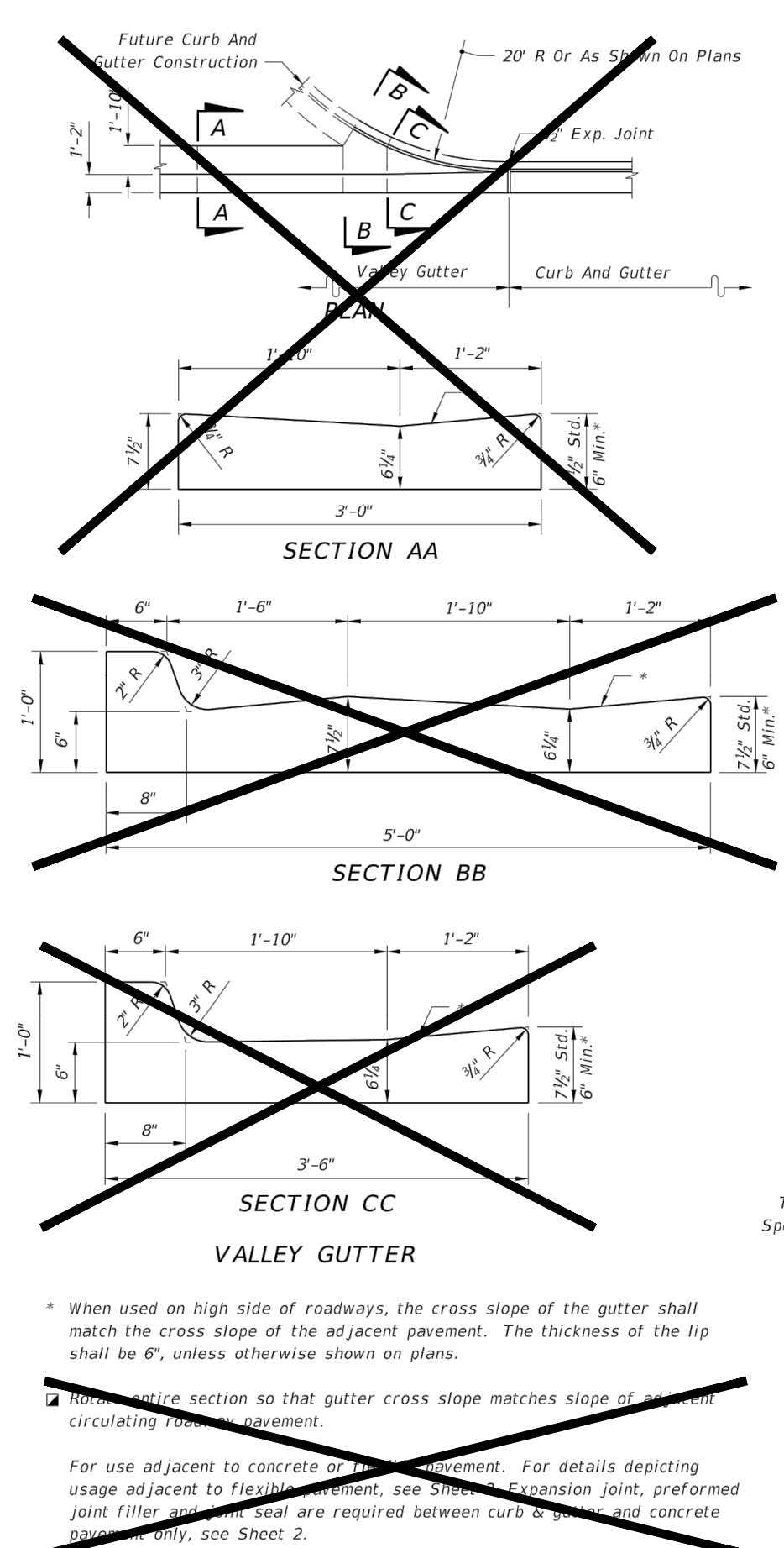
L. LEONARD, P.E. FL LICENSE NO. 61737	PLAN STATUS
05-29-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS

DATE	DESCRIPTION
LL	GC/JB GMB
DESIGN	DRAWN CHKD
SCALE	AS SHOWN
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-P000
D4	
SHEET	

NOTE:
REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DETAILS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.

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GENERAL NOTES

1. For curb, gutter and curb & gutter provide 1/8" - 1/2" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers. Curb, gutter and curb & gutter expansion joints shall be located in accordance with Specification 520.
2. Ends of Curbs Types B and D shall transition from full to zero heights in 3'.

LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2019-20 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 1 of 2	LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2019-20 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 2 of 2
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NOTE:
 REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DETAILS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.

PAVING AND DRAINAGE

IT IS INTENDED THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION "DESIGN STANDARDS" LATEST EDITION, BE USED WHERE APPLICABLE FOR VARIOUS WORK, AND THAT WHERE SUCH WORDING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORDING IS INTENDED TO BE REPLACED WITH THAT WORDING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND "DESIGN STANDARDS" AS THE "STANDARD SPECIFICATIONS" FOR THIS PROJECT.

IF WITHIN THAT PARTICULAR SECTION ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE A PART OF THE "STANDARD SPECIFICATIONS" ALSO.

ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.

- THE CONTRACTOR SHALL GIVE THE ENGINEER AT LEAS 48 HOURS NOTICE PRIOR TO REQUESTING REQUIRED CONSTRUCTION OBSERVATIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.
- THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION, DURING WHICH TIME ALL FAULTY CONSTRUCTION AND/OR MATERIALS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING ABOVE-GROUND, UNDERGROUND, AND ON THE SURFACE STRUCTURES AND UTILITIES AGAINST THE CONSTRUCTION OPERATION THAT MAY CAUSE DAMAGE TO SAID FACILITIES.
- THE LOCATIONS AND SIZES OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION SIZE AND MATERIAL OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL GIVE ADEQUATE NOTIFICATION TO ALL AFFECTED UTILITY OWNERS FOR REMOVAL, RELOCATION AND ALTERATION OF THEIR EXISTING FACILITIES.
- STREET OR HIGHWAY RESTORATION WORK IS TO BE DONE AS PER THE LOCAL OR STATE AGENCY HAVING JURISDICTION.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
- TRAFFIC CONTROL ON ALL CITY, COUNTY AND STATE HIGHWAY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUALS OF CONTROL MANUALS (MUTCD), (MUT/PA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN A CONFLICT BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS IS DISCOVERED DURING THE COURSE OF CONSTRUCTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE PRIOR TO BIDDING THE WORK AND TO PERFORM SUCH SURVEYS AS HE DEEMES NECESSARY TO SATISFY HIMSELF AS TO ACTUAL SURFACE AND SUBSURFACE CONDITIONS EXISTING AT THE SITE. ACTUAL CONDITIONS THAT DIFFER FROM THOSE SHOWN ON DRAWINGS SHALL NOT CONSTITUTE A BASIS FOR ADDITIONAL PAYMENT.
- ALL ELEVATIONS REFER TO N.A.V.D. 1988 DATUM, UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS ETC.) WILL REQUIRE A DEWATERING PERMIT FROM THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- ANY CHANGES DUE TO FIELD CONDITIONS OR ANY OTHER DEVIATIONS FROM THE APPROVED DRAWINGS MUST BE APPROVED BY THE ENGINEER AND THE GOVERNING AUTHORITY HAVING JURISDICTION PRIOR TO BEING CONSTRUCTED.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS HAVING FACILITIES IN THE AREA WITHIN AND ADJACENT TO THE PROPOSED CONSTRUCTION AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES: ONE (1) SET OF "APPROVED" CONSTRUCTION DRAWINGS, ONE (1) COPY OF THE APPLICABLE UTILITY COMPANY'S "MINIMUM DESIGN AND CONSTRUCTION STANDARDS", ONE (1) COPY OF ALL CONTRACT DOCUMENTS AND, ONE (1) COPY OF ALL APPLICABLE LOCAL, STATE AND FEDERAL PERMITS REQUIRED FOR CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN AT THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT ALL SCHEDULED CONSTRUCTION OBSERVATION MEETINGS.

SEDIMENTATION AND EROSION CONTROL:

PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED TO RETAIN SEDIMENT ON SITE AND TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. SEDIMENTATION AND EROSION CONTROL FEATURES MAY INCLUDE, BUT ARE NOT LIMITED TO, SILT FENCES, SILTATION BARRIERS, GEOTEXTILE FILTER BARRIERS, TURBIDITY SCREENS AND SEDIMENTATION BASINS. CONSTRUCTION AND MAINTENANCE OF SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH SECTION 104 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FOR THE DURATION OF CONSTRUCTION.

STORMWATER RETENTION/DETENTION FACILITIES SHALL BE EXCAVATED AND ROUGH GRADED PRIOR TO BUILDING CONSTRUCTION OR CONSTRUCTION OF IMPERVIOUS SURFACES WITHIN THE AREA SERVED BY THOSE RETENTION/DETENTION FACILITIES. DRY DETENTION AREAS SHALL INITIALLY BE ROUGH GRADED TO APPROXIMATELY 6" ABOVE THEIR FINISHED GRADE. FINAL GRADING (TO DESIGN ELEVATION) SHALL BE DONE JUST BEFORE FINAL STABILIZATION. ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT EROSION PRIOR TO FINAL GRADING AND STABILIZATION OF THE RETENTION/DETENTION FACILITIES.

STABILIZATION MEASURES, INCLUDING BUT NOT LIMITED TO, SODDING OR SEEDING AND MULCHING, SHALL BE INITIATED FOR SEDIMENTATION AND EROSION CONTROL ON ALL DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. THE CONTRACTOR SHALL INSPECT ALL SEDIMENTATION AND EROSION CONTROL MEASURES DAILY DURING CONSTRUCTION. ANY DEFICIENCIES SHALL BE IMMEDIATELY CORRECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY OFF SITE WATER QUALITY IMPACTS OR OTHER ADVERSE IMPACTS DUE TO SEDIMENTATION AND EROSION FROM THE PROJECT SITE DURING CONSTRUCTION.

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CLEARING AND GRUBBING:

ALL TREES, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH AND ALL OTHER OBSTRUCTIONS RESTING ON OR LYING WITHIN 12" BELOW FINISHED GRADE OR SUBGRADE SHALL BE COMPLETELY REMOVED FOR THE FULL WIDTH OF ALL ROAD RIGHT-OF-WAYS, ROAD EASEMENTS, SWALES, UTILITY EASEMENTS AND DRAINAGE EASEMENTS. ALL WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. CLEARING AND GRUBBING AREAS TO BE INSPECTED AND APPROVED PRIOR TO PLACEMENT OF ANY FILL OR CONSTRUCTION WORK. ALL MATERIAL FROM CLEARING AND GRUBBING SHALL BE REMOVED AND LEGALLY DISPOSED OF.

BURNING:

BURNING IS NOT ALLOWED.

EXCAVATION:

THE CONTRACTOR SHALL PERFORM ALL EXCAVATION NECESSARY TO ACCOMPLISH THE CONSTRUCTION INDICATED ON THE DRAWINGS. EXCAVATION SHALL BE UNCLASSIFIED REGARDLESS OF MATERIAL ENCOUNTERED. ALL EXCAVATED MATERIAL NOT REQUIRED FOR FILL OR EMBANKMENT, SHALL BE REMOVED FROM THE SITE, AS DIRECTED BY THE OWNER, OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL DO ALL SHORING NECESSARY TO PERFORM AND PROTECT THE EXCAVATION, AND AS NECESSARY FOR THE SAFETY OF THE WORKERS AND ANY EXISTING FACILITIES IN ACCORDANCE WITH THE STATE OF FLORIDA "TRENCH SAFETY ACT", WHEREVER EXCAVATIONS ARE MADE BELOW THE GRADES INDICATED ON THE DRAWINGS, CLEAN FIRM MATERIAL APPROVED BY THE ENGINEER SHALL BE USED TO RESTORE THE AREA TO THE PROPER GRADE, AND SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS FOR COMPACTION INCLUDED IN THESE SPECIFICATIONS.

UNSUITABLE MATERIAL:

WHERE MUCK, ROCK, CLAY, ORGANIC MATERIAL OR OTHER DELETERIOUS MATERIAL WITHIN THE LIMITS OF CONSTRUCTION IS, IN THE OPINION OF THE ENGINEER, UNSUITABLE IN ITS ORIGINAL POSITION, THE CONTRACTOR SHALL EXCAVATE SUCH MATERIAL, AND BACKFILL THE EXCAVATED AREA WITH SUITABLE MATERIAL, WHICH SHALL BE COMPACTED AND SHAPED TO CONFORM TO THE REQUIRED SECTION. BACKFILL MATERIAL AND COMPACTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS INCLUDED IN THESE SPECIFICATIONS.

SELECT FILL:

A. THIS WORK SHALL CONSIST OF FURNISHING AND PLACING THE MATERIALS REQUIRED FOR FILL OR EMBANKMENT FOR THE CONSTRUCTION AS SHOWN ON THE DRAWINGS. THE MATERIAL USED FOR EMBANKMENT SHALL BE CLEAN UNIFORM FREE DRAINING GRANULAR SOIL CONSISTING OF SAND, GRAVEL, OR A MIXTURE THEREOF, AND/OR OTHER SUITABLE MATERIAL APPROVED BY THE ENGINEER. IF THE MATERIAL IS OF A VARIABLE QUALITY, THE CONTRACTOR SHALL PLAN HIS OPERATIONS SO THAT THE UPPER TWO FEET OF THE FILL IS CONSTRUCTED OF SELECTED MATERIALS AS APPROVED AND DIRECTED BY THE ENGINEER.

B. PRIOR TO PLACING ANY FILL, THE SURFACE TO RECEIVE THE FILL, SHALL BE PLOWED OR SCARIFIED. FILL SHALL BE PLACED IN SUCCESSIVE UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12"), MEASURED LOOSE, OR AS APPROVED BY THE ENGINEER. EACH LAYER SHALL BE COMPACTED BY AN APPROVED METHOD IN ACCORDANCE WITH THE REQUIREMENTS FOR COMPACTION INCLUDED IN THESE SPECIFICATIONS. THE COMPACTION SHALL BE VERIFIED THROUGH TESTING AS INDICATED IN THE TESTING SPECIFICATIONS.

BACKFILL:

ALL BACKFILL MATERIAL SHALL BE CLEAN, UNIFORM, FREE DRAINING SOIL AND FREE OF LUMBER, TRASH OR OTHER DEBRIS, AND SHALL BE THOROUGHLY COMPACTED IN LAYERS NOT TO EXCEED TWELVE INCHES (12"), MEASURED LOOSE AND BROUGHT TO AN ELEVATION ABOVE THE FINISHED GRADE, SUFFICIENT TO ALLOW FOR SETTLEMENT. PRIOR TO PLACING BACKFILL, THE AREAS AROUND STRUCTURES UPON WHICH THE BACKFILL IS TO BE PLACED, SHALL BE CLEANED OF ALL TRASH AND DEBRIS OF ANY NATURE. SHEETING AND BRACING ALLOWED TO BE LEFT IN PLACE SHALL BE CUT OFF A MINIMUM OF 2.5 FEET BELOW FINISHED GRADE. COMPACTION FOR EACH LIFT SHALL BE EQUAL TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

EMBANKMENT GRADING:

THE CONTRACTOR SHALL PERFORM ALL NECESSARY GRADING TO ACHIEVE THE FINISHED GRADING AS PER THE DRAWINGS. ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH THESE SPECIFICATIONS.

COMPACTION:

ALL AREAS TO BE COMPACTED SHALL BE MOISTENED AND COMPACTED BY TAMPING OR USE OF VIBRATORY ROLLERS, VIBRATORY PLATE COMPACTORS OR ANY OTHER METHOD APPROVED BY THE ENGINEER IN ORDER TO OBTAIN THE REQUIRED DENSITY. WHERE USE OF VIBRATORY EQUIPMENT MAY AFFECT ADJACENT STRUCTURES, COMPACTION SHALL BE PERFORMED USING OTHER EQUIPMENT THAT WILL SATISFY THE DENSITY REQUIREMENTS WITHOUT DAMAGING EXISTING STRUCTURES. THE CONTRACTOR SHALL INSPECT ALL COMPACTED AREAS PRIOR TO FURTHER CONSTRUCTION OPERATIONS, TO ENSURE THAT SATISFACTORY COMPACTION HAS BEEN OBTAINED. ALL EMBANKMENT, INCLUDING BACKFILL AND EMBANKMENT ADJACENT TO STRUCTURES, SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 100 PERCENT (100%) OF THE MAXIMUM DENSITY, AS DETERMINED BY AASHTO T-99.

THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO COMPACTION IN AREAS AROUND STRUCTURES AND OTHER FEATURES WHERE ACCESS BY SELF PROPELLED VIBRATORY COMPACTORS MAY BE DIFFICULT.

BACKFILL AND COMPACTION WITHIN PIPE TRENCHES SHALL BE IN ACCORDANCE WITH THE TYPICAL TRENCH DETAIL SHOWN ON THE DRAWINGS. FLEXIBLE PIPE MATERIALS, ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 100 PERCENT (100%) OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99. FOR FLEXIBLE PIPE MATERIALS, ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT (95%) OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

REQUIRED DENSITY TESTS SHALL BE MADE AT THE EXPENSE OF THE CONTRACTOR. THE TESTING LABORATORY SHALL FORWARD COPIES OF ALL TEST REPORTS TO THE ENGINEER, CONTRACTOR, AND OWNER.

STABILIZED SUBGRADE:

STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO THE LIMEROCK BEARING RATIO AS PER THE DRAWINGS FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, AND IN ACCORDANCE WITH SECTION 160 OF THE STANDARD SPECIFICATIONS FOR TYPE C STABILIZATION. THE STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO A LIMEROCK BEARING RATIO (LBR) OF NOT LESS THAN 40 AND SHALL BE COMPACTED TO NOT LESS THAN 98% OF THE MAXIMUM DENSITY AS DETERMINED BY MODIFIED PROCTOR ASTM D-1557.

COMPACTED SUBGRADE:

COMPACTED SUBGRADE SHALL BE CONSTRUCTED TO THE DEPTH AND LIMITS SHOWN ON THE DRAWINGS. ALL COMPACTED SUBGRADE SHALL BE QUALIFIED TO NOT LESS THAN 98% OF THE MAXIMUM DENSITY AS DETERMINED BY MODIFIED PROCTOR ASTM D-1557.

ROCK BASE:

ROCK BASE SHALL BE CONSTRUCTED OF EITHER LIMEROCK MATERIAL OR CEMENTED COQUINA SHELL MATERIAL IN ACCORDANCE WITH SECTION 911OF THE STANDARD SPECIFICATIONS.

LIMEROCK BASE AND CEMENTED COQUINA SHELL BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL PROVIDE ROCK PIT CERTIFICATION FOR CEMENTED COQUINA SHELL MATERIAL.

ROCK BASE SHALL BE CONSTRUCTED TO THE DEPTH AND LIMITS AS SHOWN ON THE DRAWINGS. THE ROCK BASE MATERIAL SHALL HAVE A LIMEROCK BEARING RATIO (LBR) OF NOT LESS THAN 100. THE ROCK BASE SHALL BE COMPACTED TO NOT LESS THAN 98% OF THE MAXIMUM DENSITY AS DETERMINED BY MODIFIED PROCTOR ASTM D-1557. A PRIME COAT AND SAND SEAL SHALL BE APPLIED TO THE ROCK BASE AFTER CONSTRUCTION OBSERVATION AND APPROVAL BY THE ENGINEER.

PRIME AND TACK COAT:

A BITUMINOUS PRIME COAT SHALL BE APPLIED TO THE ROCK BASE. PRIME COAT SHALL BE CUT BACK ASPHALT GRADE RC-70 OR RC-250 APPLIED AT A RATE OF NOT LESS THAN 0.10 GALLONS PER SQUARE YARD. THE PRIME COAT SHALL BE COVERED WITH SAND FREE FROM ANY APPRECIABLE AMOUNT OF SILT, CLAY, TRASH OR ORGANIC MATTER. A TACK COAT, WHERE SPECIFIED ON THE DRAWINGS, SHALL BE EMULSIFIED ASPHALT GRADES RS-1 AND RS-2 APPLIED AT A RATE OF BETWEEN 0.02 AND 0.08 GALLONS PER SQUARE YARD.

CONSTRUCTION OF THE PRIME AND TACK COATS SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS. BITUMINOUS MATERIALS FOR THE PRIME AND TACK COATS SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS.

ASPHALTIC CONCRETE SURFACE COURSE (A.C.S.C.):

THE A.C.S.C. SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE DRAWINGS, IN ACCORDANCE WITH SECTIONS 320 AND 334 OF THE STANDARD SPECIFICATIONS. A.C.S.C. SHALL HAVE A MARSHALL STABILITY OF NOT LESS THAN 1,500 LBS. BITUMINOUS MATERIAL SHALL BE ASPHALT CEMENT VISCOSITY GRADE AC-20 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TESTING:

THE CONTRACTOR SHALL PROVIDE THE SPECS AND SCOPE OF SERVICES FOR THE INDEPENDENT TESTING LABORATORY TO CONDUCT ALL REQUIRED TESTS. THE ENGINEER SHALL BE PRESENT FOR ALL TESTING. THE CONTRACTOR SHALL GIVE THE ENGINEER AT LEAST FORTY-EIGHT (48) HOURS NOTICE PRIOR TO ANY SCHEDULED TESTING. TEST RESULTS MUST BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL CERTIFICATION OF ANY REQUEST FOR PAYMENT ON THE DRAWINGS. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR REQUIREMENTS WITHIN LIMITS OF BUILDING PADS.

THE SCHEDULE FOR TESTING OF ROADWAY AND PARKING CONSTRUCTION SHALL BE AS FOLLOWS:

A. SUBGRADE:

1. SAMPLES OF SUBGRADE MATERIAL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 5,000 SF, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS. LIMEROCK BEARING RATIO (LBR) TESTS SHALL BE PERFORMED ON A COMPOSITE OF SAMPLES OF SUBGRADE MATERIALS, CONSISTING OF MATERIAL FROM FOUR (4) CONSECUTIVE SAMPLES, SUCH THAT ONE (1) LBR TEST IS PERFORMED AT INTERVALS OF NOT MORE THAN 40,000 SQUARE FEET.

2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 5000 SQUARE FEET OR CLOSER AS MIGHT BE NECESSARY.

B. BASE:

1. SAMPLES OF BASE MATERIAL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 5,000 SF, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS. LIMEROCK BEARING RATIO (LBR) TESTS SHALL BE PERFORMED ON A COMPOSITE OF SAMPLES OF BASE MATERIALS, CONSISTING OF MATERIAL FROM FOUR (4) CONSECUTIVE SAMPLES, SUCH THAT ONE (1) LBR TEST IS PERFORMED AT INTERVALS OF NOT MORE THAN 40,000 SQUARE FEET.

2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 10,000 SF OR CLOSER AS MIGHT BE NECESSARY.

NOTE: A "NON-SOAKED" LBR TEST MAY BE USED IN LIEU OF A "STANDARD" (SOAKED) LBR TEST, PROVIDED THAT THE REQUIREMENT FOR ACCEPTANCE IS INCREASED BY 5 UNITS. I.e. "STANDARD" LBR=40, "NON-SOAKED" LBR=45

C. SELECT FILL

1. REPRESENTATIVE SAMPLES OF SELECT FILL MATERIAL SHALL BE TAKEN FOR EACH SOIL TYPE TO BE USED FOR FILL. AT MINIMUM, EACH SAMPLE SHALL BE TESTED TO DETERMINE GRADATION, CLASSIFICATION AND MAXIMUM DRY DENSITY. ADDITIONAL TESTING MAY BE REQUIRED AS INDICATED HEREIN OR AS DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

D. REPORTS

1. ALL SAMPLES TAKEN SHALL UNIQUELY NUMBERED
 2. ALL FIELD DENSITY TESTS SHALL REFER TO UNIQUELY NUMBERED SAMPLES FOR DETERMINATION OF ADEQUATE COMPACTION.
 3. THE GEOTECHNICAL ENGINEER SHALL RECORD THE LOCATION OF EACH TEST ON A COPY OF THE SITE PLAN, ALONG WITH THE EXTENT OF THE FILL PLACED.

IF ANY TEST INDICATES THAT THE WORK DOES NOT MEET THE SPECIFICATIONS, THE SUBSTANDARD AREA SHALL BE REWORKED OR CORRECTED AND RE-TESTED. AT THE CONTRACTOR'S EXPENSE, UNTIL THE PROVISIONS OF THESE SPECIFICATIONS ARE MET, ALL FAILING TESTS SHALL BE PAID FOR BY THE CONTRACTOR.

MILLING:

MILLING OF EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 327 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN FOR REVIEW AND APPROVAL, PRIOR TO SCHEDULING AND MILLING.

CONCRETE:

UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA.

CONCRETE CURB:

CONCRETE CURB, CURB AND CUTTER, VALLEY GUTTER AND HEADER CURB SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI.

CONCRETE SIDEWALK:

CONCRETE SIDEWALK SHALL BE CONSTRUCTED TO THE DEPTH AND LIMITS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED OR INDICATED. ALL CONCRETE FOR SIDEWALK CONSTRUCTION SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF AT 28 DAYS OF 3000 PSI. CONTRACTION JOINTS SHALL BE SAW CUT AT 5' SPACING OR AS SHOWN ON THE DRAWING. SIDEWALKS WILL HAVE A "BROOM FINISH".

CURING:

WHITE PIGMENTED CURING COMPOUND IN ACCORDANCE WITH SECTION 925 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL EXPOSED CONCRETE IMMEDIATELY UPON FINISHING OF CONCRETE OR IMMEDIATELY AFTER REMOVAL OF FORMS. CURING COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.

JOINTING – GENERAL

JOINTS MAY BE FORMED IN THE PLASTIC CONCRETE OR SAWED AFTER THE CONCRETE HAS HARDENED AND SHALL BE TO A DEPTH OF 1/4 THE THICKNESS OF PAVEMENT. FORMED JOINTS MAY BE CONSTRUCTED BY DEPRESSING AN APPROVED TOOL INTO THE PLASTIC MATERIAL. SAWING OF JOINTS SHALL BEGIN AS SOON AS THE PAVEMENT HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE TRAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS.

CONSTRUCTION JOINTS:

ALL LONGITUDINAL JOINTS MAY BE CONSTRUCTION JOINTS AT THE CONTRACTOR'S OPTION. TRANSVERSE CONSTRUCTION JOINTS SHALL BE INSTALLED WHENEVER THE PLACING OF CONCRETE IS SUSPENDED A SUFFICIENT LENGTH OF TIME THAT THE CONCRETE MAY BEGIN TO HARDEN.

DRAINAGE – GENERAL:

STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 430 AND RELATED SECTIONS OF THE "STANDARD SPECIFICATIONS" OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

STORM INLETS AND MANHOLES SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH SECTION 425 OF THE "STANDARD SPECIFICATIONS". ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40 FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.

ALL INLETS, MANHOLES, AND PIPE SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEM BY USE OF TEMPORARY PLUGS, PLYWOOD OR PLASTIC COVERS OR USE OF GEOTEXTILE FILTER FABRIC. THE ENTIRE DRAINAGE SYSTEM SHALL BE CLEANED OF ALL DEBRIS PRIOR TO FINAL INSPECTION AND CERTIFICATION.

PRECAST INLETS AND MANHOLES:

ALL STORM DRAINAGE INLETS AND MANHOLES SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 425 OF THE "STANDARD SPECIFICATIONS" AND THE DETAILS SHOWN ON THE DRAWINGS. TYPE II PORTLAND CEMENT SHALL BE USED IN THE CONCRETE MIX. CONCRETE FOR PRECAST STRUCTURES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 PSI.

MANUFACTURER'S SHOP DRAWINGS FOR PRECAST DRAINAGE INLETS AND MANHOLES SHALL BE REVIEWED BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW THE ENGINEER A MINIMUM OF FIVE (5) WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.

CULVERT PIPES:

REINFORCED CONCRETE PIPE (RCP) SHALL BE IN ACCORDANCE WITH SECTION 941 OF THE "STANDARD SPECIFICATIONS".

CORRUGATED POLYETHYLENE PIPE (CPEP) SHALL BE IN ACCORDANCE WITH SECTION 948 OF THE "STANDARD SPECIFICATIONS".

POLYVINYL-CHLORIDE PIPE (PVC) SHALL BE IN ACCORDANCE WITH SECTION 947 OF THE "STANDARD SPECIFICATIONS".

THE CONTRACTOR SHALL COMPLETELY WRAP ALL PIPE JOINTS AND ALL PIPE CONNECTIONS INTO STRUCTURES WITH GEOTEXTILE FILTER FABRIC. FILTER FABRIC TO BE SECURED AROUND PIPE WITH BANDS SUITABLE FOR THE PIPE MATERIAL USED.

DISTURBED AREAS:

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRASSED AS SPECIFIED IN THE STANDARD SPECIFICATIONS:

SODDING:

WITHIN THE LIMITS DELINEATED ON THE DRAWINGS, THE CONTRACTOR SHALL, AFTER FINAL GRADING AND CLEANUP, ESTABLISH A STAND OF GRASS BY FURNISHING AND PLACING SOG IN ACCORDANCE WITH SECTION 570 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL WATER THE SOGGED AREA TO MAINTAIN MOISTURE LEVELS FOR OPTIMUM GROWTH TO ASSURE A HEALTHY STAND OF GRASS. SOG SHALL BE BAHIA GRASS SOG UNLESS OTHERWISE SPECIFIED.

SEEDING:

WITHIN THE LIMITS DELINEATED IN THE DRAWINGS THE CONTRACTOR SHALL, AFTER FINAL GRADING AND CLEAN-UP, ESTABLISH A STAND OF GRASS BY SEEDING IN ACCORDANCE WITH SECTION 570 OF THE STANDAR SPECIFICATIONS. THE CONTRACTOR SHALL WATER THE SEEDED AREA(S) TO MAINTAIN MOISTURE LEVELS FOR OPTIMUM GROWTH TO ASSURE A HEALTHY STAND OF GRASS. SEED SHALL BE BAHIA GRASS UNLESS OTHERWISE SPECIFIED.

RECORD DRAWINGS:

THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON THE PROJECT SITE AT ALL TIMES WHICH SHALL BE ANNOTATED BY THE CONTRACTOR DEPICING ANY CHANGES MADE IN THE FIELD WHICH DIFFER FROM THE APPROVED CONSTRUCTION DRAWINGS. UPON COMPLETION OF CONSTRUCTION, BUT PRIOR TO FINAL INSPECTION AND CERTIFICATION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A REPRODUCIBLE MYLAR COPY AND AT LEAST THREE (3) BLUE LINE OR BLACK LINE COPIES OF THE RECORD DRAWINGS. THE RECORD DRAWINGS SHALL BE AT THE SAME SCALE AS THE APPROVED CONSTRUCTION DRAWINGS AND SHALL ACCURATELY DEPICT THE HORIZONTAL AND VERTICAL LOCATION OF ALL FACILITIES INCLUDING BUT NOT LIMITED TO:

- CULVERTS INCLUDING PIPE INVERT ELEVATIONS
- INLETS, MANHOLES, AND OTHER STRUCTURES INCLUDING DIMENSIONS, TOP, BOTTOM AND PIPE INVERT ELEVATIONS
- PAVEMENT FINISH GRADES
- PIPE AND UTILITY CROSSING INCLUDING ELEVATIONS AND HORIZONTAL AND VERTICAL CLEARANCE BETWEEN FACILITIES.

THE RECORD DRAWINGS SHALL BE PREPARED AND CERTIFIED BY A PROFESSIONAL SURVEYOR AND MAPPER LICENSED BY THE STATE OF FLORIDA.

CONSTRUCTION OBSERVATION:

MINIMUM CONSTRUCTION OBSERVATION CHECKPOINTS

- EROSION AND SEDIMENT CONTROL, PRIOR TO BEGINNING CONSTRUCTION
- CLEARING AND GRUBBING PRIOR TO PLACEMENT OF FILL OR BEGINNING CONSTRUCTION

III. DRAINAGE

- ALL MATERIALS
- DURING LAYING OF PIPE AND PRIOR TO BACKFILLING PIPE TRENCHES.
- COMPLETION OF ALL DRAINAGE STRUCTURES AND PIPE LAYING (PRIOR TO BACKFILL).
- CONSTRUCTION AND STABILIZATION OF LAKES, SWALES AND STORMWATER RETENTION/DETENTION AREAS
- SEEDING AND/OR SODDING WHERE EROSION IS EVIDENT OR WHERE DRAWINGS SO IDENTIFY

IV. UTILITIES

- ALL MATERIALS
- ALL PIPE LAYING PRIOR TO BACKFILL
- JACK AND BORING AND/OR DIRECTIONAL DRILLING
- RESTORATION
- INSPECTOR MUST SEE ALL CONFLICT CROSSING IF NOT PIPE WILL BE DUG UP SO SEPARATION MAY BE SEEN
- PRESSURE TESTING
- LAMPING AND/OR VIDEO OBSERVATION OF LINES
- PIPE/UTILITY CROSSINGS

V. CONCRETE

- COMPLETION OF FORMING FOR PAVEMENT, CURBING, SIDEWALK, RETAINING WALLS AND ALL OTHER CONCRETE STRUCTURES PRIOR TO PLACEMENT OF CONCRETE INCLUDING SOIL COMPACTION, SOIL CONDITION (DRY / WET) AND SOIL ELEVATION
- PLACING OF ALL CONCRETE
- APPLICATION OF APPROVED MOISTURE BARRIER

VI. PAVEMENT

- LINE AND GRADE
- SUB-GRADE (PRIOR TO PLAGING BASE MATERIAL)
- BASE (PRIOR TO PRIMING AND SAND SEAL)
- BASE (AFTER PRIMING, SAND SEAL AND BEFORE PLACING ASPHALT)
- ASPHALT OR CONCRETE (WHILE PAVING IS IN PROGRESS)

VII. TESTING

- SUB-GRADE
- BASE
- SURFACE COURSE
- COMPACTION

VIII. FINAL PROJECT OBSERVATION

GENERAL NOTES:

FOR THE PURPOSE OF THE GENERAL NOTES BELOW, THE TERM DEPARTMENT SHALL MEAN "MARTIN COUNTY UTILITIES & SOLID WASTE DEPARTMENT".

1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE OBSERVED BY THE DEPARTMENT. VALVES ON EXISTING MAINS SHALL BE OPERATED BY DEPARTMENT PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. TAPPING SLEEVES AND VALVE SHALL BE PRESSURE TESTED PRIOR TO TAPPING. IF SERVICE MUST BE CUT OFF TO EXISTING CUSTOMERS, THE DEPARTMENT MUST HAVE THREE DAYS NOTICE TO MAKE NECESSARY NOTIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO ASSIST IN NOTIFICATIONS. IN THIS EVENT THE CONTRACTOR SHALL BE REQUIRED TO PREPARE AS MUCH MATERIAL PREASSEMBLED AS POSSIBLE AT THE SITE TO MINIMIZE THE LENGTH OF SERVICE INTERRUPTION. THE DEPARTMENT WILL POSTPONE A SERVICE CUT OFF IF THE CONTRACTOR IS NOT READY TO PROCEED ON SCHEDULE. SUCH CONNECTIONS SHALL BE MADE AT NIGHT TO MINIMIZE EFFECTS UNLESS OTHERWISE AUTHORIZED BY THE DEPARTMENT. NO CUSTOMER SHOULD BE WITHOUT SERVICE FOR MORE THAN FOUR HOURS.

LOCAL CHLORINATION WILL BE REQUIRED FOR ALL PIPE AND FITTINGS USED TO COMPLETE CONNECTIONS WITH POTABLE WATER.

2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF MARTIN COUNTY UTILITIES MINIMUM DESIGN AND CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.

3. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

4. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

5. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO THE DEPARTMENT IN ADVANCE OF LAYOUT.

6. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT BY LETTER PRIOR TO THE PRE-CONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS. IN THE EVENT THE SUPERINTENDENT WILL NOT BE PRESENT FOR ANY PERIOD OF TIME DURING CONTRACT WORK THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO THE DEPARTMENT, INCLUDING THE APPOINTMENT OF A QUALIFIED REPLACEMENT SUPERINTENDENT WHO WILL BE PRESENT DURING CONSTRUCTION. WORK SHALL NOT BE ALLOWED TO PROCEED UNLESS THE ASSIGNED SUPERINTENDENT IS PRESENT.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE.

WARNING: EXACT LOCATION OF UNDERGROUND UTILITIES IS NOT KNOWN NOR IS THIS DRAWING TO BE CONSTRUED AS DEPICTING THE LOCATION OF ALL UNDERGROUND UTILITIES OR STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF LOCATION PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS RESPONSIBLE, THEREFORE, FOR ALL DAMAGE AND REPAIR COSTS.

GENERAL NOTES (Cont.):

8. DENSITY TESTS OF TRENCH BACKFILL MATERIAL SHALL BE REQUIRED AT INTERVALS OF NOT MORE THAN 500 FEET. DENSITY TESTS OF PAVEMENT OPEN-CUT AREAS INCLUDING ROADS, TURNLANES, AND DRIVES SHALL BE REQUIRED AT EACH OPEN-CUT AT INTERVALS OF NOT MORE THAN 50 FEET. ALL TESTS SHALL COMMENCE AT THE TOP OF CONDUIT AND EVERY 12 INCHES TO THE FINISH GRADE. COMPACTION SHALL BE IN ACCORDANCE WITH MARTIN COUNTY UTILITIES CONSTRUCTION STANDARDS "TYPICAL TRENCH DETAIL" AND "FLEXIBLE PAVEMENT REPLACEMENT DETAIL". FLORIDA BEARING TESTS FOR THE STABILITY OF EXISTING SUBSOIL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET, AND CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN THE STRATA. A CERTIFIED COPY OF THE TESTS SHALL BE PROVIDED TO THE DEPARTMENT AND THE FLORIDA DEPARTMENT OF TRANSPORTATION OR MARTIN COUNTY ENGINEERING DEPARTMENT DEPENDING ON JURISDICTION. CONTRACTORS BID PRICE SHALL INCLUDE PAYMENT FOR ALL TESTS CONDUCTED BY AN INDEPENDENT TESTING LAB.

9. ANY LANDSCAPING DISTURBED, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTORS EXPENSE.

10. ANY SIDEWALK, CURB AND GUTTER OR PAVEMENT DISTURBED, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE SPECIFIED OR INDICATED. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND ALL CONCRETE WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA. ALL CONSTRUCTION SHALL MEET ADA REQUIREMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, DETECTABLE WARNING SURFACES.

11. ALL SOD IS TO BE PLACED FOR THE FULL WIDTH DISTURBED AT THE PER LINEAR FOOT UNIT PRICE FOR SOD. SOD SHALL BE REPLACED TO MATCH EXISTING KIND UNLESS OTHERWISE SHOWN ON PLANS.

12. CONTRACTOR SHALL PROVIDE PROPER BENDS TO MAINTAIN REQUIRED DEPTH AND ALIGNMENT OF PIPE. COST OF BENDS NOT DESIGNATED ON PLANS SHALL BE INCLUDED WITH THE UNIT PRICE FOR PIPE.

13. ANY TREES AND/OR SCRUB OR OTHER VEGETATION NOT TO BE REPLACED SHALL BE REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.

14. ALL RUBBLE AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

15. MAILBOXES MUST BE CAPABLE OF RECEIVING MAIL AT ALL TIMES.

16. DEFLECT PIPE AS NECESSARY TO OBTAIN THE REQUIRED ALIGNMENT. USE APPROPRIATE FITTINGS WHEN DEFLECTION EXCEEDS 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

17. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED. REFER TO MARTIN COUNTY UTILITIES DEPARTMENT MINIMUM DESIGN & CONSTRUCTION STANDARDS (LATEST EDITION).

18. ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS, ETC.) WILL REQUIRE A DEWATERING PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO BEGINNING OF CONSTRUCTION.

19. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

20. A U-2 PERMIT IS REQUIRED FOR ALL WORK WITHIN COUNTY RIGHT-OF-WAY. THIS PERMIT MUST BE OBTAINED BY THE CONTRACTOR FROM THE MARTIN COUNTY ENGINEERING DEPARTMENT. ALL COSTS PAYABLE BY THE CONTRACTOR. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.

21. ALL CONCRETE AND ASPHALT DRIVES MUST BE REPLACED FROM SAW CUT TO EDGE OF PAVEMENT.

GENERAL NOTES (Cont.):

22. LOCATIONS OF FIRE HYDRANTS AND AIR RELEASE VALVES ARE APPROXIMATE ONLY. FINAL LOCATIONS WILL BE DETERMINED BY DEPARTMENT PERSONNEL IN FIELD.

23. MAXIMUM LENGTH OF WATER MAIN AND FORCE MAIN PRESSURE TEST SHALL BE 1500 FEET. WATER SOURCE FOR FLUSHING AND PRESSURE TESTING THE WATER MAIN SHALL BE FROM A TREATED SOURCE APPROVED BY THE DEPARTMENT.

24. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION (IF DAMAGED) OF ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO WALLS, FENCES, POWER POLES, MAIL BOXES, DRAINAGE PIPES AND STRUCTURES, ETC.

25. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING WATER SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE EXISTING WATER SERVICES FROM DAMAGE AND REPAIR ANY BREAKS IMMEDIATELY.

26. "RECORD DRAWINGS" SHALL INCLUDE FURNISHING MARTIN COUNTY UTILITIES DEPARTMENT WITH ALL INFORMATION NECESSARY FOR A COMPLETE SET OF RECORD DRAWINGS AS STIPULATED IN THE MARTIN COUNTY UTILITIES DEPARTMENT MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION).

27. MECHANICALLY RESTRAIN LENGTHS, AS INDICATED ON DRAWING No. 20, ON EACH SIDE OF ALL BENDS AND AS INSTRUCTED IN MARTIN COUNTY UTILITIES DEPARTMENT SPECIFICATIONS. MECHANICAL RESTRAINTS SHALL BE EITHER MEG-A-LUG, TYLER OR LINFLANGE. THE CONTRACTORS BID PRICE FOR PIPE, GATE VALVES AND FITTINGS SHALL INCLUDE MECHANICAL RESTRAINT.

28. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT UTILITIES AND SHORE TRENCH AS REQUIRED TO PROTECT AND MAINTAIN EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY EACH UTILITY PRIOR TO ATTEMPTING TO SUPPORT THEIR FACILITIES. IF THE UTILITY REQUIRES THAT ONLY THEIR CREWS SHALL BE ALLOWED TO SUPPORT THEIR FACILITIES, THEN IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK AND PAY THE UTILITY FOR THEIR EXPENSES IF REQUIRED. ALL COSTS FOR THIS WORK SHALL BE AT THE CONTRACTORS EXPENSE AND INCLUDED IN THE CONTRACTORS BID PRICE.

29. ALL PRESSURE TESTS SHALL BE IN ACCORDANCE WITH AWWA STANDARDS.

30. AIR RELEASE VALVE VAULT COVERS SHALL BE CONSTRUCTED PER DETAIL AS SHOWN IN THE DEPARTMENTS MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

31. ALL WATER SERVICES SHALL BE DIRECTIONALLY DRILLED UNDER EXISTING PAVEMENT.

32. VALVE STEM RISER SHALL BE REQUIRED WHERE OPERATING NUT DEPTH EXCEEDS 4 FEET. THE RISER SHALL BE BOLTED TO THE VALVE NUT. METHOD AND MATERIALS SHALL BE APPROVED BY THE DEPARTMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT PRICE FOR GATE VALVES.

33. THE CONTRACTOR SHALL CLEAN MAINS USING APPROVED POLYURETHANE FIG(S) TEMPORARY CLEANING STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CLEANING PLAN SHOWING METHOD OF FILLING AND CLEANING MAINS PRIOR TO START OF CONSTRUCTION. THE CLEANING PLAN SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION. ALL COSTS FOR FILLING AND CLEANING SHALL BE AT THE CONTRACTORS EXPENSE.

34. A FLORIDA DEPARTMENT OF TRANSPORTATION PERMIT IS REQUIRED FOR ALL WORK, EXCEPT PERPENDICULAR CONNECTIONS, WITHIN THE STATE RIGHT-OF-WAY. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.

35. THE CONTRACTOR SHALL INSTALL TESTING POINTS FOR PRESSURE & BACTERIOLOGICAL TESTING OF WATER MAINS. THE CONTRACTOR SHALL INSTALL AND REMOVE AND PLUG CORR. STOPS PER MARTIN COUNTY UTILITIES STANDARDS "SAMPLE POINT DETAIL". THE LOCATION OF TEST POINTS SHALL BE APPROVED BY THE DEPARTMENT.

GENERAL NOTES (Cont.):

36. WATER MAIN DISINFECTION SHALL BE IN ACCORDANCE WITH CURRENT AWWA, BULLETIN C-651.

37. WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH CURRENT AWWA, FDEP AND NSF STANDARDS.

38. MINIMUM COVER TO FINISHED GRADE OVER WATER MAINS SHALL BE 30 INCHES UP TO 8" DIAMETER; 10" OR LARGER SHALL HAVE 36" COVER OR GREATER TO PROVIDE A MINIMUM 18" COVER OVER OPERATING NUT OF GATE VALVES.

39. ALL MAINS SHALL BE TESTED FOR LEAKAGE. WATER SHALL BE SUPPLIED TO THE MAIN AND PUMPED TO THE REQUIRED 150 PSI PRESSURE. THE MAIN TESTED SHALL EITHER BE ISOLATED FROM PRESENTLY POTABLE LINES OR PROTECTED FROM LEAKAGE BY A DOUBLE VALVE ARRANGEMENT.

40. NEWLY CONSTRUCTED FIRE HYDRANTS THROUGHOUT THE PROJECT SHALL HAVE A RED "OUT OF SERVICE" DISK (JOSEPH G. POLLARD CO. OR EQUAL) ATTACHED TO 4" PUMPER NOZZLE CAP. DISK TO BE REMOVED AFTER WATER SYSTEM HAS BEEN APPROVED FOR SERVICE BY THE DEPARTMENT.

THE DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY TESTING PROCEDURES. AFTER FLUSHING IS COMPLETED, LINE PRESSURE SHALL BE APPLIED TO THE WATER SYSTEM TO DETERMINE IF ANY MAJOR DEFECTS ARE PRESENT. THE COMPLETE WATER SYSTEM SHALL THEN BE TESTED AT A PRESSURE OF 150 PSI FOR A PERIOD OF NOT LESS THAN TWO HOURS. THE DEPARTMENT MAY, AT ITS DISCRETION, INCREASE THE PERIOD TO FOUR HOURS. MAXIMUM LENGTH OF LINE TO BE TESTED AT ONE TIME SHALL NOT EXCEED 1500 LINEAR FEET. AN OIL FILLED PRESSURE GAUGE UP TO 200 PSI AT 2" POUND INCREMENTS SHALL BE USED FOR ALL PRESSURE TESTS. NO VISIBLE MOVEMENT OF THE SYSTEM SHALL OCCUR AND LEAKAGE SHALL NOT EXCEED:

$$L = \frac{ND\sqrt{P}}{7400} \text{ PER HOUR}$$

WHERE: L = LEAKAGE IN GALLONS
N = NUMBER OF JOINTS IN TEST SECTION
P = TEST PRESSURE IN PSI
D = DIAMETER OF PIPE IN INCHES

NOTE: MARTIN COUNTY UTILITIES DEPARTMENT'S MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION), ARE TO BE ADHERED TO AND WILL BE ENFORCED TO AT LEAST THESE MINIMUM STANDARDS.

48 HOURS BEFORE DIGGING
CALL TOLL-FREE
1-800-432-4770
SUNSHINE STATE ONE CALL
OF FLORIDA, INC
UNDERGROUND UTILITIES NOTIFICATION CENTER

MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No.
AUGUST 2016		1A

MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No.
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MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No.
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MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No.
AUGUST 2016		1D

STANDARD WATER/SEWER SEPARATION STATEMENT

62-555.314 Location of Public Water System Mains.
For the purpose of this section, the phrase water mains shall mean mains, including treatment plant process piping, conveying either raw, partially treated, or treated drinking water, fire hydrant lines, and service lines that are under the control of a public water system and that have an inside diameter of three inches or greater.

(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems.
(a) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.

(b) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed vacuum-type sanitary sewer.
(c) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least six feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer.

(d) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least ten feet between the outside of the water main and all parts of any existing or proposed on-site sewage treatment and disposal system as defined in Section 381.0060(2), F.S., and Rule 64E-6.002, F.A.C.

(2) Vertical Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, and Reclaimed Water Pipelines.
(a) New or relocated, underground water mains crossing any existing or proposed gravity- or vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the water main is at least six inches, and preferably 12 inches, above or at least 12 inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.
(b) New or relocated, underground water mains crossing any existing or proposed pressure-type sanitary sewer, wastewater or stormwater force main, or pipeline conveying reclaimed water shall be laid so the outside of the water main is at least 12 inches above or below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.
(c) At the utility crossings described in paragraphs (a) and (b) above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

(3) Separation Between Water Mains and Sanitary or Storm Sewer Manholes.
(a) No water main shall pass through, or come into contact with, any part of a sanitary sewer manhole.
(b) Effective August 28, 2003, water mains shall not be constructed or altered to pass through, or come into contact with, any part of a storm sewer manhole or inlet structure, where it is not technically feasible or economically sensible to comply with this requirement (i.e., where there is a conflict in the routing of a water main and a storm sewer and where alternative routing of the water main or the storm sewer is not technically feasible or is not economically sensible). The Department shall allow exceptions to this requirement (i.e., the Department shall allow construction of conflict manholes), but suppliers of water or persons proposing to construct conflict manholes must first obtain a specific permit from the Department in accordance with Part V of this chapter and must provide in the preliminary design report or drawings, specifications, and design data accompanying their permit application the following information:
1. Technical or economic justification for each conflict manhole.
2. A statement identifying the party responsible for maintaining each conflict manhole.
3. Assurance of compliance with the design and construction requirements in sub-subparagraphs a. through d. below.
4. Each water main passing through a conflict manhole shall have a flexible, watertight joint on each side of the manhole to accommodate differential settling between the main and the manhole.
5. Within each conflict manhole, the water main passing through the manhole shall be installed in a watertight casing pipe having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe).
6. Each conflict manhole shall have an access opening, and shall be sized, to allow for easy cleaning of the manhole.
7. Gratings shall be installed at all storm sewer inlets upstream of each conflict manhole to prevent large objects from entering the manhole.

(4) Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems. New or relocated fire hydrants with underground drains shall be located so that the drains are at least three feet from any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., at least three feet, and preferably ten feet, from any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C., and at least ten feet from any existing or proposed on-site sewage treatment and disposal system as defined in Section 381.0060(2), F.S., and Rule 64E-6.002, F.A.C.

(5) Exceptions. Where it is not technically feasible or economically sensible to comply with the requirements in subsection (1) or (2) above, the Department shall allow exceptions to these requirements if suppliers of water or construction permit applicants provide technical or economic justification for each exception and provide alternative construction features that afford a similar level of reliability and public health protection. Acceptable alternative construction features include the following:
(a) Where an underground water main is being laid less than the required minimum horizontal distance from another pipeline and where an underground water main is crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline:
1. Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline.
2. Use of welded, flanged, or otherwise restrained joints for either the water main or the other pipeline; or
3. Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.
(b) Where an underground water main is being laid less than three feet horizontally from another pipeline and where an underground water main is crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline:
1. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the water main; and
2. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the other pipeline if it is new and is conveying wastewater or reclaimed water.

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MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No.
AUGUST 2016		1E

Bowman
CONSULTING

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MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
WATER AND WASTEWATER GENERAL NOTES
MARTIN COUNTY
FLORIDA

PROJECT NO. 010318-02-004

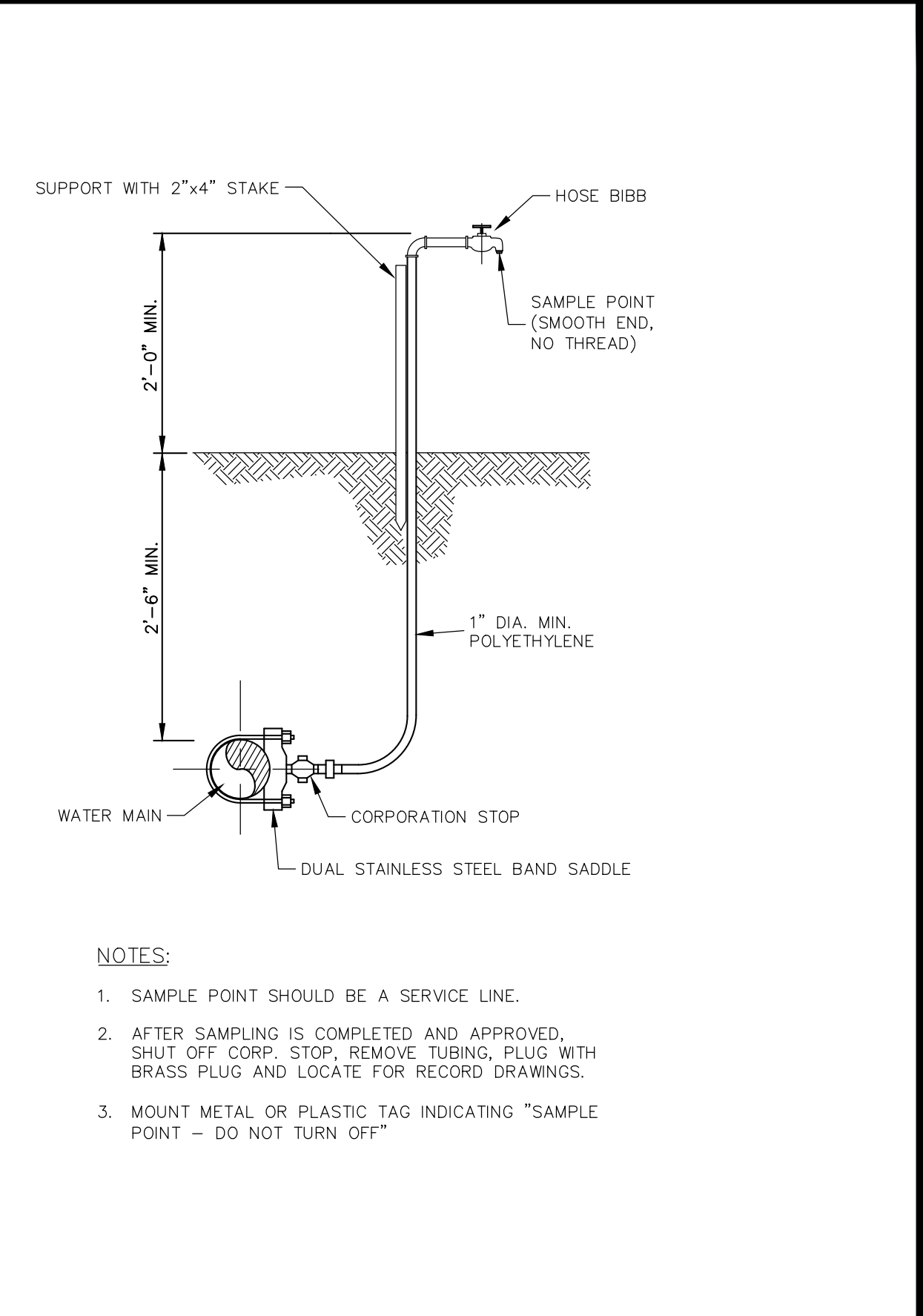
L. LEONARD, P.E. FL LICENSE NO. 61737	PLAN STATUS
05-28-2019	COUNTY COMMENTS
01-27-2020	FDEP COMMENTS
DATE	DESCRIPTION
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SCALE AS SHOWN	
JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-UTP
D7	
SHEET	

NOTE: REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DETAILS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.

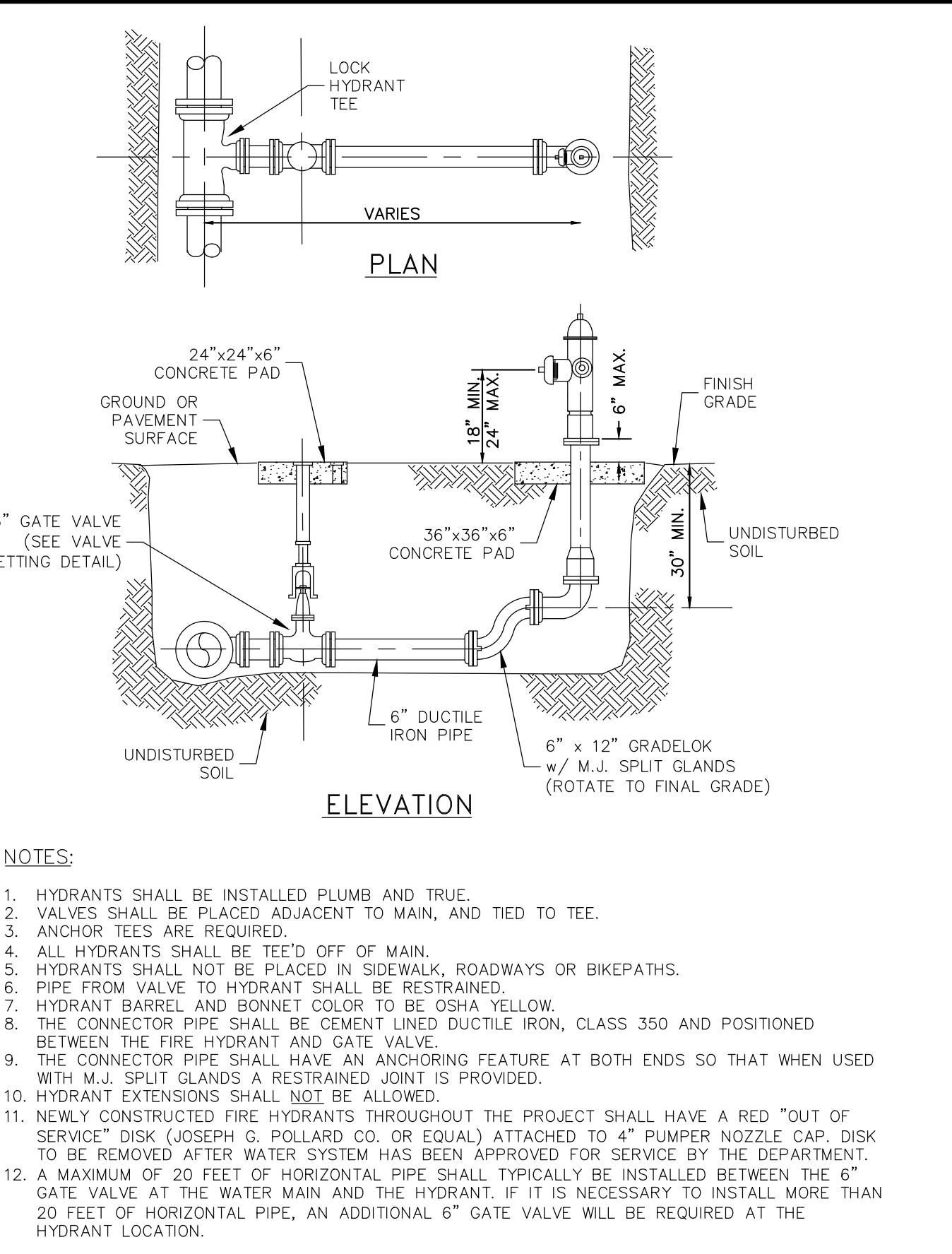


DATE	DESCRIPTION
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01-27-2020	FDEP COMMENTS

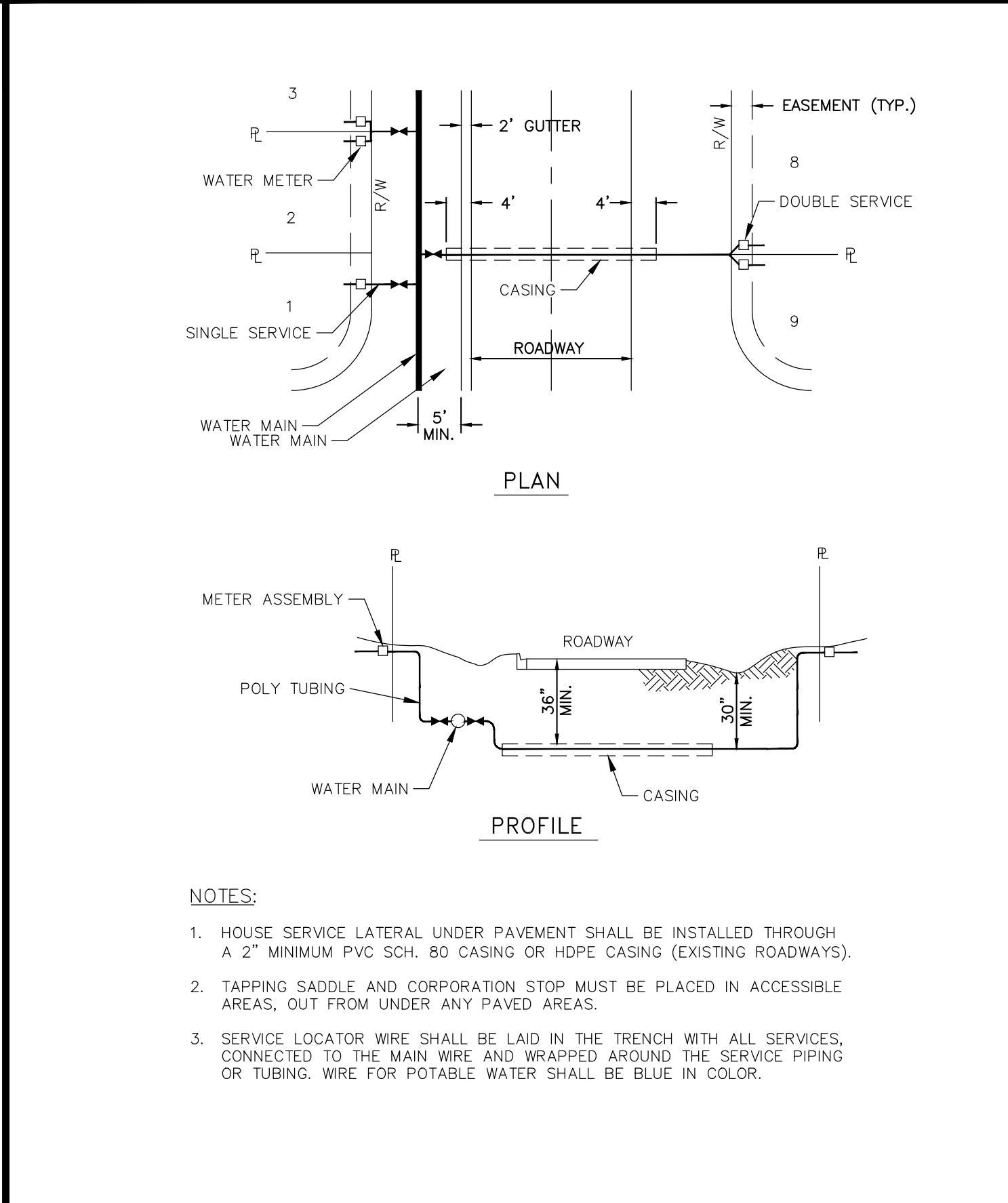
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JOB No.	010318-02-004
DATE	03/13/2019
FILE No.	318-CP-02-P2-U1P6



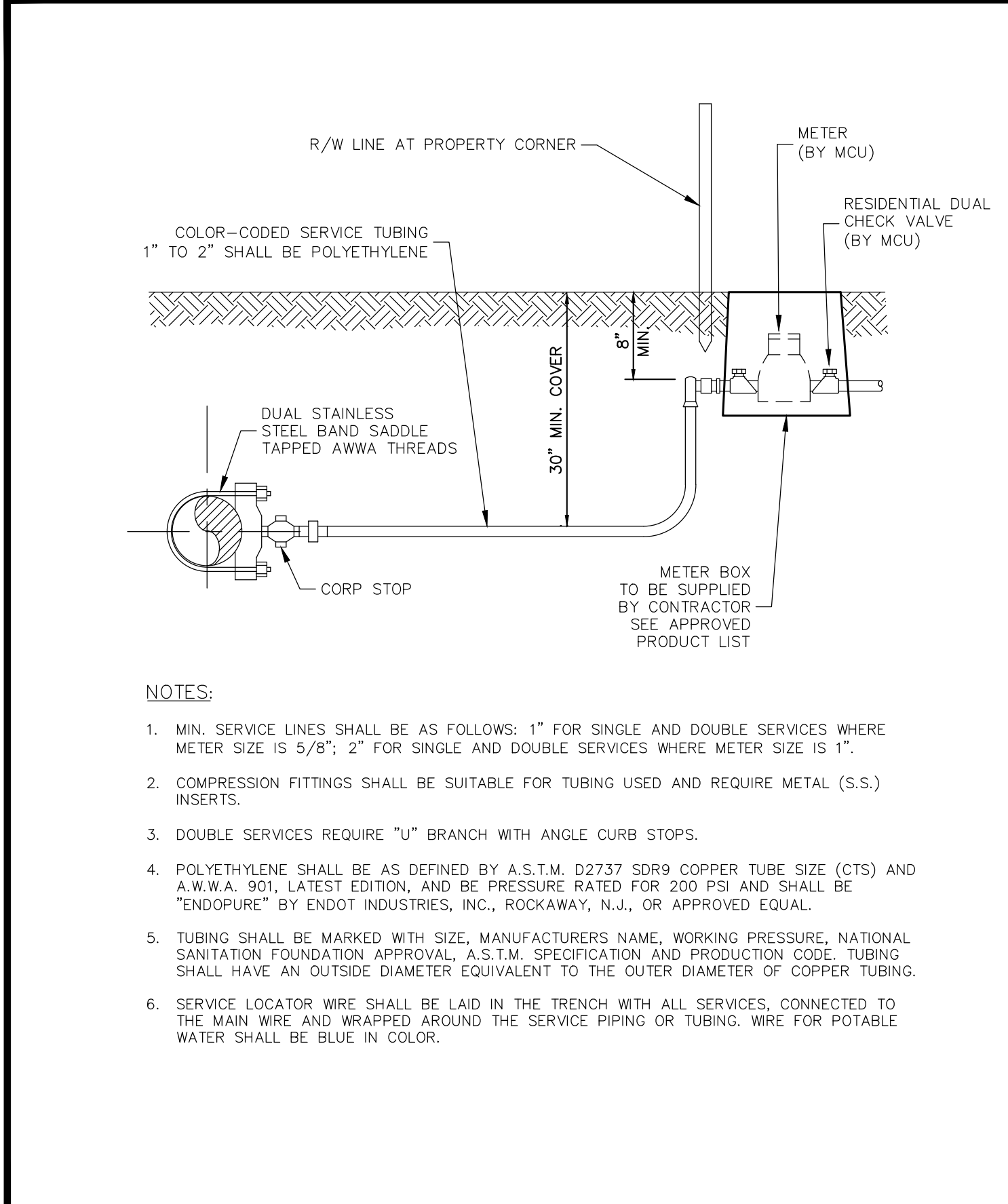
MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 9
 SAMPLE POINT DETAIL



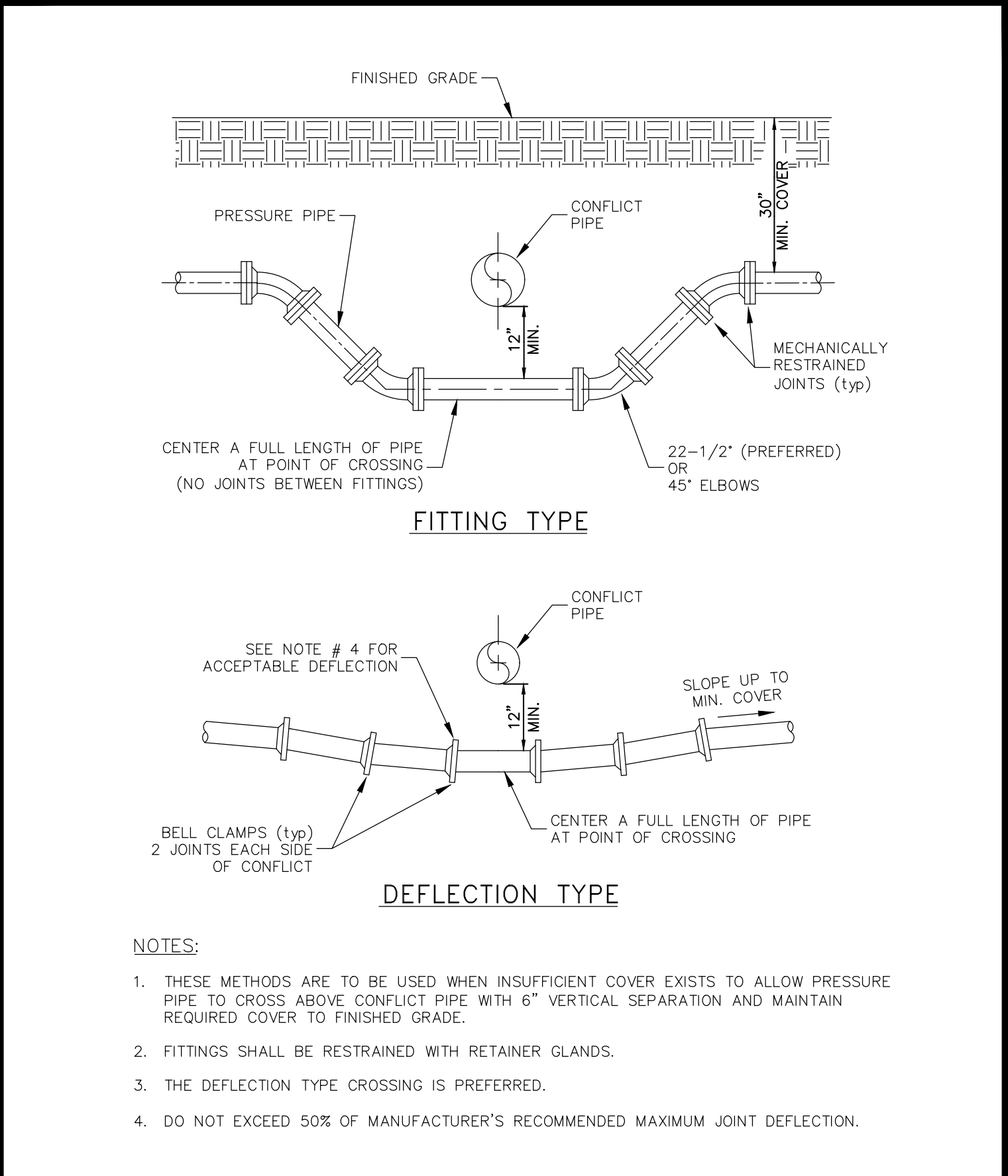
MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 7
 FIRE HYDRANT INSTALLATION DETAIL AND NOTES



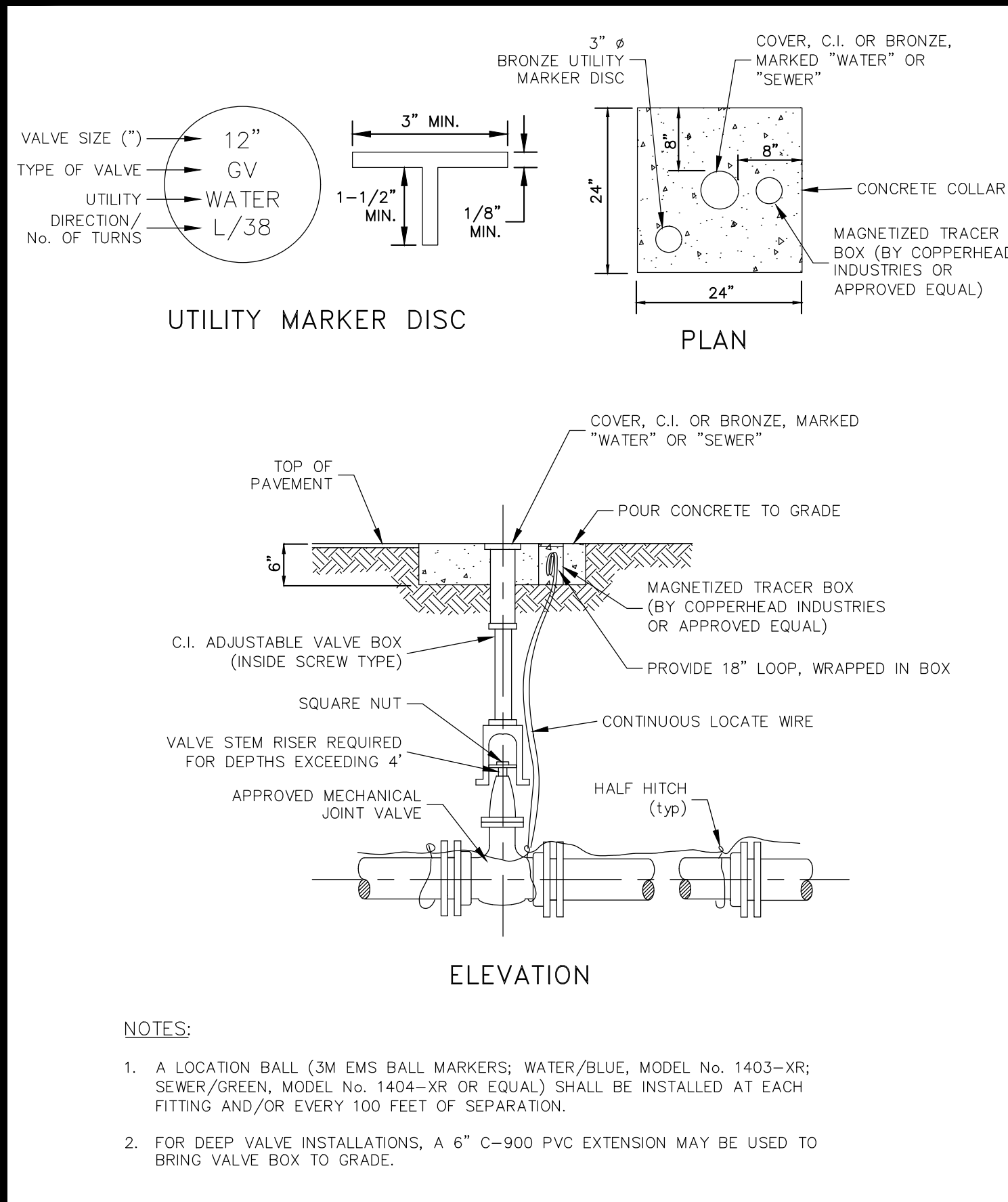
MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 3
 WATER SERVICE CONNECTIONS (SINGLE OR DOUBLE) PLAN / PROFILE



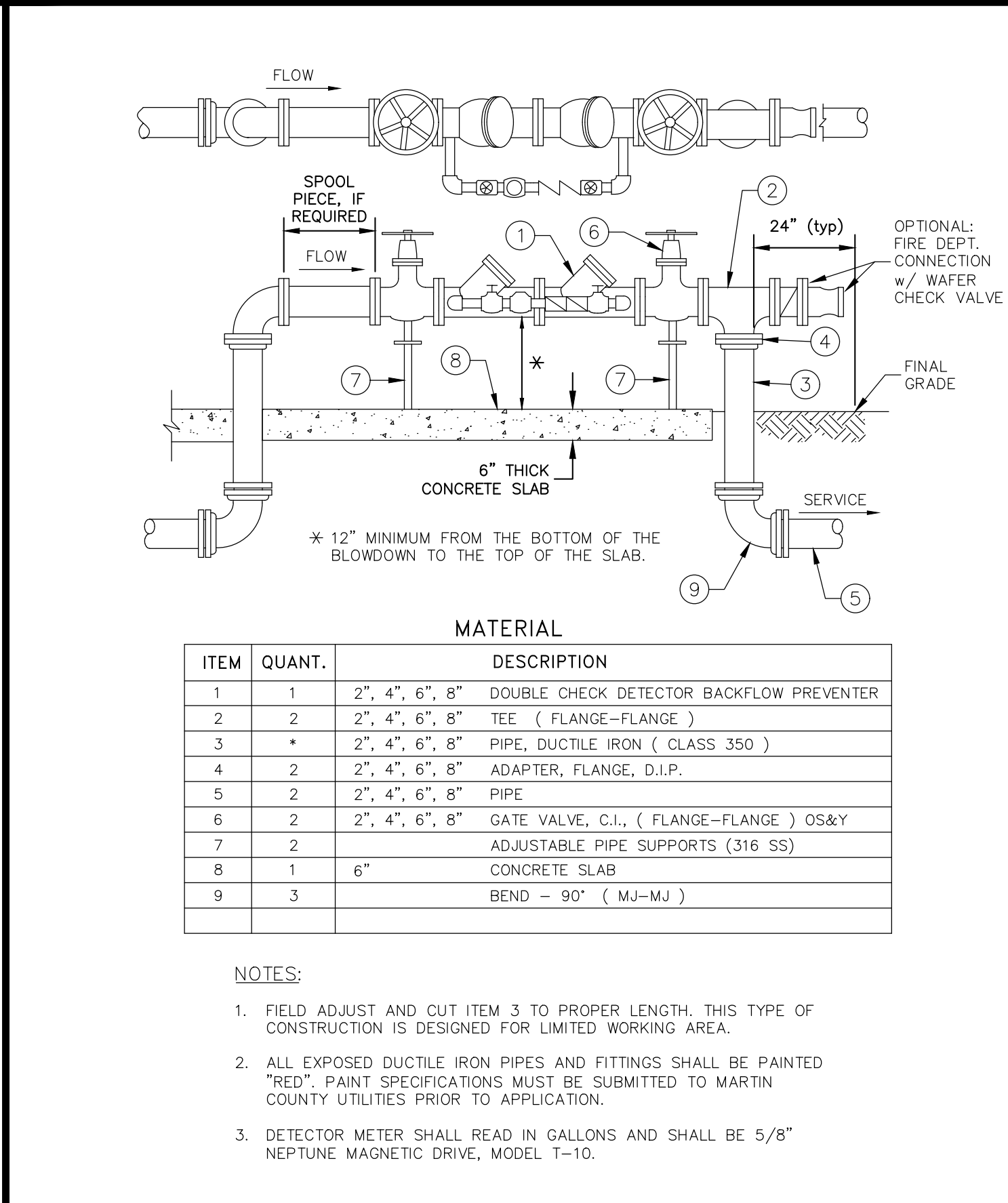
MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 2
 SERVICE CONNECTION DETAIL 5/8" OR 1" METER



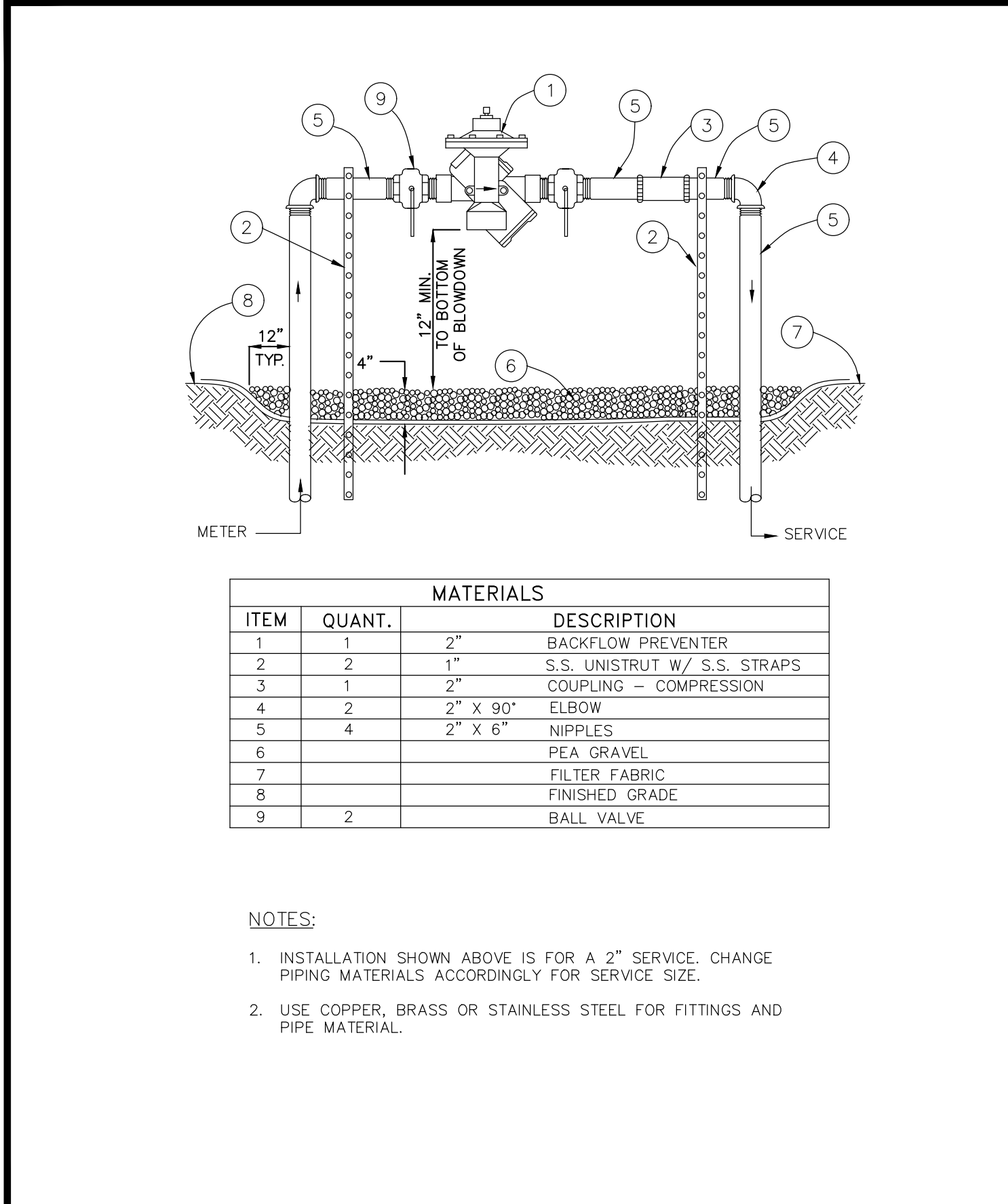
MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 20
 PRESSURE PIPE CONFLICT DETAIL



MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 18
 VALVE SETTING DETAIL



MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 17
 FIRE LINE DOUBLE CHECK DETECTOR ASSEMBLY



MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS
 REVISION AUGUST 2016 DWG No. 13
 REDUCED PRESSURE BACKFLOW PREVENTER SINGLE SERVICE 3/4", 1", 1-1/2" AND 2"

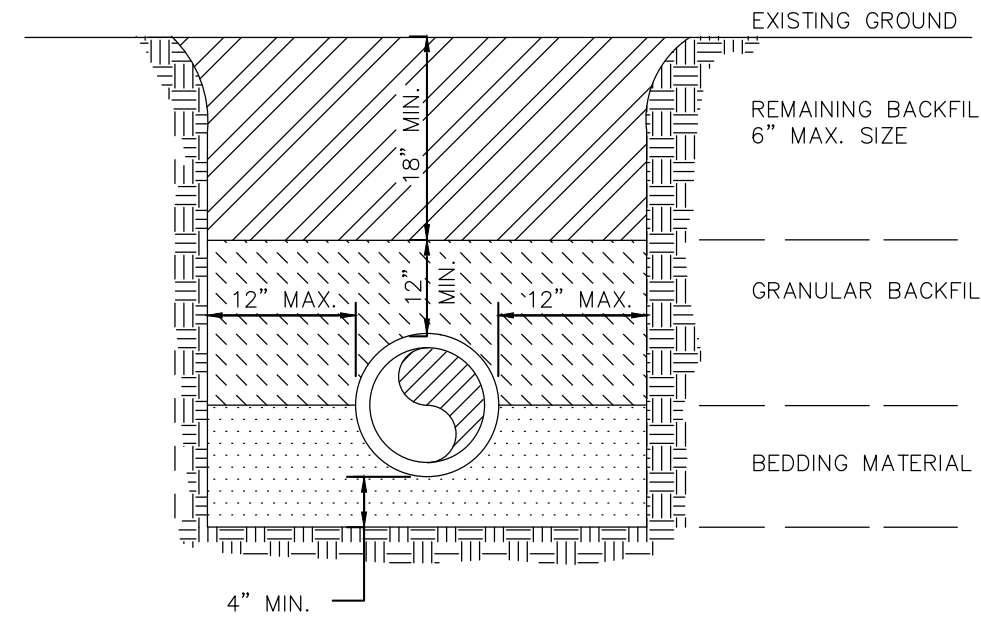
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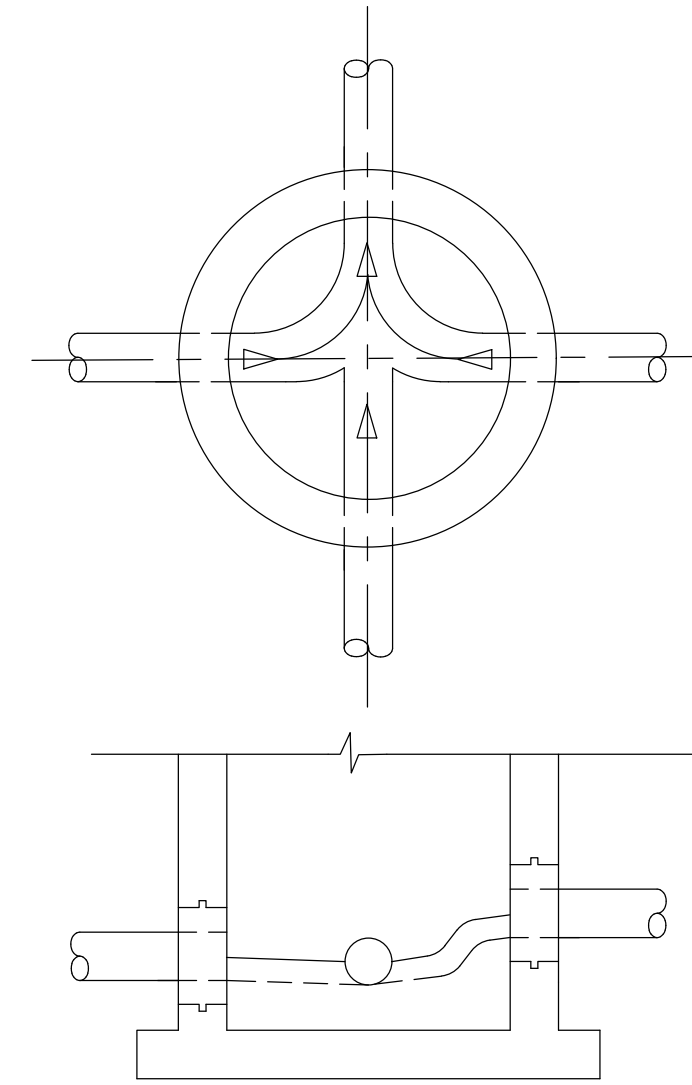
MIN. LENGTH (IN FEET) OF PIPE TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE	PIPE SIZE								
	4"	6"	8"	10"	12"	16"	20"	24"	
90° HORIZ. BEND	14	20	25	30	35	45	54	62	
45° HORIZ. BEND	6	8	11	13	15	19	22	26	
22.5° HORIZ. BEND	3	4	5	6	7	9	11	12	
11.25° HORIZ. BEND	1	2	3	3	4	4	5	6	
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134
	LOWER BEND	7	10	13	16	19	25	30	35
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56
	LOWER BEND	3	4	6	7	8	10	12	15
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27
	LOWER BEND	1	2	4	4	4	5	6	7
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13
	LOWER BEND	1	1	1	1	2	2	2	3
PLUG (DEAD END)	32	45	59	70	83	107	129	151	
IN-LINE VALVE	32	45	45	45	45	55	65	80	
TEE (BRANCH RESTRAINT)	4" x ø	23	—	—	—	—	—	—	
	6" x ø	21	35	—	—	—	—	—	
	8" x ø	18	34	47	—	—	—	—	
	10" x ø	16	32	46	58	—	—	—	
	12" x ø	13	30	44	57	69	—	—	
	16" x ø	7	26	41	55	67	90	—	
	20" x ø	1	21	38	52	65	88	109	
	24" x ø	1	16	34	49	62	86	108	129
	30" x ø	1	8	28	44	58	83	106	127
	36" x ø	1	1	22	39	54	80	103	124
REDUCER (LARGER PIPE RESTRAINT)	42" x ø	1	1	15	33	49	77	100	122
	48" x ø	1	1	7	27	44	73	97	120
	6" x ø	23	—	—	—	—	—	—	
	8" x ø	38	25	—	—	—	—	—	
	10" x ø	57	43	24	—	—	—	—	
	12" x ø	72	60	44	41	—	—	—	

- NOTES:
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE—SAND TEST PRESSURE—150 PSI DEPTH OF BURY—3'
TRENCH TYPE—3 SAFETY FACTOR—1.5 VERTICAL OFFSET—3'
MINIMUM PIPE LENGTH ALONG TEE RUN—5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. DESIGN ENGINEER SHALL BE RESPONSIBLE FOR PROPERLY SIZING THE LENGTH OF PIPE TO BE RESTRAINED.



- NOTES:
1. BEDDING MATERIAL SHALL BE HAND PLACED IN 6" LIFTS AND SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCK SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE DONE WITH APPROVED MATERIAL, CLEAN AND FREE OF ROCKS, MUCK AND OTHER DELETERIOUS MATTER AND COMPACTED BENEATH THE HAUNCHES OF THE PIPE USING MECHANICAL TAMPERS TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
5. BACKFILL TO BE COMPACTED ALONG THE SIDES OF THE PIPE AND TO A POINT ONE FOOT ABOVE THE TOP OF THE PIPE TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
6. A. WHERE PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE THE REMAINING BACKFILL SHALL BE COMPACTED IN 6 INCH LAYERS AND COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
B. WHERE "NO" PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE THE REMAINING FILL SHALL BE COMPACTED IN 6 INCH LAYERS TO A DENSITY 90% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
7. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL TRENCH SAFETY REGULATIONS



- NOTES:
1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. BRICK AND CONCRETE RUBBLE PERMITTED AS FLOW CHANNEL BUILDUP.
4. SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.

MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	MECHANICAL JOINT ANCHORING REQUIREMENTS	DWG No.
AUGUST 2016		21

MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	TYPICAL TRENCH DETAIL	DWG No.
AUGUST 2016		23

MARTIN COUNTY CONSTRUCTION STANDARDS & DETAILS

REVISION	INVERT FLOW CHANNEL DETAIL	DWG No.
AUGUST 2016		37

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MARTIN COUNTY
FLORIDA

MARINER VILLAGE SQUARE PUD
LOT 2 - BEE SAFE STORAGE
WATER AND WASTEWATER DETAILS

PROJECT NO
010318-02-004

L. LEONARD, P.E.
FL LICENSE NO. 47727

PLAN STATUS

05-29-2019 COUNTY COMMENTS

01-27-2020 DPEP COMMENTS

DATE DESCRIPTION

LL GC/JB GMB
DESIGN DRAWN CHKD

SCALE AS SHOWN

JOB No. 010318-02-004

DATE 03/13/2019

FILE No. 318-CP-02-P2-UTP

D9

SHEET

NOTE:
REFER TO THE LATEST EDITIONS OF MARTIN COUNTY & MARTIN COUNTY UTILITIES DETAILS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARD SPECIFICATIONS.



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