NOTE:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.

2. L = Taper Length
X = Work Zone Sign Spacing
B = Buffer Length
See Index 102-600 for "L", "X", "B", and channelizing device spacing values.

3. Where work activities are between 2' and 15' from the edge of traveled way, the Engineer may omit signs and channelizing devices for work operations 60 minutes or less.

4. When four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), use a flagger or lane closure to accommodate work vehicle ingress and egress.

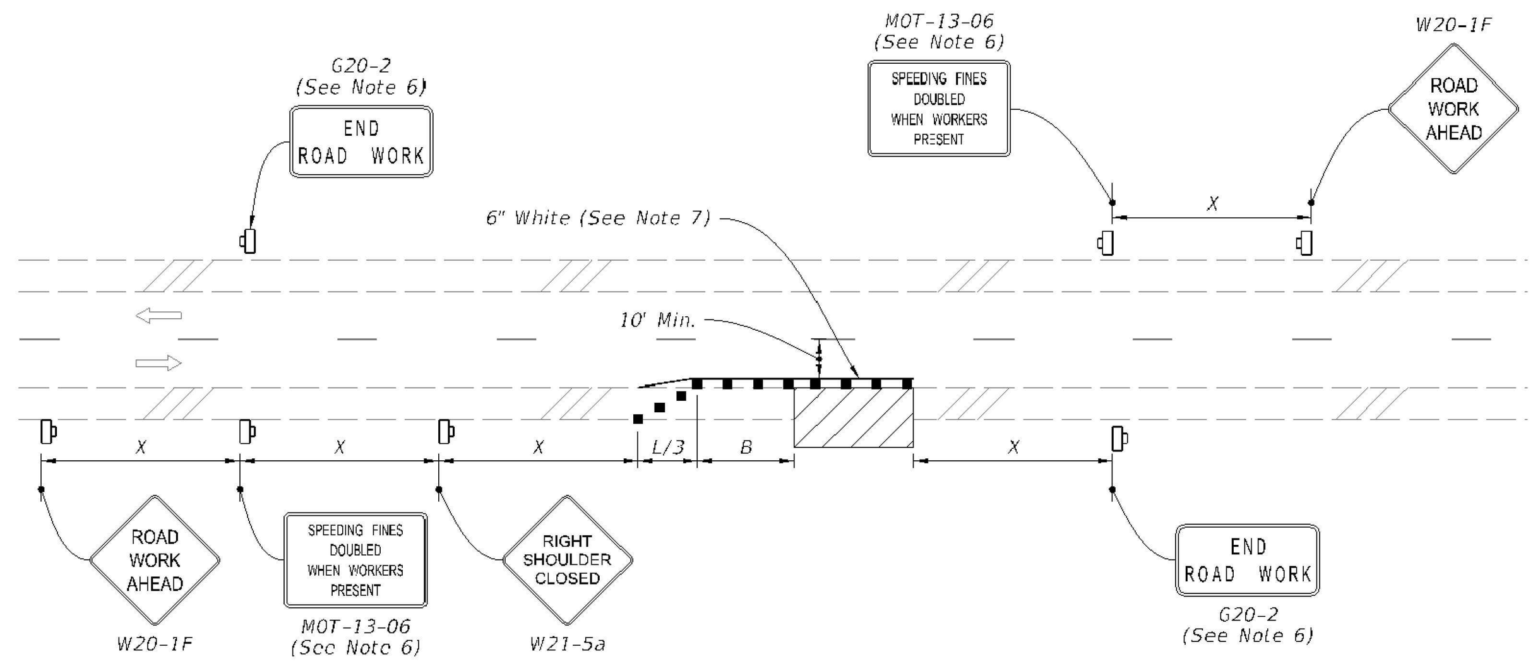
5. For work less than 2' from the traveled way and work zone speed is greater than 45 MPH, use a lane closure.

6. The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" Signs (G20-2) along with the associated work zone sign spacing distances may be omitted when the work operation is in place for 24 hours or less.

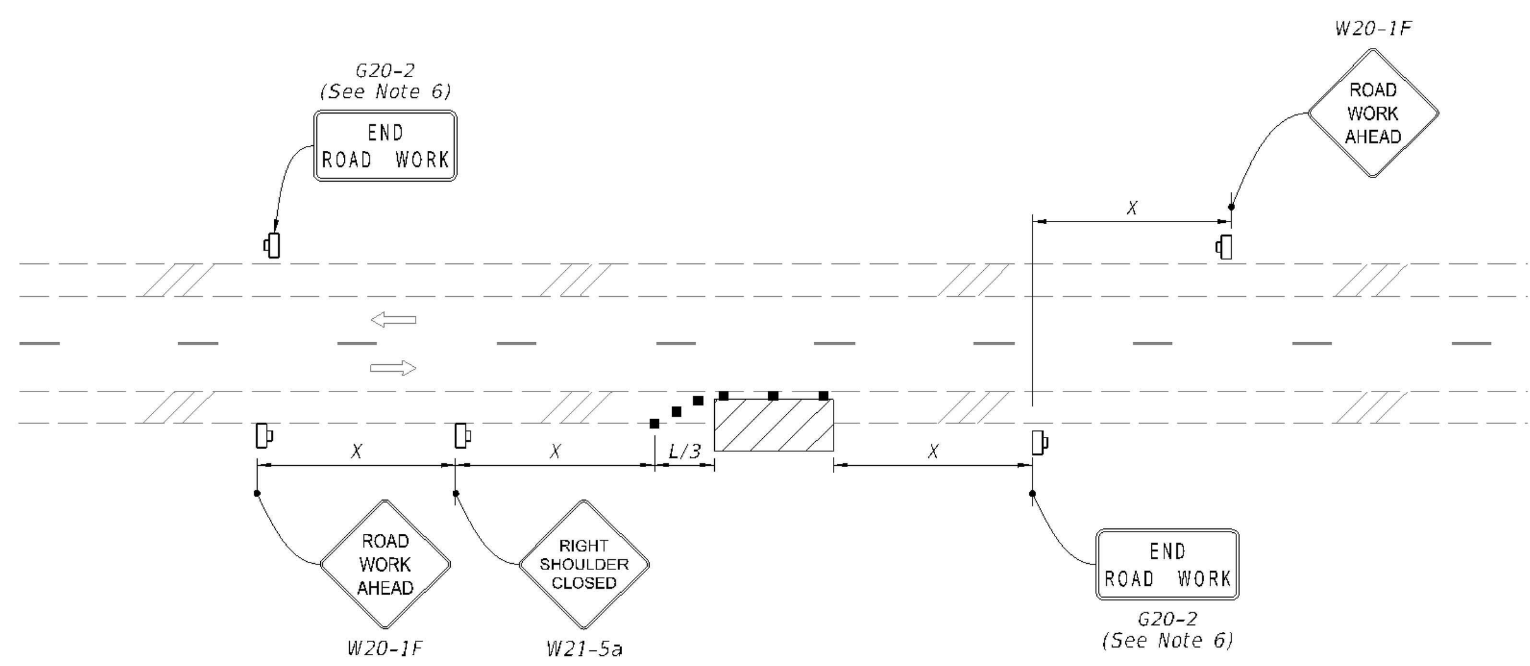
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.

8. Omit "Shoulder Closed" signs (W21-5a) along with associated work zone sign spacing distances for work on the median.

9. When there is no paved shoulder, the "Worker" sign (W21-1) may be used instead of the "Shoulder Closed" sign (W21-5a).



TWO-LANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY
WITH WORK ZONE SPEED OF 45 MPH OR LESS



TWO-LANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

SYMBOLS:

▨ Work Area

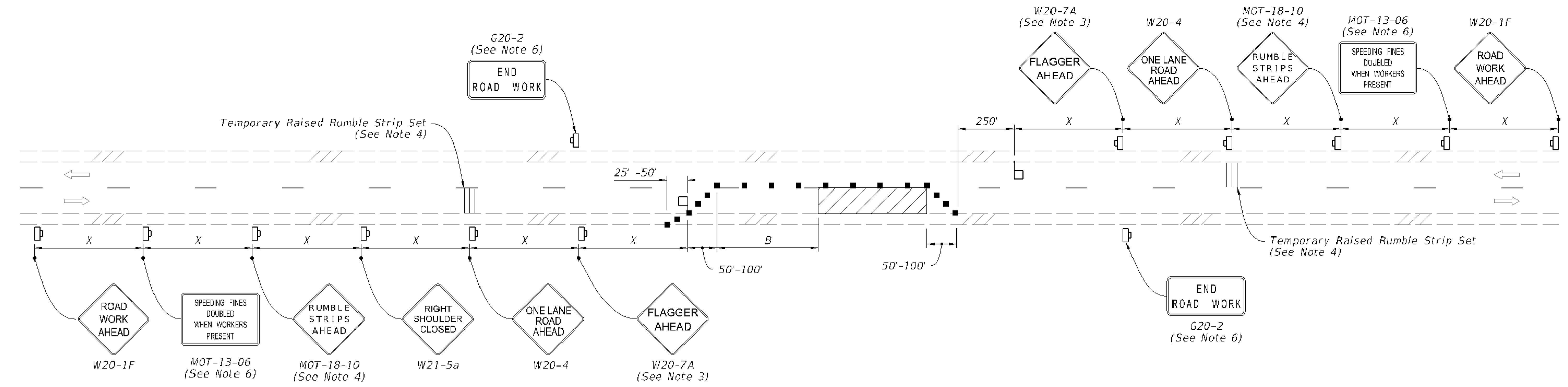
■ Channelizing Device (See Index 102-600)

Work Zone Sign

Lane Identification and Direction of Traffic

2/2/2023 10:33:35 AM

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX 102-602	SHEET 1 of 2



NOTES:

1. This Index applies to Two-Lane, Two-Way Roadways with work within the traveled way.

2. L = Taper Length
B = Buffer Length
X = Work Zone Sign Spacing
See Index 102-600 for "L", "B", "X" and channelizing device spacing values.

3. Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).

4. Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (MOT-18-10) and associated work zone sign spacing.

5. Additional one-way control may be provided by the following means:
a. Flag-carrying vehicle
b. Official vehicle
c. Pilot vehicles
d. Traffic signals

When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.

6. The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" signs (G20-2), along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.

7. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.

8. Railroad Crossings:

a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.

b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

SYMBOLS:

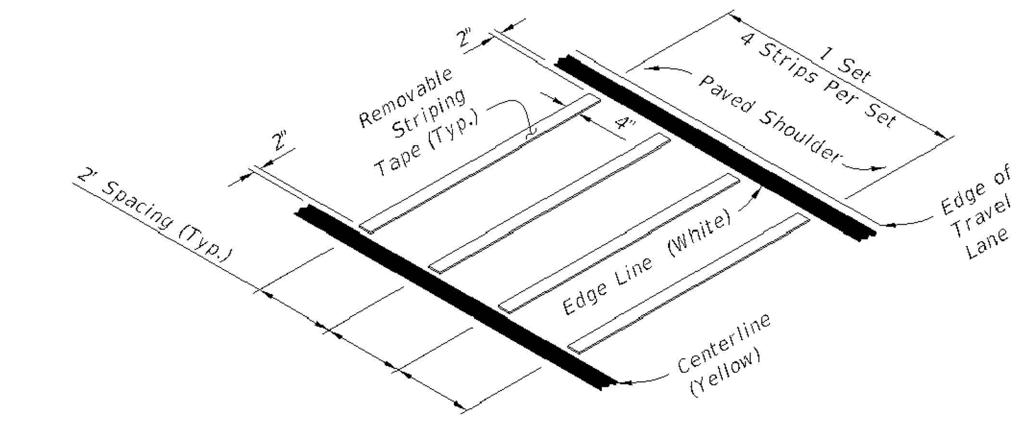
▨ Work Area

■ Channelizing Device (See Index 102-600)

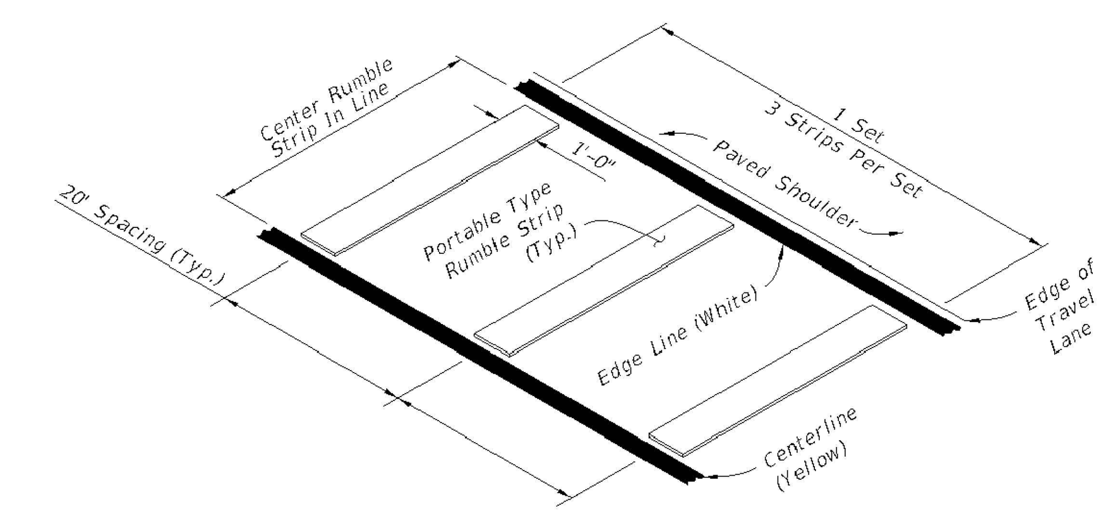
Work Zone Sign

Flagger

Lane Identification and Direction of Traffic



OPTION - 1
REMOVABLE STRIPING TYPE



OPTION - 2
PORTABLE TYPE

RUMBLE STRIP SETS

10/6/2022 1:24:30 PM

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 1 of 2

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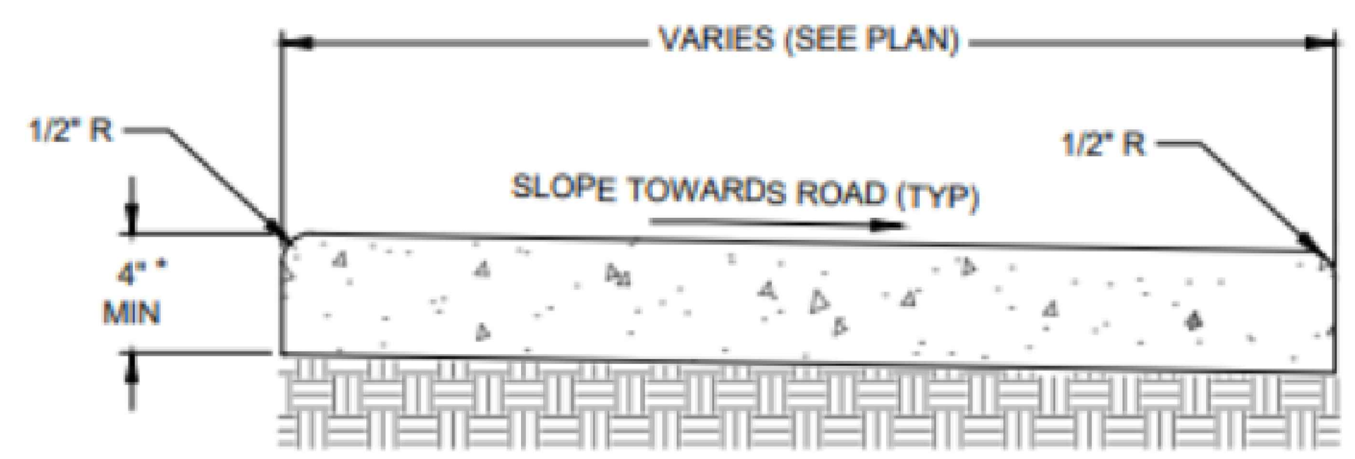
REVISIONS

#	DATE	REVISION
1	12/17/22	REVISION PER CITY REQUEST
2	04/12/2023	REVISION PER CITY AND WMD RAI
3	06/28/2023	REVISION PER CITY COMMENTS
4	01/22/2024	REVISION PER WMD COMMENTS
5	04/04/2024	REVISION PER CITY COMMENTS
6	04/17/2024	REVISION PER CITY COMMENTS

SHEET TITLE: MOT INDEX

RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA
PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
JOB No.:	1369
SHEET No.:	11

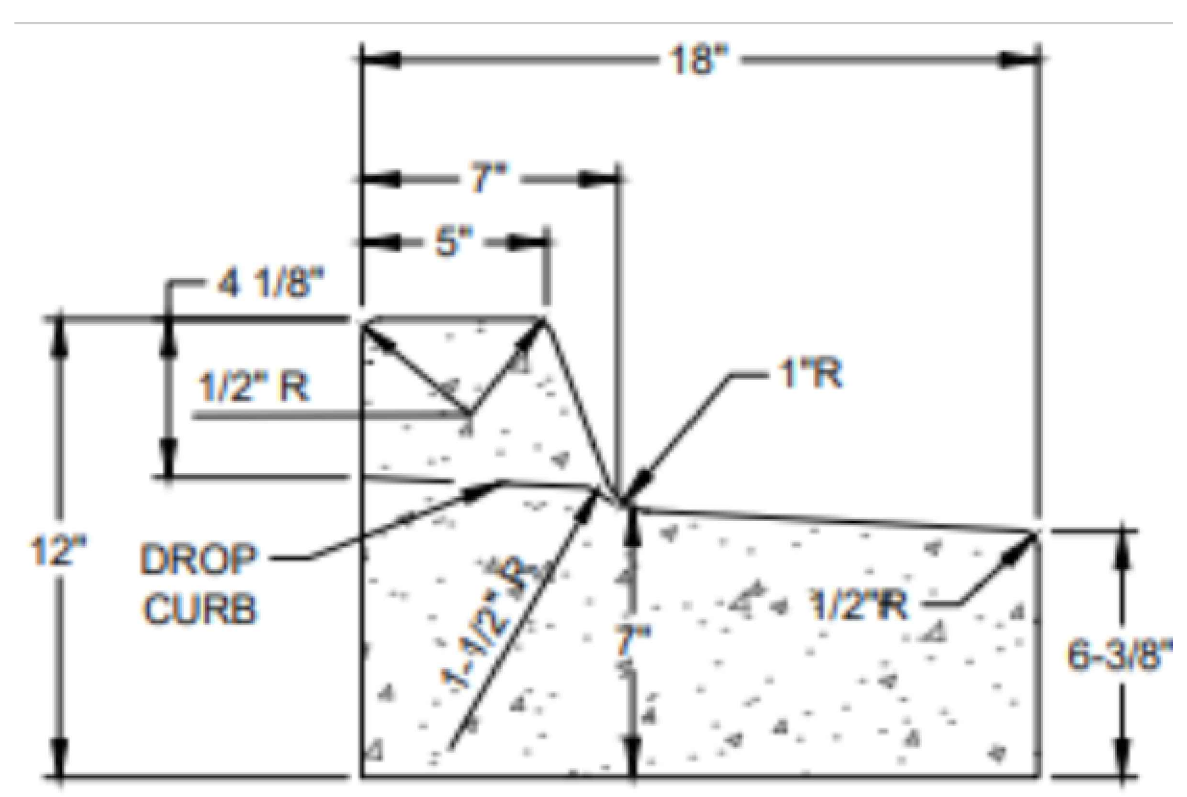


NOTES:

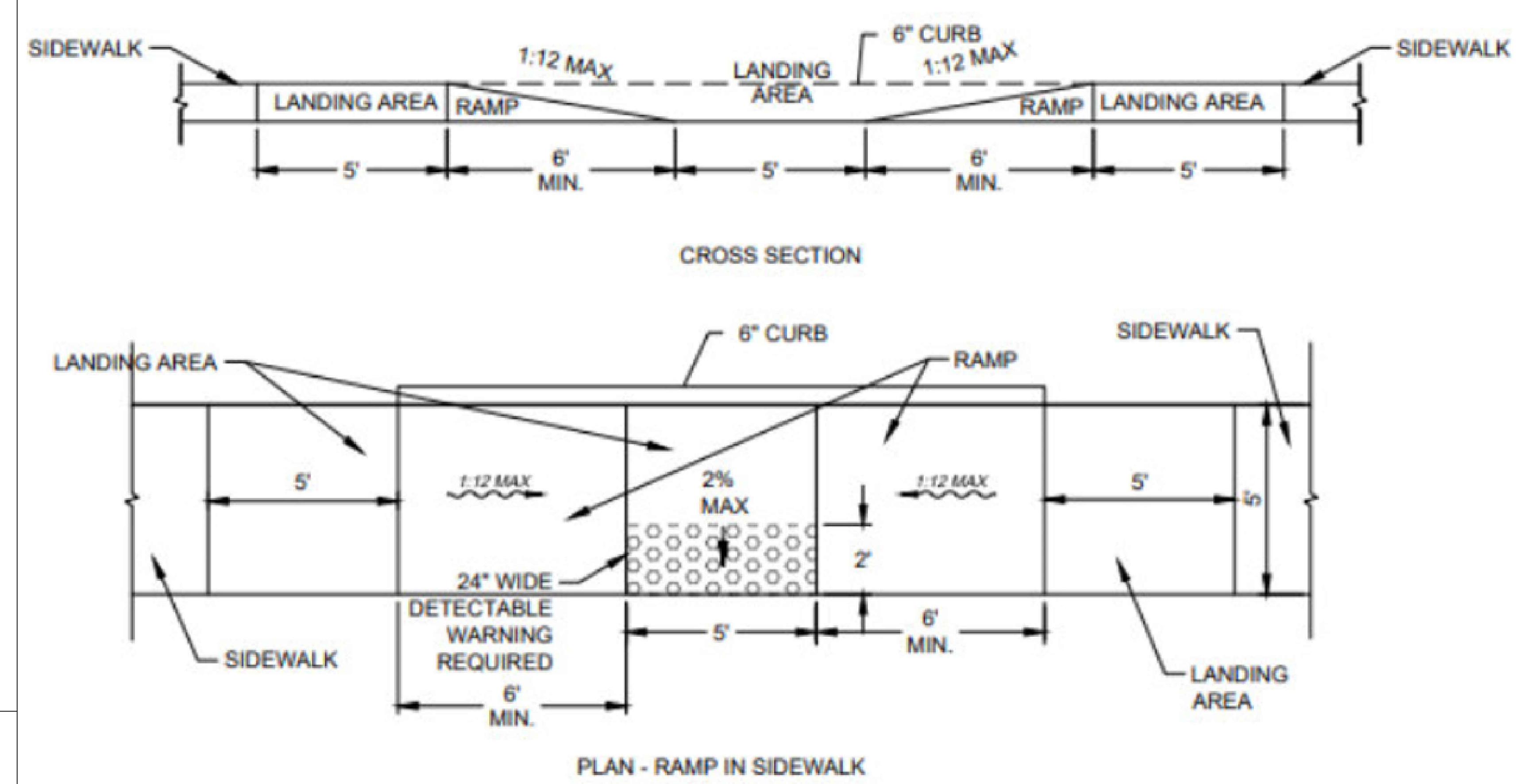
1. DISTANCE BETWEEN SCORE LINE NOT TO EXCEED 5' IN LONGITUDINAL & TRAVERSE DIRECTION IN SIDEWALK.
2. SIDEWALK IS TO BE CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI.
3. MAX 2% CROSS SLOPE PER ADA

* SIDEWALK SHALL BE 6" THICK AT DRIVEWAY.

CONCRETE SIDEWALK DETAIL SD1
N.T.S



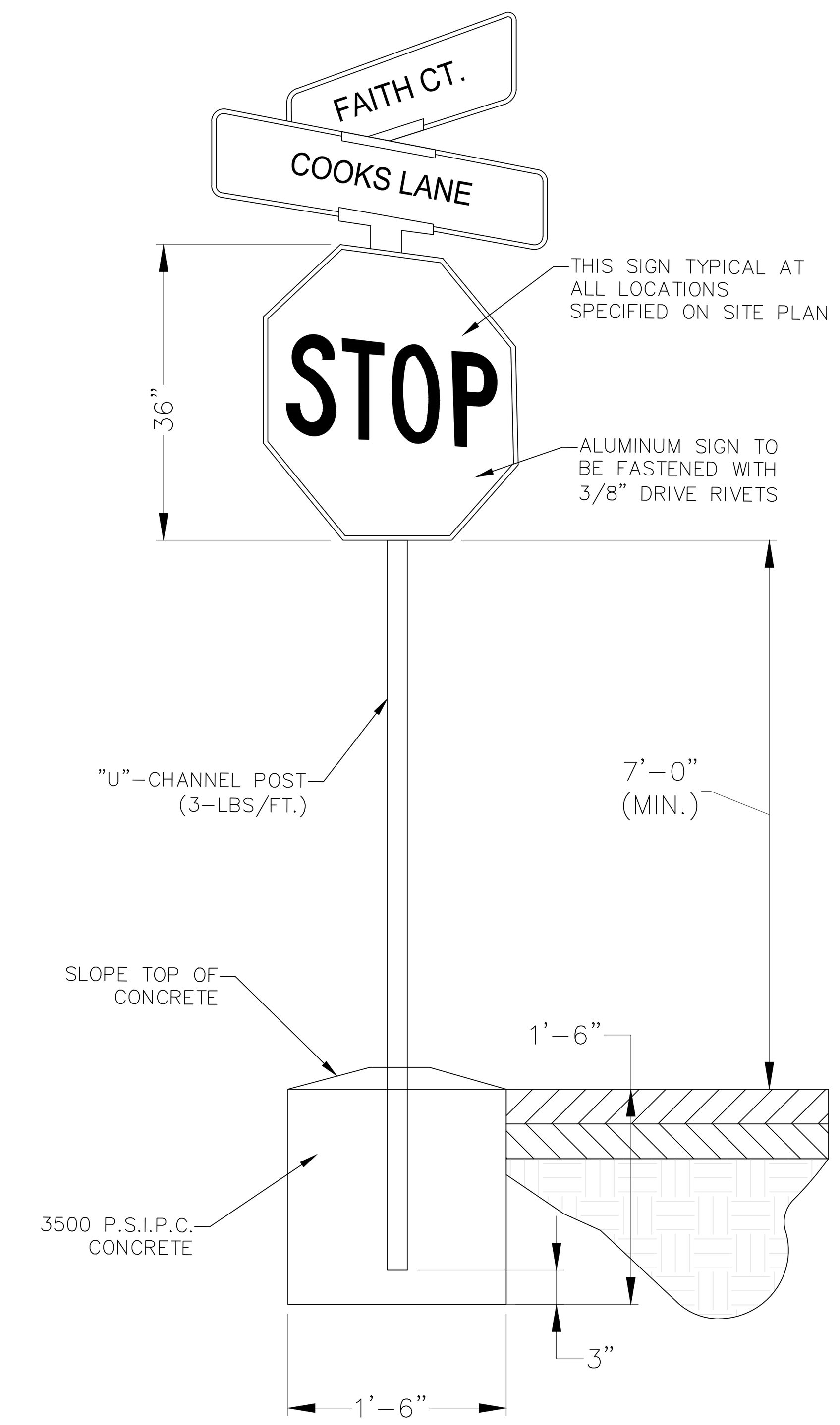
18" STANDARD CURB & GUTTER DETAIL (REVERSE PITCH) SD4
N.T.S



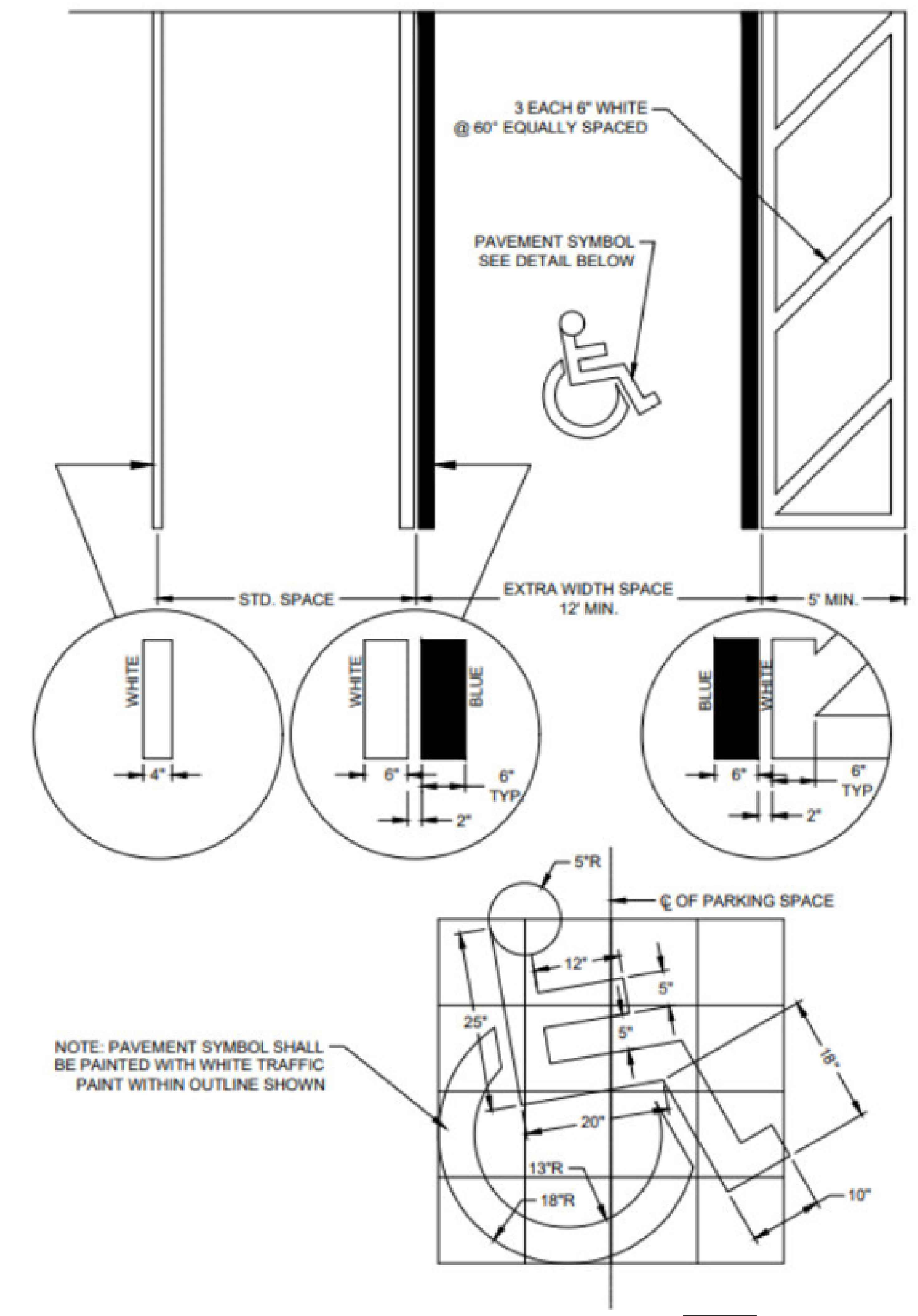
NOTES:

1. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
2. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 8% AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF THE RAMP.
3. CONSTRUCT PER A.D.A. STANDARDS.
4. DETECTABLE WARNING SURFACE SHALL BE "SAFETY YELLOW" COMPOSITE MATERIAL ANCHORED IN THE RAMP. WARNING SURFACE SHALL BE SET INTO THE CONCRETE AND BE FLUSH WITH CONCRETE SURFACE ALONG ALL FOUR SIDES.
5. DETECTABLE WARNING SURFACE TO BE CAST IN PLACE COMPOSITE TACTILE BY ADA SOLUTIONS, INC. OR CAST IN PLACE DETECTABLE WARNING PANEL BY ARMORCAST.
6. DETECTABLE WARNING AREA SHALL CONFORM TO FDOT STANDARD INDEX 522-002 AND 28 CFR PART 36 APPENDIX A, LATEST REVISION.

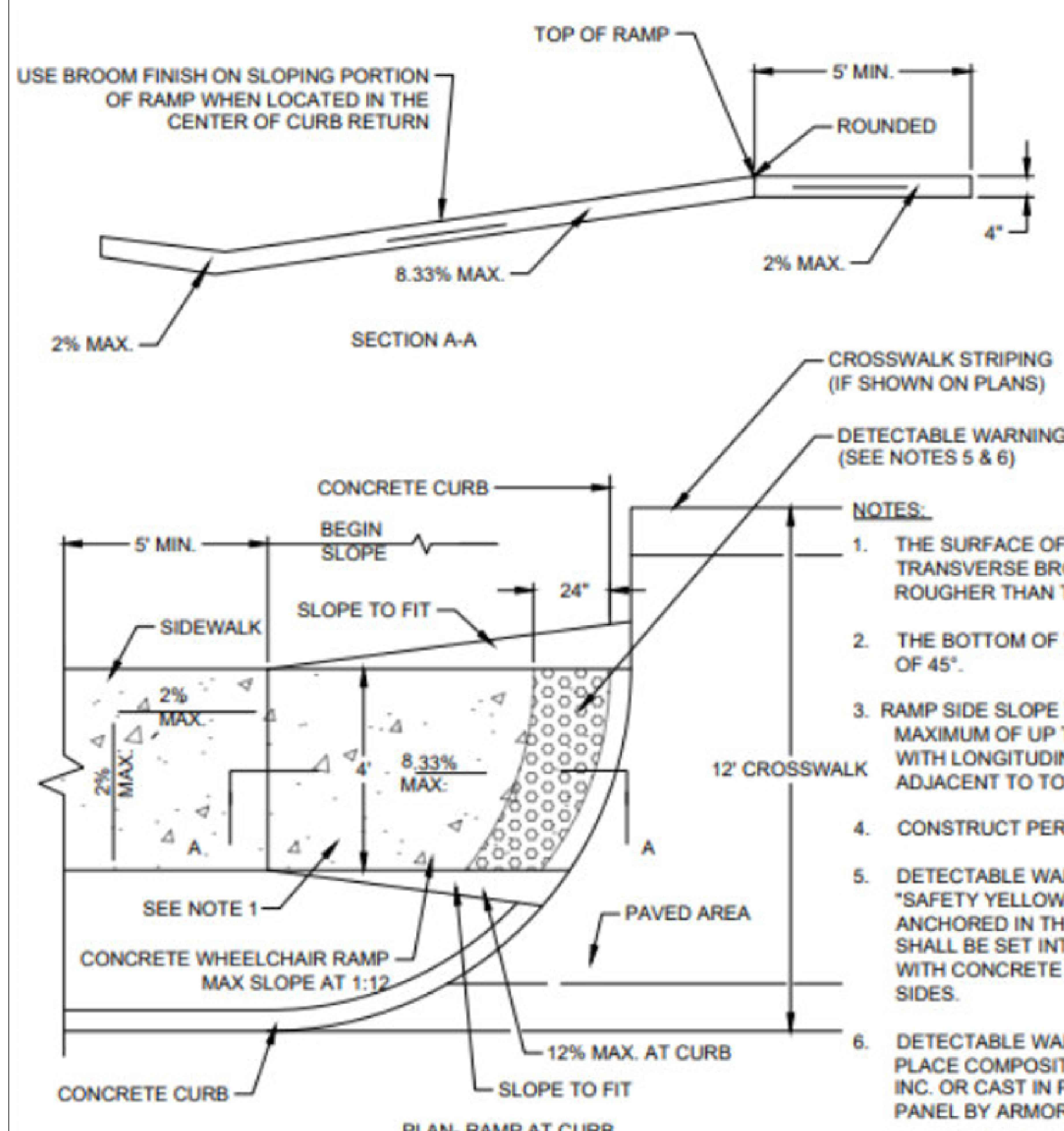
WHEELCHAIR RAMP IN SIDEWALK SD7
N.T.S



STOP SIGN SD8
N.T.S



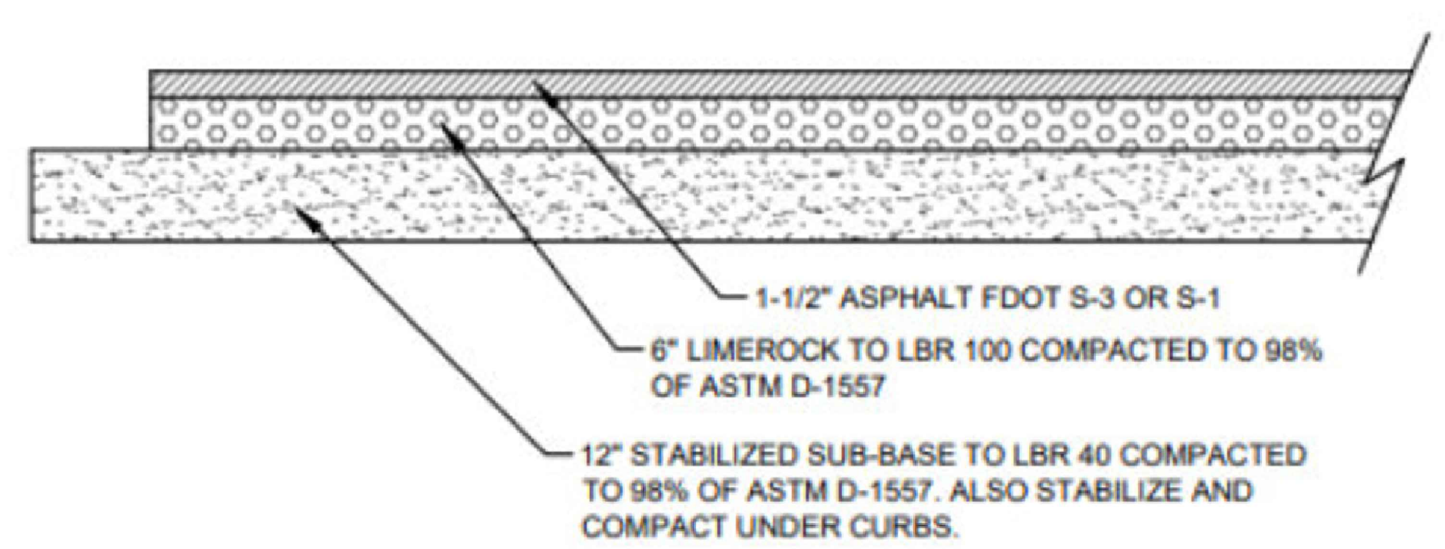
PARKING PAINT STRIPPING SD10
N.T.S



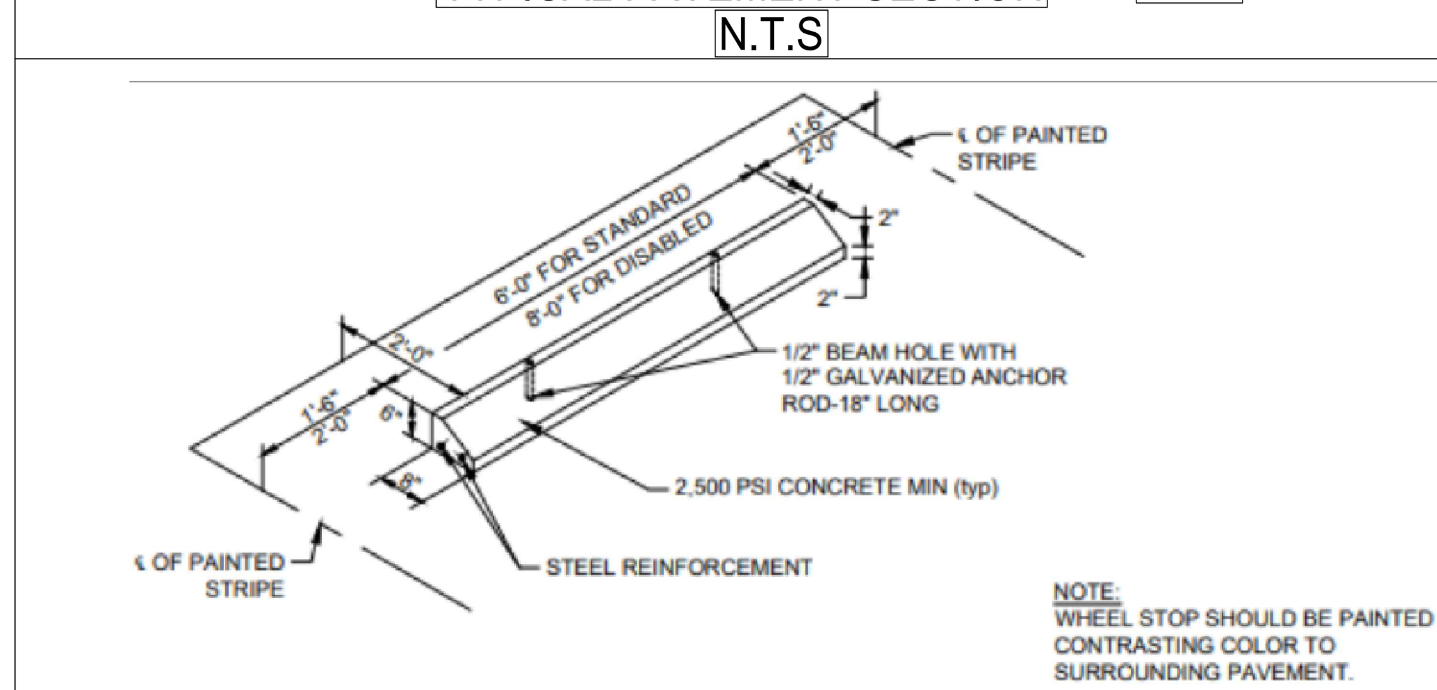
NOTES:

1. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
2. THE BOTTOM OF THE RAMP SHALL HAVE A 1/2" LIP OF 45°.
3. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 12% AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF THE RAMP.
4. CONSTRUCT PER A.D.A. STANDARDS.
5. DETECTABLE WARNING SURFACE SHALL BE "SAFETY YELLOW" COMPOSITE MATERIAL ANCHORED IN THE RAMP. WARNING SURFACE SHALL BE SET INTO THE CONCRETE AND BE FLUSH WITH CONCRETE SURFACE ALONG ALL FOUR SIDES.
6. DETECTABLE WARNING SURFACE TO BE CAST IN PLACE COMPOSITE TACTILE BY ADA SOLUTIONS, INC. OR CAST IN PLACE DETECTABLE WARNING PANEL BY ARMORCAST.
7. DETECTABLE WARNING AREA SHALL CONFORM TO FDOT STANDARD INDEX 304 AND 28 CFR PART 36 APPENDIX A, LATEST REVISION.

WHEELCHAIR RAMP IN SIDEWALK AT CURB RETURN SD9
N.T.S

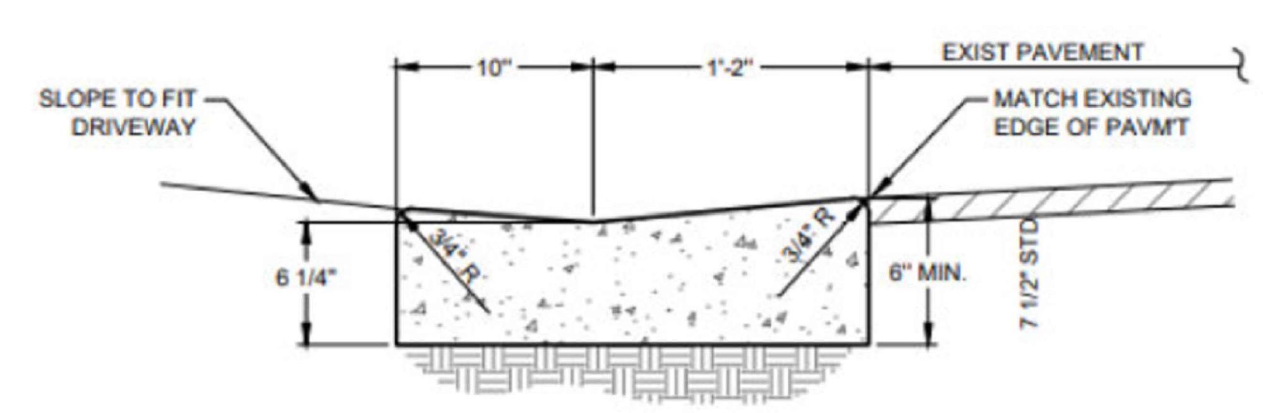


TYPICAL PAVEMENT SECTION SD11
N.T.S

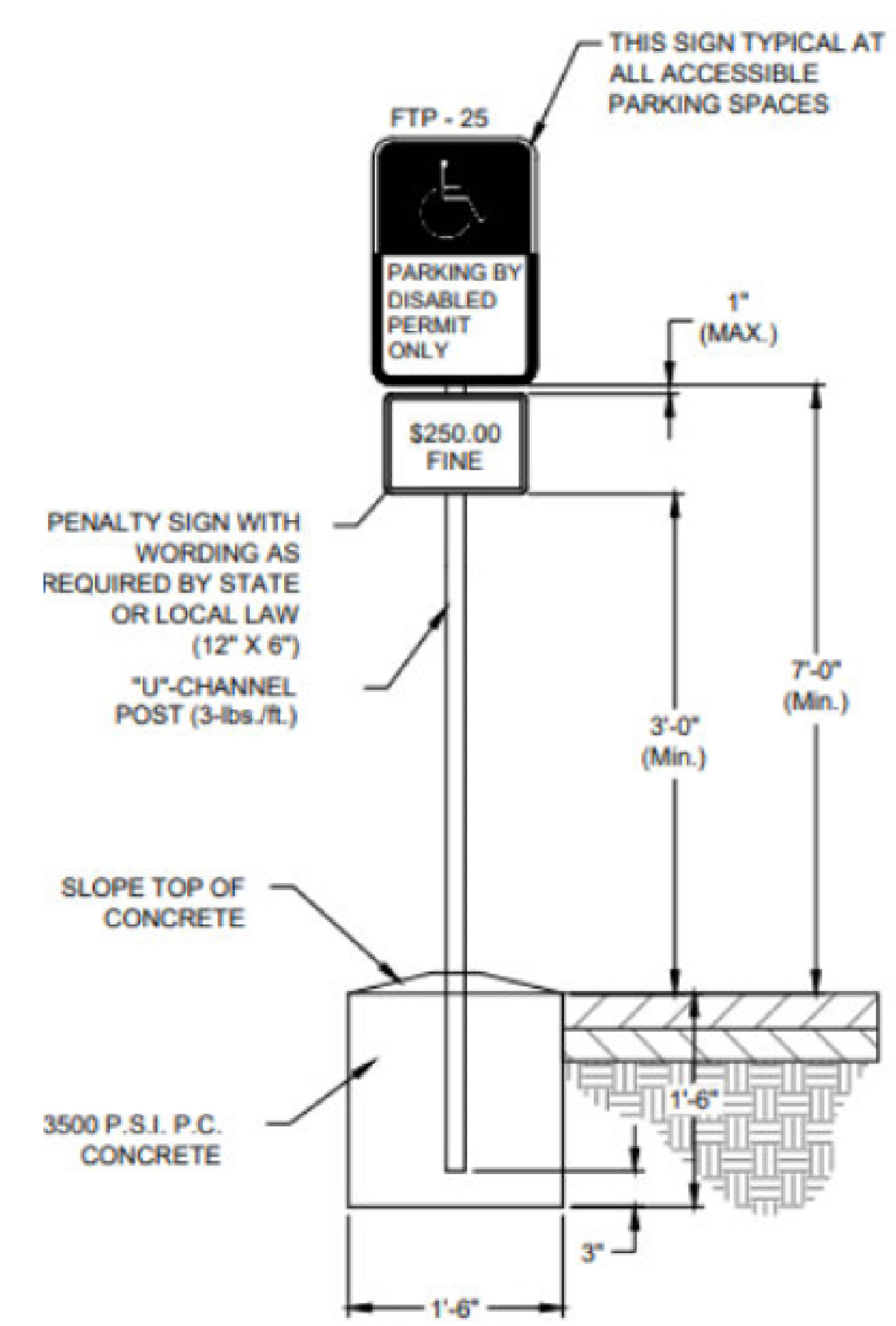


NOTE:
WHEEL STOP SHOULD BE PAINTED CONTRASTING COLOR TO SURROUNDING PAVEMENT.

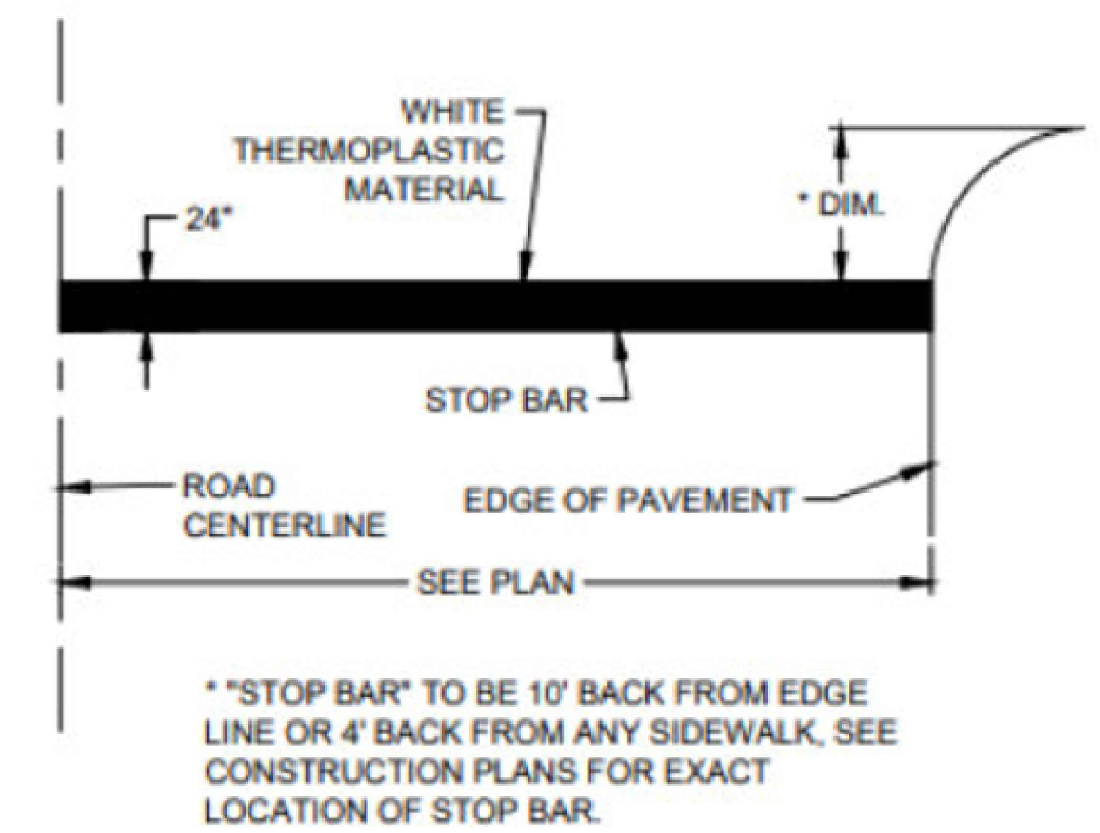
PRECAST CONCRETE WHEEL STOP SD12
N.T.S



VALLEY CURB SD16
N.T.S

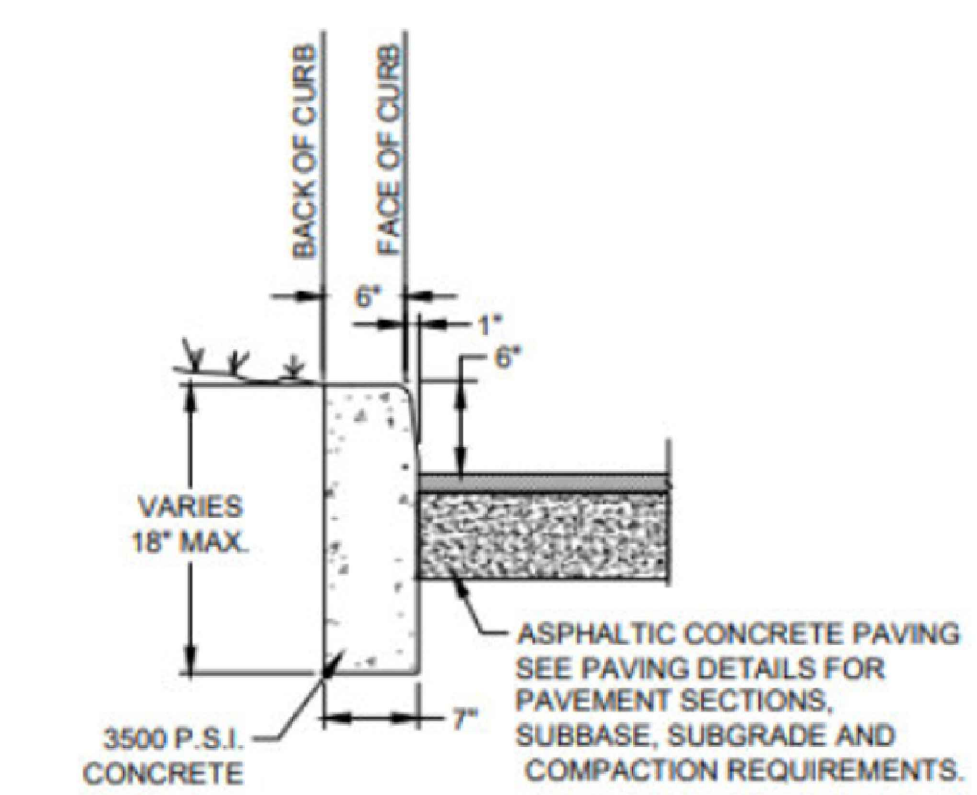


ACCESSIBLE PARKING SIGN SD15
N.T.S



* "STOP BAR" TO BE 10' BACK FROM EDGE LINE OR 4' BACK FROM ANY SIDEWALK, SEE CONSTRUCTION PLANS FOR EXACT LOCATION OF STOP BAR.

STOP BAR SD18
N.T.S



HEADER CURB SD39
N.T.S

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REVISIONS

		REVISION
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SHEET TITLE

GENERAL DETAILS

RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA
PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
JOB No.:	1369
SHEET No.:	13

STORM WATER POLLUTION PREVENTION PLAN

GENERAL NOTES

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE CLEARING AND EROSION CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS.

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES, SYNTHETIC BALES AND OTHER EROSION/SEDIMENTATION CONTROLS AS REQUIRED.
3. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN IF REQUIRED.
4. CONSTRUCT SEDIMENTATION BASIN IF REQUIRED.
5. CONTINUE CLEARING AND GRUBBING.
6. STOCK PILE TOP SOIL IF REQUIRED.
7. PERFORM PRELIMINARY GRADING ON SITE AS REQUIRED.
8. STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLE.
9. INSTALL STORM SEWER, WATER, SEWER AND IRRIGATION.
10. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
11. REMOVE ACCUMULATED SEDIMENT FROM BASIN.
12. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED.

TIMING OF CONTROLS / MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND SYNTHETIC BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE CLEARING AND EROSION CONTROL PLAN.

CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE PLANS. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE PLANS AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE PLANS AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

STABILIZED CONSTRUCTION ENTRANCE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN FOR THE DURATION OF THE CONSTRUCTION A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE. AGGREGATE SHALL BE FDOT SIZE NO. 1 COARSE AGGREGATE.

EROSION AND SEDIMENT CONTROLS STABILIZATION PRACTICES:

1. SYNTHETIC BALE BARRIER: SYNTHETIC BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF SYNTHETIC BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE AGAINST WASHOUT.
   E. REFER TO THE DETAILS FOR CONSTRUCTING THE SYNTHETIC BALE BARRIER. ALSO, REFER TO THE DETAILS FOR PROPER LOCATION, MATERIAL AND USAGE.
2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   F. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   G. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   H. REFER TO THE DETAILS FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.
3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE. LEVEL SPREADER SHALL BE CONSTRUCTED IN ACCORDANCE TO THE DETAILS.
5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 7 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDRO MULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX AND AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.
11. TEMPORARY REGRASSING: IF AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

CONTROLS *(CONTINUED)*

STRUCTURAL PRACTICES:

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY AND IT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN A DRAINAGE WAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA. THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:
   A. BLOCK AND GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. REFER TO THE DETAILS FOR CONSTRUCTION OF A CURB INLET SEDIMENT FILTER, AND FOR CONSTRUCTION OF A DROP INLET SEDIMENT FILTER.
   B. GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED SEDIMENT TRAP.
   C. DROP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S < 5%) AND WHERE SHEET OR OVERLAND FLOWS (Q < 0.5 CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS. REFER TO THE DETAILS FOR CONSTRUCTION OF SYNTHETIC BALE AND FABRIC SEDIMENT FILTER.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION AND SEDIMENT PROBLEM TO THE RECEIVING WATER BODY. SILT FENCES AND SYNTHETIC BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARGING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL:

WASTE MATERIALS:
ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE:
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES DAY-TO-DAY OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE:
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING:
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

MAINTENANCE / INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTIONS AND MAINTENANCE PRACTICES:

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

- NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
- ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
- DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
- THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
- THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES:

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

- WATER FROM WATER LINE FLUSHING.
- PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE. ALL SUCH DISCHARGES SHALL MEET STATE WATER QUALITY STANDARDS AND ALL NECESSARY PERMITS SHALL BE OBTAINED.

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GENERAL:

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER..
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES:

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS:

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS:

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS:

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS:

CONCRETE TRUCKS SHALL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONLY AT DISCHARGE POINT PROVIDED. NO OFFSITE DISCHARGE WILL BE PERMITTED.

SPILL CONTROL PRACTICES:

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS INCLUDE BUT ARE NOT LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

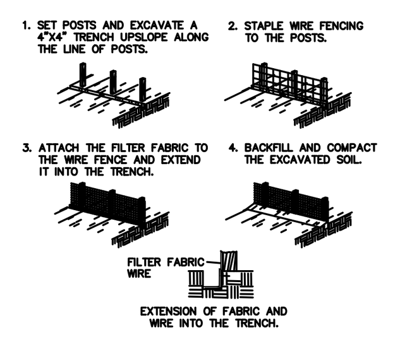
ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

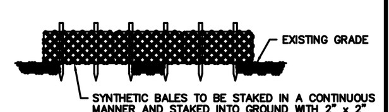
SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

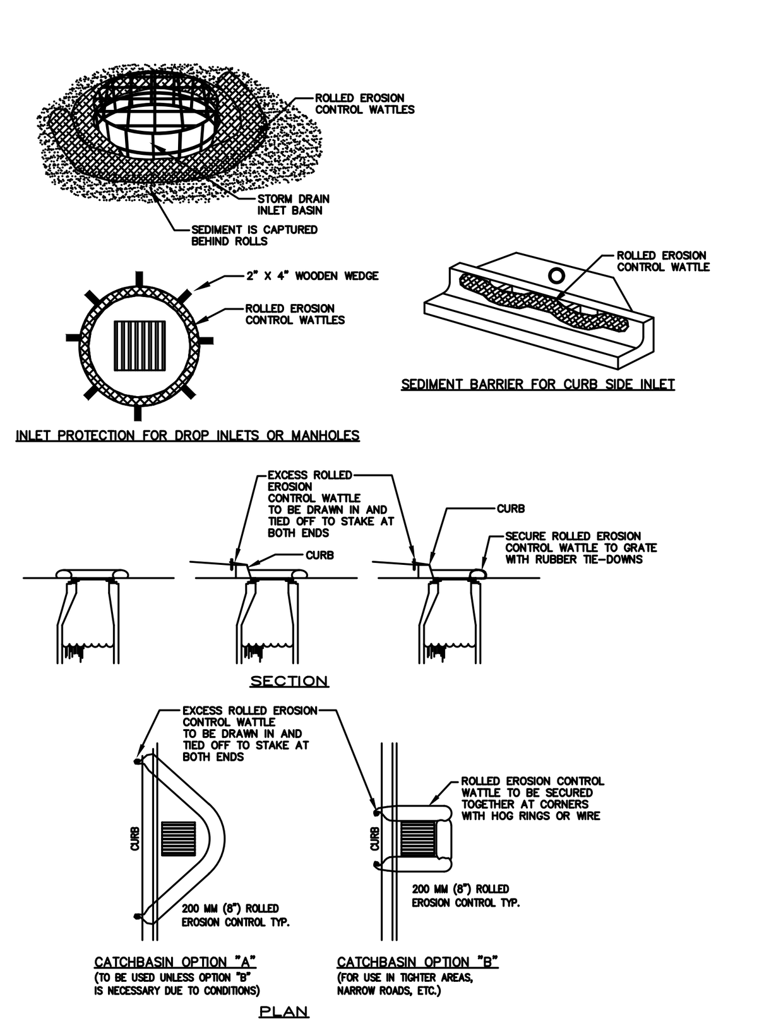


SILT FENCE CONSTRUCTION
N.T.S.



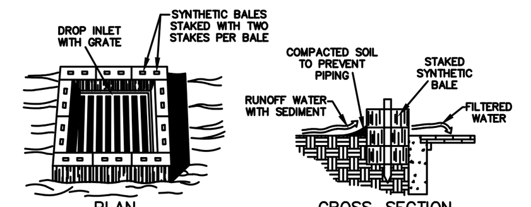
NOTE:
CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (SYNTHETIC BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATERWAYS. IN ADDITION, CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT SITE. IF, IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR LOCAL AUTHORITIES.

SEDIMENT BARRIER
N.T.S.



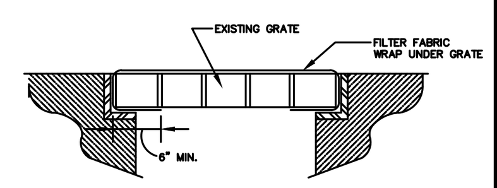
NOTES
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. SECURE ROLLED EROSION CONTROL PRODUCT TO GROUND AT EACH END.
3. ROLLS SHOULD BE INSPECTED AFTER EVERY SIGNIFICANT STORM EVENT TO CLEAN AND DISPOSE OF SEDIMENT AND DEBRIS.
4. USE 12" DIAMETER, 20' LONG WATTLE ROLLS FOR STANDARD CIRCULAR DRAINAGE STRUCTURES. PLACE THE ROLL AROUND THE STRUCTURE AND JOIN THE ENDS TOGETHER WITH HOG RINGS OR WIRE. USE 2"x2"x24" WOODEN WEDGES TO HOLD DOWN WATTLE ROLLS.

ROLLED EROSION AND SEDIMENTATION CONTROL PRODUCTS
N.T.S.

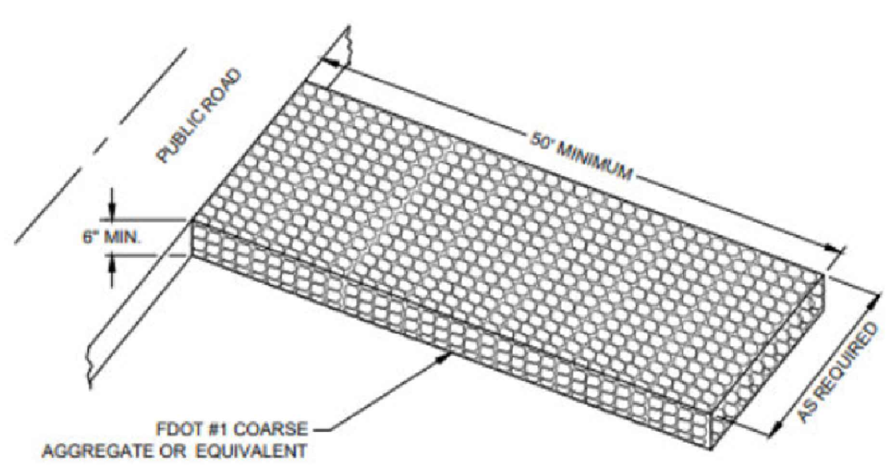


SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS ARE TYPICAL.

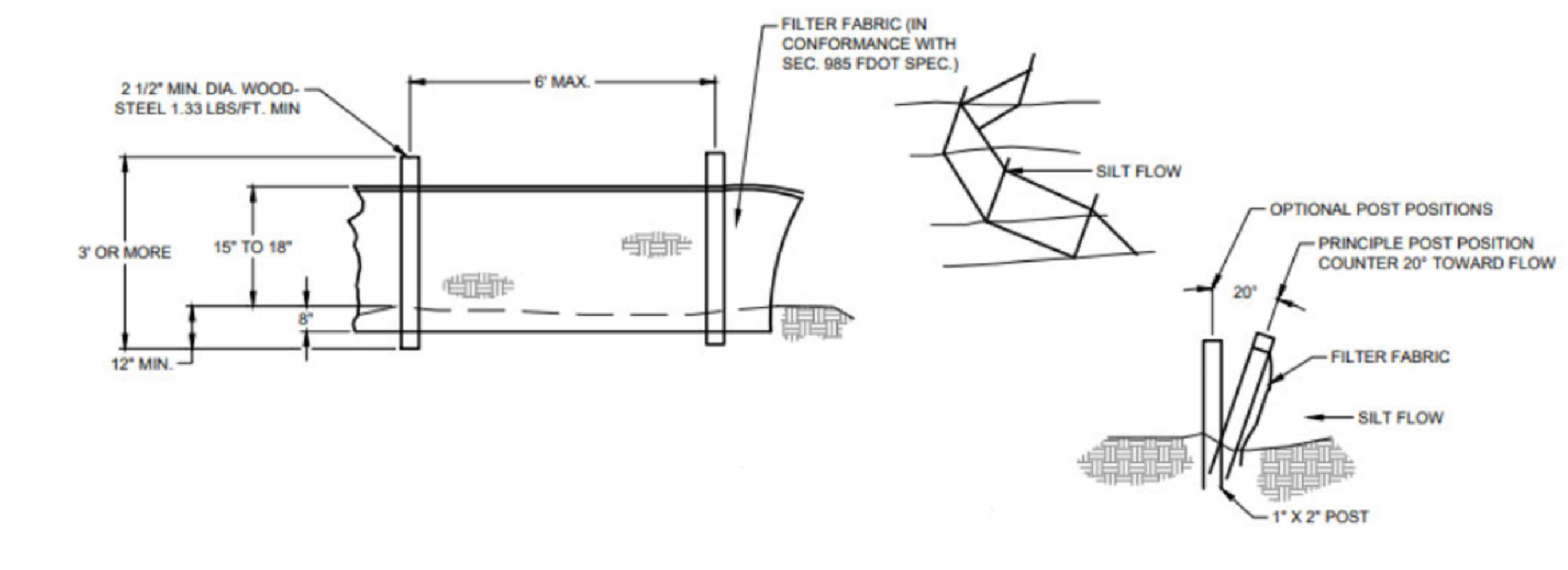
SYNTHETIC BALE DROP INLET SEDIMENT FILTER
N.T.S.



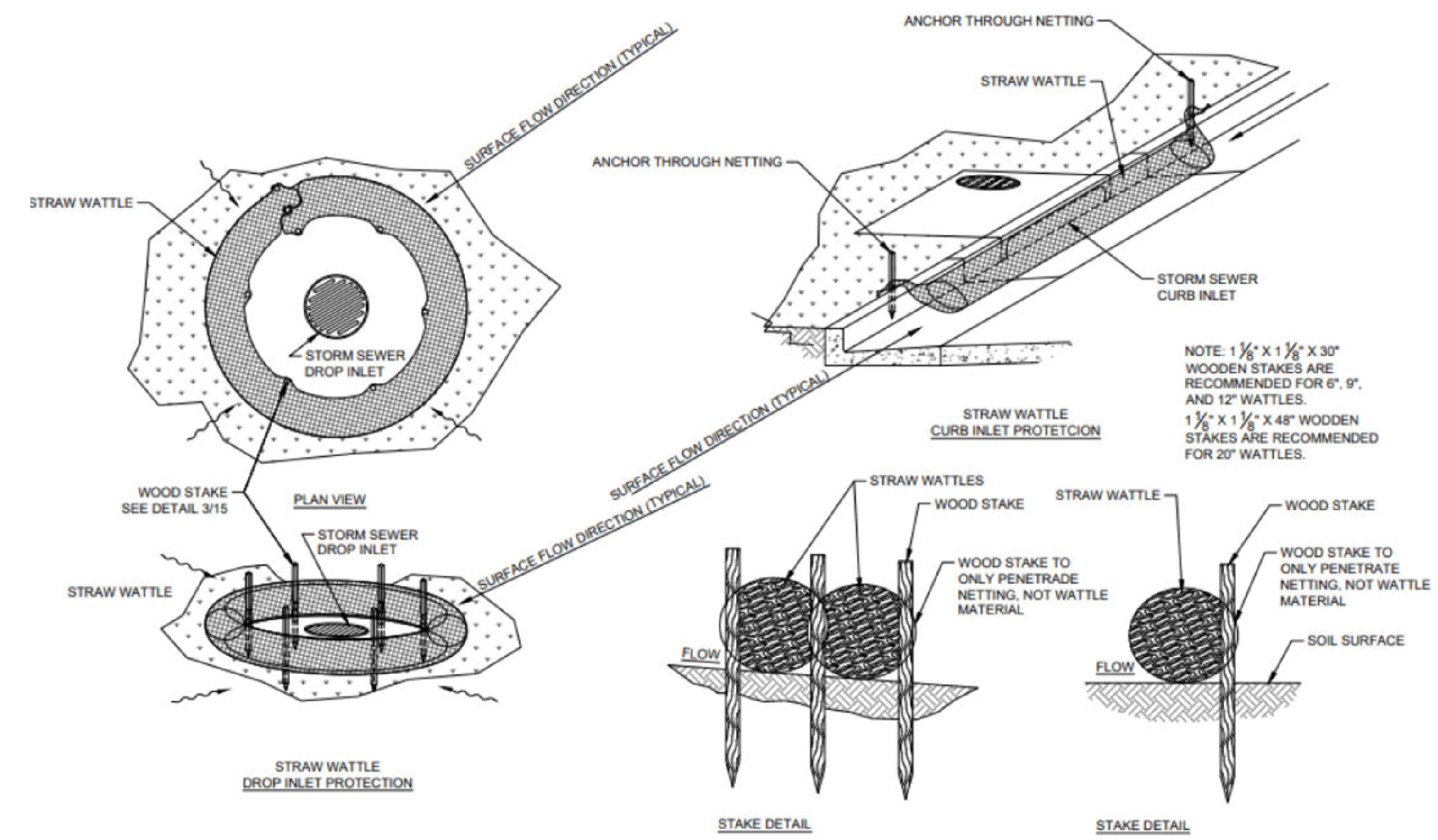
CATCH BASIN SEDIMENT PROTECTION DETAIL
N.T.S.



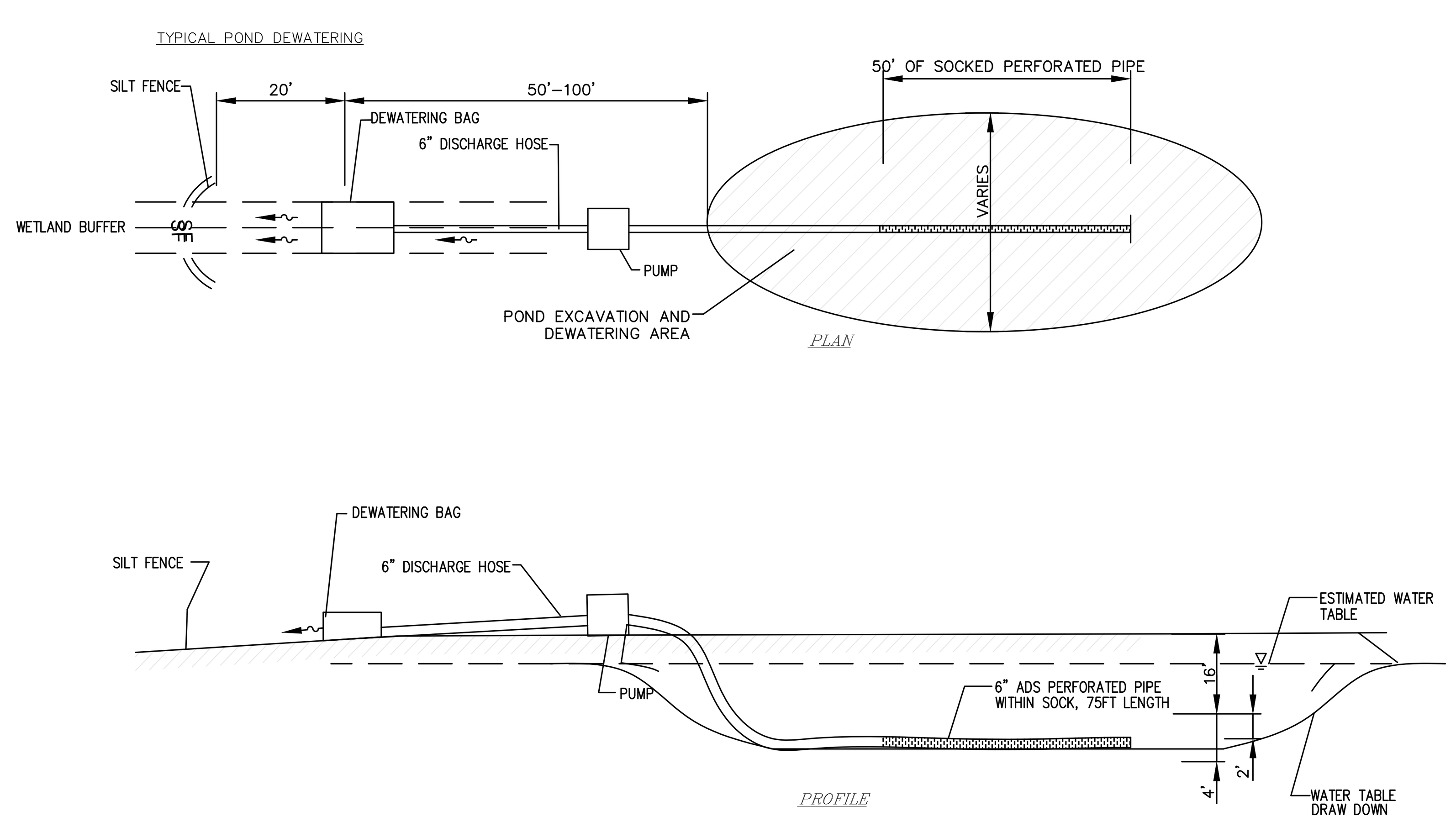
STABILIZED CONSTRUCTION ENTRANCE EC1
N.T.S



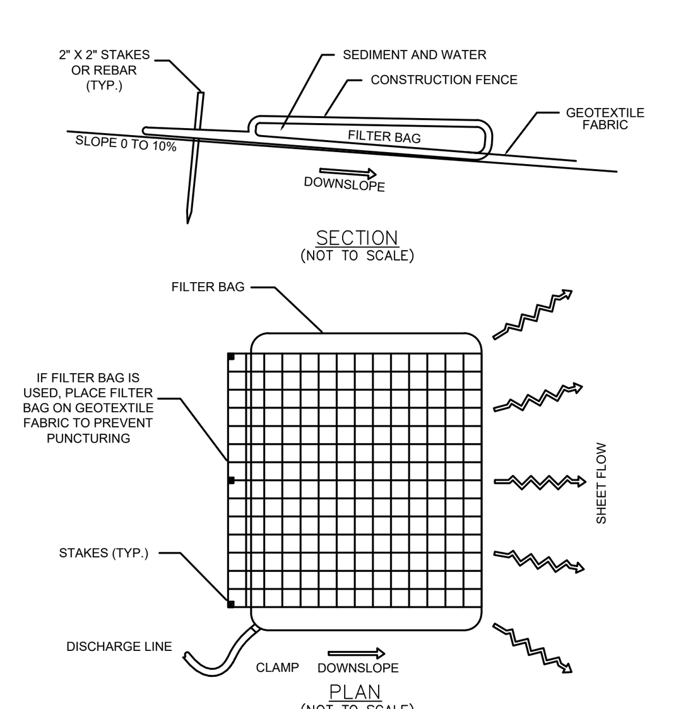
TYPE III SILT FENCE EC2
N.T.S



WATTLE INLET PROTECTION EC3
N.T.S



TYPICAL PIT DEWATERING PLAN & PROFILE



DEWATERING. IF USED FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER OR AS MODIFIED BY NOTE 2.

SITE CONDITIONS.

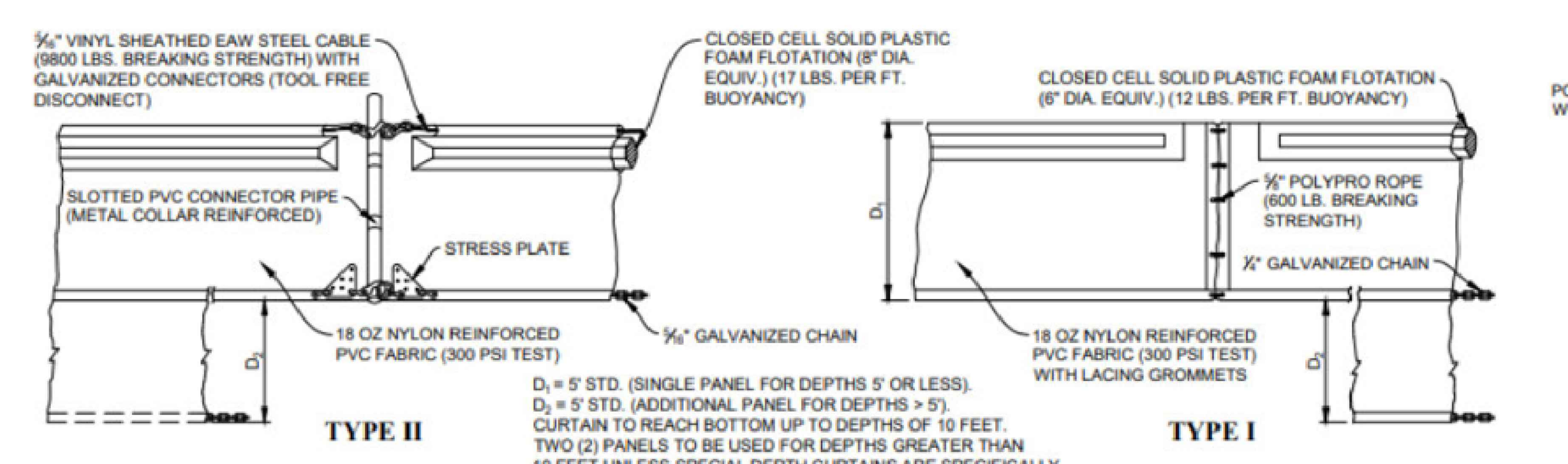
DEWATERING BAG DETAIL

DEWATERING SUMMARY

EST. GROUNDWATER DEPTH	FROM EXISTING SURFACE TO APPROXIMATELY 36" DEEP.
REQUIRED DEWATERING DEPTH	APPROXIMATELY 15 FEET BELOW EXISTING GROUND
DEWATERING AREA	2'x75'x15'
DURATION OF PUMPING	1-3 DAYS FOR EACH EXCAVATION
PUMPS	THOMPSON PUMP MODEL 6TSV-DJDS-45T-M, 6" VACUUM ASSISTED DRY PRIME PUMP(OR EQUIVALENT)
DISCHARGE LOCATIONS	ALL PUMPS DISCHARGE TO GRASS SWALE ALONG THE ROAD
EST. GROUNDWATER EXTRACTION	43.7 GPM TOTAL FOR 75FT OF 6"PERORATED PIPE
EROSION CONTROL	PROPOSED SILT FENCE, AND DEWATERING FILTER BAG

GENERAL NOTES:

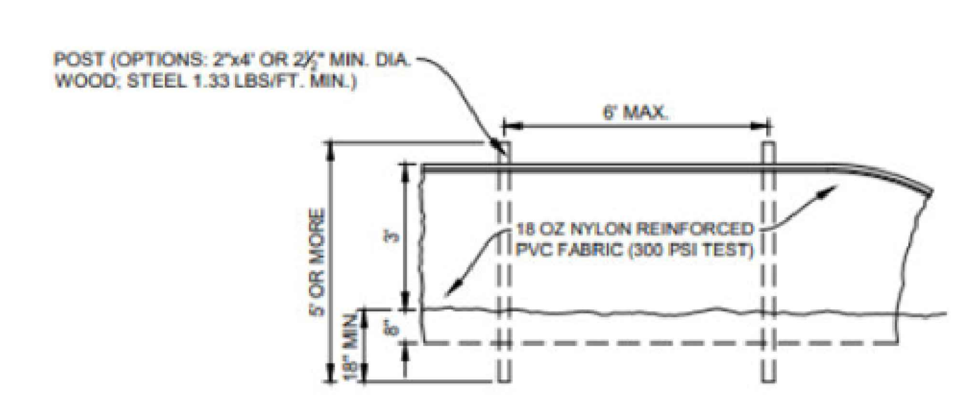
1. IF REQUIRED, CONTRACTOR SHALL APPLY DEWATERING PLAN WHEN WATER TABLE IS ENCOUNTERED AT TIME OF CONSTRUCTION.
2. IF DEWATERING IS REQUIRED THIS DEWATERING PLAN REPRESENTS THE MAX. PUMP CAPACITY THE CONTRACTOR MAY USE.
3. THE DISCHARGE PIPE LENGTH IS APPROXIMATELY 100FT FROM PUMP TO THE FILTER BAG. THE DIRECTIONS FOR THE DISCHARGE PIPE IS TOWARD THE EAST.
4. ADDITIONAL SILTFENCE SHALL BE INSTALLED PRIOR TO ENTERING WETLAND BUFFER.
5. LOCATION OF THE DEWATERING PERFORATED PIPE SHALL IN INSTALLED EITHER DIRECTLY AT THE BOTTOM OF THE EXCAVATION PIT.



D_1 = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
D_2 = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5').
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET.
TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS ARE SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

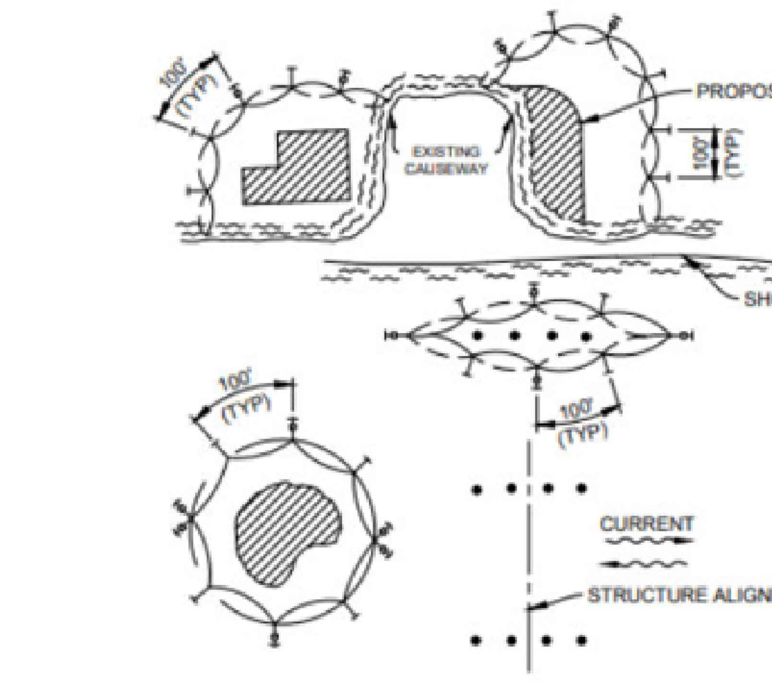
NOTICE:
COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS

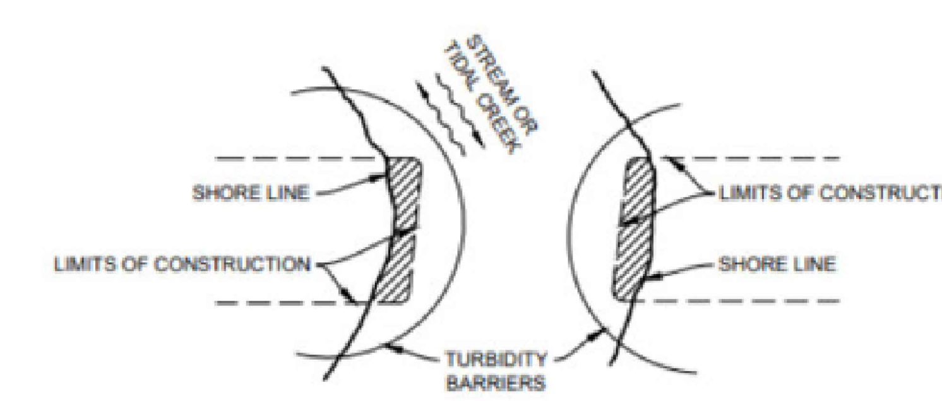


STAKED TURBIDITY BARRIER

LEGEND
- PILE LOCATIONS
- DREDGE OR FILL AREA
- MOORING BUOY W/ANCHOR
- ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION



TURBIDITY BARRIER APPLICATIONS



NOTES:
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

NOTE:
TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

GENERAL NOTES
1. FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIER, LF.
2. STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

TURBIDITY BARRIER EC4
N.T.S

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
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MAI ENGINEERING SERVICES, INC.

LICENSED ENGINEER
QUOC H. MAI
FL.#64006 CA#28162

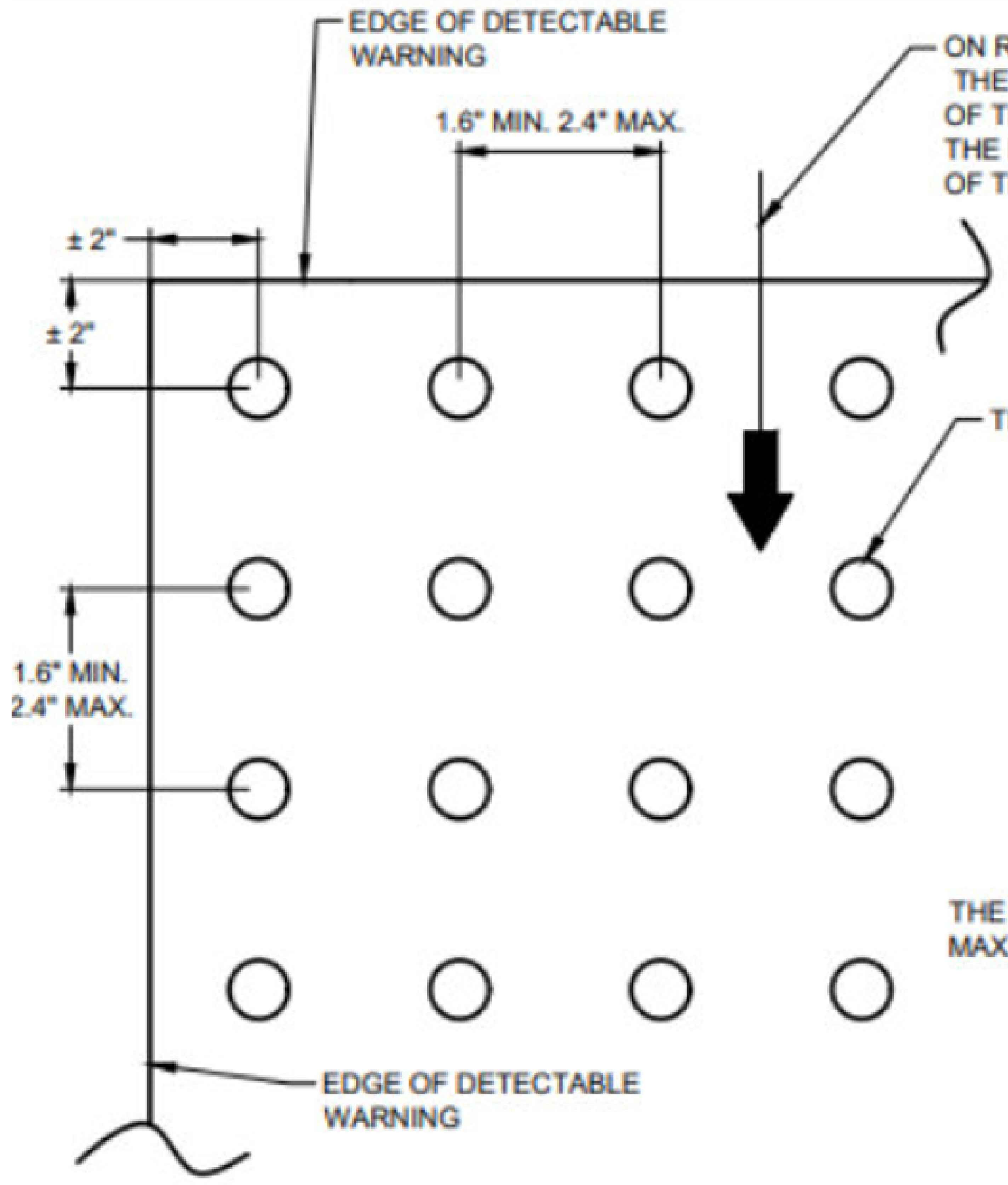
REVISIONS

#	DATE	REVISION
1	12/17/22	REVISION PER CITY REQUEST
2	04/12/2023	REVISION PER CITY AND WMD RAI
3	06/28/2023	REVISION PER CITY COMMENTS
4	01/22/2024	REVISION PER WMD COMMENTS
5	04/04/2024	REVISION PER CITY COMMENTS
6	04/17/2024	REVISION PER CITY COMMENTS

SHEET TITLE: EROSION CONTROL DETAILS

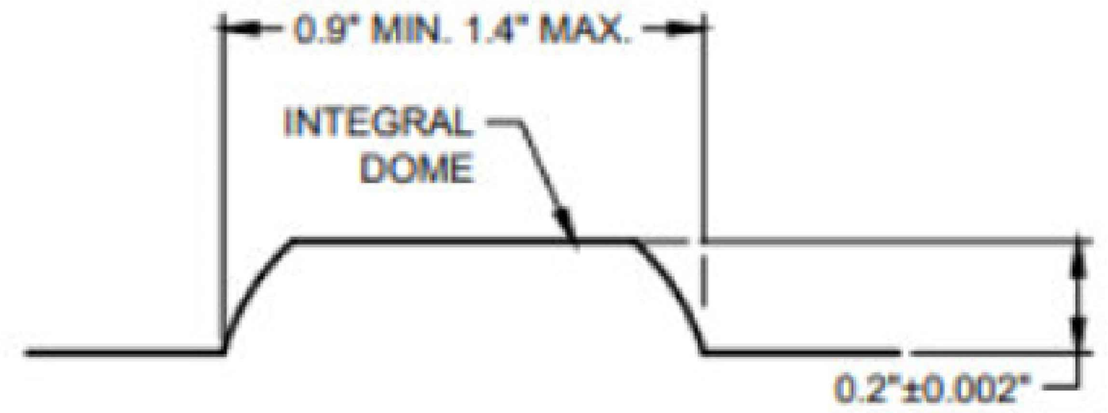
RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA
PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
JOB No.:	1369
SHEET No.:	12



ON RAMPS THAT ARE PERPENDICULAR WITH THE CURB LINE, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL. ON RAMPS INTERSECTING CURBS ON A RADIUS, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL TO THE EXTENT PRACTICAL.

TRUNCATED DOME



THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.

TRUNCATED DOME

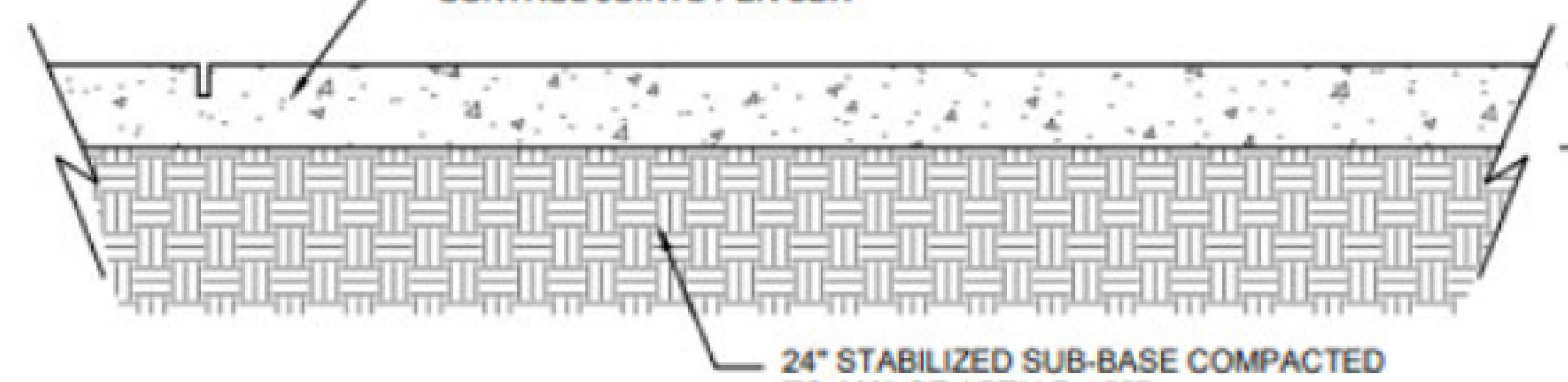
BASE-TO BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.

PLAN VIEW

NOTES:

1. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES FROM THE BACK OF CURB.
2. SEE FDOT STANDARD INDEX 522-002, LATEST EDITION FOR MORE DETAILS.
3. DETECTABLE WARNING SURFACE SHALL BE "SAFETY YELLOW" COMPOSITE MATERIAL ANCHORED IN THE RAMP. WARNING SURFACE SHALL BE SET INTO THE CONCRETE AND BE FLUSH WITH CONCRETE SURFACE ALONG ALL FOUR SIDES.
4. DETECTABLE WARNING SURFACE TO BE CAST IN PLACE COMPOSITE TACTILE BY ADA SOLUTIONS, INC. OR CAST IN PLACE DETECTABLE WARNING PANEL BY ARMORCAST.

DETECTABLE WARNING DETAIL SD26
N.T.S



RECOMMENDED MAX. JOINT SPACINGS

PAVEMENT THICKNESS (INCHES)	RECOMMENDED MAXIMUM JOINT SPACING (FEET)
3.5 (FOR WHITETOPPING ONLY)	6
4.0	10
4.5	10
5.0	12
5.5	12
6.0	15
OVER 6.0	15

GENERAL NOTES:

1. USE ACI 330 GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS.
2. USE ACI 330.1 STANDARD SPECIFICATION FOR PLAIN CONCRETE PARKING LOTS.
3. ALL CONCRETE USED IN PARKING LOT, UNLESS OTHERWISE INDICATED, SHALL HAVE A COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
4. PREPARE THE SUBGRADE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEEER'S RECOMMENDATIONS FOR RIGID PAVEMENTS. SUBGRADE SOIL DENSITY TESTING MUST BE COMPLETED AND VERIFIED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT.
5. IMPORTED SOIL USE FOR BACK FILL SHOULD BE FREE OF HEAVY CLAY, SILTS, STONES, PLANT ROOT OR OTHER FOREIGN MATERIAL GREATER THAN 1½" IN DIAMETER IN ORDER TO ACHIEVE ADEQUATE COMPACTION AROUND ANY FIXED OBJECT IN GROUND. ALTERNATE WILL BE TO USE FLOWABLE FILL.
6. CURE CONCRETE IMMEDIATELY AFTER FINISHING OPERATION IS COMPLETED BY USING ONE OF THE FOLLOWING METHODS: WATER, PIGMENTED WATER-BASED CURING COMPOUND OR VISQUEEN AND BURLAP.

COMPACTED SUBGRADE:

1. SUBGRADE FOR PAVEMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 98% OF MAXIMUM DRY DENSITY USING STANDARD EFFORT AS DETERMINED BY ASTM D 698 FOR A MINIMUM DEPTH OF 12 INCHES.

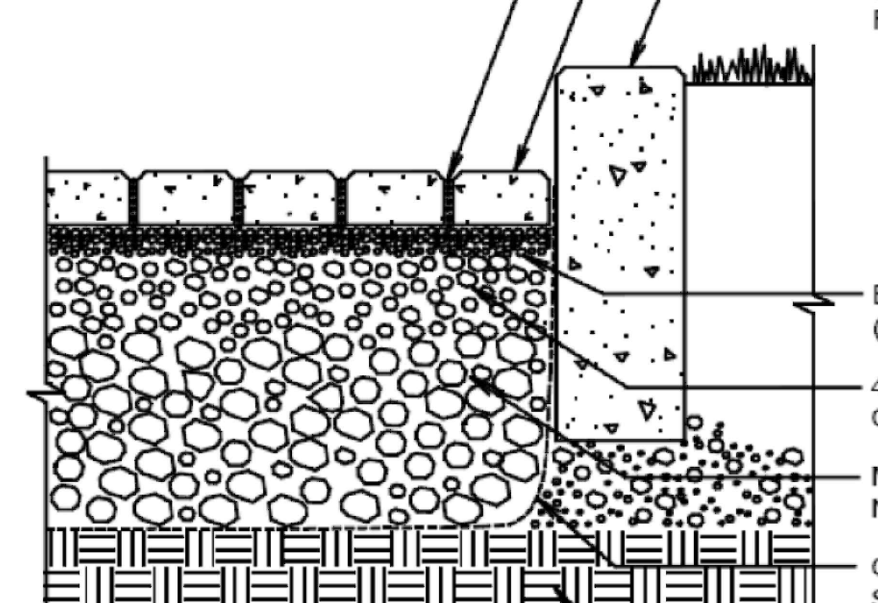
CURBS:

1. ALL CURBING SHALL BE CONSTRUCTED OF CONCRETE THAT WILL OBTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. ALL CONCRETE CURBS SHALL BE SPACED WITH A FULL-DEPTH, ½" WIDTH ISOLATION JOINT MATERIAL (UNLESS OTHERWISE NOTED) PRIOR TO PLACEMENT OF ADJACENT CONCRETE PAVEMENT.
3. THERE SHALL BE CONTROL JOINTS, EITHER TOOL OR SAW-CUT, MATCH PAVEMENT JOINTS, UNLESS OTHERWISE SPECIFIED; JOINTS SHALL BE FORMED WITHIN 12 HOUR OF PLACEMENT.
4. ALL CURB ENDS THAT DO NOT TIE INTO OTHER FACILITIES SHALL TRANSITION DOWN TO PAVEMENT GRADE IN 24 INCHES.
5. CONSTRUCTION JOINT SHALL BE TIED WITH A No.4 TIE BAR EXTENDED 6 INCHES INTO EACH CURB SECTION AND SHALL BE SPACED WITH A FULL-DEPTH ½" WIDTH ISOLATION JOINT MATERIAL.

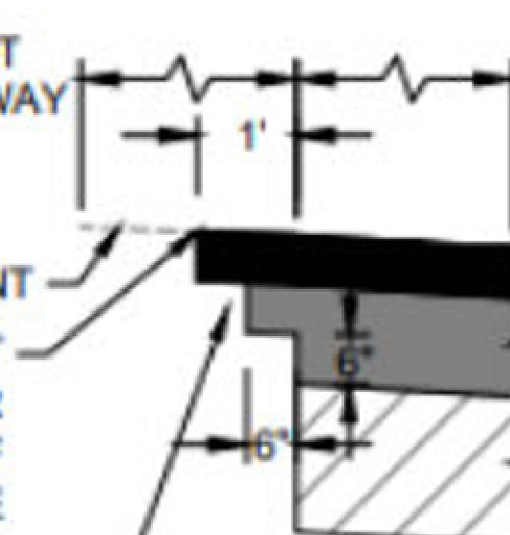
JOINT SPACING DETERMINATION:

1. LAYOUT CONTROL JOINT BY STARTING WITH ANY DRAINAGE INLET WITHIN THE PAVEMENT SECTION AND WORK TOWARD EDGE OF PAVEMENT.
2. KEEP ALL JOINTS CONTINUOUS.
3. CONTROL JOINTS SHALL BE FORMED OR SAWED WITHIN 12 HOURS FROM TIME OF PLACEMENT;
   A. SIDEWALK-SPACING SHALL BE SAME AS WIDTH OF PAVEMENT AND LESS THAN 5 FEET IN LENGTH.
   B. PAVEMENT-MAXIMUM SPACING SHALL BE 2.5 TIMES THICKNESS IN UNIT OF FEET AND LESS THAN 15 FEET IN LENGTH (E.G. D=5 INCHES, SPACING AT 12'x12').

CONCRETE PAVEMENT SECTION SD36
N.T.S



PARKING STALL PAVER DETAIL SD5
N.T.S



CONNECT TO EXISTING PAVEMENT SD34
N.T.S

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
quoc@maiengineer.com
MAI ENGINEERING SERVICES, INC.

LICENSED ENGINEER
QUOC H. MAI
FL.#64006 CA#28162

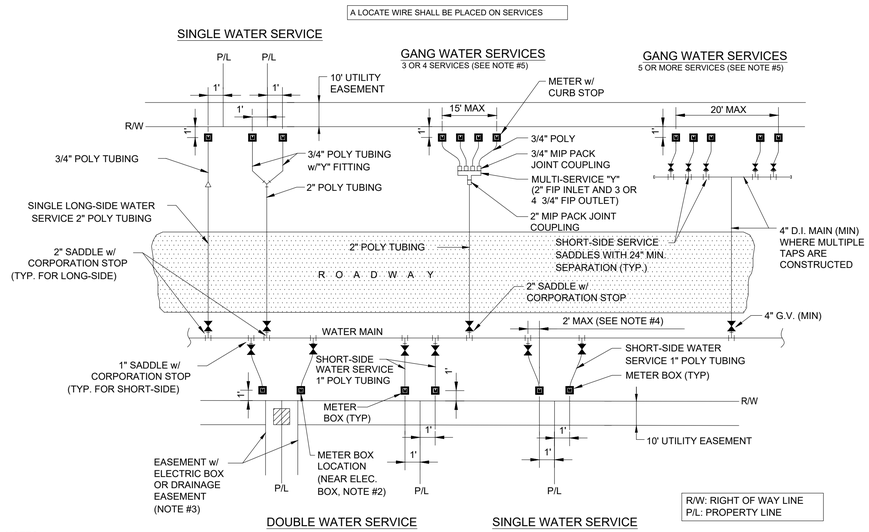
REVISIONS

		REVISION
1	12/17/22	REVISION PER CITY REQUEST
2	04/12/2023	REVISION PER CITY AND WMD RAI
3	06/28/2023	REVISION PER CITY COMMENTS
4	01/22/2024	REVISION PER WMD COMMENTS
5	04/04/2024	REVISION PER CITY COMMENTS
6	04/17/2024	REVISION PER CITY COMMENTS

SHEET TITLE
GENERAL DETAILS

RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA
PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY: QHM
DWG BY: GMG
CHK BY: QHM
DATE: 4/18/2024
JOB No.: 1369
SHEET No.: 14



NOTES

1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. TYPICALLY, THE METER BOX SHALL BE LOCATED 1.0' OFF OF THE R/W LINE.

2. UNLESS SPECIFIED OTHERWISE BY THE CITY OF GREEN COVE SPRINGS, THE METER BOX SHALL BE LOCATED 1.0' OFF OF THE R/W LINE, AND 1.0' FOOT INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LIEU OF 1.0' FEET), UNLESS APPROVED OTHERWISE BY THE CITY, THE WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF AN UNAPPROVED METER BOX IS IDENTIFIED BY THE CITY, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. THE CITY SHALL APPROVE ALL DEVIATIONS TO THE ABOVE PRIOR TO CONSTRUCTION.

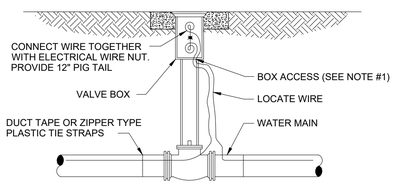
3. IF DRAINAGE OR OTHER EASEMENT IS LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT AREA.

4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN) BETWEEN THE SERVICE'S SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM. FOR DOUBLE 3/4 " SERVICES, THE 2 " POLY MAIN SHALL BE LOCATED CENTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES. THE WIRE SHALL RUN FROM THE METER BOX TO THE MAIN (WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPPED OF INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY THE CITY OF GREEN COVE SPRINGS. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE FUTURE.

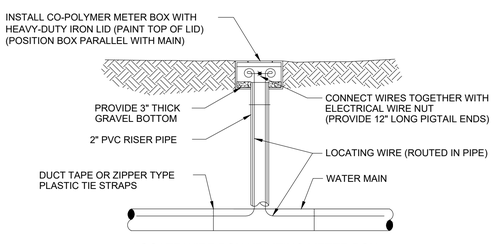
5. GANG WATER SERVICES: FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTICLE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CURB STOP AT WATER MAIN. FOR 5 OR MORE SERVICES IN ONE AREA, A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER (MIN). FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN D.I. CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" G.V., 4" PIPE, 4"X1" SADDLES AND 1" CURB STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE ENGINEER.

6. ALL COMMERCIAL WATER SERVICES SHALL BE 2" POLYETHYLENE PIPING CONNECTED TO 2" CURB STOP IN METER BOX, UNLESS OTHERWISE APPROVED BY THE CITY.

WATER SERVICE INSTALLATIONS 2" AND SMALLER METER



LOCATE WIRE BOX UTILIZING VALVE BOX

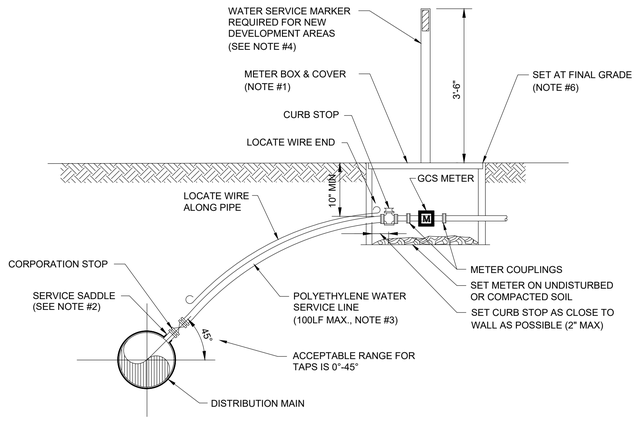


LOCATE WIRE BOX UTILIZING METER BOX

NOTES

1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE.

LOCATE WIRE BOX



NOTES

1. SEE CITY OF GREEN COVE SPRINGS APPROVED MATERIALS MANUAL AND SYSTEM DETAILS FOR REQUIREMENTS.

2. SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED.

3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY CITY OF GREEN COVE SPRINGS. CONSTRUCT POLY LINE WITH 36" (MIN.) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (3/4" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS OTHERWISE APPROVED BY CITY OF GREEN COVE SPRINGS.

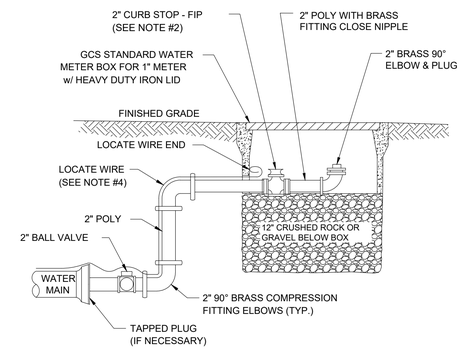
4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E.: IF NO METER IS INSTALLED). IN ADDITION, INSTALL A 6', 6" P.T. FENCE POST (TOP PAINTED BLUE) 12" OFF SIDE OF METER BOX. THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE BOXES, METERS OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.

6. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (I.E., NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).

7. LOCATE WIRING REQUIRED ON ALL LONG AND SHORT SERVICES.

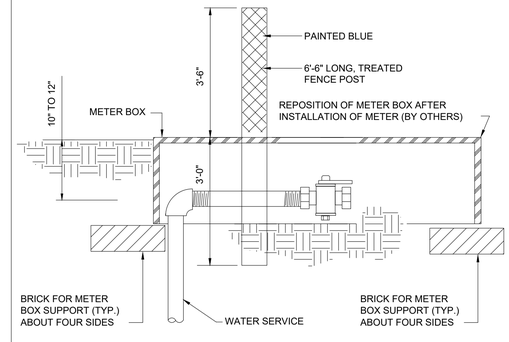
WATER SERVICE DETAIL- 2" AND SMALLER METER



NOTES

1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
2. THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
3. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
4. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

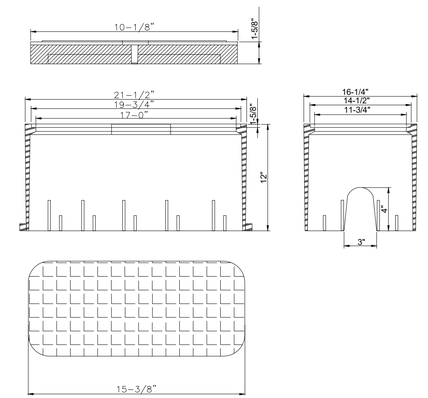
FLUSHING VALVE BELOW GRADE



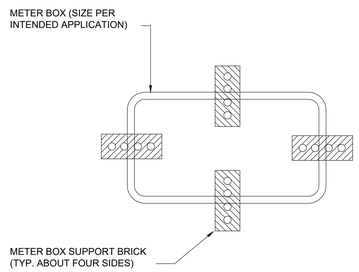
WATER SERVICE MARKER POST

NOTE:
ALL SERVICES ARE TO BE CLEARLY MARKED BY A TREATED 6'-6" LONG MARKER POST PAINTED BLUE. ALL SERVICES ARE TO BE EXTENDED ABOVE GRADE UNTIL COMPLETION OF ALL GRADING ACTIVITIES. ONCE FINAL ROAD GRADING IS COMPLETE, LOWER SERVICES BY CUTTING OFF RISER 10" TO 12" BELOW FINAL GRADE AND INSTALL 90° BEND, NIPPLE AND LW BALL VALVE AT THAT ELEVATION. SET METER BOX OVER ENTIRE HORIZONTAL SECTION OF SERVICE LINE FROM LAST 90° BEND TO THE END OF THE CURB STOP. BOX TO BE REPOSITIONED WHEN THE METER IS INSTALLED. MARKER POST TO BE INSTALLED ADJACENT TO AND LOCATED AT THE MID SECTION OF THE METER BOX.

NOTE:
MIN. WALL THIKNESS: .25"
DOUBLE WALL BODY w/STRUCTURAL SUPPORT RIBS
w/MIN. THINCKNESS: 3/16"
1" BOTTOM FLANGE
BOX IS INJECTED MOLDED STRUCTURAL FOAM RECYCLED POLYPROPYLENE MATERIAL



METER BOX & SOLID BLUE LID



METER BOX SUPPORT DETAIL

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
quoc@maiengineer.com
MAI ENGINEERING SERVICES, INC.
LICENSED ENGINEER
QUOC H. MAI
FL.#64006 CA#28162

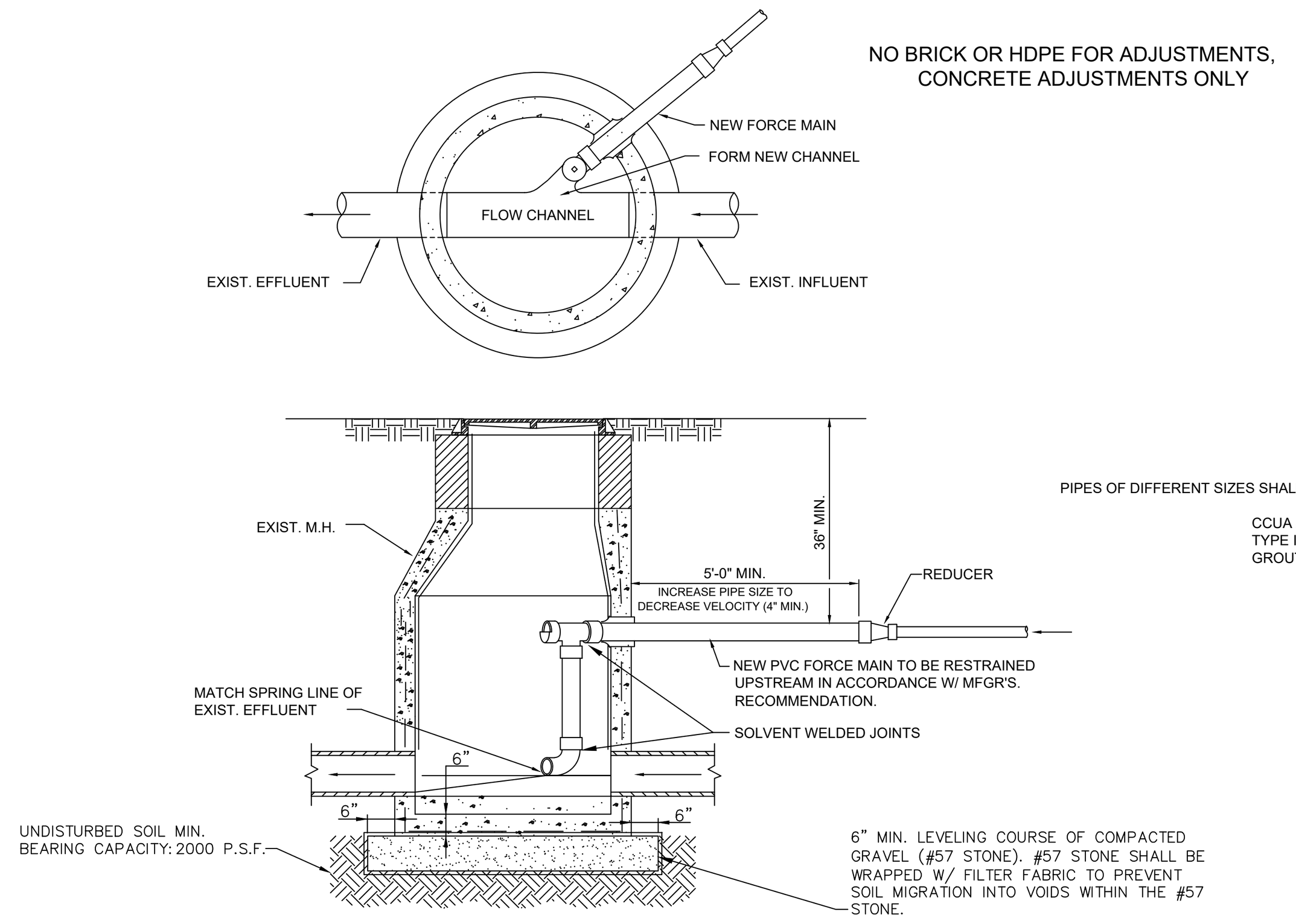
REVISIONS

0	12/21/22	REVISION PER CITY REVISIT
1	04/20/2023	REVISION PER CITY AND RWD RAI
2	08/30/2023	REVISION PER CITY COMMENTS
3	01/22/2024	REVISION PER RWD COMMENTS
4	04/04/2024	REVISION PER CITY COMMENTS
5	04/17/2024	REVISION PER CITY COMMENTS

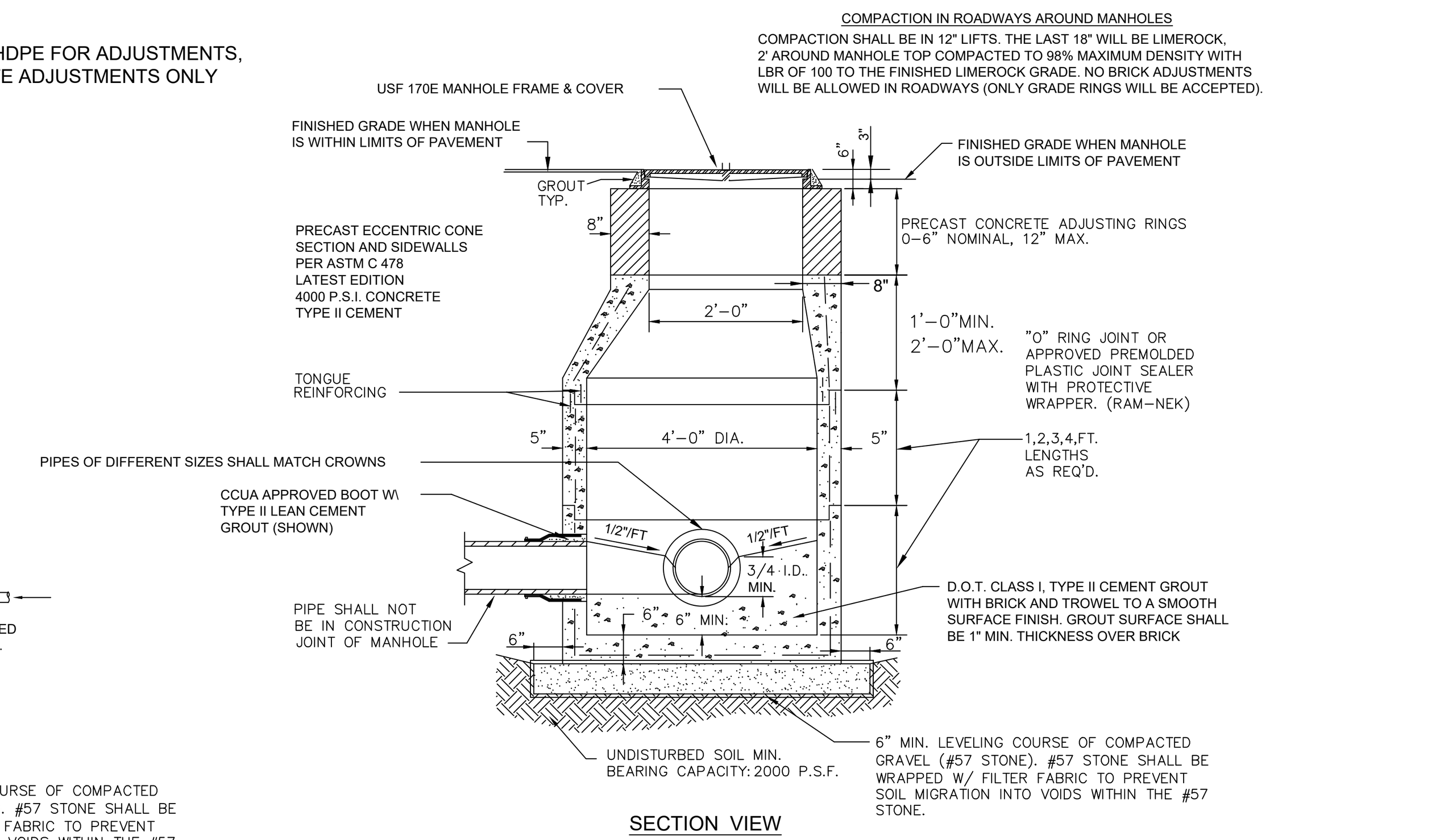
SHEET TITLE: WATER SERVICE DETAILS

RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA
PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
JOB No.:	1369
SHEET No.:	15


NO BRICK OR HDPE FOR ADJUSTMENTS, CONCRETE ADJUSTMENTS ONLY
NEW FORCE MAIN
FORM NEW CHANNEL
FLOW CHANNEL
EXIST. EFFLUENT
EXIST. INFLUENT
EXIST. M.H.
36" MIN.
5'-0" MIN.
INCREASE PIPE SIZE TO DECREASE VELOCITY (4" MIN.)
REDUCER
NEW PVC FORCE MAIN TO BE RESTRAINED UPSTREAM IN ACCORDANCE W/ MFGR'S. RECOMMENDATION.
MATCH SPRING LINE OF EXIST. EFFLUENT
SOLVENT WELDED JOINTS
6"
UNDISTURBED SOIL MIN. BEARING CAPACITY: 2000 P.S.F.
6" MIN. LEVELING COURSE OF COMPACTED GRAVEL (#57 STONE). #57 STONE SHALL BE WRAPPED W/ FILTER FABRIC TO PREVENT SOIL MIGRATION INTO VOIDS WITHIN THE #57 STONE.

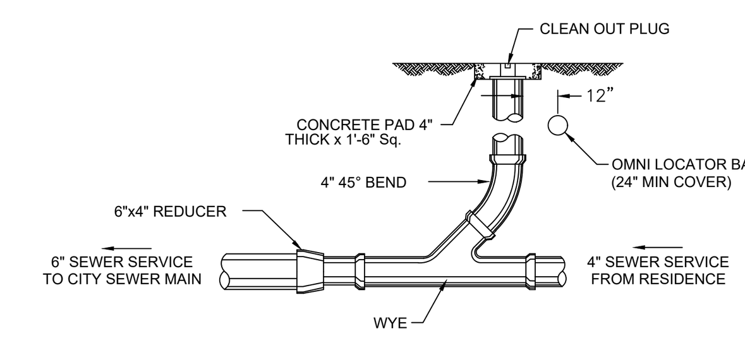
TYP. FORCE MAIN CONNECTION TO MANHOLE


COMPACTION IN ROADWAYS AROUND MANHOLES
COMPACTION SHALL BE IN 12" LIFTS. THE LAST 18" WILL BE LIMEROCK, 2' AROUND MANHOLE TOP COMPACTED TO 98% MAXIMUM DENSITY WITH LBR OF 100 TO THE FINISHED LIMEROCK GRADE. NO BRICK ADJUSTMENTS WILL BE ALLOWED IN ROADWAYS (ONLY GRADE RINGS WILL BE ACCEPTED).
USF 170E MANHOLE FRAME & COVER
FINISHED GRADE WHEN MANHOLE IS WITHIN LIMITS OF PAVEMENT
FINISHED GRADE WHEN MANHOLE IS OUTSIDE LIMITS OF PAVEMENT
GROUT TYP.
PRECAST CONCRETE ADJUSTING RINGS 0–6" NOMINAL, 12" MAX.
PRECAST ECCENTRIC CONE SECTION AND SIDEWALLS PER ASTM C 478 LATEST EDITION 4000 P.S.I. CONCRETE TYPE II CEMENT
2'–0"
1'–0"MIN.
2'–0"MAX.
"O" RING JOINT OR APPROVED PREMOLDED PLASTIC JOINT SEALER WITH PROTECTIVE WRAPPER. (RAM–NEK)
TONGUE REINFORCING
4'–0" DIA.
1,2,3,4,FT. LENGTHS AS REQ'D.
PIPES OF DIFFERENT SIZES SHALL MATCH CROWNS
CCUA APPROVED BOOT W\ TYPE II LEAN CEMENT GROUT (SHOWN)
1/2"/FT
3/4 I.D. MIN.
PIPE SHALL NOT BE IN CONSTRUCTION JOINT OF MANHOLE
D.O.T. CLASS I, TYPE II CEMENT GROUT WITH BRICK AND TROWEL TO A SMOOTH SURFACE FINISH. GROUT SURFACE SHALL BE 1" MIN. THICKNESS OVER BRICK
UNDISTURBED SOIL MIN. BEARING CAPACITY: 2000 P.S.F.
6" MIN. LEVELING COURSE OF COMPACTED GRAVEL (#57 STONE). #57 STONE SHALL BE WRAPPED W/ FILTER FABRIC TO PREVENT SOIL MIGRATION INTO VOIDS WITHIN THE #57 STONE.
SECTION VIEW

SANITARY SEWER MANHOLE

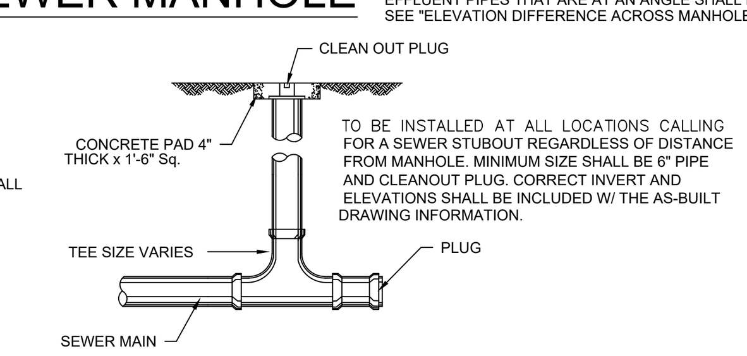
MANHOLE INVERTS DESIGN CRITERIA

FALL ACROSS MANHOLE FROM INFLUENT TO EFFLUENT OF IN LINE PIPES SHALL BE 0.05 FT. MIN. INFLUENT TO EFFLUENT PIPES THAT ARE AT AN ANGLE SHALL BE 0.10 SEE "ELEVATION DIFFERENCE ACROSS MANHOLE" THIS SHEET.



CLEANOUT DETAIL

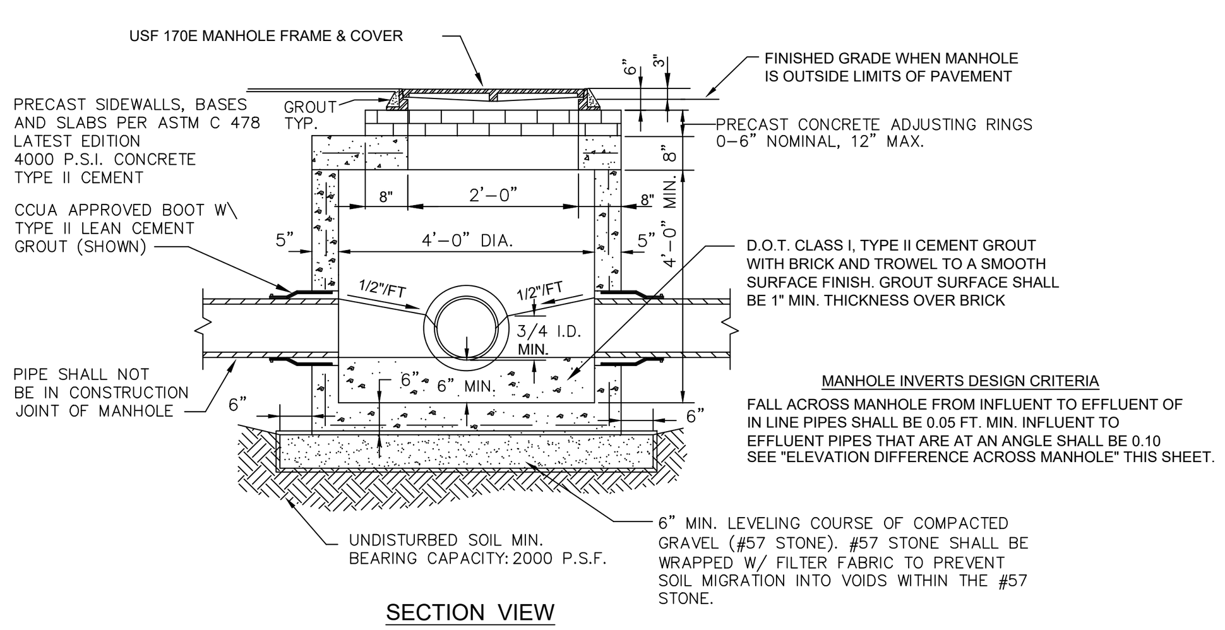
N.T.S.


CLEAN OUT PLUG
CONCRETE PAD 4" THICK x 1'-6" Sq.
TO BE INSTALLED AT ALL LOCATIONS CALLING FOR A SEWER STUBOUT REGARDLESS OF DISTANCE FROM MANHOLE. MINIMUM SIZE SHALL BE 6" PIPE AND CLEANOUT PLUG. CORRECT INVERT AND ELEVATIONS SHALL BE INCLUDED W/ THE AS-BUILT DRAWING INFORMATION.
TEE SIZE VARIES
PLUG
SEWER MAIN

STANDARD STUBOUT SURVEY ACCESSIBLE CLEANOUT

N.T.S.

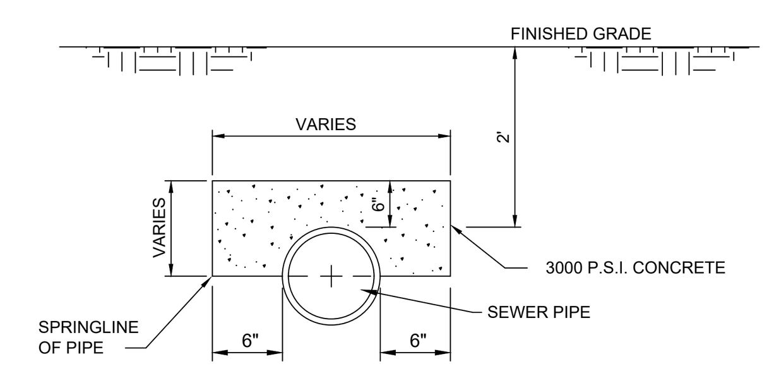
NOTE:
1. THIS MANHOLE AND THE NEXT TWO MANHOLES DOWNSTREAM (AS REQUIRED BY UTILITY) ARE TO HAVE POLYETHYLENE LINER AS MANUFACTURED BY STANDARD PRECAST CO. (AGRU SURE GRIP) OR APPROVED EQUAL.
2. IF CONNECTION IS BEING MADE TO AN EXISTING MANHOLE, THAT MANHOLE AND THE NEXT TWO MANHOLES DOWNSTREAM (AS REQUIRED BY UTILITY), SHALL BE LINED WITH "SPECTRASHIELD" OR APPROVED EQUAL.
3. SIZE OF DROP PIPE CONNECTION TO MANHOLE SHALL BE DESIGNED BY THE PROJECT ENGINEER. MINIMUM SIZE SIZE SHALL BE 4". CONNECTION AND DROP PIPE SHALL BE SIZED TO REDUCE THE VELOCITY AND PREVENT "SPLASHOVER" WITHIN THE MANHOLE. 5'-0" MINIMUM DISTANCE FROM MANHOLE TO REDUCER MAY BE INCREASED TO ASSIST IN THIS VELOCITY REDUCTION.


USF 170E MANHOLE FRAME & COVER
FINISHED GRADE WHEN MANHOLE IS OUTSIDE LIMITS OF PAVEMENT
PRECAST SIDEWALLS, BASES AND SLABS PER ASTM C 478 LATEST EDITION 4000 P.S.I. CONCRETE TYPE II CEMENT
GROUT TYP.
PRECAST CONCRETE ADJUSTING RINGS 0–6" NOMINAL, 12" MAX.
8"
2'–0"
4'–0" MIN.
CCUA APPROVED BOOT W\ TYPE II LEAN CEMENT GROUT (SHOWN)
4'–0" DIA.
D.O.T. CLASS I, TYPE II CEMENT GROUT WITH BRICK AND TROWEL TO A SMOOTH SURFACE FINISH. GROUT SURFACE SHALL BE 1" MIN. THICKNESS OVER BRICK
1/2"/FT
3/4 I.D. MIN.
PIPE SHALL NOT BE IN CONSTRUCTION JOINT OF MANHOLE
6" MIN.
UNDISTURBED SOIL MIN. BEARING CAPACITY: 2000 P.S.F.
6" MIN. LEVELING COURSE OF COMPACTED GRAVEL (#57 STONE). #57 STONE SHALL BE WRAPPED W/ FILTER FABRIC TO PREVENT SOIL MIGRATION INTO VOIDS WITHIN THE #57 STONE.
SECTION VIEW

MANHOLE INVERTS DESIGN CRITERIA

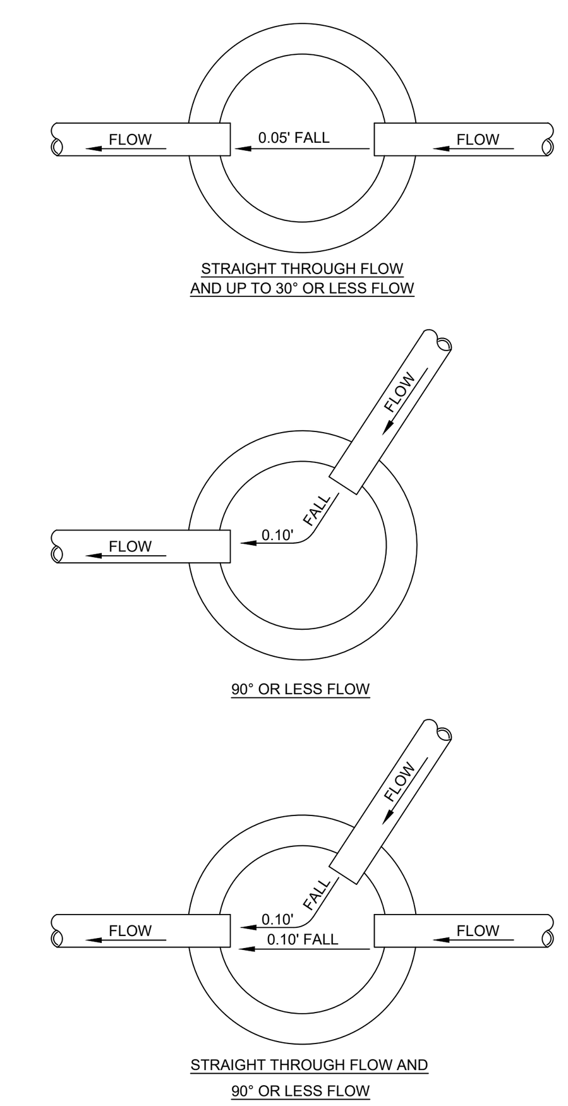
FALL ACROSS MANHOLE FROM INFLUENT TO EFFLUENT OF IN LINE PIPES SHALL BE 0.05 FT. MIN. INFLUENT TO EFFLUENT PIPES THAT ARE AT AN ANGLE SHALL BE 0.10 SEE "ELEVATION DIFFERENCE ACROSS MANHOLE" THIS SHEET.

SHALLOW SANITARY SEWER MANHOLE

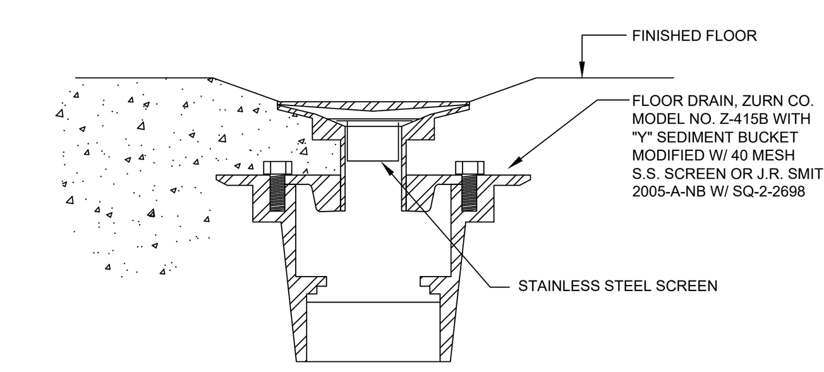


REQUIRED WHERE TOP OF SEWER PIPE IS WITHIN 2' OF FINISHED GRADE UNLESS ALTERNATE DETAIL IS APPROVED BY THE CLAY COUNTY UTILITY AUTHORITY.

CONCRETE CAP FOR SEWER PIPES

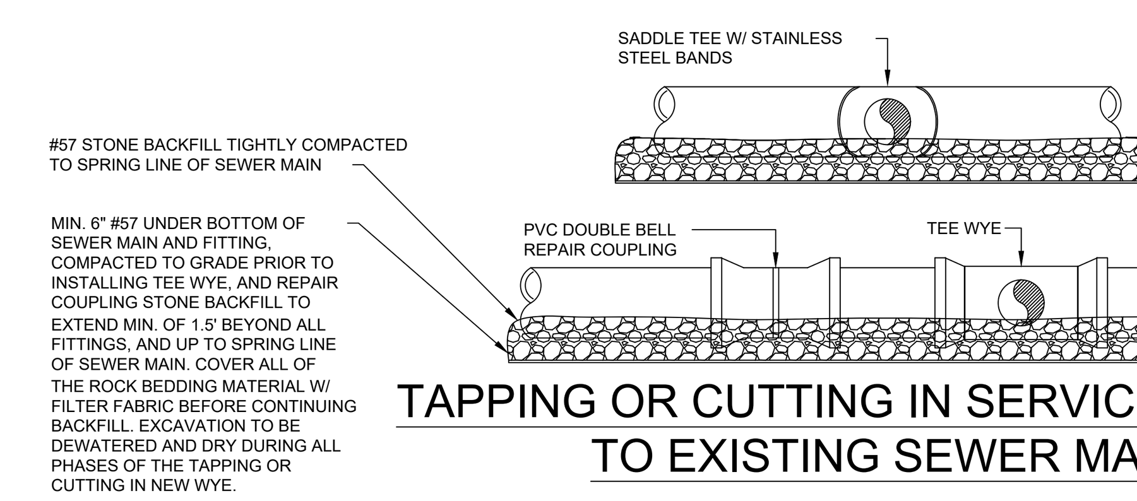


ELEVATION DIFFERENCE ACROSS MANHOLE

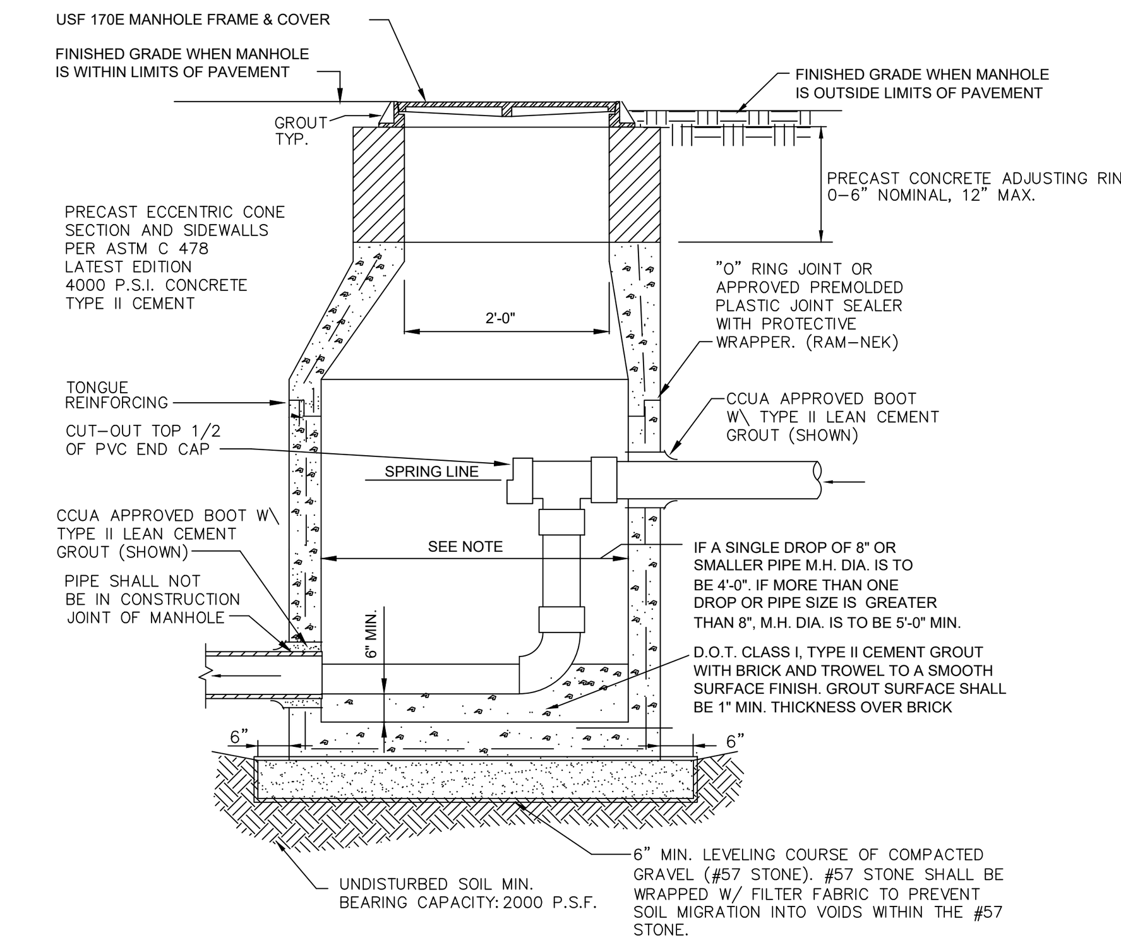


NOTE:
FACILITIES WITH FLOOR DRAINS AND WITHOUT A GREASE TRAP SHALL INSTALL THIS MODEL FLOOR DRAIN AND ONLY WITH PRIOR APPROVAL FROM THE CLAY COUNTY UTILITY AUTHORITY.

FLOOR DRAIN WITH STRAINER DETAIL

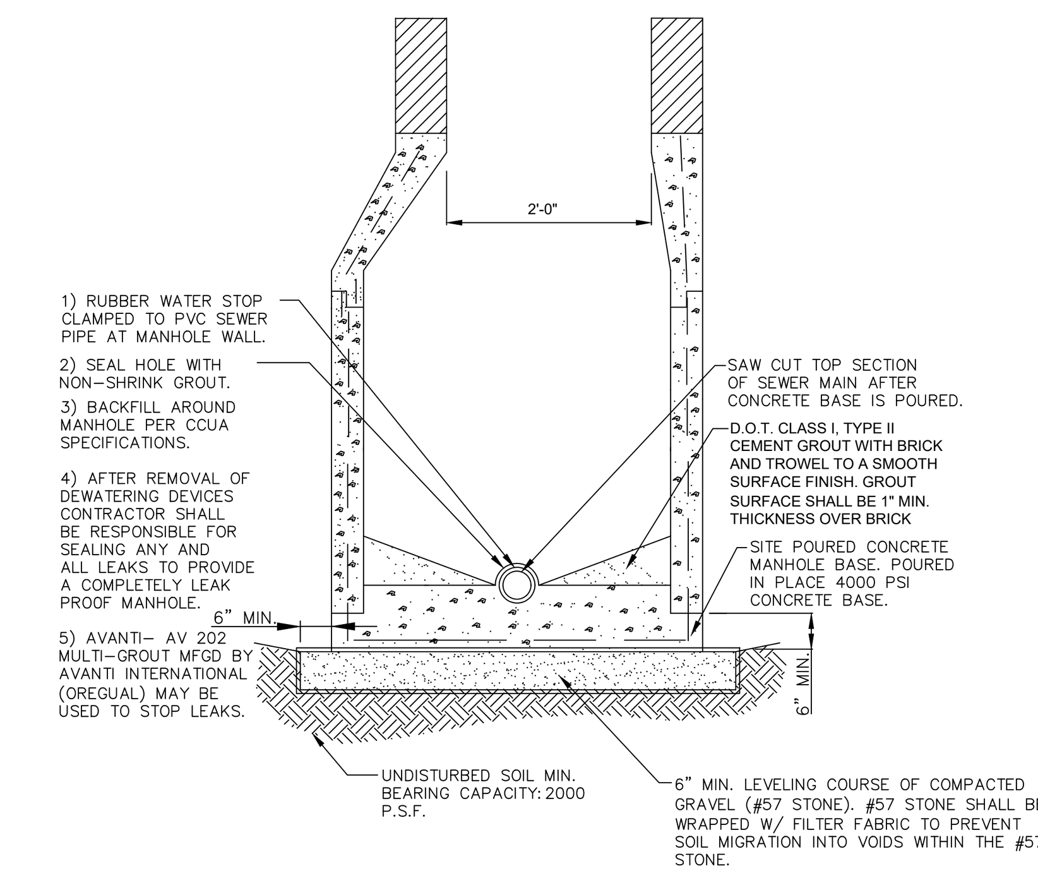

SADDLE TEE W/ STAINLESS STEEL BANDS
#57 STONE BACKFILL TIGHTLY COMPACTED TO SPRING LINE OF SEWER MAIN
MIN. 6" #57 UNDER BOTTOM OF SEWER MAIN AND FITTING, COMPACTED TO GRADE PRIOR TO INSTALLING TEE WYE, AND REPAIR COUPLING STONE BACKFILL TO EXTEND MIN. OF 1.5' BEYOND ALL FITTINGS, AND UP TO SPRING LINE OF SEWER MAIN. COVER ALL OF THE ROCK BEDDING MATERIAL W/ FILTER FABRIC BEFORE CONTINUING BACKFILL. EXCAVATION TO BE DEWATERED AND DRY DURING ALL PHASES OF THE TAPPING OR CUTTING IN NEW WYE.
PVC DOUBLE BELL REPAIR COUPLING
TEE WYE

TAPPING OR CUTTING IN SERVICE LATERAL TO EXISTING SEWER MAIN


USF 170E MANHOLE FRAME & COVER
FINISHED GRADE WHEN MANHOLE IS WITHIN LIMITS OF PAVEMENT
FINISHED GRADE WHEN MANHOLE IS OUTSIDE LIMITS OF PAVEMENT
GROUT TYP.
PRECAST CONCRETE ADJUSTING RINGS 0–6" NOMINAL, 12" MAX.
PRECAST ECCENTRIC CONE SECTION AND SIDEWALLS PER ASTM C 478 LATEST EDITION 4000 P.S.I. CONCRETE TYPE II CEMENT
2'-0"
"O" RING JOINT OR APPROVED PREMOLDED PLASTIC JOINT SEALER WITH PROTECTIVE WRAPPER. (RAM–NEK)
TONGUE REINFORCING
CUT–OUT TOP 1/2 OF PVC END CAP
CCUA APPROVED BOOT W\ TYPE II LEAN CEMENT GROUT (SHOWN)
SPRING LINE
SEE NOTE
IF A SINGLE DROP OF 8" OR SMALLER PIPE M.H. DIA. IS TO BE 4'-0". IF MORE THAN ONE DROP OR PIPE SIZE IS GREATER THAN 8", M.H. DIA. IS TO BE 5'-0" MIN.
PIPE SHALL NOT BE IN CONSTRUCTION JOINT OF MANHOLE
6" MIN.
D.O.T. CLASS I, TYPE II CEMENT GROUT WITH BRICK AND TROWEL TO A SMOOTH SURFACE FINISH. GROUT SURFACE SHALL BE 1" MIN. THICKNESS OVER BRICK
UNDISTURBED SOIL MIN. BEARING CAPACITY: 2000 P.S.F.
6" MIN. LEVELING COURSE OF COMPACTED GRAVEL (#57 STONE). #57 STONE SHALL BE WRAPPED W/ FILTER FABRIC TO PREVENT SOIL MIGRATION INTO VOIDS WITHIN THE #57 STONE.

NOTE: FOR ADDITIONAL MANHOLE SPECIFICATIONS, SEE "SANITARY SEWER MANHOLE" DETAIL THIS SHEET. MAXIMUM ALLOWABLE DIFFERENCE IN INVERT ELEVATION WITHOUT INTERNAL DROP CONNECTION IS 24". SEE "ELEVATION DIFFERENCE ACROSS MANHOLE" THIS SHEET.

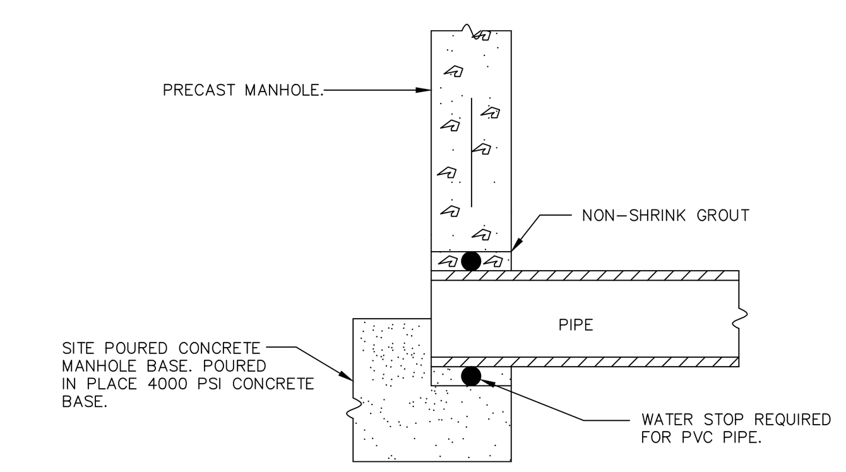
TYPICAL GRAVITY SEWER DROP PIPE CONNECTION TO MANHOLE


2'-0"
1) RUBBER WATER STOP CLAMPED TO PVC SEWER PIPE AT MANHOLE WALL.
2) SEAL HOLE WITH NON–SHRINK GROUT.
3) BACKFILL AROUND MANHOLE PER CCUA SPECIFICATIONS.
4) AFTER REMOVAL OF DEWATERING DEVICES CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ANY AND ALL LEAKS TO PROVIDE A COMPLETELY LEAK PROOF MANHOLE.
5) AVANTI– AV 202 MULTI–GROUT MFGD BY AVANTI INTERNATIONAL (OREGUAL) MAY BE USED TO STOP LEAKS.
6" MIN.
SAW CUT TOP SECTION OF SEWER MAIN AFTER CONCRETE BASE IS POURED.
D.O.T. CLASS I, TYPE II CEMENT GROUT WITH BRICK AND TROWEL TO A SMOOTH SURFACE FINISH. GROUT SURFACE SHALL BE 1" MIN. THICKNESS OVER BRICK
SITE POURED CONCRETE MANHOLE BASE. POURED IN PLACE 4000 PSI CONCRETE BASE.
UNDISTURBED SOIL MIN. BEARING CAPACITY: 2000 P.S.F.
6" MIN. LEVELING COURSE OF COMPACTED GRAVEL (#57 STONE). #57 STONE SHALL BE WRAPPED W/ FILTER FABRIC TO PREVENT SOIL MIGRATION INTO VOIDS WITHIN THE #57 STONE.

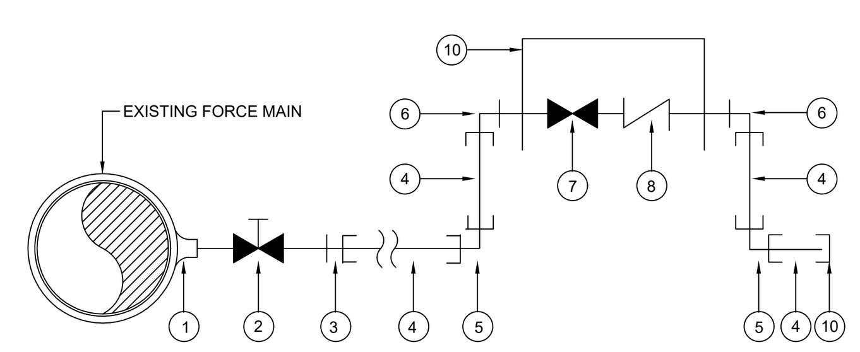
NOTE: 1) FOR ADDITIONAL MANHOLE SPECIFICATIONS, SEE "SANITARY SEWER MANHOLE" DETAIL THIS SHEET. MAXIMUM ALLOWABLE DIFFERENCE IN INVERT ELEVATION WITHOUT INTERNAL DROP CONNECTION IS 24".

SADDLE MANHOLE DETAIL

THIS DETAIL IS ONLY TO BE USED WITH SPECIFIC APPROVAL BY CITY OF GCS.



SADDLE MANHOLE DETAIL SECTION

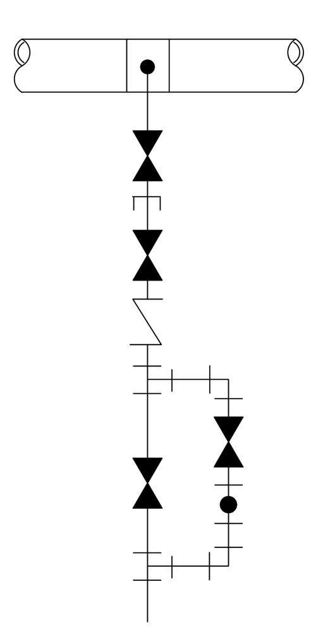


MATERIAL LIST

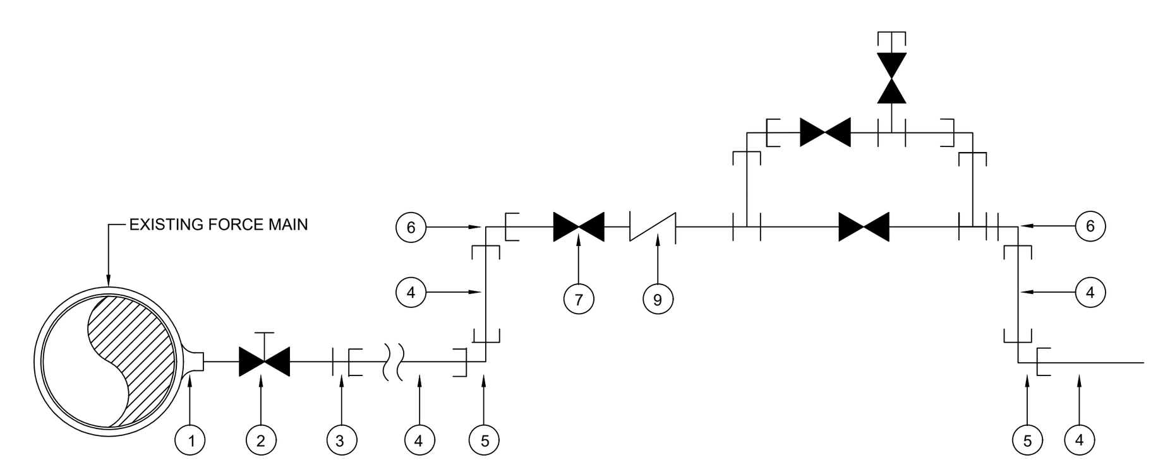
1. STAINLESS STEEL TAPPING SADDLE
2. 2" H.D. BRONZE BALL VALVE CORP STOP (FULL OPENING)
3. 2" SCH.80 FEMALE ADAPTER (S x FIPT)
4. 2" SCH.80 PIPE
5. 2", 90° SCH.80 BEND (S x S)
6. 2", 90° SCH.80 BEND (S x T)
7. 2" BRONZE BALL VALVE W/ LOCKING WING (SEE TABLE ON WATER SHEET)
8. 2" TRU-UNION PVC BALL CHECK VALVE
9. RUSSELL C.I. VALVE BOX W/ "SEWER" ON LID
10. 2" SCH.40 CAP (S)

NOTE: ENGINEER TO VERIFY THAT THE SIZE OF SERVICE IS ADEQUATE AND IS TO ADJUST ACCORDING TO HIS FINDING.

2" SEWAGE FORCE MAIN MANIFOLD SERVICE CONNECTION DETAIL FOR MEDIUM TO HIGH PRESSURE CONNECTION SYSTEMS



TOP VIEW



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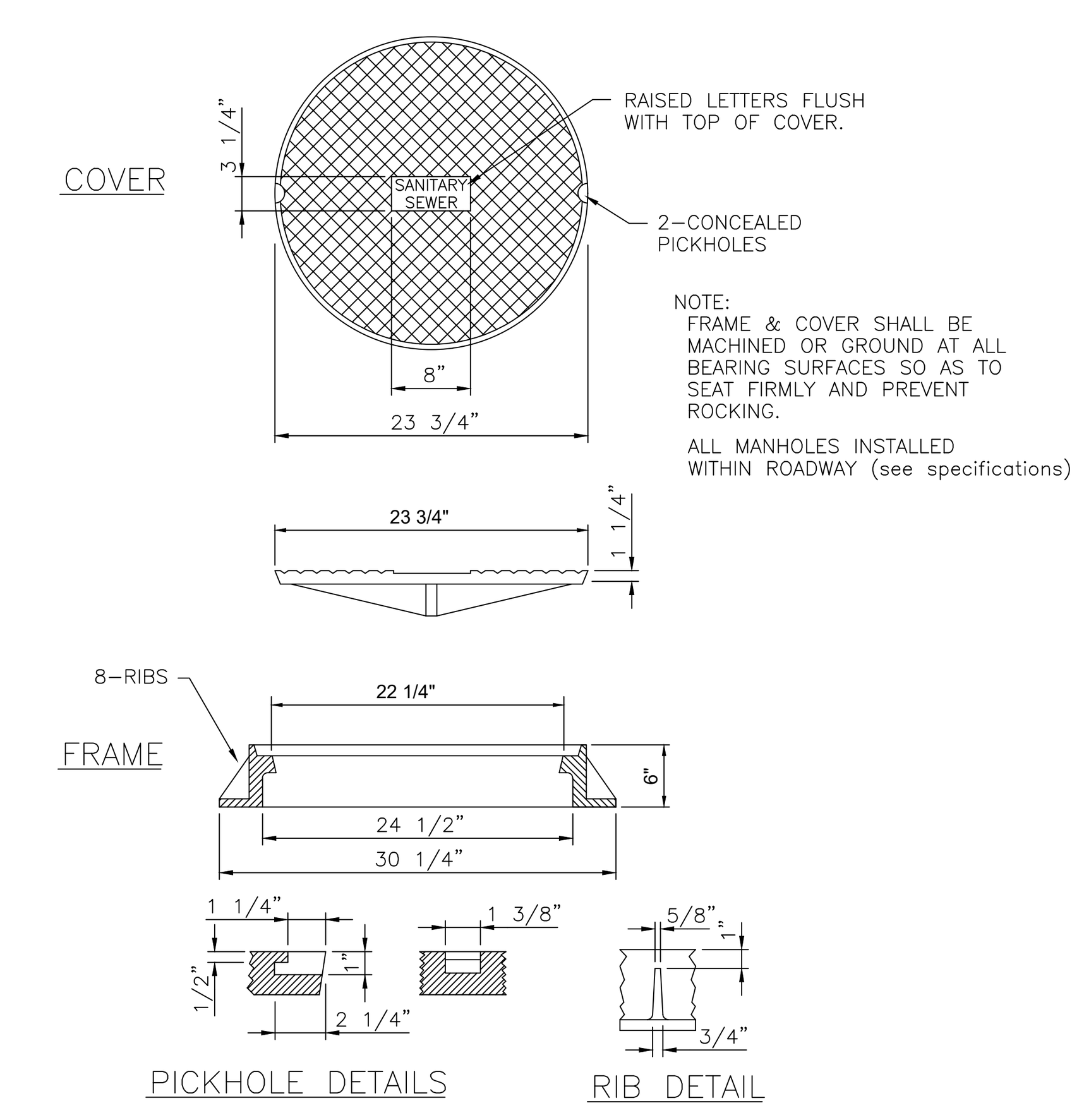
5. 2", 90° SCH.80 BEND (S x S)
6. 2", 90° SCH.80 BEND (S x T)
7. (3) 2" BRONZE BALL VALVE CURB STOP W/ LOCKING WING (SEE TABLE ON WATER SHEET)
8. 2" TRU-UNION PVC BALL CHECK VALVE
9. RUSSELL C.I. VALVE BOX W/ "SEWER" ON LID
10. 2" SCH.40 CAP (S)
11. 2" TEE W/ 2 X 1/2" BUSHING
12. 1/2" STAINLESS STEEL NIPPLE W/ BALL VALVE & PLUG

NOTE: ENGINEER TO VERIFY THAT THE SIZE OF SERVICE IS ADEQUATE AND IS TO ADJUST ACCORDING TO HIS FINDING.

" SEWAGE FORCE MAIN MANIFOLD SERVICE CONNECTION / WITH PRESSURE GAUGE FITTING / FOR LOW PRESSURE RECEIVING SYSTEMS FOR CREATING ARTIFICIAL HEAD PRESSURE


COVER
3 1/4"
SANITARY SEWER
RAISED LETTERS FLUSH WITH TOP OF COVER.
2–CONCEALED PICKHOLES
NOTE:
FRAME & COVER SHALL BE MACHINED OR GROUND AT ALL BEARING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING.
ALL MANHOLES INSTALLED WITHIN ROADWAY (see specifications)
8"
23 3/4"
1 1/4"
8–RIBS
FRAME
22 1/4"
6"
24 1/2"
30 1/4"
1 3/8"
1/2"
1"
2 1/4"
5/8"
3/4"
PICKHOLE DETAILS
RIB DETAIL

MANHOLE FRAME AND COVER SHALL BE USF CO. MOD. NO. 170E

SANITARY SEWER MANHOLE FRAME & COVER

S-1

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
quoc@maiengineer.com
MAI ENGINEERING SERVICES, INC.

LICENSED ENGINEER
QUOC H. MAI
FL.#64006 CA#28162

REVISIONS

#	DATE	REVISION
1	12/17/22	REVISION PER CITY REQUEST
2	04/12/2023	REVISION PER CITY AND WMD RAI
3	06/28/2023	REVISION PER CITY COMMENTS
4	01/22/2024	REVISION PER WMD COMMENTS
5	04/04/2024	REVISION PER CITY COMMENTS
6	04/17/2024	REVISION PER CITY COMMENTS

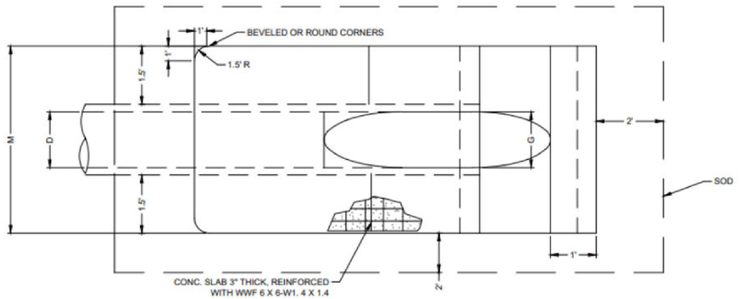
SHEET TITLE

SEWER SYSTEM DETAILS

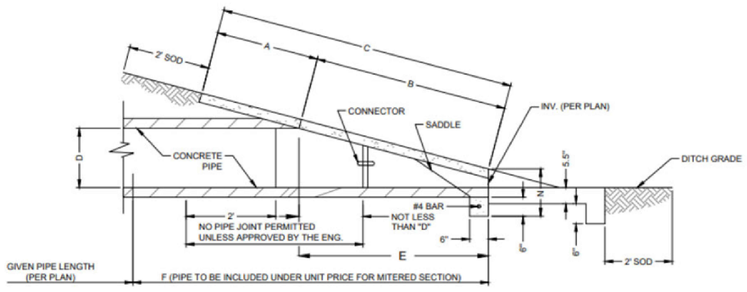
RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA

PREPARED FOR
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
JOB No.:	1369
SHEET No.:	16



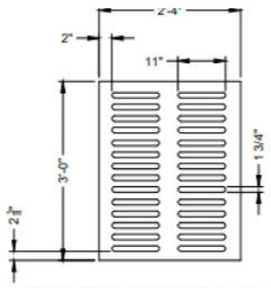
TOP VIEW - SINGLE PIPE



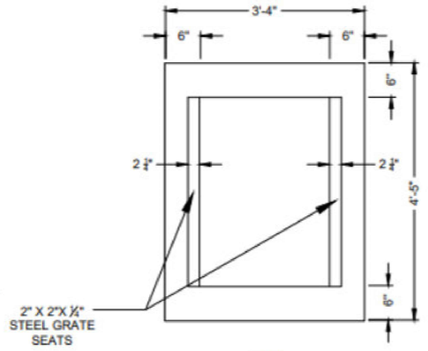
SECTION

D	A	B	C	E	F	G	M	N	X	CONC. (CY)	SOD (SY)
8"	2.5'	0.72'	3.22'	0.7'	4.0'	0.58'	3.75'	1.04'	-	.52	7
15"	2.5'	3.09'	5.59'	3.0'	7.0'	1.23'	4.33'	1.04'	-	.64	8
18"	2.5'	4.12'	6.62'	4.0'	8.0'	1.41'	4.58'	1.04'	-	.69	9
24"	2.5'	6.18'	8.68'	6.0'	10.0'	1.73'	5.08'	1.04'	-	.83	10
30"	2.5'	8.25'	10.75'	8.0'	12.0'	2.00'	5.58'	1.04'	-	.96	11
36"	2.5'	10.31'	12.81'	10.0'	14.0'	2.24'	6.08'	1.04'	-	1.08	12

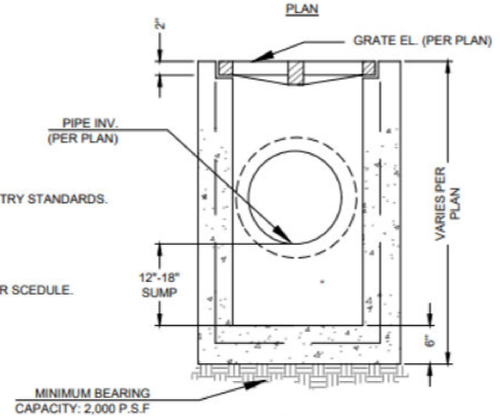
MITERED END SECTION | GD1
N.T.S.



GRATE - APPROXIMATE WEIGHT = 235 LBS.



PLAN



NOTES:
1.PRECAST IN ACCORDANCE WITH LATEST INDUSTRY STANDARDS.
2. GROUT OR "RAM-NEK" JOINTS AS REQUIRED.
3. CONCRETE DESIGN STRENGTH: 4,000 PSI
4. PIPE MUST NOT BE IN CONSTRUCTION JOINT.
5. TYPE II CEMENT TO BE USED.
6.PIPES SHALL BE FLUSH WITH INSIDE WALL.
7. SEE FDOT INDEX 201 FOR REINFORCEMENT BAR SCEDULE.

RECOMMENDED MAXIMUM PIPE SIZE:
2'-0" WALL-18" PIPE
3'-1" WALL-24" PIPE

PRECAST TYPE "C" INLET | GD2
N.T.S.

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
quoc@maiengineer.com
MAI ENGINEERING SERVICES, INC.
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DRAINAGE DETAILS

SHEET TITLE

RIVER OAKS INDUSTRIAL PARK
GREEN COVE SPRINGS, FLORIDA

PREPARED FOR:
RIVER OAKS OUTDOOR, LLC

DSGN BY:	QHM
DWG BY:	GMG
CHK BY:	QHM
DATE:	4/18/2024
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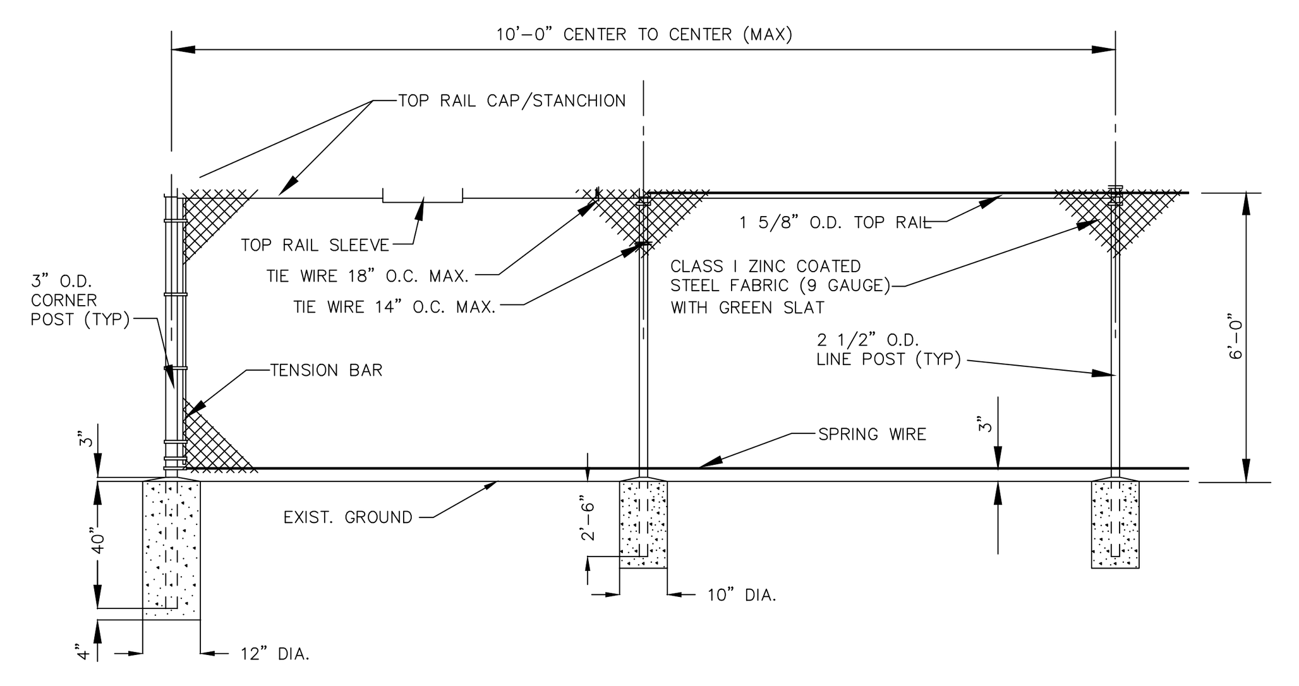
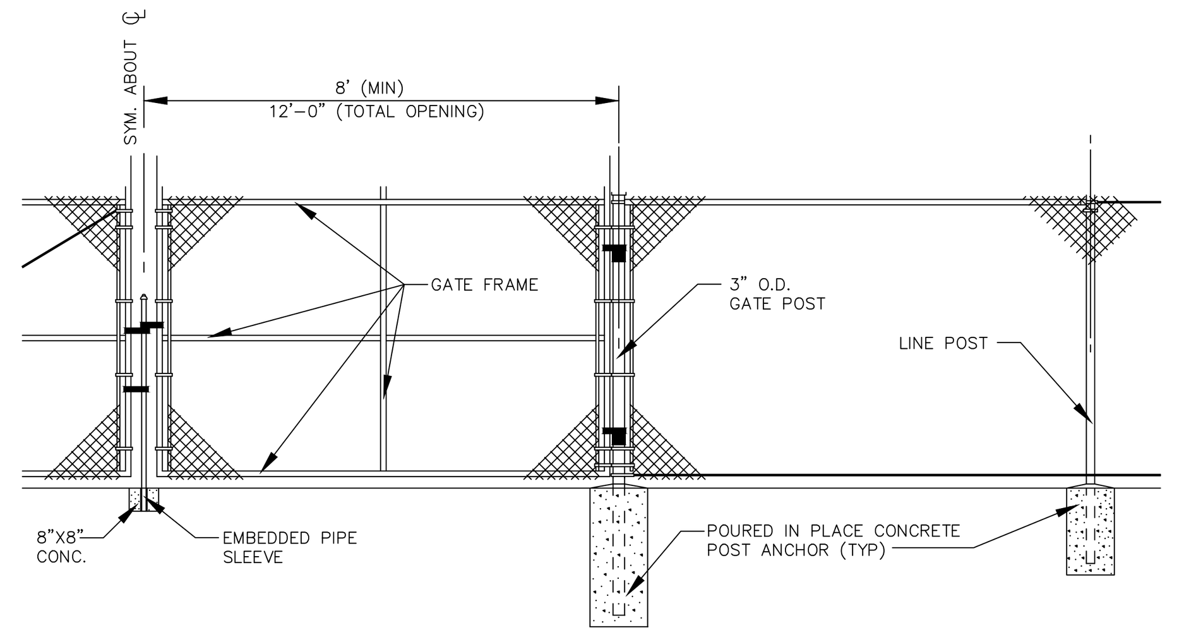
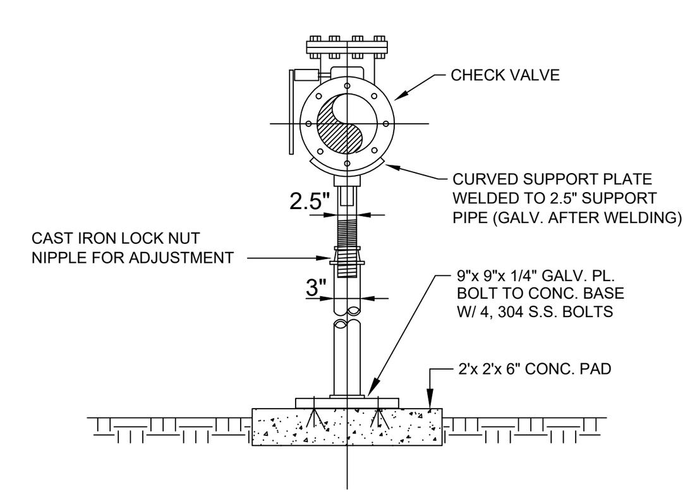


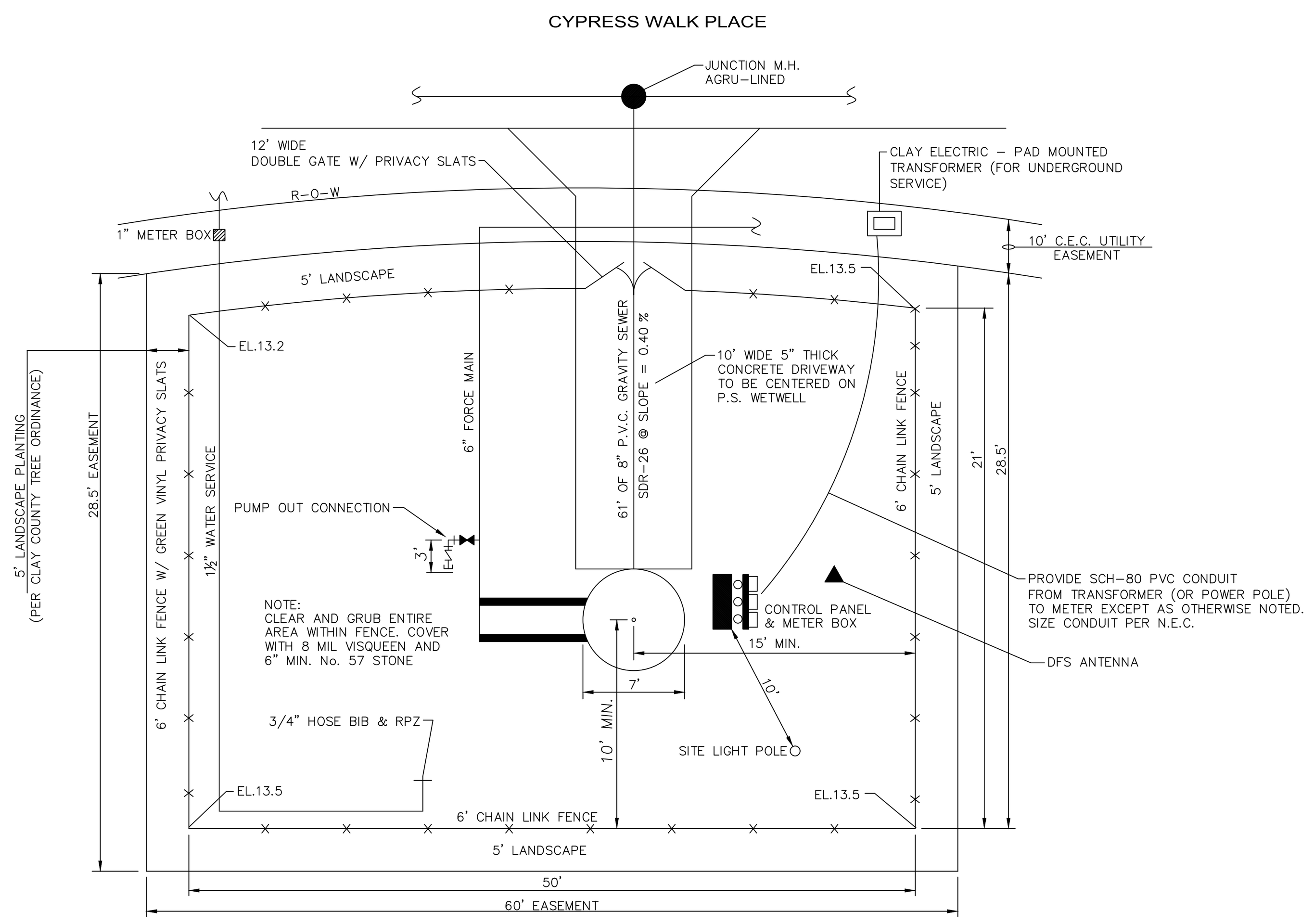
CHAIN LINK FENCE + CORNER POST DETAIL



GATE DETAIL



PIPE SUPPORT DETAIL



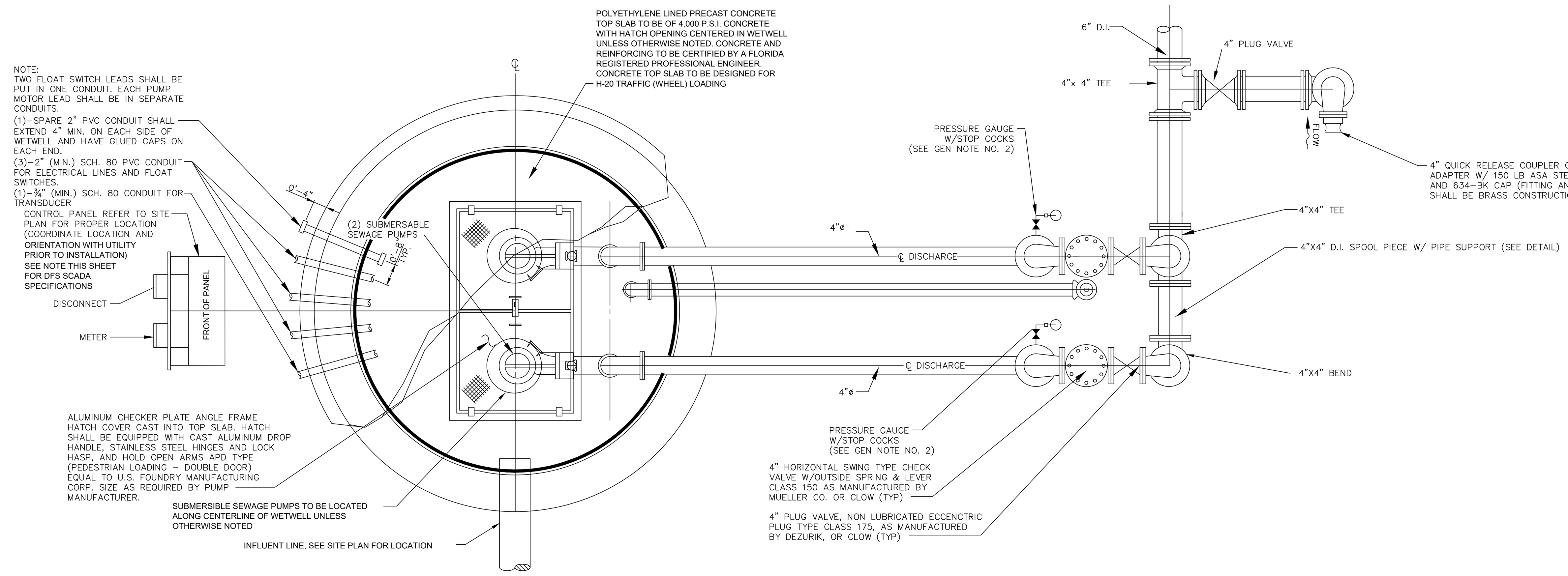
TYPICAL PERMANENT PUMP STATION SITE PLAN

N.T.S.

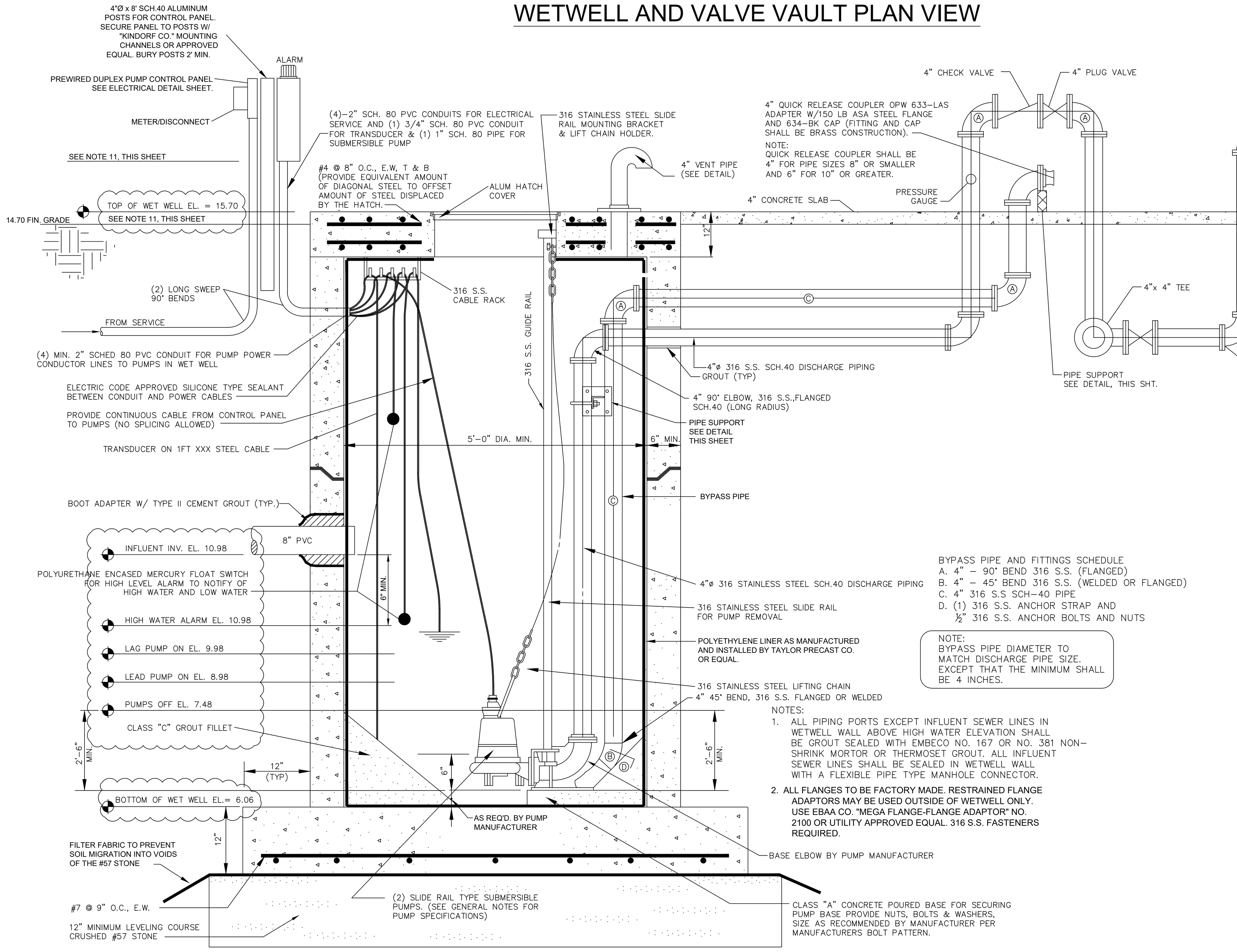
GENERAL NOTES:

1. PUMPS: TWO (2) OR THREE (3) TOTALLY SUBMERSIBLE FLYGT (OR APPROVED SUBSTITUTE) SEWAGE PUMPS WITH INTEGRAL MOTORS. DISCHARGE CONNECTION AND ELECTRICAL REQUIREMENTS AS DETERMINED.
2. GAUGES: GAUGES SHALL BE FURNISHED WHERE SHOWN MOUNTED FACE UP. GAUGES SHALL BE 4" IN DIAMETER BOURDON TUBE TYPE WITH BRASS MOVEMENTS, COMPLETELY SEALED UNBREAKABLE PLEXIGLASS CRYSTAL, WITH NOT LESS THAN 90% GLYCERIN-FILLED STAINLESS STEEL CASE, EACH GAUGE SHALL HAVE A RANGE SUCH THAT THE NORMAL OPERATION PRESSURE SHALL BE APPROXIMATELY AT HALF OF THE RANGE. GAUGES SHALL BE EQUIPPED WITH A SAFELY BLOW-OUT PLUG AND DAMPENING SCREW. GAUGES SHALL BE MOUNTED USING ½" (NPT) STEEL PIPE WITH DIAPHRAGM PROTECTORS WITH STAINLESS STEEL DIAPHRAGM AND STOP COCKS BETWEEN DISCHARGE PIPES AND GAUGES. GAUGES SHALL BE EQUAL TO THOSE MANUFACTURED BY THE LENZ COMPANY.
3. FENCING: ALL PARTS FOR CONSTRUCTION OF THE FENCE AND NECESSARY TO MAKE A COMPLETE INSTALLATION SHALL BE FURNISHED AND INSTALLED. FENCING SHALL COMPLY WITH ASTM A392-68T LATEST SPECIFICATIONS FOR ZINC COATED STEEL CHAIN LINK FENCE FABRIC AND AS DETAILED ON THE DRAWING. FITTINGS SHALL BE MALLEABLE IRON OR PRESSED STEEL FORGINGS. ALL FERROUS MATERIALS SHALL BE THOROUGHLY GALVANIZED BY THE HOT-DIP METHOD.
   A. PRIVACY SLATS: SLATS SHALL BE FLAT/TUBULAR IN SHAPE, THERMOPLASTIC WITH A WALL THICKNESS F 0.030" ±0.003"). LENGTH AND WIDTH OF SLATS SHALL BE PROVIDED TO ACCOMMODATE CHAIN-LINK FENCE FABRIC AS SPECIFIED HEREIN. SLATS SHALL HAVE A HORIZONTAL LOCKING STRIP TO PROVIDE SECURE ATTACHMENT TO CHAIN-LINK FABRIC, AND PROVIDE A PRIVACY FACTOR OF 89 %. THE MINIMUM WIDTH SLAT SHALL BE 1-1/8". ACCEPTABLE MANUFACTURER: PATRICIAN PRODUCTS, OR EQUAL.
   B. PRIVACY SCREENING: ENVIRONMENTAL PRIVACY SCREENING SHALL BE 86 TO 90% KNIT RASCHEL, 100% POLYETHYLENE UV STABILIZED FIBER, COLOR GREEN. SCREENING SHALL BE ATTACHED TO THE FENCE FABRIC WITH SUFFICIENT TIES TO SECURE THE SCREEN. ACCEPTABLE SCREEN: PRIVACY PLUS OR EQUAL.
4. ALL PRECAST REINFORCED CONCRETE PRODUCTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C478 (LATEST), WITH CLASS A CONCRETE UNLESS OTHERWISE NOTED. ALL CONCRETE AND REINFORCING SHALL BE CERTIFIED BY AN ENGINEER REGISTERED WITH THE STATE OF FLORIDA.
5. ALL DISCHARGE PIPING FROM THE PUMPS THROUGH TO THE VALVE VAULT SHALL BE 316 GRADE, SCH.40 STAINLESS STEEL. THIS INCLUDES ALL FITTINGS WITHIN THIS PRESCRIBED LIMIT.
6. ALL DISCHARGE PIPE FITTINGS 6" AND LARGER (AFTER THE VALVE VAULT) SHALL BE POLY-LINED (40 MIL THICKNESS DUCTILE IRON. ALL DISCHARGE PIPE FITTINGS 4" AND SMALLER SHALL BE EPOXY LINED OR POLY-LINED (40 MIL THICKNESS) DUCTILE IRON.
7. PUMP STATION SITE SHALL BE COVERED (INSIDE OF FENCED AREA) WITH NO. 57 LIMESTONE 6" THICK WITH 8 MIL VISQUEEN BETWEEN ROCK AND GRADE. DRIVEWAY SHALL BE 5"-2500 PSI CONCRETE.
8. ALL DUCTILE IRON FITTINGS AND PIPE SHALL BE HOLIDAY TESTED PRIOR TO INSTALLATION.
9. DUCTILE IRON PIPE, FITTINGS AND BOLTS SHALL RECEIVE A THOROUGH EXTERIOR COATING OF BITUMINOUS COATING AS SPECIFIED IN A.N.S.I. SPECIFICATIONS A21.51.
10. ALL EXTERIOR JOINTS OF PRECAST CONCRETE WETWELLS SHALL BE SEALED WITH A RUBBERIZED ASPHALT MEMBRANE TAPE. TAPE SHALL BE PERM-A-BARRIER BY W.R. GRACE, ELASTOPLY BY KARNAK OR EQUAL.
11. ENGINEERS SHALL PROVIDE VERIFICATION THAT THE TOP OF THE WETWELL, BOTTOM OF CONTROL PANELS, GENERATOR RECEPTACLE AND GENERATOR SLAB ARE ALL ABOVE THE 100 YR. FLOOD ELEVATION. THEREFORE, I DO HEREBY CERTIFY THAT THE ABOVE ELEVATIONS HAVE BEEN MET.
12. ALL PUMP STATIONS SHALL BE CONTROLLED BY DATA FLOW SYSTEMS SCADA, OR OTHERWISE APPROVED BY THE CITY OF GREEN COVE SPRINGS.

(PROFESSIONAL ENGINEERS SIGNATURE)



WETWELL AND VALVE VAULT PLAN VIEW



BYPASS PIPE AND FITTINGS SCHEDULE
A. 4" - 90° BEND 316 S.S. (FLANGED)
B. 4" - 45° BEND 316 S.S. (WELDED OR FLANGED)
C. 4" 316 S.S SCH-40 PIPE
D. (1) 316 S.S. ANCHOR STRAP AND ½" 316 S.S. ANCHOR BOLTS AND NUTS

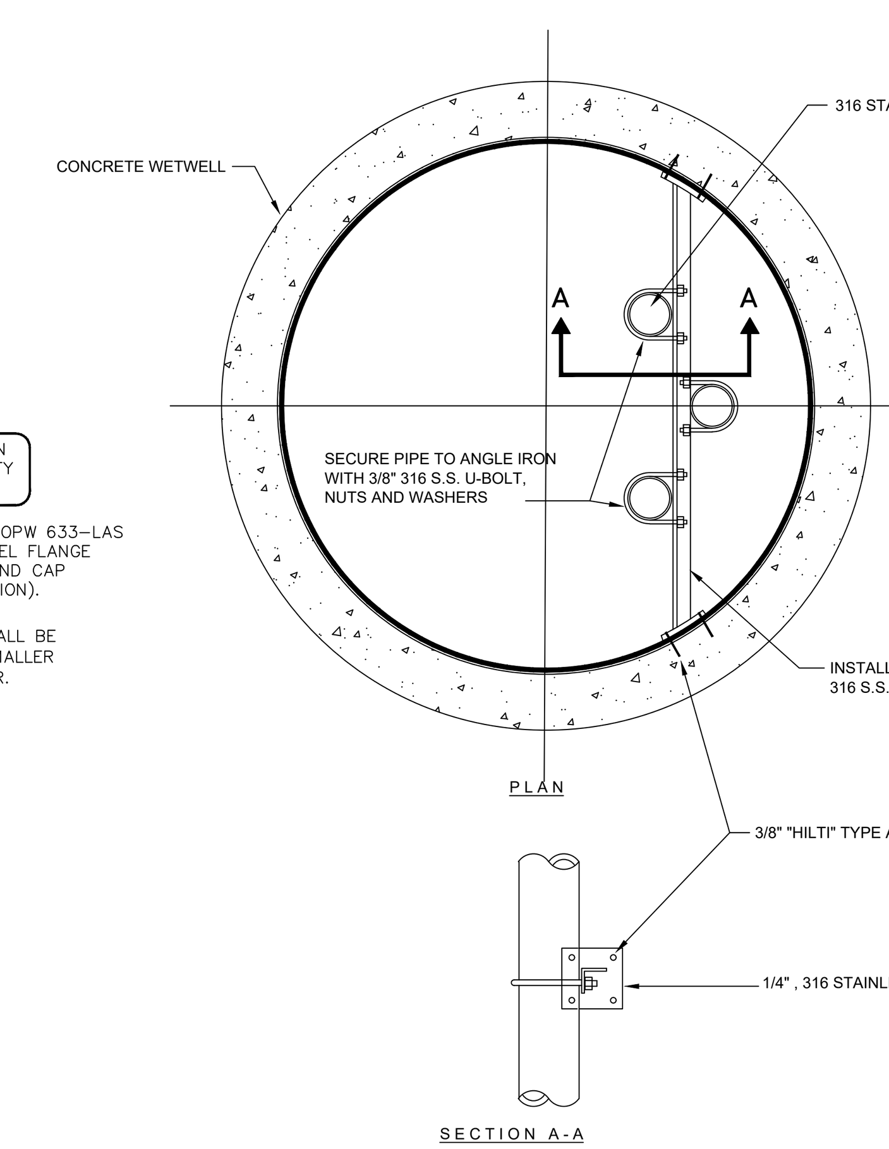
NOTE:
BYPASS PIPE DIAMETER TO MATCH DISCHARGE PIPE SIZE. EXCEPT THAT THE MINIMUM SHALL BE 4 INCHES.

NOTES:
1. ALL PIPING PORTS EXCEPT INFLUENT SEWER LINES IN WETWELL WALL ABOVE HIGH WATER ELEVATION SHALL BE GROUT SEALED WITH EMBECO NO. 167 OR NO. 381 NON-SHRINK MORTOR OR THERMOSET GROUT. ALL INFLUENT SEWER LINES SHALL BE SEALED IN WETWELL WALL WITH A FLEXIBLE PIPE TYPE MANHOLE CONNECTOR.
2. ALL FLANGES TO BE FACTORY MADE. RESTRAINED FLANGE ADAPTORS MAY BE USED OUTSIDE OF WETWELL ONLY. USE EBAA CO. "MEGA FLANGE-FLANGE ADAPTOR" NO. 2100 OR UTILITY APPROVED EQUAL. 316 S.S. FASTENERS REQUIRED.

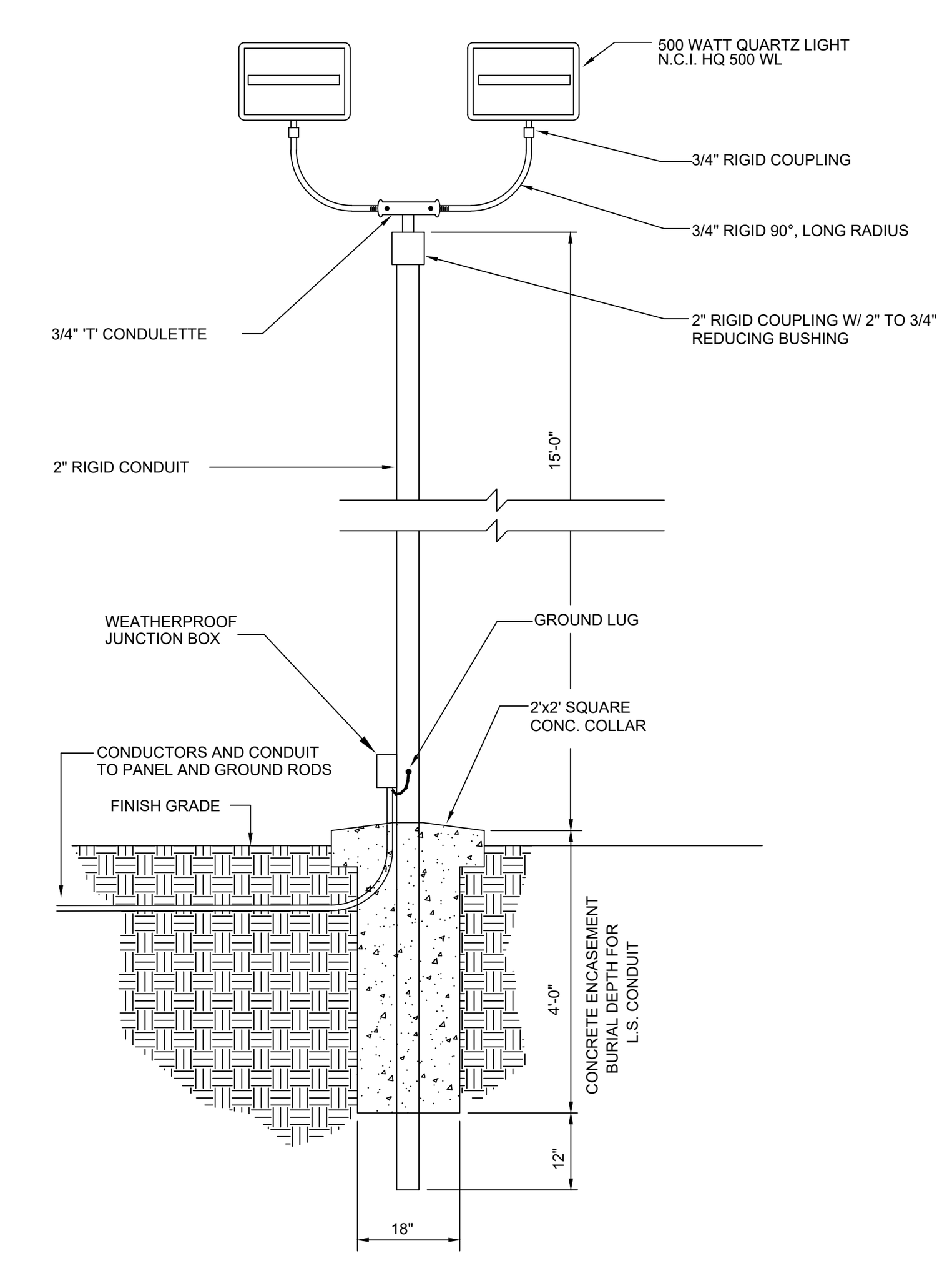
NOTE TO ENGINEER: THE TYPE OF PUMP STATION ALLOWED AND THE SPECIFIC PUMPS TO BE USED WILL BE MUTUALLY AGREED TO BY ENGINEER AND UTILITY AT THE TIME OF DESIGN DEPENDING ON THE SPECIFIC APPLICATION. ALSO PIPE SIZES AND SPACING DIMENSIONS ARE TO BE DETERMINED FOR EACH SPECIFIC PUMP STATION INSTALLATION.

PERMANENT POLYETHYLENE LINED SUBMERSIBLE PUMP STATION WITH VALVE PIT - ELEVATION

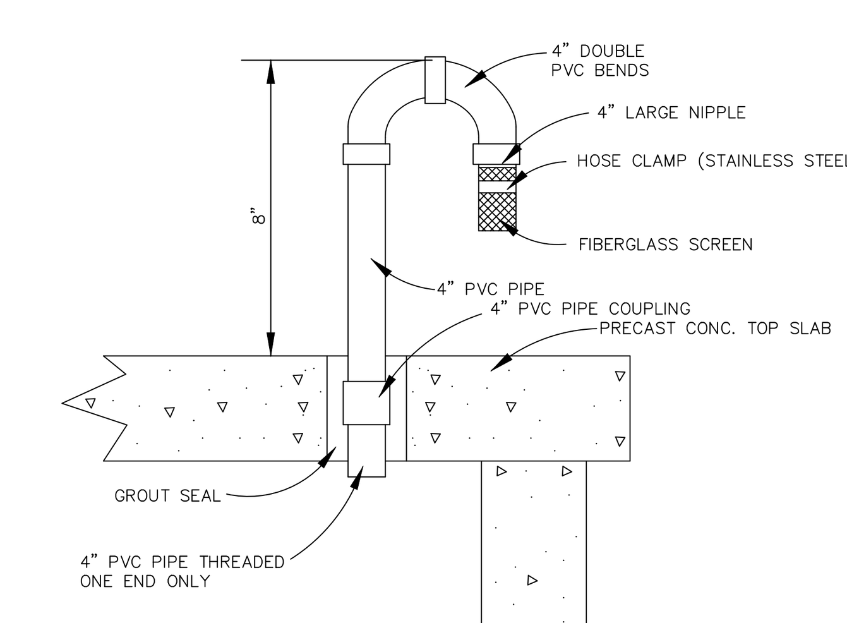
(NOTE: PIPE SIZES, WETWELL SIZES AND INSIDE DIMENSIONS OF VALVE PIT TO BE VERIFIED BY ENGINEER AND MODIFIED AS NECESSARY.)



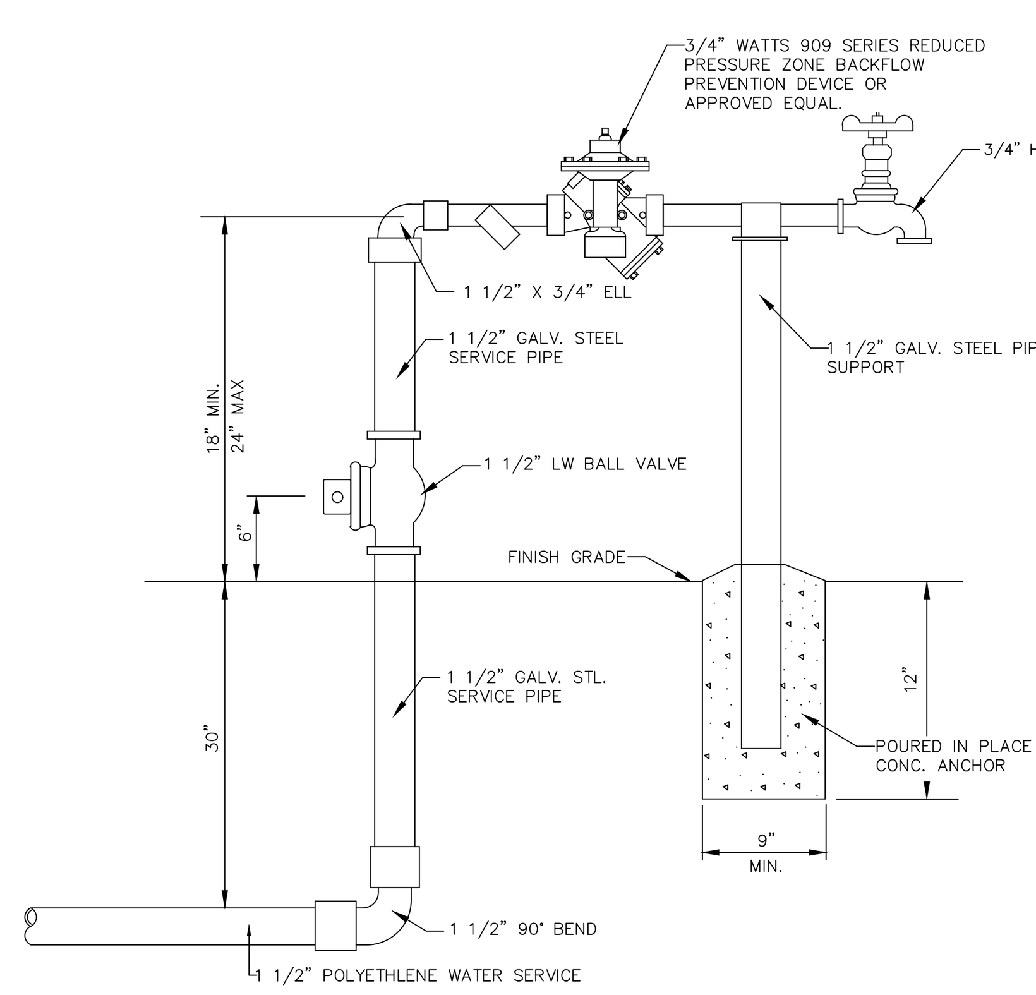
PIPE ATTACHMENT TO WALL DETAIL



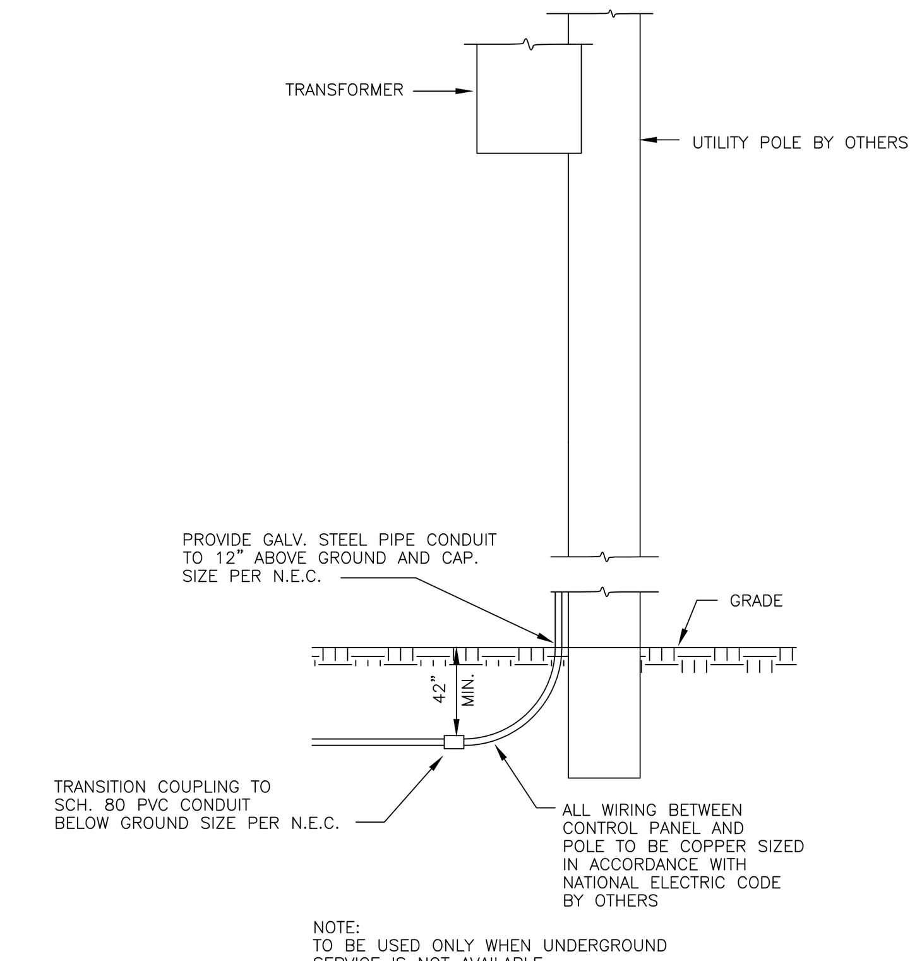
SITE LIGHT STANDARD DETAIL



VENT PIPE DETAIL

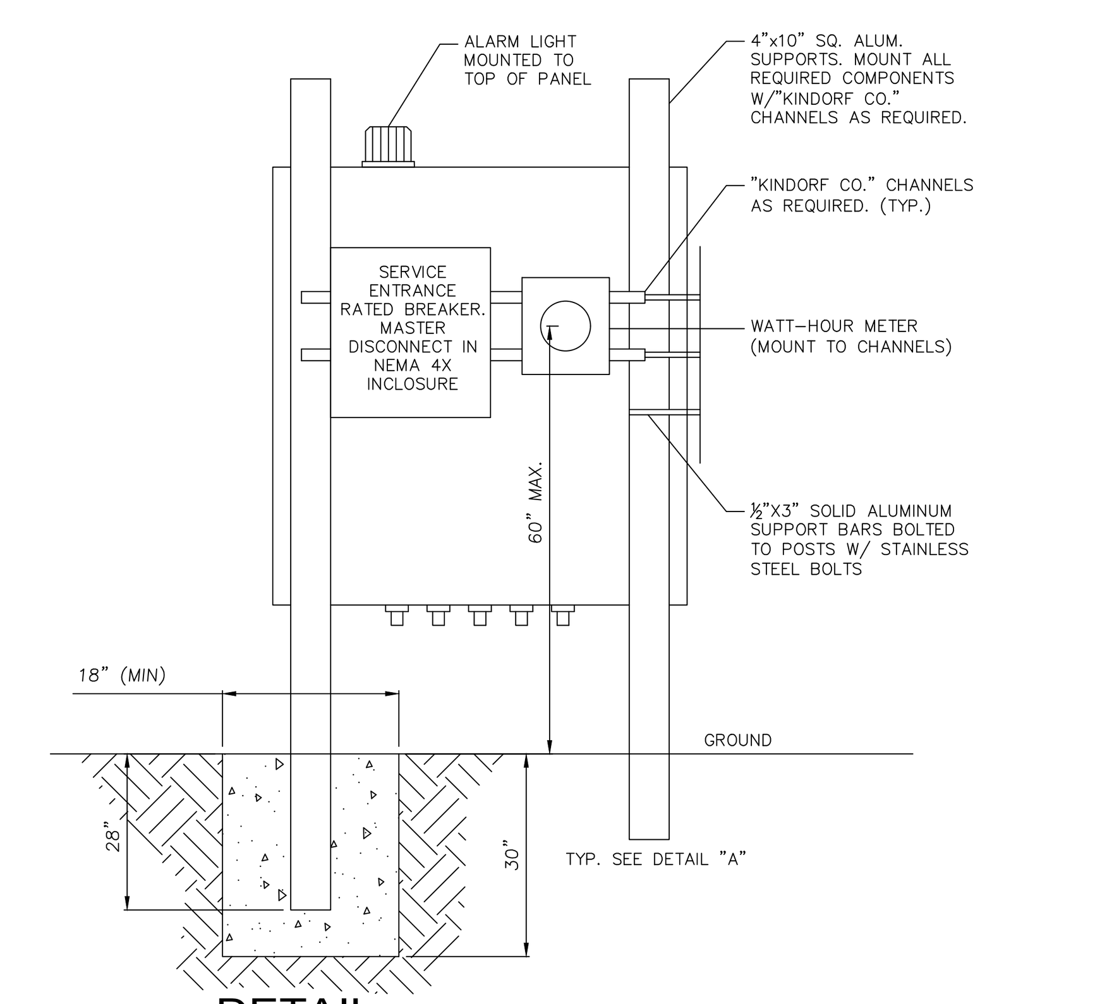


WATER SERVICE



NOTE:
TO BE USED ONLY WHEN UNDERGROUND SERVICE IS NOT AVAILABLE

POWER RISER DETAIL



DETAIL "A"

TYPICAL DISCONNECT PANEL

2510 US 1 SOUTH SUITE D
ST. AUGUSTINE, FL 32086
PHONE (904)794-1760
FAX (904)794-1768
quoc@maiengineer.com
MAI ENGINEERING SERVICES, INC.
LICENSED ENGINEER
QUOC H. MAI
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SHEET TITLE

PUMP STATION DETAILS

RIVER OAKS INDUSTRIAL PARK

GREEN COVE SPRINGS, FLORIDA

PREPARED FOR

RIVER OAKS OUTDOOR, LLC

DSGN BY: QHM
DWG BY: GMG
CHK BY: QHM
DATE: 4/18/2024
JOB No.: 1369
SHEET No.: 18