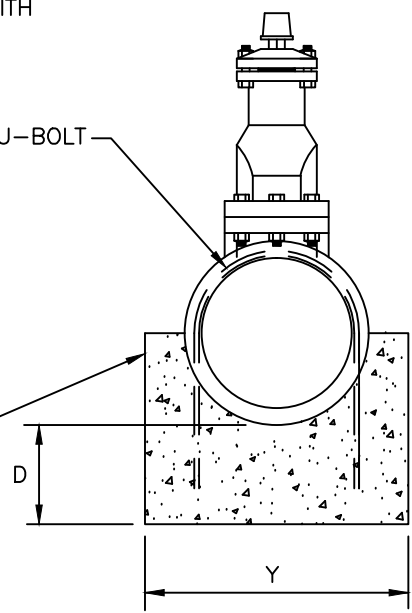


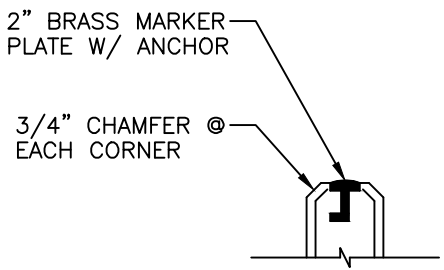
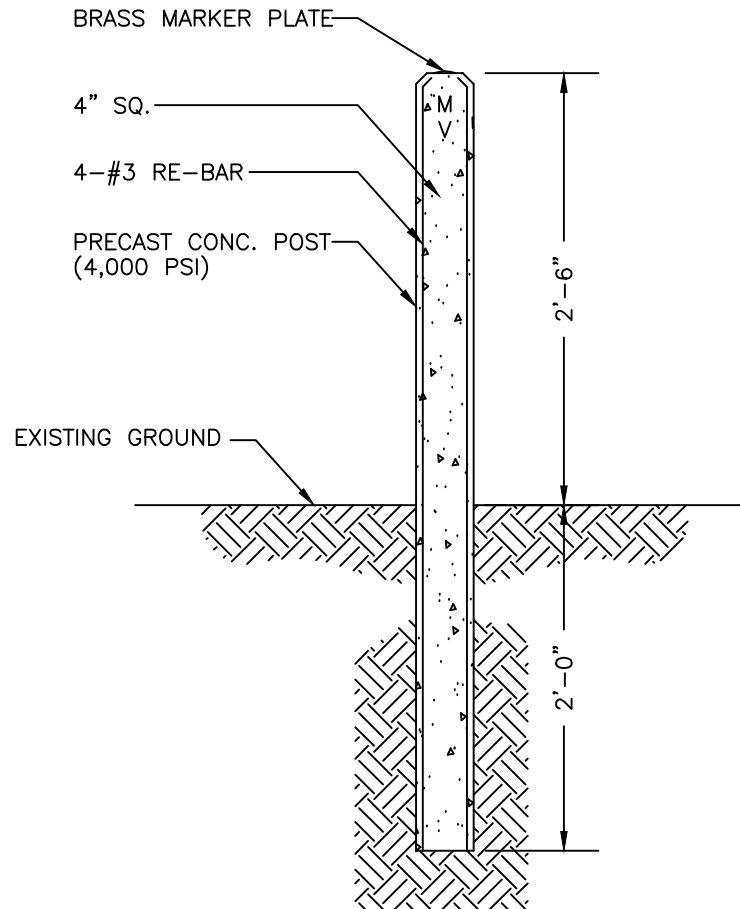
ANCHORAGE SCHEDULE				
VALVE	SQ. FT.	"D"	"X"	"Y"
3"Ø	0.3	7.5"	4"	9"
4"Ø	0.4	9"	5"	11"
6"Ø	0.8	13"	7"	16"
8"Ø	1.2	17"	8"	21"



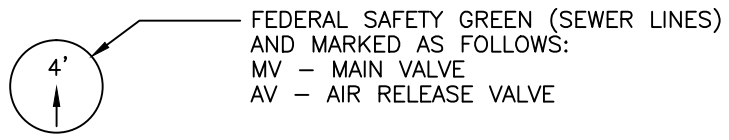
NOTICE:
 ALL PLUG VALVES 4" DIAMETER
 AND LARGER SHALL BE GEAR OPERATED

NOTICE:
 SEE DISTRICT STANDARDS,
 SECTION 8D & 12E FOR
 ADDITIONAL REQUIREMENTS

JAMES ISLAND PUBLIC SERVICE DISTRICT	
VALVE AND VALVE BOX	DRAWING: 1
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>



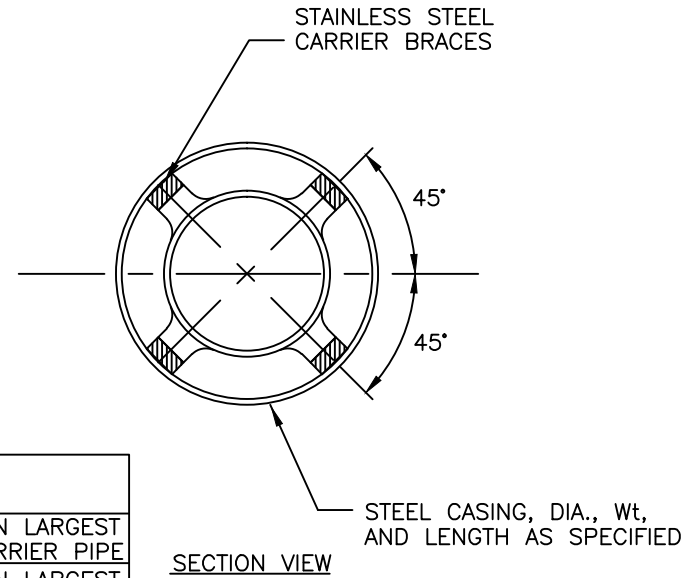
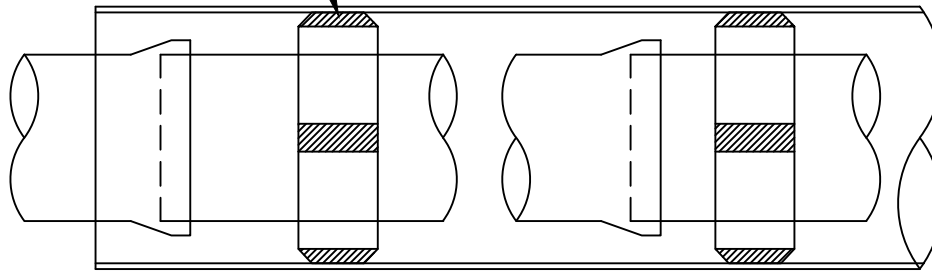
NOTE:
 MAIN LINE VALVE MARKERS SHALL BE PAINTED AS FOLLOWS:
 FEDERAL SAFETY GREEN (SEWER LINES)
 AND MARKED AS FOLLOWS:
 MV - MAIN VALVE
 AV - AIR RELEASE VALVE



JAMES ISLAND PUBLIC SERVICE DISTRICT	
CONCRETE VALVE MARKER	DRAWING: 2
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>

STAINLESS STEEL CARRIER BRACES
AT 10.0' CENTERS FOR DIP PIPE AND
AT 6.0' CENTERS FOR PVC PIPE

NOTICE:
SEE DISTRICT STANDARDS,
SECTION 6E & 7M FOR
ADDITIONAL REQUIREMENTS



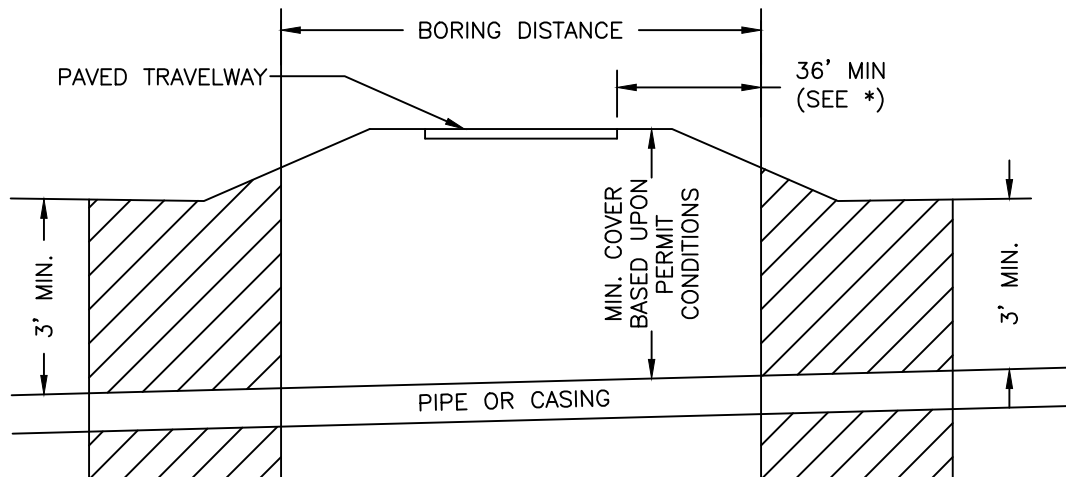
CARRIER DIAMETER	CASING INSIDE DIAMETER
2"-4"	2" GREATER THAN LARGEST DIAMETER OF CARRIER PIPE
6" OR LARGER	4" GREATER THAN LARGEST DIAMETER OF CARRIER PIPE

STEEL CASING, SEE
DISTRICT STANDARDS
SECTION 6E FOR WALL
THICKNESS

STEEL CASING, DIA., Wt,
AND LENGTH AS SPECIFIED

CASING PIPE SHALL BE THE MINIMUM THICKNESS AS SPECIFIED (OR GREATER IF REQUIRED FOR JACKING) SEAMLESS, WELDED, COLD TAR COATED, STEEL CASING OR APPROVED EQUAL. FIELD JOINTS SHALL BE "PERMALOCK" PUSH-ON MACHINED JOINTS OR APPROVED EQUAL. BOTH ENDS OF CASING SHALL BE SEALED WITH A 1/8" THICK RUBBER END SEAL. STEEL CASING SHALL MEET ASTM A-139 L.R. REQUIREMENTS FOR GRADE B, WITH MINIMUM YIELD OF 35,000 PSI & MINIMUM TENSILE STRENGTH OF 60,000 P.S.I.

JACK AND BORE STEEL ENCASEMENT



NOTE: DEPTH OF CASING AND LOCATION OF BORE PITS SHALL CONFORM TO ALL APPLICABLE SCDOT AND MUNICIPAL PERMIT CONDITIONS

*THE NEAR EDGE OF THE PIT CAN BE NO CLOSER TO THE EDGE OF THE TRAVELWAY THAN ITS DEPTH BELOW THE SURFACE OF THE TRAVELWAY UNLESS BULKHEADED.

BORING PIT LOCATION

JAMES ISLAND
PUBLIC SERVICE DISTRICT

JACK AND BORE

DRAWING:

3

DATE: 4/28/10

DRAWN BY: GRG ASSOC.

SCALE: NTS

APPROVED BY: DJH

FOR MANHOLES INSTALLED IN PAVED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, U.S. FOUNDRY & MANUFACTURING
 CORP., USF 480 RING AND RA-SSG COVER.

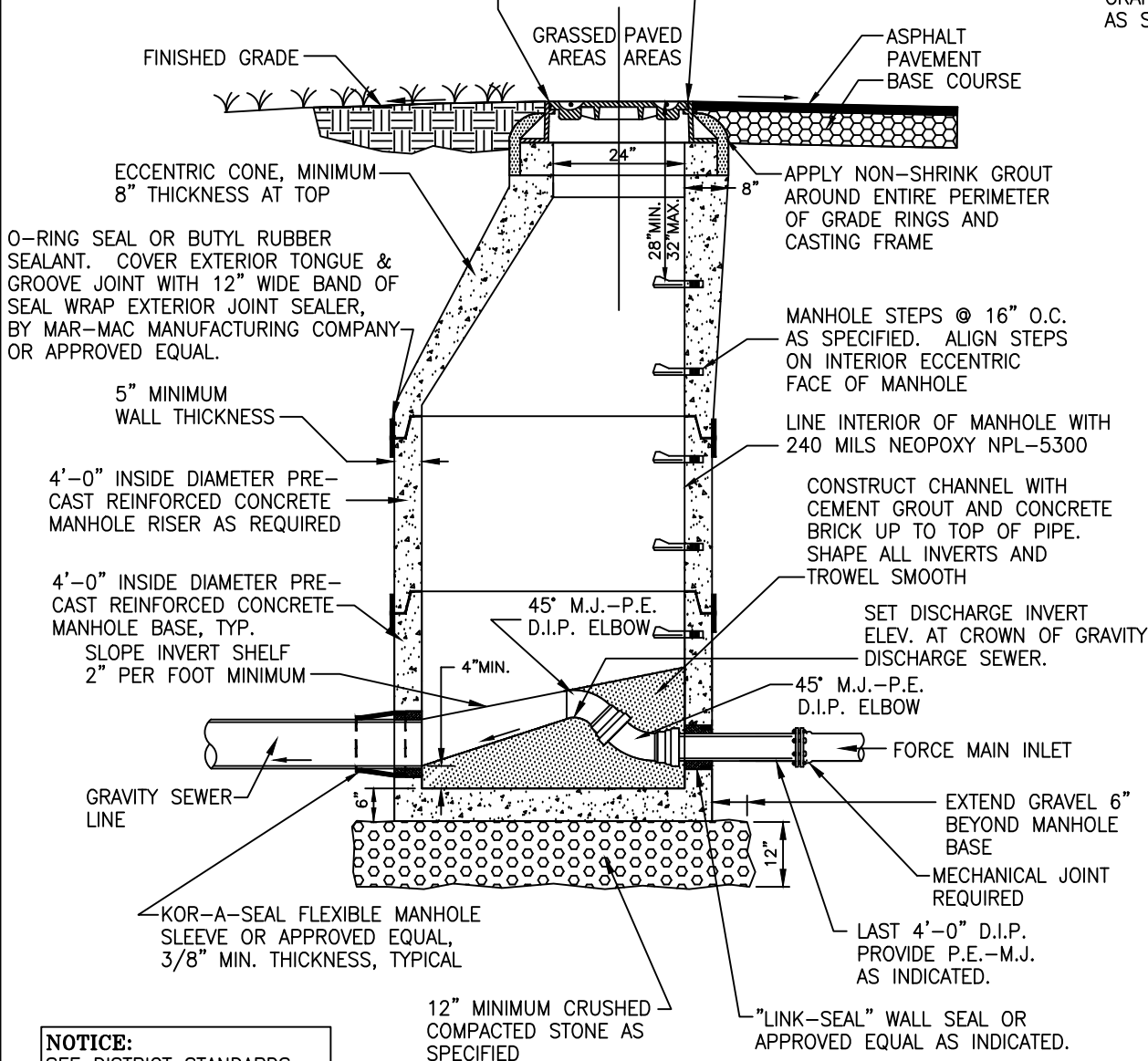
FOR MANHOLES INSTALLED IN GRASSED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, CERTANTEED
 PAMREX MODEL 621131.1

ADJUST CASTING TO FINISHED GRADE
 USING POURED OR PRECAST CONCRETE
 GRADE RINGS (MAXIMUM OF 2 RINGS,
 EACH NOT TO EXCEED 6" THICKNESS).
 GROUT AS INDICATED.

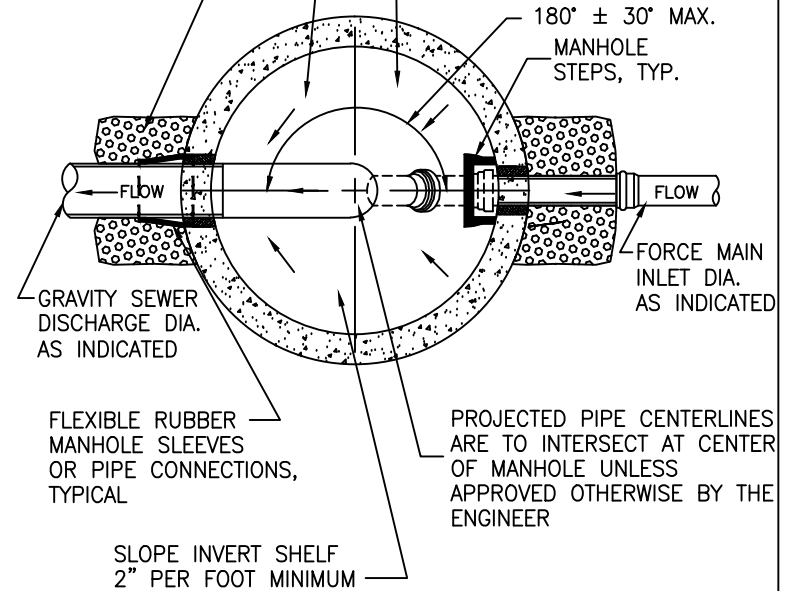
SHAPE ALL INVERTS
 AND TROWEL SMOOTH

CONSTRUCT CHANNEL WITH
 CONCRETE (GROUT FILLED
 BRICKWORK SIDES). CHANNEL
 SHALL CONFORM TO FULL PIPE
 CROSS-SECTION UP TO
 SPRINGLINE

MECHANICALLY COMPACTED
 GRANULAR MATERIAL
 AS SPECIFIED



ELEVATION VIEW



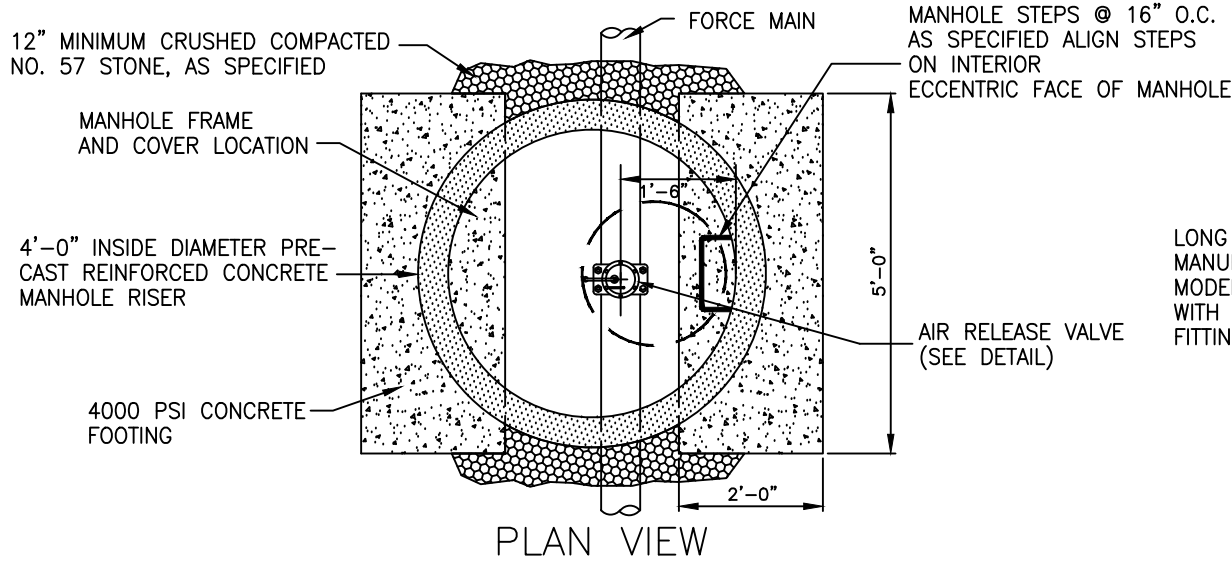
PLAN VIEW

NOTICE:

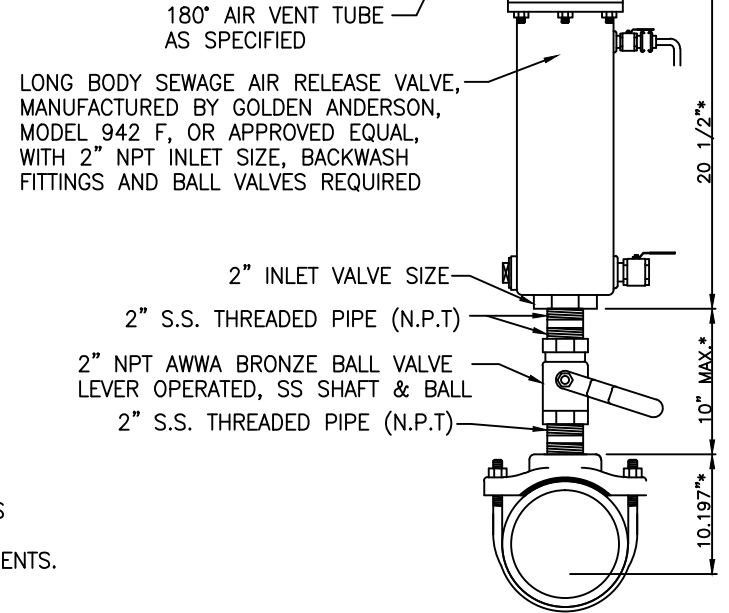
1. ADEQUATE HYDRAULIC CAPACITY OF DOWNSTREAM SEWERS SHALL BE VERIFIED DURING PROJECT DESIGN.
2. FOR FORCE MAINS 8" DIAMETER AND LARGER, JIPSD SHALL REQUIRE SPECIAL JUNCTION STRUCTURES OF PROJECT-SPECIFIC DESIGN.

NOTICE:
 SEE DISTRICT STANDARDS,
 SECTION 6C FOR ADDITIONAL
 REQUIREMENTS

JAMES ISLAND PUBLIC SERVICE DISTRICT	
FORCE MAIN TIE-IN MANHOLE FOR 4" & 6" FORCE MAINS	DRAWING: 4
DATE: 4/28/10	DRAWN BY: GRG ASSOC.
SCALE: NTS	APPROVED BY: DJH



NOTICE:
SEE DISTRICT STANDARDS, SECTION 6C AND 9D FOR ADDITIONAL REQUIREMENTS



AIR RELEASE VALVE DETAIL FOR WASTE WATER SYSTEM

NOT TO SCALE

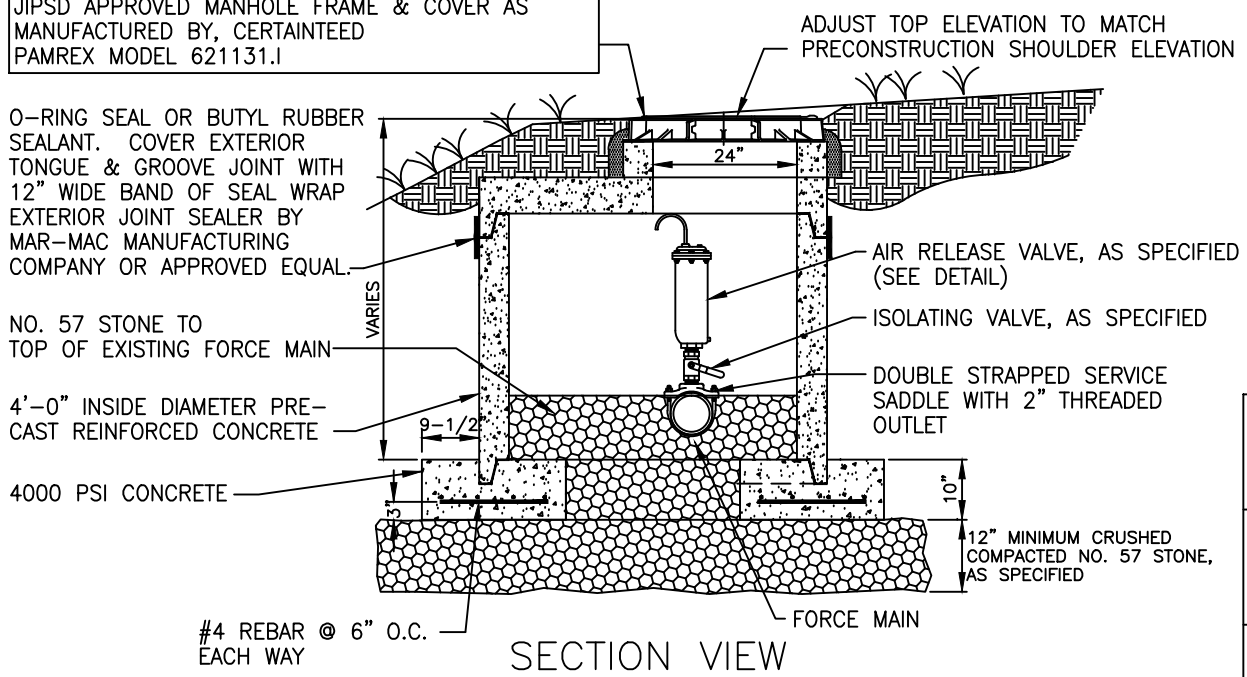
* ACTUAL DIMENSIONS ARE DEPENDENT UPON MAKE, TOLERANCES, MODEL AND ASSEMBLY.

CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS TO COMPLETE THE CONNECTION USING HEAVY DUTY 316L STAINLESS STEEL MATERIALS

FOR MANHOLES INSTALLED IN PAVED SURFACE
JIPSD APPROVED MANHOLE FRAME & COVER AS MANUFACTURED BY, U.S. FOUNDRY & MANUFACTURING CORP., USF 480 RING AND RA-SSG COVER.

FOR MANHOLES INSTALLED IN GRASSED SURFACE
JIPSD APPROVED MANHOLE FRAME & COVER AS MANUFACTURED BY, CERTAINTEED PAMREX MODEL 621131.I

WARNING:
SEE DISTRICT STANDARD SPECIFICATIONS AND SCDOT ENCROACHMENT PERMIT FOR GRADE/FINAL ELEVATION REQUIREMENTS.

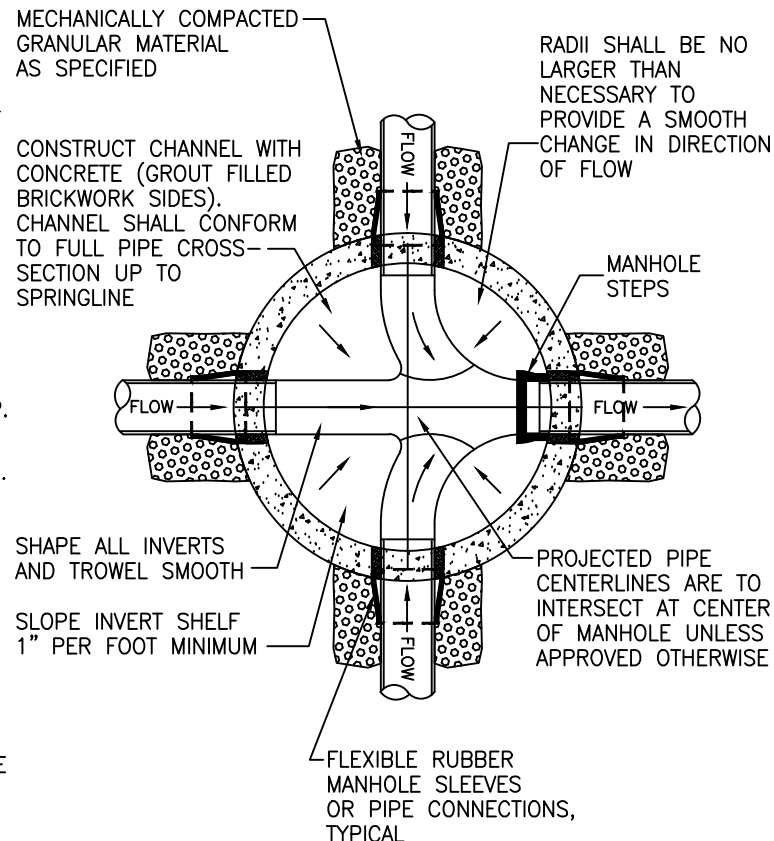
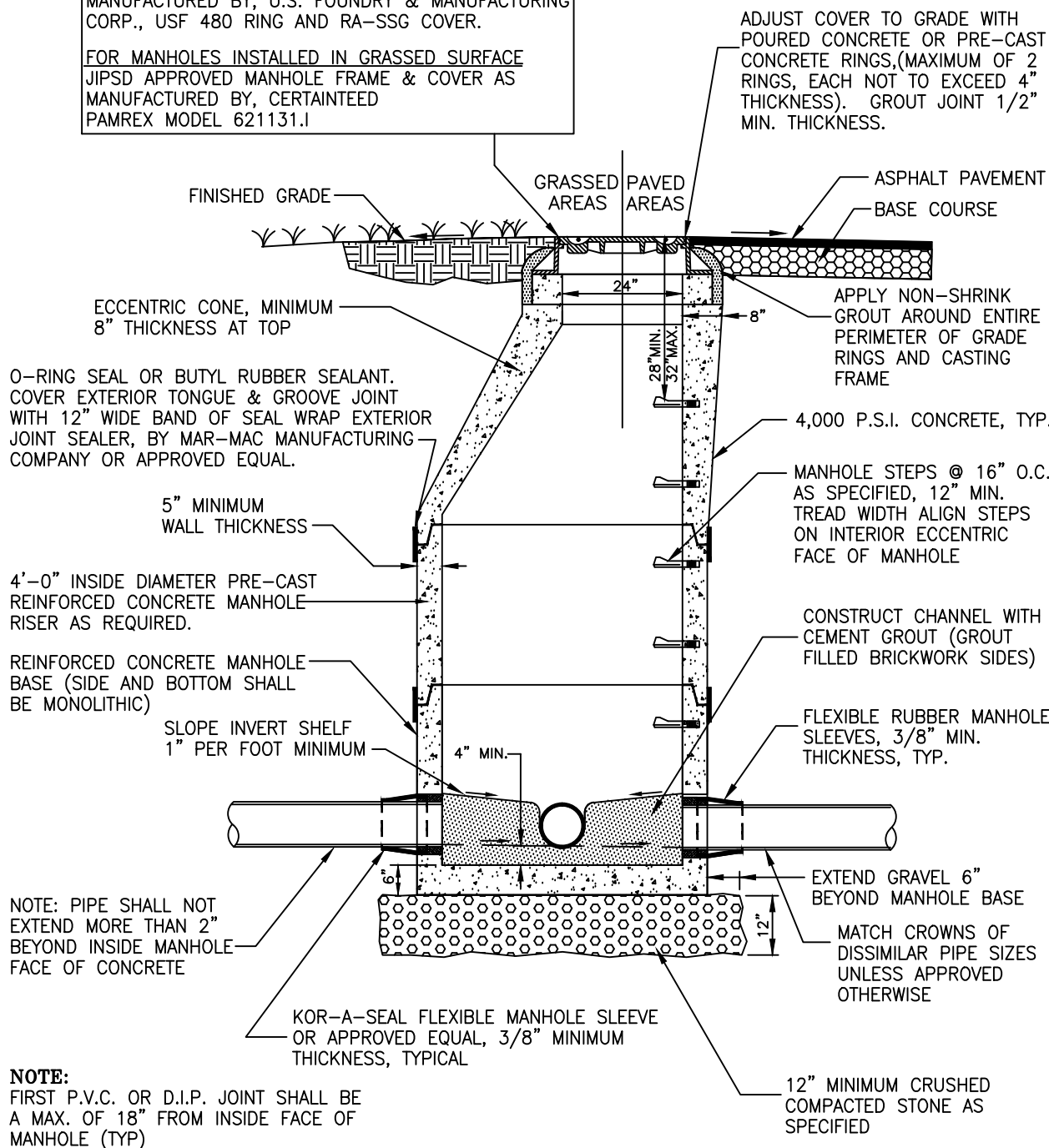


JAMES ISLAND PUBLIC SERVICE DISTRICT	
AIR RELEASE VALVE MANHOLE	DRAWING: 5
DATE: 4/28/10	DRAWN BY: GRG ASSOC.
SCALE: NTS	APPROVED BY: DJH

FOR MANHOLES INSTALLED IN PAVED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, U.S. FOUNDRY & MANUFACTURING
 CORP., USF 480 RING AND RA-SSG COVER.

FOR MANHOLES INSTALLED IN GRASSED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, CERTAINTEED
 PAMREX MODEL 621131.I

NOTICE:
 SEE DISTRICT STANDARDS,
 SECTION 6C FOR ADDITIONAL
 REQUIREMENTS



PLAN VIEW

NOTE: PIPE SHALL NOT
 EXTEND MORE THAN 2\"/>

NOTE:
 FIRST P.V.C. OR D.I.P. JOINT SHALL BE
 A MAX. OF 18\"/>

ELEVATION VIEW

JAMES ISLAND PUBLIC SERVICE DISTRICT	
STANDARD MANHOLE	DRAWING: 6
DATE: 4/28/10	DRAWN BY: GRG ASSOC.
SCALE: NTS	APPROVED BY: DJH

FOR MANHOLES INSTALLED IN PAVED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, U.S. FOUNDRY & MANUFACTURING
 CORP., USF 480 RING AND RA-SSG COVER.

FOR MANHOLES INSTALLED IN GRASSED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, CERTAINTED
 PAMREX MODEL 621131.I

ADJUST CASTING TO FINISHED GRADE USING
 POURED OR PRECAST CONCRETE GRADE RINGS
 (MAXIMUM OF 2 RINGS, EACH NOT TO EXCEED
 6" THICKNESS). GROUT AS INDICATED.

O-RING SEAL OR BUTYL RUBBER SEALANT.
 COVER EXTERIOR TONGUE & GROOVE JOINT
 WITH 12" WIDE BAND OF SEAL WRAP EXTERIOR
 JOINT SEALER, BY MAR-MAC MANUFACTURING
 COMPANY OR APPROVED EQUAL.

ECCENTRIC CONE, MINIMUM
 8" THICKNESS AT TOP

5" MINIMUM
 WALL THICKNESS

TEE

UPPER INLET I.E.

PIPE RISER SECTION,
 LENGTH AS REQUIRED

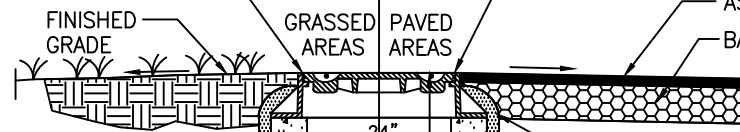
#4 REBAR U-TIE BARS, SET "U"
 BEND I.D. TO PIPE O.D. PLUS 6",
 EPOXY GROUT DOWEL INTO
 MANHOLE WALL.

4000 PSI CONCRETE
 ENCASUREMENT, TYP.

LOWER INLET I.E.

90° BEND

UNDISTURBED SOIL



APPLY NON-SHRINK GROUT AROUND ENTIRE
 PERIMETER OF GRADE RINGS AND CASTING
 FRAME

4,000 P.S.I. CONCRETE, TYP.

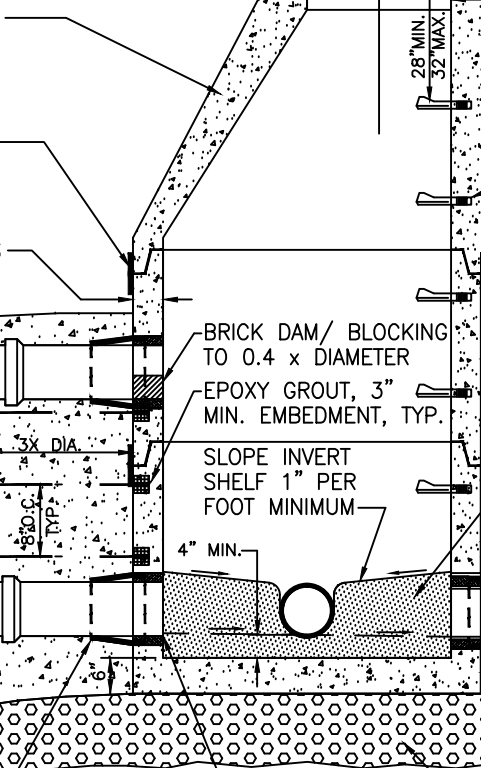
MANHOLE STEPS @ 16" O.C. AS SPECIFIED,
 12" MIN. TREAD WIDTH ALIGN STEPS ON
 INTERIOR ECCENTRIC FACE OF MANHOLE

4'-0" INSIDE DIAMETER PRE-CAST
 REINFORCED CONCRETE MANHOLE RISER AS
 REQUIRED. 5'-0" I.D. REQUIRED FOR 12"
 I.D. OUTLET SEWERS AND LARGER

CONSTRUCT CHANNEL WITH CEMENT GROUT AND
 CONCRETE BRICK UP TO TOP OF PIPE. SHAPE
 ALL INVERTS AND TROWEL SMOOTH

REINFORCED CONCRETE MANHOLE BASE
 (SIDE AND BOTTOM SHALL BE MONOLITHIC)

MATCH CROWNS OF DIFFERENT PIPE
 DIAMETERS UNLESS APPROVED OTHERWISE



3x DIA.
 TYP.

6" MIN.
 ALL SIDES

4" MIN.

KOR-A-SEAL FLEXIBLE MANHOLE SLEEVE
 OR APPROVED EQUAL, 3/8" MINIMUM
 THICKNESS, TYPICAL

NOTE: PIPE SHALL NOT EXTEND
 MORE THAN 2" BEYOND INSIDE
 MANHOLE FACE OF CONCRETE

EXTEND GRAVEL 6"
 BEYOND MANHOLE BASE

12" MINIMUM CLASS IA
 AGGREGATE AS SPECIFIED IN
 ASTM D2321, TABLE 1

NOTICE

EXTERIOR DROP CONNECTIONS SHALL ALSO BE CONSTRUCTED
 ON EXISTING MANHOLES AS APPLICABLE.

NOTICE:
 SEE DISTRICT STANDARDS,
 SECTION 6C FOR ADDITIONAL
 REQUIREMENTS

JAMES ISLAND
 PUBLIC SERVICE DISTRICT

EXTERIOR DROP MANHOLE

DRAWING:

7

DATE: 4/28/10

DRAWN BY: GRG ASSOC.

SCALE: NTS

APPROVED BY: DJH

FOR MANHOLES INSTALLED IN PAVED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, U.S. FOUNDRY & MANUFACTURING
 CORP., USF 480 RING AND RA-SSG COVER.

FOR MANHOLES INSTALLED IN GRASSED SURFACE
 JIPSD APPROVED MANHOLE FRAME & COVER AS
 MANUFACTURED BY, CERTAINT EED
 PAMREX MODEL 621131.1

ECCENTRIC FLAT TOP, 8"
 TOP THICKNESS, MINIMUM

O-RING SEAL OR BUTYL RUBBER
 SEALANT. COVER EXTERIOR
 TONGUE & GROOVE JOINT WITH
 12" WIDE BAND OF SEAL WRAP
 EXTERIOR JOINT SEALER, BY
 MAR-MAC MANUFACTURING COMPANY
 OR APPROVED EQUAL.

APPLY NON-SHRINK GROUT
 AROUND ENTIRE PERIMETER
 OF GRADE RINGS AND CASTING
 FRAME

ADJUST CASTING TO FINISHED GRADE
 USING POURED OR PRECAST CONCRETE
 GRADE RINGS (MAXIMUM OF 2 RINGS,
 EACH NOT TO EXCEED 6" THICKNESS).
 GROUT AS INDICATED.

CONSTRUCT CHANNEL WITH
 CONCRETE (GROUT FILLED
 BRICKWORK SIDES).
 CHANNEL SHALL CONFORM
 TO FULL PIPE CROSS-
 SECTION UP TO
 SPRINGLINE

MECHANICALLY COMPACTED
 GRANULAR MATERIAL
 AS SPECIFIED

RADIUS SHALL BE NO
 LARGER THAN
 NECESSARY TO
 PROVIDE A SMOOTH
 CHANGE IN DIRECTION
 OF FLOW

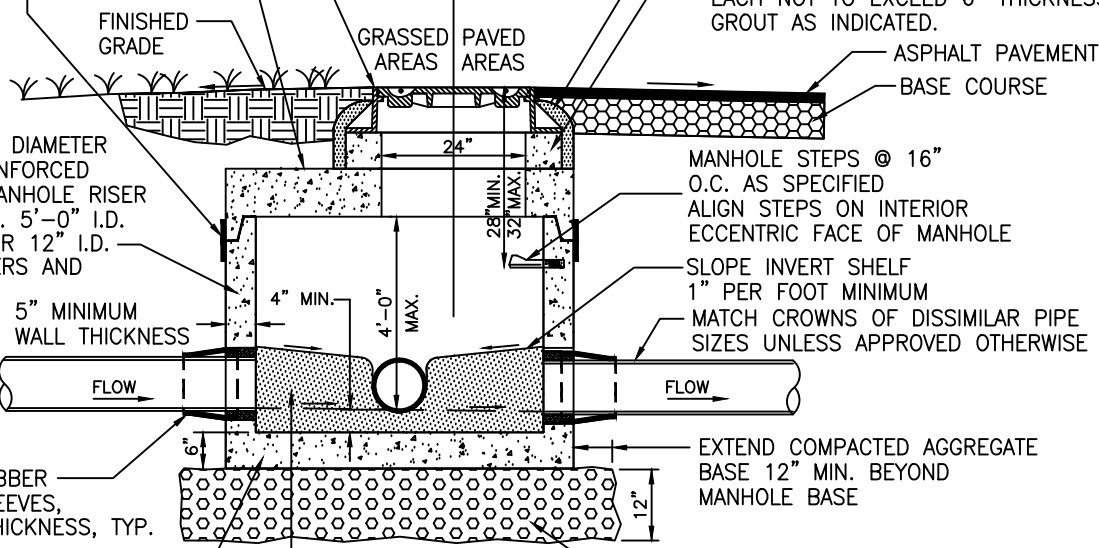
4'-0" INSIDE DIAMETER
 PRECAST REINFORCED
 CONCRETE MANHOLE RISER
 AS REQUIRED. 5'-0" I.D.
 REQUIRED FOR 12" I.D.
 OUTLET SEWERS AND
 LARGER.

MANHOLE STEPS @ 16"
 O.C. AS SPECIFIED
 ALIGN STEPS ON INTERIOR
 ECCENTRIC FACE OF MANHOLE

SLOPE INVERT SHELF
 1" PER FOOT MINIMUM
 MATCH CROWNS OF DISSIMILAR PIPE
 SIZES UNLESS APPROVED OTHERWISE

SHAPE ALL INVERTS
 AND TROWEL SMOOTH

PROJECTED PIPE
 CENTERLINES ARE TO
 INTERSECT AT CENTER
 OF MANHOLE UNLESS
 APPROVED OTHERWISE



FLEXIBLE RUBBER
 MANHOLE SLEEVES,
 3/8" MIN. THICKNESS, TYP.

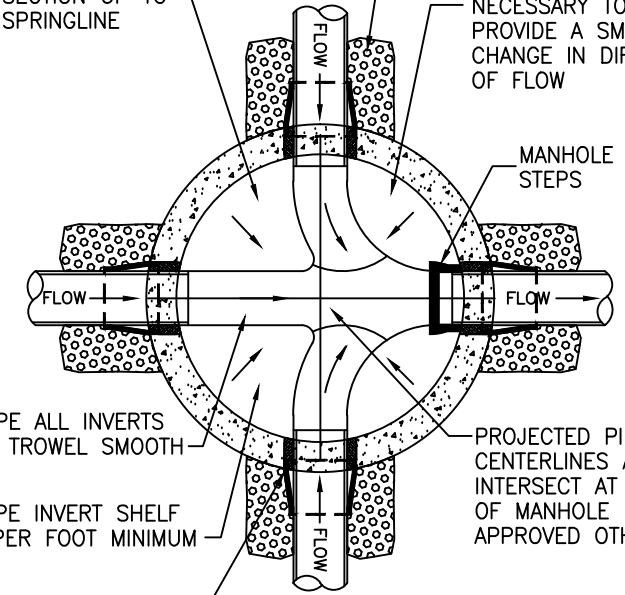
4'-0" INSIDE DIAMETER
 PRECAST REINFORCED
 CONCRETE MANHOLE BASE

CONSTRUCT CHANNEL WITH CEMENT
 GROUT AND CONCRETE BRICK UP TO
 TOP OF PIPE. SHAPE ALL INVERTS
 AND TROWEL SMOOTH

EXTEND COMPACTED AGGREGATE
 BASE 12" MIN. BEYOND
 MANHOLE BASE

12" MINIMUM CRUSHED COMPACTED
 STONE AS SPECIFIED

ELEVATION VIEW



SHAPE ALL INVERTS
 AND TROWEL SMOOTH

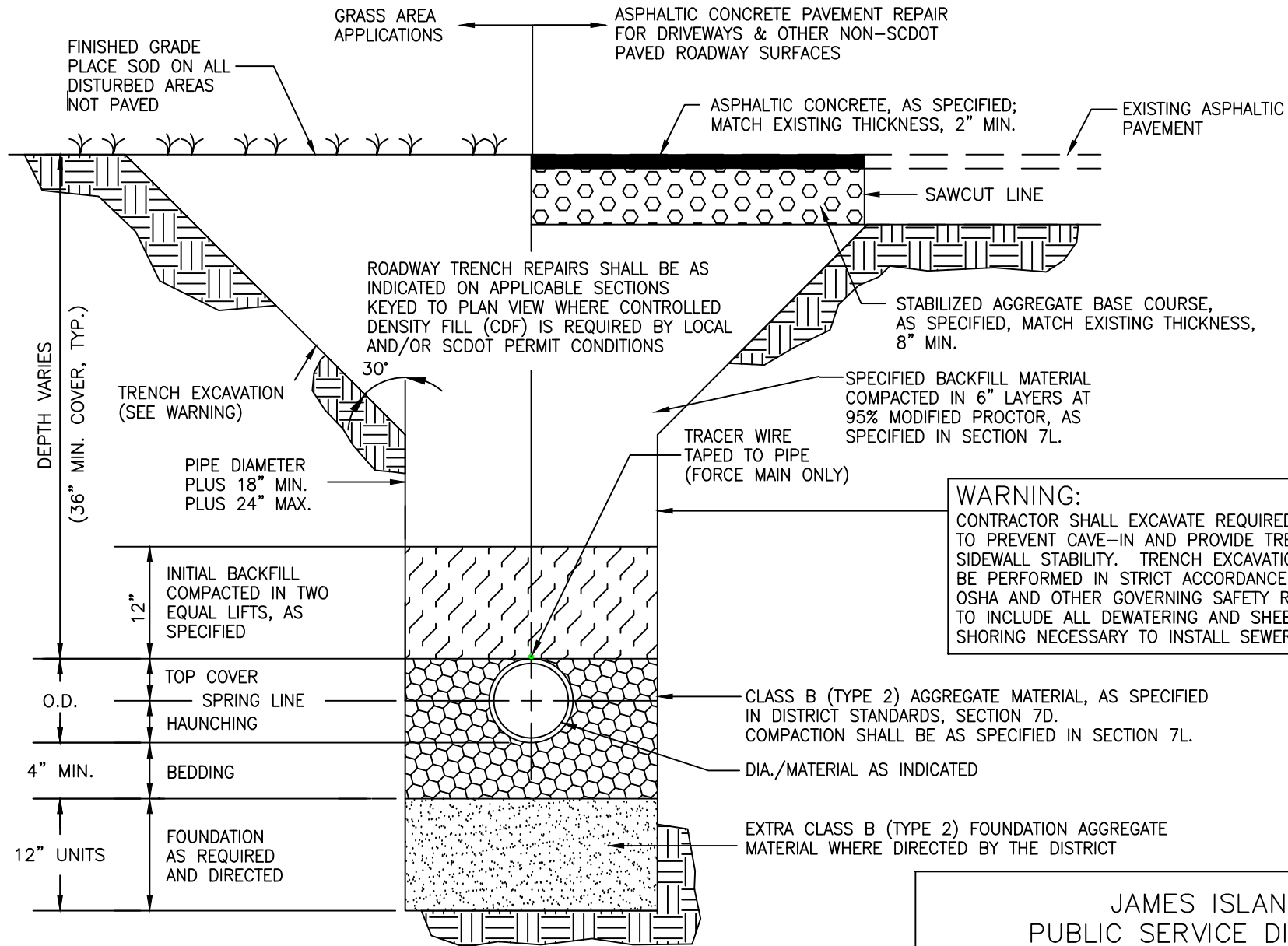
SLOPE INVERT SHELF
 1" PER FOOT MINIMUM

FLEXIBLE RUBBER MANHOLE SLEEVES
 OR PIPE CONNECTIONS, TYPICAL

PLAN VIEW

NOTICE:
 SEE DISTRICT STANDARDS,
 SECTION 6C FOR ADDITIONAL
 REQUIREMENTS

JAMES ISLAND PUBLIC SERVICE DISTRICT	
FLAT TOP MANHOLE (SHALLOW MANHOLE)	DRAWING: 8
DATE: 4/28/10	DRAWN BY: GRG ASSOC.
SCALE: NTS	APPROVED BY: DJH



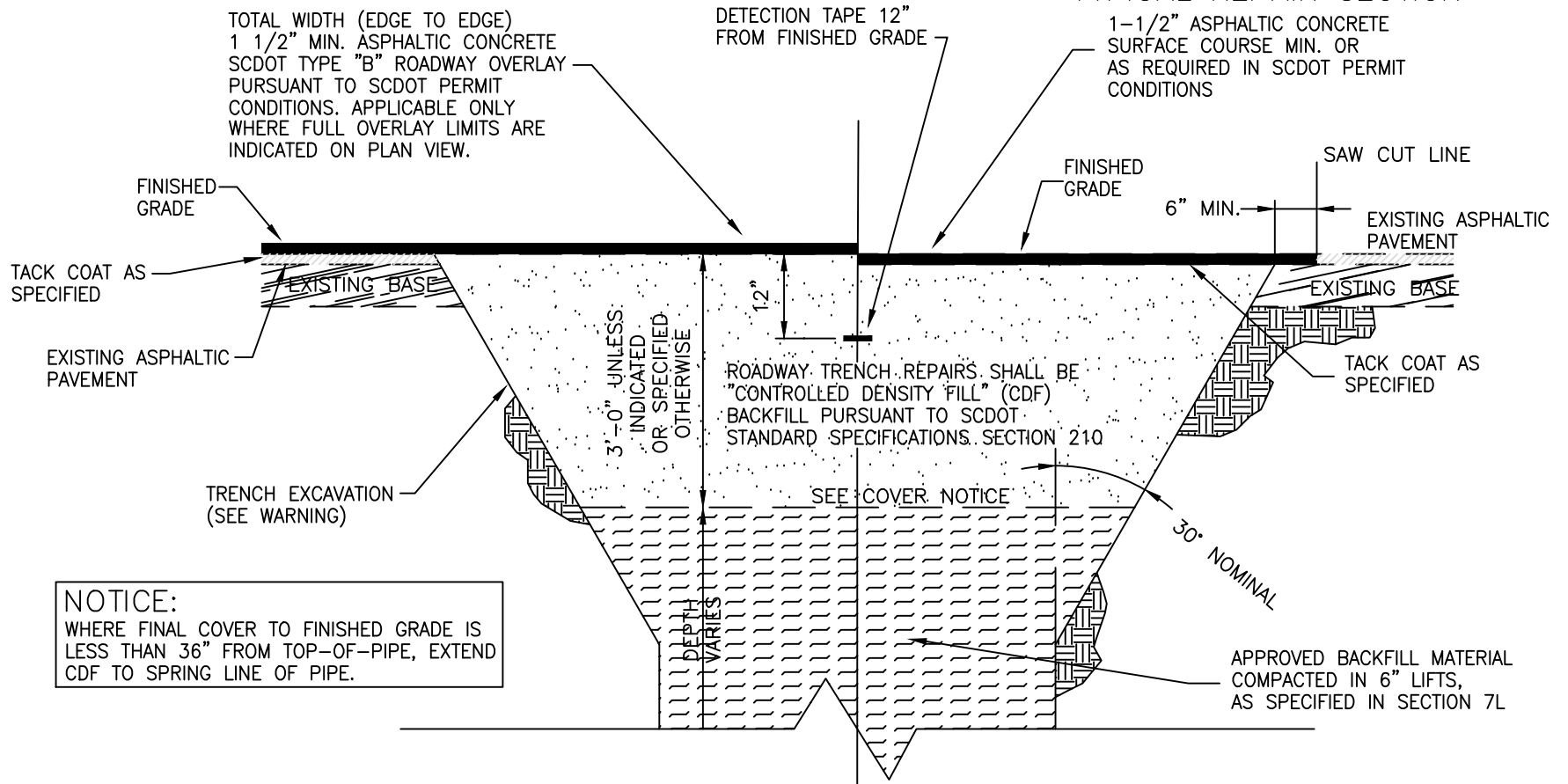
WARNING:
 CONTRACTOR SHALL EXCAVATE REQUIRED TRENCH TO PREVENT CAVE-IN AND PROVIDE TRENCH SIDEWALL STABILITY. TRENCH EXCAVATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH OSHA AND OTHER GOVERNING SAFETY REGULATIONS TO INCLUDE ALL DEWATERING AND SHEETING & SHORING NECESSARY TO INSTALL SEWER.

NOTICE:
 TRENCH EXCAVATION AND BACKFILL SHALL BE PURSUANT TO DISTRICT STANDARDS, SECTION 7.

JAMES ISLAND PUBLIC SERVICE DISTRICT	
TYPICAL TRENCH SECTION	DRAWING: 9
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>

TYPICAL OVERLAY SECTION

TOTAL WIDTH (EDGE TO EDGE)
1 1/2" MIN. ASPHALTIC CONCRETE
SCDOT TYPE "B" ROADWAY OVERLAY
PURSUANT TO SCDOT PERMIT
CONDITIONS. APPLICABLE ONLY
WHERE FULL OVERLAY LIMITS ARE
INDICATED ON PLAN VIEW.



NOTICE:
WHERE FINAL COVER TO FINISHED GRADE IS
LESS THAN 36" FROM TOP-OF-PIPE, EXTEND
CDF TO SPRING LINE OF PIPE.

TYPICAL REPAIR SECTION

1-1/2" ASPHALTIC CONCRETE
SURFACE COURSE MIN. OR
AS REQUIRED IN SCDOT PERMIT
CONDITIONS

DETECTION TAPE 12"
FROM FINISHED GRADE

FINISHED GRADE

SAW CUT LINE

6" MIN.

EXISTING ASPHALTIC
PAVEMENT

EXISTING BASE

TACK COAT AS
SPECIFIED

ROADWAY TRENCH REPAIRS SHALL BE
"CONTROLLED DENSITY FILL" (CDF)
BACKFILL PURSUANT TO SCDOT
STANDARD SPECIFICATIONS, SECTION 210

SEE COVER NOTICE

30° NOMINAL

APPROVED BACKFILL MATERIAL
COMPACTED IN 6" LIFTS,
AS SPECIFIED IN SECTION 7L

WARNING:

CONTRACTOR SHALL EXCAVATE REQUIRED TRENCH TO PREVENT CAVE-IN AND PROVIDE TRENCH SIDEWALL STABILITY. TRENCH EXCAVATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH OSHA AND OTHER GOVERNING SAFETY REGULATIONS TO INCLUDE ALL DEWATERING AND SHEETING & SHORING NECESSARY TO INSTALL SEWER.

NOTICE:

THIS SECTION SHALL BE APPLICABLE FOR ALL TRENCH EXCAVATIONS EXTENDING 3'-0" BEYOND EDGES OF EXISTING PAVED ROADWAY SURFACES INCLUDING DRIVEWAYS WITHIN 3'-0" OF ROADWAY PAVEMENT EDGES OR CURBS.

JAMES ISLAND
PUBLIC SERVICE DISTRICT

TRENCH SECTION IN SCDOT
RIGHT-OF-WAY

DRAWING:

9a

DATE: 4/28/10

DRAWN BY: GRG ASSOC.

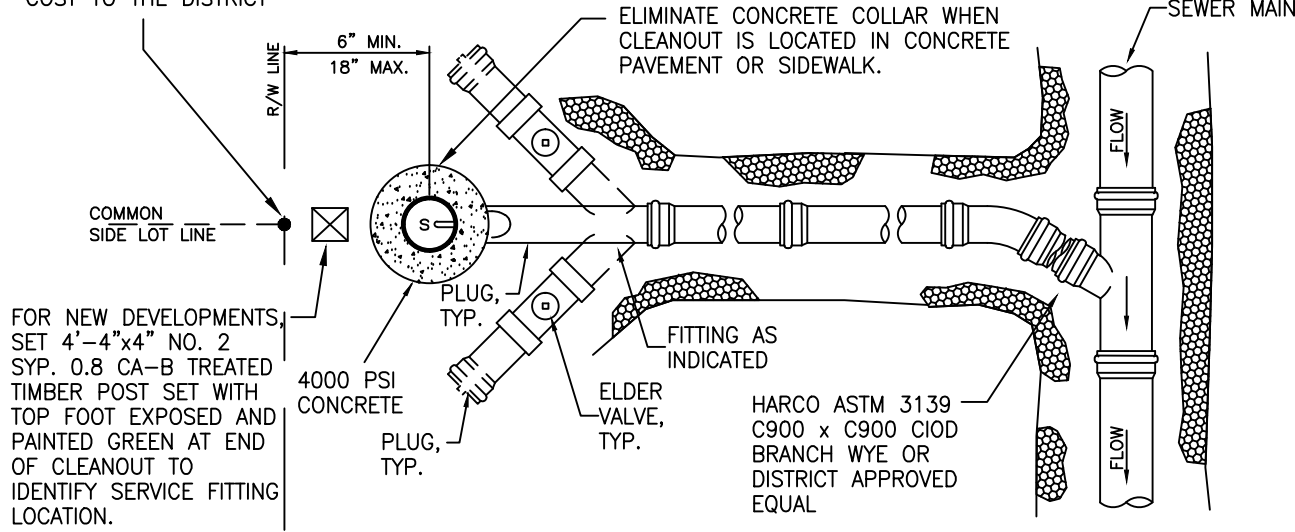
SCALE: NTS

APPROVED BY: DJH

CONTRACTOR SHALL RESET ALL DISTURBED/DISPLACED PROPERTY MONUMENTS BY A DISTRICT APPROVED P.L.S. AT NO COST TO THE DISTRICT

APPROVED CAST IRON SERVICE LATERAL CLEANOUT FRAME AND COVER. MATCH ID OF COVER TO ID OF CLEANOUT PIPE.

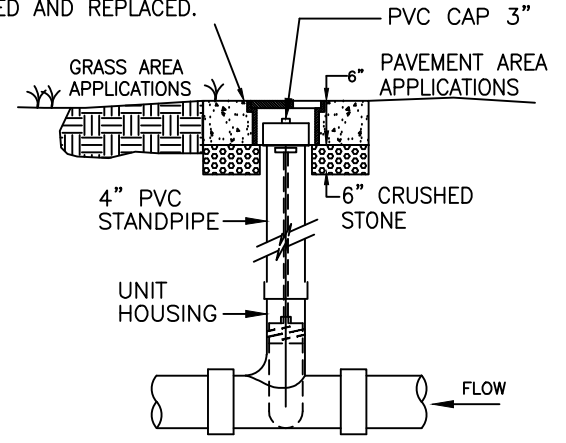
CONSTRUCT 18" DIA. CONCRETE COLLAR WITH CAST IRON COVER AS A TRUE CIRCLE OR USE APPROVED PRECAST CIRCULAR GRADING RING. CONCRETE GRADE RINGS NOT PROPERLY CONSTRUCTED SHALL BE DISAPPROVED AND REPLACED.



FOR NEW DEVELOPMENTS, SET 4'-4"x4" NO. 2 SYP. 0.8 CA-B TREATED TIMBER POST SET WITH TOP FOOT EXPOSED AND PAINTED GREEN AT END OF CLEANOUT TO IDENTIFY SERVICE FITTING LOCATION.

ELIMINATE CONCRETE COLLAR WHEN CLEANOUT IS LOCATED IN CONCRETE PAVEMENT OR SIDEWALK.

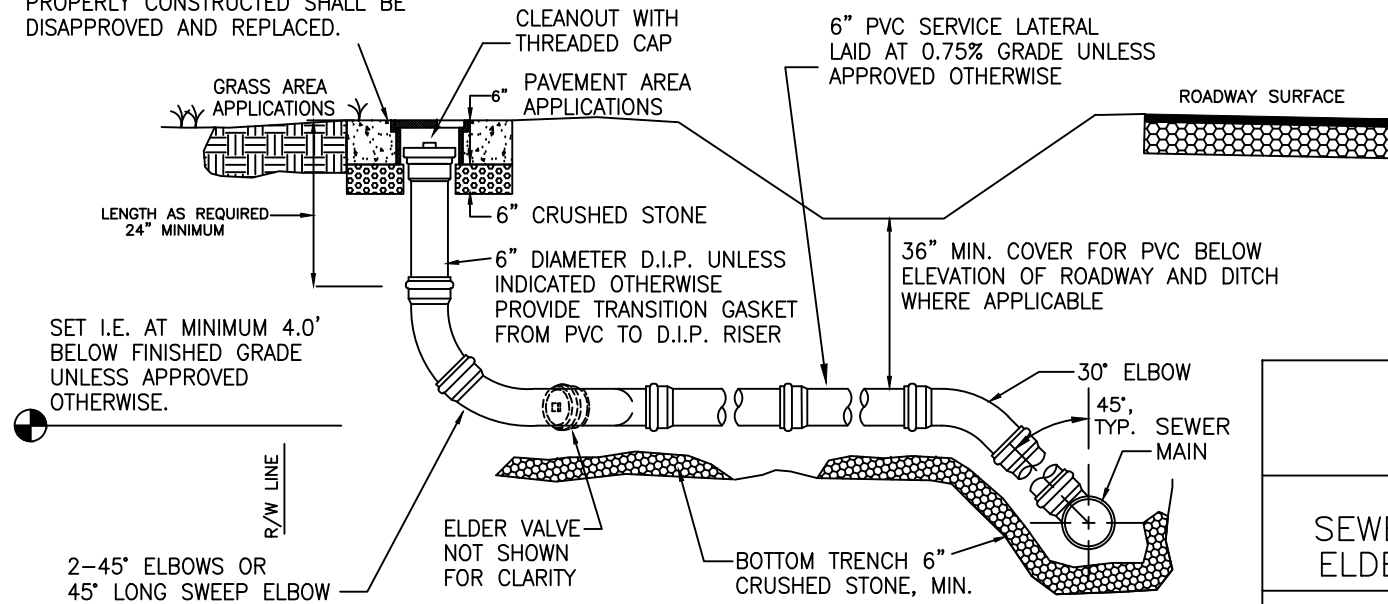
HARCO ASTM 3139 C900 x C900 CIOD BRANCH WYE OR DISTRICT APPROVED EQUAL



ELDER VALVE

PLAN VIEW

CONSTRUCT 18" DIA. CONCRETE COLLAR WITH CAST IRON COVER AS A TRUE CIRCLE OR USE APPROVED PRECAST CIRCULAR GRADING RING. CONCRETE GRADE RINGS NOT PROPERLY CONSTRUCTED SHALL BE DISAPPROVED AND REPLACED.



SET I.E. AT MINIMUM 4.0' BELOW FINISHED GRADE UNLESS APPROVED OTHERWISE.

NOTICE:
SEE DISTRICT STANDARDS, SECTION 7J FOR ADDITIONAL REQUIREMENTS

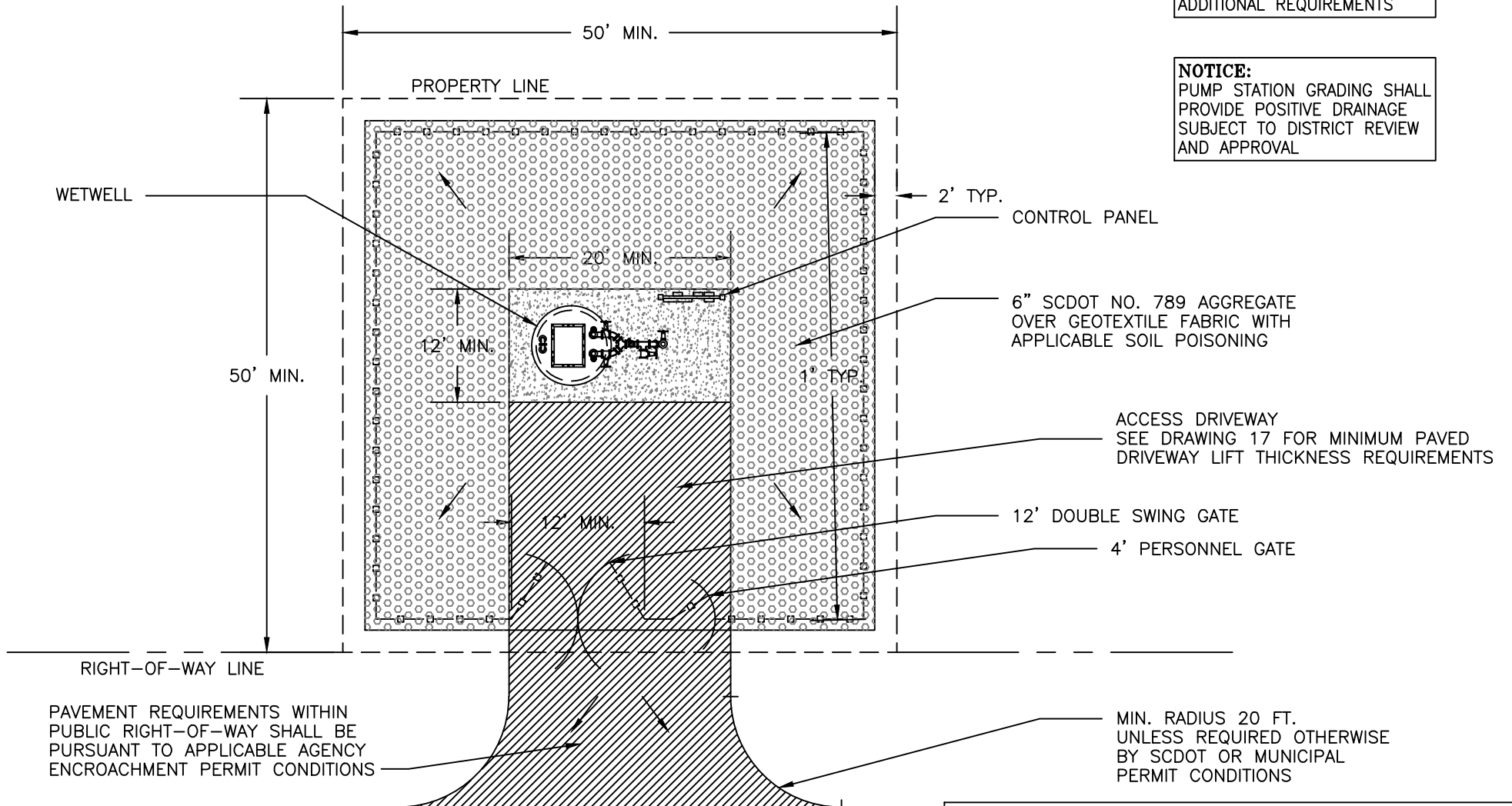
NOTICE:
MATERIALS SHALL BE AS SPECIFIED IN SECTION 6B UNLESS INDICATED OTHERWISE HEREON

SECTION VIEW

<p>JAMES ISLAND PUBLIC SERVICE DISTRICT</p>	
<p>SEWER SERVICE WITH ELDER VALVE</p>	<p>DRAWING: 10</p>
<p>DATE: 4/28/10</p>	<p>DRAWN BY: GRG ASSOC.</p>
<p>SCALE: NTS</p>	<p>APPROVED BY: DJH</p>

NOTICE:
SEE DISTRICT STANDARDS,
SECTIONS 11, 12, & 13 FOR
ADDITIONAL REQUIREMENTS

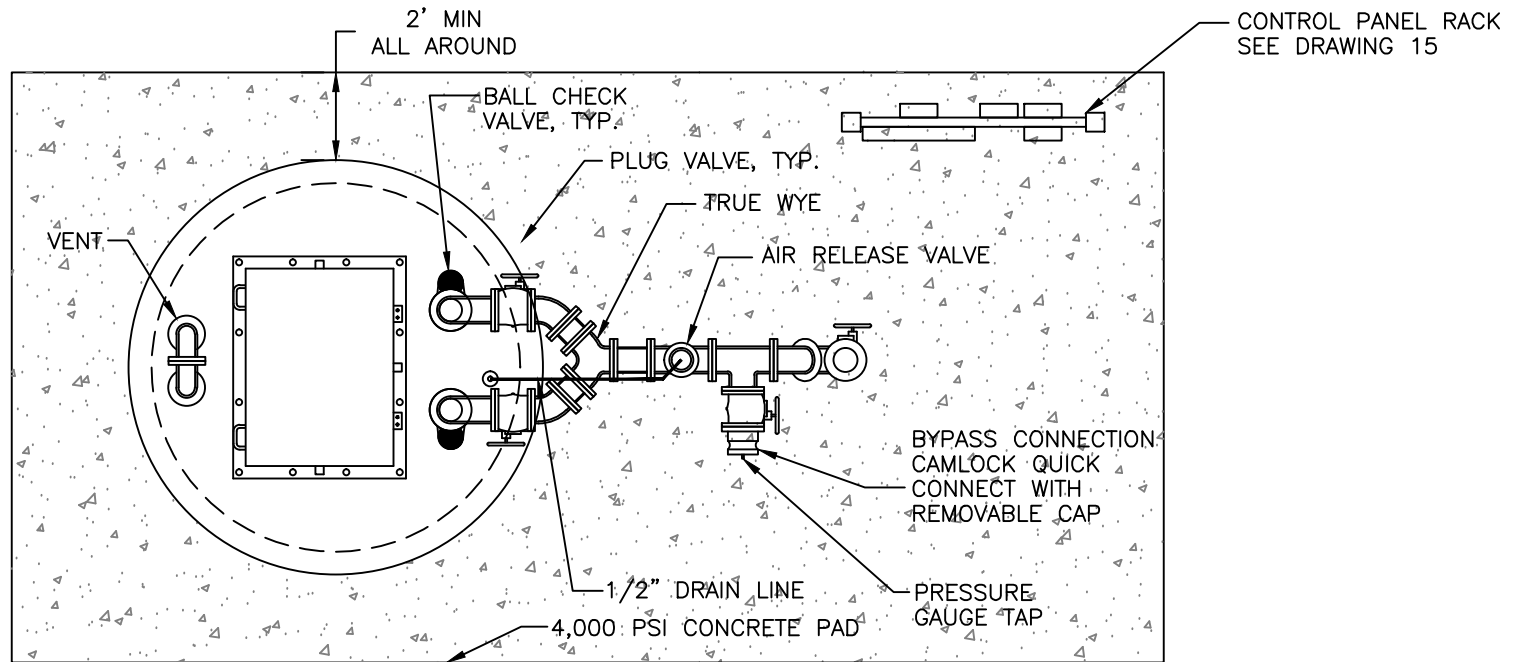
NOTICE:
PUMP STATION GRADING SHALL
PROVIDE POSITIVE DRAINAGE
SUBJECT TO DISTRICT REVIEW
AND APPROVAL



PAVEMENT REQUIREMENTS WITHIN
PUBLIC RIGHT-OF-WAY SHALL BE
PURSUANT TO APPLICABLE AGENCY
ENCROACHMENT PERMIT CONDITIONS

MIN. RADIUS 20 FT.
UNLESS REQUIRED OTHERWISE
BY SCDOT OR MUNICIPAL
PERMIT CONDITIONS

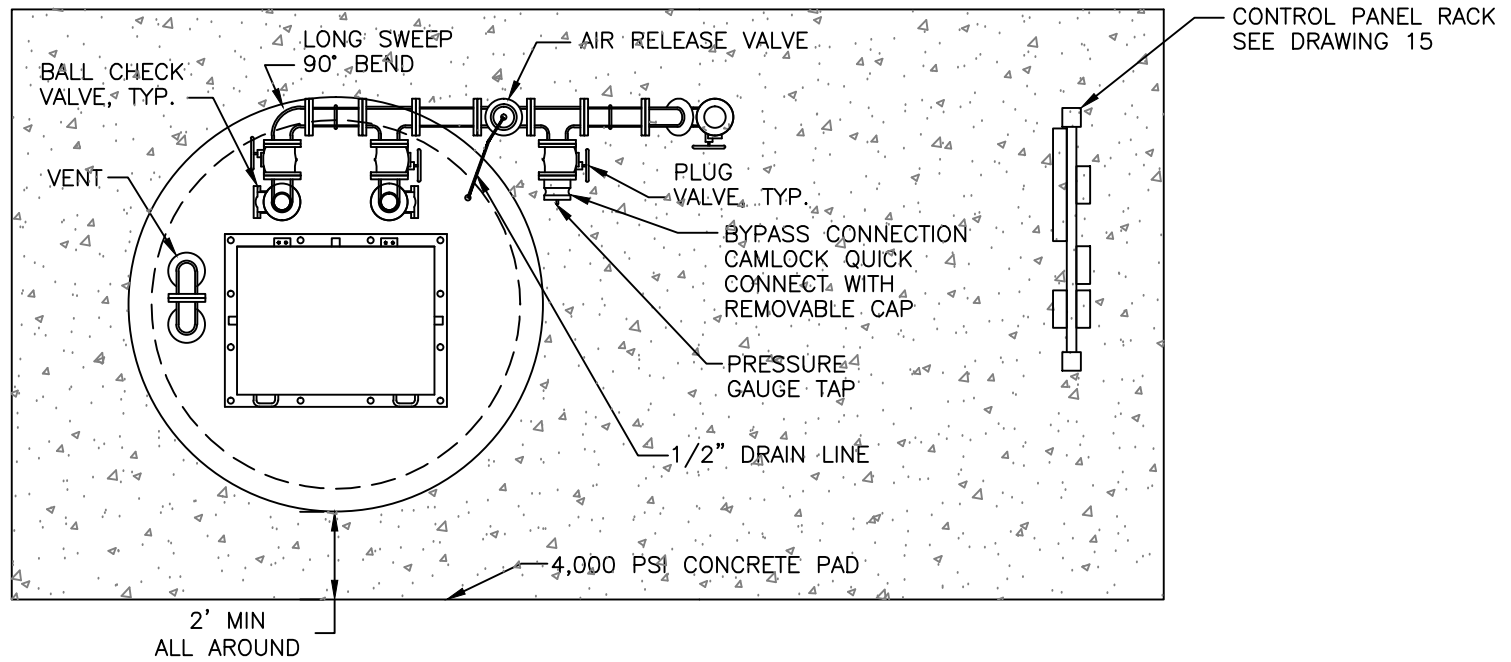
PUBLIC ROADWAY		JAMES ISLAND PUBLIC SERVICE DISTRICT	
		TYPICAL PUMP STATION SITE PLAN	DRAWING: 11
		DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
		SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>



NOTICE:

1. SEE DISTRICT STANDARDS SECTIONS 11,12 & 13 FOR ADDITIONAL REQUIREMENTS
2. PIPING LAYOUT INDICATED IS TYPICAL FOR 4" AND 6" DIA. STATION PIPING. LARGER STATIONS WITH 8" DIA. AND LARGER PIPING SHALL BE SUBJECT TO DISTRICT PRELIMINARY DESIGN REVIEW.

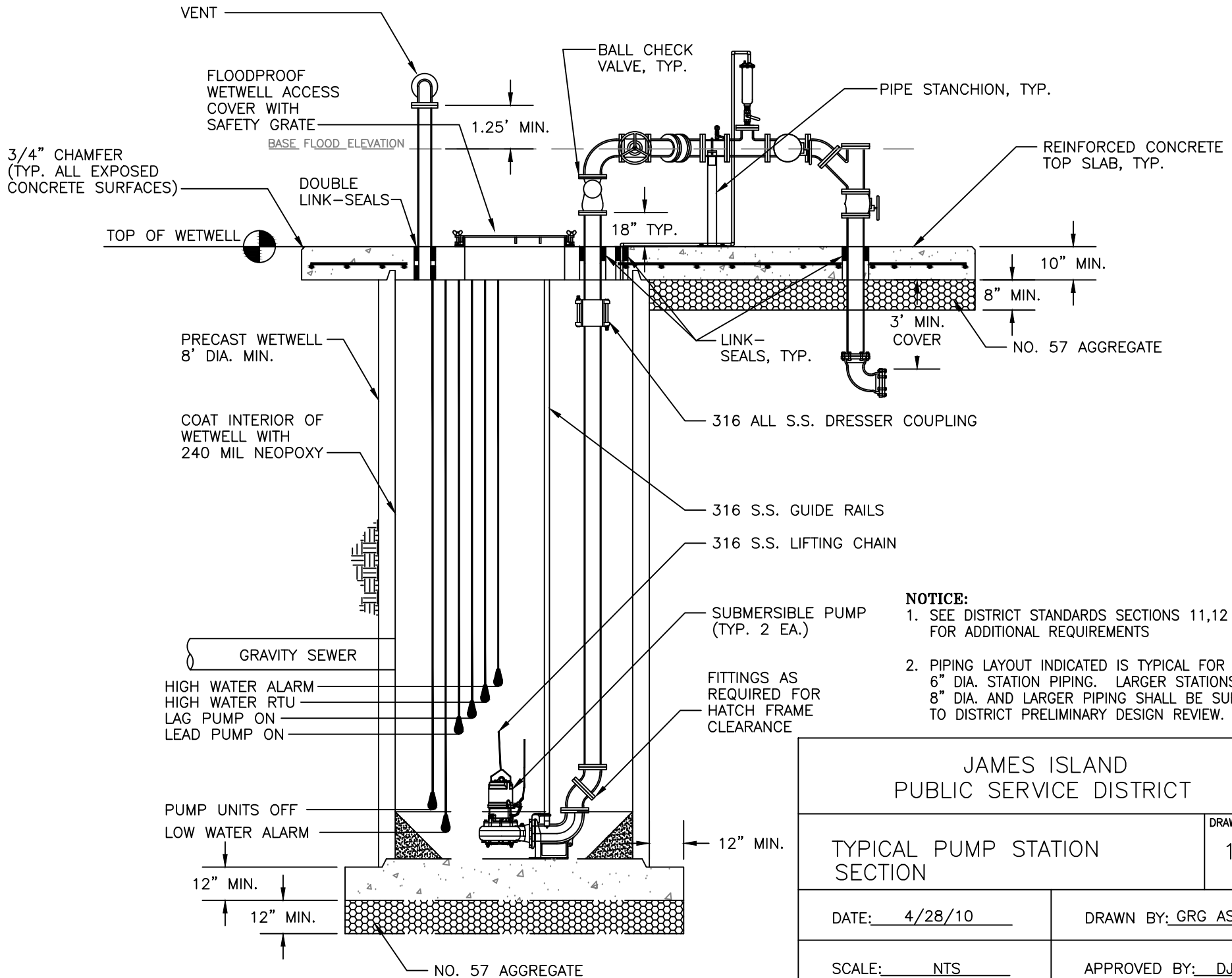
JAMES ISLAND PUBLIC SERVICE DISTRICT	
TYPICAL PUMP STATION TOP PLAN	DRAWING: 12
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>



NOTICE:

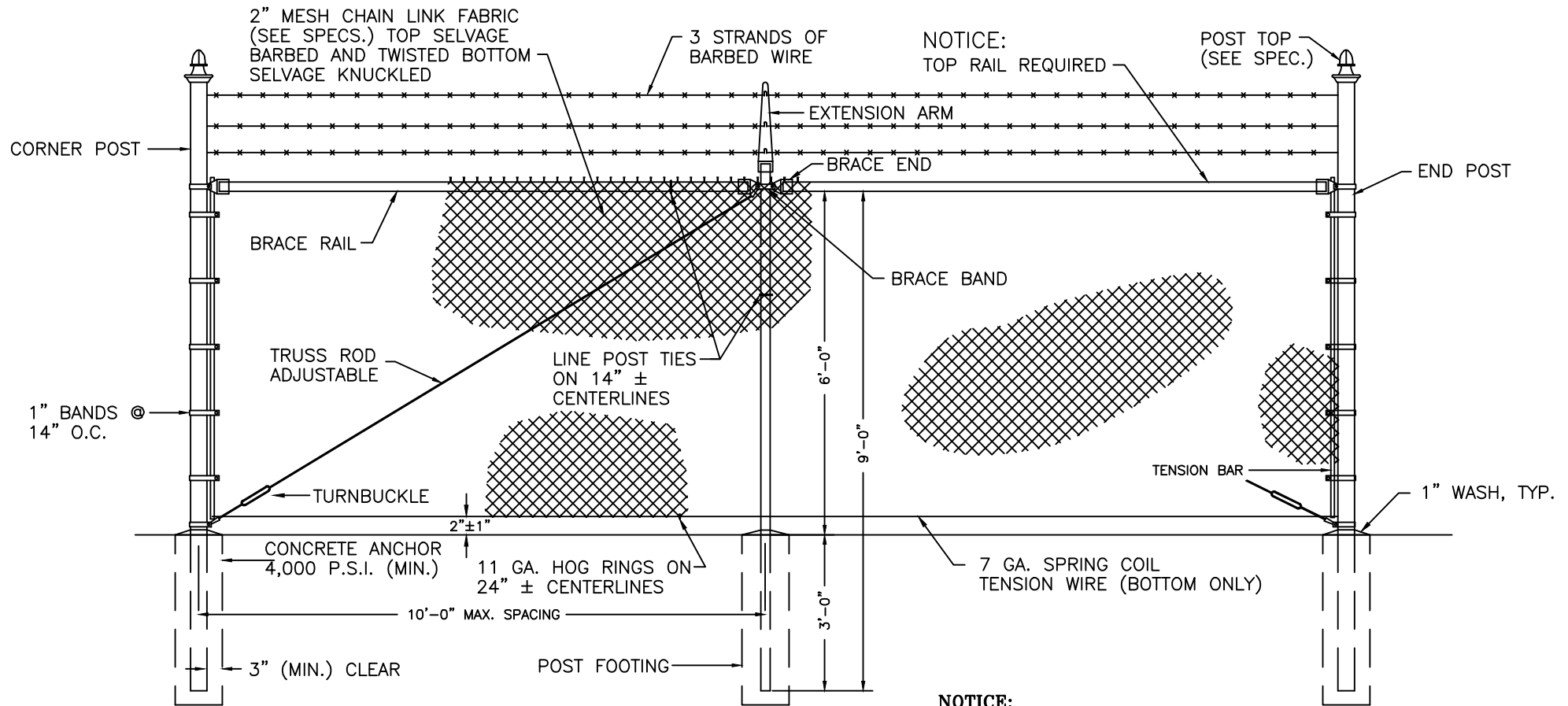
1. SEE DISTRICT STANDARDS SECTIONS 11,12 & 13 FOR ADDITIONAL REQUIREMENTS
2. PIPING LAYOUT INDICATED ABOVE MAY BE UTILIZED TO ACCOMMODATE SPECIAL SPACE AND ACCESS REQUIREMENTS SUBJECT TO DISTRICT APPROVAL
3. PIPING LAYOUT INDICATED IS TYPICAL FOR 4" AND 6" DIA. STATION PIPING. LARGER STATIONS WITH 8" DIA. AND LARGER PIPING SHALL BE SUBJECT TO DISTRICT PRELIMINARY DESIGN REVIEW.

JAMES ISLAND PUBLIC SERVICE DISTRICT	
TYPICAL PUMP STATION TOP PLAN (ALT.)	DRAWING: 12a
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>



- NOTICE:**
1. SEE DISTRICT STANDARDS SECTIONS 11,12 & 13 FOR ADDITIONAL REQUIREMENTS
 2. PIPING LAYOUT INDICATED IS TYPICAL FOR 4" AND 6" DIA. STATION PIPING. LARGER STATIONS WITH 8" DIA. AND LARGER PIPING SHALL BE SUBJECT TO DISTRICT PRELIMINARY DESIGN REVIEW.

<p>JAMES ISLAND PUBLIC SERVICE DISTRICT</p>	
<p>TYPICAL PUMP STATION SECTION</p>	<p>DRAWING: 13</p>
<p>DATE: 4/28/10</p>	<p>DRAWN BY: GRG ASSOC.</p>
<p>SCALE: NTS</p>	<p>APPROVED BY: DJH</p>



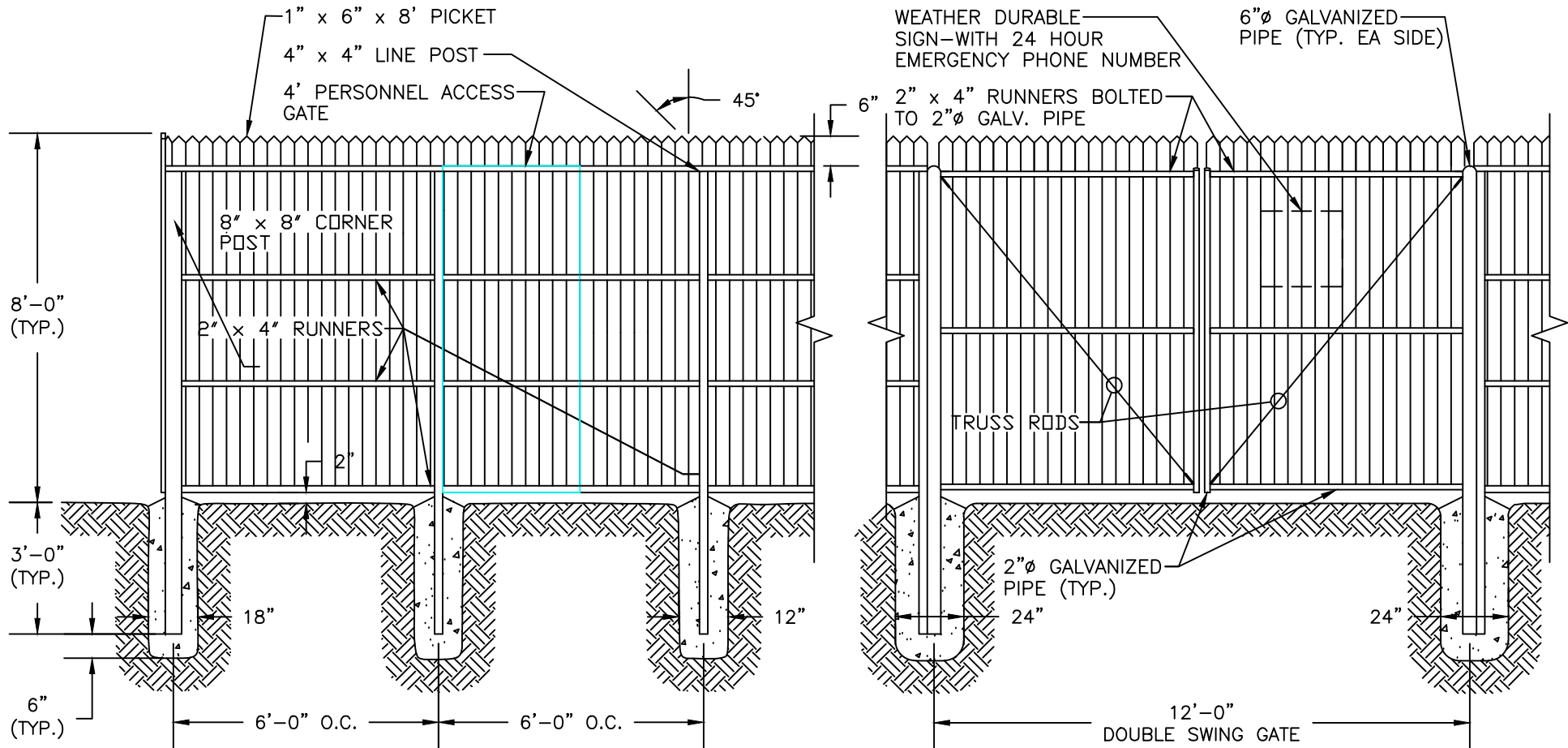
FENCING SPECIFICATIONS:

1. ALL FENCE MATERIAL SHALL BE CLASS I GALVANIZED COATED.
2. FABRIC SHALL BE 6 FEET HIGH, ENDS BARBED, COMMERCIAL GRADE 9 GAUGE, 2" MESH WITH BLACK VINYL COATED FABRIC EXCEPT AS NOTED ON PLAN VIEWS.
3. END, CORNER, PULL POSTS, AND ACCESSORIES SHALL GALVANIZED, BLACK VINYL COATED TO MATCH FABRIC.
4. TOP RAIL, CORNER AND LINE POSTS SHALL BE SIZED AS SPECIFIED, GALVANIZED COATED, AND VINYL COATED TO MATCH FABRIC.
5. BOTTOM TENSION WIRE SHALL BE 7 GAUGE SPRING COIL WIRE WITH GREEN VINYL OR GALVANIZED COATING AND PAINTED TO MATCH FABRIC.
6. BARB WIRE SHALL BE 12.5 GAUGE GALVANIZED BARB; 14 GAUGE FOUR POINT PATTERN ON 5 INCHES CENTERS, THREE (3) ROWS OF OUTWARD FACING BARBED WIRE SHALL BE USED.
7. GATE POSTS SHALL BE AS SPECIFIED UNLESS INDICATED OTHERWISE.
8. GATE SHALL BE OF THE WIDTH AND TYPE (SINGLE OR DOUBLE) AND AT THE LOCATIONS INDICATED. GATE SHALL BE EQUIPPED WITH A PROP POST CENTER LATCH AND HASP ASSEMBLY. A GROUND ANCHOR CAST IN CONCRETE SHALL BE PROVIDED. GATE SHALL BE FACTORY FABRICATED AND EQUIPPED WITH GATE HOLDERS. ALL GATE MATERIALS SHALL BE PAINTED TO MATCH BLACK VINYL FABRIC.
9. 4' EMPLOYEE ENTRANCE GATE SHALL BE INSTALLED ADJACENT TO 12' VEHICLE GATE

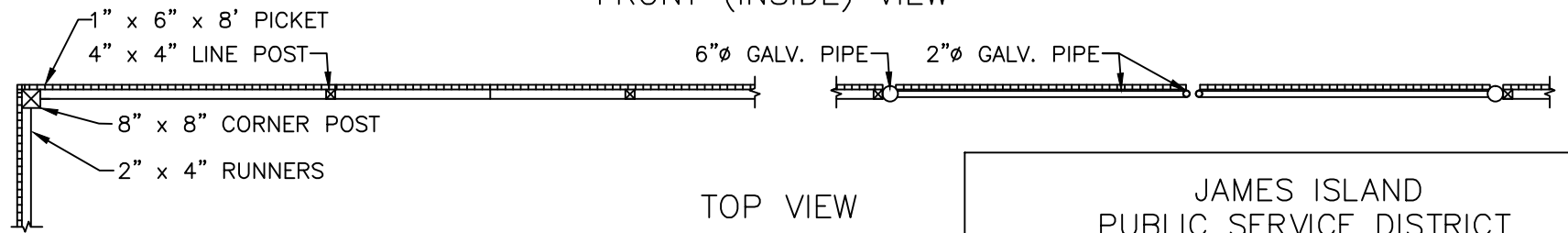
NOTICE:

ALL FABRIC SHALL BE BLACK VINYL COATED; ALL POSTS, PIPE RAILS AND APPURTENANCES SHALL BE BLACK VINYL COATED TO MATCH FABRIC

<p>JAMES ISLAND PUBLIC SERVICE DISTRICT</p>	
<p>TYPICAL PUMP STATION FENCE</p>	<p>DRAWING: 14</p>
<p>DATE: <u>4/28/10</u></p>	<p>DRAWN BY: <u>GRG ASSOC.</u></p>
<p>SCALE: <u>NTS</u></p>	<p>APPROVED BY: <u>DJH</u></p>



FRONT (INSIDE) VIEW



TOP VIEW

NOTES:

1. ALL WOOD SHALL BE PRESSURE TREATED.
2. ALL HARDWARE SHALL BE GALVANIZED.
3. ALL CORNER POSTS, LINE POSTS AND GATE POSTS SHALL BE SET IN 3000psi CONCRETE FOOTINGS AS SHOWN.
4. GATE SHALL BE EQUIPPED WITH A PROP POST CENTER LATCH AND HASP ASSEMBLY. A GROUND ANCHOR CAST IN CONCRETE SHALL BE PROVIDED.
5. 4' EMPLOYEE ENTRANCE GATE SHALL BE INSTALLED ADJACENT TO 12' VEHICLE GATE.

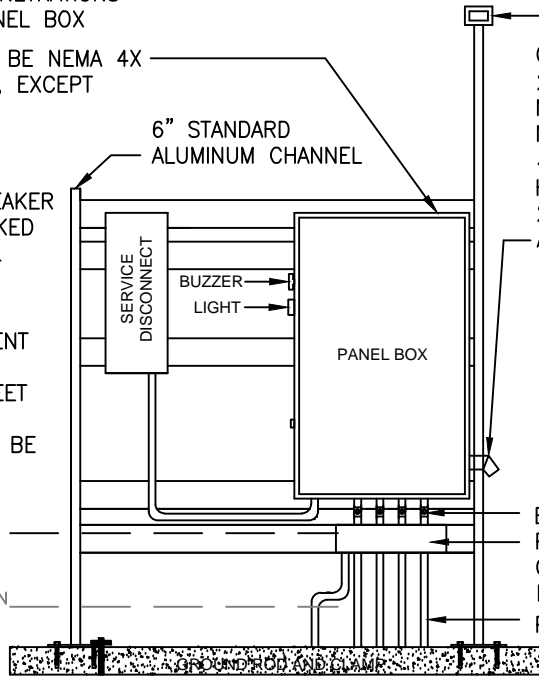
<p>JAMES ISLAND PUBLIC SERVICE DISTRICT</p>	
<p>TYPICAL PUMP STATION FENCE WOODEN FENCE OPTION</p>	<p>DRAWING: 14a</p>
<p>DATE: <u>4/28/10</u></p>	<p>DRAWN BY: <u>GRG ASSOC.</u></p>
<p>SCALE: <u>NTS</u></p>	<p>APPROVED BY: <u>DJH</u></p>

THERE SHALL BE NO PENETRATIONS IN THE TOP OF ANY PANEL BOX

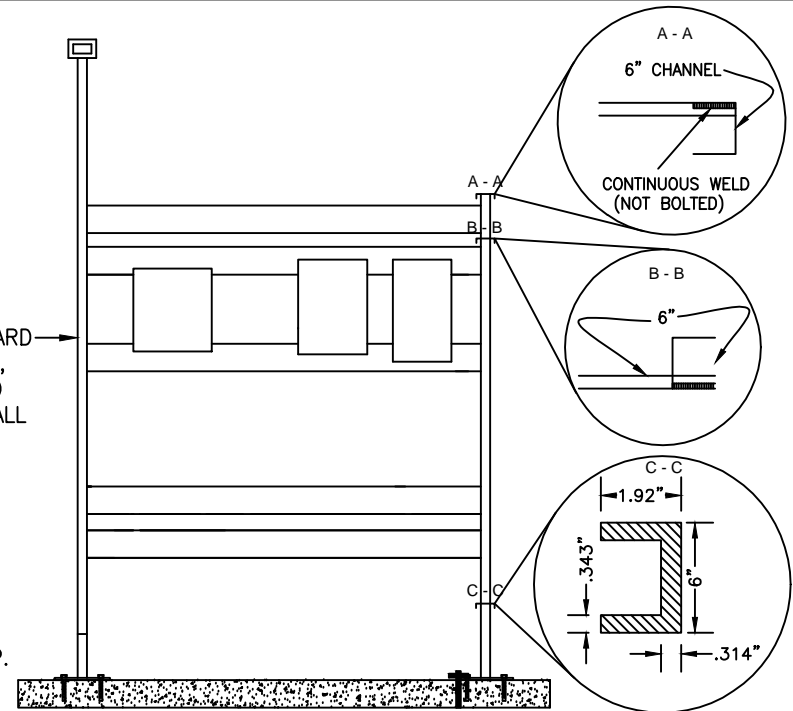
ALL ENCLOSURES SHALL BE NEMA 4X T-316 STAINLESS STEEL, EXCEPT AS NOTED BELOW

OPTIONAL:
PROVIDE MAIN AND EMERGENCY CIRCUIT BREAKER MECHANICALLY INTERLOCKED IN MAIN CONTROL PANEL

NOTICE:
ALL ELECTRICAL EQUIPMENT AND APPURTENANCES LOCATED BELOW 1.25 FEET ABOVE THE FEMA BASE FLOOD ELEVATION SHALL BE NEMA 6X.



ALUMINUM 6" STANDARD CHANNEL, ALL BOLTS, NUTS, WASHERS, AND MISC. HARDWARE SHALL BE T-316 STAINLESS STEEL. TIG WELDING OPTION ACCEPTABLE



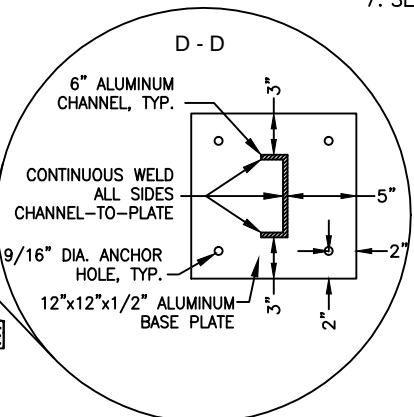
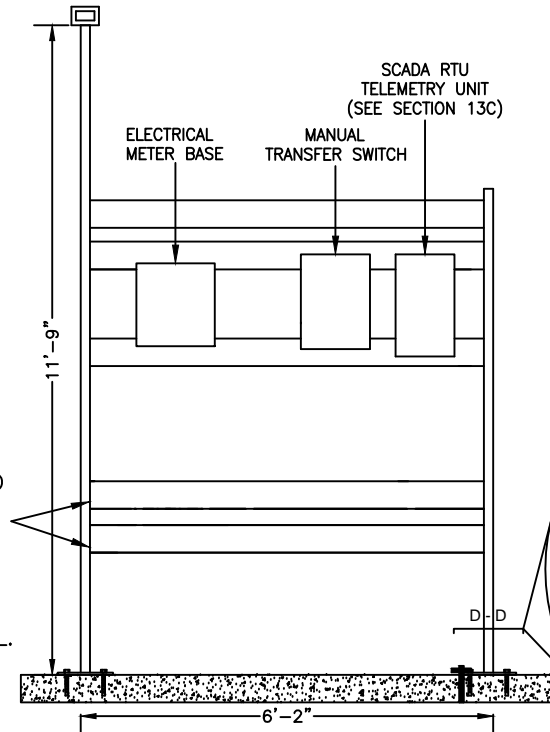
GENERAL NOTES:

1. ALL HINGES, GUIDE HOLDERS, CHAINS HOLDERS, ALL NUTS, BOLTS, WASHERS, GUIDE RAILS AND OTHER FASTENERS SHALL BE T-316 STAINLESS STEEL.
2. ALL WETWELL HARDWARE SHALL BE MOUNTED SUCH THAT ANY COMPONENT CAN BE REMOVED.
3. WETWELL TO HAVE SEPARATE CONDUIT FOR FLOAT CABLES.
4. ALL WORK AND MATERIALS SHALL BE APPROVED BY THE DISTRICT.
5. A SERVICE DISCONNECT (NON-FUSED) SHALL BE PROVIDED BETWEEN ELECTRICAL UTILITY METER AND CONTROL EQUIPMENT.
6. DESIGN OF CONTROL PANEL RACK TO BE SUBMITTED TO THE DISTRICT FOR APPROVAL PRIOR TO FABRICATION.
7. SEE DISTRICT STANDARDS SECTIONS 11,12 & 13 FOR ADDITIONAL REQUIREMENTS

LOCATION OF CROSS - SUPPORTS AS NEEDED, BASED ON SIZE OF ENCLOSURE.

ALUMINUM 6" STANDARD CHANNEL,

ALL BOLTS, NUTS, WASHERS, AND MISC. HARDWARE SHALL BE T-316 STAINLESS STEEL.



<p>JAMES ISLAND PUBLIC SERVICE DISTRICT</p>	
<p>TYPICAL PUMP STATION CONTROL PANEL</p>	<p>DRAWING: 15</p>
<p>DATE: 4/28/10</p>	<p>DRAWN BY: GRG ASSOC.</p>
<p>SCALE: NTS</p>	<p>APPROVED BY: DJH</p>

ALUMINUM PLAT WITH PUMP
INFORMATION STAMPED IN
PLATE TO BE ATTACHED TO
INSIDE OF CONTROL PANEL
DOOR IN PLAIN VIEW.

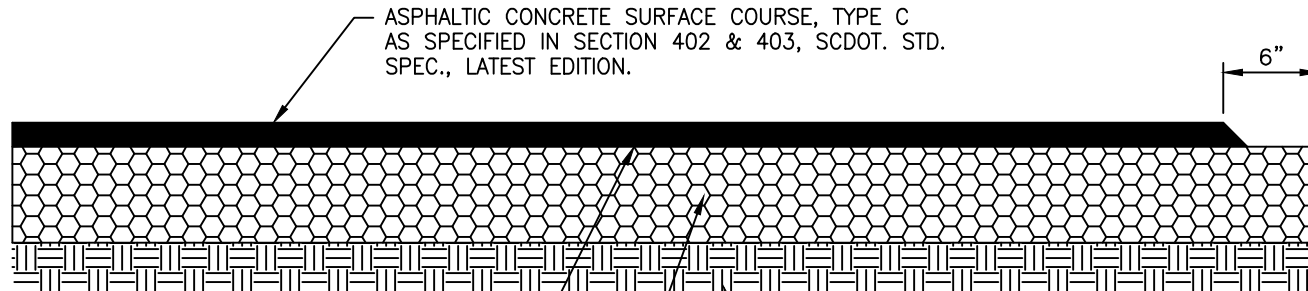
PUMP H.P.	_____
CAPACITY GPM	_____
TOTAL DYNAMIC HEAD	_____
OPERATING RPM	_____
IMPELLER NO.	_____
VOLTS	_____
AMPS (RUNNING/STARTING)	_____ / _____
PHASE	_____
MANUFACTURER	_____
MODEL NO.	_____
SIN #1 _____ SIN #2 _____	

NOTICE:

A SCHEMATIC FOR THE CONTROL PANEL COMPONENTS, LAMINATED ON BOTH SIDES, SHALL BE PLACED IN A POCKET ATTACHED TO THE INSIDE OF THE PANEL DOOR. THE ABOVE PUMP AND MOTOR INFORMATION PLATE SHALL BE PERMANENTLY AFFIXED TO THE INSIDE OF THE PANEL DOOR.

JAMES ISLAND PUBLIC SERVICE DISTRICT	
CONTROL PANEL INFORMATION PLATES	DRAWING: 16
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>

	S.A.B.C.	A.C.
REGULAR DUTY	8"	2"



ASPHALTIC CONCRETE SURFACE COURSE, TYPE C AS SPECIFIED IN SECTION 402 & 403, SCDOT. STD. SPEC., LATEST EDITION.

6"

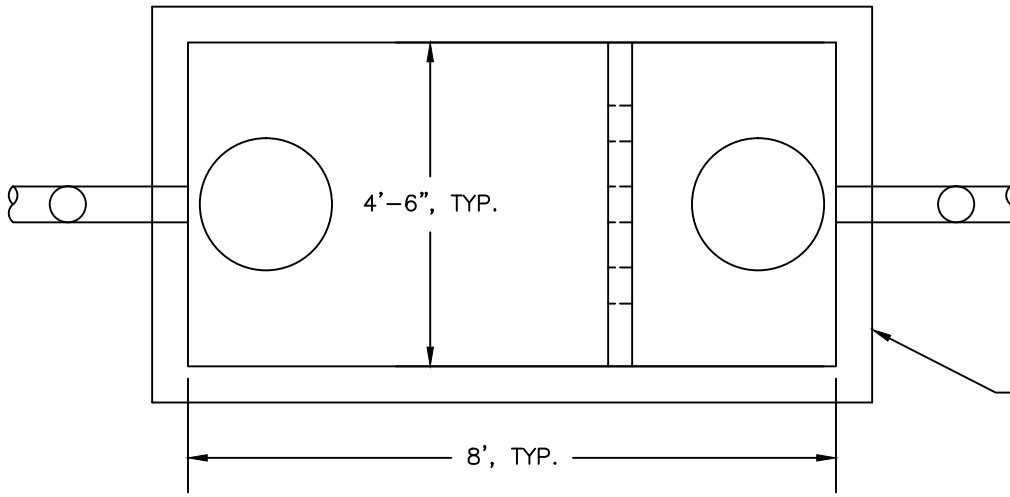
APPLY PRIME COAT, AS SPECIFIED IN SECTION 305.4.6 SCDOT STD. SPEC., AT AN APPLICATION RATE OF 0.10 - 0.15 GAL./SYD.

GRADED AGGREGATE BASE COURSE (MLBC), AS SPECIFIED IN SECTION 305, SCDOT STD. SPEC., LATEST EDITION, COMPACTED TO 98% MAXIMUM DRY DENSITY (MODIFIED PROCTOR).

REMOVAL & REPLACEMENT OF UNSUITABLE SUBGRADE MATERIAL AS SPECIFIED IN SECTION 02200, EARTHWORK.

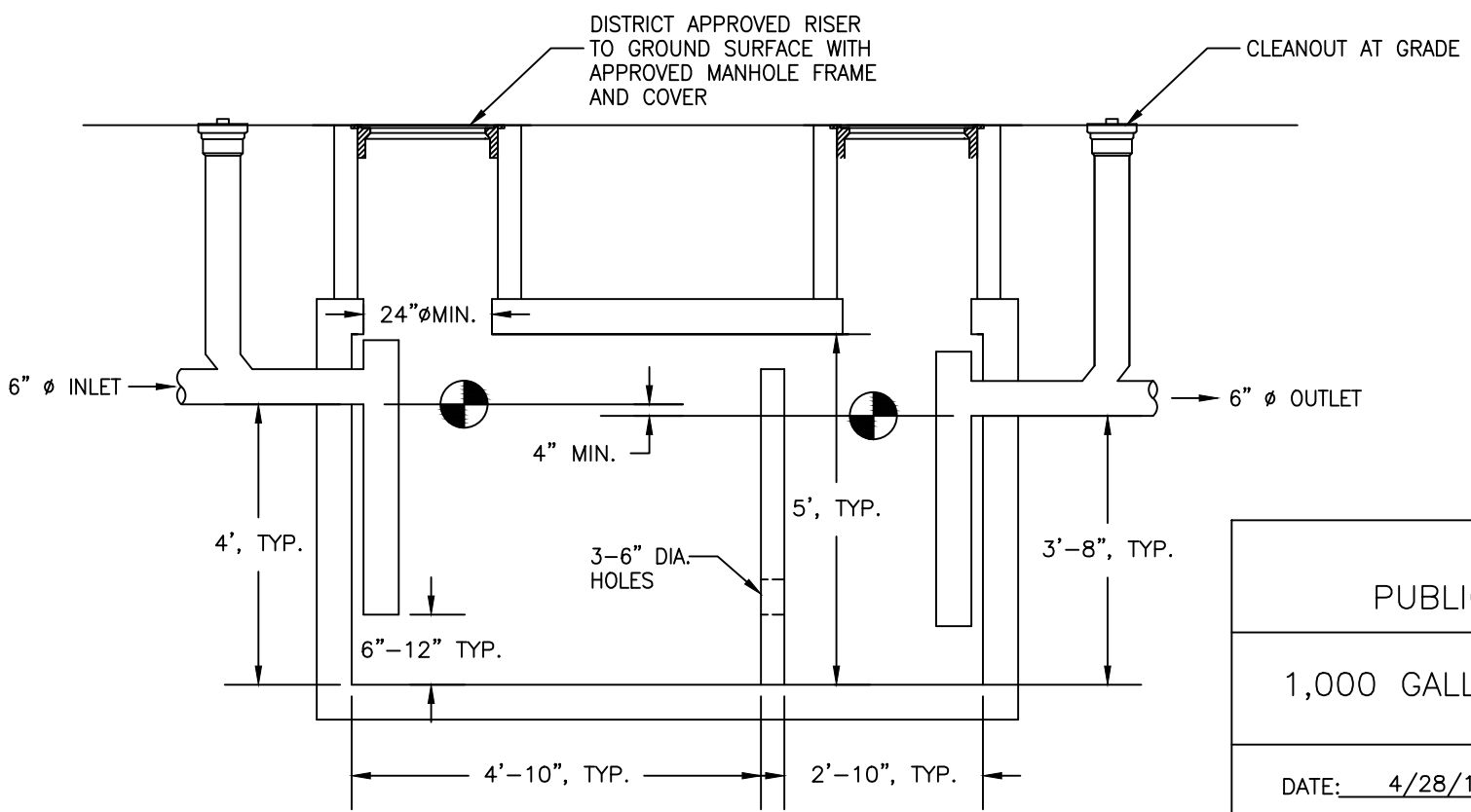
SUBGRADE COMPACTED TO 95% MAXIMUM DRY DENSITY (MODIFIED PROCTOR).

JAMES ISLAND PUBLIC SERVICE DISTRICT	
TYPICAL PUMP STATION ASPHALT DRIVEWAY SECTION	DRAWING: 17
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>



- NOTICE:**
1. SEE DISTRICT STANDARDS SECTIONS 15 FOR ADDITIONAL REQUIREMENTS.
 2. GREASE TRAP MATERIALS, CONSTRUCTION , AND INSTALLATION SHALL ALSO BE IN ACCORDANCE WITH APPLICABLE SCDHEC AND LOCAL PLUMBING CODE REQUIREMENTS.

DISTRICT APPROVED
4,000 PSI CONCRETE
PRECAST GREASE TRAP
STRUCTURE



JAMES ISLAND PUBLIC SERVICE DISTRICT	
1,000 GALLON GREASE TRAP	DRAWING: 18
DATE: <u>4/28/10</u>	DRAWN BY: <u>GRG ASSOC.</u>
SCALE: <u>NTS</u>	APPROVED BY: <u>DJH</u>