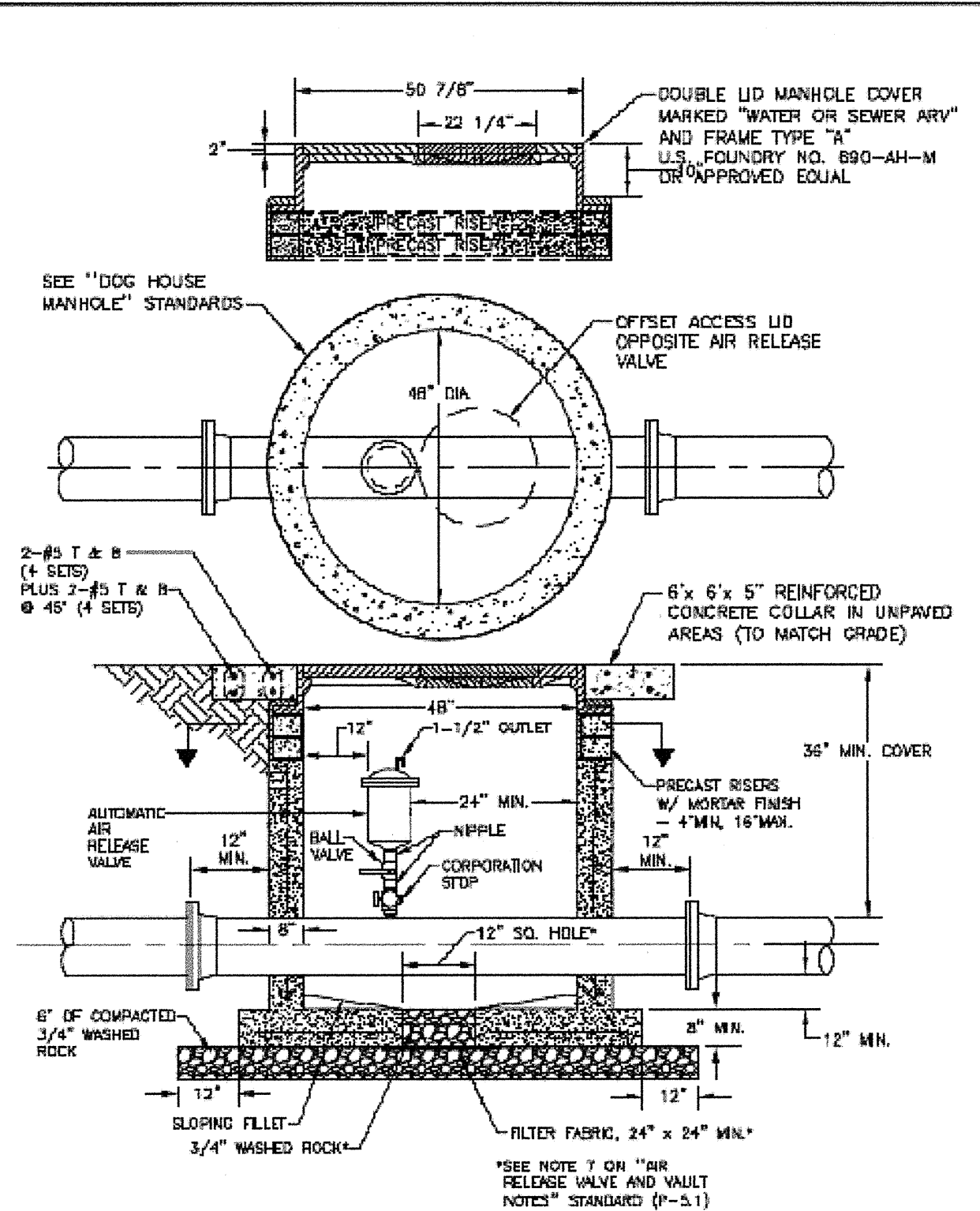


PROJECT MANAGER: C:\P\WORK\MIDNITE\0346037\A\PT-5-TYPICAL DETAILS P-05 TO P-06.DWG - P-5 - PLOTTED 9/14/2012 11:03 AM BY HORNE, MICHAEL

1. CONTRACTOR WILL BE RESPONSIBLE TO CONTACT ALL UTILITY COMPANIES FOR LOCATION OF THEIR EXISTING FACILITIES. IT WILL THEN BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THESE FACILITIES FOR THE EXACT DEPTH. CONTACT "SUNSHINE STATE ONE CALL OF FLORIDA, INC." (S.S.O.C.O.F.) 1-800-432-4770, NOT LESS THAN 2 FULL BUSINESS DAYS AND NO MORE THAN 5 BUSINESS DAYS PRIOR TO DIGGING.
2. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF: "THE FLORIDA TRENCH SAFETY ACT", CONTRACTOR MUST ABIDE BY UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT, CHAPTER 556, FLORIDA STATUTES (F.S.); OTHER LAWS MAY ALSO AFFECT EXCAVATIONS SUCH AS, "THE FLORIDA TRENCH SAFETY ACT, PART VI, CHAPTER 553, F.S."; "THE FLORIDA GAS SAFETY LAW, PART I, CHAPTER 368, F.S."; "THE FEDERAL PIPELINE SAFETY ACT", AND OSHA STANDARD 1926.651".
3. THE CONTRACTOR WILL ASSUME LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE CONTRACTOR'S OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN THEIR EXISTING FACILITIES CONFLICT WITH THE CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT / LOCATE OTHER UTILITIES NOT SUBSCRIBING TO "SUNSHINE" ONE CALL.
5. FOR ADDITIONAL INFORMATION ON CITY UNDERGROUND INSTALLATIONS, CALL CITY OF W.P.B. ENGINEERING SERVICES DEPT. FOR WATER & SEWER LOCATIONS AT (561) 494-1040.
6. DEVELOPER OF CONTRACTOR SHALL SUBMIT APPLICATION FOR WORK WITHIN R.O.W. ALONG WITH THE PLANS FOR MAINTENANCE OF TRAFFIC AT THE PRE-CONSTRUCTION MEETING. CITY OF W.P.B. APPROVAL IS REQUIRED PRIOR TO IMPLEMENTATION. BARRICADES AND LIGHTING FOR TRAFFIC CONTROL SHALL CONFORM TO CURRENT EDITION OF F.D.O.T. MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES.
7. CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR CITY OF W.P.B. APPROVAL. THIS APPROVAL MUST PRECEDE CONSTRUCTION OR ORDERING OF PERTINENT MATERIALS & EQUIPMENT.
8. CONTRACTORS PROPOSING SUBSTITUTION OF SPECIFIED MATERIALS OR EQUIPMENT PRIOR TO BID SHALL FOLLOW DIRECTIONS CONTAINED IN "CONTRACTOR PROPOSAL" AS FURNISHED WITH THE BID PACKAGE. SUBSTITUTIONS PROPOSED AFTER AWARD OF CONTRACT SHALL BE DIRECTED TO THE CITY OF W.P.B. PROJECT MANAGER AND THE DESIGN ENGINEER AND SHALL BE ACCOMPANIED WITH MANUFACTURER'S DRAWINGS. SPECIFICATION AND SUFFICIENT DATA TO ESTABLISH THE EQUIVALENCY OF THE PROPOSED SUBSTITUTION AT THE CITY'S OPTION, A SIGNED AND SEALED CERTIFICATION BY A FLORIDA LICENSED ENGINEER MAY BE REQUIRED (DOES NOT APPLY TO DEVELOPER PROJECTS).
9. ALL WORK SHALL BE ACCOMPLISHED ACCORDING TO APPLICABLE MUNICIPAL, STATE AND FEDERAL CODES.
10. UNLESS OTHERWISE SPECIFIED IN THE PLANS OF SPECIFICATION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

CONTINUED ON GN-2

REVISED: SEPT-2009	GENERAL NOTES - APPLICABLE TO MOST PUBLIC UTILITIES DEPARTMENT PROJECTS.	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	GN-1



REVISED: SEPT-2009	PRESSURE PIPE - AIR RELEASE VALVE AND VAULT	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	P-5

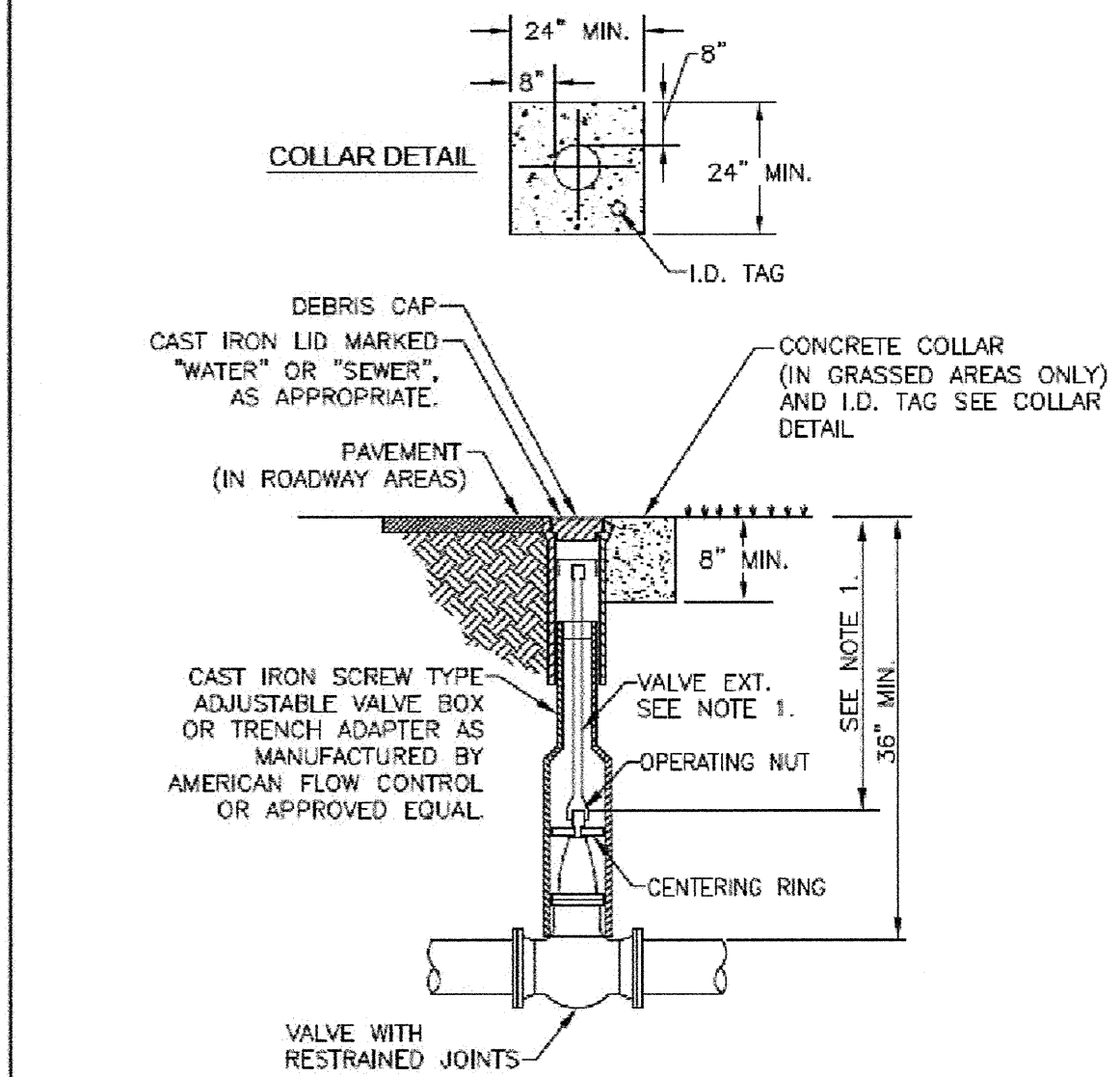
1. CONCRETE USED FOR VAULTS, MANHOLES, AND RISERS SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 P.S.I. CEMENT SHALL BE TYPE II PORTLAND.
2. VAULT SHALL BE PRECAST OR POURED IN PLACE CONCRETE IN ACCORDANCE WITH ASTM C478.
3. AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.
4. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF NON-SHRINK GROUT.
5. COATINGS ON INTERIOR & EXTERIOR OF MANHOLES AND VAULTS SHALL BE IN ACCORDANCE WITH PUBLIC UTILITIES DEPT. APPROVED PRODUCT LIST, AND APPLIED IN TWO DIFFERENT COLORED COATS.
6. REINFORCED CONCRETE COLLAR REQUIRED WHEN MANHOLE OR VAULT IS OUTSIDE PAVEMENT.
7. NO SUMPS SHALL BE ALLOWED IN VAULTS FOR FORCE MAIN ARY'S.
8. SUMPS OF WATER MAIN ARY'S SHALL HAVE 3/4\"
9. FOR VAULT TO BE CONSTRUCTED OVER EXISTING PIPE, SEE "DOG HOUSE MANHOLE" STANDARDS.

REVISED: SEPT-2009	PRESSURE PIPE - AIR RELEASE VALVE AND VAULT NOTES	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	P-5.1

PIPE DIA. (In.)	PLAN - HORIZONTAL THRUST BLOCK NO SCALE				ELEV. - VERTICAL THRUST BLOCK NO SCALE			
	HORIZONTAL THRUST BLOCK BEARING AREA (S.F.)				VERTICAL THRUST BLOCK VOL. OF CONCRETE (C.Y.)			
	$\Delta = 11-1/4^\circ$	$\Delta = 22-1/2^\circ$	$\Delta = 45^\circ$	$\Delta = 90^\circ$	$\Delta = 11-1/4^\circ$	$\Delta = 22-1/2^\circ$	$\Delta = 45^\circ$	$\Delta = 90^\circ$
4 & 6	1.0	1.1	2.2	4.0	0.3	0.5	1.1	2.0
8	1.0	1.9	3.7	6.9	0.5	0.9	1.8	3.4
10	1.6	3.1	6.2	11.4	0.8	1.6	3.0	5.6
12	2.2	4.4	8.7	16.1	1.1	2.2	4.3	7.9
14	3.0	6.0	11.8	21.9	1.5	3.0	5.8	10.8
16	4.0	7.9	15.4	28.5	2.0	3.9	7.6	14.1
18	5.0	10.0	19.7	36.4	2.5	5.0	9.7	—
20	6.3	12.5	24.6	45.2	3.1	6.2	12.1	—
24	9.1	18.0	35.3	65.3	4.5	8.9	16.9	—
30	13.3	25.3	51.6	95.4	6.6	12.9	24.1	—

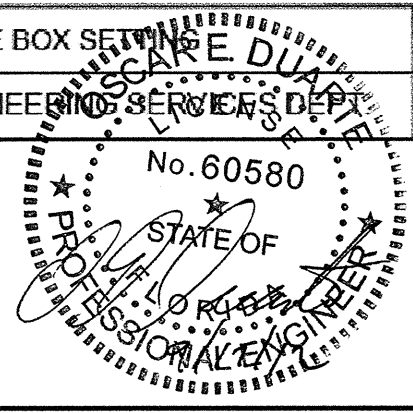
NOTES:

1. TEST PRESSURE = 160 PSI, SOIL BEARING PRESSURE = 2000 LBS/S.F., USING HIGHER PRESSURE OR LOWER SOIL BEARING PRESSURE SHOULD BE ADJUSTED ACCORDINGLY, SUBJECT TO APPROVAL BY THE AGENCY ENGINEER.
2. THRUST BLOCKS TO BE CONSTRUCTED OF CLASS "B" CONCRETE, SUBJECT TO APPROVAL BY THE AGENCY ENGINEER.
3. THRUST BLOCKS TO BE PLACED AGAINST UNDISTURBED SOIL.
4. JOINTS, FACE OF PLUGS, NUTS AND BOLTS TO BE KEPT CLEAR OF THRUST BLOCK.
5. EXPOSED REBAR TO BE SHAPED WITH 90° BEND AT END, COATED WITH TWO COATS OF KOPPERS 505, TNEMC 46-450, AMERON OR EQUAL. 15 MILS EACH COAT.



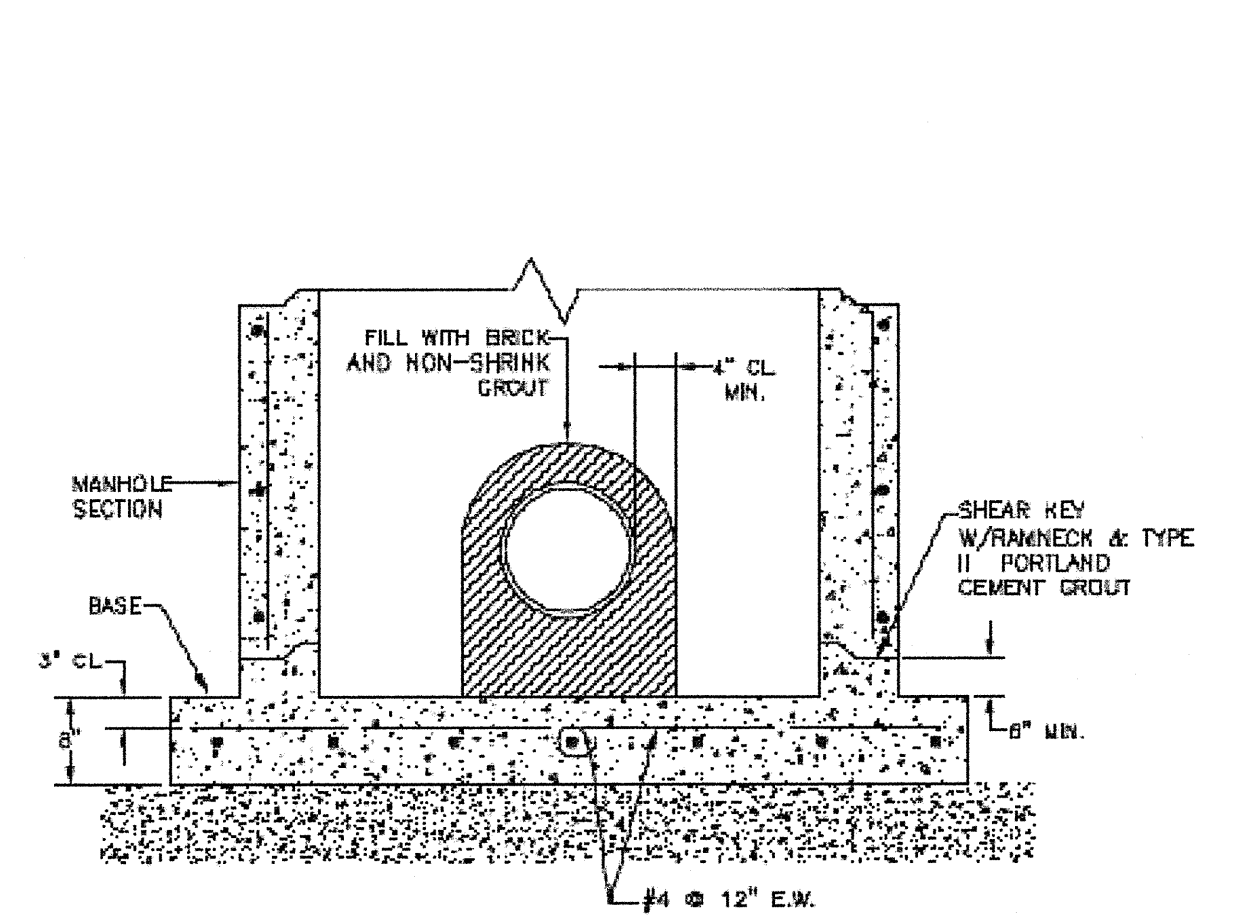
1. WHEN TOP OF OPERATING NUT IS DEEPER THAN 36", A HIGH STRENGTH STEEL EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT TO NOT MORE THAN 24" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS SHALL BE 316 STAINLESS STEEL. A STEEL CENTERING PLATE WELDED TO THE EXTENSION IS ALSO REQUIRED.
2. VALVE BOXES IN PAVEMENT SHALL HAVE LOCKING COVERS & LIDS MARKED "WATER" OR "SEWER", AS APPROPRIATE.
3. ALL VALVE BOXES SHALL BE PROVIDED WITH A DEBRIS CAP.
4. A PLUMB DUCTILE IRON PIPE OR C-900 PVC RISER SHALL BE USED IF DEPTH SO REQUIRES, WITH APPROVAL.

REVISED: SEPT-2009	PRESSURE PIPE - VALVE BOX SET	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	P-1



- NOTE 10. & FOLLOWING, CONTINUED FROM GN-1
- A. COMPACTION OF BACKFILL SHALL BE ACCORDING TO ASTM 1557 AND SHALL BE 98% WITHIN RIGHT OF WAY OF UNDER STRUCTURES; 95% ALL OTHER BACKFILL.
 - B. UNLESS OTHERWISE SPECIFIED, FURNISH CONCRETE WITH TYPE II PORTLAND CEMENT. ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS TO BE 3000 PSI FOR WALKS, CURBS, GUTTERS, DRIVEWAYS AND SIMILAR CONSTRUCTION; 4000 PSI FOR ALL OTHER WORK.
 - C. UNLESS OTHERWISE SPECIFIED, MAXIMUM SLUMP SHALL BE 5". CYLINDER TEST AND PAYMENT THEREOF SHALL BE AS INDICATED IN THE SPECIFICATIONS.
 - D. CAST-IN-PLACE CONCRETE SHALL CONFORM TO PERTINENT STANDARDS OF THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE AMERICAN SOCIETY OF TESTING MATERIALS (ASTM).
11. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. WELDED WIRE MESH SHALL CONFORM TO ASTM A185. BENDS AND PLACEMENT SHALL CONFORM TO PERTINENT STANDARDS OF ACI AND ASTM.
 12. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A MINIMUM 3/4" CHAMFER.
 13. NO UTILITIES SHALL BE PLACED CLOSER THAN 5 FT. HORIZONTALLY CLEAR FROM OTHER UTILITY LINES. NOR LESS THAN 12 INCHES VERTICALLY.
 14. WATER MAIN CROSSING FORCE MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN, WITH WATER MAIN CROSSING OVER THE FORCE MAIN.
 15. ALL SANITARY MANHOLES, AIR RELEASE VALVE VAULTS AND WETWELLS SHALL BE COATED OUTSIDE WITH 2 DIFFERENT COLORED COATS OF BITUMASTIC, COAL TAR EPOXY OR APPROVED EQUAL. INSIDE SHALL BE COATED WITH 2 DIFFERENT COATS OF 100% SOLIDS EPOXY, OR APPROVED EQUAL. ALL COATING MATERIALS SHALL BE LISTED IN THE W.P.B. APPROVED PRODUCTS LIST, AND APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. WATER MAIN A.R.V. VAULTS TO BE COATED WITH BITUMASTIC, COAL TAR EPOXY OR APPROVED EQUAL AS STATED ABOVE.
 16. WARRANTY: ALL MATERIAL AND EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE THEREOF AGAINST DEFECTIVE MATERIALS, DESIGN AND WORKMANSHIP. UPON RECEIPT OF NOTICE FROM THE CITY OF FAILURE OF ANY PART OF THE WARRANTED EQUIPMENT OR MATERIALS DURING THE WARRANTY PERIOD, THE AFFECTED PART, PARTS OR MATERIALS SHALL BE PROMPTLY REPLACED BY THE CONTRACTOR WITH NEW PARTS OF MATERIALS AT NO EXPENSE TO THE CITY. IN THE EVENT THE CONTRACTOR FAILS TO MAKE THE NECESSARY REPLACEMENT OF REPAIRS IMMEDIATELY AFTER NOTIFICATION, THE CITY MAY ACCOMPLISH THE WORK AT THE EXPENSE OF THE CONTRACTOR.
 17. ALL STORM, SANITARY, WATER OR FORCE MAIN PIPE SHALL BE LAID IN A CLEAN, DRY TRENCH. DOWATERING AS REQUIRED SHALL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL MAKE ALL INSTALLATION PURSUANT TO THE FLORIDA TRENCH ACT. DISCHARGE WATER SHALL NOT BE DIRECTED THROUGH THE PIPE BEING LAID.
 18. ALL PIPE AND FITTINGS UP TO 20" WILL HAVE A LINE OF VIOLET PAINT OR BLUE TAPE THE FULL LENGTH OF THE NEW RUN ON TOP OF THE PIPE. 24" AND LARGER PIPE WILL HAVE A LINE OF BLUE POINT OR BLUE TAPE THE FULL LENGTH OF THE NEW RUN ON TOP OF THE PIPE AND ON BOTH SIDES.

REVISED: SEPT-2009	GENERAL NOTES - APPLICABLE TO MOST PUBLIC UTILITIES DEPARTMENT PROJECTS.	STANDARD DETAIL
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1. TO CONSTRUCT NEW MANHOLE OVER EXISTING SEWER, SUEDE BASE UNDER PIPE AND SET MANHOLE SECTION ON TOP.
2. FOR ADDITIONAL DETAILS NOT SHOWN, SEE "GRAVITY SEWER MANHOLE" STANDARD GS-2.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORT OF EXISTING SEWER DURING INSTALLATION OF MANHOLE.

REVISED: SEPT-2009	GRAVITY SEWER SYSTEM - "DOGHOUSE" MANHOLE	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	GS-8

1. LIFT HOLES ARE PERMITTED, BUT SHALL BE GROUTED WITH NON-SHRINK WATERPROOF GROUT.
2. ALL PENETRATIONS SHALL BE PRE-CAST OR CORE-DRILLED.
3. MANHOLE FABRICATIONS SHALL BE IN ACCORDANCE WITH LATEST EDITION OF ASTM C-478.
4. COATINGS ON INTERIOR & EXTERIOR OF MANHOLES SHALL BE IN ACCORDANCE WITH ENGINEERING SERVICES DEPARTMENT APPROVED PRODUCT LIST.
5. FIRST MANHOLE UPSTREAM FROM A WET WELL SHALL BE 4'-0" DIAMETER (MIN.) FOR FULL HEIGHT. PROVIDE DOUBLE LID MANHOLE COVER & FRAME TYPE "A", U.S. FOUNDRY NO. 890-AH-M, OR APPROVED EQUAL. USED ON ARV MANHOLES. COVER TO BE MARKED AS SHOWN IN "MANHOLE INSTALLATION DETAILS".
6. GRAVITY SEWER DEPTHS SHALL NOT EXCEED 15 FT. EXCEPT BY SPECIFIC APPROVAL OF THE ENGINEERING SERVICES DEPARTMENT. PIPE FOR SUCH INSTALLATION SHALL BE CLASS 40 DIP EPOXY UNED.
7. ECCENTRIC CONES TO BE PLACED SO THAT RING & COVER ARE ON UPSTREAM SIDE OF MANHOLE.
8. WHEN A NEW LINE FLOW DROPS MORE THAN 1'-6" AT A MANHOLE, AN OUTSIDE DROP MANHOLE MUST BE USED. THIS SHALL ALSO APPLY TO LATERALS ENTERING MANHOLES.
9. NO INFILTRATION OR EXFILTRATION FOR NEW GRAVITY SEWERS SHALL BE ALLOWED. CHEMICAL REPAIR OF ANY LEAKS IS SPECIFICALLY NOT ALLOWED.
10. ALL MANHOLE FRAMES AND COVERS ARE TO BE FLUSH WITH PROPOSED FINISHED GRADES OF WALKS, DRIVEWAYS, SWALES, ETC. THEY SHALL HAVE CONCRETE COLLARS POURED IN ACCORDANCE WITH APPLICABLE STANDARDS.
11. FINISHED FLOOR ELEVATIONS OF NEW CONSTRUCTION OF ADJACENT BUILDINGS SHOULD BE A MINIMUM OF 6" ABOVE THE ELEVATION OF THE UPSTREAM SANITARY SEWER MANHOLE.
12. GRAVITY SEWER PIPE & LATERALS SHALL BE PVC PIPE WITH RING-TITE JOINTS (ASTM D-3034-SDR 26) OR APPROVED EQUAL.
13. FINAL LAMPING AND T.V. INSPECTION OF SANITARY GRAVITY SYSTEM TO BE MADE BY CONTRACTOR UPON COMPLETION OF SEWER SYSTEM. MANHOLE SHALL BE PULLED THROUGH PIPE PRIOR TO T.V. INSPECTION. A COPY ON DVD OF THE T.V. INSPECTION WITH VOICE-OVER SHALL BE SUBMITTED WITH FINAL AS-BUILTS.
14. ALL AS-BUILT MEASUREMENTS & ELEVATIONS TO BE MADE BY A LICENSED LAND SURVEYOR.
15. WARRANTY - ALL MATERIALS & EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE THEREOF AGAINST DEFECTIVE MATERIALS, DESIGN AND WORKMANSHIP. UPON RECEIPT OF NOTICE FROM THE CITY OF FAILURE OF ANY PART OF THE WARRANTED EQUIPMENT OR MATERIALS DURING WARRANTY PERIOD, THE AFFECTED PART, PARTS OR MATERIALS SHALL BE PROMPTLY REPLACED BY THE CONTRACTOR WITH NEW PARTS OR MATERIALS AT NO EXPENSE TO THE CITY. IN THE EVENT THE CONTRACTOR FAILS TO MAKE THE NECESSARY REPLACEMENT OR REPAIRS IMMEDIATELY AFTER NOTIFICATION, THE CITY MAY ACCOMPLISH THE WORK AT THE EXPENSE OF THE CONTRACTOR.

REVISED: SEPT-2009	GENERAL NOTES - GRAVITY SEWER SYSTEM	STANDARD DETAIL
ISSUED: SEPT - 2009	CITY OF WEST PALM BEACH ENGINEERING SERVICES DEPT.	GN-6

SWA BIOSOLIDS PROCESSING FACILITY
INDUSTRIAL WASTE FORCE MAIN PROJECT
PALM BEACH COUNTY, FLORIDA

ISSUED FOR: DATE: BY:
75% REVIEW 05/02/12 CEM
100% REVIEW 06/15/12 CEM
FINAL DESIGN 7-6-12 CEM
ENV. PERMITS 9/17/12 CEM

JOB NO.
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SHEET

P-5

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WadeTrim
3760 Dixie Highway, NE, Suite D
Raleigh, NC 27605
Tel: 919.778.3360
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TYPICAL DETAILS

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DESCRIPTION

DATE

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