

- NOTES:**
1. DEMOLISH EXISTING 21" OA AS REQUIRED TO INSTALL NEW MH. ABANDON THE REMAINING SECTION AND PLUG WITH CONCRETE FILL.
  2. VERIFY ELEVATIONS OF EXISTING 1" SH/7 AND 3" CARRIER PIPE. DEMOLISH A SECTION OF CARRIER PIPE AND TUBING AS REPAIR AFTER INSTALLATION OF THE NEW OA LINE.
  3. PROVIDE 6" (MIN) WATER-TIGHT MH PER LOUDOUN WATER STANDARD DETAIL 55. MH IE SHALL BE 213.0.

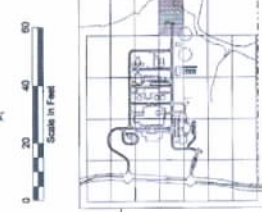
**NOTES:**

1. PROVIDE 3" CARRIER PIPE FOR EACH CHEMICAL LINE.

**RECORD DRAWINGS**

Revisions Drawn By: Z. Drimany Date: February 2008  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART OR IN WHOLE BY AN ENGINEER OR ARCHITECT. THE ENGINEER OR ARCHITECT HAS NOT ATTEMPTED TO REPRESENT IN DETAIL THE EXACT INSTALLATION, TYPE OF COMPONENT, NOR MANNER OF CONSTRUCTION. THE ENGINEER OR ARCHITECT HAS NOT ATTEMPTED TO REPRESENT THE DIMENSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

**KEY PLAN**



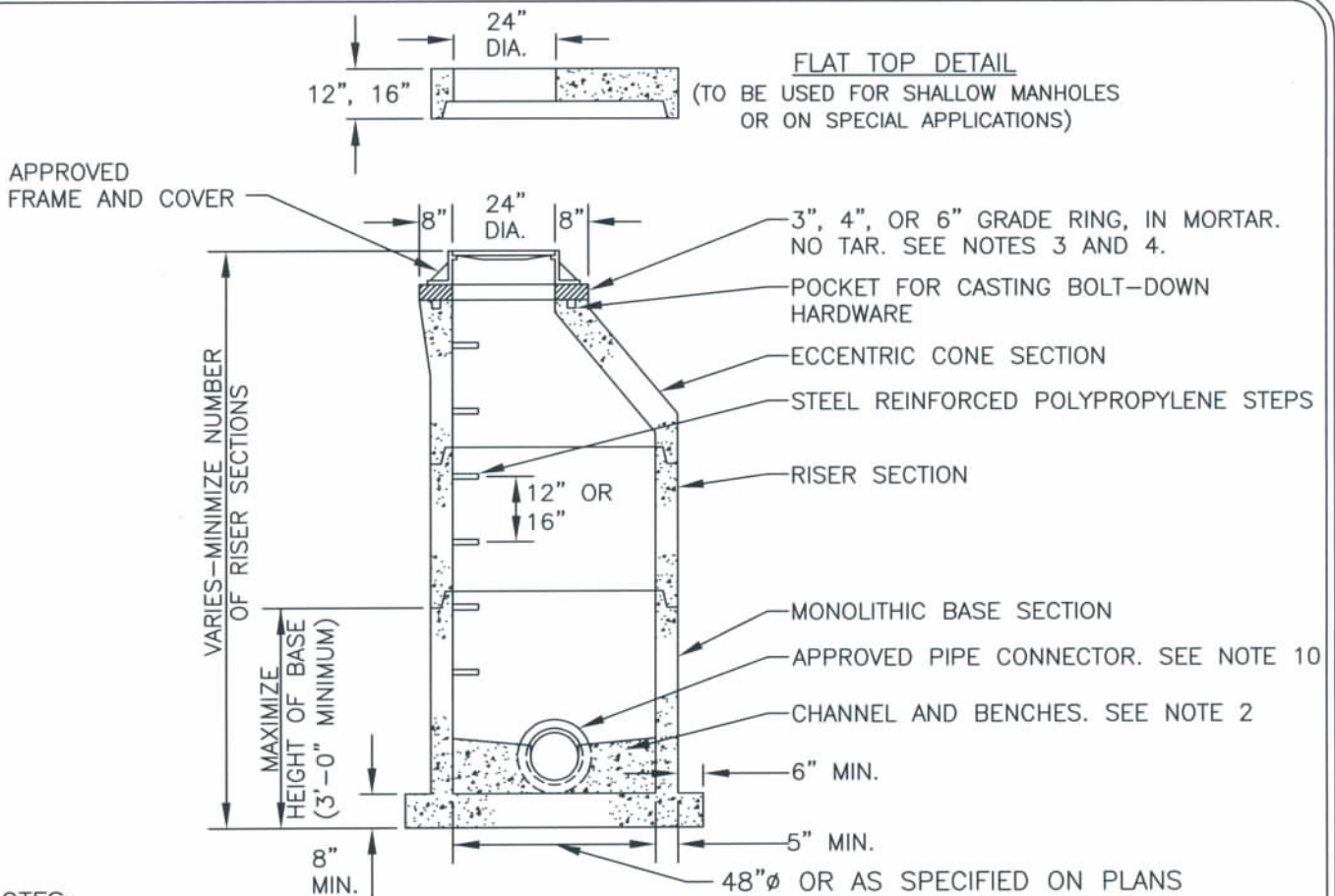
MATCH LINE SEE DWG 4-SP-123

MATCH LINE SEE DWG 4-SP-113

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DESIGN	A. ZILBERMAN	NO.	DATE	REVISION
DR	A. ZILBERMAN	A	7/2011	SUBMITTAL C4-15200-14.0018 MH
CHK	N. JOHNSON			
APP'D	D. LYNCH			
<b>CH2MHILL</b>				
LOUDOUN COUNTY SANITATION AUTHORITY WATER RECLAMATION FACILITY				
SITE PIPING <b>SITE PIPING PLAN</b>				
SHEET	219			
DWG	4-SP-118			
DATE	DECEMBER 2003			
PROJ.	170164.CD			
FILENAME: 8046113_170164.sp PLOT DATE: 12-OCT-2007 PLOT TIME: 08:48:13				

**APPENDIX A**



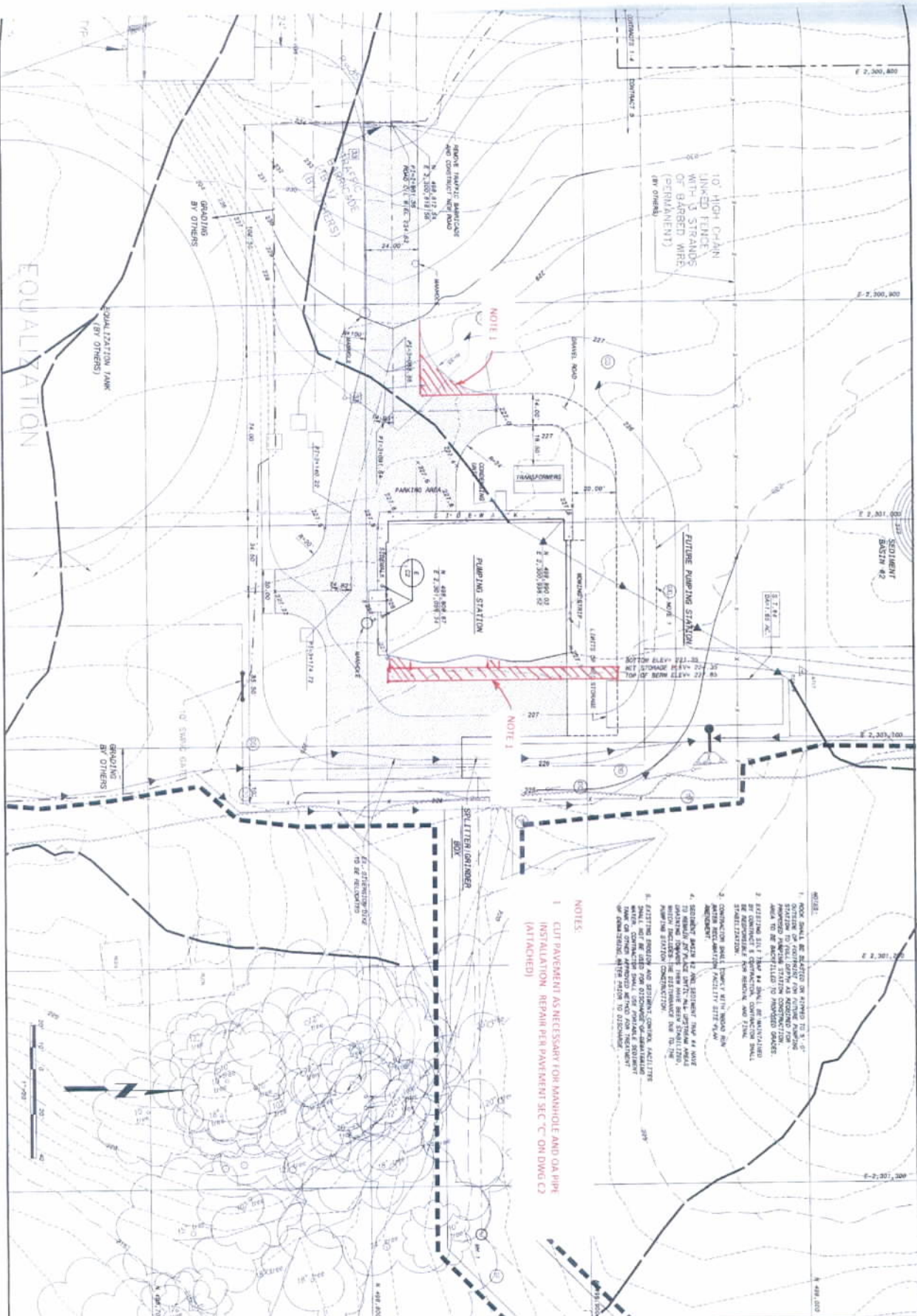
**NOTES:**

1. INSTALL MANHOLE ON BEDDING MATERIAL ACCORDING TO FIGURE G-6.
2. CHANNEL TO BE CLASS B2 CONCRETE OR BETTER PER LOUDOUN WATER'S APPROVED MATERIALS LIST. DEPTH OF CHANNEL SHALL BE 70% OF THE PIPELINE'S DIAMETER. SLOPE BENCH TO CHANNEL AT 2" PER 1'. APPLY HARD TROWEL FINISH TO CHANNEL AND BRUSH FINISH TO BENCH.
3. MAXIMUM ADJUSTMENT BY GRADE RINGS IS 12" IN PAVEMENT AND 6" ELSEWHERE.
4. WHERE WATERTIGHT COVER IS SPECIFIED, PROVIDE APPROVED CHIMNEY SEAL.
5. OUTSIDE PAVEMENT BOLT FRAME TO CONE.
6. A MINIMUM 6" SEPARATION IS REQUIRED BETWEEN PIPE PENETRATIONS (CORES). CORES MUST BE AT LEAST 6" FROM MANHOLE JOINTS.
7. COMPONENTS SHALL BE REINFORCED TO MEET ASTM 478/AASHTO M199.
8. JOINTS TO BE GASKETED IN ACCORDANCE WITH ASTM C443. APPLY PROPER LUBRICANT FOR ASSEMBLY.
9. APPROVED SHOP DRAWINGS ARE REQUIRED FOR STRUCTURES CONTAINING A REDUCING SLAB.
10. ALL COMPONENTS TO BE PER LOUDOUN WATER'S APPROVED MATERIALS LIST.

SEPT.  
2010

MANHOLE

S-1



10' HIGH CHAIN LINKED FENCE WITH 3 STRANDS OF BARBED WIRE (BY OTHERS)

NOTE 1

NOTE 1

- NOTES**
1. CUT PAVEMENT AS NECESSARY FOR MANHOLE AND OR PIPE INSTALLATION. REPAIR PER PAVEMENT SEC. C ON DWG. C2 (ATTACHED)

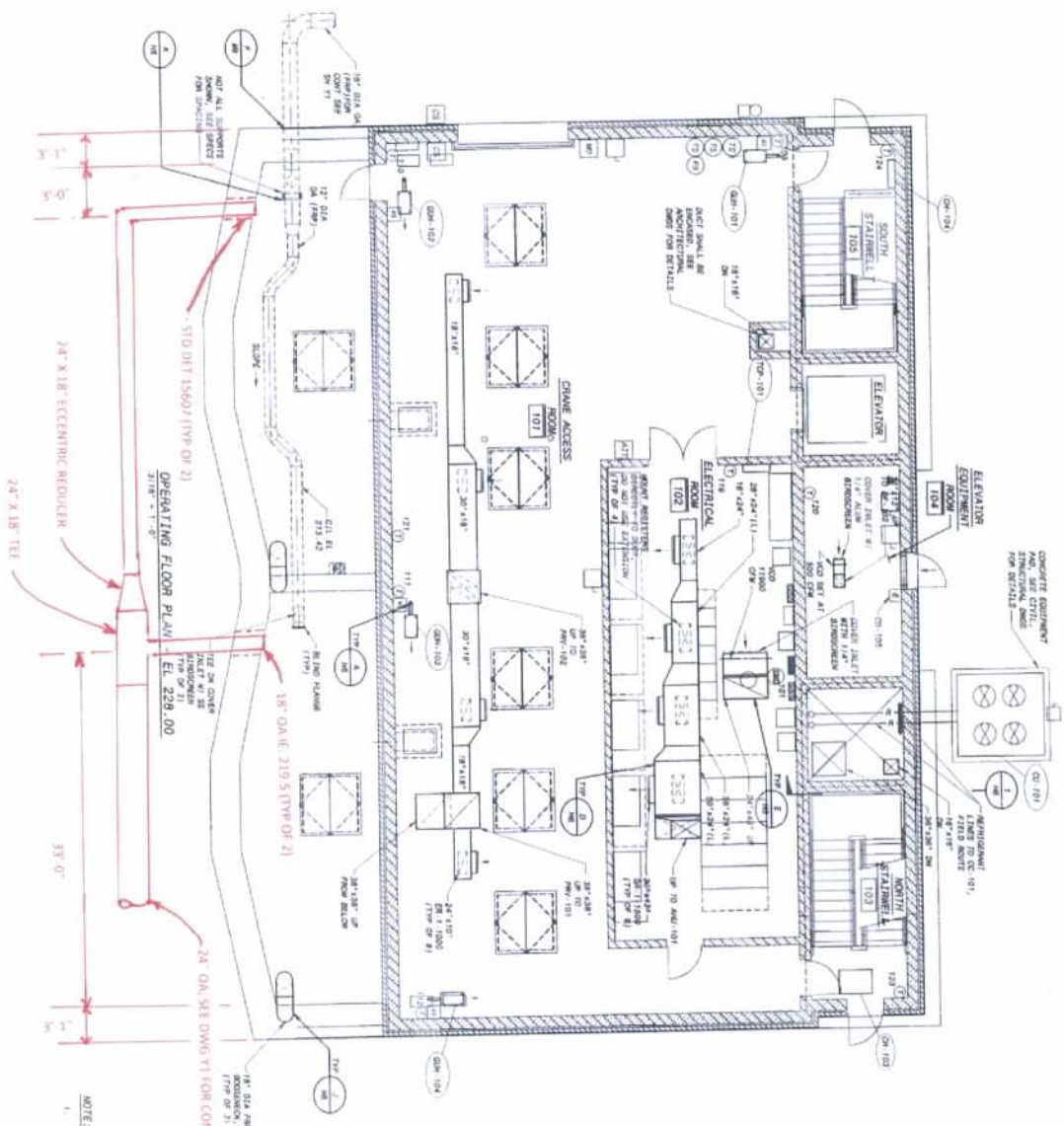
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC WORKS, AS APPLICABLE TO THE COUNTY OF LOUDOUN, VIRGINIA.
3. ALL UTILITIES SHOWN ON THIS PLAN SHALL BE MAINTAINED AND PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. EXISTING EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY EASEMENTS AND RIGHTS-OF-WAY FROM THE APPROPRIATE OWNERS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY UTILITIES LOCATIONS FROM THE APPROPRIATE UTILITIES PROVIDERS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY SURVEY DATA FROM THE APPROPRIATE SURVEYOR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORD DRAWINGS FROM THE APPROPRIATE DESIGNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORD INFORMATION FROM THE APPROPRIATE RECORDS DEPARTMENT.

PROJECT NO.	193828
SHEET NO.	C1
DATE	2/21/08
SCALE	AS SHOWN
DESIGNED BY	
CHECKED BY	
APPROVED BY	
DATE	

LOUDOUN COUNTY SANITATION AUTHORITY  
 BROAD RUN WATER RECLAMATION FACILITY  
 INFLUENT SEWAGE PUMPING STATION  
 CIVIL/SITWORK  
 PUMPING STATION  
 SITE AND GRADING PLAN



NO.	BY	DATE
1	MM	02/21/08
2	MM	02/21/08
3	MM	02/21/08
4	MM	02/21/08
5	MM	02/21/08
6	MM	02/21/08
7	MM	02/21/08
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9	MM	02/21/08
10	MM	02/21/08

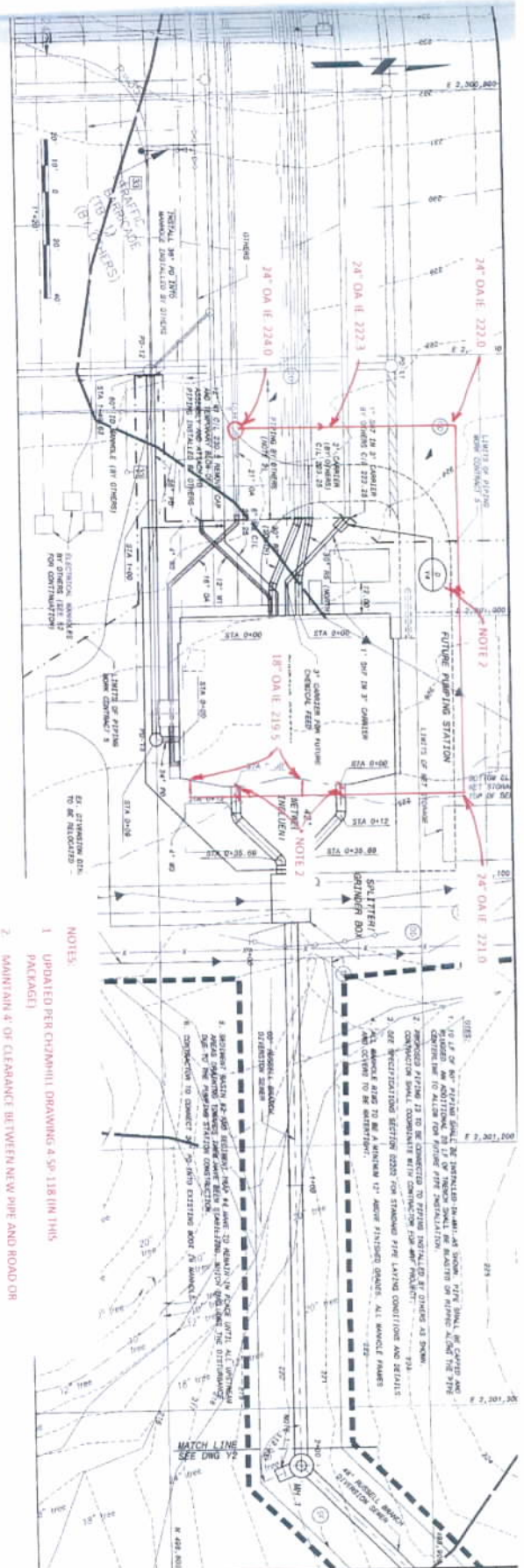


NOTE:  
 1. 10' COMPENSATION AT SPILLER STRUCTURE SHALL BE MAINTAINED TO SHOW.

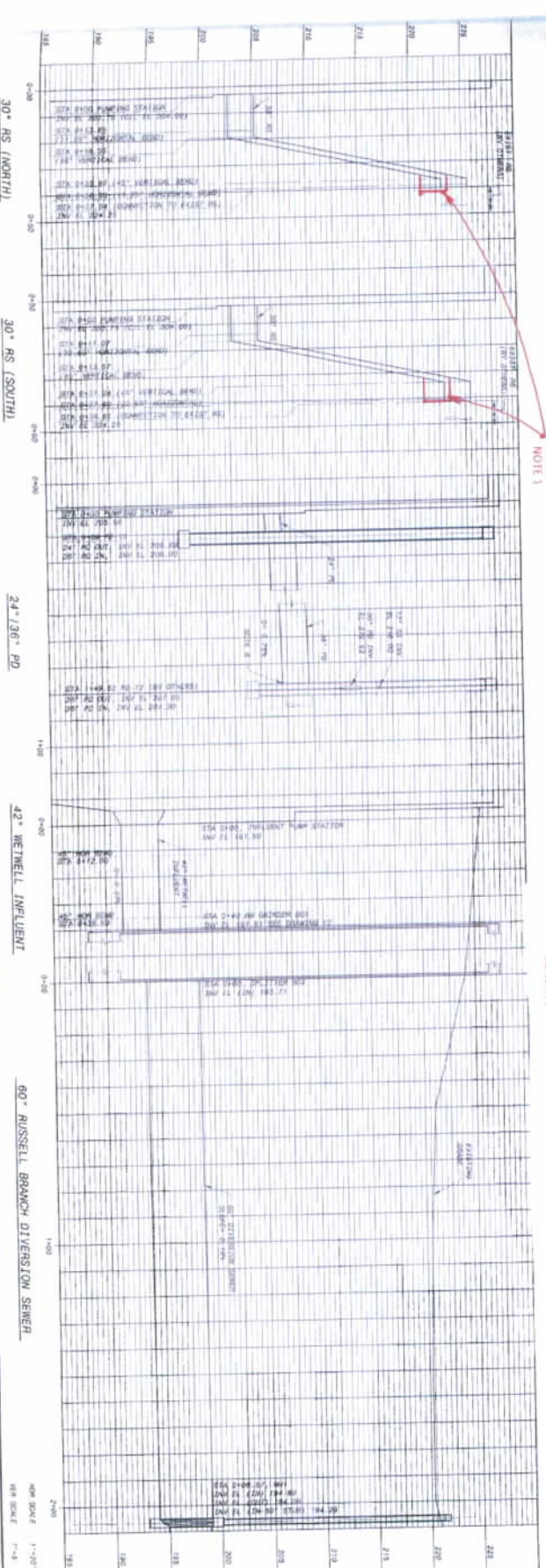
SCALE: 3/16" = 1'-0"

H4 34 OF 88 SHEET	133828 PROJECT NO.	<b>LOUDOUN COUNTY SANITATION AUTHORITY</b> <b>BROAD RUN WATER RECLAMATION FACILITY</b> <b>INFLUENT SEWAGE PUMPING STATION</b>		 <b>BLACK &amp; VEATCH Corporation</b> Gaithersburg, Maryland	 <b>ROBERT L. LEE</b> PROFESSIONAL ENGINEER	DATE: _____	REVISIONS AND HISTORY OF DESIGN:
		DRAWN BY: P. L. BISHOP, P.E., M. S. BISHOP CHECKED BY: J. B. BISHOP, P.E., M. S. BISHOP DATE: 01/15/2008 10:42:02 AM PLOTTED: ANNAPOLIS, 412.2304 9:30:01 PM USER: BISHOPSTE	SHEET NO. 34 OF 88 PROJECT NO. 133828 DRAWN BY: P. L. BISHOP, P.E., M. S. BISHOP CHECKED BY: J. B. BISHOP, P.E., M. S. BISHOP DATE: 01/15/2008 10:42:02 AM PLOTTED: ANNAPOLIS, 412.2304 9:30:01 PM USER: BISHOPSTE				

**APPENDIX D-1**



- NOTES:
1. UPDATED PER CHANNEL DRAWING A SP 118 (IN THIS PACKAGE)
  2. MAINTAIN 4' OF CLEARANCE BETWEEN NEW PIPE AND ROAD OR BUILDING.



LOUDOUN COUNTY SANITATION AUTHORITY  
 BROAD RUN WATER RECLAMATION FACILITY  
 INFLUENT SEWAGE PUMPING STATION

YARDWORK  
 PUMPING STATION  
 MISCELLANEOUS YARD PIPING PLAN AND PROFILES

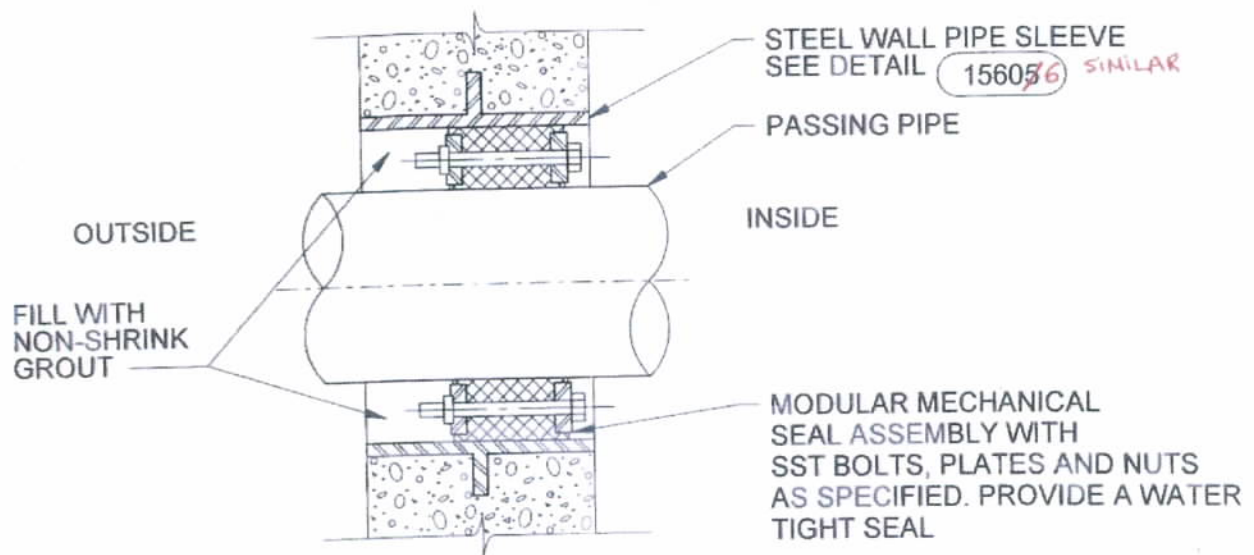
133828

Y1  
 SHEET 88  
 12 OF 12

**BLACK & VEATCH**  
 Corporation  
 Gallitzheim, Maryland

STATE OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 K. MICHAEL HANNA  
 2775

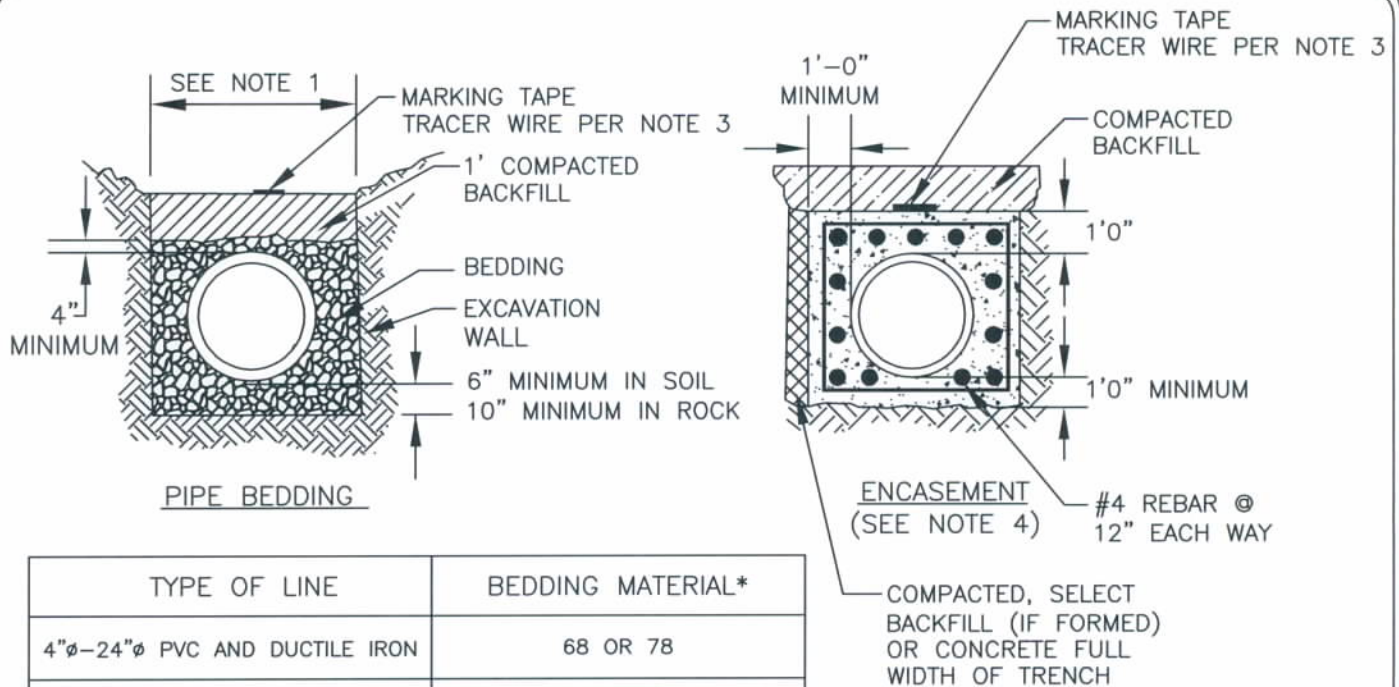
DATE	REVISIONS AND REASON FOR ISSUE	NO	BY	CHK
02/27/2018	ISSUED FOR PERMITS	1	MM	MM
02/27/2018	ISSUED FOR PERMITS	2	MM	MM
02/27/2018	ISSUED FOR PERMITS	3	MM	MM
02/27/2018	ISSUED FOR PERMITS	4	MM	MM
02/27/2018	ISSUED FOR PERMITS	5	MM	MM
02/27/2018	ISSUED FOR PERMITS	6	MM	MM
02/27/2018	ISSUED FOR PERMITS	7	MM	MM
02/27/2018	ISSUED FOR PERMITS	8	MM	MM
02/27/2018	ISSUED FOR PERMITS	9	MM	MM
02/27/2018	ISSUED FOR PERMITS	10	MM	MM



WALL PENETRATION SEAL DETAIL

NTS

15607

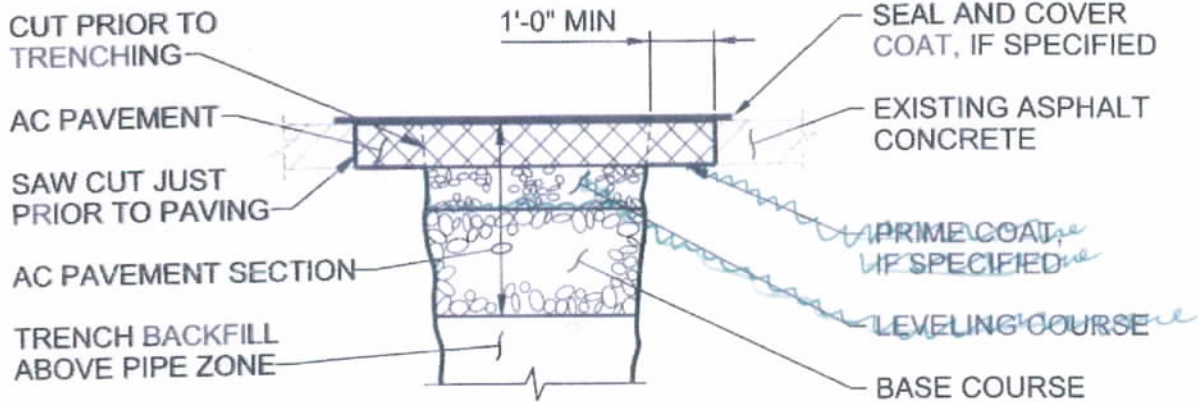


TYPE OF LINE	BEDDING MATERIAL*
4"φ-24"φ PVC AND DUCTILE IRON	68 OR 78
1 1/4" - 3" PVC AND HDPE	8 OR 10 (STONE DUST)
COPPER TUBING	78 OR 8

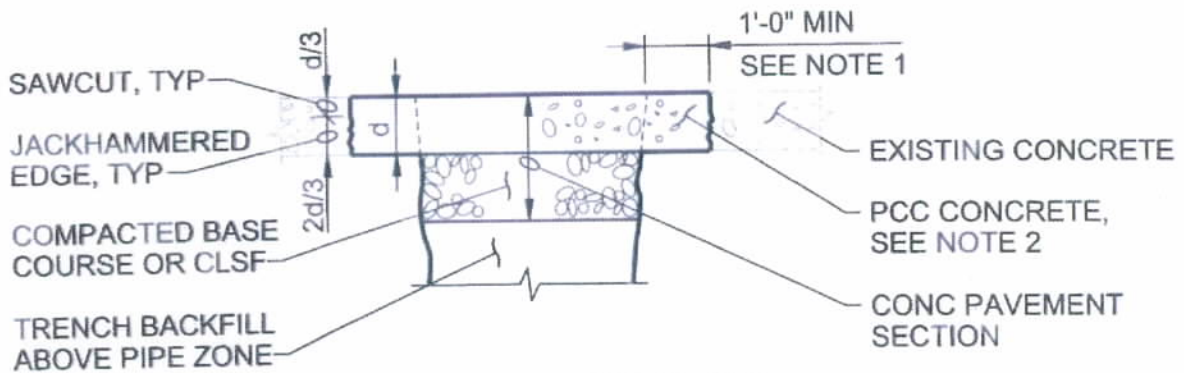
\*CONFORMING TO VDOT ROAD AND BRIDGE SPECIFICATION

**NOTES:**

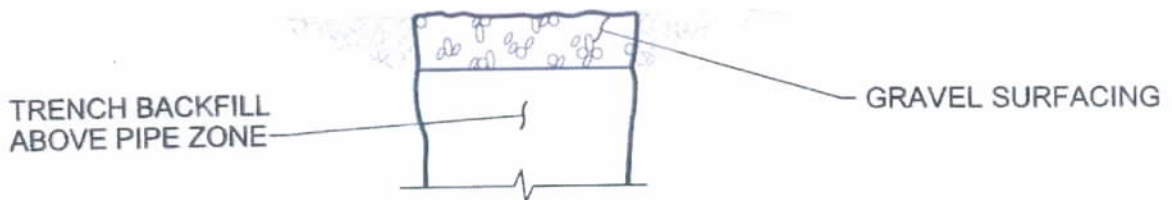
1. MINIMUM TRENCH WIDTH IN SOIL FOR LINES 16"φ AND SMALLER: PIPE DIAMETER +12"  
 MINIMUM TRENCH WIDTH IN SOIL FOR LINES LARGER THAN 16"φ: PIPE DIAMETER +18"  
 MINIMUM TRENCH WIDTH IN ROCK: PIPE DIAMETER +48"
2. FOR PIPES OF 30"φ AND GREATER OR OF A MATERIAL NOT LISTED ABOVE, SPECIFICATIONS SHALL BE MADE ON A PROJECT SPECIFIC BASIS.
3. ADD TRACER WIRE FOR PRESSURIZED PVC OR PE LINES, AND FOR ALL SANITARY LATERALS. FOR 12"φ PIPE AND LARGER, AFFIX TRACER WIRE TO PIPE ON CENTER LINE.
4. ENCASEMENT:
  - A) BEGIN AND END ENCASEMENT AT A PIPE JOINT.
  - B) CONCRETE TO BE CLASS A3 PER APPROVED MATERIALS LIST (3000 PSI).
  - C) BUOYANCY CALCULATIONS REQUIRED FOR PIPES LARGER THAN 12"φ OR IF ENCASEMENT IS TO BE LONGER THAN 60'.
  - D) ALL REINFORCEMENT TO HAVE MINIMUM 2" CONCRETE COVER.
5. ALL MATERIALS MUST CONFORM TO APPLICABLE SECTIONS OF LOUDOUN WATER'S APPROVED MATERIALS LIST.



→ ASPHALT SURFACING



PCC CONCRETE SURFACING



GRAVEL SURFACING

**NOTES:**

1. IF LOCATION OF TRENCH SAW CUT IS WITHIN 2 FEET OF AN EXISTING JOINT OR EDGE OF CONCRETE, REPLACE ENTIRE CONCRETE TO THE JOINT OR EDGE.
2. CONSTRUCT JOINTS ACROSS NEW CONCRETE TO MATCH EXISTING JOINT TYPES AND LOCATIONS.

**SURFACE RESTORATION**

NTS

© CH2M HILL  
NOTE TO DESIGNER:

NOTE: SURFACE RESTORATION MUST BE COMPATIBLE WITH TYPE OF BACKFILL USED. COMPACTED CRUSHED ROCK BASE SHOULD NOT BE PLACED ON NATIVE MATERIAL.

3123-115

DATE 20-MAY-03  
TDC WAGNER  
TDR WAGNER  
LCT MCCALL