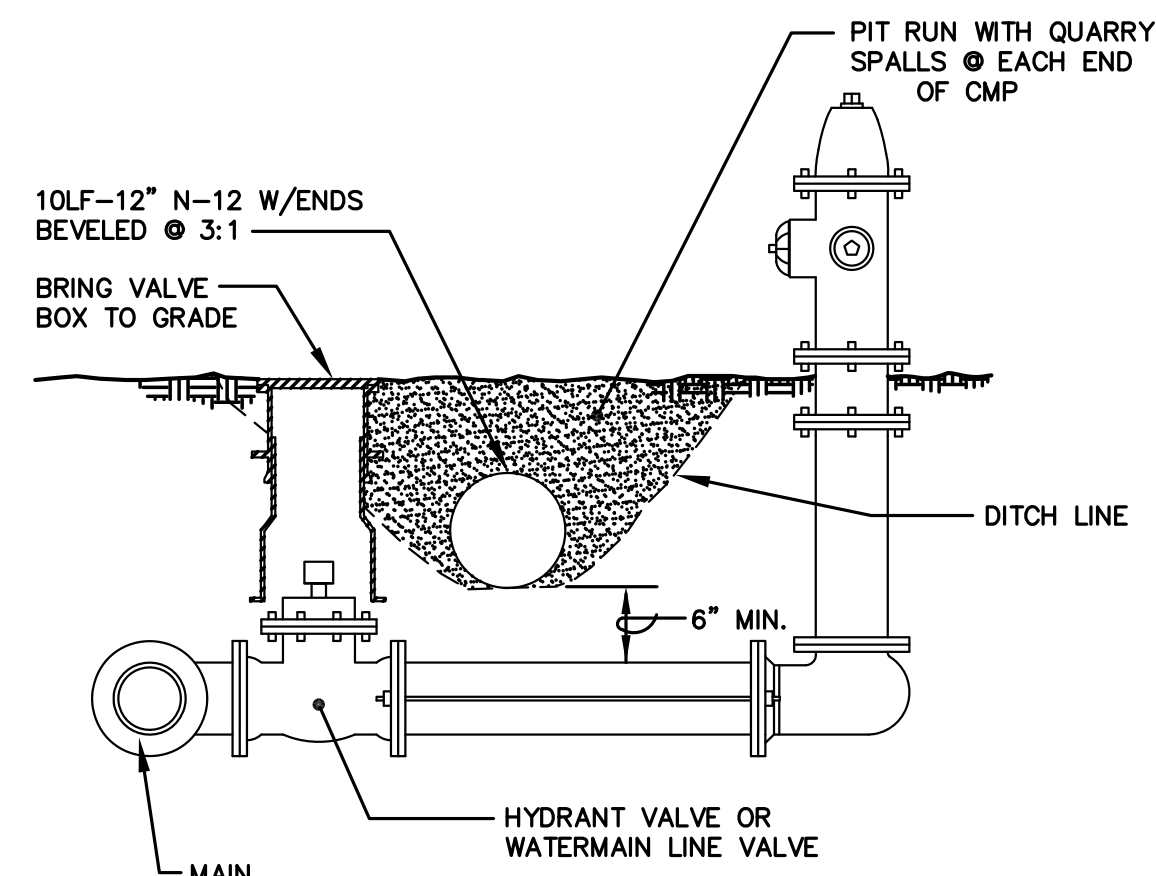


**SECTION B-B**  
SCALE 1" = 5'-0"

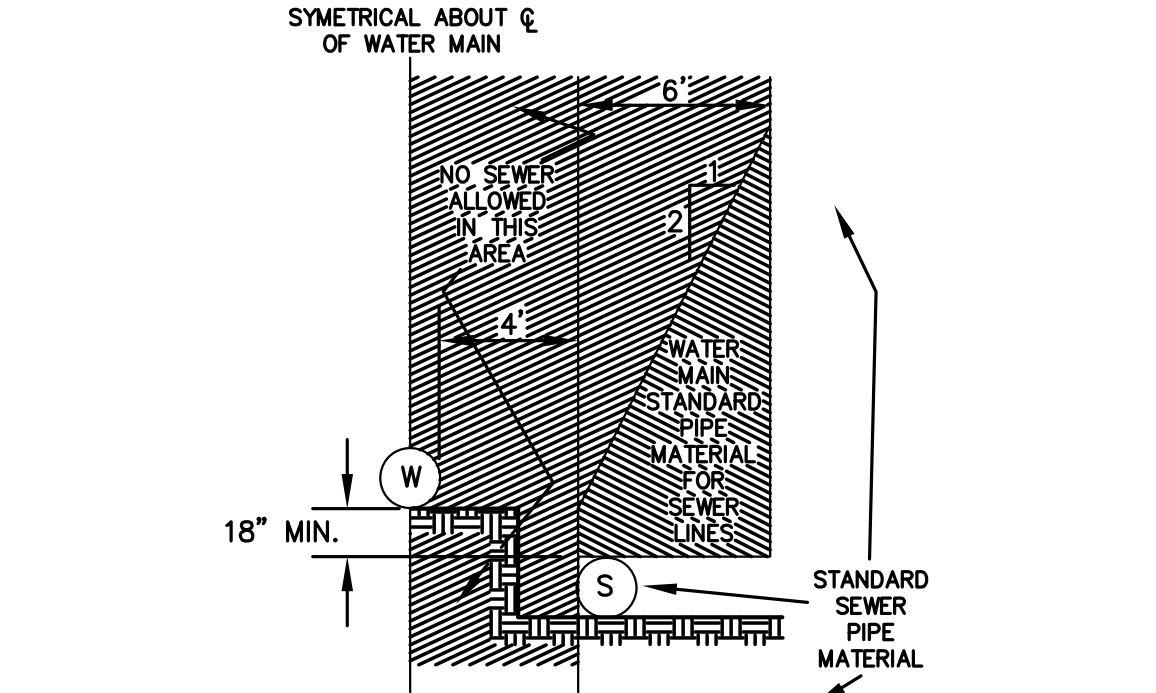
**DETAIL NO. 1**

TYPICAL TRENCH CROSS SECTION WITH TWO PARALLEL WATER LINES



**DETAIL NO. 2**

INSTALLATION OF VALVES & HYDRANTS IN DITCHES



**DETAIL NO. 7**

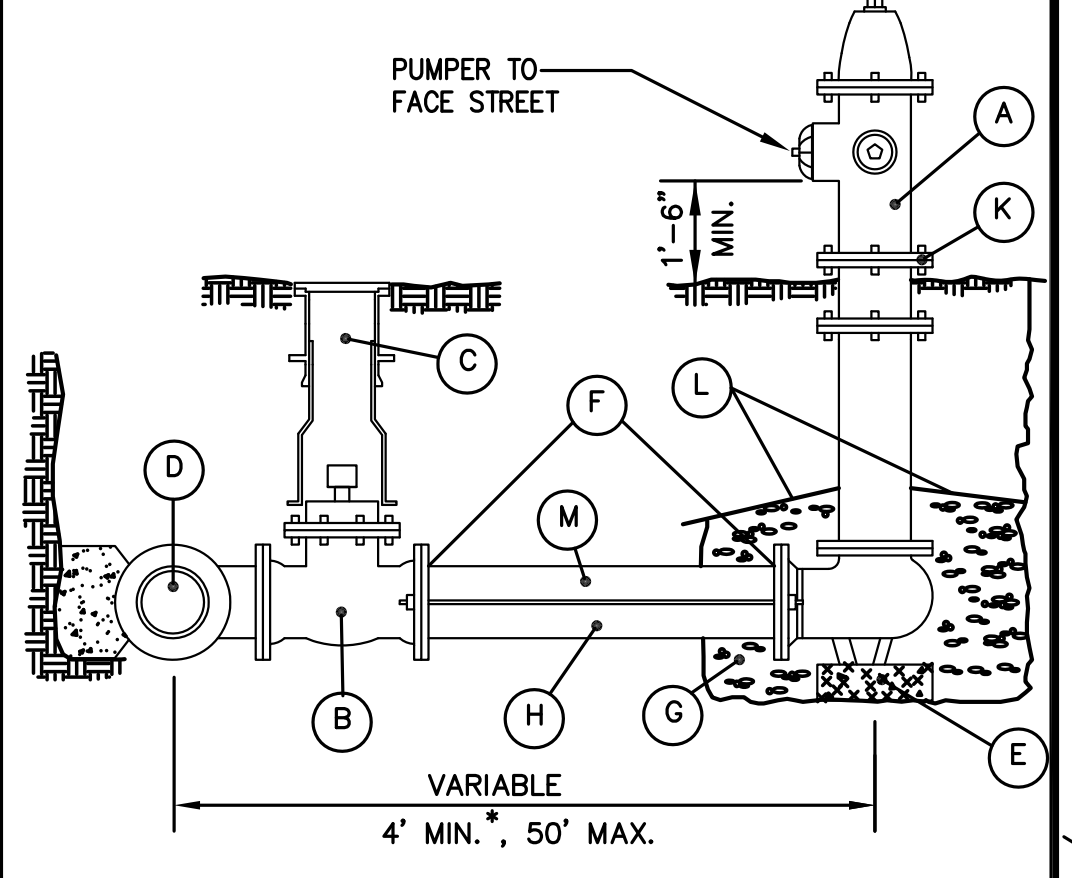
FOR PARALLEL CONSTRUCTION

Table 1  
WATER MAIN STANDARD PIPE MATERIAL

TYPE OF PIPE	AWWA (ASTM) STANDARD		
	PIPE	JOINT	FITTINGS
Ductile Iron	C 151 & C104	C 111	C 153

All water and sewer line separation shall meet DOE Standards.

**For Perpendicular Construction**  
For perpendicular sewer line crossings, lay sewer below water lines and provide 18 inches of separation between inverts of water lines and crown of sewer pipes. If this is not possible, use material standards as set forth above for the sewer with minimum 18 feet length centered over crossing to maximize joint separation.



**DETAIL NO. 3**

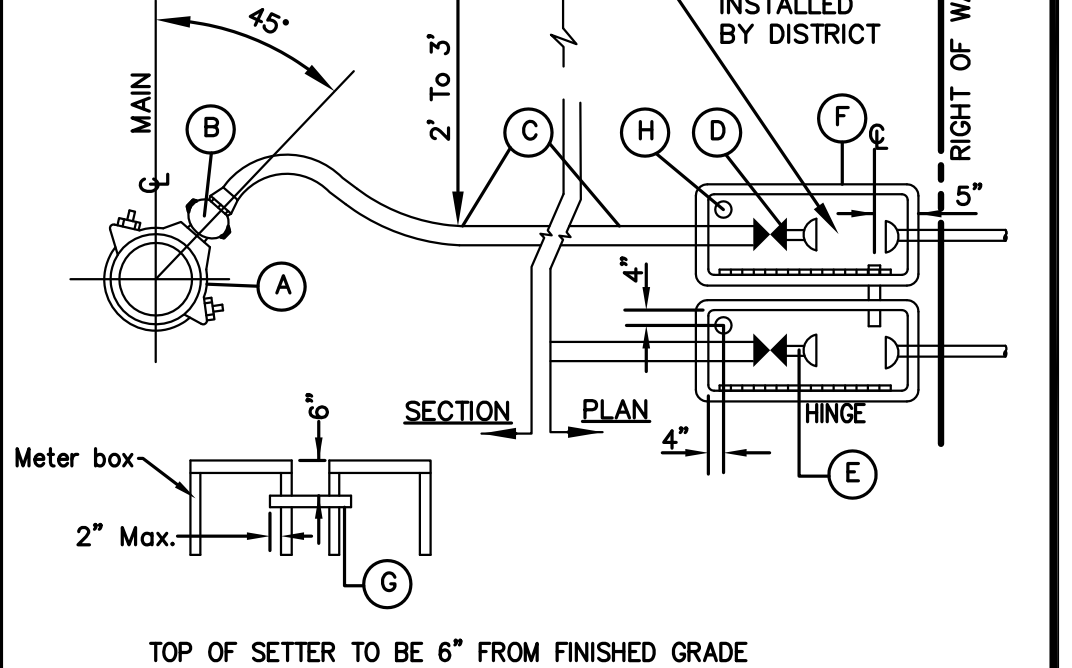
FIRE HYDRANT ASSEMBLY

Item	Quantity	Item Description
A	1	FIRE HYDRANT: 1-4" PUMPER-SEATTLE STANDARD THREAD 2-2 1/2" HOSE NOZZLES-NATIONAL STD. THREAD MECHANICAL JOINT HOSE
B	1	AUXILIARY GATE VALVE: 6" - AWWA C509 RESILIENT SEAT, MJ x FL
C	1	VALVE BOX: CAST IRON SLIDE EXTENSION & BASE LID TO HAVE DROP IN HANDLE.
D	1	TEE: 6" FLANGED OUTLET
E	1	CONCRETE BRICK: 8" x 16" x 4"
F	2	RESTRAINED JOINT GLAND: MEGA-LUG OR EQUAL
G	1/4 CY	1 1/2" WASHED ROCK
H	Var.	6" DUCTILE IRON PIPE: CEMENT LINED, CLASS 52
J	Var.	DELETED
K	1	HYDRANT EXTENSION, WHERE REQUIRED
L	1	PLASTIC SHEETING OVER WASHED ROCK.
M	Var.	FIELD LOCK GASKETS AT PIPE BELL'S

- Hydrants shall be painted with two coats of Seymour/Krylon Paint Equipment No. 00481 (Yellow).
- All hydrants shall be break-away type, per King County standards
- Pumper Cap shall be located one foot minimum behind sidewalk.
- Hydrant to be located five feet behind curb if no sidewalk is present.

**DETAIL NO. 3**

FIRE HYDRANT ASSEMBLY



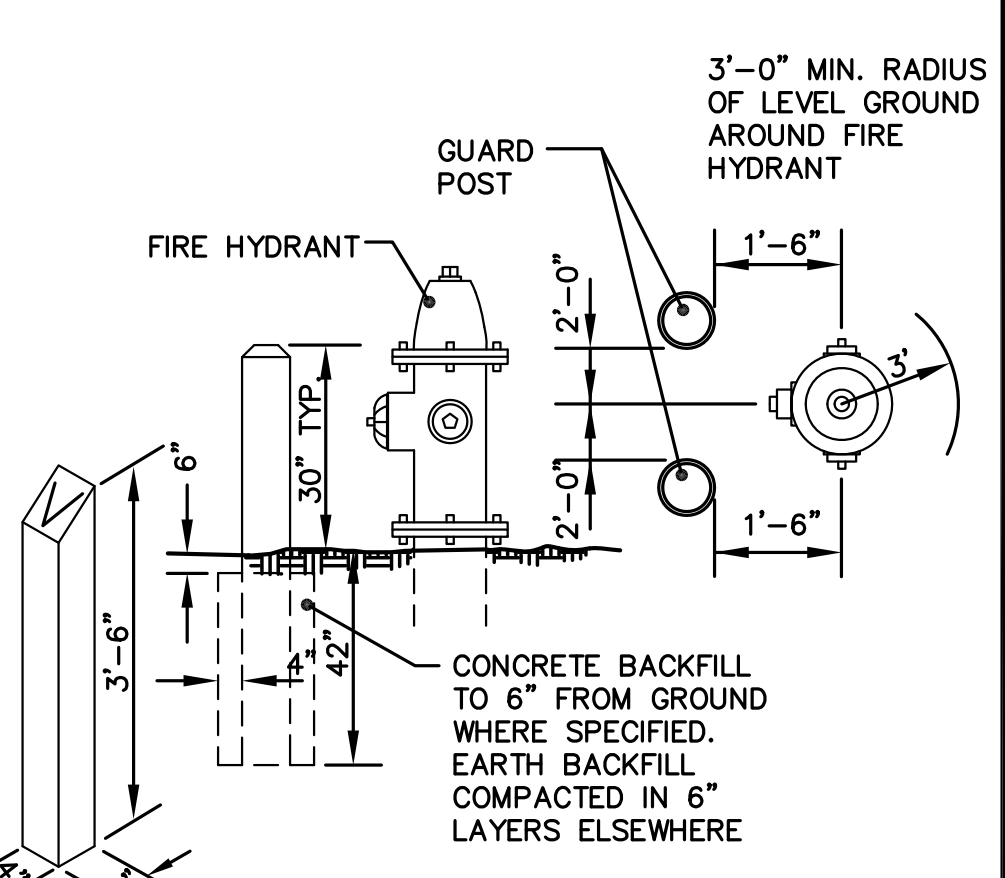
**DETAIL NO. 9**

AIR AND VACUUM RELEASE ASSEMBLY

- Service Clamp, Ford model FC 101 or FC 202, or Equal.
- Corporation Stop, Ford or Equal. I.P. Threads.
- Copper Tubing, ASTM B 88, Type K.
- Curb Stop, Ford or Approved Equal. Curb Stops to be 18" Deep Minimum to 36" Deep Maximum.
- 1" Copper Setter with Locking Stop, C.T.S. Inlet and Horizontal Outlet, Angle Check Valve Outlet, 12" High per District Requirements. Ford No. VH 74-12W-11-44, or Equal. 1" x 4" brass nipple between curb stop and setter.
- Traffic Areas: Meter Box Shall be Mid States HDPE 13"x24"x18" with Mid States 13"x24" ductile iron lid with reader. Traffic Lid Required With 2" M.X.U. Hole.
- Non Traffic Areas: Raven Meter Box 13"x24"x18" with reader lid.
- 2" PVC SDR 21 Connecting Pipe for Radio Read Conduit (Length as Required) Locate 6" Below Top of Box and 5" From Customer End of Box. 2" ID, 2-3/8" OD, 2-1/2" Hole Typical
- 2-1/2" Diameter Hole Located 4" From Both Edges of Lid

**NOTES:**  
1. Single Service Lines are 1" Diameter.  
2. After District Requirements Must be Approved by the District.  
3. Copper Setter for Services with Multi-Residential Equivalents and Equivalents and all Commercial Services Shall have a By-Pass with a Valve with Padlock Wings. Ford No. VFH66-12B or Equal.  
4. No Meter Boxes in Sidewalks or Driveways.  
5. After District Requirements Have Been Met, Meter(s) will be Installed Upon Completion of the Structure's Foundation and Roof.  
6. Bedding Material Shall be used to Backfill Around Corp. Stop and Service Line.

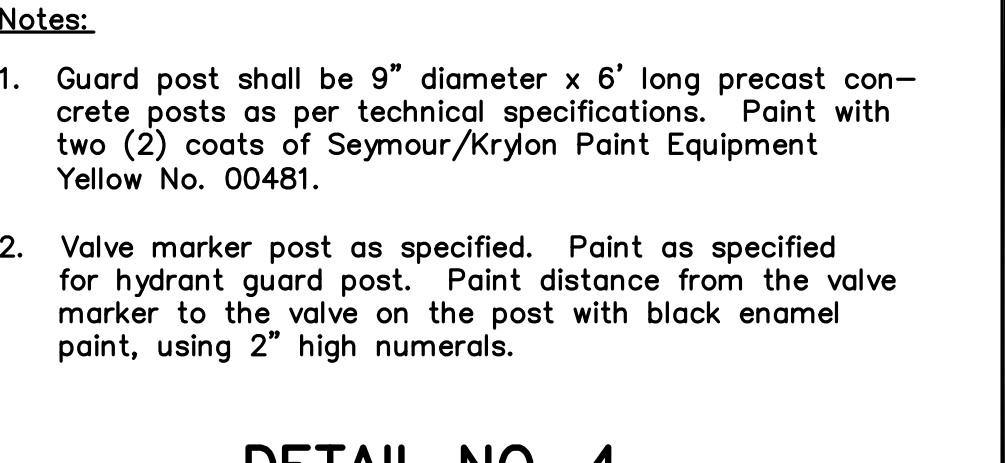
**DETAIL NO. 8**  
SERVICE CONNECTIONS BEHIND SIDEWALK



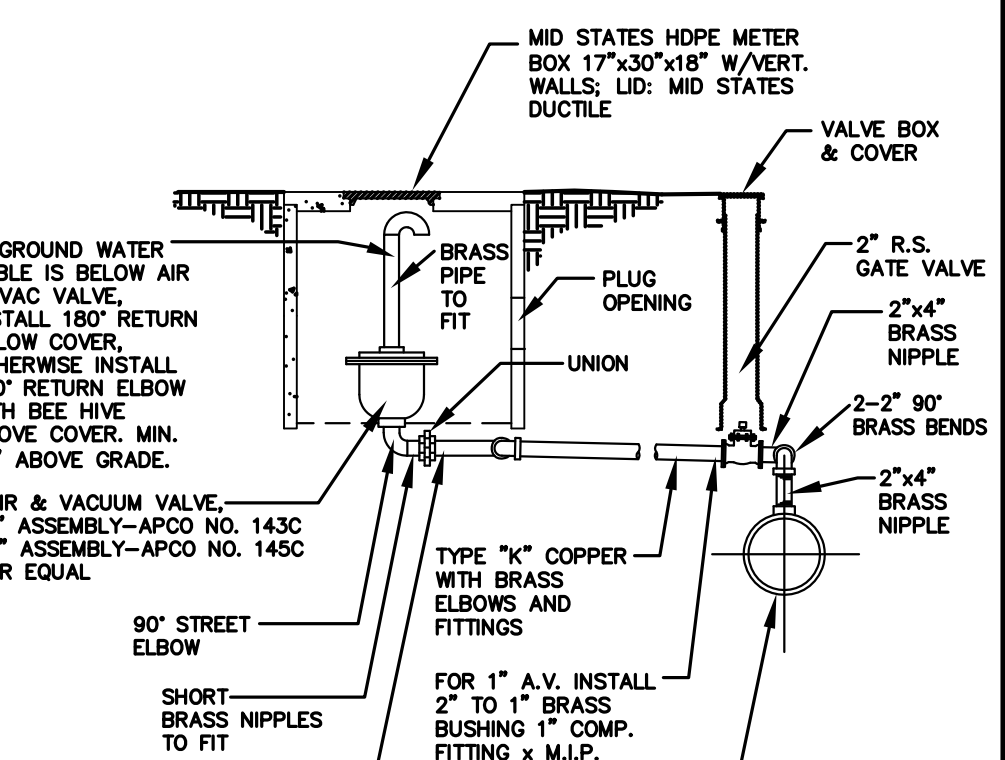
**DETAIL NO. 4**

VALVE AND MARKER POSTS

**Notes:**  
1. Guard post shall be 9" diameter x 6' long precast concrete posts as per technical specifications. Paint with two (2) coats of Seymour/Krylon Paint Equipment Yellow No. 00481.  
2. Valve marker post as specified. Paint as specified for hydrant guard post. Paint distance from the valve marker to the valve on the post with black enamel paint, using 2" high numerals.



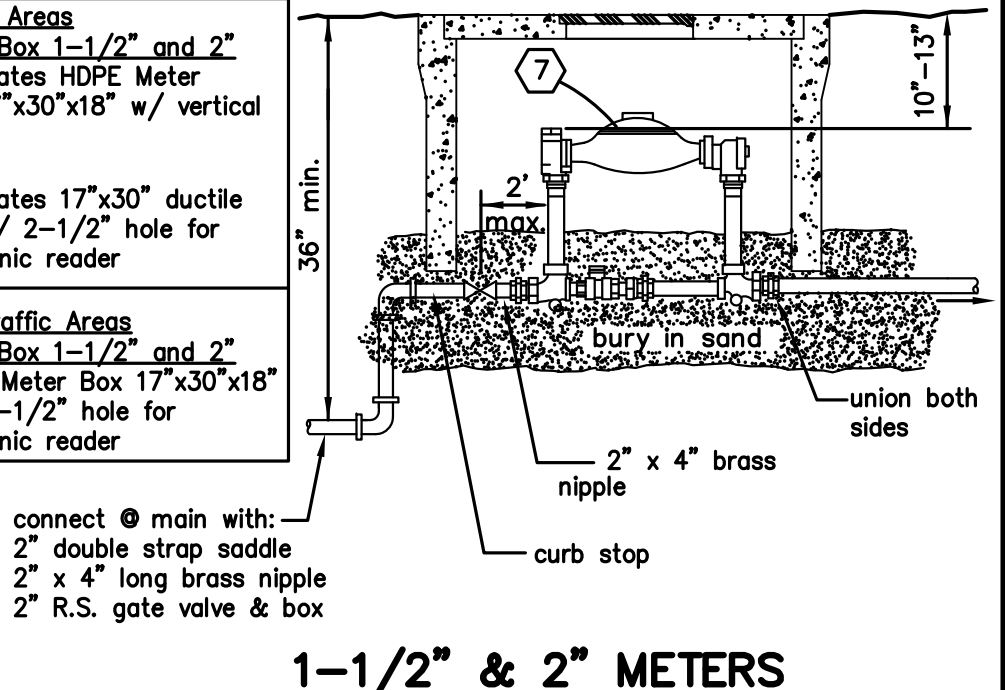
**DETAIL NO. 5**  
2" BLOW OFF



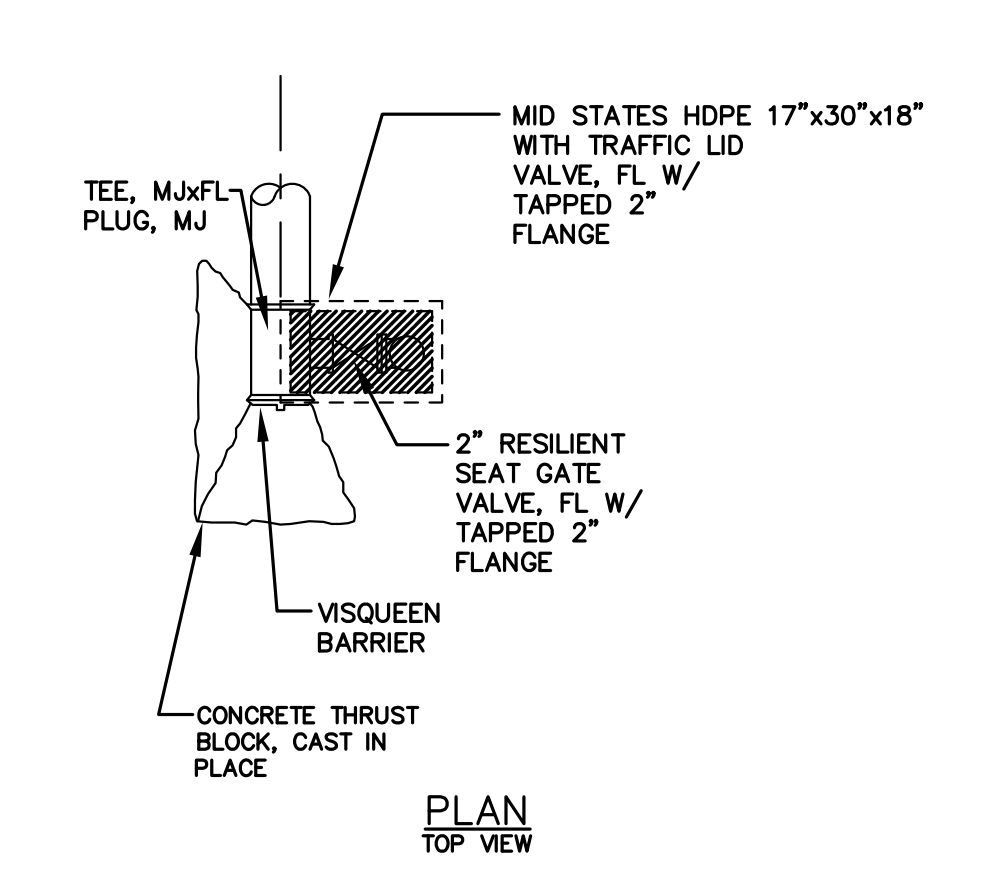
**DETAIL NO. 9**

AIR AND VACUUM RELEASE ASSEMBLY

**NOTE:**  
For 8" ductile iron pipe a 1" air/vac assembly is to be installed. For 12" and larger ductile iron pipe a 2" air/vac assembly is to be installed.

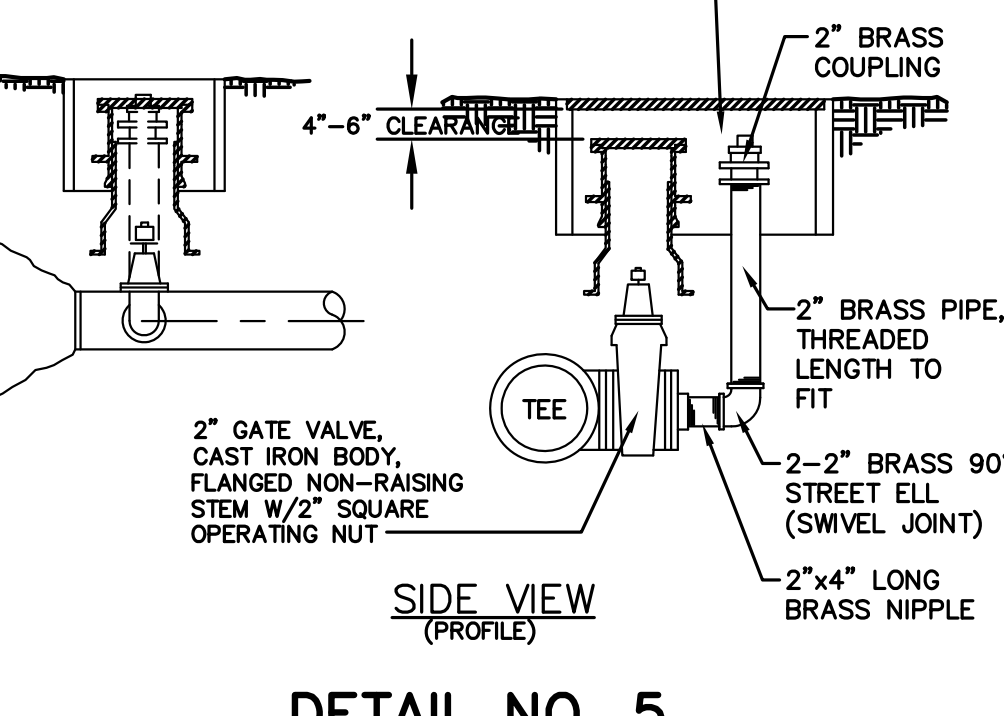


**DETAIL NO. 8**  
SERVICE CONNECTIONS BEHIND SIDEWALK



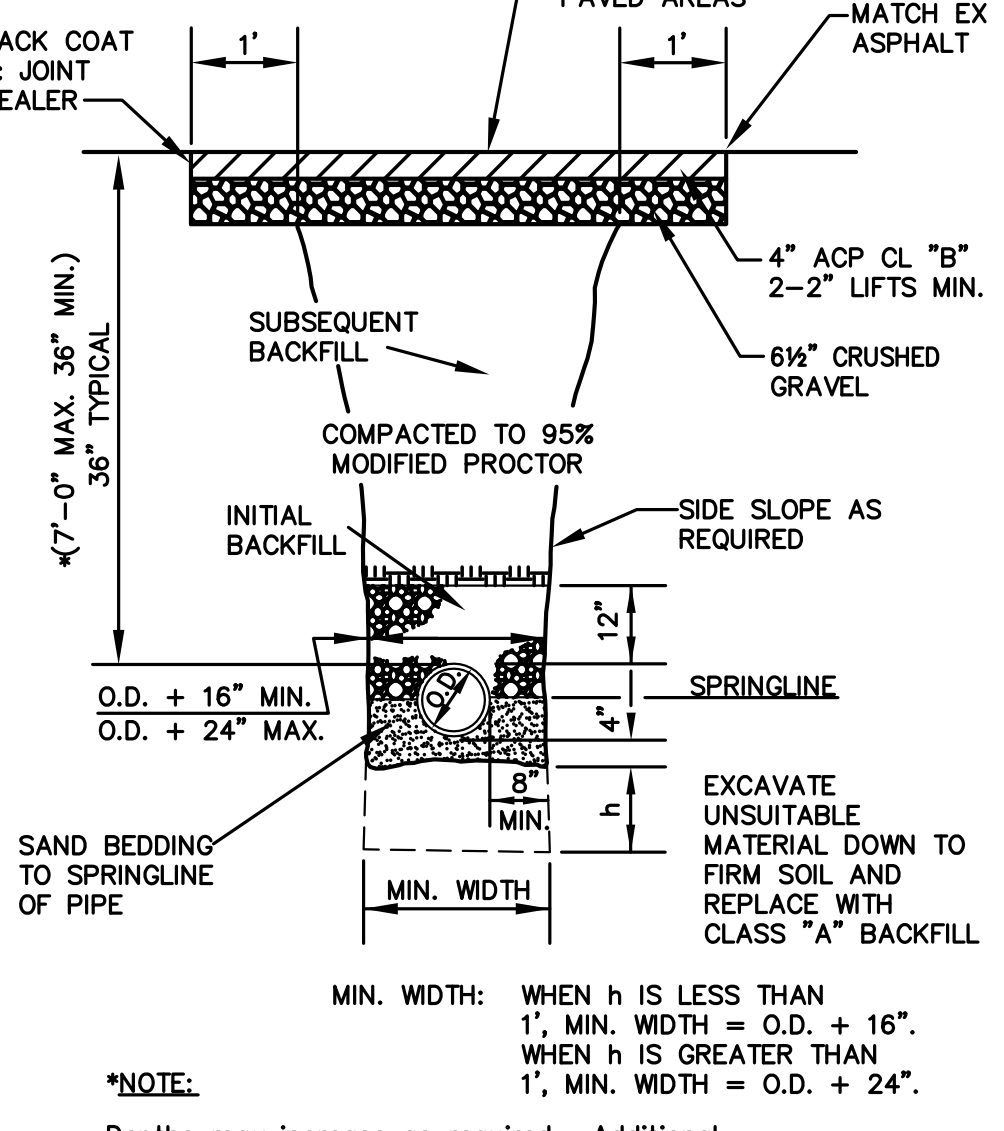
**DETAIL NO. 5**

2" BLOW OFF



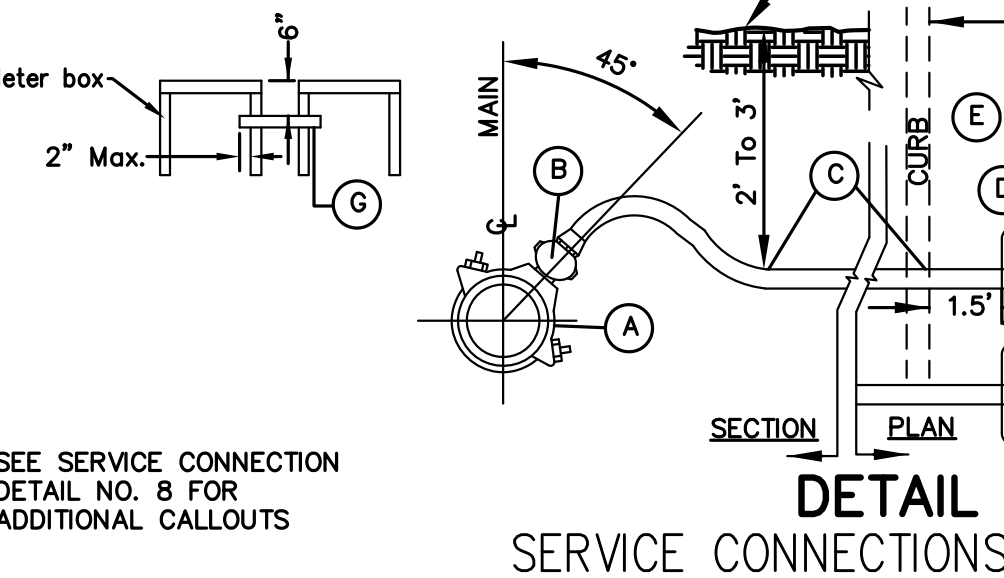
**DETAIL NO. 10**

TRENCH CROSS SECTION FOR D.I. PIPE



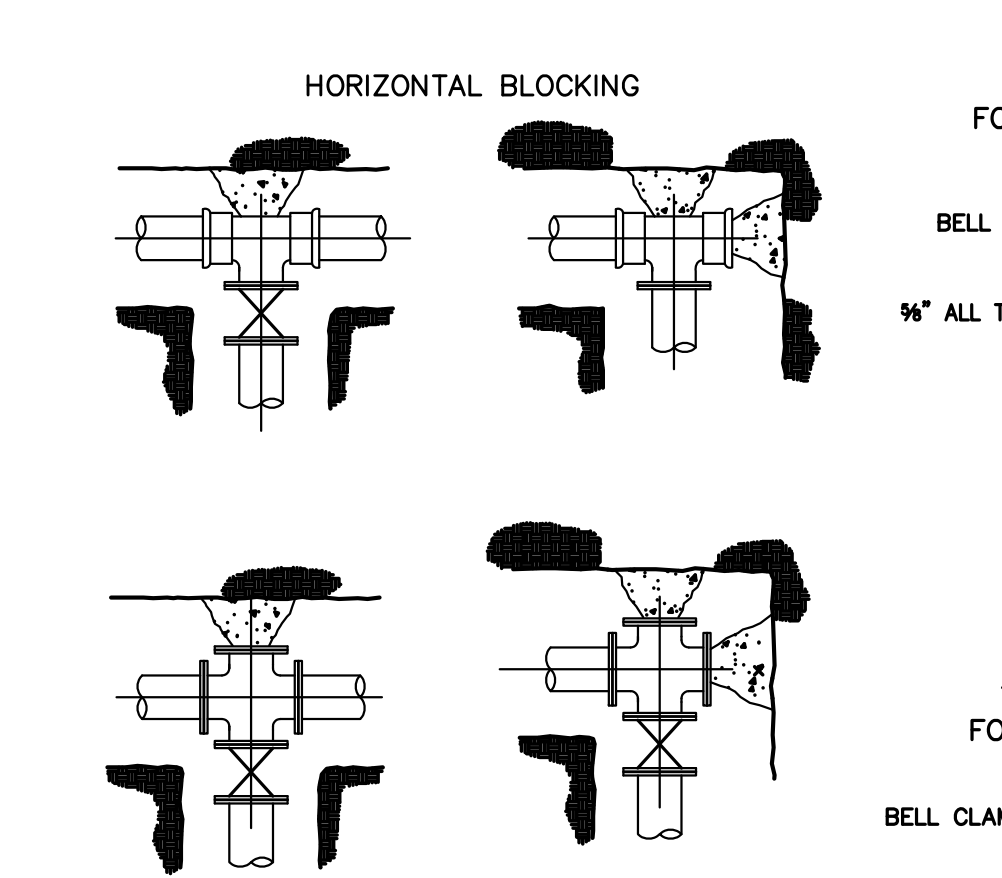
**DETAIL NO. 11**

REPLACEMENT OF EXISTING SERVICE



**DETAIL NO. 14**

SERVICE CONNECTIONS IN PLANTER STRIP



**DETAIL NO. 6**

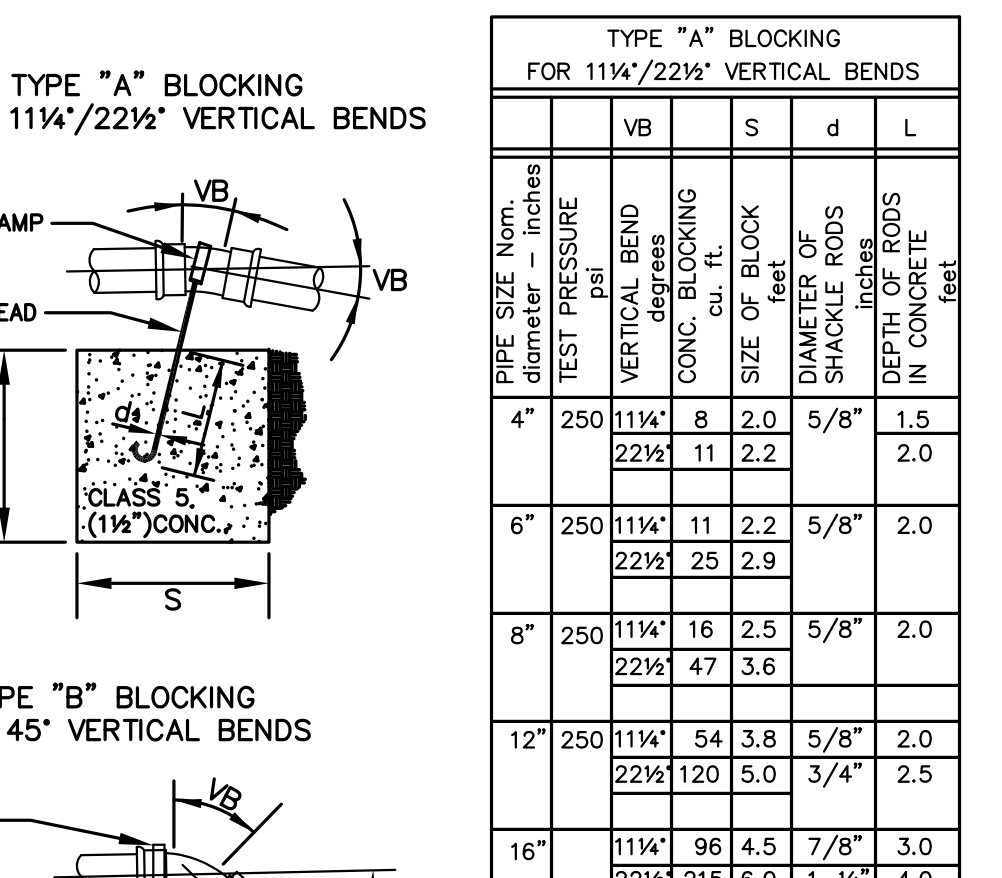
CONCRETE BLOCKING

PIPE SIZE dia. in.	BEARING AREA of BLOCK sq. ft.	TEES & BENDS	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
6"	3	4	2	1.5	0.8	
8"	5	7	4	2	1	
10"	8	11.2	6	3	1.6	
12"	13.0	18.0	10	5	3	
16"	20	28.5	16	8	4	

- All blocking shall be poured against firm undisturbed soil. blocking in organic soils or fill area to be designed by engineer.
- Bearing area at fittings not given in bearing table shall be as directed by the Engineer.
- When pouring against plugs and blind flanges, set steel meter box lid against fitting to keep concrete off bolts.
- LAYOUT to be approved by District prior to concrete pour.
- For blocking scheme other than shown above, contact District Engineer for detail.

**DETAIL NO. 6**

CONCRETE BLOCKING



**DETAIL NO. 12**

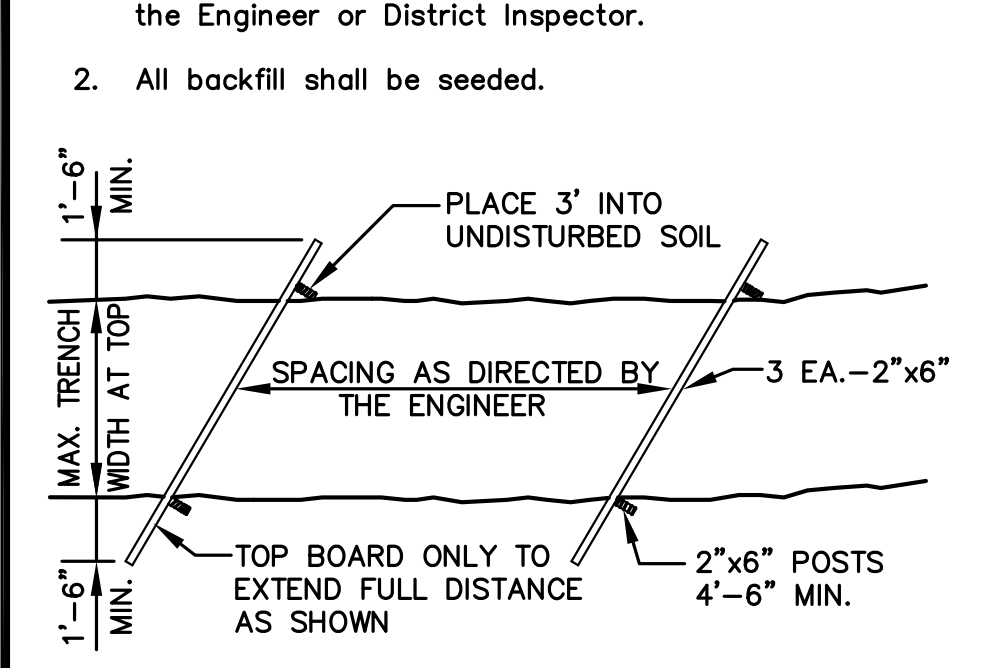
HILL HOLDER

**Notes:**  
1. Timber baffles to be installed where directed by the Engineer or District Inspector.  
2. All backfill shall be seeded.



**DETAIL NO. 13**

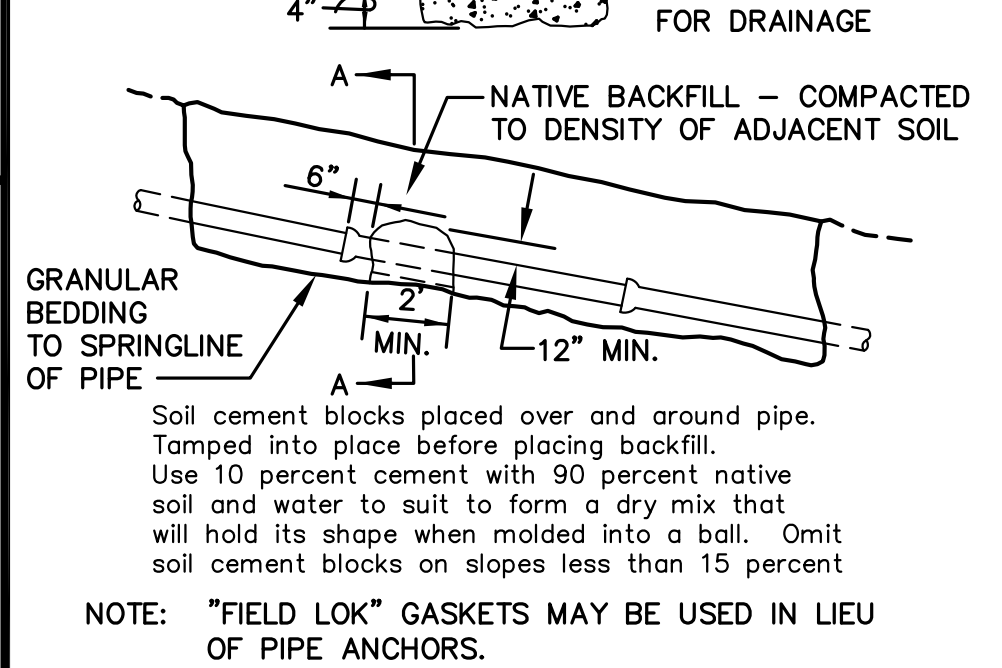
PIPE ANCHORS



**DETAIL NO. 12**

HILL HOLDER

**Notes:**  
1. Timber baffles to be installed where directed by the Engineer or District Inspector.  
2. All backfill shall be seeded.



**DETAIL NO. 13**

PIPE ANCHORS

DESIGNED	REVISED PER DISTRICT COMMENTS	6/8/07	TLR/CJB	DGS
DRAWN				
CHECKED				

DATE	BY	APP'D

**Pacific Engineering Design, LLC**  
15445 53RD AVE. S. SEATTLE, WA 98188  
PHONE: (206) 431-7970 FAX: (206) 388-1648 WEB SITE: PACENG.COM  
Civil Engineering and Planning Consultants

**COAL CREEK UTILITY DISTRICT**  
6801 132ND PLACE S.E. NEWCASTLE, WASHINGTON 98059

REFERENCE INFORMATION  
FIELD BOOK:  
SURV. CPU FILE:  
DATUM: NGVD29

DATE  
JUNE 27, 2007  
SCALE  
NOTED

**TRACT J STANDARD DETAILS**

JOB NUMBER  
**07025.00**  
DWG NO. 07052DT-W03.DWG  
SHEET **3** OF **3**