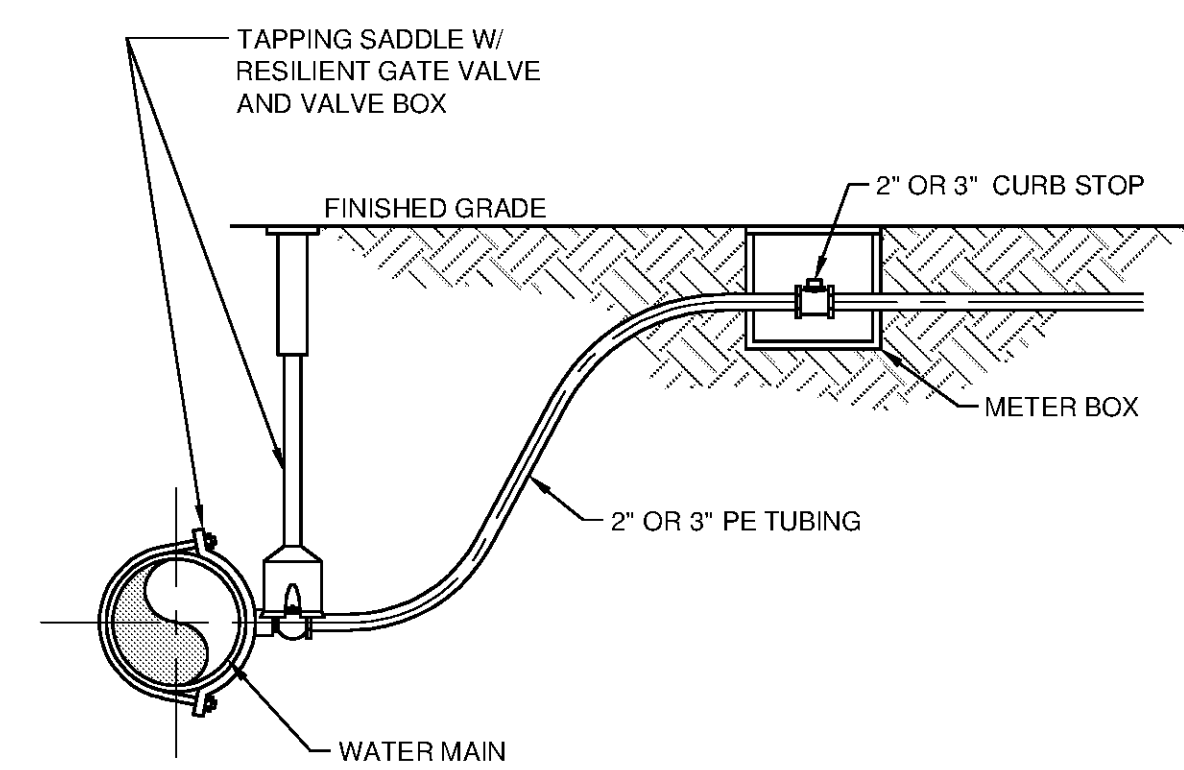


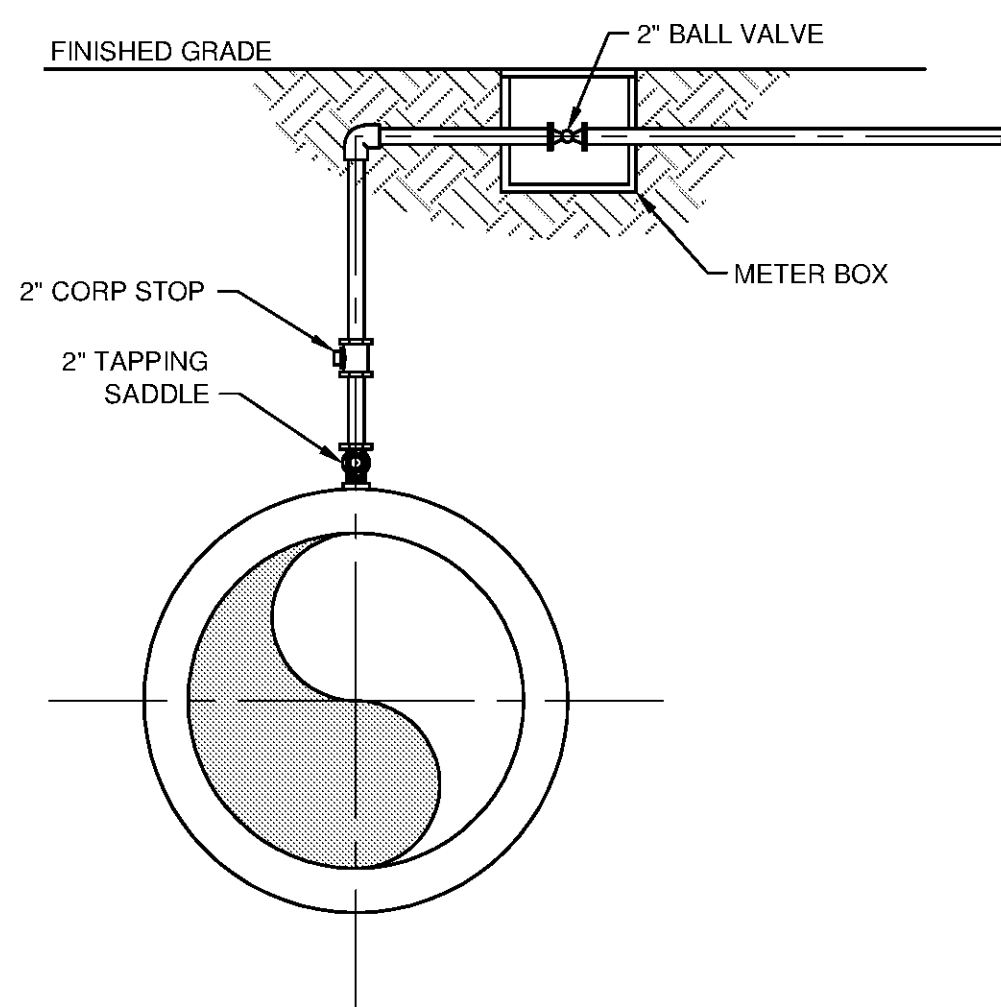
SERVICE SADDLE CONNECTION



NOTE:
SERVICE SADDLE, CORP STOP, CURB STOP & METER BOX PER HUNTSVILLE UTILITIES STANDARD.

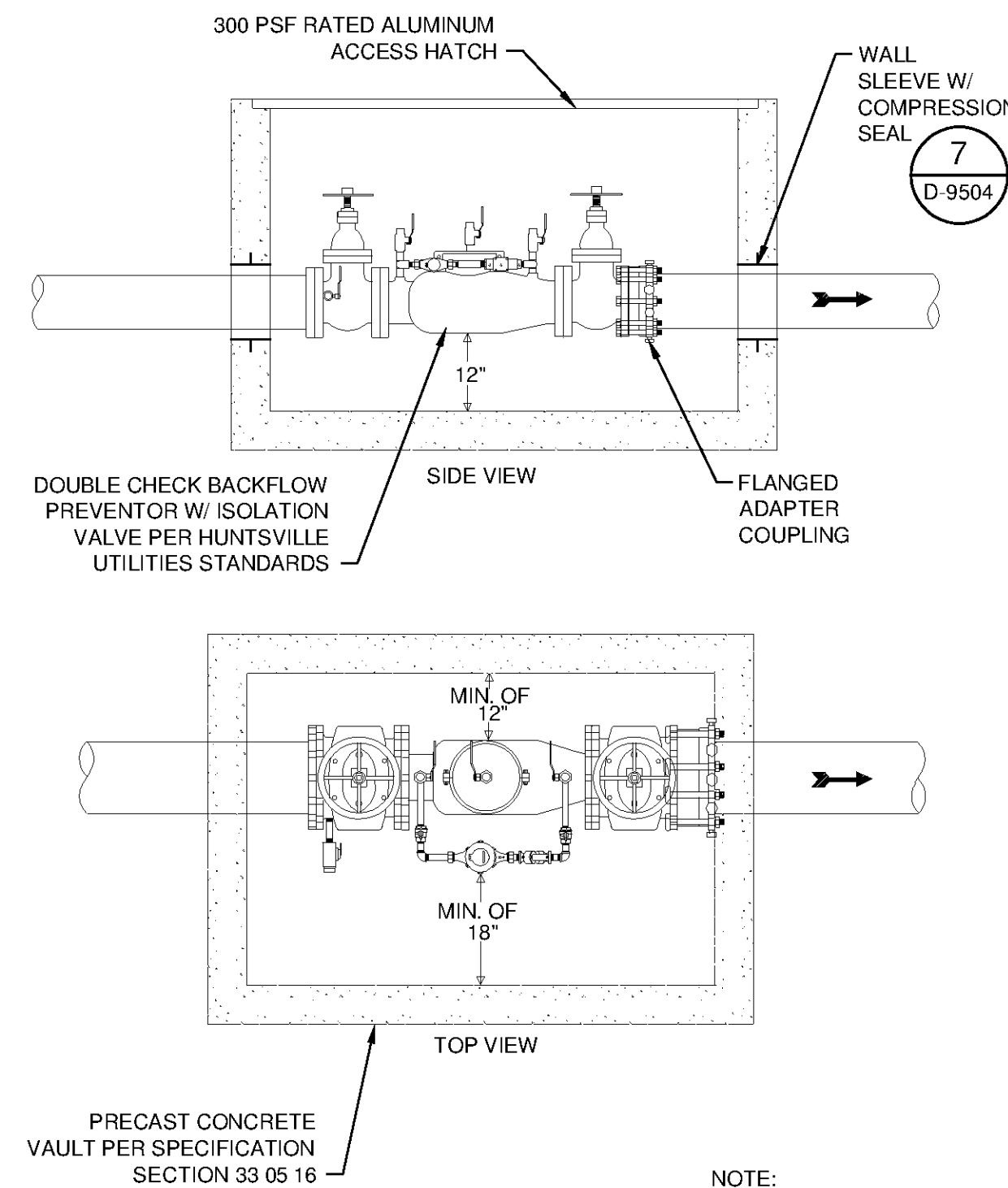
1 DETAIL
SCALE: NTS

CHEMICAL INJECTION



2 DETAIL
SCALE: NTS

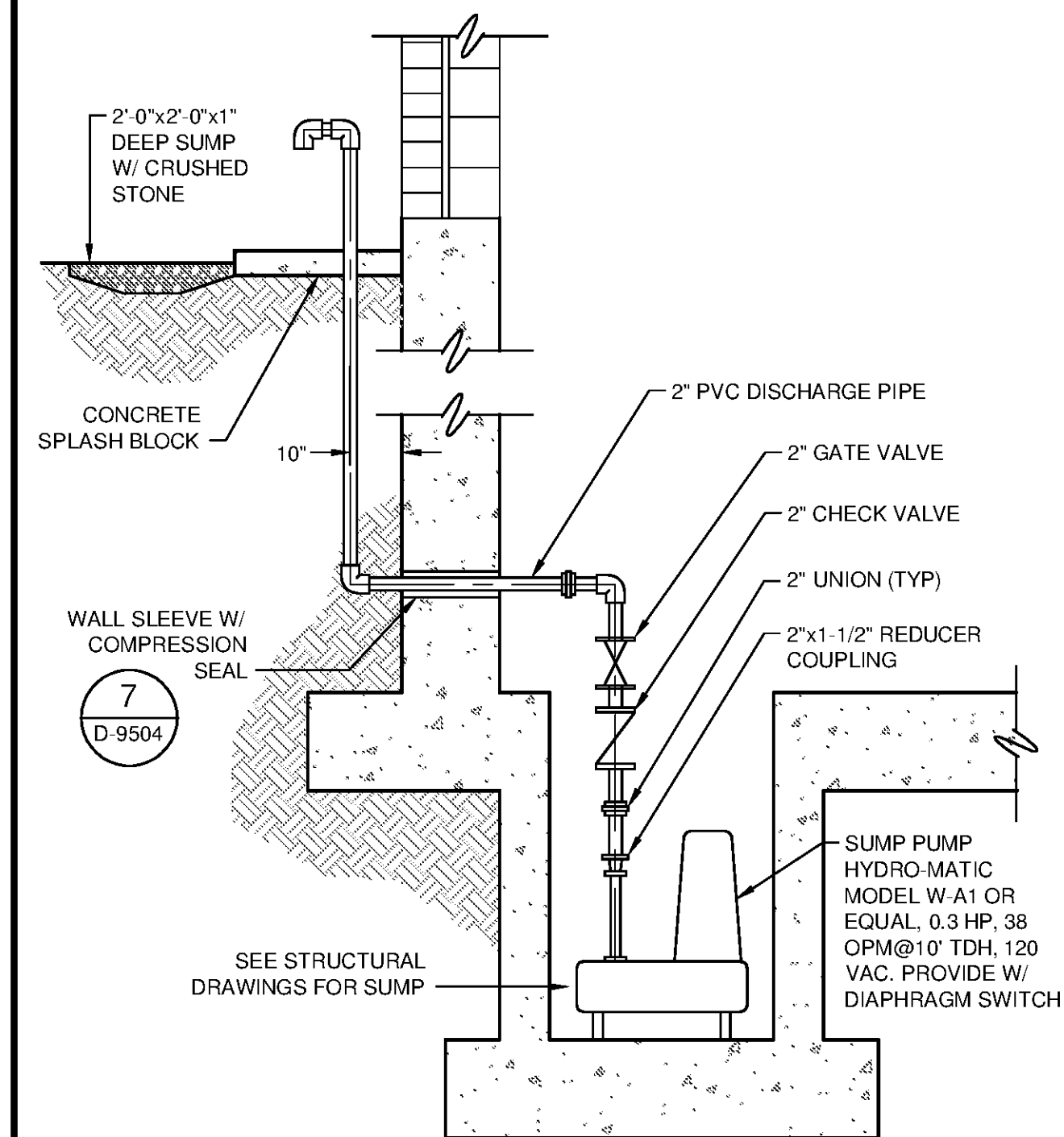
BACKFLOW PREVENTER IN CONCRETE VAULT



NOTE:
DRAWINGS SHOW FLANGED PIPING. FOR PIPE SIZES SMALLER THAN 3" USE THREADED PIPING AND PROVIDE UNION IN LIEU OF FAC.

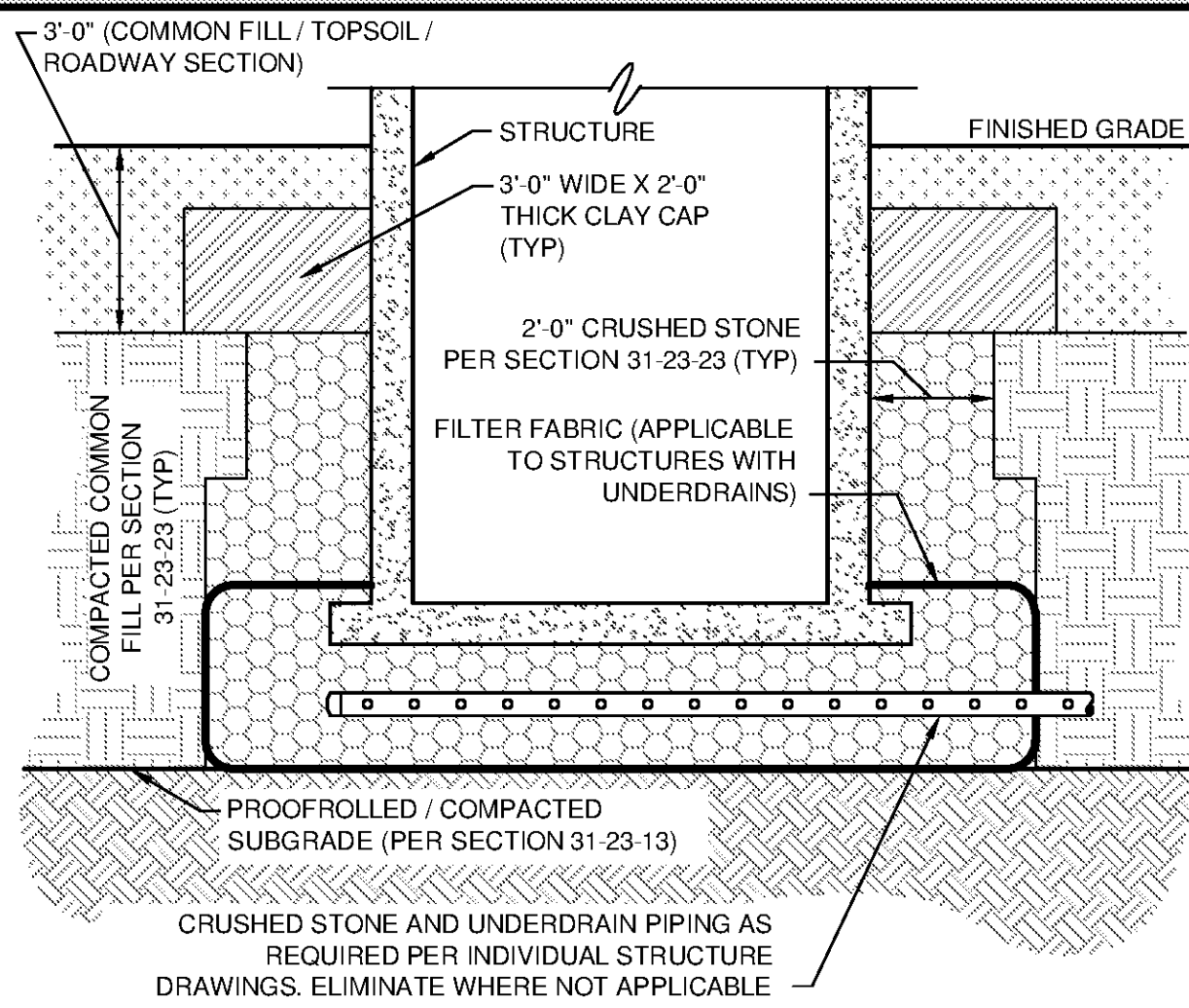
3 DETAIL
SCALE: NTS

SUMP PUMP



4 DETAIL
SCALE: NTS

TYPICAL STRUCTURE BACKFILL



- DETAIL APPLICABLE TO:
- RAW WATER INTAKE STRUCTURE / PUMP STATION
 - FLOCCULATION / SEDIMENTATION / FILTER / CHEMICAL FEED / OPERATIONS BUILDING STRUCTURE
 - GAC CONTACTOR STRUCTURE
 - FINISHED WATER STATIC MIXER, BACKWASH WATER FLOW METER & FINISHED WATER FLOW METER VAULTS
 - DISINFECTANT / CONTACT BASIN / CLEARWELL / FINISHED WATER PUMP STATION STRUCTURE
 - GRAVITY THICKENER
 - SPENT BACKWASH WATER STORAGE BASIN
 - SLUDGE PUMP BUILDING
 - GENERATOR BUILDING
 - BACKWASH WATER OUTFALL FLOW MEASUREMENT STRUCTURE
 - FILTRATE PUMP STATION

5 DETAIL
SCALE: NTS

RESTRAINT JOINTS

- GRAVITY PROCESS PIPING GENERALLY INCLUDES GRAVITY PIPING UNDER, AROUND AND BETWEEN PROCESS TANKS, BACKWASH WATER DRAIN LINES, SUPERNATANT PIPING, WASHWATER OUTFALL PIPING AND SLUDGE PUMP SUCTION PIPING. THESE LINES DO NOT NEED RESTRAINED JOINTS EXCEPT AT VALVES AND FITTINGS. THIS MEANS THAT BENDS, TEES, REDUCERS, PLUGS, CAPS AND VALVES IN THOSE LINES MUST HAVE RESTRAINED JOINTS.
- RESTRAINED JOINT LENGTHS FOR THE 42" RAW WATER MAIN AND 48" FINISHED WATER MAIN ARE SHOWN ON THE PLAN AND PROFILE SHEETS.
- OTHER YARD PIPING RESTRAINT REQUIREMENTS ARE SET FORTH BELOW:

YARD PIPING THRUST RESTRAINT REQUIREMENTS

SERVICE	PIPE MATERIAL	TEST PRESSURE (PSI)	SOIL TYPE	PIPE SIZE (IN)	S.F	TRENCH TYPE	DEPTH OF BURY (FT)	DESIGNED RESTRAINT LENGTH EACH SIDE OF FITTING (FT)					
								TEE	HOR. BEND (90)	HOR. BEND (45)	VERT. BEND (90)	VERT. BEND (45)	DEAD END
WASHWATER SUPPLY	DUCTILE IRON	100	CL	24	1.5	4	3	60	40	20	60	40	60
BACKWASH SUPPLY	DUCTILE IRON	100	CL	30	1.5	4	3	80	40	20	80	40	80
BACKWASH SUPPLY	DUCTILE IRON	100	CL	36	1.5	4	3	80	60	20	80	60	80
SLUDGE - THICKENED AND UNTHICKENED (PUMP SERVICE)	DUCTILE IRON	50	CL	6	1.5	4	3	20	20	20	20	20	20
FILTRATE - FORCEMAIN	DUCTILE IRON	50	CL	8	1.5	4	3	20	20	20	20	20	20
POTABLE WATER ON WTP SITE	DUCTILE IRON	190	CL	8	1.5	4	3	40	40	20	40	40	40
POTABLE WATER ON WTP SITE	DUCTILE IRON	190	CL	6	1.5	4	3	40	40	20	40	20	40
POTABLE WATER ON WTP SITE	DUCTILE IRON	190	CL	4	1.5	4	3	40	20	20	40	20	40

6 DETAIL
SCALE: NTS

MARK	DATE	DESCRIPTION	BY

10/17/2014 3:50:36 PM P:\PIER\11740\200-11740-10003\CAD\SHEETFILES\TREATMENT PLANT\WTP-D-950X\STANDARD PROCESS DETAILS.DWG - EVANS, JON