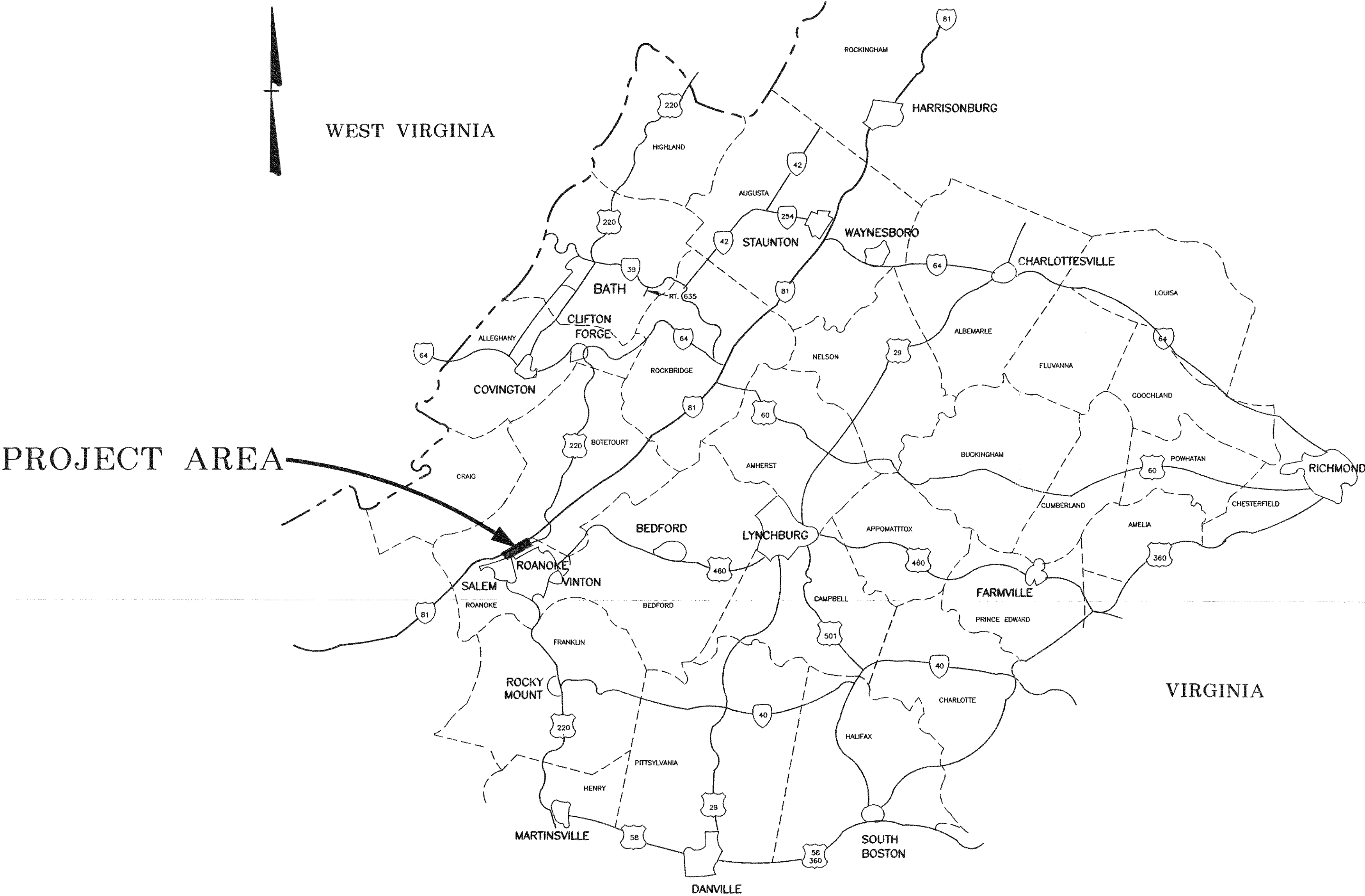


VISTA CORPORATE PARK FILTRATION TREATMENT FACILITY BOTETOURT COUNTY, VIRGINIA



VICINITY MAP FOR
BOTETOURT COUNTY, VIRGINIA
SCALE: NONE

Mattern & Craig, Inc.
CONSULTING ENGINEERS • SURVEYORS
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ROANOKE, VIRGINIA 24016
(540) 345-9342
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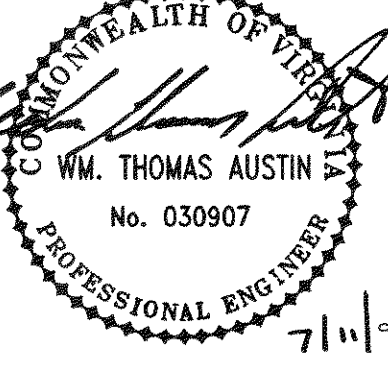
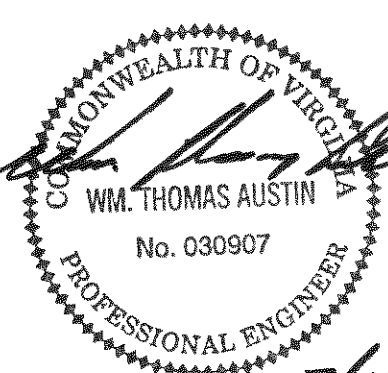
SHEET LIST

- 1 TITLE SHEET
- 2 ABBREVIATIONS AND LEGEND
- 3 OVERALL PLAN AND GENERAL NOTES
- 4 PLAN AND PROFILE
- 5 PLAN AND PROFILE
- 6 GRADING & EROSION CONTROL PLAN
- 7 FLOOR PLAN AND SECTIONS
- 8 SECTIONS, DETAILS AND ELEVATIONS
- 9 PIPING PLAN
- 10 DETAILS AND SECTIONS
- 11 DETAILS AND SECTIONS
- 12 DETAILS AND SECTIONS
- 13 PROFILE- 8" SANITARY
- 14 ELECTRICAL/MECHANICAL PLAN

REVISIONS:

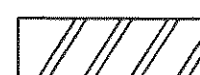
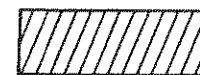
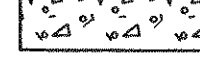
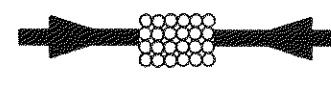
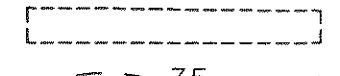
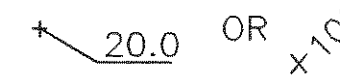
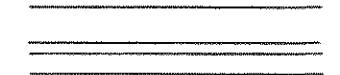
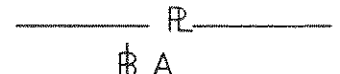
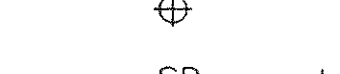
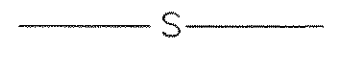
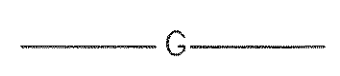
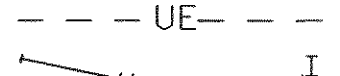
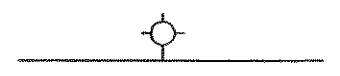
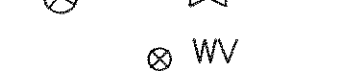
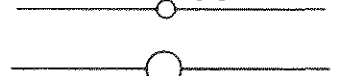
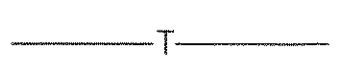
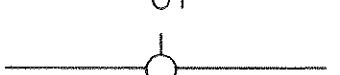
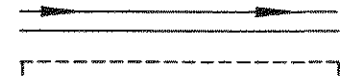
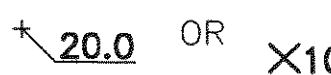
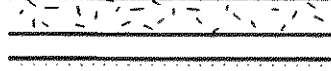
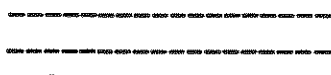
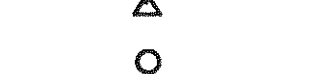
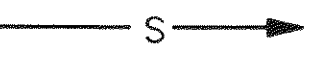
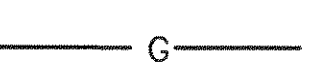
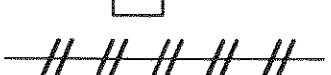
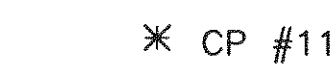
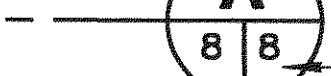
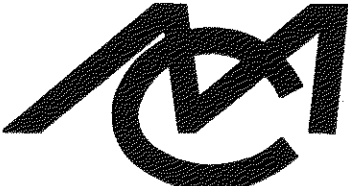
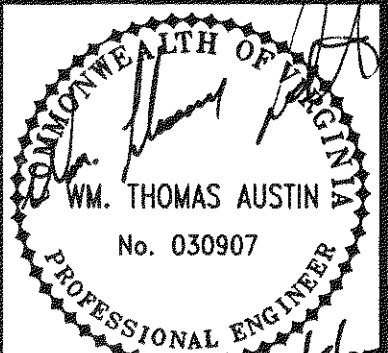
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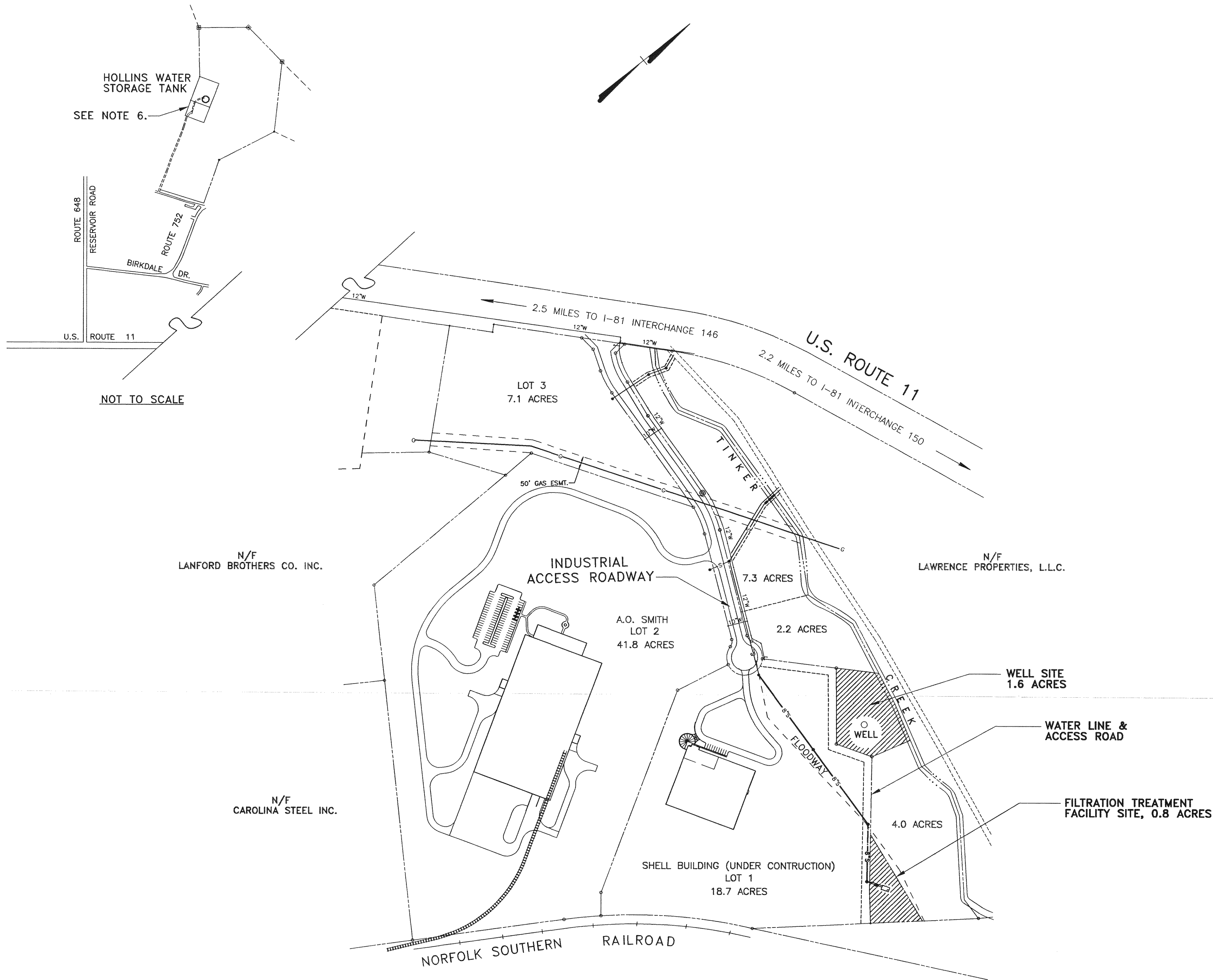
VIRGINIA DEPARTMENT OF HEALTH
Division of Water Supply Engineering
Date: 12/3/97



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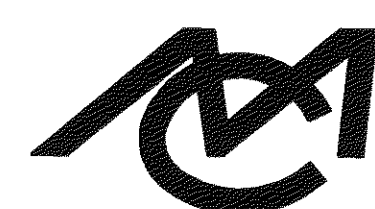
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ABANCHOR BOLT ABANABANDON OR ABANDONED ABUTABUTEMENT ABVABOVE ACTACOUSTICAL ADDADDITIONAL ADJADJACENT AFFABOVE FINISH FLOOR AGGRAGGREGATE ALUMALUMINUM ALTALTERNATE ANCANCHOR APPROXAPPROXIMATE ARCHARCHITECTURAL AWWAAMERICAN WATER WORKS ASSOCIATION AVGAVERAGE BITBITUMINOUS BJBELL JOINT BLBASE LINE BEGBEGIN OR BEGINNING BLDGBUILDING BLKGBLOCKING BMBENCH MARK, BEAM BOTTBOTTOM BPBYPASS BRGBEARING BSMTBASEMENT BVBUTTERFLY VALVE CCHANNEL, COLD C/C, C TO CCENTER TO CENTER CABCABINET CAPCAPACITY CFCUBIC FEET CGCHANGE OF GRADE C & G, CC&GCURB AND GUTTER , CONCRETE CICAST IRON CIRCCIRCULAR CKTCIRCUIT CLCENTER LINE CLRCLEAR CONSTCONSTRUCTION CORCORNER CMPCORRUGATED METAL PIPE CMUCONCRETE MASONRY UNITS CNDCONDUIT COCLEAN OUT COMBCOMBINATION CONCCONCRETE CONNCONNECT, CONNECTION CONTCONTINUOUS, CONTROL CONTRCONTRACTOR CPCOORDINATE POINT CR STONECRUSHED STONE CSWCONCRETE SIDEWALK CTRCENTER CULVCULVERT CYCUBIC YARD		EXPANSION EXTEXTERIOR FRFRAME FD FLOOR DRAIN FDNFOUNDATION FESFLARED END SECTION FFFINISH FLOOR FFEFINISHED FLOOR ELEVATION FHFIRE HYDRANT FIGFIGURE FINFINISH FIXT FIXTURE FLFLOOR FLEXFLEXIBLE FLGFLANGE FTFOOT FTGFOOTING FUTFUTURE GALLON GALVGALVANIZED GARGARAGE GNDGROUND GRGRAVEL GPDWGYPSTUM DRYWALL GPMGALLONS PER MINUTE GRTGGRATING GVGAS VALVE GWGRAY WATER HHOT HBHOSE BIBB HDWHARDWARE HMHOLLOW METAL HOR, HORIZHORIZONTAL HPHORSE POWER HPTHIGH POINT HYDHYDRANT IDINSIDE DIAMETER ININCH INSULINSULATION INVINVERT IPIRON PIN JTJOINT JB JUNCTION BOX LLENGTH, LONG LF LINEAL FOOT LGLONG LP LIGHT POLE LRLONG RADIUS LTLEFT LTGLIGHTING MACHMACHINERY MASMASONRY MATLMATERIAL MAXMAXIMUM MBMAILBOX MECHMECHANICAL MFRMANUFACTURER		PPPOWER POLE POTPOINT ON TANGENT PRCPPOINT OF REVERSE CURVE PSIPOUNDS PER SQUARE INCH PTPOINT OF TANGENT PVPOLYVINYL CHLORIDE PVIPOINT OF VERTICAL INTERSECTION PVMTPAVEMENT PVTPRIVATE RRADIUS, RISER RASRETURN ACTIVATED SLUDGE RRRAIL ROAD RCPREINFORCED CONCRETE PIPE RDROOF DRAIN, ROAD RDCRREDUCER RECPTRECEPTACLE RECTRECTANGULAR REINFREINFORCE, REINFORCEMENT REFREFERENCE RELRELOCATED REQDREQUIRED REVREVISION RTEROUTE RTRIGHT R/WRIGHT OF WAY SSANITARY SEWER, SOUTH, SWITCH SANSANITARY SCHSCHEDULE SDSTORM DRAIN SECTSECTION SERSERVICE SHSHEET SHTGSHEETING SIMSIMILAR SPEC SPECIFICATION SQQSQUARE SSSTAINLESS STEEL STSTREET STASTATION STDSTANDARD STLSTEEL STRUCTSTRUCTURAL STYSTORY SURSURVEY SURFSURFACE S/WSIDEWALK SYMMSYMMETRICAL TTREAD, TOP T & BTOP AND BOTTOM TDCTURNED DOWN CURB TELETELEPHONE TEMPTEMPORARY THKTHICK TPTELEPHONE POLE TRTDTREATED TSTOP OF SLAB TVELEVISION TWTOP OF WALL TYP TYPICAL UGUNDERGROUND UONUNLESS OTHERWISE NOTED U.S.C.&G.S.UNITED STATES COAST AND GEODETIC SURVEY USGSUNITED STATES GEOLOGICAL SURVEY V, VALVALVE VAP BARVAPOR BARRIER VCVERTICAL CURVE VERTVERTICAL VOLVOLUME VDOTVIRGINIA DEPARTMENT OF TRANSPORTATION V.S.D.VERTICAL SIGHT DISTANCE W.B.L.WEST BOUND LANE WWIDE FLANGE, WIDE W/WITH WDWOOD WLWATER LINE W/OWITHOUT WSWATER SURFACE WTWATERTIGHT, WEIGHT WVDHWEST VIRGINIA DEPARTMENT OF HIGHWAYS WWFWELDED WIRE FABRIC		MATERIALS SYMBOLS  METAL  BRICK  CONCRETE MASONRY  CONCRETE  GROUT OR FINISHED CONCRETE  INSULATION (RIGID)  WOOD BLOCKING  FINISHED WOOD OR PLYWOOD  GRAVEL OR STONE  EARTH		EROSION AND SEDIMENT CONTROL SYMBOLS  CIP CULVERT INLET PROTECTION  IP STORM DRAIN INLET PROTECTION  DV DIVERSION  ST TEMPORARY SEDIMENT TRAP  CE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE  RR RIPRAP  SF SILT FENCE  FD TEMPORARY FILL DIVERSION  TSD TEMPORARY SLOPE DRAIN		EXISTING  BUILDING WITH PORCH OR STOOP  FOUNDATION ONLY  CONTOUR, CONTOUR WITH ELEVATION  SPOT ELEVATION  CONCRETE CURB  CONCRETE CURB & GUTTER  CONCRETE WALK OR SLAB  EDGE OF PAVEMENT  UNPAVED OR GRAVEL ROAD  TREE LINE  TREE OR SHRUB  FENCE  CENTERLINE CREEK , SWALE OR DITCH  PROPERTY LINE  BASELINE  LIMIT OF WORK LINE  FIELD SURVEY TRAVERSE POINT  P.C. OR P.T.  GEOLOGIC BORE HOLE  STORM DRAIN AND ENDWALL  SANITARY SEWER  FORCE MAIN  GAS MAIN OR SERVICE LINE  WATER MAIN OR SERVICE LINE  ELECTRICAL LINE  UNDERGROUND ELECTRICAL LINE  PIPE FITTINGS  FIRE HYDRANT  GATE VALVE  WATER VALVE  CLEANOUT  MANHOLE  DROP INLET (CURB AND GRATING TYPES)  G.M. - GAS METER, W.M. - WATER METER  TELEPHONE LINE  UNDERGROUND TELEPHONE LINE  TELEPHONE POLE, GUY AND ANCHOR  POWER POLE, GUY AND ANCHOR  LIGHT POLE TELEPHONE PEDESTAL BURIED TELEPHONE VAULT ABANDON OR REMOVE PAVED DITCH DRIVEWAY CULVERT CULVERT WITH FLARED END SECTION HUB AND TACK COORDINATE POINT		NEW  BUILDING WITH PORCH OR STOOP  FOUNDATION ONLY  CONTOUR, CONTOUR WITH ELEVATION  SPOT ELEVATION  CONCRETE CURB  CONCRETE CURB & GUTTER  CONCRETE WALK OR SLAB  EDGE OF PAVEMENT  UNPAVED OR GRAVEL ROAD  TREE LINE  TREE OR SHRUB  FENCE  CENTERLINE CREEK , SWALE OR DITCH  PROPERTY LINE  BASELINE  LIMIT OF WORK LINE  FIELD SURVEY TRAVERSE POINT  P.C. OR P.T.  GEOLOGIC BORE HOLE  STORM DRAIN AND ENDWALL  SANITARY SEWER  FORCE MAIN  GAS MAIN OR SERVICE LINE  WATER MAIN OR SERVICE LINE  ELECTRICAL LINE  UNDERGROUND ELECTRICAL LINE  PIPE FITTINGS  FIRE HYDRANT  GATE VALVE  WATER VALVE  CLEANOUT  MANHOLE  DROP INLET (CURB AND GRATING TYPES)  G.M. - GAS METER, W.M. - WATER METER  TELEPHONE LINE  UNDERGROUND TELEPHONE LINE  TELEPHONE POLE, GUY AND ANCHOR  POWER POLE, GUY AND ANCHOR  LIGHT POLE TELEPHONE PEDESTAL BURIED TELEPHONE VAULT ABANDON OR REMOVE PAVED DITCH DRIVEWAY CULVERT CULVERT WITH FLARED END SECTION HUB AND TACK COORDINATE POINT		DESCRIPTION BUILDING WITH PORCH OR STOOP FOUNDATION ONLY CONTOUR, CONTOUR WITH ELEVATION SPOT ELEVATION CONCRETE CURB CONCRETE CURB & GUTTER CONCRETE WALK OR SLAB EDGE OF PAVEMENT UNPAVED OR GRAVEL ROAD TREE LINE TREE OR SHRUB FENCE CENTERLINE CREEK , SWALE OR DITCH PROPERTY LINE BASELINE LIMIT OF WORK LINE FIELD SURVEY TRAVERSE POINT P.C. OR P.T. 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 Mattern & Craig, Inc. CONSULTING ENGINEERS • SURVEYORS 701 FIRST STREET, S.W. ROANOKE, VIRGINIA 24016 (540) 345-9342 (540) 345-7691 FAX		<table><tr><td>DSGN WTA</td><td>REV</td><td>DATE</td><td>DESCRIPTION</td><td>BY</td><td>APP</td></tr><tr><td>DRAWN ARB</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CHKD SWH</td><td></td><td></td><td></td><td></td><td></td></tr></table>		DSGN WTA	REV	DATE	DESCRIPTION	BY	APP	DRAWN ARB						CHKD SWH						VISTA CORPORATE PARK FILTRATION TREATMENT FACILITY ABBREVIATIONS AND LEGEND BOTETOURT COUNTY, VIRGINIA		 SCALE: NO SCALE COMM. NO. 1297DW DATE: JUNE, 1997 SHEET 2	
DSGN WTA	REV	DATE	DESCRIPTION	BY	APP																				
DRAWN ARB																									
CHKD SWH																									



GENERAL NOTES:

1. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
2. THE CONTRACTOR IS DIRECTED TO DIG AND LOCATE ALL UTILITIES, IN ADVANCE OF THE PIPELAYING, TO ALLOW FOR ADJUSTMENTS, DUE TO CONFLICTS WITH THE UTILITIES, IN THE HORIZONTAL AND VERTICAL LOCATION OF THE PIPE LINE.
3. SURVEY INFORMATION OBTAINED FROM TOPOGRAPHIC SURVEY COMPLETED IN THE WINTER OF 1995 BY MATTERN AND CRAIG INC., ROANOKE, VA.
4. BENCHMARKS ARE AS NOTED ON DRAWINGS AND THEY ARE OF USGS DATUM.
5. ACCESS TO WELL AND FILTRATION TREATMENT FACILITY SITE DURING CONSTRUCTION MAY BE BY ESTABLISHED EASEMENT OR BY TEMPORARY INGRESS/EGRESS EASEMENT FOR CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION.
6. FOR ADDITIONAL INFORMATION ON EXISTING 500,000 GALLON HOLLINS WATER TANK, REFER TO DRAWINGS (COMM. No. 1297D) PREPARED BY MATTERN & CRAIG, INC., DATED MARCH, 1995. REFER TO SHEET 12 FOR TELEMETRY CONTROL WORK AT EXISTING TANK.

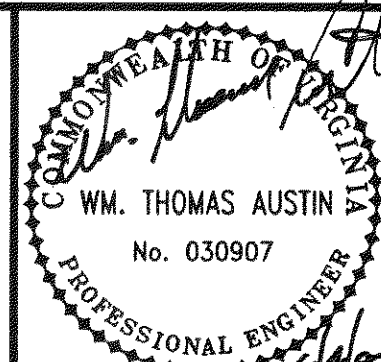


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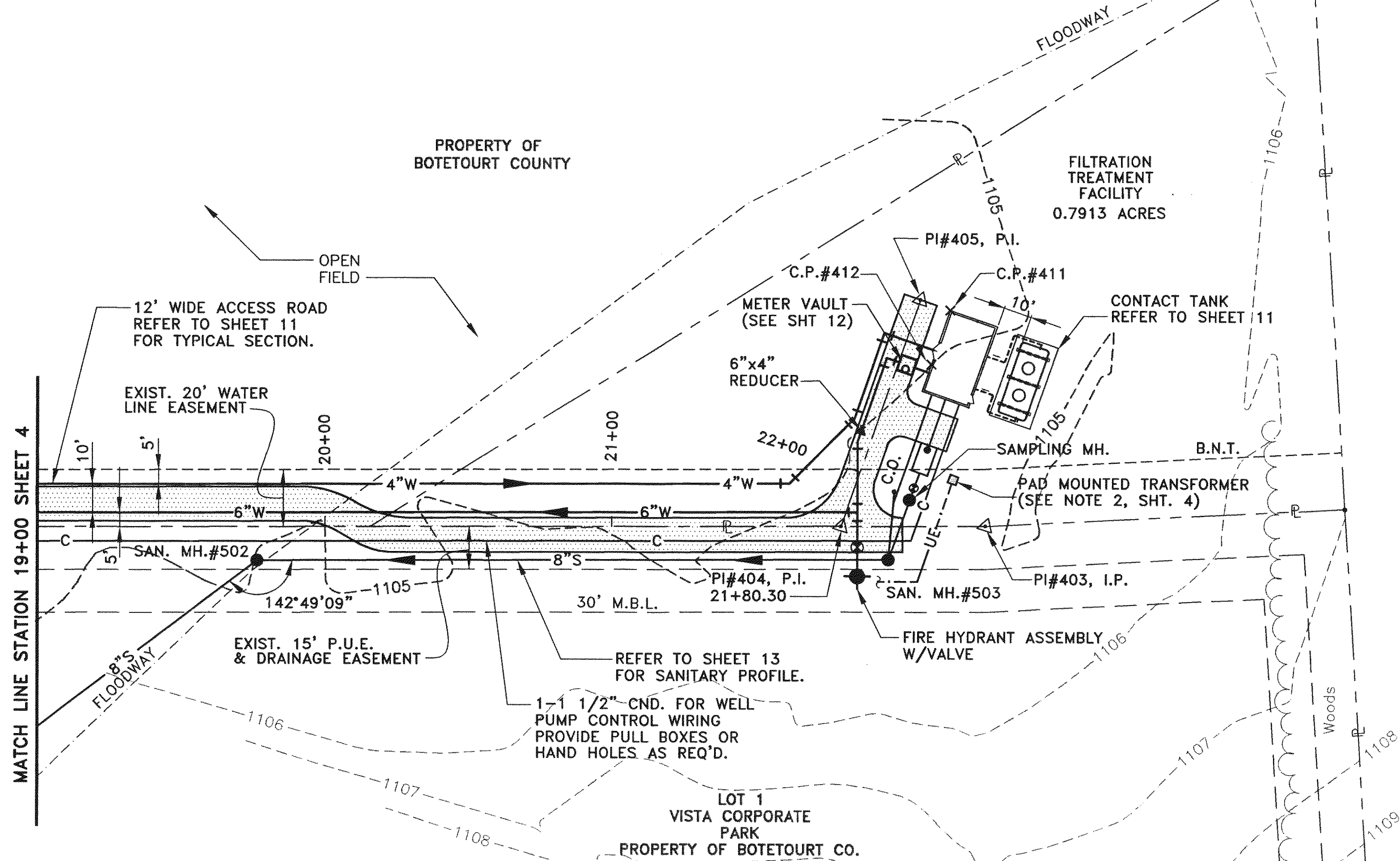
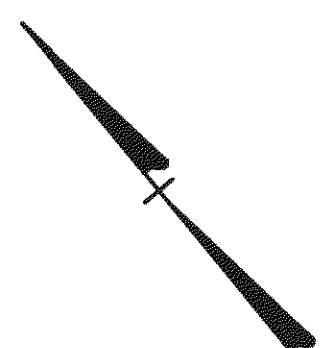
DSGN	WTA	REV	DATE	DESCRIPTION	BY	APP
DRAWN	LDL,ARB					
CHKD	SWH					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
OVERALL PLAN & GENERAL NOTES
BOTETOURT COUNTY, VIRGINIA



SCALE: 1"=200'
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 3

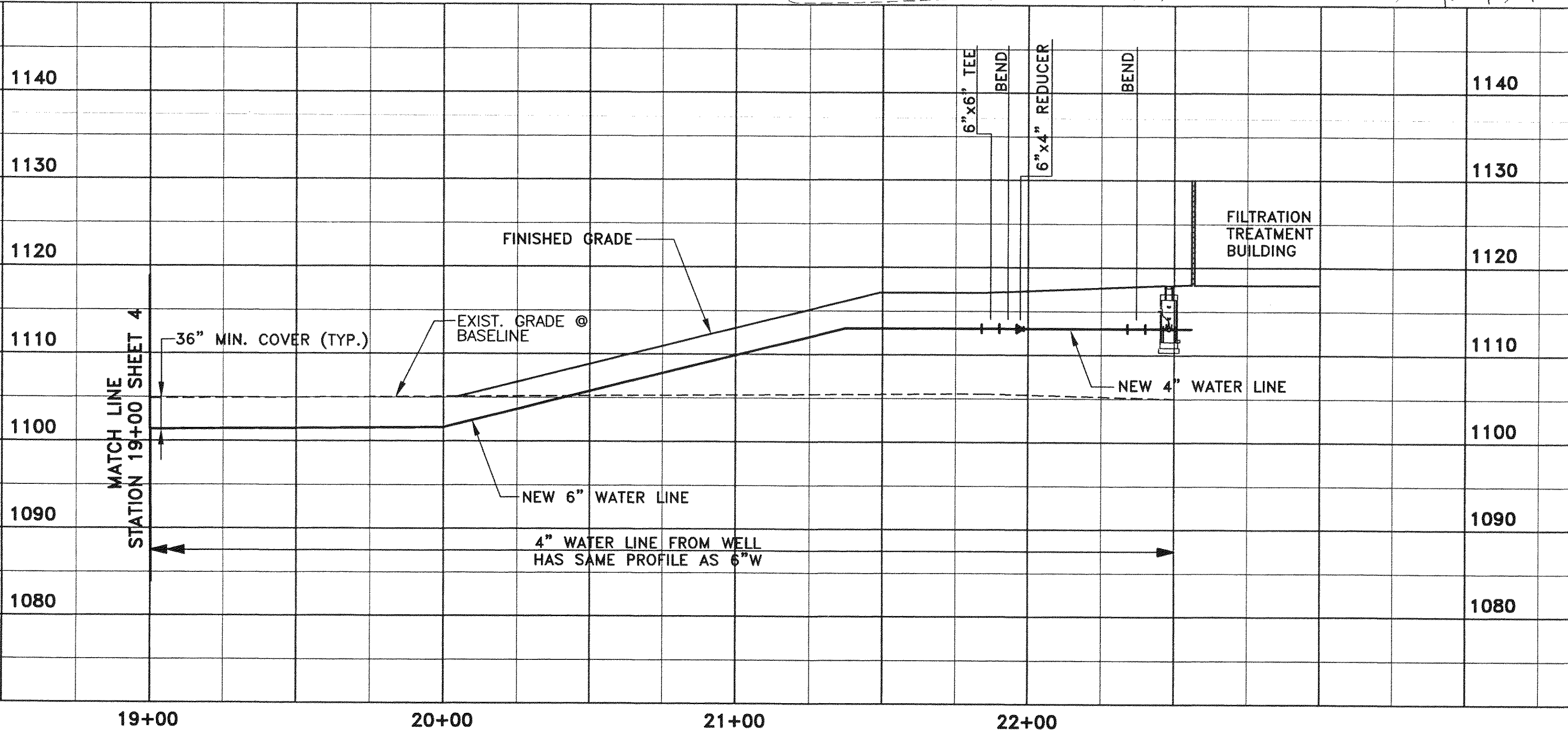
NOTES:
1. REFER TO SHEET 6 FOR ADDITIONAL LAYOUT
AND GRADING INFORMATION.



RONALD W. & LERA ALICE SMITH

COORDINATE LIST

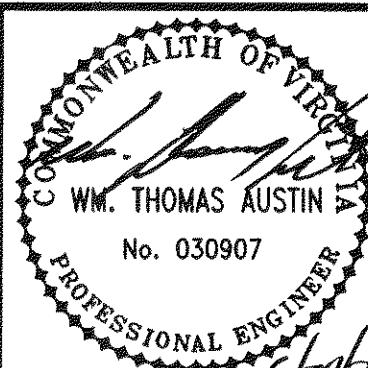
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#411	6540.76075	5979.45141	BLDG. COR.
#412	6530.52694	5962.26801	PT. @ BLDG. FACE
#502	6528.32274	5737.91328	SAN. MH.
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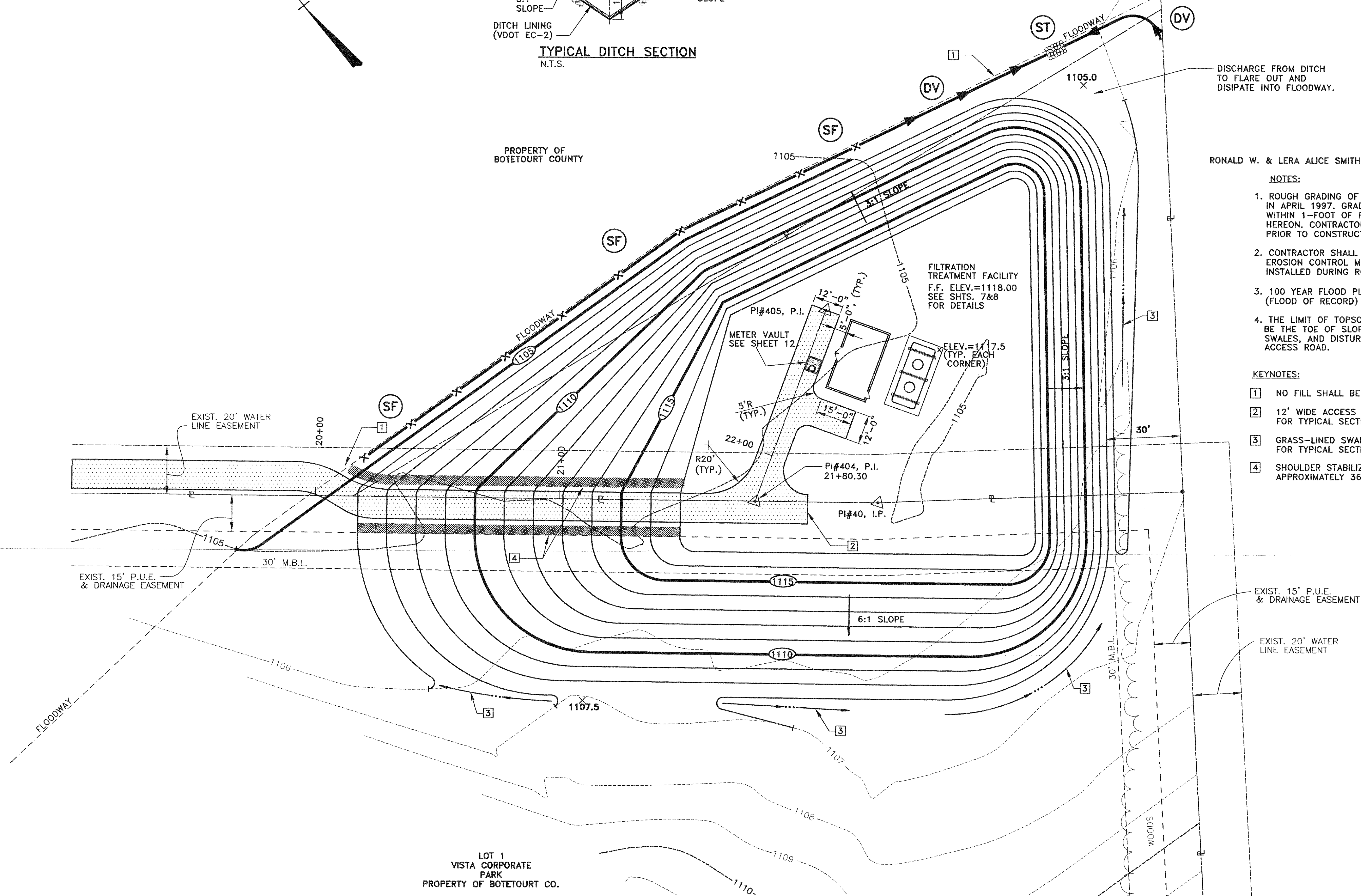
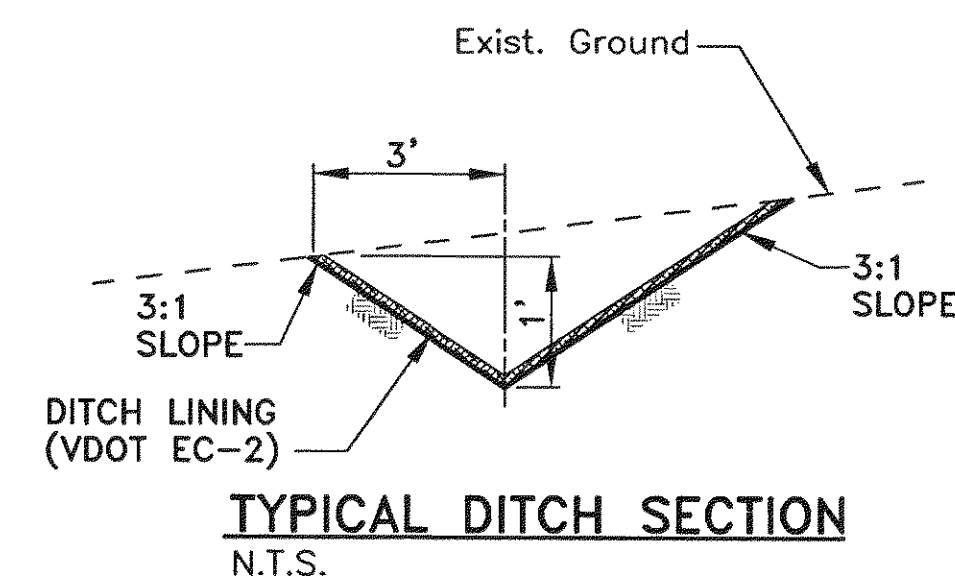
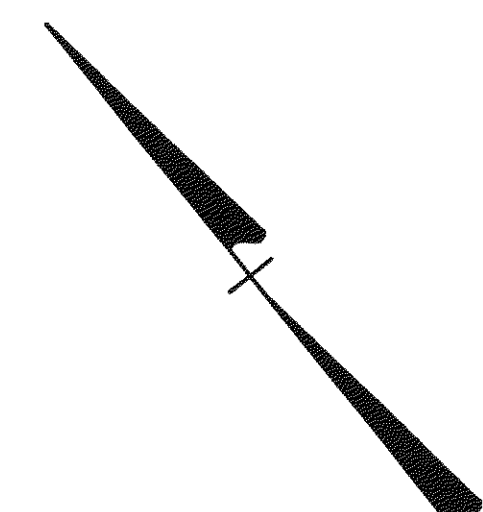
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REV	DATE	DESCRIPTION	BY	APP
1	6/24/97	REVISED PER ADDENDUM NO. 1	JMC	WTA
DSGN	WTA			
DRAWN	LDL,ARB			
CHKD	SWH			

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
PLAN AND PROFILE
BOTETOURT COUNTY, VIRGINIA



VERT: 1"= 10'
SCALE: HORZ: 1"= 30'
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 5



RONALD W. & LERA ALICE SMITH

NOTES:

1. ROUGH GRADING OF THE SITE WAS PERFORMED IN APRIL 1997. GRADES WERE BROUGHT TO WITHIN 1-FOOT OF FINISHED GRADES SHOWN HEREON. CONTRACTOR SHALL CONFIRM GRADES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL MAINTAIN ALL EXISTING EROSION CONTROL MEASURES WHICH WERE INSTALLED DURING ROUGH GRADING CONTRACT.
3. 100 YEAR FLOOD PLAIN ELEVATION = 1115.00 (FLOOD OF RECORD)
4. THE LIMIT OF TOPSOILING AND SEEDING SHALL BE THE TOE OF SLOPE OF THE FILL AND THE SWALES, AND DISTURBED AREAS ALONG THE ACCESS ROAD.

KEYNOTES:

- 1 NO FILL SHALL BE PLACED IN FLOODWAY.
- 2 12' WIDE ACCESS ROAD, REFER TO SHEET 11 FOR TYPICAL SECTION.
- 3 GRASS-LINED SWALE. REFER TO THIS SHEET FOR TYPICAL SECTION.
- 4 SHOULDER STABILIZATION WITH VDOT EC-2, APPROXIMATELY 360 S.Y.

EXIST. 15' P.U.E. & DRAINAGE EASEMENT

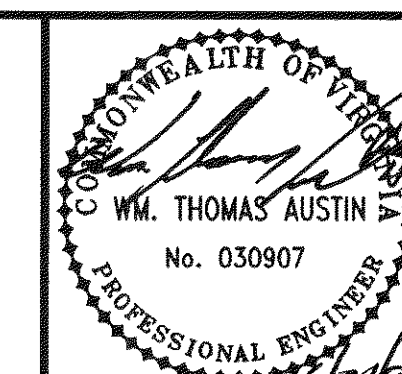
EXIST. 20' WATER LINE EASEMENT



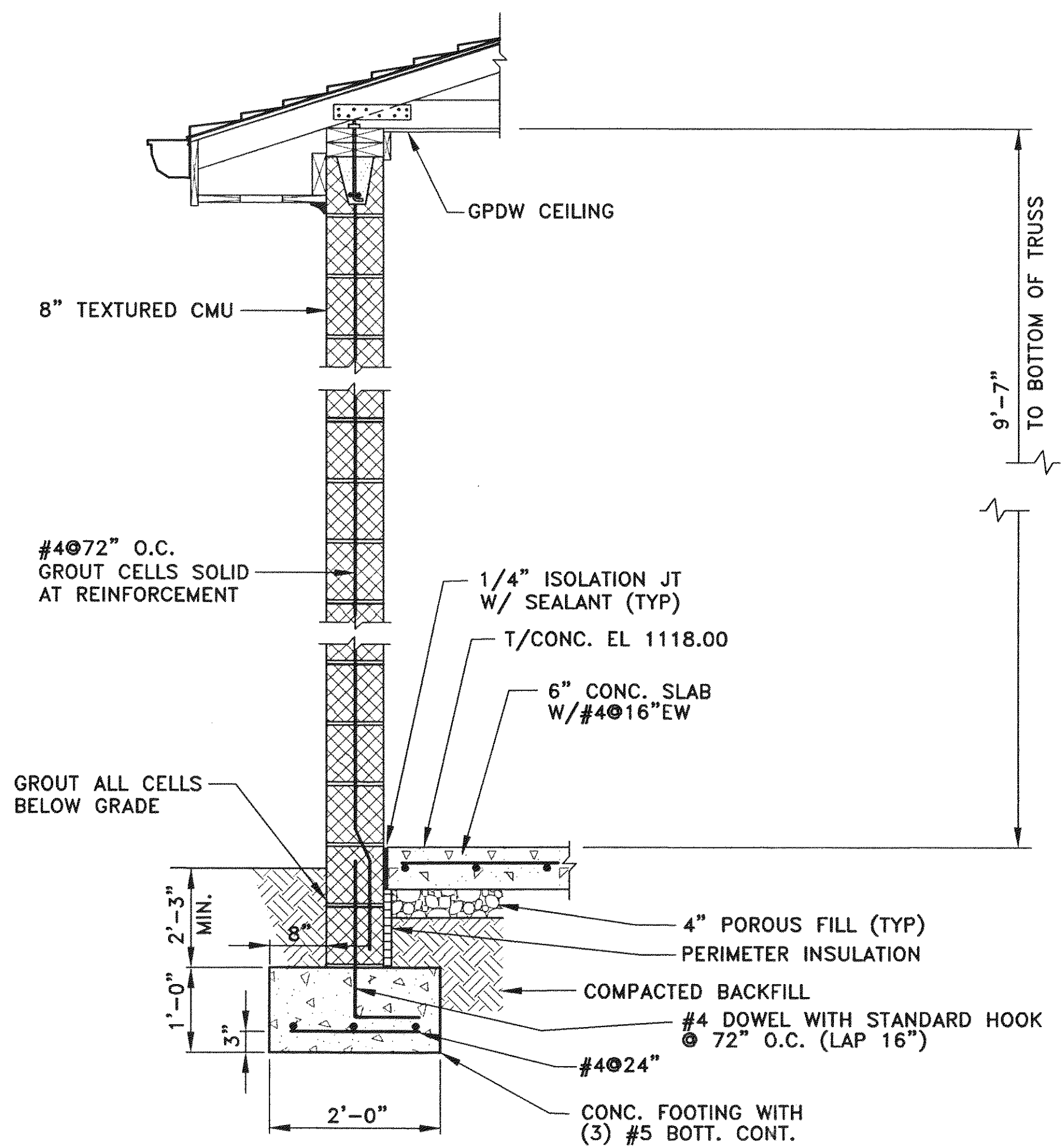
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ROANOKE, VIRGINIA 24016
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DSGN	WTA	REV	DATE	DESCRIPTION	BY	APP
		1	6/24/97	REVISED PER ADDENDUM NO. 1	LDL	WTA
DRAWN	LDL,ARB					
CHKD	SWH,WTA					

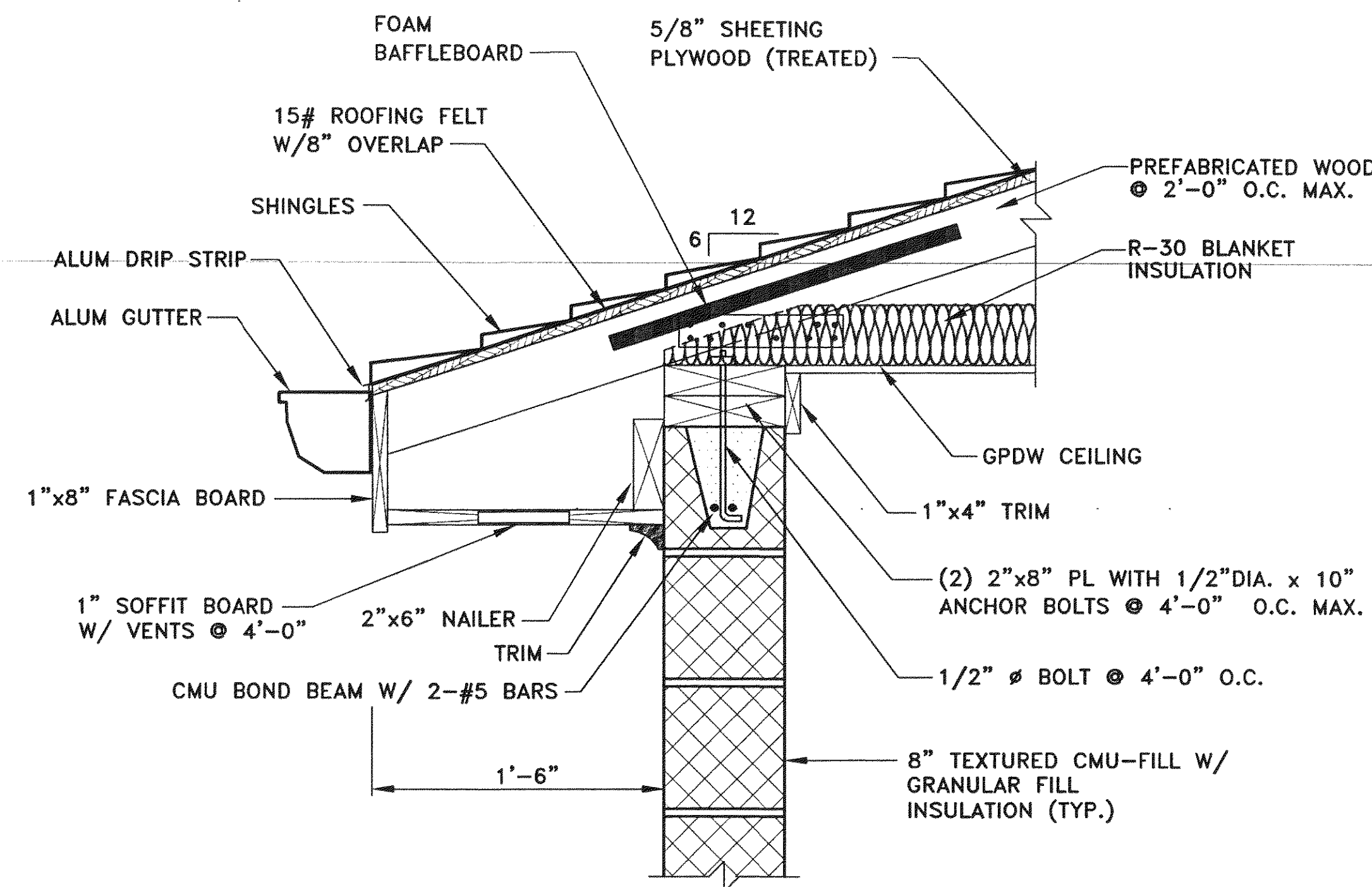
VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
GRADING & EROSION CONTROL PLAN
BOTETOURT COUNTY, VIRGINIA



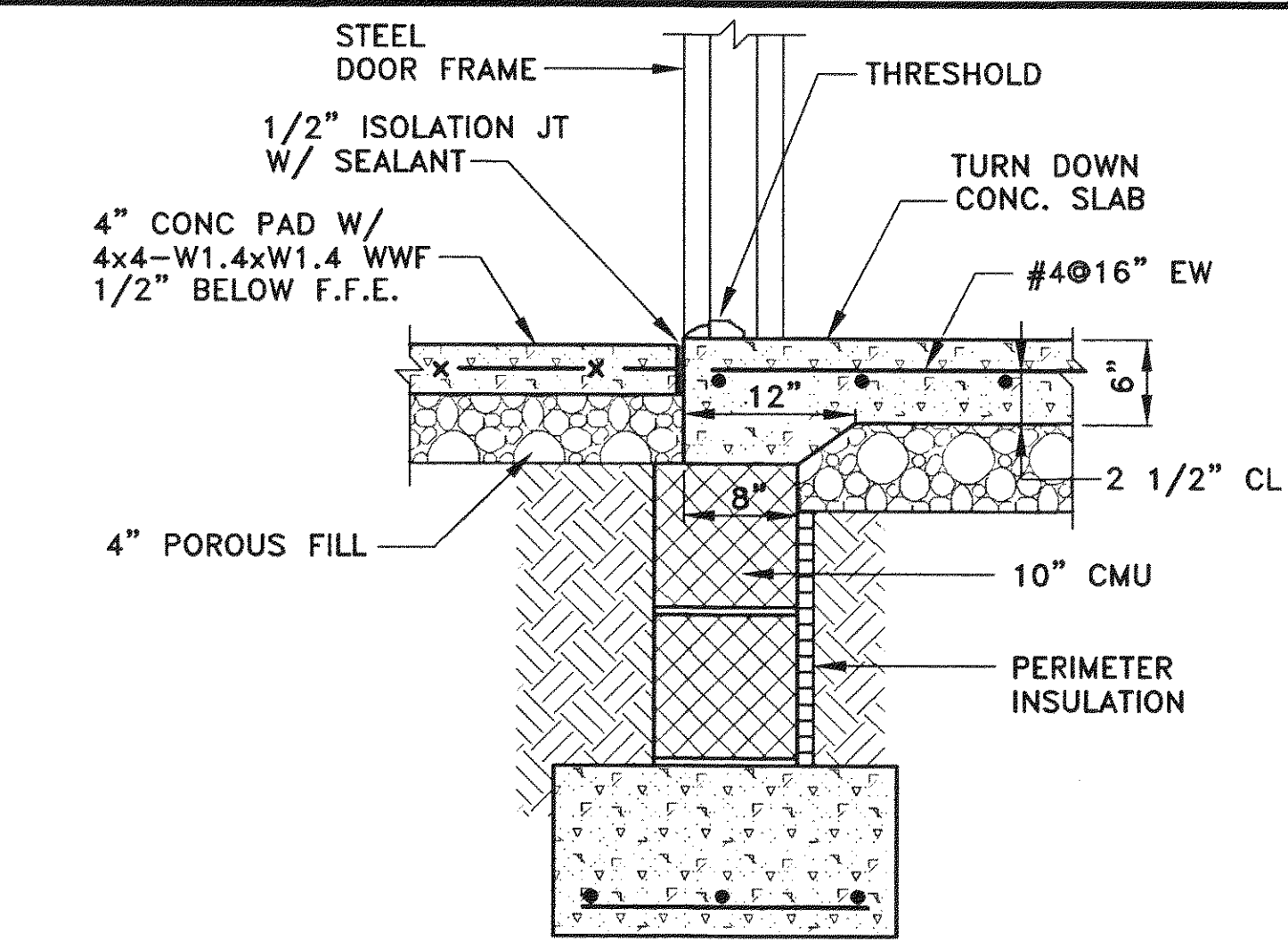
SCALE: 1"=20'
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 6



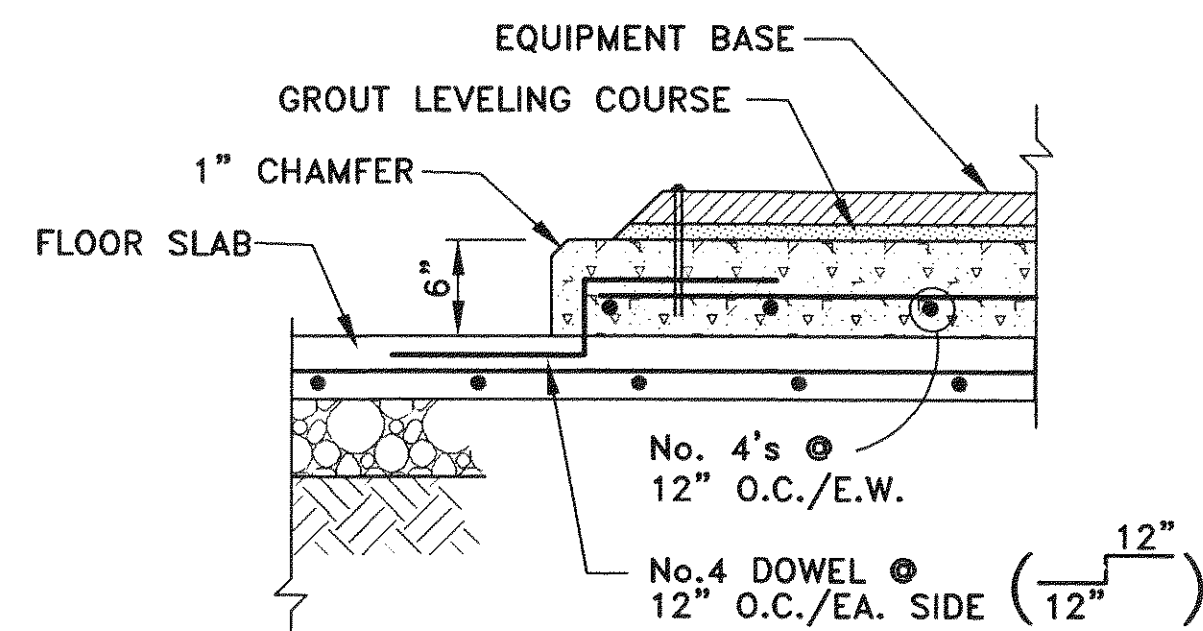
WALL SECTION
SCALE: 3/4"=1'-0"



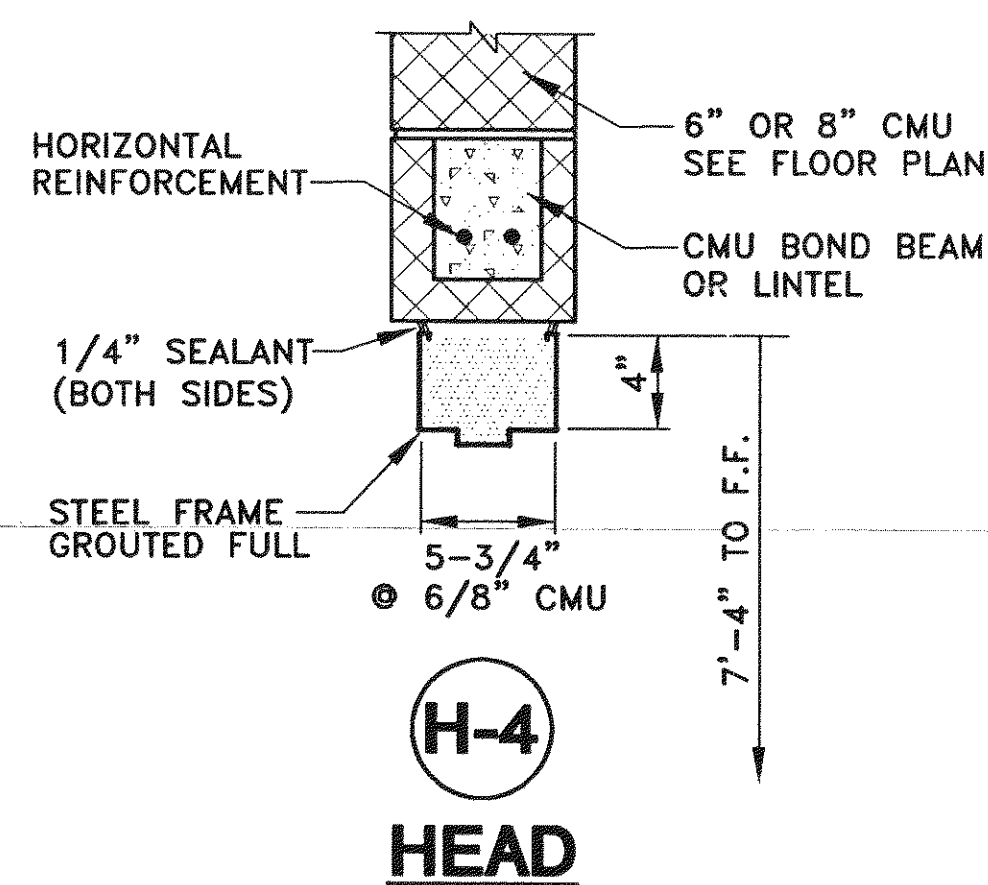
EAVE DETAIL
SCALE: 1-1/2"=1'-0"



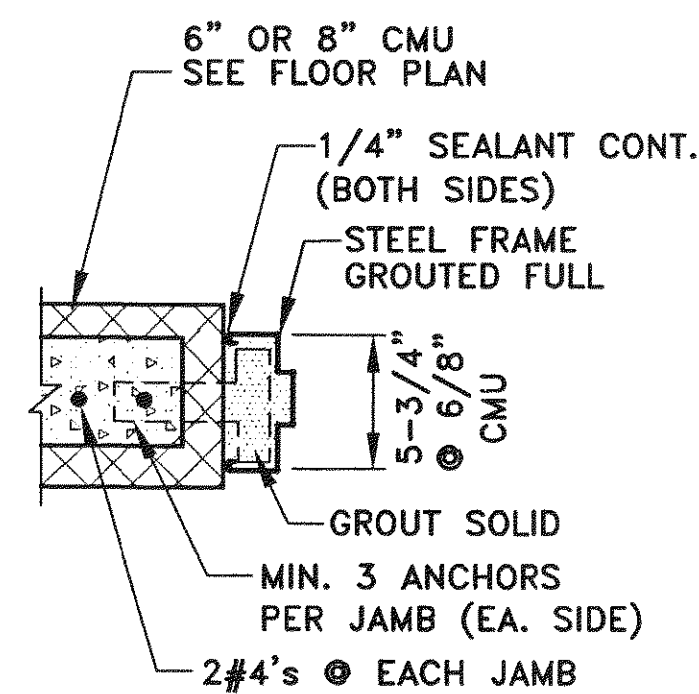
THRESHOLD SECTION
SCALE: 1"=1'-0"



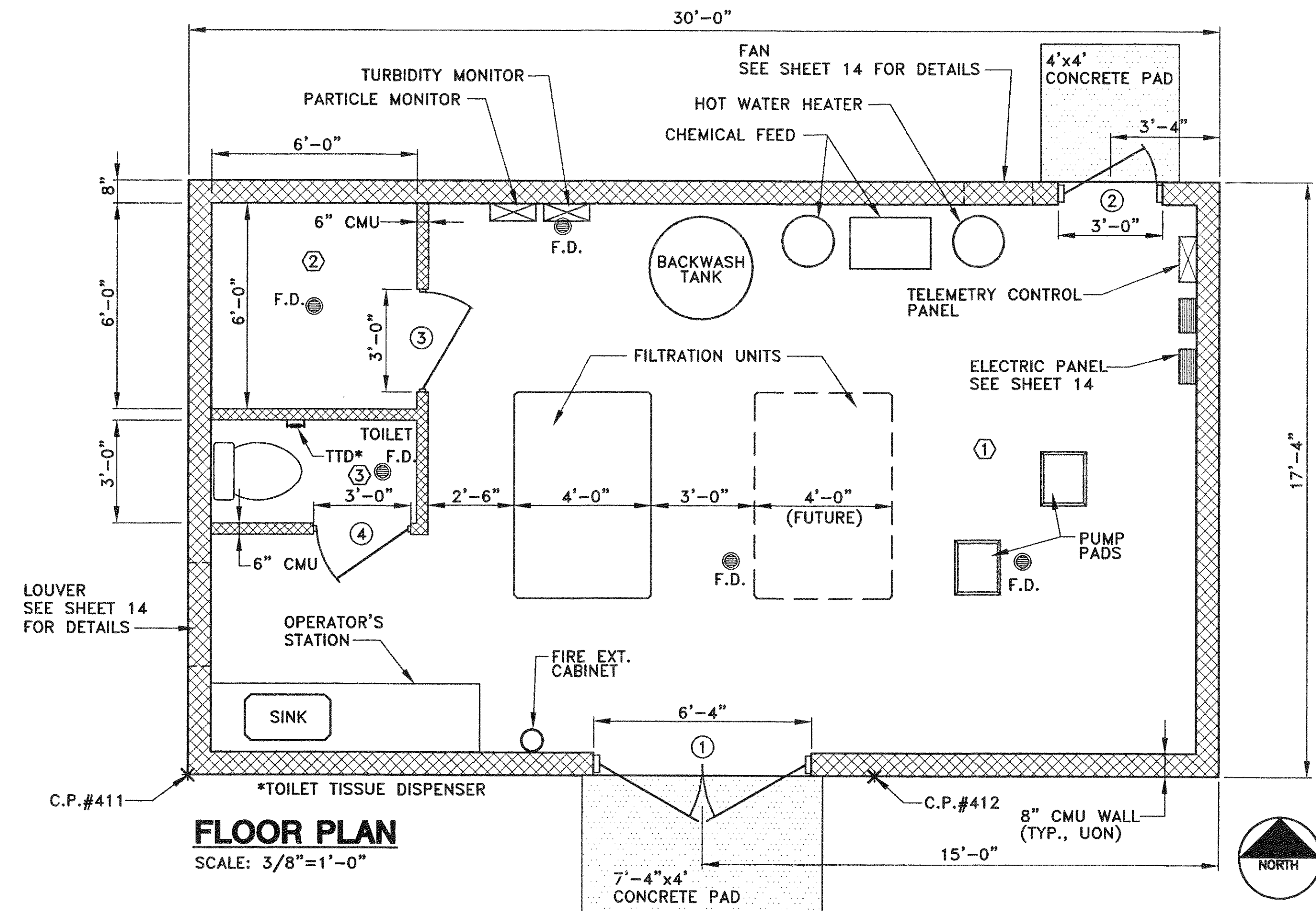
EQUIPMENT PAD (PUMPS)
SCALE: 1"=1'-0"



H-4 HEAD



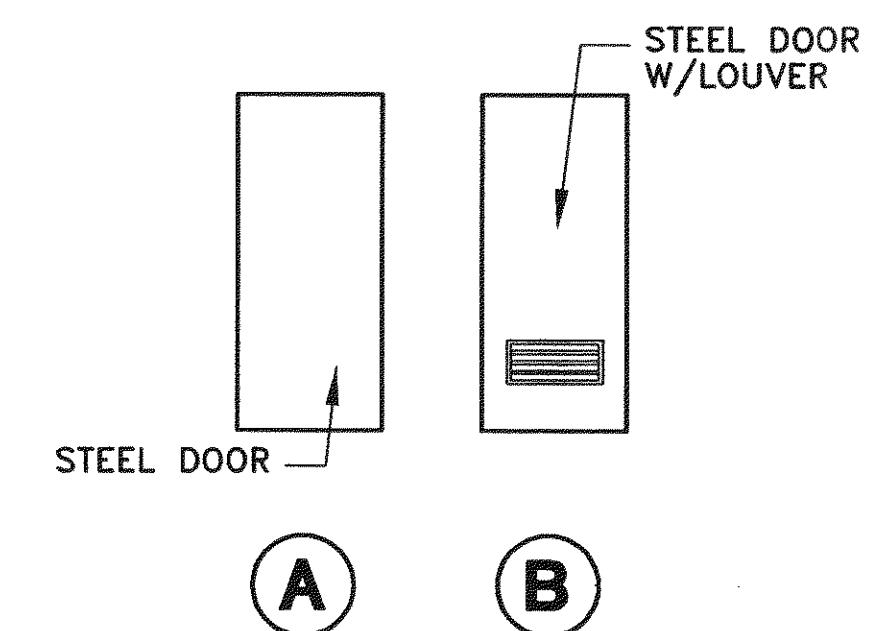
J-4 JAMB



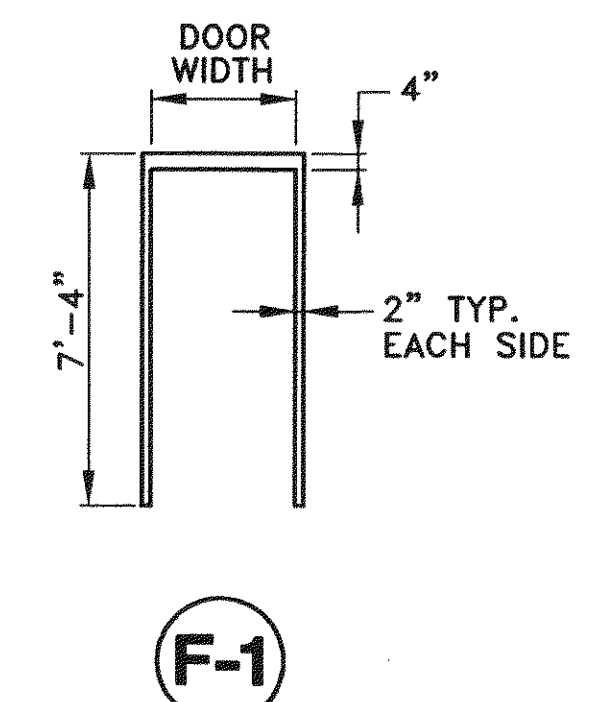
FLOOR PLAN
SCALE: 3/8"=1'-0"

FINISH SCHEDULE # ROOM DESIGNATION								
ROOM #	ROOM DESCRIPTION	FLOOR MATERIAL	BASE MATERIAL	WALL MATERIAL	WALL FINISH	CEILING MATERIAL/FINISH	CEILING HEIGHT	REMARKS
1	MAIN PUMP ROOM	SEALED CONC.	-	CMU	EPOXY	GPDW/PAINT	9'-7"	
2	MECHANICAL ROOM	SEALED CONC.	-	CMU	EPOXY	GPDW/PAINT	9'-7"	
3	TOILET	SEALED CONC.	-	CMU	EPOXY	GPDW/PAINT	9'-7"	

DOOR SCHEDULE # DOOR DESIGNATION											
No.	SIZE	DOOR					FRAME				
		MAT.	FINISH	DES.	HDW.	GLAZE	MATL.	FINISH	HEAD	JAMB	REMARKS
1	(2) 3'-0"x7'-6"x1 3/4"	STEEL	PAINT	A	1	-	STEEL	PAINT	H4	J4	F-1
2	3'-0"x7'-0"x1 3/4"	STEEL	PAINT	A	1	-	STEEL	PAINT	H4	J4	F-1
3	2'-8"x7'-0"x1 3/4"	STEEL	PAINT	B	1	-	STEEL	PAINT	H4	J4	F-1
4	2'-8"x7'-0"x1 3/4"	STEEL	PAINT	B	1	-	STEEL	PAINT	H4	J4	F-1



DOOR DESIGNATORS
SCALE: NTS



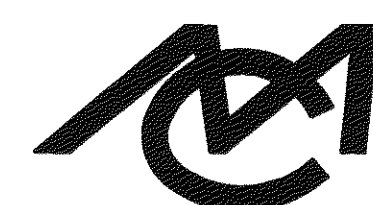
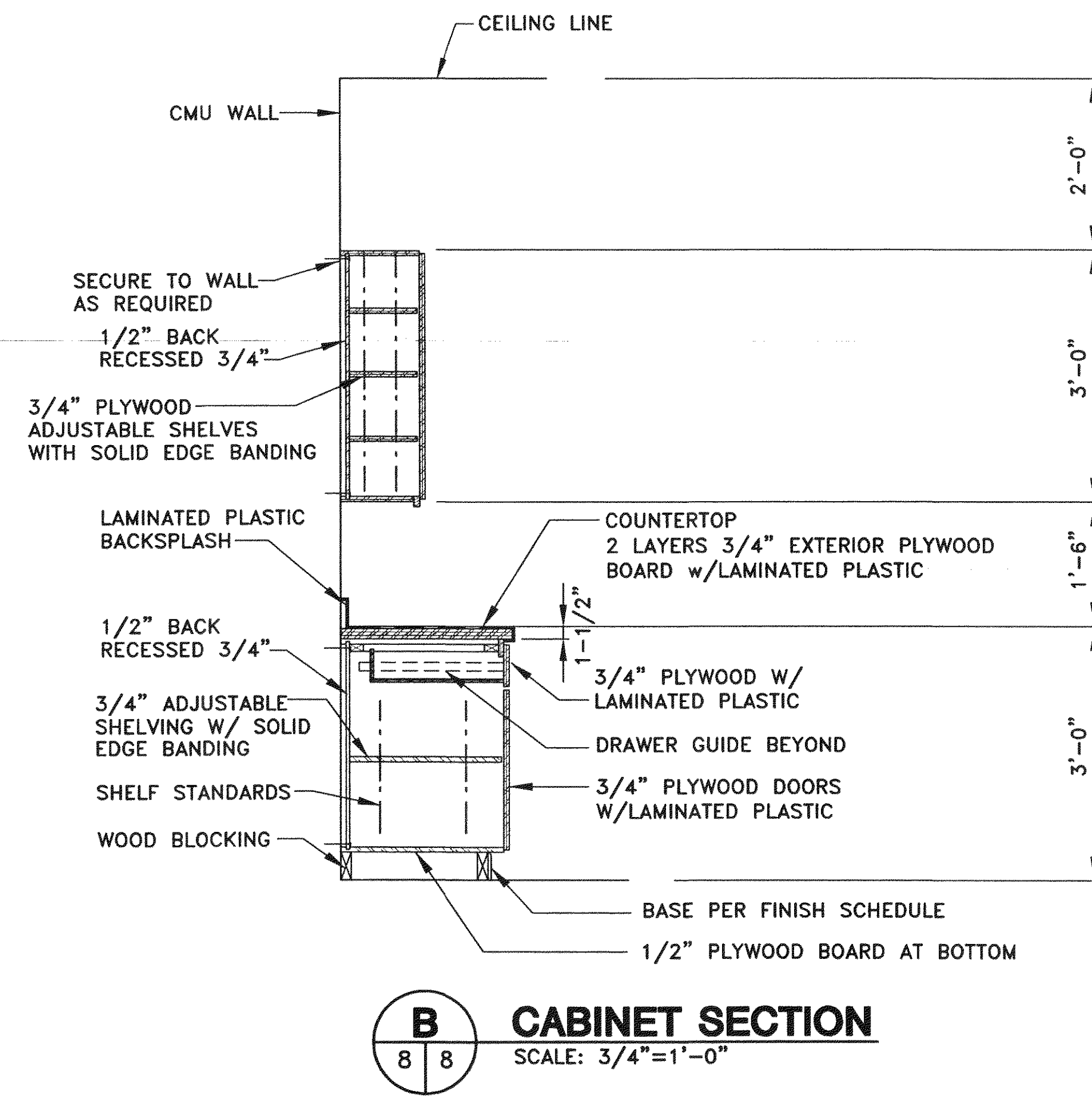
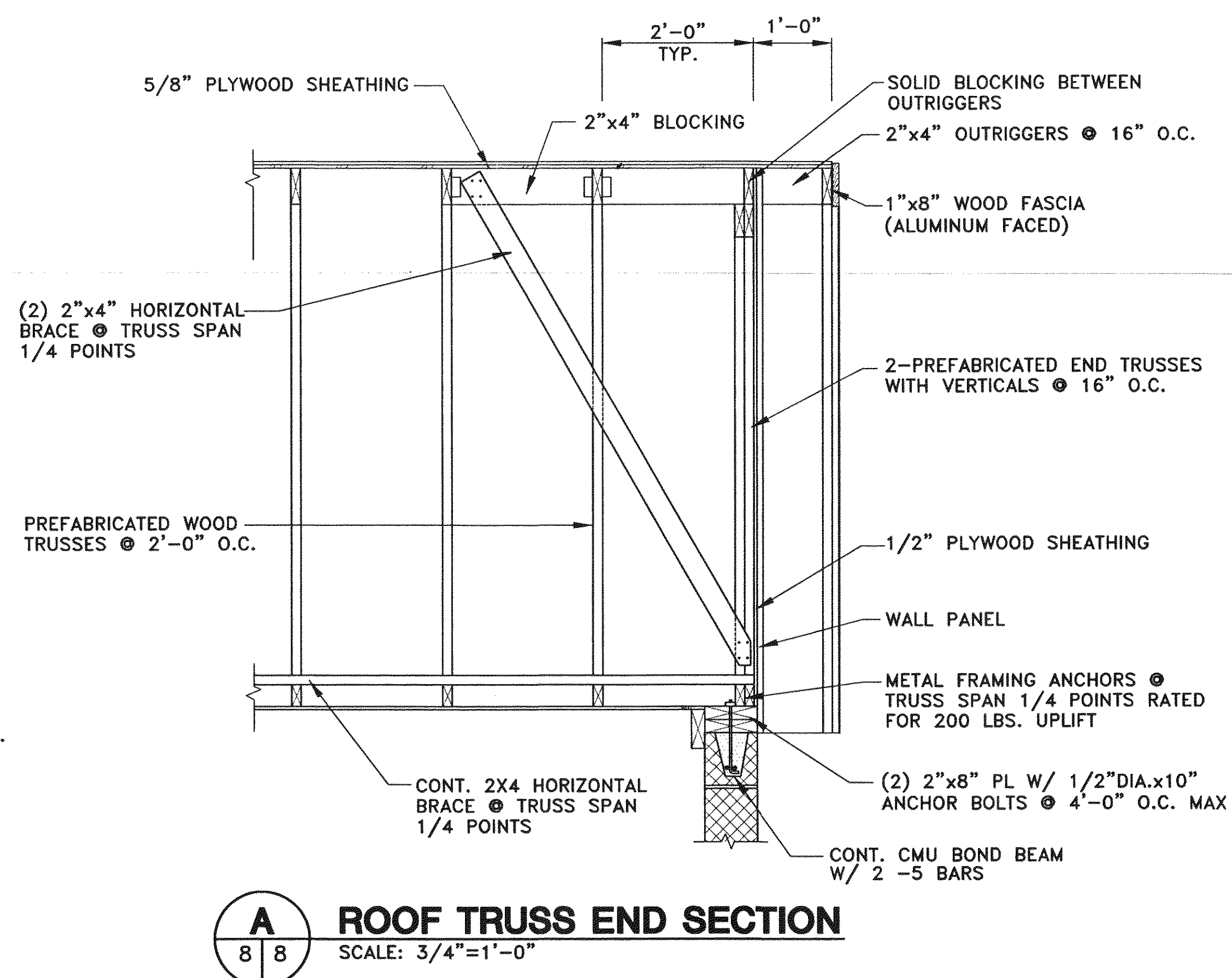
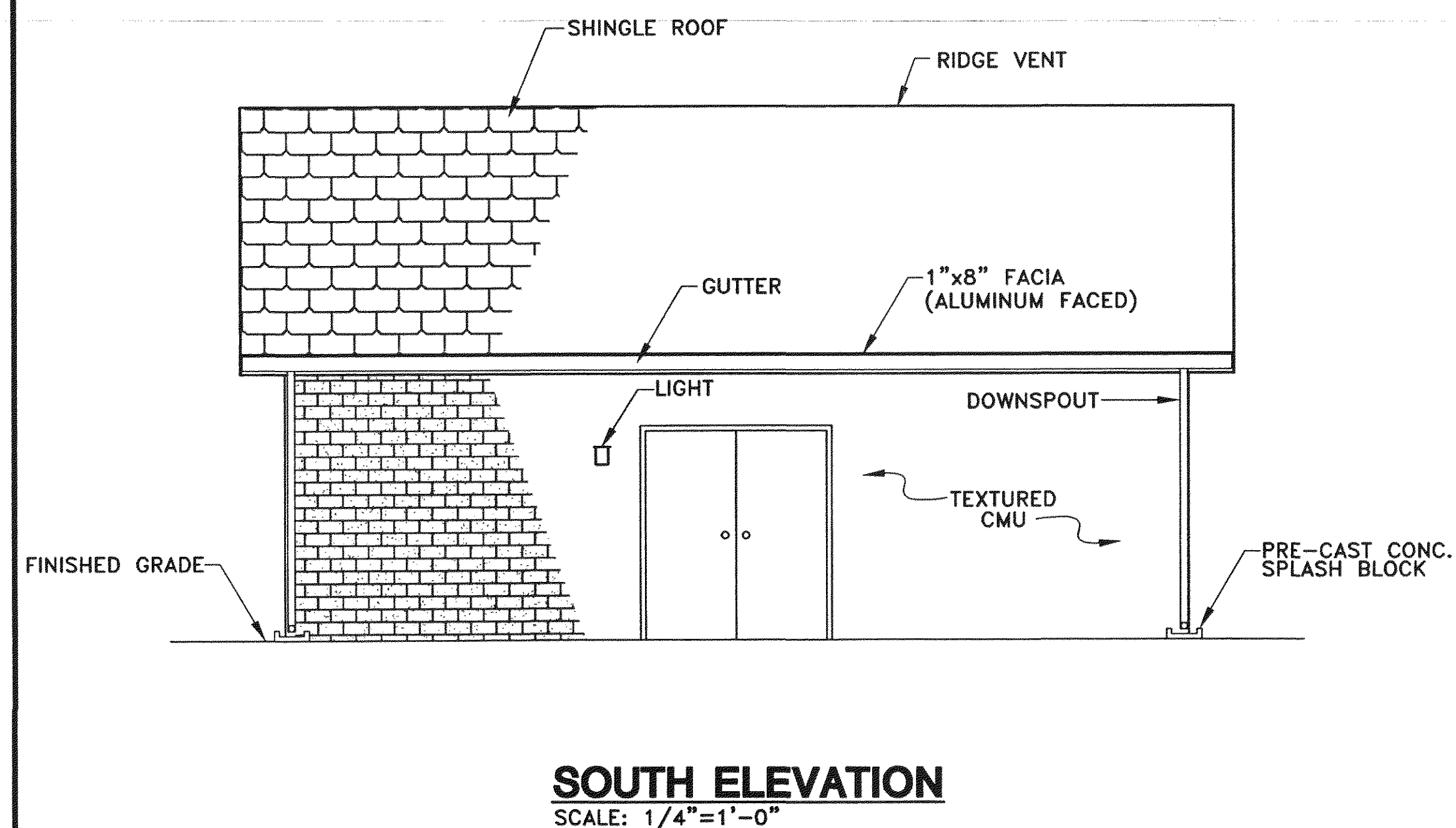
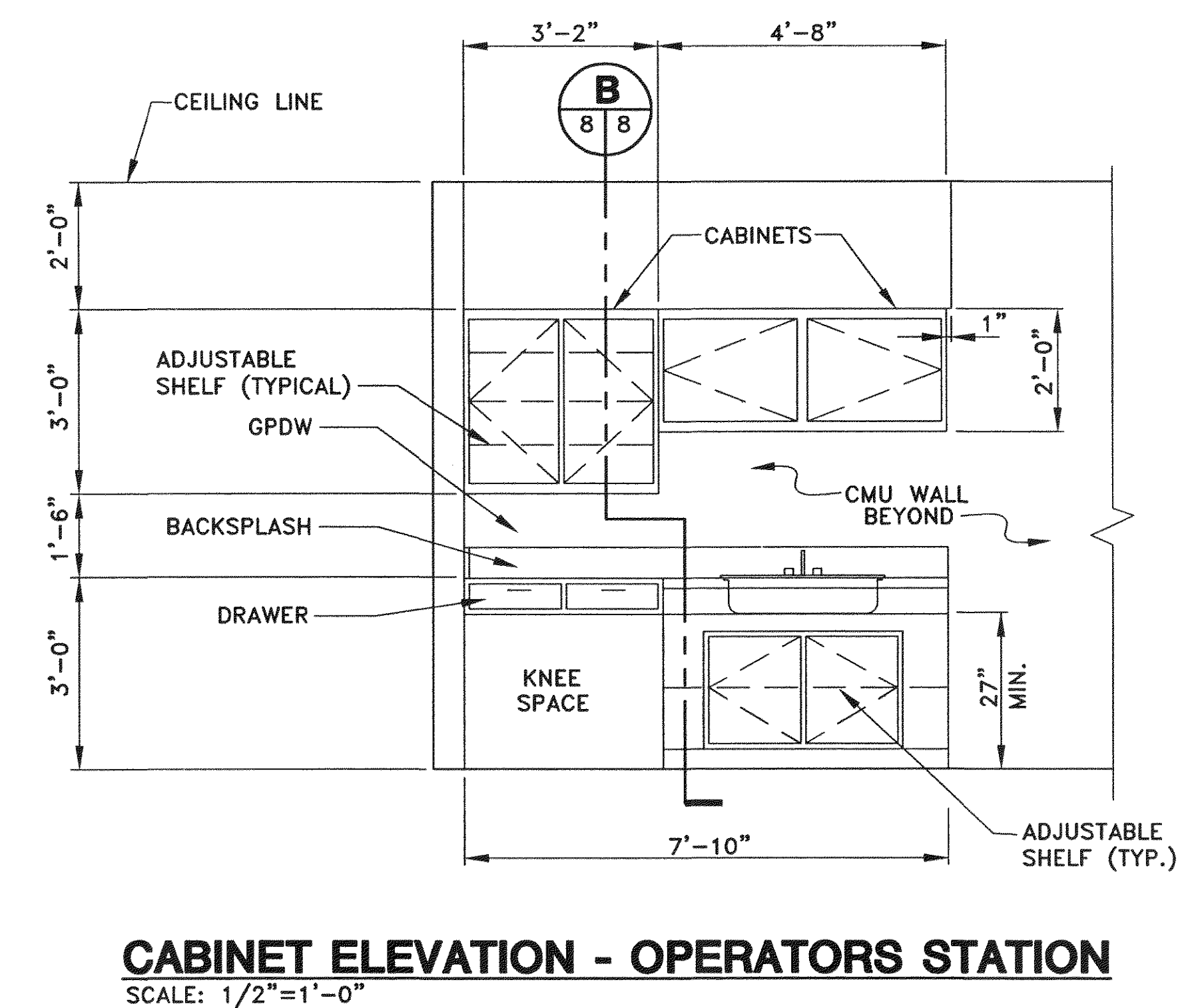
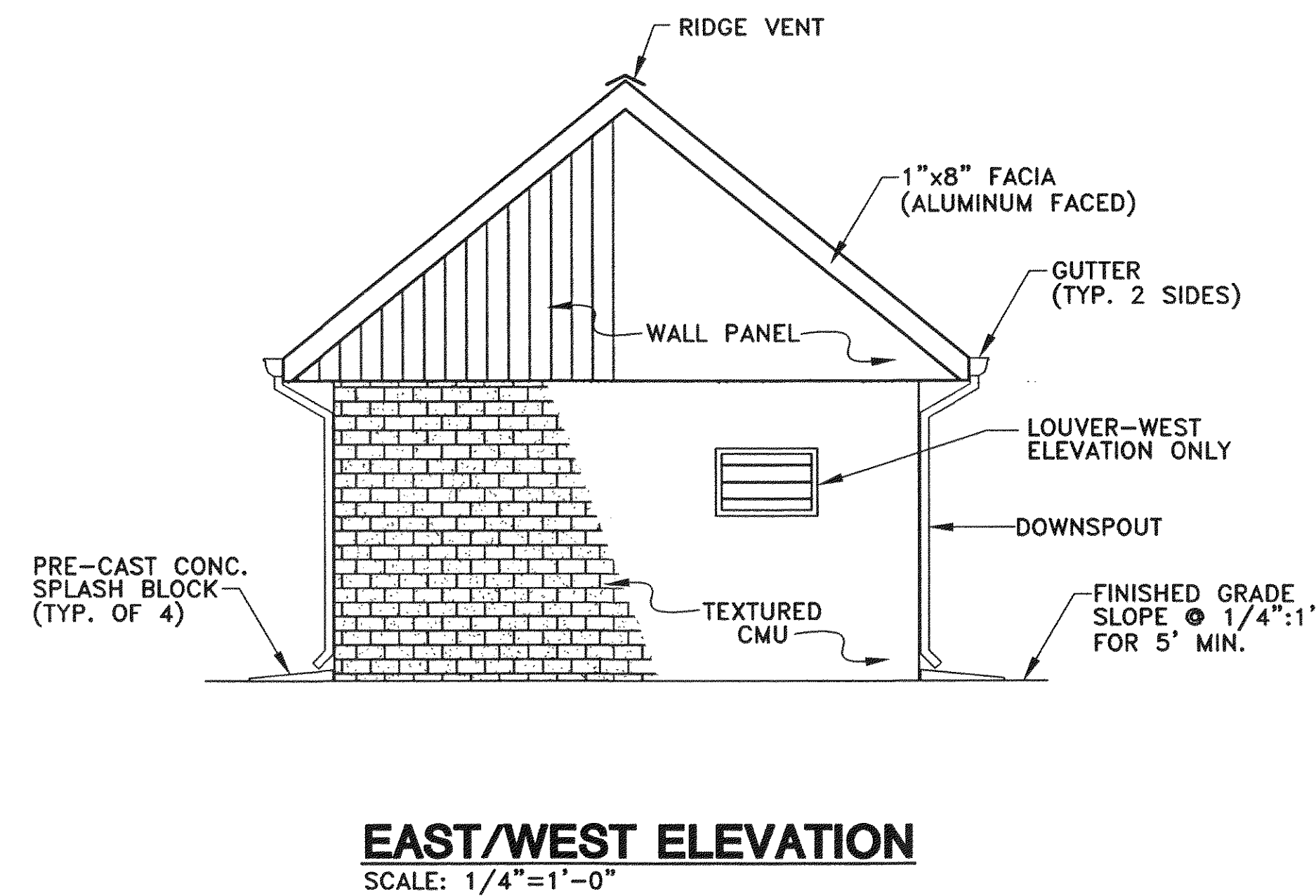
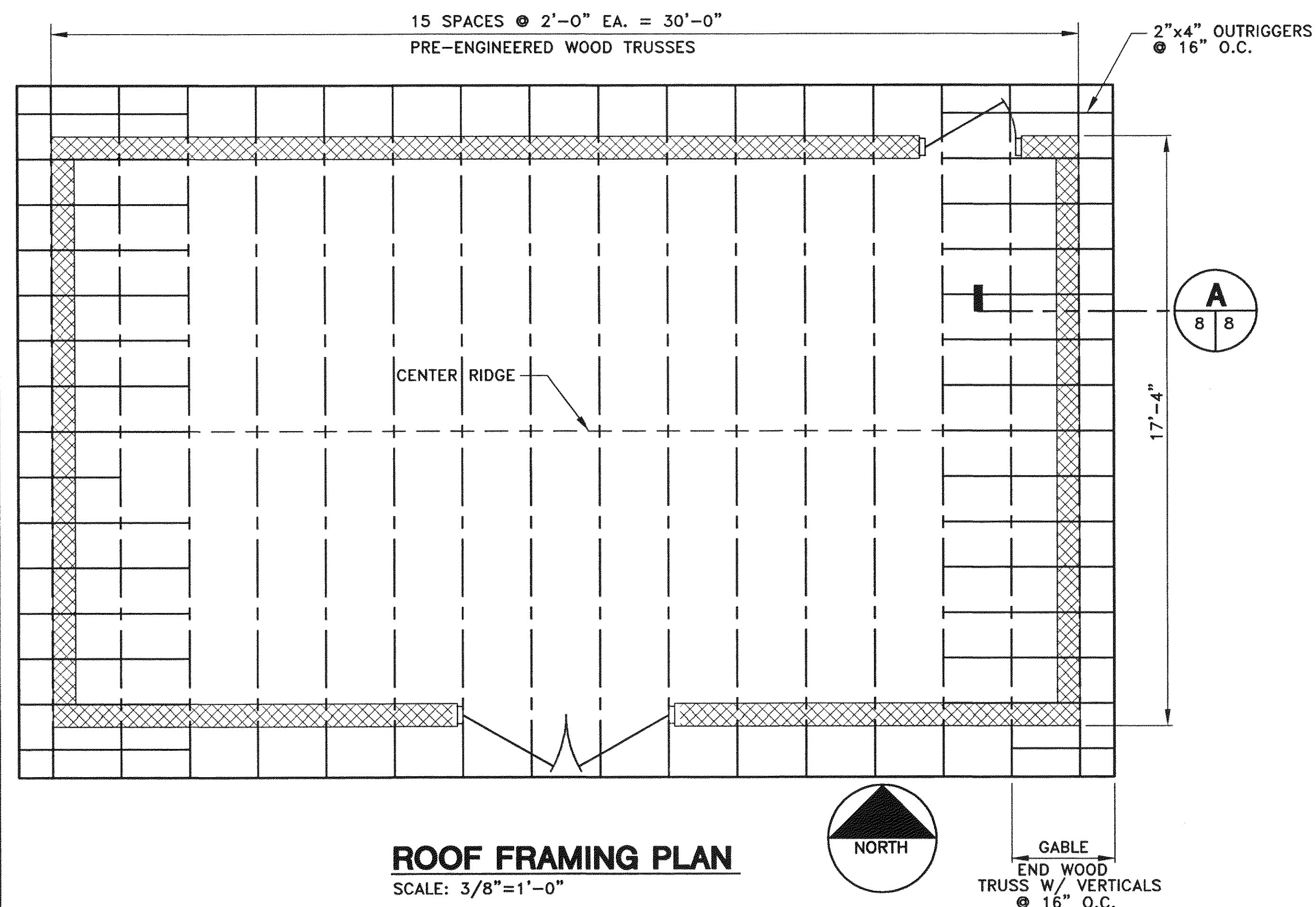
FRAME ELEVATION
SCALE: NTS

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DSGN	LDL, WTA	REV	DATE	DESCRIPTION	BY	APP
		1	6/24/97	REVISED PER ADDENDUM NO. 1	LDL	WTA
DRAWN	ARB, LDL					
CHKD	WTA, SWH					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
FLOOR PLAN AND SECTIONS
BOTETOURT COUNTY, VIRGINIA

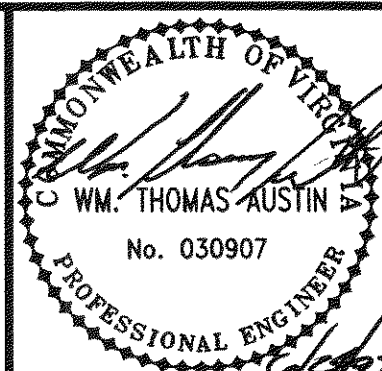
	SCALE: AS NOTED
	COMM. NO. 1297DW
	DATE: JUNE, 1997
	SHEET 7



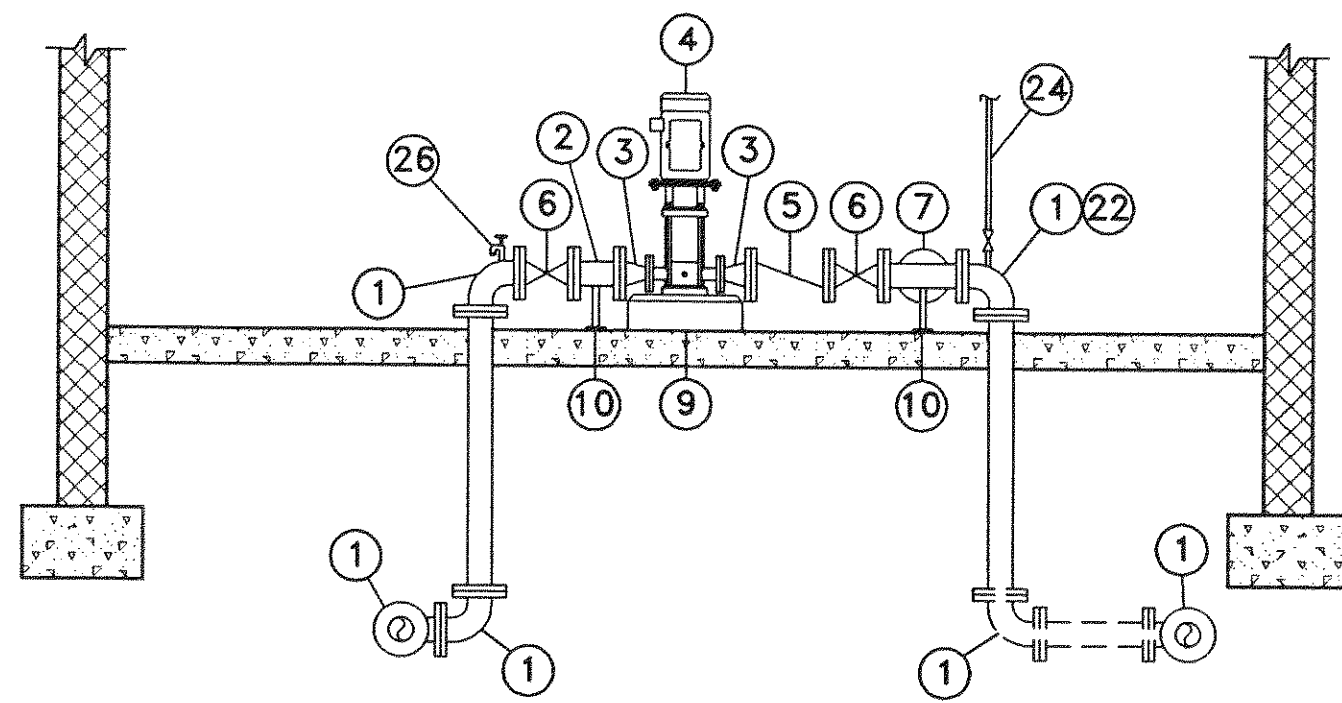
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		1	6/24/97	REVISED PER ADDENDUM NO. 1	LDL	WTA
DRAWN	ARB, LDL					
CHKD	WTA, SWH					

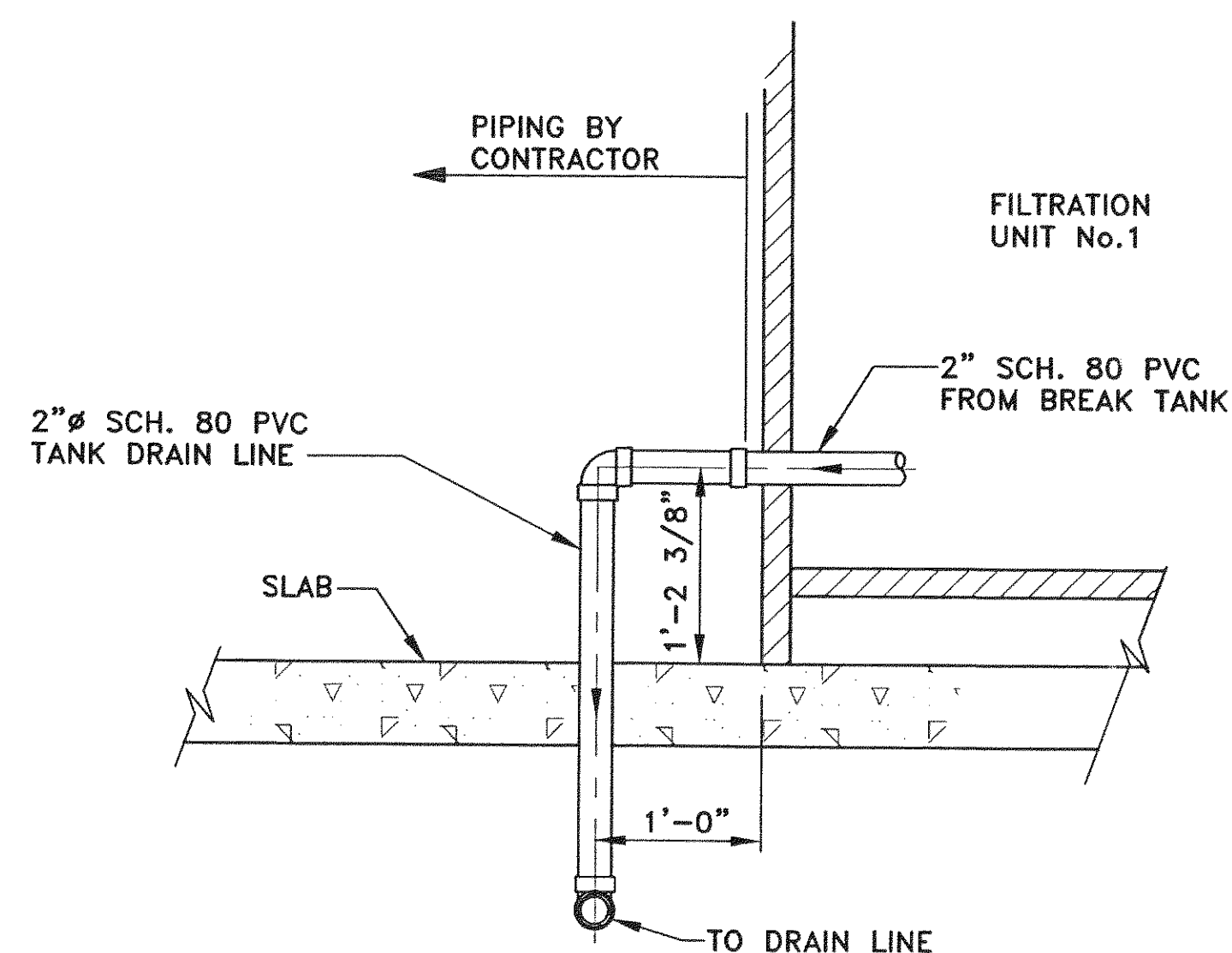
VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
SECTIONS, DETAILS AND ELEVATIONS
BOTETOURT COUNTY, VIRGINIA



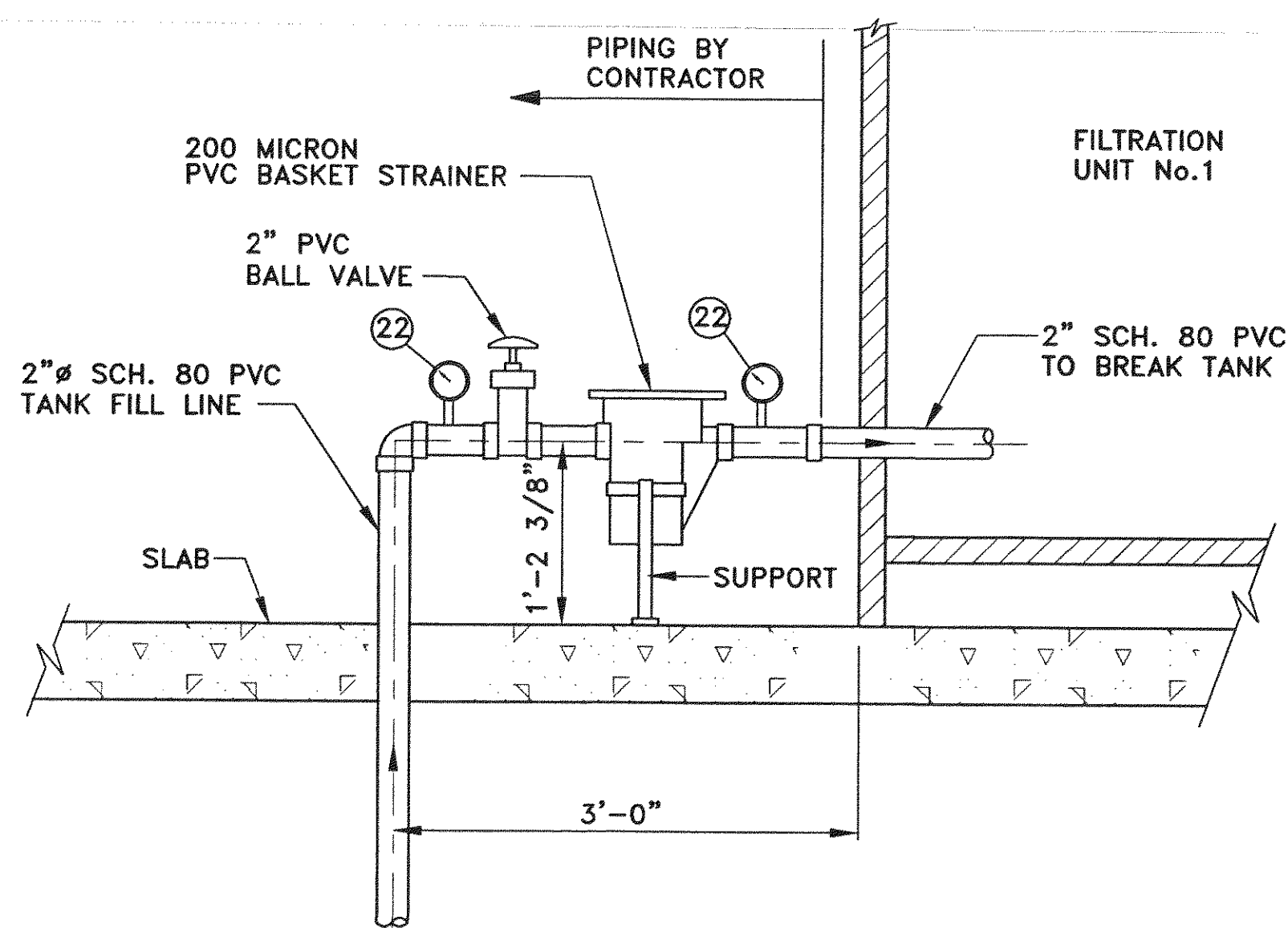
SCALE: AS NOTED
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 8



A SECTION
9 9 SCALE: 3/8"=1'-0"



C SECTION- PIPING OF TANK DRAIN
9 9 SCALE: 1"=1'-0"



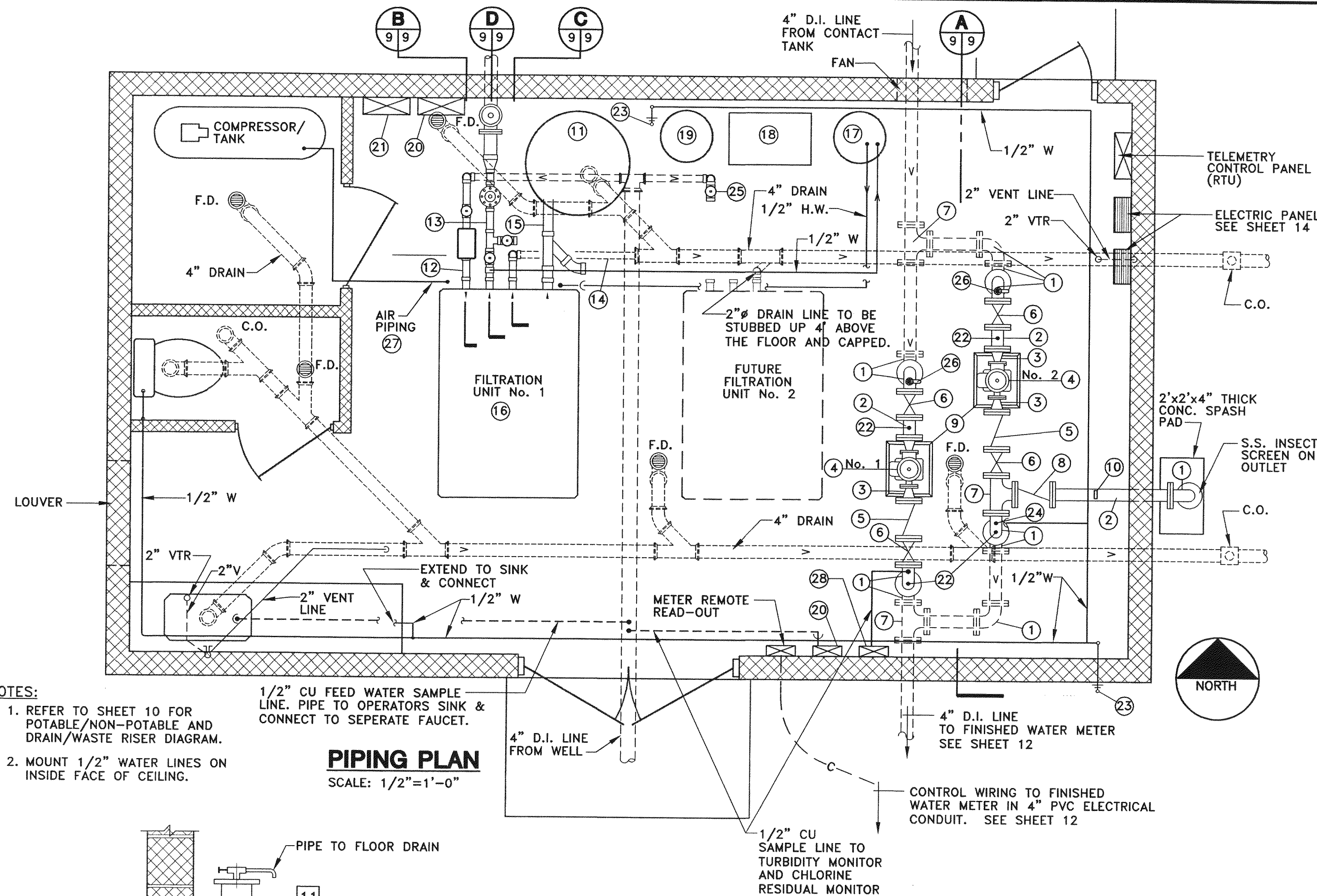
B SECTION- TANK FILL PIPING
9 9 SCALE: 1"=1'-0"

KEY NOTES (PIPING PLAN)

- ① 4"-90° BEND
- ② 4" SPOOL PIECE
- ③ 4"x2" REDUCER
- ④ PUMP, 7 1/2" HP
- ⑤ 4" CHECK VALVE (ELECTRIC)
- ⑥ 4" GATE VALVE
- ⑦ 4"x4" TEE
- ⑧ 4" AIR RELEASE VALVE (SURGE VALVE)
- ⑨ 6" CONCRETE PUMP PAD
- ⑩ PIPE SUPPORT
- ⑪ BACKWASH TANK (200 GALLON)
- ⑫ 2" TANK FILL LINE, TP3
- ⑬ 2" FILTRATE LINE, TP2
- ⑭ 2" TANK DRAIN LINE, TP5
- ⑮ 3" BACKWASH LINE, W/B RANCH TO FUTURE UNIT CAPPED, TP4
- ⑯ MICRO FILTRATION UNIT
- ⑰ 30 GALLON WATER HEATER
- ⑱ 30 GALLON CHLORINE SOLUTION TANK
- ⑲ TURBIDITY MONITORING ASSEMBLY (2)
- ⑲ PARTICLE MONITORING ASSEMBLY
- ⑲ 2" PRESSURE GAUGE
- ⑲ NON-FREEZE HOSE BIB W/ VACUUM BREAKER
- ⑲ 1/2" TAP, BALL VALVE, SPIGOT, & 1/2" LINE TO POTABLE WATER
- ⑲ 2" TANK FILL LINE FOR FUTURE UNIT, PROVIDE VALVE AND THREADED CAP.
- ⑲ SAMPLE TAP, 1/2" THREADED CONNECTION, HOSE BIB W/ VACUUM BREAKER
- ⑲ 1" AIR PIPING FROM COMPRESSOR TO CONNECTION ON FILTRATION UNIT. ATTACH TO CEILING.
- ⑲ CHLORINE RESIDUAL MONITOR

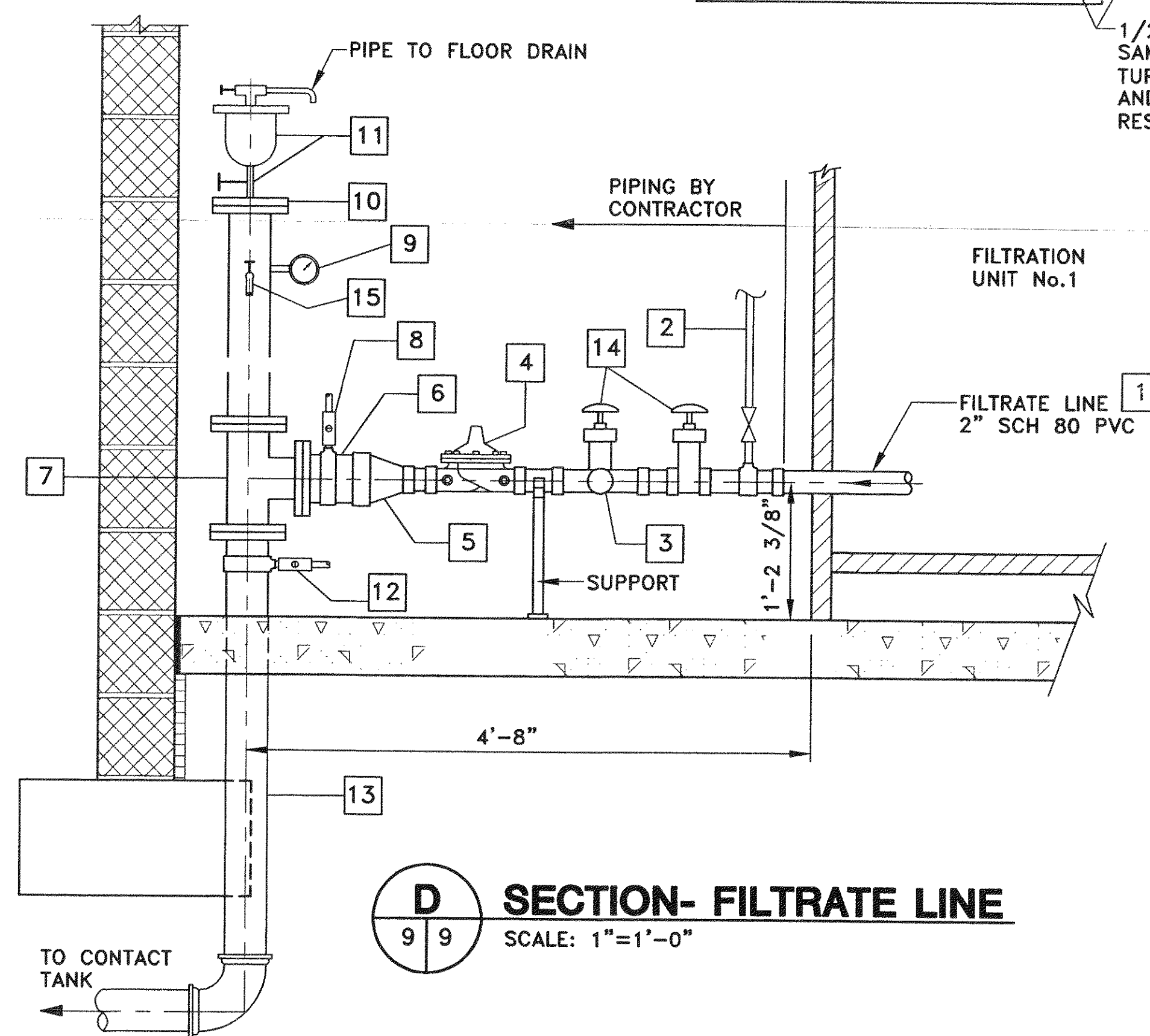
KEY NOTES

- ① 2" SCH. 80 PVC FROM FILTRATE UNIT No.1
- ② 1/2" CORPORATION STOP WITH BRASS SADDLE 1/2" WATER LINE TO HOT WATER HEATER
- ③ 2"x2" SCH. 80 PVC TEE TO FUTURE FILTRATION UNIT No.2 PROVIDE 2" PVC BALL VALVE & CAP ON LINE
- ④ 2" PVC BALL CHECK VALVE
- ⑤ 4"x2" SCH. 80 PVC REDUCER
- ⑥ 4" PVC FLANGED ADAPTER & SPOOL PIECE
- ⑦ 4"x4" DUCTILE IRON TEE
- ⑧ 1/2" CORPORATION STOP WITH BRASS SADDLE 1/2" PLASTIC TUBING TO TURBIDITY AND PARTICLE MONITORS
- ⑨ 2" PRESSURE GAUGE
- ⑩ 4" BLIND FLANGE WITH 1/2" TREADED TAP
- ⑪ 1/2" AIR RELEASE VALVE & 1/2" BRASS BALL VALVE
- ⑫ 1/2" CORPORATION STOP WITH BRASS SADDLE 1/2" PLASTIC TUBING TO CHLORINE FEED SYSTEM
- ⑬ 4" DUCTILE IRON HEADER PIPE TO CONTACT TANK
- ⑭ 2" PVC BALL VALVE
- ⑮ SAMPLE TAP, 1/2" THREADED CONNECTION, HOSE BIB W/ VACUUM BREAKER



- NOTES:**
1. REFER TO SHEET 10 FOR POTABLE/NON-POTABLE AND DRAIN/WASTE RISER DIAGRAM.
 2. MOUNT 1/2" WATER LINES ON INSIDE FACE OF CEILING.

PIPING PLAN
SCALE: 1/2"=1'-0"

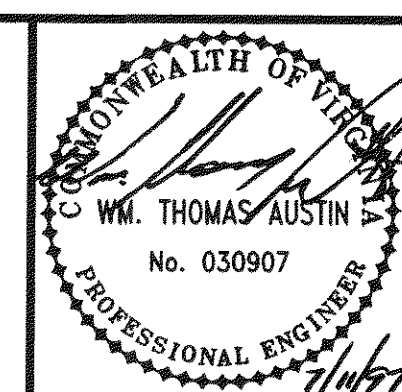


D SECTION- FILTRATE LINE
9 9 SCALE: 1"=1'-0"

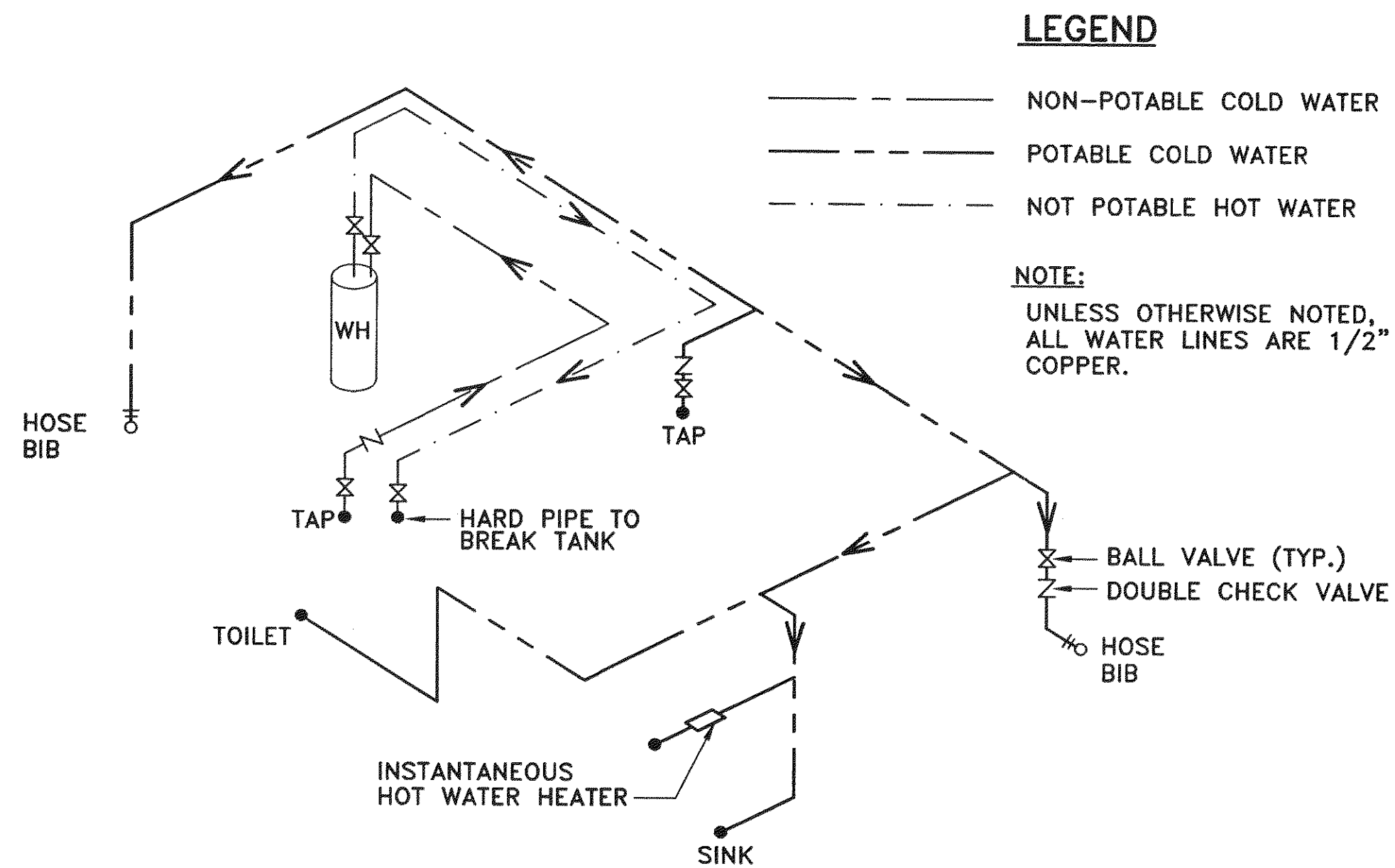
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DSGN	LDL, WTA	REV	DATE	DESCRIPTION	BY	APP
		1	6/24/97	REVISED PER ADDENDUM NO. 1	JMC	WTA
		2	7/11/97	REVISED PER ADDENDUM NO. 4	JMC	WTA
DRAWN	ARB, LDL					
CHKD	WTA, SWH					

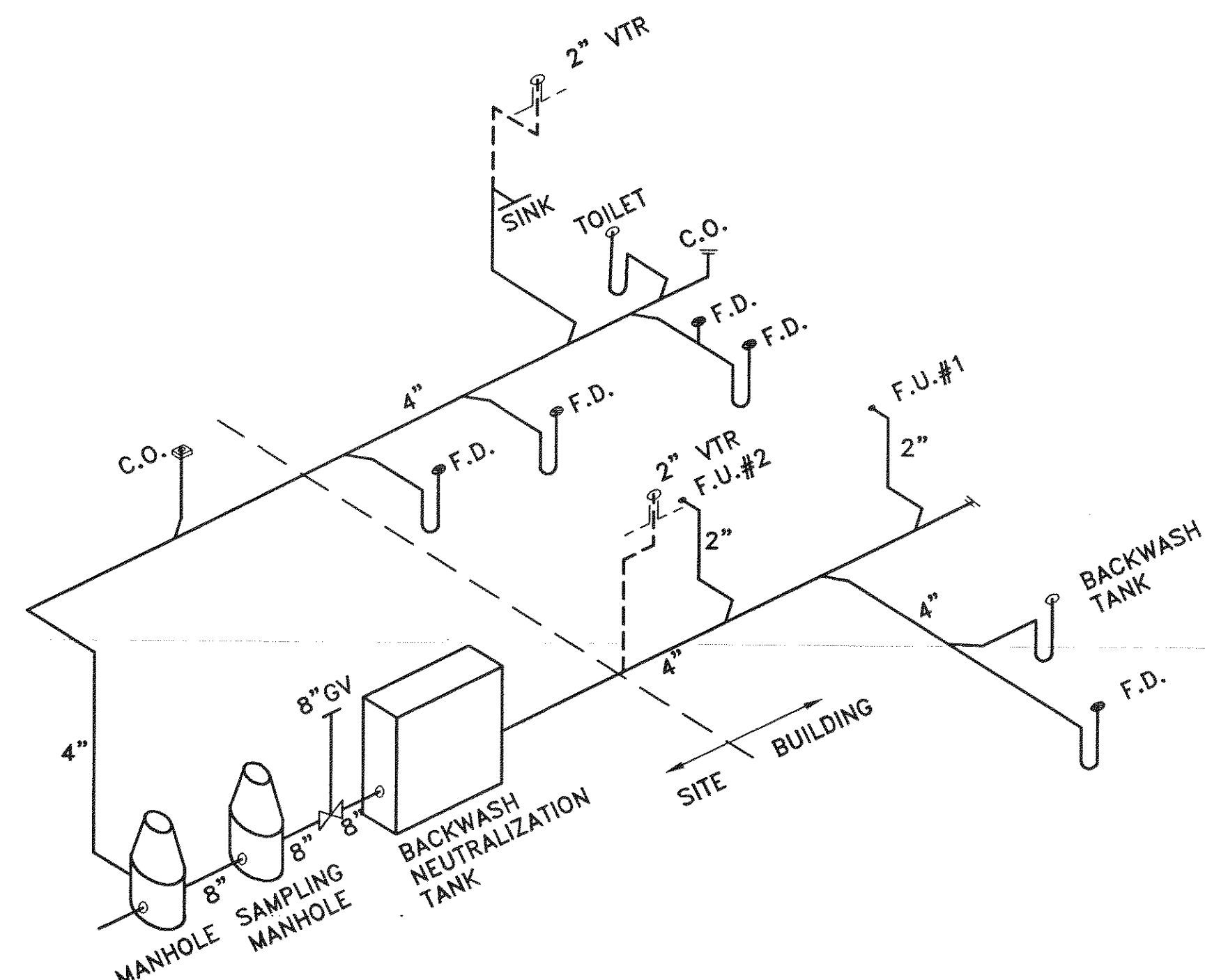
VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
PIPING PLAN
BOTETOURT COUNTY, VIRGINIA



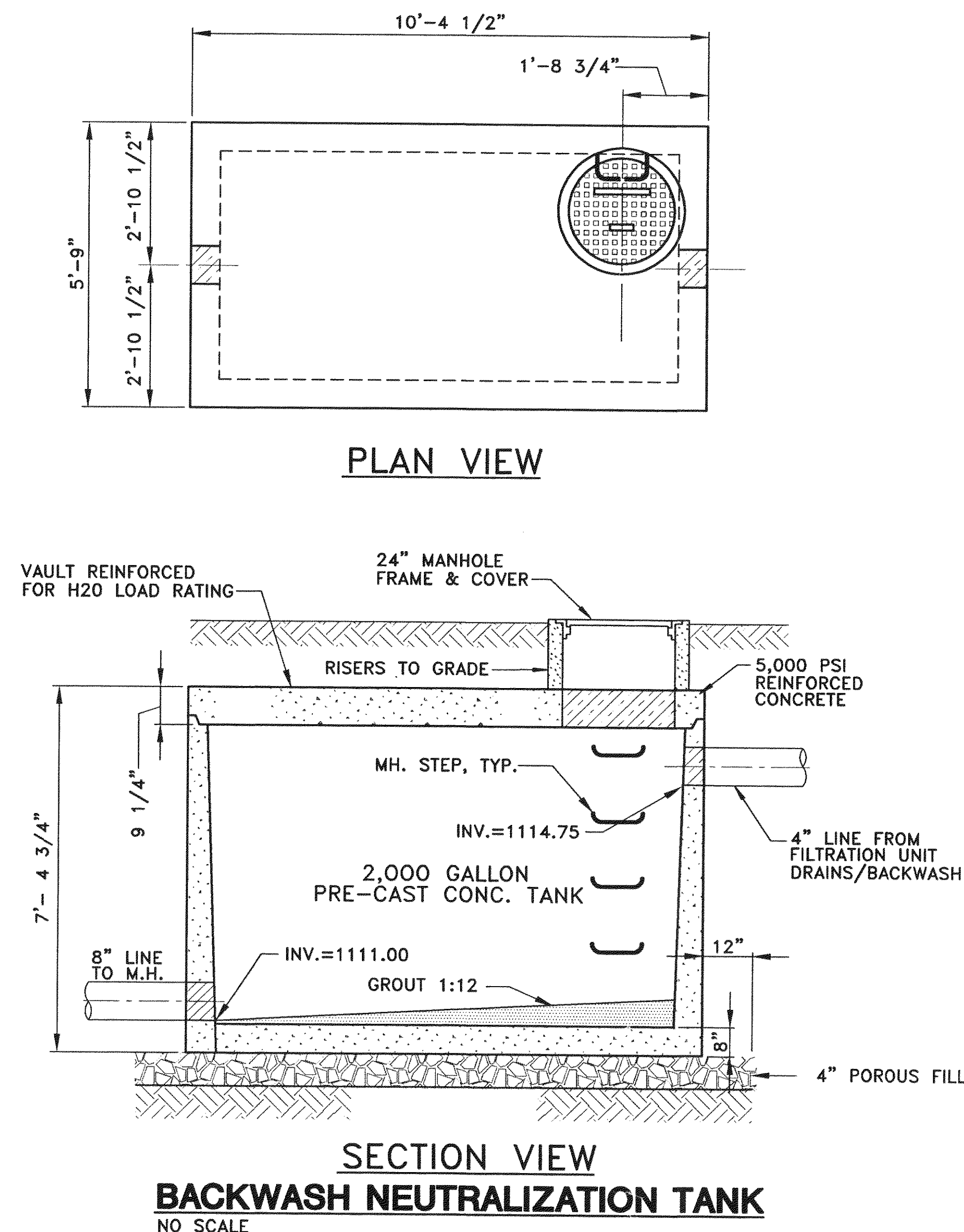
SCALE: AS NOTED
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 9



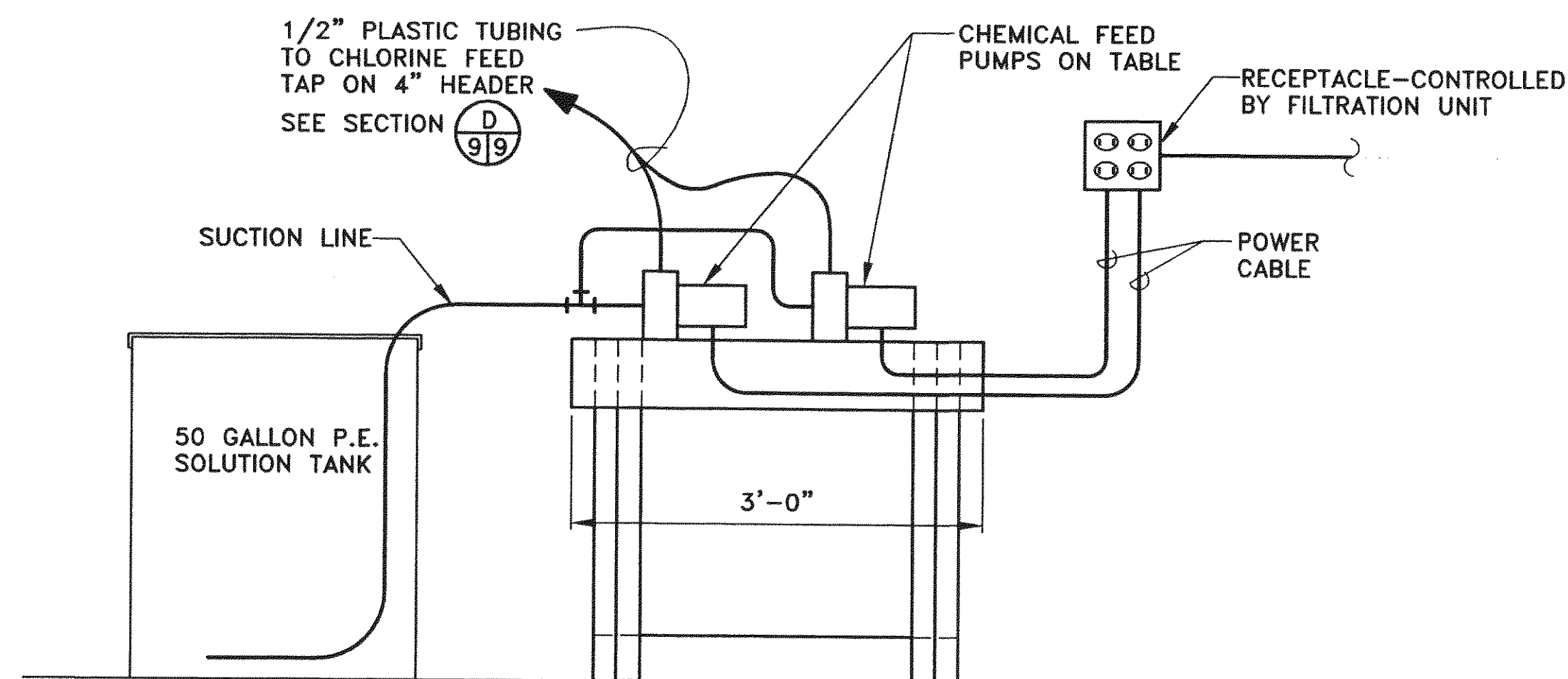
POTABLE/NON-POTABLE WATER RISER DIAGRAM
NO SCALE



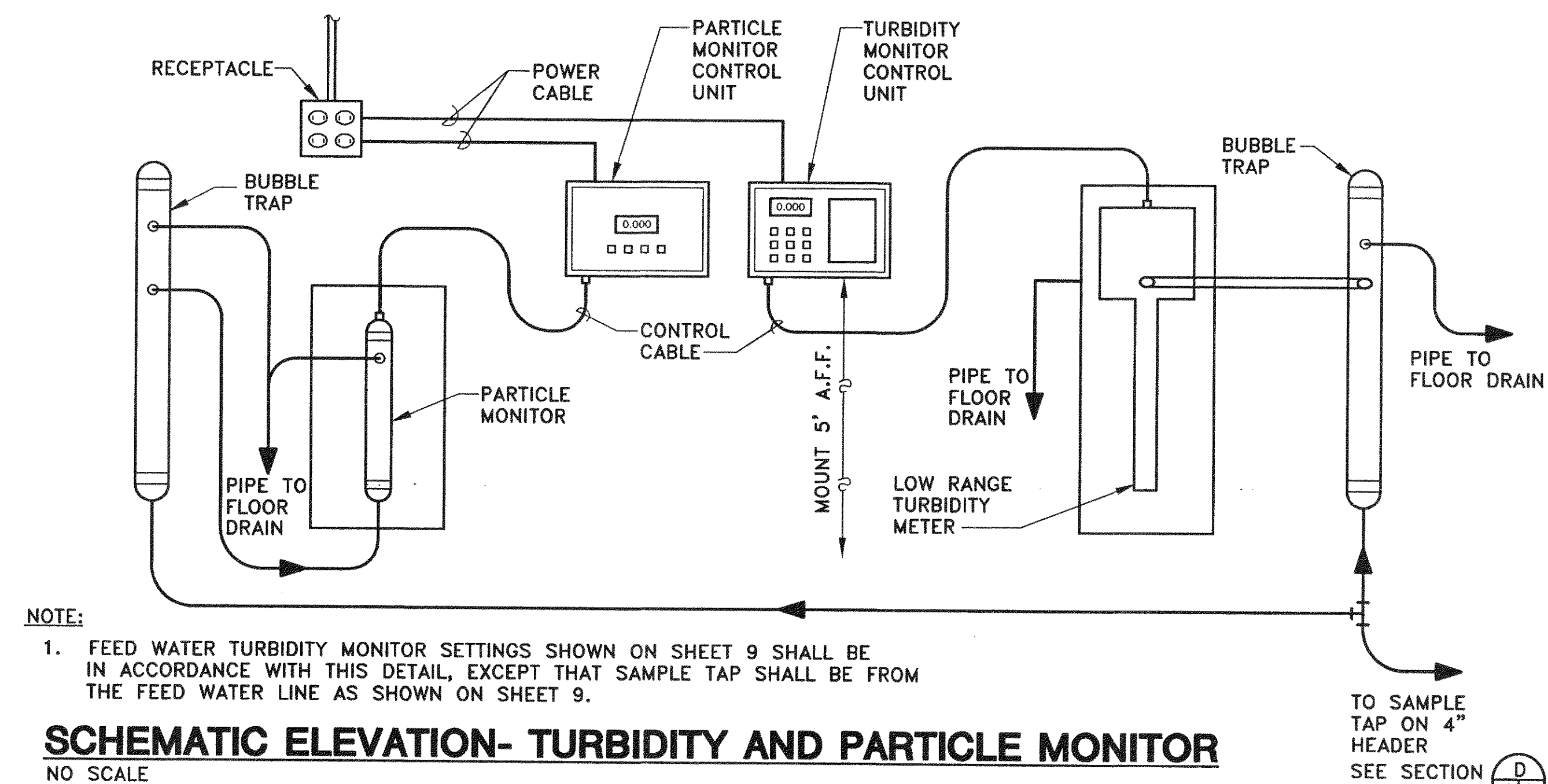
DRAIN/WASTE RISER DIAGRAM
NO SCALE



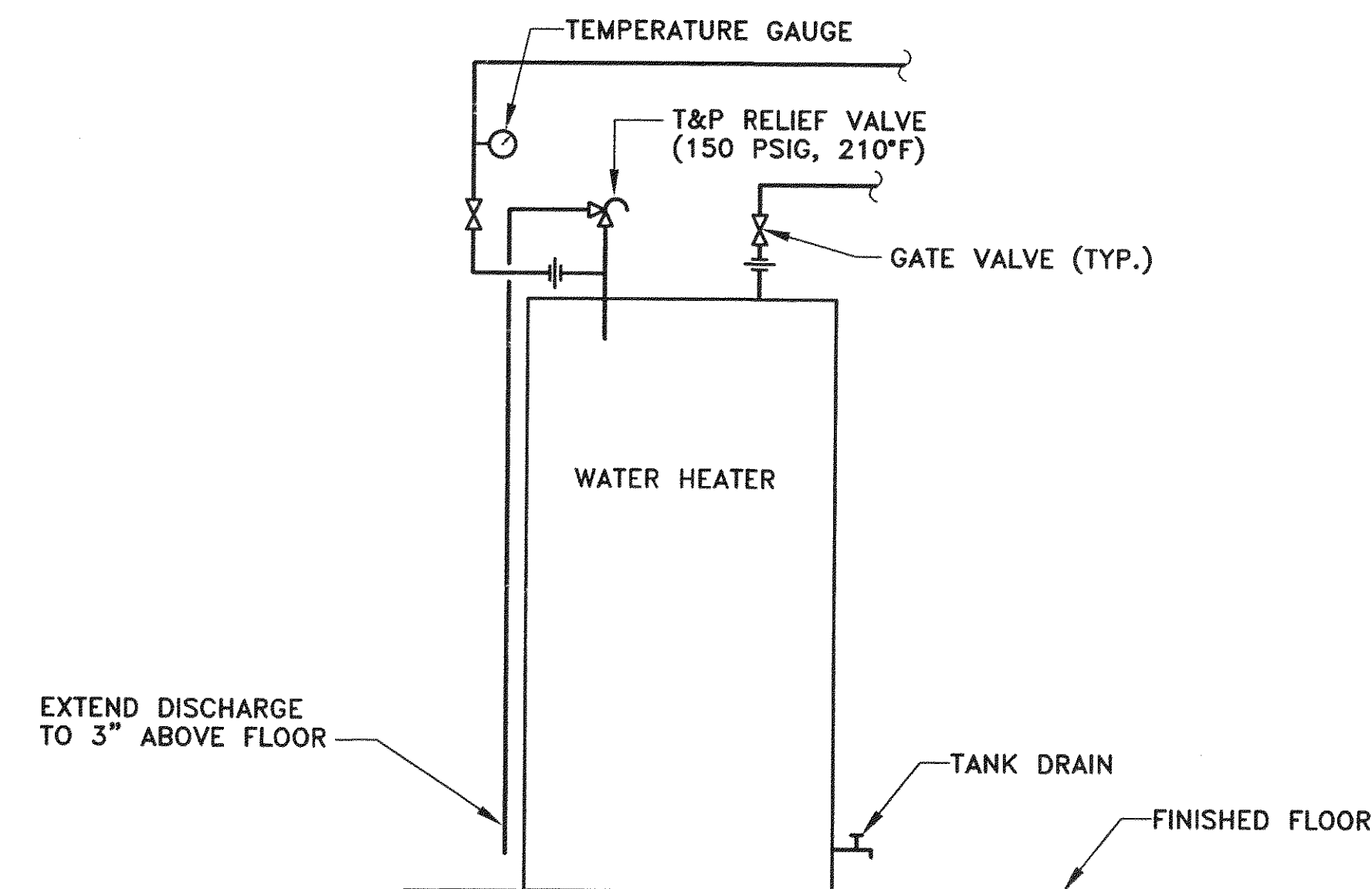
SECTION VIEW
BACKWASH NEUTRALIZATION TANK
NO SCALE



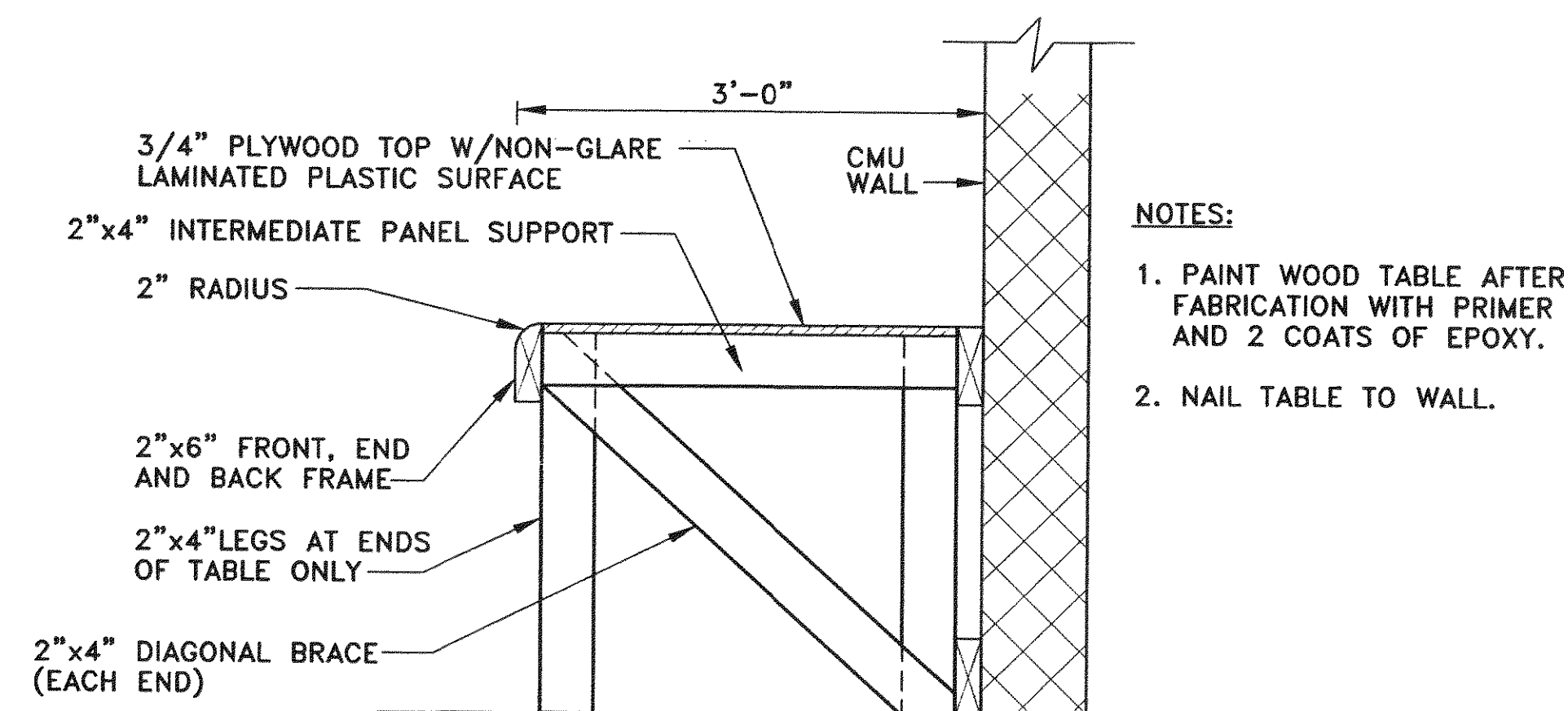
CHLORINE FEED SYSTEM SCHEMATIC
SCALE: 1"=1'-0"



SCHEMATIC ELEVATION- TURBIDITY AND PARTICLE MONITOR
NO SCALE



WATER HEATER CONNECTIONS
NO SCALE

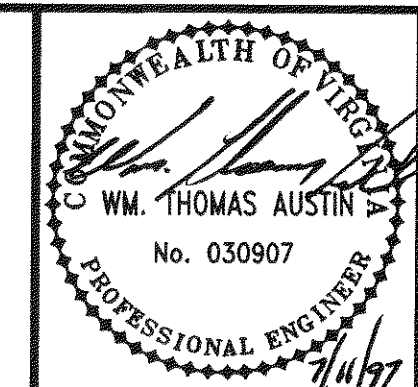


SECTION- CHEMICAL FEED PUMP TABLE
SCALE: 1"=1'-0"

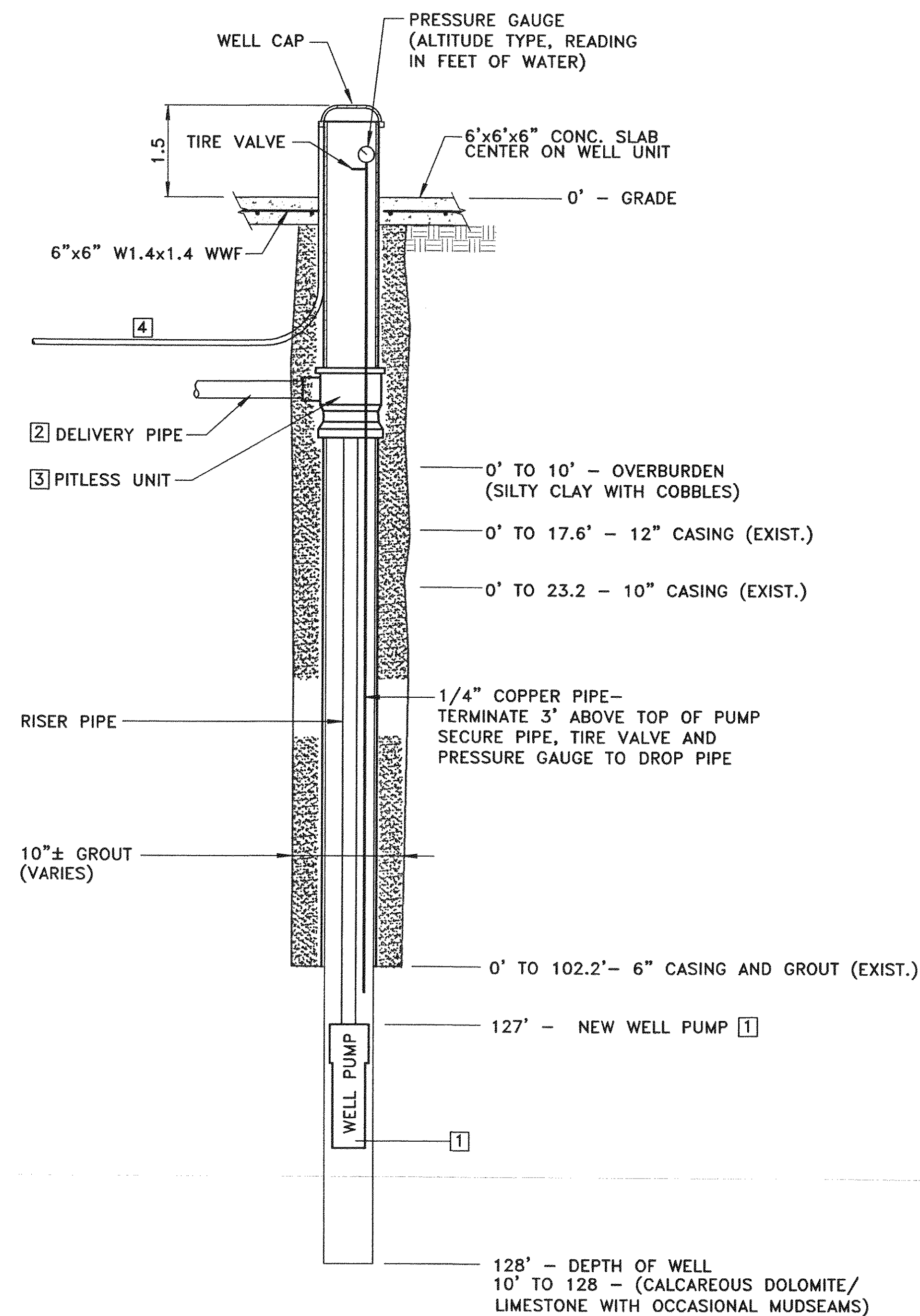
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		1	6/24/97	REVISED PER ADDENDUM NO. 1	JMC	WTA
		2	7/11/97	REVISED PER ADDENDUM NO. 4	JMC	WTA
DRAWN	ARB,LDL					
CHKD	WTA,SWH					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
DETAILS AND SECTIONS
BOTETOURT COUNTY, VIRGINIA



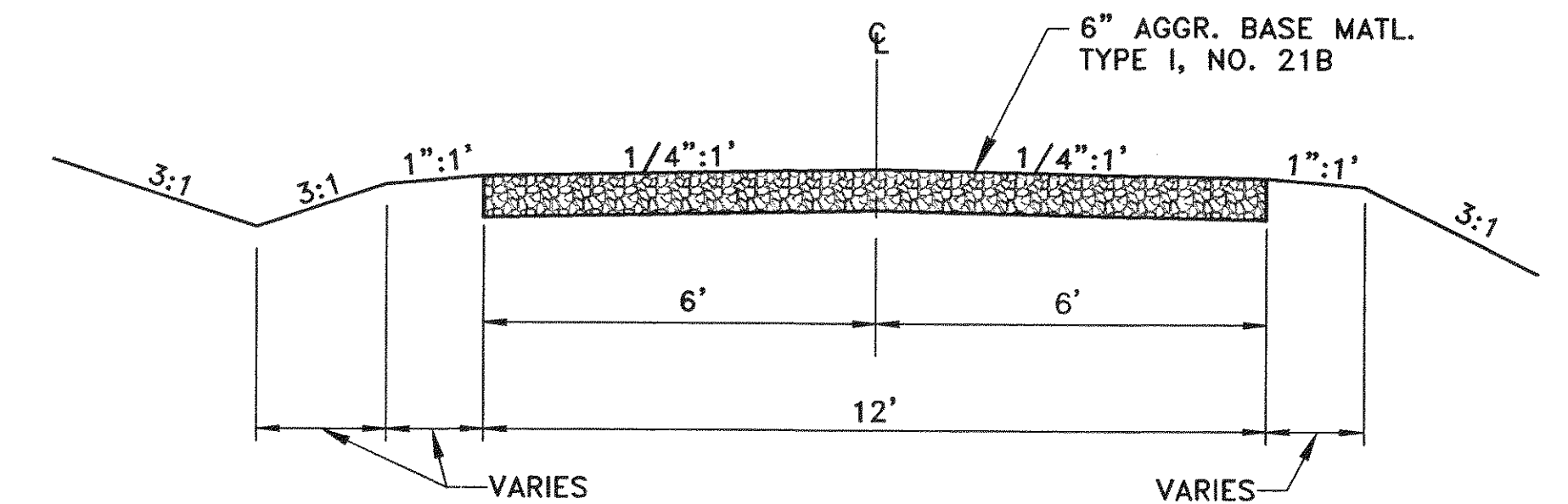
SCALE: AS NOTED
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 10



CONCRETE PAD AND WELL HEAD DETAIL

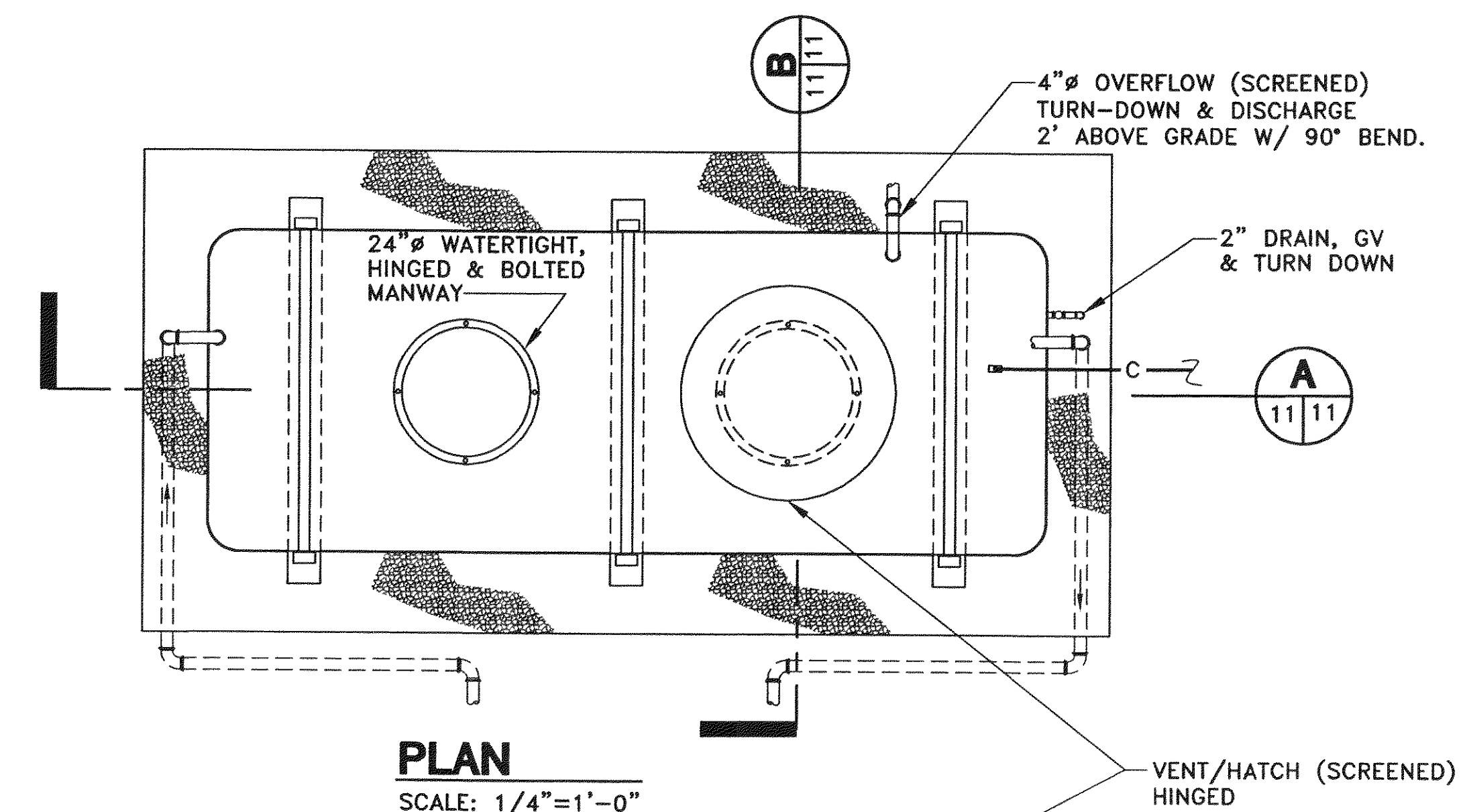
KEY NOTES:

- 1 NEW WELL PUMP. CAPABLE OF DELIVERING 65 GPM @ 56 FT. TDH TO FILTRATION FACILITY.
- 2 SEE SHEET 4 FOR CONTINUATION. PROVIDE TRANSITION FITTINGS TO MATCH YARD PIPING.
- 3 COORDINATE SIZE & STYLE WITH EXISTING CASING PIPE.
- 4 CONDUIT AND WIRES TO WELL PUMP CONTROL PANEL.
SEE SHEET 4 FOR LOCATION.



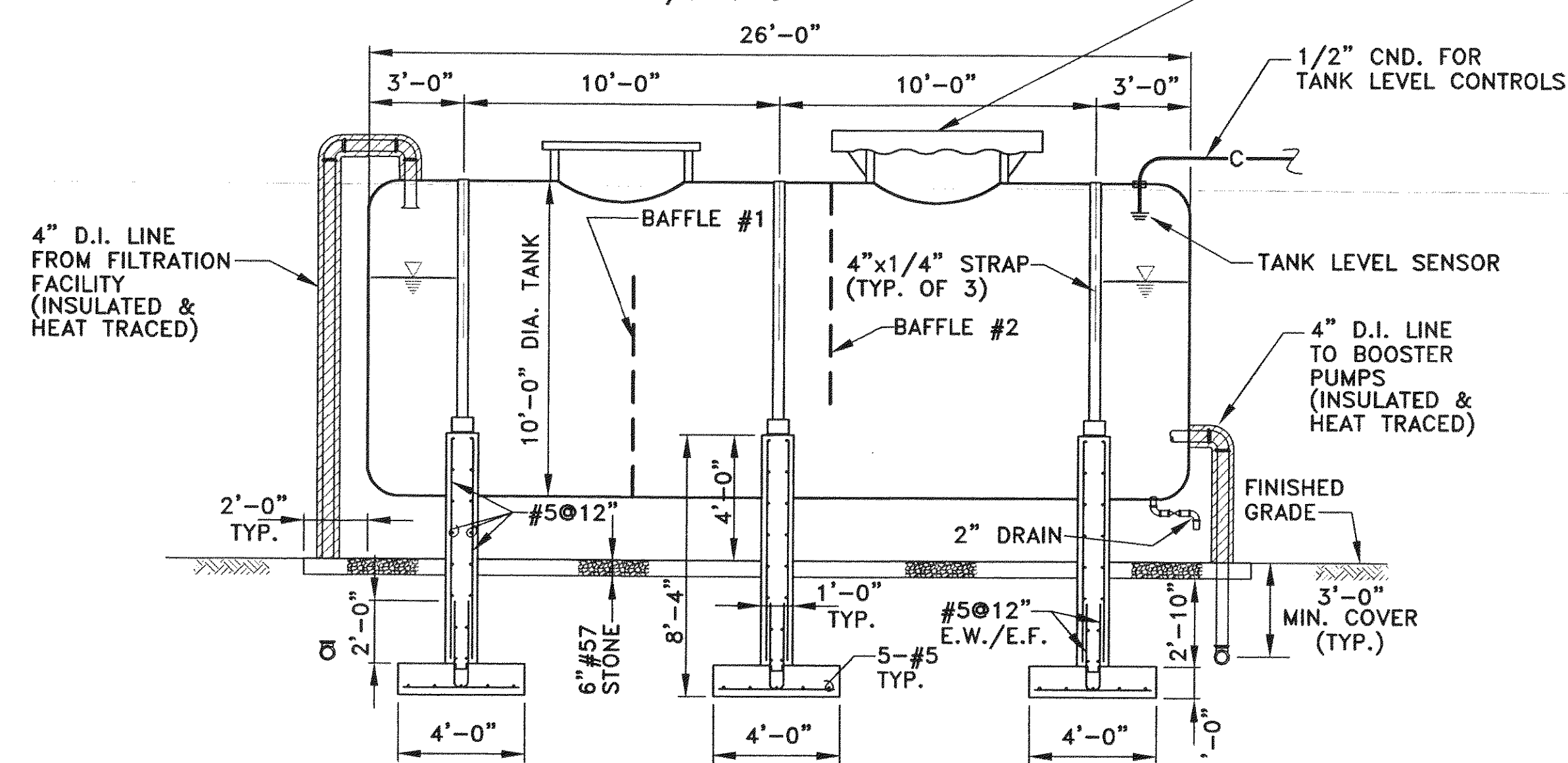
TYPICAL ACCESS ROAD SECTION

NO SCALE



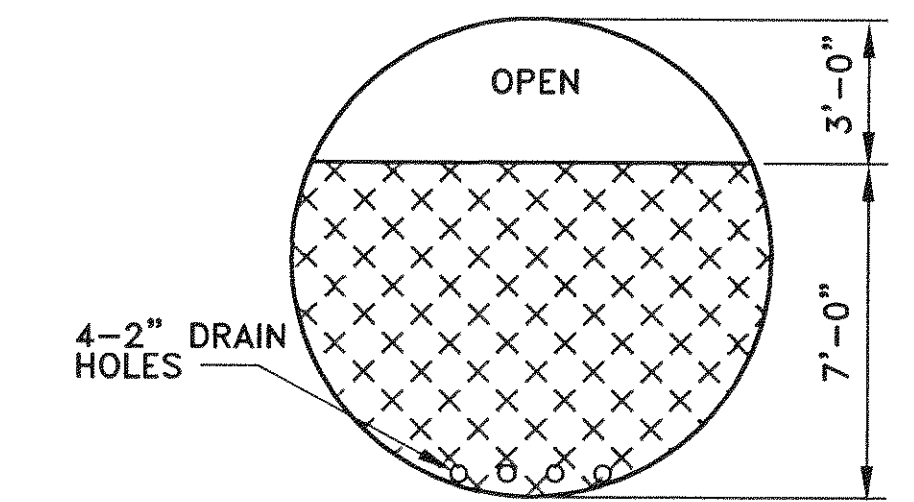
PLAN

SCALE: 1/4"=1'-0"

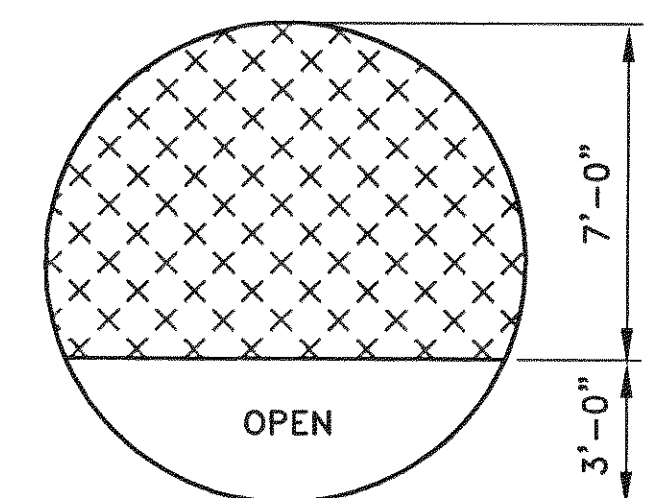


A **SECTION**
11 11 SCALE: 1/4"=1'-0"

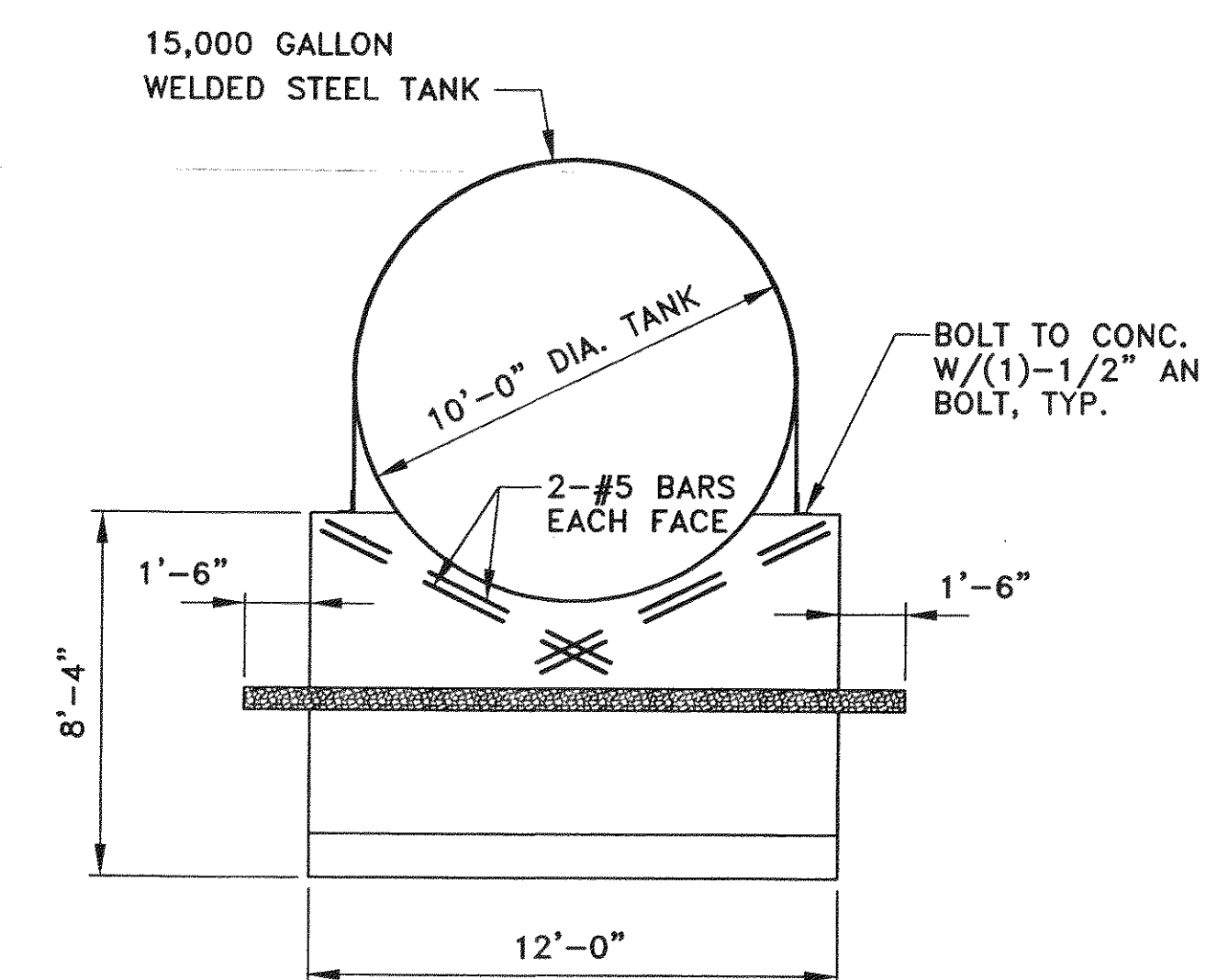
SCALE: $1/4" = 1'-0"$



BAFFLE #1



BAFFLE #2



B **SECTION**
11 | 11 SCALE: 1/4"=1'-0"

SCALE: 1/4"=1'-0"

STEEL CONTACT/STORAGE TANK

	REV	DATE	DESCRIPTION	BY	APP
DSGN WTA	1	7/11/97	REVISED PER ADDENDUM NO. 4	JMC	WTA
DRAWN ARB,LDL					
CHKD SWH,WTA					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY

DETAILS AND SECTIONS

BOTETOURT COUNTY, VIRGINIA

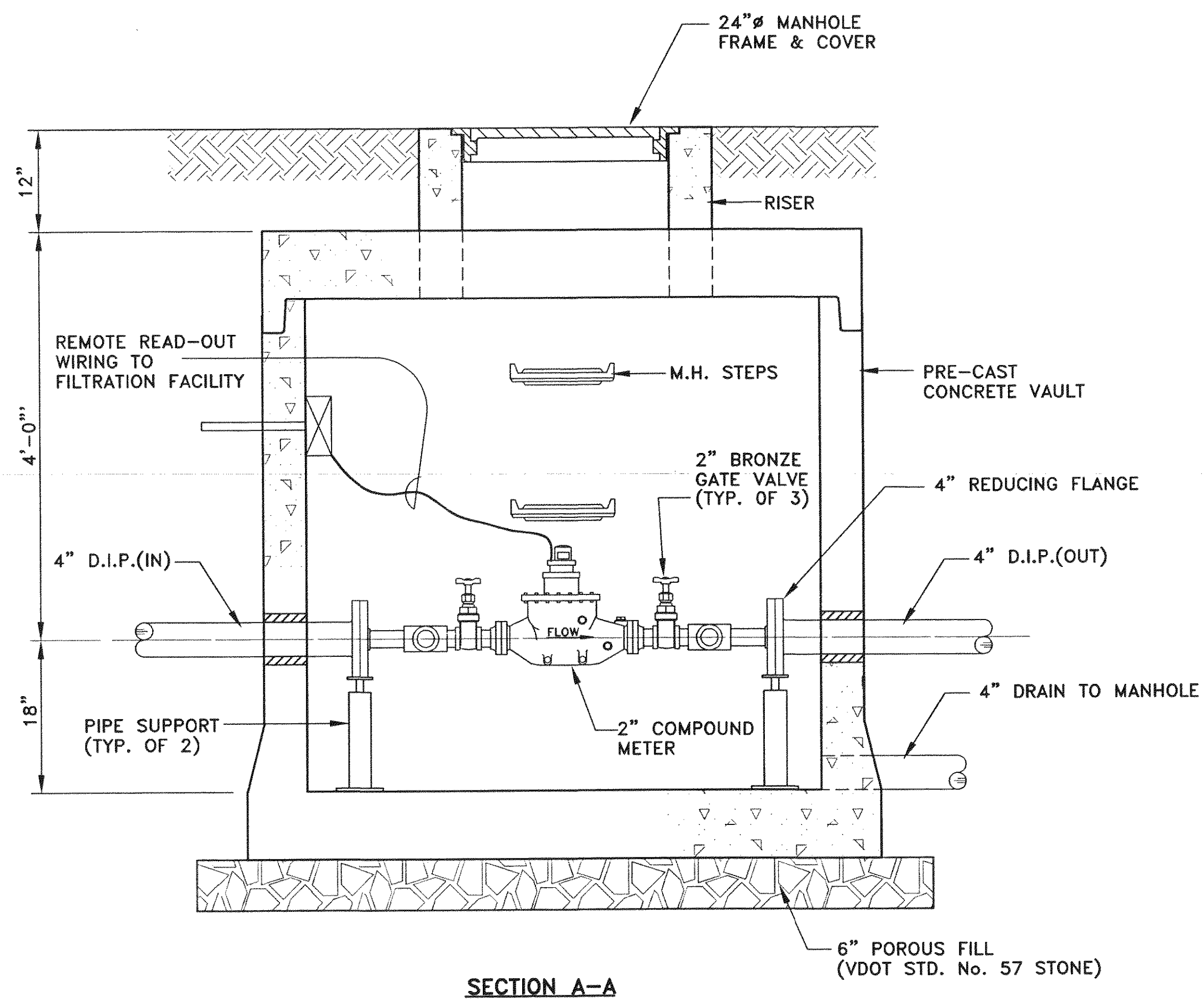
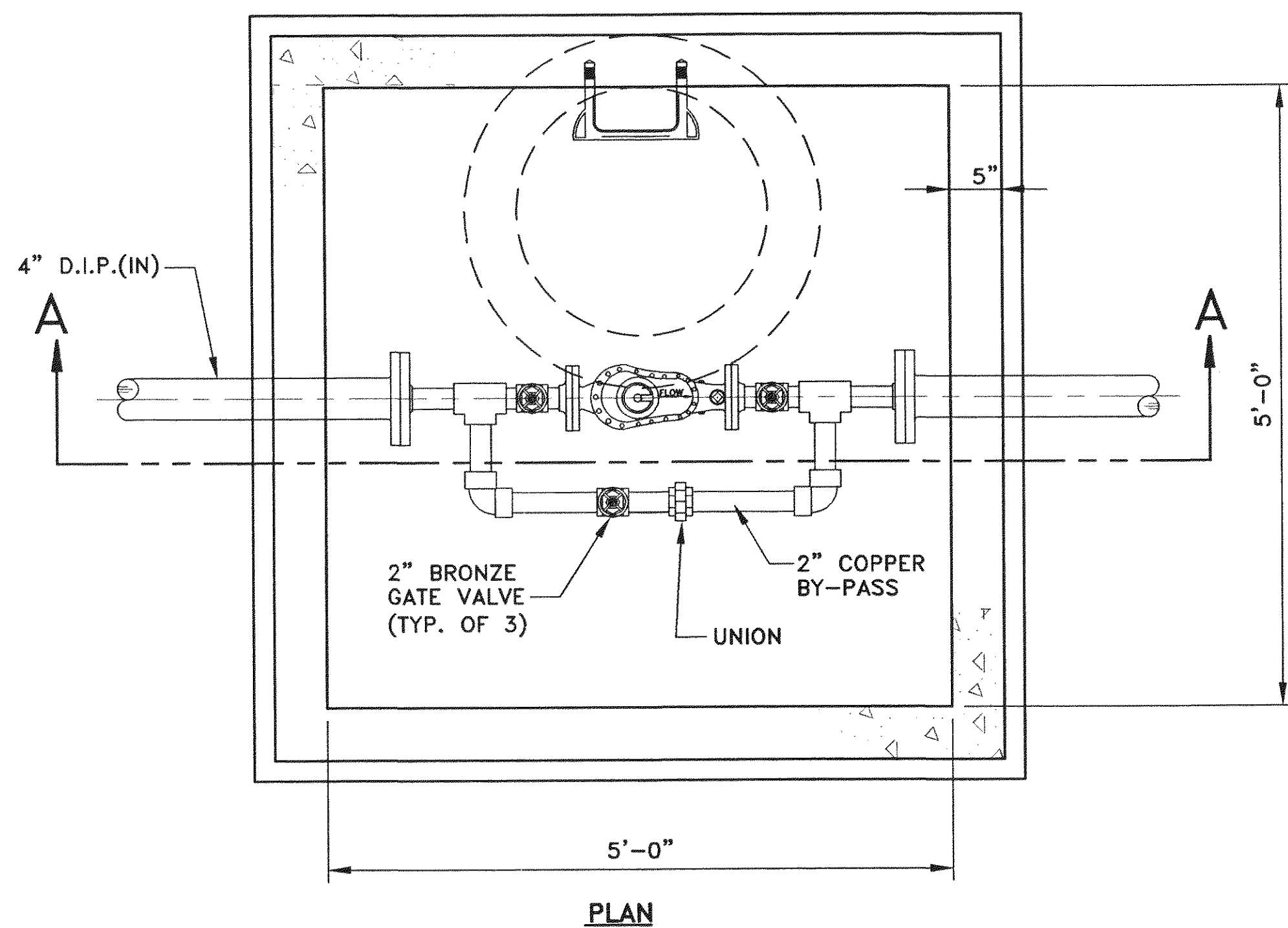


SCALE: AS NOTED

COMM. NO. 1297DW

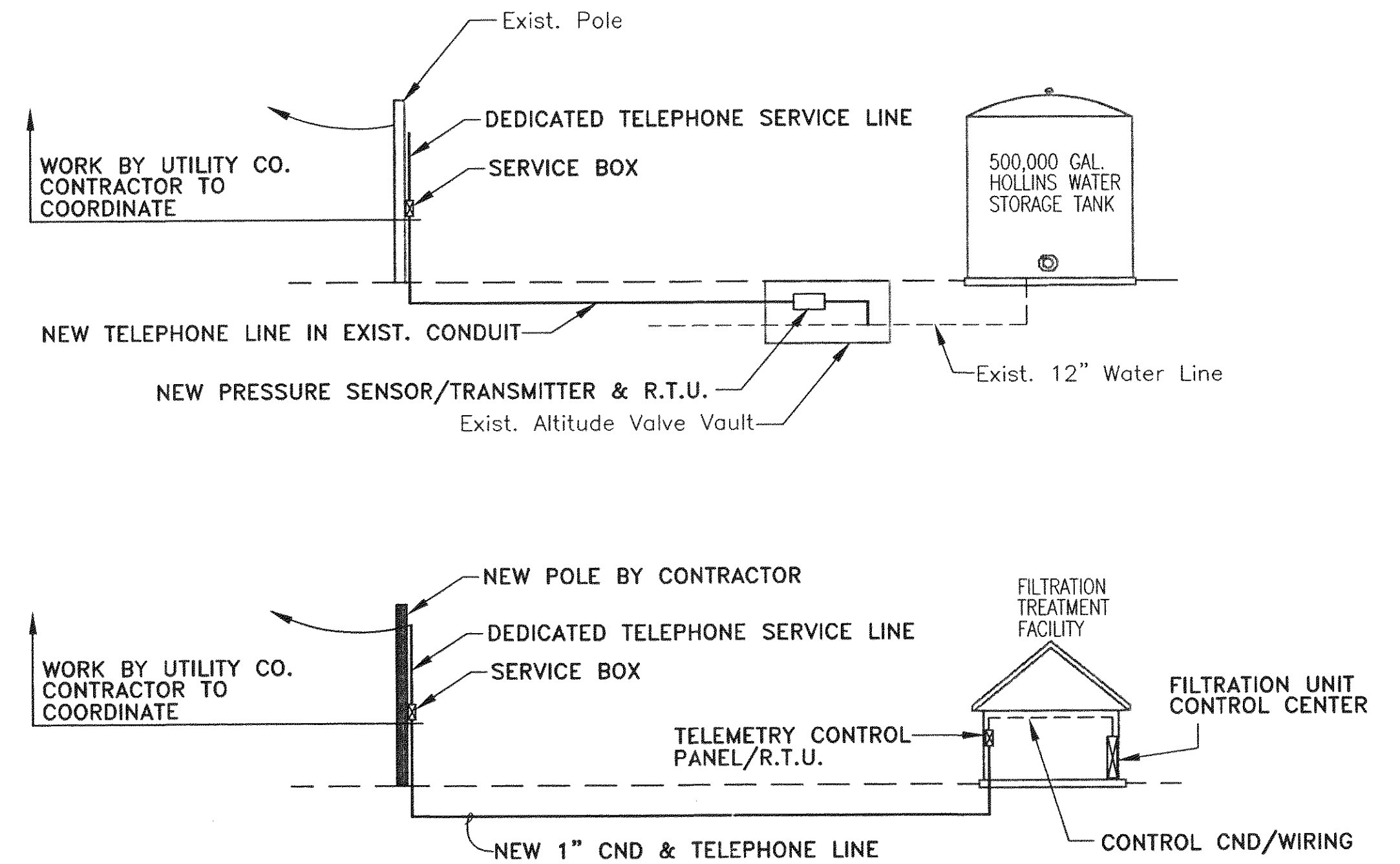
DATE: JUNE, 1997

SHEET 11



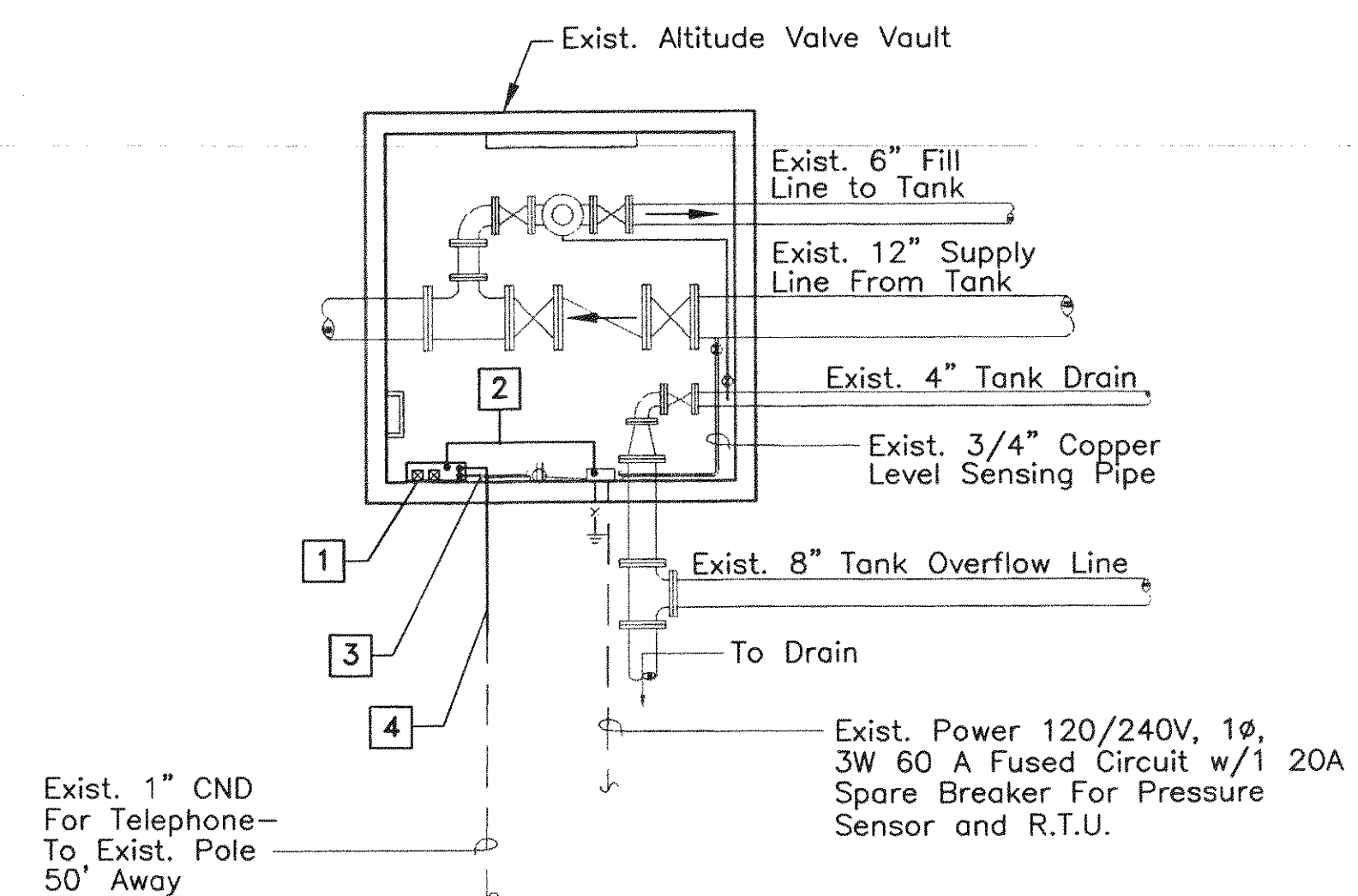
FINISHED WATER METER

SCALE: 1"=1'-0"



TANK LEVEL SENSOR & TELEMETRY CONTROL SCHEMATIC DIAGRAM

NOT TO SCALE



TANK LEVEL SENSOR AND TELEMETRY CONTROL HOLLINS WATER STORAGE TANK

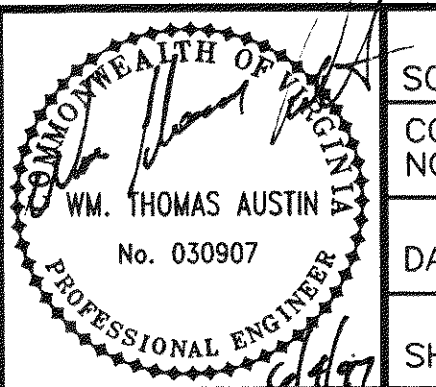
NOT TO SCALE

- 1 NEW NEMA 4 ENCLOSURE WITH PRESSURE SENSOR/TRANSMITTER, R.T.U., SURGE PROTECTOR AND LIGHTNING ARRESTOR. SIZE ENCLOSURE IN ACCORDANCE WITH COMPONENT REQUIREMENTS.
- 2 NEW POWER SUPPLY TO PRESSURE SENSOR/TRANSMITTER AND R.T.U. PROVIDE VOLTAGE TRANSFORMER AND 120 V SURGE PROTECTOR IN NEMA 4 BOX, AS REQUIRED.
- 3 EXTEND 3/4" COPPER SENSING PIPE & CONNECT WITH PRESSURE SENSOR.
- 4 NEW TELEPHONE LINE FROM R.T.U. TO SERVICE BOX ON EXIST. POLE.

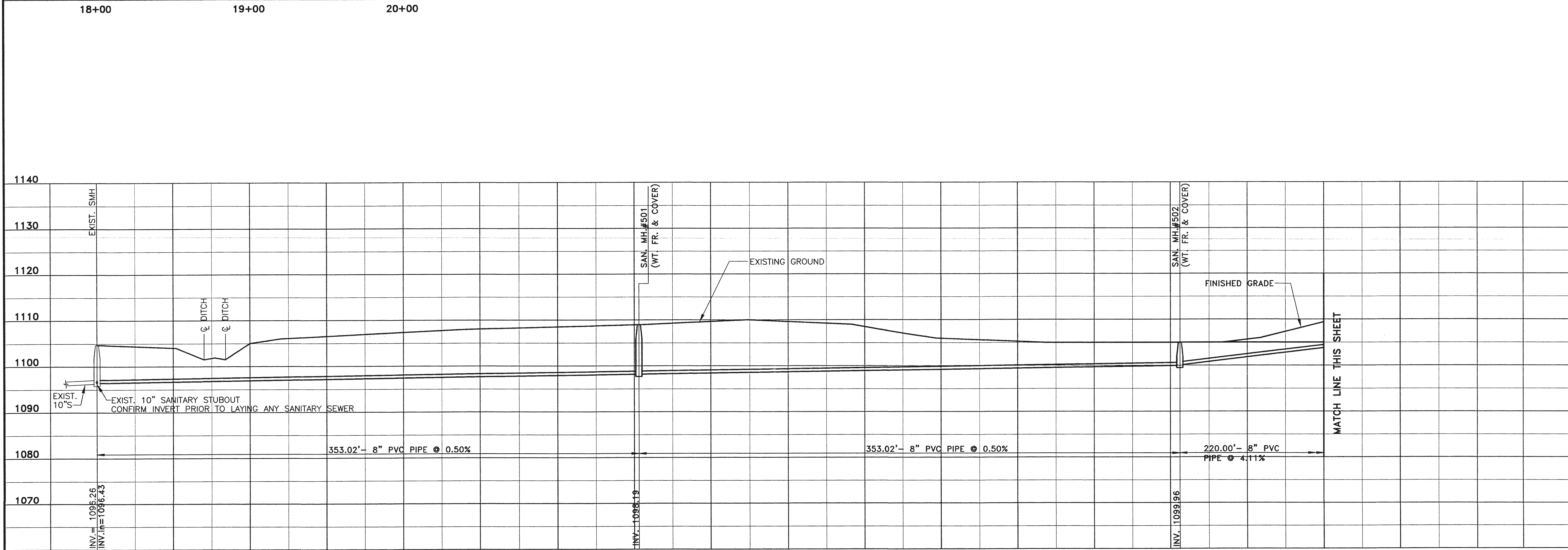
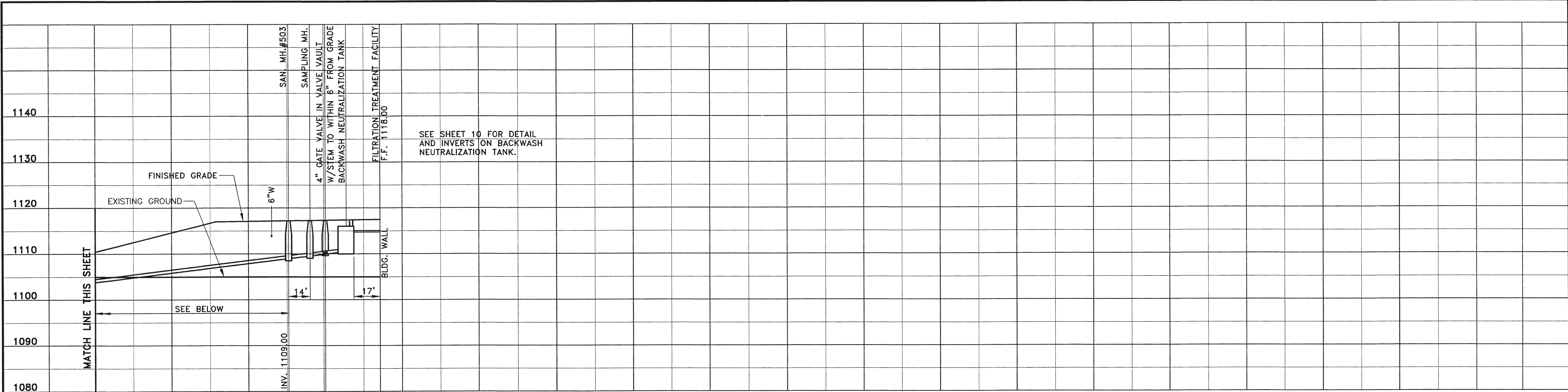
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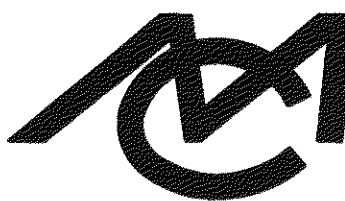
DSGN	REV	DATE	DESCRIPTION	BY	APP
WTA					
DRAWN					
LDL,ARB					
CHKD					
SWH,WTA					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
DETAILS AND SECTIONS
BOTETOURT COUNTY, VIRGINIA



SCALE: AS NOTED
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 12





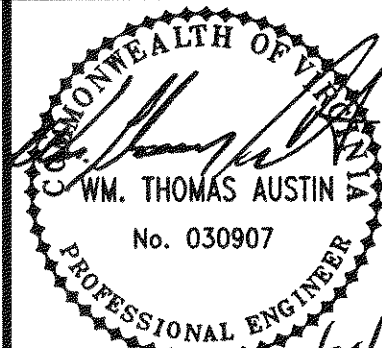
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DSGN WTA	REV 1	DATE 6/24/97	DESCRIPTION REVISED PER ADDENDUM NO. 1	BY JMC	APP WTA
DRAWN ARB					
CHKD SWH					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY

PROFILE – 8" SANITARY

BOTETOURT COUNTY, VIRGINIA



VERT: 1" = 10'
SCALE: HORZ: 1" = 30'
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 13

MECHANICAL EQUIPMENT NOTES:

ELECTRIC UNIT HEATER
MARKEL P3P5110CAIN, 10KW, 480V, 3Ø, PROVIDE W/A5100 WALL
BRACKET & T5100 B.I. T'STAT.

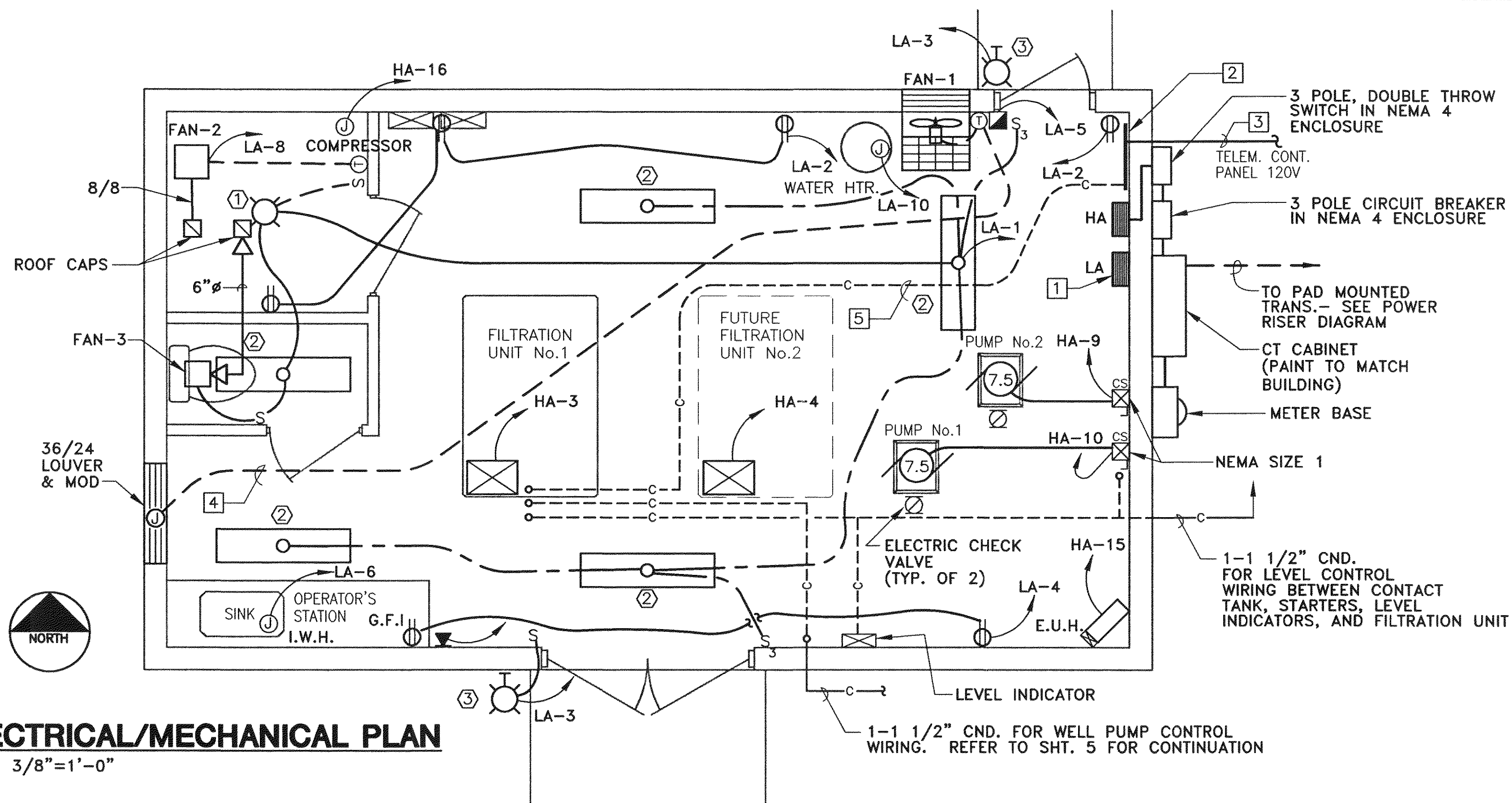
FANS
GREENHECK, 120V, 1Ø
FAN-1 1725 CFM @ 0.20" SP, S1-16-426-B6, 1160 RPM,
1/6 HP, PROVIDE W/WALL COLLAR, MOTOR SIDE GUARD,
MOTOR OPERATED DAMPER & WALL MOUNTED THERMOSTAT

FAN-2 287 CFM @ 0.125" SP, SP-226, 1050 RPM, 81 WATTS,
PROVIDE W/RJ-6x9 ROOF CAP & WALL MOUNTED T'STAT.

FAN-3 86 CFM @ 0.125" SP, SP-6, 1500 RPM, 40 WATTS,
PROVIDE W/RJ-4 ROOF CAP

ELECTRICAL LEGEND

- PLAN NOTE
LIGHTING FIXTURE DESIGNATION
FLUORESCENT LIGHTING FIXTURE, CEILING MTD.
INCANDESCENT LIGHTING FIXTURE, CEILING MTD.
HID LIGHTING FIXTURE, WALL MTD.
FEEDER OR BRANCH CIRCUIT WIRING IN COND.
SWITCH CONTROL WIRING IN CONDUIT
SWITCH, SINGLE POLE, MH=4'-6" AFF
DUPLEX OUTLET, MH=4'-0", GFI INDICATES GROUND
FAULT INTERRUPTER TYPE.
PANELBOARD, SURFACE MTD., MH= 6'-0" TO TOP
CONTROL PANEL FURNISHED WITH EQUIPMENT INDICATED
COMBINATION MAGNETIC STARTER, WALL MTD. 5'-0"
AFF TO TOP
MANUAL MOTOR STARTER
THERMOSTAT, MH= 5'-0", PROVIDE CONTROL WIRING
AS REQUIRED
2-GANG BOX FOR FUTURE TELEPHONE
INSTALL 3/4" EMPTY CND. TO TELEMETRY BOARD
MOTOR ON EQUIPMENT NOTED,
NUMBER INDICATES HORSEPOWER
CONTROL WIRING IN CONDUIT



ELECTRICAL/MECHANICAL PLAN
SCALE: 3/8"=1'-0"

NOTES THIS SHEET:

- 1 INSTALL TRANSFORMER ON WALL ABOVE PANELBOARD
(SEE POWER RISER DIAGRAM)
2 4'x4'x3/4" PLYWOOD FOR TELEMETRY PANEL,
MH= 6'-0" TO TOP
3 1" CONDUIT FOR IN COMING TELEPHONE CABLE
4 TO FAN CONTROLS
5 1-1 1/2" CND. FOR TELEMETRY CONTROL SYSTEM

SCHEDULE-PANELBOARD HA
(SERVICE ENTRANCE TYPE)

CMT NO	BKR	WIRE	CND	LOAD DESCRIPTION	LOAD KVA				CMT NO	BKR	WIRE	CND	LOAD DESCRIPTION	LOAD KVA			
					PH A	PH B	PH C	3 PH						PH A	PH B	PH C	3 PH
3	3	20	12	FILTER UNIT NO. 1				5.0	4	3	20	12	FILTER UNIT NO. 2				5.0
9	3	30	12	PUMP NO. 2				7.5	10	3	20	12	PUMP NO. 1				7.5
15	3	20	12	UNIT HEATER				10.0	16	3	20	12	AIR COMPRESSOR				10.0
19	2	20	12	TRANSFORMER				10.0	20	1			SPACE ONLY				
23	1			SPACE ONLY					24	1			" "				
25	1			" "					26	1			" "				
27	1			" "					28	1			" "				
29	1			" "					30	1			" "				
								32.5						-	-	-	22.5
														-	-	-	32.5
														-	-	-	55.0
														TOTAL: 55.0			

VOLTAGE 480Y/277 3 PHASE 4 WIRE MOUNTING SURFACE
BUS AMPS 100 MAIN BREAKER AMPS 100 SUBFEED LUGS NO

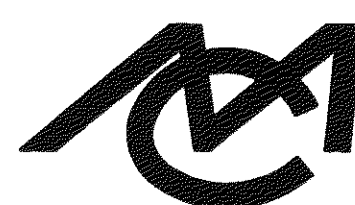
LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	MOUNTING	REMARKS
1	APPLETON	ALB1575/120, 100W, INCAND.	WALL	EXPLOSION PROOF
2	KLP	CS240RSAWG3/120/TB	SURF/PEND	WIRE GUARD, ELECTRONIC BALLAST
3	KLP	553250LX-FFS-TP/120/P150	WALL	TAMPERPROOF W/ PHOTOCELL

SCHEDULE-PANELBOARD LA

CMT NO	BKR	WIRE	CND	LOAD DESCRIPTION	LOAD KVA				CMT NO	BKR	WIRE	CND	LOAD DESCRIPTION	LOAD KVA			
					PH A	PH B	PH C	3 PH						PH A	PH B	PH C	3 PH
1	1	20	12	LIGHTING, INTERIOR/FAN-3	.5				2	1	20	12	RECEPT.	.4			
3	1	20	12	LIGHTING, EXTERIOR	.4				4	1	20	12	RECEPT.	.4			
5	1	20	12	FAN-1			.5		6	1	30	10	INSTANTANEOUS W.H.				3.0
7	1			SPACE					8	1	20	12	EXHAUST FAN-2	.5			
9	1			" "					10	2	30	10	WATER HEATER				1.5
11	1			" "					12				" "				1.5
13	1			" "					14	1			SPACE ONLY				
15	1			" "					16	1			" "				
					.5	.4	.5							.9	1.9	4.5	
														.5	.4	.5	
														1.4	2.3	5.0	
					TOTAL: 8.7												

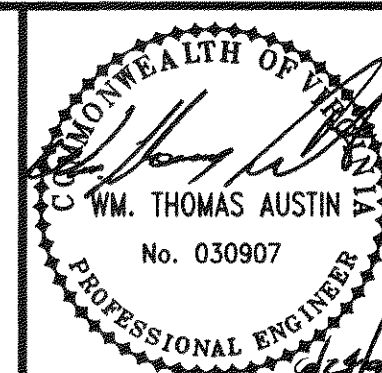
VOLTAGE 120/240 1 PHASE 3 WIRE MOUNTING SURFACE
BUS AMPS 100 MAIN BREAKER AMPS 50 SUBFEED LUGS NO



Mattern & Craig, Inc.
CONSULTING ENGINEERS-SURVEYORS
701 FIRST STREET, S.W.
ROANOKE, VIRGINIA 24016
(540) 345-9342
(540) 345-7691 FAX

DSGN	WTA,JBO	REV	DATE	DESCRIPTION	BY	APP
		1	6/24/97	REVISED PER ADDENDUM NO. 1	LDL	WTA
DRAWN	ARB,LDL					
CHKD	WTA,SWH					

VISTA CORPORATE PARK
FILTRATION TREATMENT FACILITY
ELECTRICAL/MECHANICAL PLAN
BOTETOURT COUNTY, VIRGINIA



SCALE: AS NOTED
COMM. NO. 1297DW
DATE: JUNE, 1997
SHEET 14