

REQUEST FOR PROPOSALS UK-2563.0-2-24 CTC - Thermal Utility Tunnel Design Build ADDENDUM #1 05/23/2024

ATTENTION: This is not an order. Read all instructions, terms, and conditions carefully.

IMPORTANT: RFP AND ADDENDUM MUST BE RECEIVED BY: 06/21/2024 @ 3:00 P.M. LEXINGTON, KY TIME

Offeror must acknowledge receipt of this and any addendum as stated in the Request for Proposal.

ITEM #1: MODIFICATIONS TO THE ORIGINAL BID DOCUMENTS

- Please refer to the enclosed documents when preparing your proposals. These documents were unintentionally omitted from the original bid documents when they were posted.
 - o SU Drawing Series Thermal Utility Routing
 - o S701 Limestone Street Utility Tunnel Vault
 - o S711 Vault Details

ITEM #2: NOTICE TO BIDDERS

• The proposal "Due Date" has been extended to 06/21/2024. The time and location for proposal submission remains the same.

OFFICIAL APPROVAL UNIVERSITY OF KENTUCKY **SIGNATURE**

05/23/2024 Ken Scott

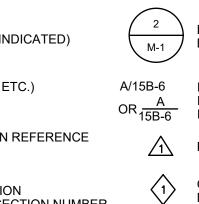
Ken Scott, Purchasing Officer

Typed or Printed Name

University of Kentucky Purchasing Division 322 Peterson Service Building Lexington, KY 40506-0005

An Equal Opportunity University

SPECIAL DESIGNATION



\bigcirc		
1 M-1	SECTION DE (TOP DESIGN BOTTOM DES SHEET SECT	IATES SIGNA
	MATCHLINE	DESI
	MAGNETIC N	ORTH
	PIPING	
SINGLE	DOUBLE	
۶ ــــــک		ELE
، ٥		ELE
. 1 .		ВО (45
ب و ب	E M	TO
<u>بال</u> ے		(45
- - ₽ ⊱-Ĵ-Ĵ,	 D ۲ <u>00</u> 3	45° /DF
<u>با</u>	N/A	tee (Re Foi
<u>۶</u>	6	EXI
\//////	<i>1/////</i> ///////////////////////////////	EXI BE
; ►;	2	FLC
\$		LIN
→ → → → → → → → →	ALVE VALVE	

	ELBOW
	ELBOW
	BOTTOI (45° OR
	TOP CC (45° OR
- - D 63	45° PIPE /DROP(I
N/A	tee (refer for sie
6	EXISTIN
<i>\/////</i> ///////////////////////////////	EXISTIN BE REM

	SPECIAL DESIG	<u>JNA HON</u>		—		
$\left\langle \begin{array}{c} P \\ 1 \end{array} \right\rangle$	EQUIPMENT (PUMP INDICATED)	DETAIL REFERENCE (TOP=DETAIL NO., BOTTOM=DRAWING NO. SHOWN ON)	AFF - AL -	ADJUSTABLE ABOVE FINISHED FLOOR ALUMINUM ALTERNATE	MC - MEP -	THOUSANDS OF BTU PER HOUR MECHANICAL CONTRACTOR MECHANICAL, ELECTRICAL AND PIPING MECHANICAL EQUIPMENT ROOM
$\langle 2 \rangle$	SPECIALTY ITEMS (I.E. GAUGE FILTER, ETC.)	A/15B-6 DETAIL REFERENCE (TOP=	AP - BOD -	ACCESS PANEL BOTTOM OF DUCT BOTTOM OF PIPE	NA - NC -	NOT APPLICABLE NORMALLY CLOSED NOT IN CONTRACT
REFER		OR <u>A</u> DETAIL NO., BOTTOM=SHEET NO. IN DETAIL MANUAL)	BTU -	BRITISH THERMAL UNIT	NO - NPS -	NORMALLY OPEN NOMINAL PIPE SIZE
M-1	PLAN CONTINUATION REFERENCE		CAV -	COMBUSTION AIR CONSTANT AIR VOLUME	NTS -	NATIONAL PIPE THREAD NOT TO SCALE
	SECTION DESIGNATION	GENERAL OR SPECIAL NOTES REFERENCE		CONTRACTOR FURNISHED, CONTRACTOR INSTALLED CUBIC FEET PER MINUTE	- OC	OUTSIDE AIR ON CENTER OPEN END DUCT
1 M-1	(TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES ON WHICH SHEET SECTION APPEARS)	(102) ROOM NUMBER DESIGNATION	CL - CLG -	CENTERLINE CEILING	OFCI -	OWNER FURNISHED, CONTRACTOR INSTALLED
	MATCHLINE DESIGNATION	\sim	COP -	CONDENSATE/CONDENSER CENTER OF PIPE CARBON STEEL		OWNER FURNISHED, OWNER INSTALLED OUTLET VELOCITY
	1	CONSTRUCTION BULLETIN REVISION NUMBER	CU -	COPPER DRY BULB	PA -	PLANT AIR PLUMBING CONTRACTOR
	MAGNETIC NORTH		DIPS -	DIRECT DIGITAL CONTROL DUCTILE IRON PIPE SIZE	PCF - PD -	POUNDS PER CUBIC FOOT PRESSURE DROP
	I		EA -	DIRECT EXPANSION EXHAUST AIR ENTERING AIR TEMPERATURE	PP -	PHASE POLYPROPYLENE POUNDS PER SQUARE FOOT
	PIPING		EC - EDR -	ELECTRICAL CONTRACTOR EQUIVALENT DIRECT RADIATION	PSIA -	POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH ABSOLUTE POUNDS PER SQUARE INCH GAUGE
			ESP -	ELEVATION EXTERNAL STATIC PRESSURE EXISTING TO REMAIN	PVC -	POLYVINYL CHLORIDE RETURN AIR
SINGLE	DOUBLE		EWT -	ENTERING WATER TEMPERATURE EXHAUST	RPM -	REVOLUTIONS PER MINUTE SUPPLY AIR
، 	ELBOW DOWN			FRESH AIR INTAKE/ FIELD ADJUSTABLE	SOG -	SCHEDULE SLAB ON GRADE
<u>م</u>	S ELBOW UP		FC -	FINAL AIR TEMPERATURE FAIL CLOSED FUME HOOD EXHAUST	SS -	STATIC PRESSURE STAINLESS STEEL TRANSFER AIR
ſ	BOTTOM CONNECTION		FLA - FLR -	FULL LOAD AMPS FLOOR	TBR - TC -	TO BE REMOVED TEMPERATURE CONTROL
, 	(45° OR 90°)		FPI -	FAIL OPEN FINS PER INCH FEET PER MINUTE	TOD -	TOP OF BEAM TOP OF DUCT/TOP OF DECK TOP OF JOIST
,Ĵ,	TOP CONNECTION (45° OR 90°)		FPS -	FEET PER SECOND FOOTING	TOP -	TOP OF PIPE TOP OF SLAB
- - D	45° PIPE RISE(R)		GC -	GAUGE GENERAL CONTRACTOR	V -	TOTAL STATIC PRESSURE VOLTS
⊱ ᠿ ᠿ ∽	51000 /DROP(D)		GPM -	GENERAL EXHAUST GALLONS PER MINUTE GALVANIZED STEEL	VP -	VARIABLE AIR VOLUME VELOCITY PRESSURE VENT THRU ROOF
۶ ۲ ۲	TEE N/A (REFER TO SPECIFICAT	TION	HP -	HORSE POWER/HIGH POINT	WB -	WET BULB WATER COLUMN
۲	FOR SIDE, TOP OR BOT		IE -	INSTRUMENT AIR INVERT ELEVATION IRON PIPE SIZE	WG -	WATER GAUGE EXISTING
, 		EMAIN	KO -	KNOCK-OUT LEAVING AIR TEMPERATURE		
	CHITTE EXISTING PIPING TO		LP -	LOW POINT LEAVING WATER TEMPERATURE		
4/////	Y////// BE REMOVED			<u>EQ</u>	UIPMENT	
, ►,	FLOW DIRECTION DESI	GNATION	AC -	AIR CONDITIONING UNIT/ AIR COMPRESSOR		HUMIDIFIER HOSE BIBB
—— s	LINE CONTINUATION B	REAK	ACCU -	AIR COOLED CONDENSER AIR COOLED CONDENSING UNIT	HC - HP -	HEATING COIL HEAT PUMP HEAT RECOVERY COIL
			ACU - AHU - AMD -	AIR HANDLING UNIT	HR -	HOSE REEL HEAT RECLAIM DEVICE
	VALVES		AR - AS -	AIR RECEIVER AIR SEPARATOR	HX -	HEAT TRACE HEAT EXCHANGER
Ψ			AT - B -	AIR TERMINAL DEVICE BOILER		INTAKE HOOD JANITOR SINK
GATE VA			BBS - BFS -	BOILER BLOWDOWN SEPARATOR BOILER FEEDWATER SYSTEM	LAV -	
Ö BALL VA			BH - BT -	BOOSTER HUMIDIFIER BATHTUB	P -	MOTOR CONTROL CENTER PUMP
Ψ VALVE F	F VALVE (BUTTERFLY	(DOWNSTREAM SETPOINT)	C - CC - CH -	CONVECTOR COOLING COIL CHILLER	RAH -	PLUMBING PUMP ROOFTOP AIR HANDLING UNIT
LARGER 2" AND S	R. BALL VALVE FOR	AIR-LOADED	CP -	CONDENSATE PUMP/	RC -	REHEAT COIL RADIANT CEILING PANEL
—Ø— GAUGE				CONTROL PANEL		
f 5116370		PRESSURE REDUCING VALVE-PRV (DOWNSTREAM SETPOINT)	CS - CT -	COOLING TOWER	REF - RF -	ROOF EXHAUST FAN RETURN FAN
 BALANC			CT - CUH - CV -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR	REF - RF - RH - SAD -	ROOF EXHAUST FAN
BALANC		 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) 	CT - CUH - CV - D - DC -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR	REF - RF - SAD - SD - SF - SH -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER
BALANC	ALVE	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE 	CT - CUH - CV - D - DC - DH - DS -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT	REF - RF - SAD - SD - SF - SH - SR - ST -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP
BALANC	ALVE	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) 	CT - CUH - CV - D - DC - DH - DS - EF - EH -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER	REF - RF - SAD - SD - SF - SH - SR - ST - TD - TD - TP -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER
BALANC	ALVE	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EH - EJ - ET -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION TANK	REF - RF - RH - SAD - SD - SF - SH - SR - ST - TD - TD - TP - TXV - UH -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER
Image: wide wide wide wide wide wide wide wide	ALVE ALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE SOLENOID VALVE 	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EH - ET - EV - EV - F -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER	REF - RF - SAD - SD - SF - SF - SR - ST - TD - TD - TZV - UH - UR - UST -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK
Image: Ward of the second s	ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE SOLENOID VALVE CONTROL VALVE BODY AS SPECIFIED) AIXING VALVE WITH	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EH - ET - EV - FC - FCO - FCU - FD -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN	REF - RF - SAD - SD - SF - SH - SR - ST - TD - TD - TXV - UH - UR - UR - UV - V -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL
BALANC BALANC THERMA SPRING SWING C DIAPHRA DIAPHRA 2-WAY S XX 2-WAY C VALVE	ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE SOLENOID VALVE CONTROL VALVE	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - EV - FCO - FCU - FD - FOP - FOT -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK	REF - RF - SAD - SD - SF - SR - SR - ST - TD - TD - TXV - UH - UR - UST - UV - VFD - VFD - VFD - WC - WCC -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER
BALANC THERMA SPRING SWING C DIAPHRA 2-WAY S XX 2-WAY C VALVE 3-WAY D 3-WAY D	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - EV - FCO - FCU - FD - FOP - FOT -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK	REF - RF - SAD - SD - SF - SH - SR - ST - TD - TD - TD - TXV - UH - UST - UV - VFD - VFD - VFD - WCC - WCO - WCO - WF -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET
BALANC THERMA SPRING SWING C DIAPHRA 2-WAY S XX 2-WAY C VALVE 3-WAY D 3-WAY D	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - FC - FC - FC0 - FC0 - FCU - FD	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK	REF - RF - SAD - SD - SF - SF - SR - SR - ST - TD - TD - TTD - TTD - TTD - UH - UV - VFD - VFD - VFD - VFD - WCC - WCO - WF - WH -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER WALL CLEANOUT WATER FILTER
BALANC THERMA SPRING SWING O DIAPHRA 2-WAY S XX 2-WAY S XX 3-WAY M ARROW 4-WAY V	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION DIVERTING VALVE WITH VALVE WITH VALVE WITH	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF FLOAT OPERATED VALVE QUICK OPENING VALVE 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - EV - FCO - FCU - FOP - FOP - FOT - FU - FU -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE	REF - RF - SAD - SD - SF - SF - SF - SF - SF - SF - T - TD - TP - UH - UST - UV - VFD - WCC - WCC - WCO - WH - YCO -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER WALL CLEANOUT WATER FILTER WATER HEATER YARD CLEANOUT
BALANC THERMA SPRING SWING SWING DIAPHR 2-WAY S XX 2-WAY S XX 2-WAY S XX 3-WAY M ARROW 4-WAY M ARROW	ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION VALVE WITH 'INDICATING FAIL POSITION	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - FC - FCO - FCO - FCU - FOP - FOP - FOP - FOT - FT - FU -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE <u>PIPING SY</u>	REF - RH - SAD - SD - SF - SH - SR - ST - T - TD - TP - UH - UR - UST - VFD - WCC - WCO - WF - WCO - WF - YCO -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER WALL CLEANOUT WATER FILTER WATER HEATER YARD CLEANOUT - CRW CORROSION RESISTANT WASTE
BALANC THERMA SPRING SWING SWING DIAPHR 2-WAY S XX 2-WAY S XX 2-WAY S XX 3-WAY M ARROW 4-WAY M ARROW	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION DIVERTING VALVE WITH VALVE WITH VALVE WITH	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF FLOAT OPERATED VALVE QUICK OPENING VALVE 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - FC - FCO - FCO - FCU - FOP - FOP - FOP - FOT - FR - FU - FU - FU - ST - FU - FU - ST -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE	REF - RF - SAD - SD - SF - SF - SF - SF - SF - ST - T - TD - TD - TXV - UH - UST - UV - VFD - WCC - WCO - WF - YCO - YETEM LABEL	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER CLOSET WATER COLED CONDENSER WALL CLEANOUT WATER FILTER WATER HEATER YARD CLEANOUT .S -CRW CORROSION RESISTANT WASTE -CRV CORROSION RESISTANT VENT - RL REFRIGERANT LIQUID - RS REFRIGERANT SUCTION
BALANC THERMA SPRING SWING O DIAPHR 2-WAY S CALVE ARROW ARROW TRIPLE	ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION VALVE WITH 'INDICATING FAIL POSITION	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE ANGLE VALVE 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - EV - FCO - FCO - FCU - FD - FOP - FOP - FOP - FOT - FR - FU - FU - FU - CPD	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE <u>PIPING SY</u> D- LOW PRESSURE STEAM C- LOW PRESSURE STEAM	REF - RF - RH - SAD - SD - SF - SH - SR - ST - T - TD - TD - TP - TXV - UH - UR - UST - UV - VFD - WCC - WF - WC -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COLED CONDENSER WALE CLEANOUT WATER FILTER WATER HEATER YARD CLEANOUT
BALANC THERMA SPRING SWING O DIAPHR 2-WAY S CALVE ARROW ARROW TRIPLE	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION DIVERTING VALVE WITH INDICATING FAIL POSITION ALVE WITH INDICATING FAIL POSITION DUTY VALVE (XX)=DEFINES FAIL POSITION OR NORMA FC=FAIL CLOSED (CONTROL VALVE OR DA NC=NORMALLY CLOSED (CONTROL VALVE OR DA NC=NORMALLY CLOSED (CONTROL VALVE OR DA	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEFF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE ANGLE VALVE L POSITION DAMPER) MPER) VE OR DAMPER) 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - FCO - FCO - FCO - FCU - FOP - FOP - FOT - FR - FU - FU - FU - FU - FU - HPS(X HPC HWS HWR	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE <u>PIPING SY</u> <u>PIPING SY</u> C LOW PRESSURE STEAM C LOW PRESSURE STEAM C HIGH PRESSURE STEAM C HIGH PRESSURE STEAM C HIGH PRESSURE CONDENSATE CONDENSATE PUMP DISCHARGE C HOT WATER SUPPLY C HOT WATER RETURN	REF - RF - RH - SAD - SD - SF - SF - SR - ST - T - TD - TD - TP - TXV - UH - UR - UST - UH - UST - UV - VFD - WC - WCO - WCO - WF - YCO - YETEM LABEL	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER WALE CLEANOUT WATER FILTER WATER HEATER YARD CLEANOUT S -CRW CORROSION RESISTANT WASTE -CRV CORROSION RESISTANT VENT - RL REFRIGERANT LIQUID -RS REFRIGERANT SUCTION -RHG REFRIGERANT HOT GAS -G LOW PRESSURE GAS
BALANC THERMA SPRING SWING O DIAPHR 2-WAY S CALVE ARROW ARROW TRIPLE	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION DIVERTING VALVE WITH INDICATING FAIL POSITION ALVE WITH INDICATING FAIL POSITION DUTY VALVE (XX)=DEFINES FAIL POSITION OR NORMA FC=FAIL CLOSED (CONTROL VALVE OR DA	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEFF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE ANGLE VALVE L POSITION DAMPER) MPER) VE OR DAMPER) 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - EJ - EV - EV - FCO - FCO - FCU - FCO - FCU - FD - FOP - FOP - FOT - FR - FU - FU - FU - CPD - HPS(X HPC HWR CHS CHR	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE <u>PIPING SV</u> <u>PIPING SV</u> C LOW PRESSURE STEAM C LOW PRESSURE STEAM C LOW PRESSURE STEAM C HIGH PRESSURE STEAM C HIGH PRESSURE CONDENSATE CONDENSATE PUMP DISCHARGE CONDENSATE PUMP DISCHARGE HOT WATER RETURN C CHILLED WATER SUPPLY C CHILLED WATER RETURN	REF - RF - RH - SAD - SD - SF - SF - SF - SF - SF - T - TD - TD - TD - TD - TD - TXV - UH - UR - UST - UV - VFD - WCC - WCC - WCC - WCC - WCC - WCC - WF - YCO - Y STEM LABEL	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER CLOSET WATER CLOSET WATER FILTER WATER HEATER YARD CLEANOUT S -CRW CORROSION RESISTANT WASTE -CRV CORROSION RESISTANT VENT - RL REFRIGERANT LIQUID - RS REFRIGERANT HOT GAS - G LOW PRESSURE GAS HPG(XX) - HIGH PRESSURE GAS - LP LIQUIFIED PETROLEUM GAS - FS - FUEL SUPPLY
BALANC THERMA SPRING SWING O DIAPHR 2-WAY S CALVE ARROW ARROW TRIPLE	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE AGM VALVE AGM VALVE SOLENOID VALVE BODY AS SPECIFIED) MIXING VALVE WITH INDICATING FAIL POSITION DIVERTING VALVE WITH INDICATING FAIL POSITION ALVE WITH INDICATING FAIL POSITION DUTY VALVE (XX)=DEFINES FAIL POSITION OR NORMA FC=FAIL CLOSED (CONTROL VALVE OR DA NC=NORMALLY CLOSED (CONTROL VALVE OR DA NC=NORMALLY OPEN (CONTROL VALVE OR DA NO=NORMALLY OPEN (CONTROL VALVE)	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEFF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE ANGLE VALVE L POSITION DAMPER) MPER) VE OR DAMPER) 	CT - CUH - CV - DC - DH - DS - EF - EH - EJ - EV - FCO - FCO - FOP - FOP - FOP - FOP - FU - FU - FU - FU - HPC - HWS - CHR - HWR - CHR - TWS -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE DIFING SU CONDENSATE STEAM C HIGH PRESSURE STEAM C HIGH	REF - RF - RH - SAD - SD - SF - SH - SR - ST - T - TD - TD - TP - TXV - UH - UR - UST - UV - VFD - WC - WCO - WCO - WF - WCO - WF - WCO - WF - WCO - WF - - - - - - - - - - - - - -	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER CLOSET WATER COOLED CONDENSER WALL CLEANOUT WATER FILTER YARD CLEANOUT
BALANC THERMA SPRING SWING O DIAPHR 2-WAY S XX 2-WAY S XX 2-WAY C VALVE 3-WAY M ARROW ARROW TRIPLE	ALVE ALVE ALVE AL EXPANSION VALVE AL EXPANSION VALVE CHECK VALVE AGM VALVE AGM VALVE AGM VALVE COLENOID VALVE CONTROL VALVE BODY AS SPECIFIED) AIXING VALVE WITH INDICATING FAIL POSITION ALVE WITH INDICATING FAIL POSITION DUTY VALVE (XX)=DEFINES FAIL POSITION OR NORMAL FC=FAIL CLOSED (CONTROL VALVE OR DA NC=NORMALLY CLOSED (CONTROL VALVE OR DA NC=NORMALLY OPEN (CONTROL VALVE OR DA NC=N	 (DOWNSTREAM SETPOINT) PRESSURE REDUCING VALVE-PRV (UPSTREAM SETPOINT) GAS REGULATOR REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) PRESSURE RELIEF VALVE (RV) OR SAFETY VALVE (SV) VACUUM RELIEF/VACUUM BREAKER RUPTURE DISK PRESSURE RELIEF RUPTURE DISK VACUUM RELIEF FLOAT OPERATED VALVE QUICK OPENING VALVE GAS SHUTOFF VALVE ANGLE VALVE ANGLE VALVE L POSITION DAMPER) WPERS) VE OR DAMPER): OR DAMPER): 	CT - CUH - CV - D - DC - DH - DS - EF - EH - EJ - ET - EV - FCO - FCO - FCU - FCO - FOP - FOP - FOT - FR - FT - FU -	CLINICAL SINK COOLING TOWER CABINET UNIT HEATER CONVERTOR DAMPER DUST COLLECTOR DEHUMIDIFIER DOWNSPOUT EXHAUST FAN EXHAUST FAN EXHAUST HOOD/ ELECTRIC HEATER EXPANSION JOINT EXPANSION JOINT EXPANSION TANK EXHAUST VALVE FILTER FLOOR CLEANOUT FAN COIL UNIT FLOOR DRAIN FUEL OIL PUMP FUEL OIL PUMP FUEL OIL TANK FIN TUBE RADIATION FLASH TANK FURNACE	REF - RF - RH - SAD - SD - SF - SF - SF - SF - SF - T - TD - TD - TD - TD - TXV - UH - UST - UV - VFD - VFD - WCC - WCC - WCC - WCC - WCC - WCC - WF - YCO - YSTEM LABEL	ROOF EXHAUST FAN RETURN FAN RELIEF HOOD SOUND ATTENUATING DEVICE SUCTION DIFFUSER SUPPLY FAN SHOWER SERVICE RECEPTOR STORAGE TANK/STEAM TRAP TANK TRENCH DRAIN TRAP PRIMER THERMAL EXPANSION VALVE UNIT HEATER URINAL UNDERGROUND STORAGE TANK UNIT VENTILATOR VALVE VARIABLE FREQUENCY DRIVE WATER CLOSET WATER COOLED CONDENSER WALL CLEANOUT WATER FILTER WATER FILTER YARD CLEANOUT S -CRW CORROSION RESISTANT WASTE -CRV CORROSION RESISTANT VENT - RL REFRIGERANT LIQUID -RS REFRIGERANT SUCTION -RHG REFRIGERANT HOT GAS -G LOW PRESSURE GAS HPG(XX) - HIGH PRESSURE GAS - LP LIQUIFIED PETROLEUM GAS - FS FUEL SUPPLY - FR FIGER TIME

		ALTILO	
— ~ —	GENERAL PIPELINE STRAINER WITHOUT DRAIN	STP ()	FIRE STANDI FILTER/REGI
	GENERAL PIPELINE STRAINER WITH DRAIN	₩ Į	
	STEAM & CONDENSATE PIPELINE STRAINER		THERMOMET
	WATER SYSTEM PIPELINE STRAINER	 	(WITH GAUG
	SUCTION DIFFUSER	¯¯¯	FLOW SWITC
立 	DUPLEX STRAINER	<u> </u>	AUTOMATIC
	BASKET STRAINER		MANUAL AIR
	FLANGE UNION	Ĭ ⊠	THERMOSTA
]	2" AND SMALLER, CAP OR PLUG 2-1/2" AND LARGER, BLIND FLANGE		TEST PLUG (CONCENTRIC
$- \Box$	INVERTED BUCKET TRAP		
$-\Box$	FLOAT AND THERMOSTATIC TRAP		CONCENTRIC
⊗	THERMOSTATIC TRAP		ECCENTRIC
	EXPANSION JOINT		DIRECTION C
$-\overline{\infty}$	PIPE FLEXIBLE CONNECTION		DIRECTION C
<u> </u>	BALL JOINT	\rightarrow	PIPE GUIDE
	NOISE SUPPRESSOR		PIPE SLEEVE
+	WATER PIPING CONNECTION	— × —	ANCHOR
Ų	SHOCK SUPPRESSOR	—— — • WH	
	HEAT TRACE TERMINATION POINT		HOSE BIBB (I
- 	HEAT TRACE POWER	⊠ FD ⊘ FD	FLOOR DRAI
U	CONNECTION POINT	⊘ RD	ROOF DRAIN
<u></u>	MEDICAL GAS TERMINAL (MG) OR LAB GAS TERMINAL (LG)	⊚ HD	HUB DRAIN (FIXTURE WA
	VALVES IN A BOX (VIB)		P-TRAP
	FIRE SPRINKLER HEAD (LETTER	⊖ CO — CO	CLEANOUT (
Ŭ	DESIGNATES TYPE-SEE SCHEDULE)	—————————————	SOIL, STORM
⊲	FIRE SPRINKLER HEAD (SIDEWALL)	\$	SLIDE
FHQC	FIRE HOSE CABINET (FHC)	-	

FVC C FIRE VALVE CABINET (FVC)

ER/REGULATOR

RMOMETER
SSURE GAUGE TH GAUGE VALVE)
W SENSOR
W SWITCH
OMATIC AIR VENT
IUAL AIR VENT
RMOSTATIC AIR VENT
T PLUG (PRESSURE/TEMP.) ICENTRIC OR ECCENTRIC REDUCER
ENTRIC REDUCER
ECTION OF PITCH (DOWN)
ECTION OF FLOW
E GUIDE
SLEEVE
HOR
L HYDRANT (WH)
SE BIBB (HB)
OR DRAIN (FD)

F DRAIN (RD) DRAIN (HD) URE WASTE TRAP

ANOUT (CO) ., STORM, OR WASTE PIPE PLUG

— FOF — FUEL OIL FILL —GWS— GLYCOL WATER SUPPLY — FOG — FUEL OIL GAUGE —GWR— GLYCOL WATER RETURN -LOS - LUBRICATION OIL SUPPLY —PCWS— PROCESS COOLING WATER SUPPLY —LOR — LUBRICATION OIL RETURN —PCWR— PROCESS COOLING WATER RETURN — – POTABLE COLD WATER — – – — POTABLE HOT WATER — JWS — JACKET WATER SUPPLY — – – – POTABLE HOT WATER RETURN —JWR — JACKET WATER RETURN — 180 – POTABLE HOT WATER 180° —— T—— TEMPERED WATER — 180[°]R — POTABLE HOT WATER RETURN 180° ——HT—— HEAT TRACE HOT WATER ----- VENT — DA — DEALKALIZED WATER --CRV-- CORROSION RESISTANT VENT ------DM ------ DEMINERALIZED WATER --CWV-- CLEARWATER VENT --LV-- LOCAL VENT —DCW— DOMESTIC COLD WATER —DHW— DOMESTIC HOT WATER — MV—— MEDICAL VACUUM — DHR — DOMESTIC HOT WATER RETURN — LV — LAB VACUUM — LCW — LAB COLD WATER —WGE— WASTE GAS EVACUATION —LHW — LAB HOT WATER — A(XX) — SHOP AIR - CA(XX) - COMPRESSED AIR — PCW — PROCESS COLD WATER — IA(XX) — INSTRUMENT AIR — PHW — PROCESS HOT WATER — MA— MEDICAL AIR - PHR - PROCESS HOT WATER RETURN —— LA —— LAB AIR —ADW—— ANIMAL DRINKING WATER — O₂ — OXYGEN ——AW—— ANIMAL WASTE — N₂O — NITROUS OXIDE ——D—— DRAIN — N₂ — NITROGEN ------ WASTE OR SOIL LINE ——TP—— TRAP FILLER LINE —CWW— CLEARWATER WASTE — F — FIRE LINE ——GW—— GREASE WASTE — SPR — SPRINKLER (XX) = SYSTEM PRESSURE IN PSIG —— S —— STORM

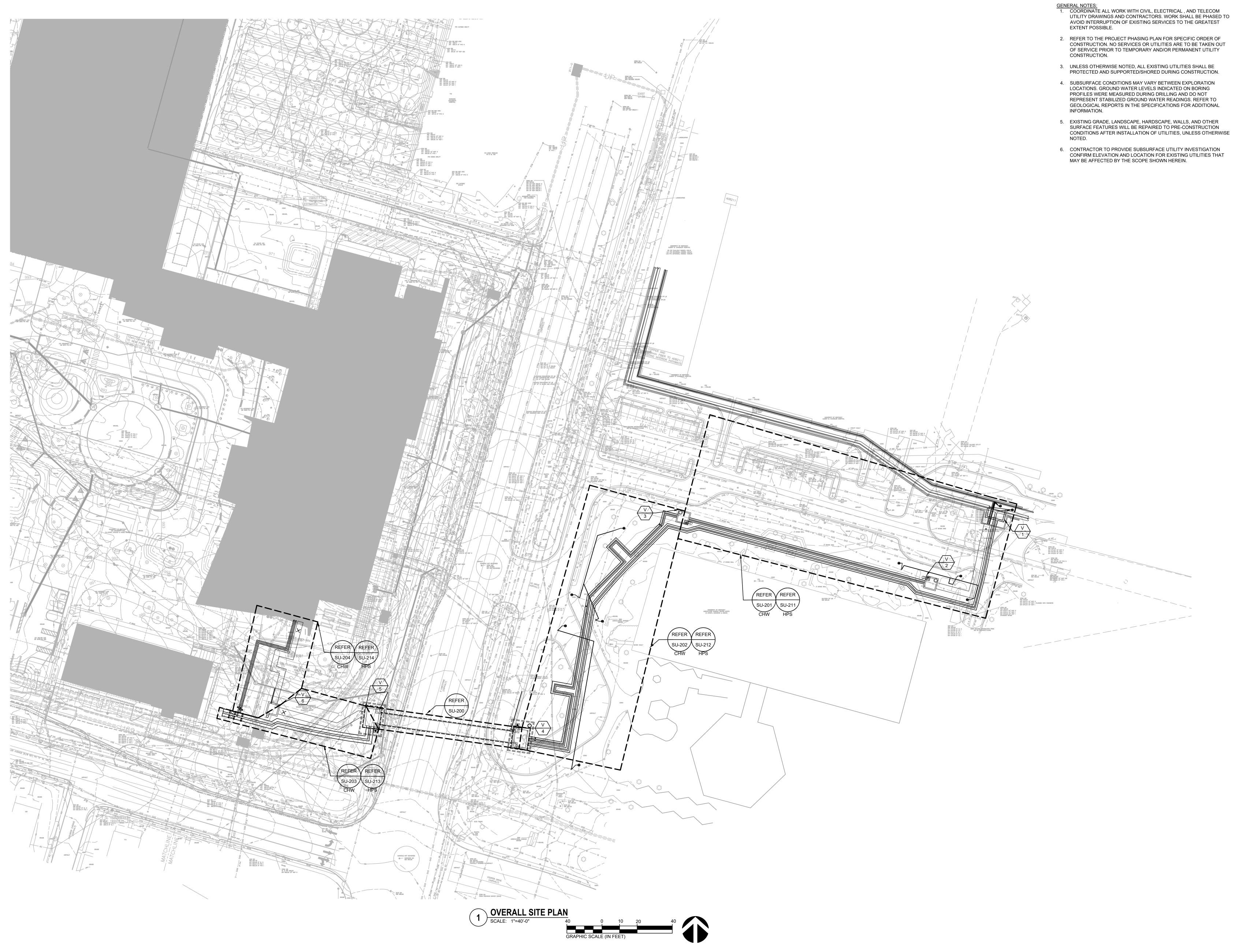
GENERAL

SITE SYSTEMS

NEW EXISTING

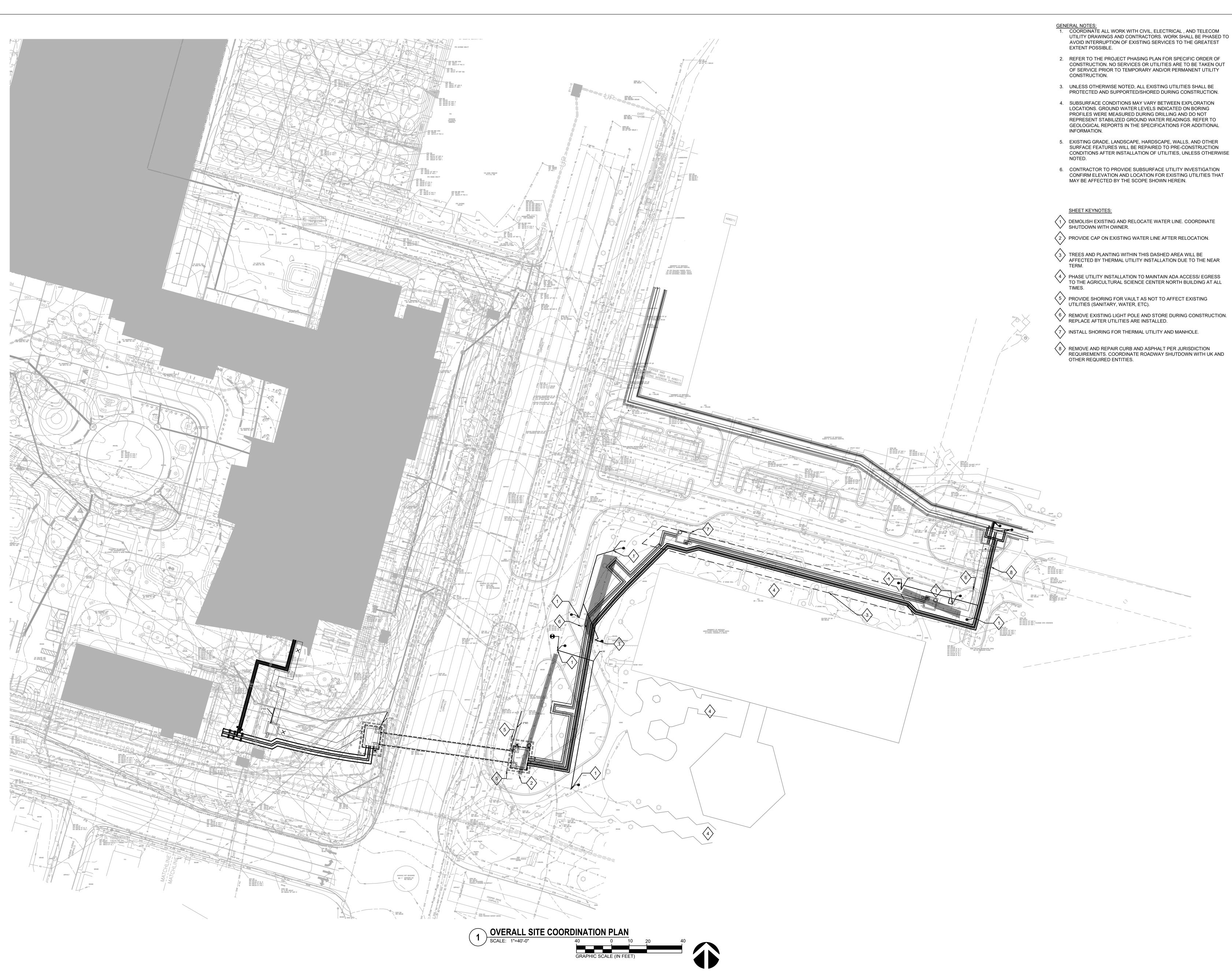
NEW EXISTING ——W—— ——XW—— WATER LINE MH ○ MH MANHOLE ♂ FH FIRE HYDRANT ■ CB/INL □ CB/INL CATCH BASIN OR INLET — FM — XFM — FORCE MAIN □ CI □ CI CURB INLET ——F—— ——XF—— FIRE MAIN



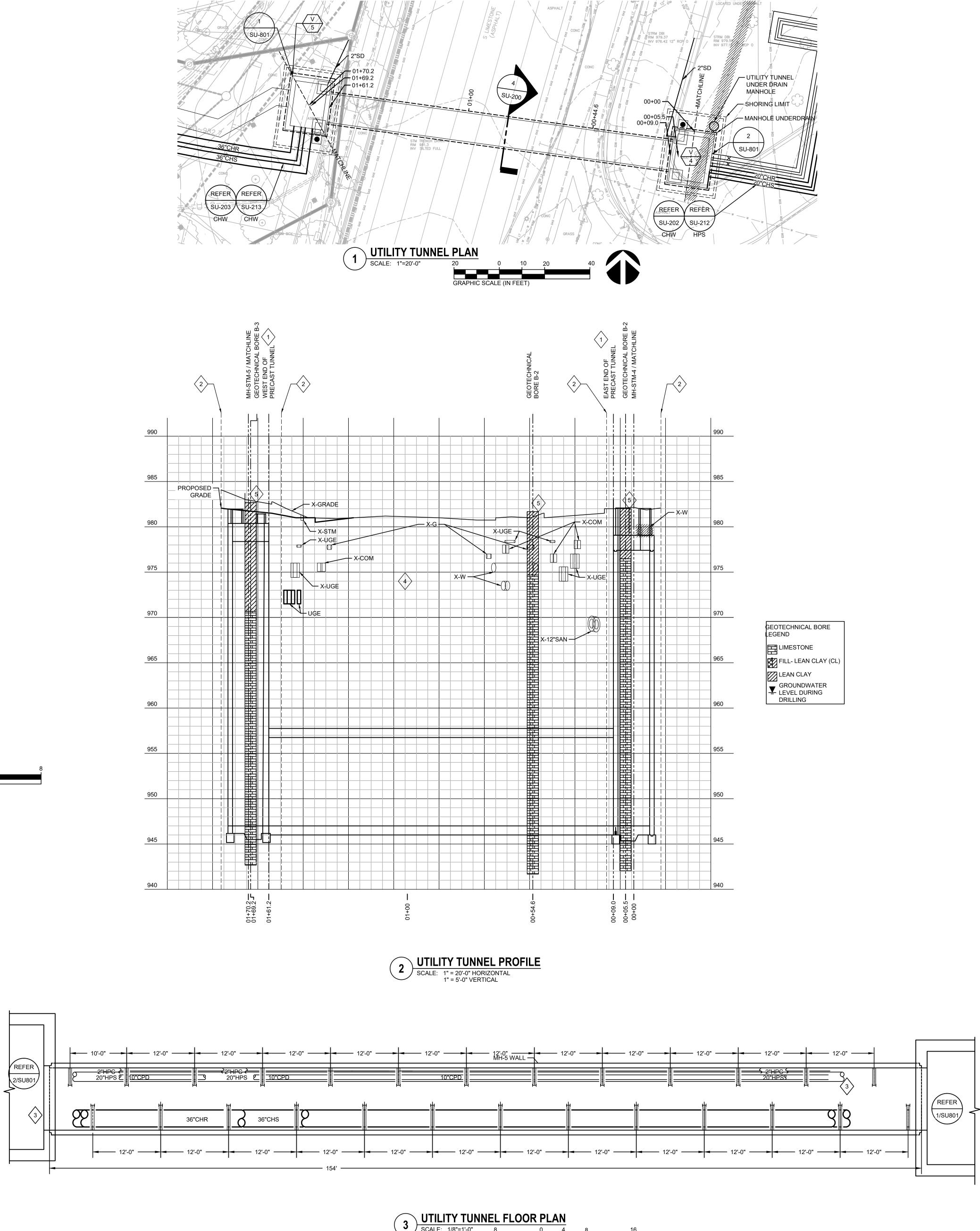


- 2. REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL
- 5. EXISTING GRADE, LANDSCAPE, HARDSCAPE, WALLS, AND OTHER SURFACE FEATURES WILL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS AFTER INSTALLATION OF UTILITIES, UNLESS OTHERWISE
- 6. CONTRACTOR TO PROVIDE SUBSURFACE UTILITY INVESTIGATION CONFIRM ELEVATION AND LOCATION FOR EXISTING UTILITIES THAT



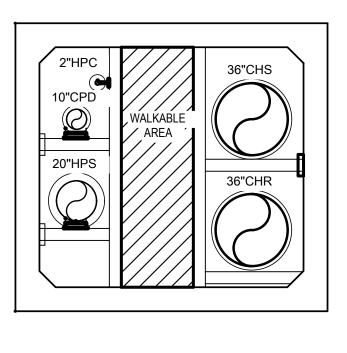






SCALE: 1/8"=1'-0"

GRAPHIC SCALE (IN FEET)



4 UTILITY TUNNEL LOOKING EAST SCALE: 1/4" = 1'-0" 4 0 2

GRAPHIC SCALE (IN FEET

- GENERAL NOTES: 1. COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST EXTENT POSSIBLE.
- 2. REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL

SHEET KEYNOTES:

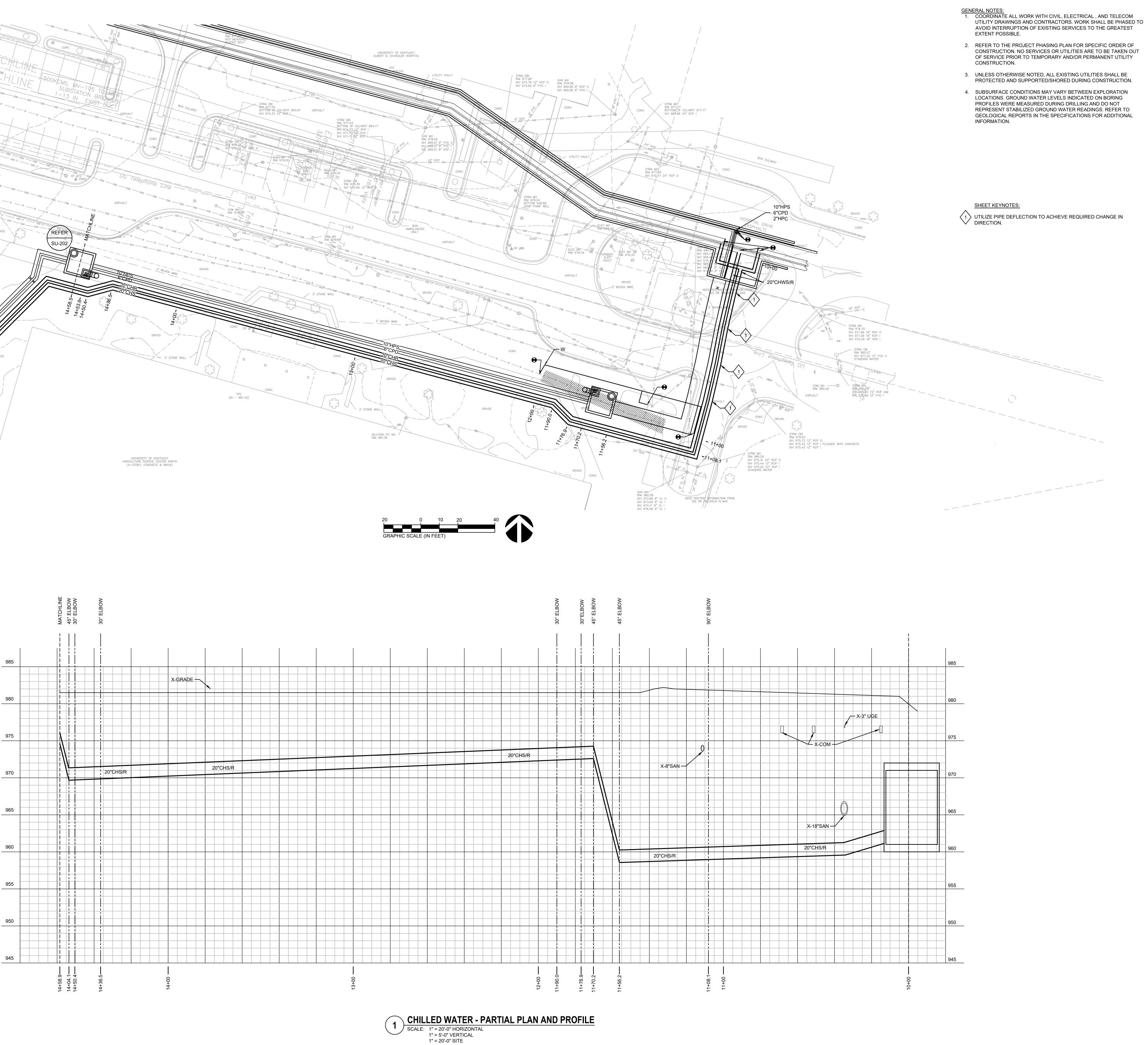
INFORMATION.

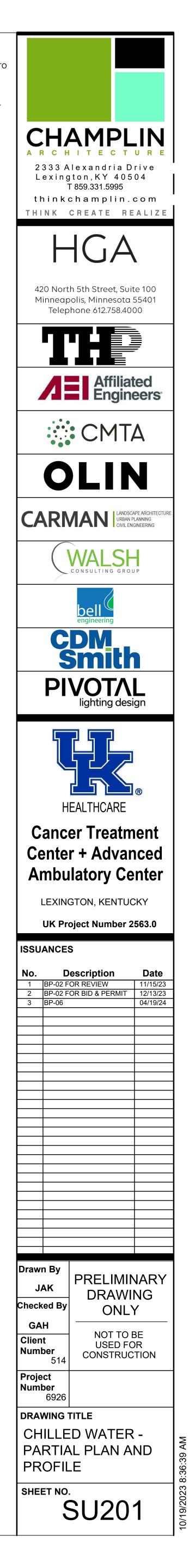
- MECHANICAL CONTRACTOR SHALL PROVIDE PIPING, PIPE SUPPORT STRUCTURES, CONNECTION TO CONCRETE WALL AT TUNNEL, INSULATION AND JACKETING, AND ALL OTHER APPURTENANCES AND ITEMS SHOWN ON THIS PLAN WITH THE EXCEPTION OF THE PRECAST UTILITY TUNNEL. PRECAST UTILITY TUNNEL BETWEEN STATION NUMBERS 00+09.0 AND 01+61.2 SHALL BE PROVIDED BY TUNNEL CONTRACTOR. 2 DASHED LINE DENOTES EXCAVATION LIMITS. EXCAVATION AND SHORING SHALL BE PROVIDED BY TUNNEL CONTRACTOR. CONCRETE CONTRACTOR SHALL PROVIDE MANHOLES MATING TO PRECAST TUNNEL AND ADDITIONAL EXCAVATION FOR MANHOLE SLAB, MANHOLE SUMP PIT AND UTILITY TUNNEL UNDERDRAIN MANHOLE. CONTRACTOR SHALL MAINTAIN DEWATERING SYSTEM WITHIN EXCAVATION THAT SHALL BE PROVIDED BY OTHERS.
- 3 PROVIDE INTERMITTENT PIPE HANGERS ON 2"HPC PER THE SPECIFICATIONS.
- 4 TUNNELING CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES BETWEEN THE EXCAVATIONS BETWEEN VAULT 4 AND 5. TUNNELING CONTRACTOR SHALL ALSO PERFORM GEO-TECHNICAL INVESTIGATION TO GAIN A GREATER UNDERSTANDING OF COMPETENT LIMESTONE ROCK THAT CAN BE UTILIZED FOR TUNNELING. UTILITY TUNNEL ELEVATION SHOULD BE ADJUSTED TO A SHALLOWER LOCATION AS EXISTING UTILITIES AND COMPETENT LIMESTONE ROCK ALLOWS. REVIEW PROPOSED TUNNEL ELEVATION AS PART OF PROPOSAL FOR REVIEW.
- $\langle 5 \rangle$ BORING ELEVATIONS ADJUSTED FROM GEO-TECHNICAL REPORT TO MATCH SURVEY ELEVATIONS.

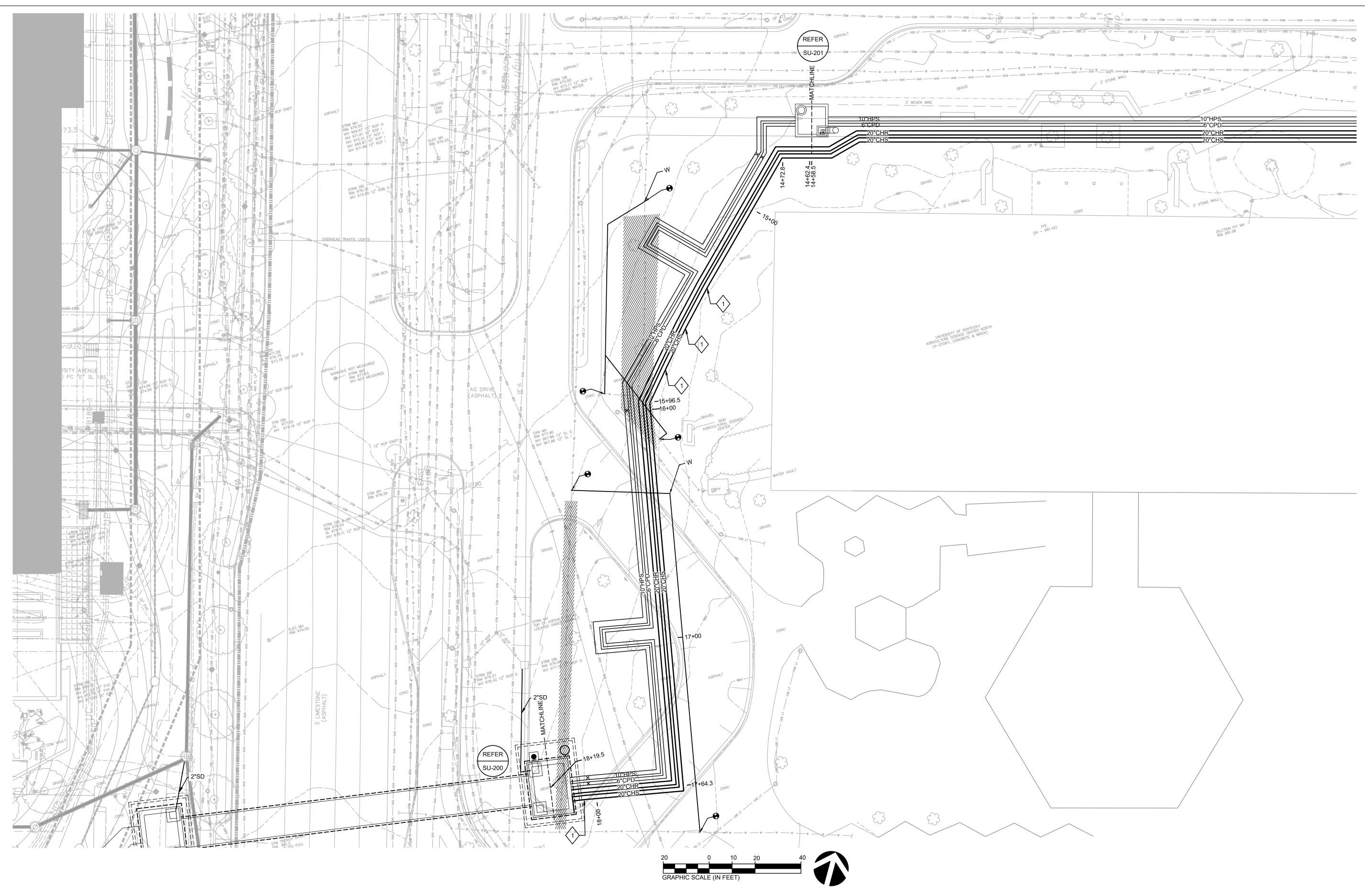
GEOTECHNICAL BORE LEGEND
FILL- LEAN CLAY (CL)
LEAN CLAY
DRILLING

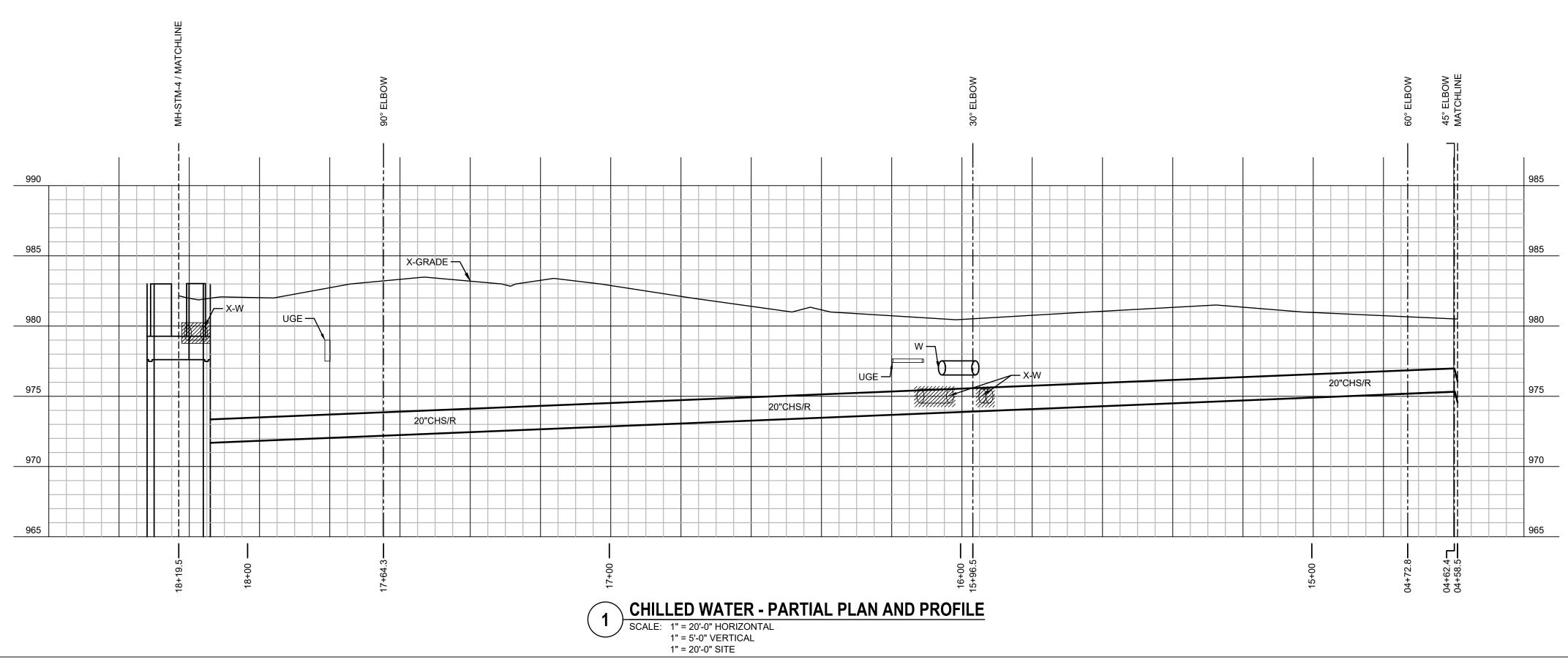


REFER SU-202 > 3' STONE WALL -UNIVERSITY OF KENTUCKY AGRICULTURE SCIENCE CENTER NORTH (4-STORY, CONCRETE & BRICK) AGRICULTURAL SCIENC









GENERAL NOTES:1.COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM
UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO
AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST
EXTENT POSSIBLE.

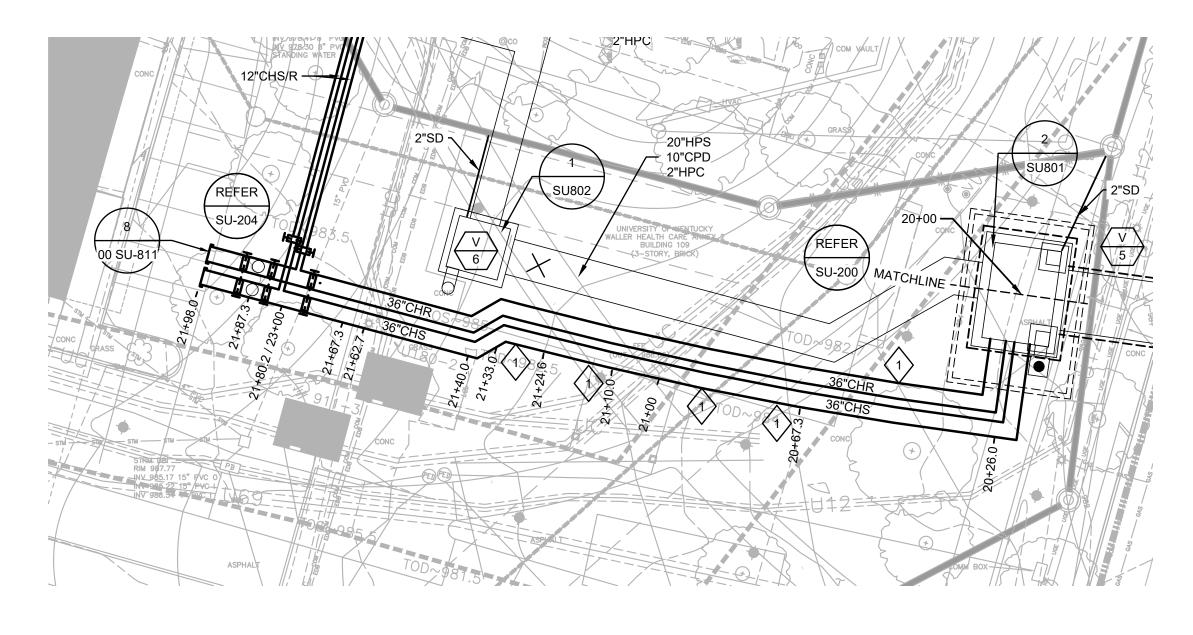
- 2. REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

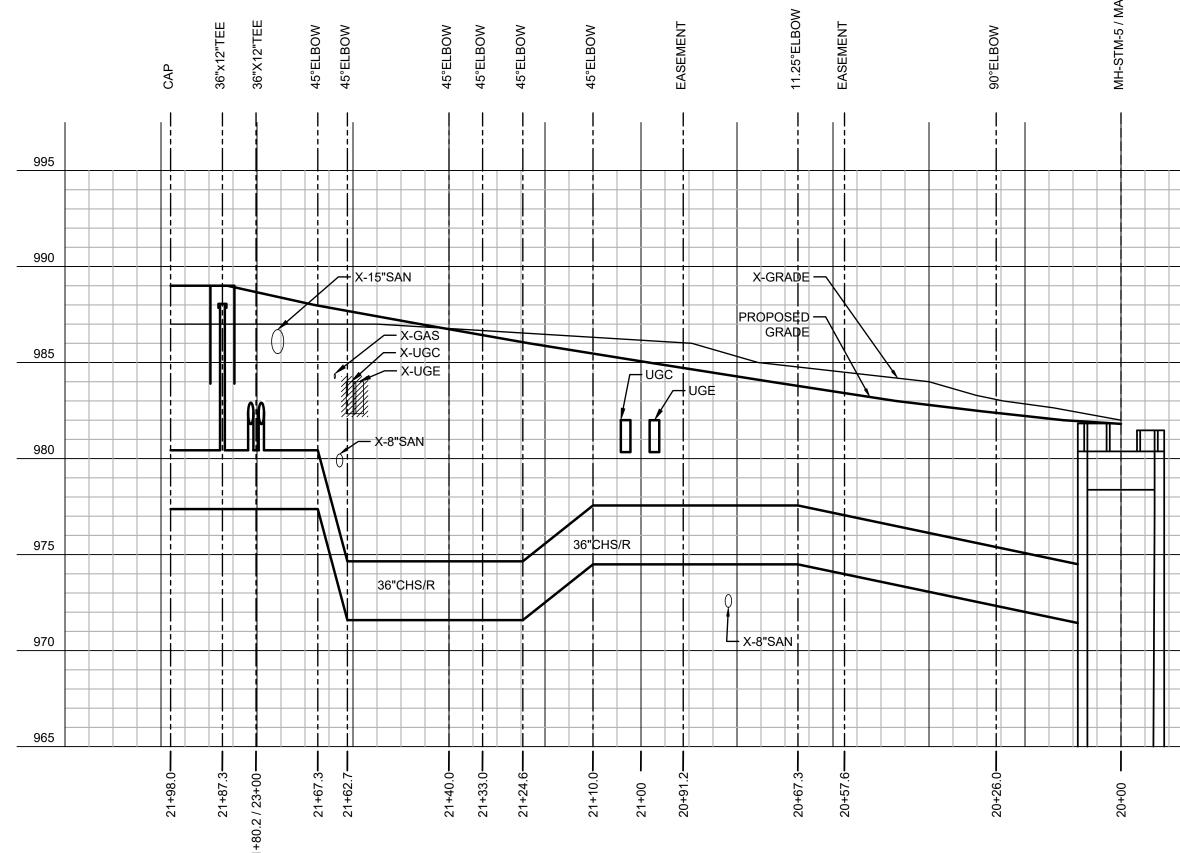
SHEET KEYNOTES:

UTILIZE PIPE DEFLECTION TO ACHIEVE REQUIRED CHANGE IN DIRECTION.



thor 10/19/2023 8:36:39 AM Autodesk Docs://514-6926 - UKHC Cancer Treatment & Advance Ambulatory Center/A23-UKC_SHELLCORE_5146926.rvt



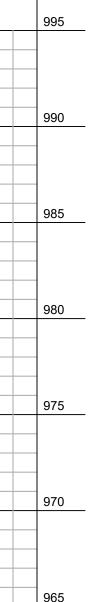


1 CHILLED WATER - PARTIAL PLAN AND PROFILE SCALE: 1" = 20'-0" HORIZONTAL 1" = 5'-0" VERTICAL 1" = 20'-0" SITE GENERAL NOTES:1.COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM
UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO
AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST
EXTENT POSSIBLE.

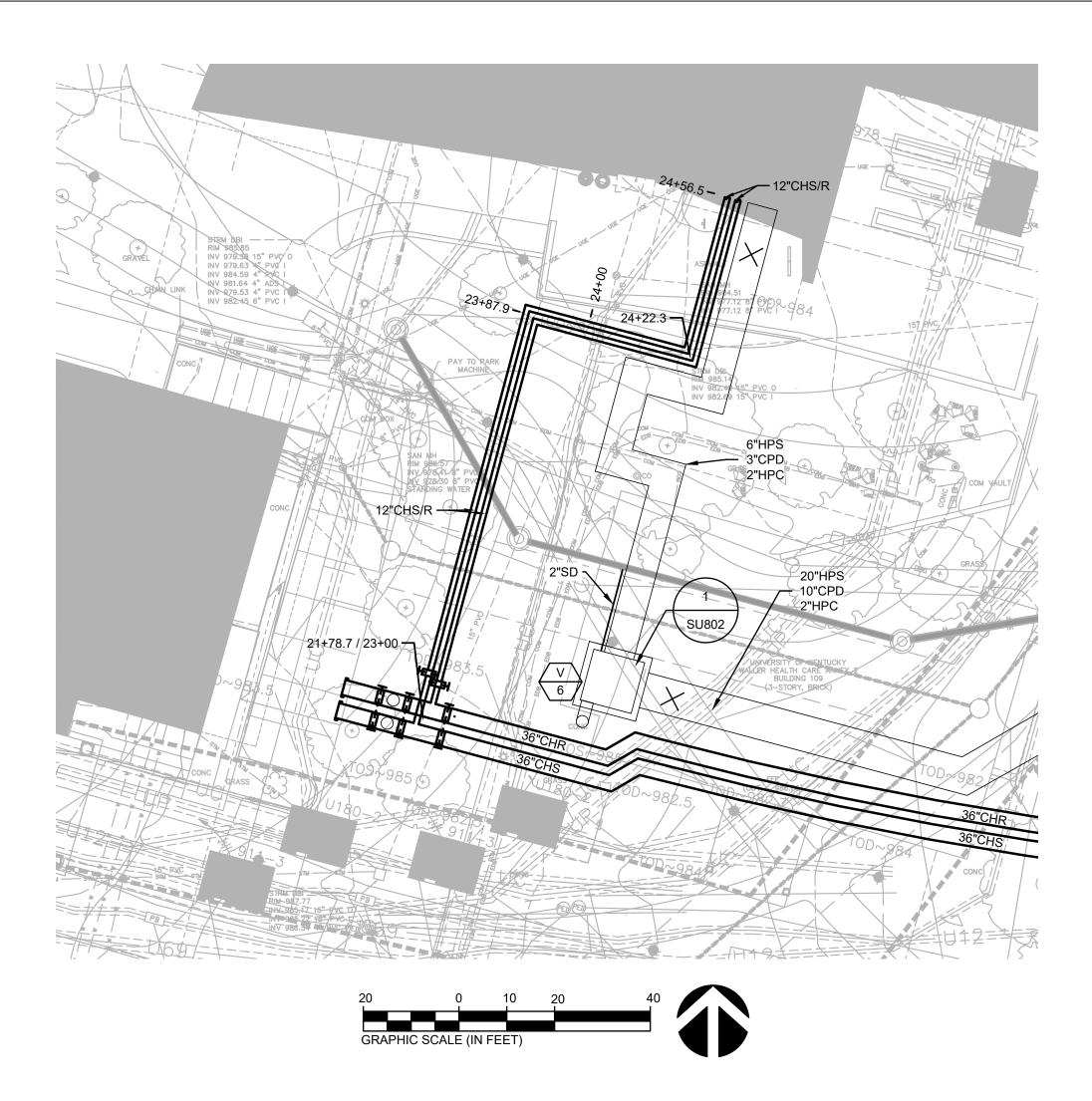
- REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

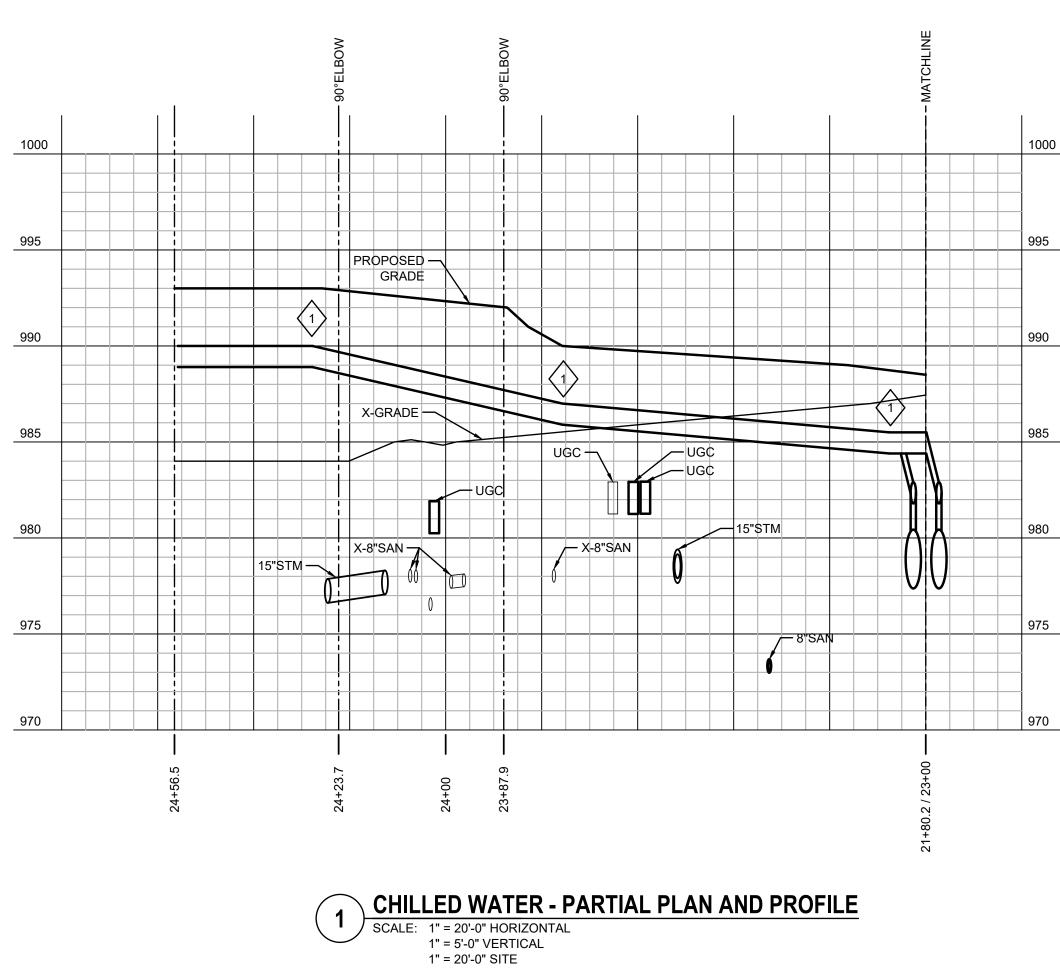
SHEET KEYNOTES:

UTILIZE PIPE DEFLECTION TO ACHIEVE REQUIRED CHANGE IN DIRECTION.









<u>GENERAL NOTES:</u> 1. COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST EXTENT POSSIBLE.

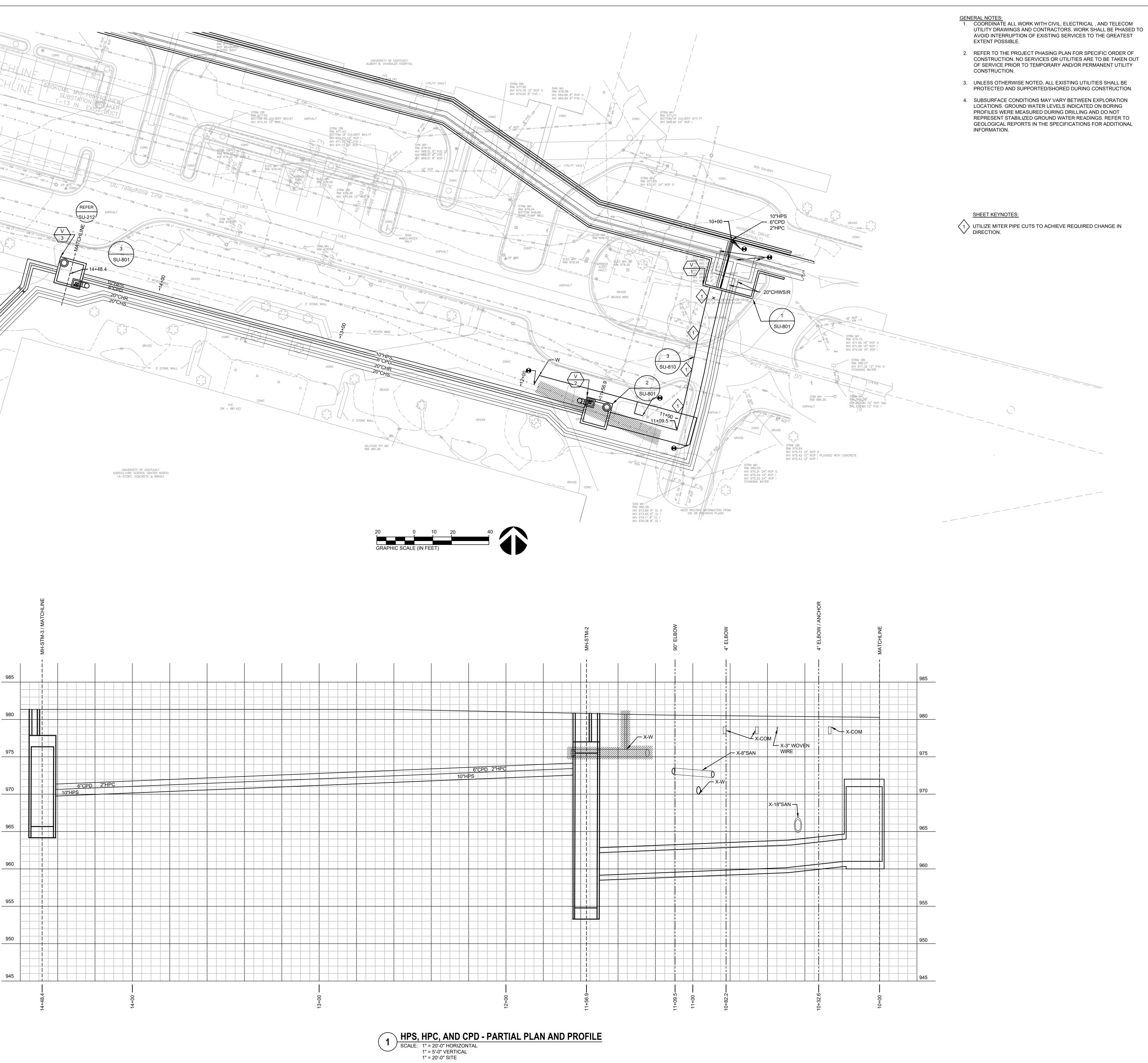
- 2. REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES:

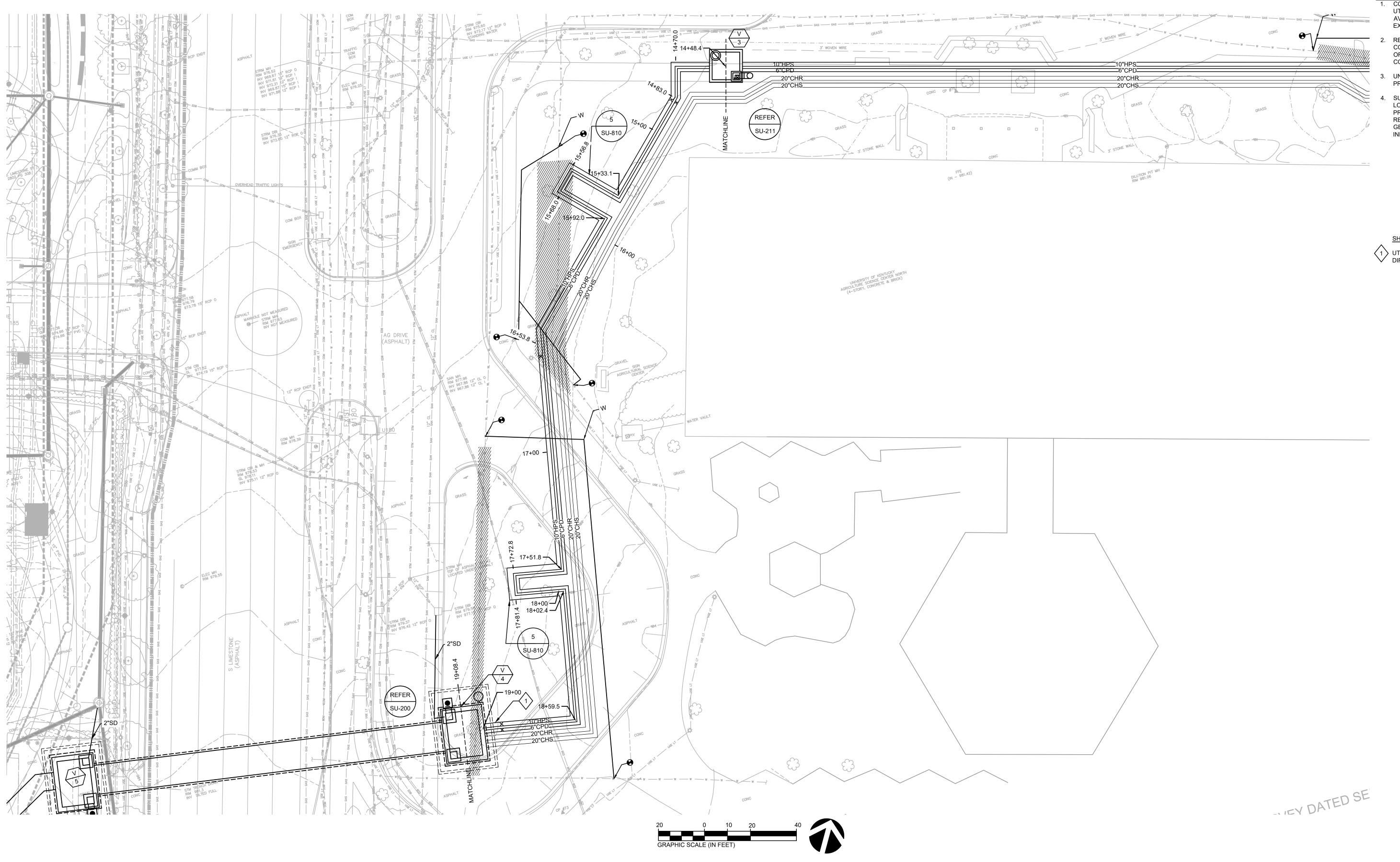
UTILIZE PIPE DEFLECTION TO ACHIEVE REQUIRED CHANGE IN DIRECTION.

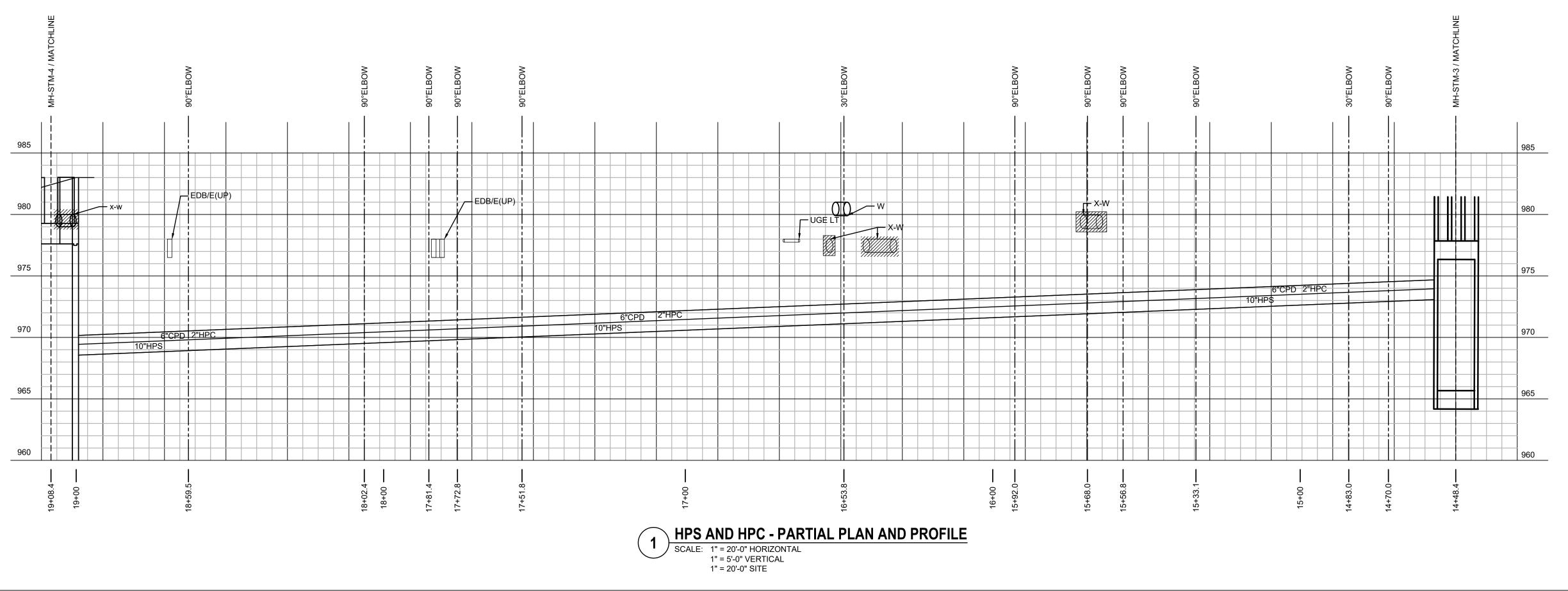


/REFER -\SU-212/ $\left\{ \begin{array}{c} V\\ 3 \end{array} \right\}$ SU-801 3' STONE WALL -UNIVERSITY OF KENTUCKY AGRICULTURE SCIENCE CENTER NORTH (4-STORY, CONCRETE & BRICK) AGRICULTURAL SCIENC









<u>GENERAL NOTES:</u> 1. COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST EXTENT POSSIBLE.

- . REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

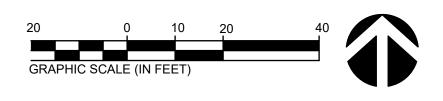
SHEET KEYNOTES:

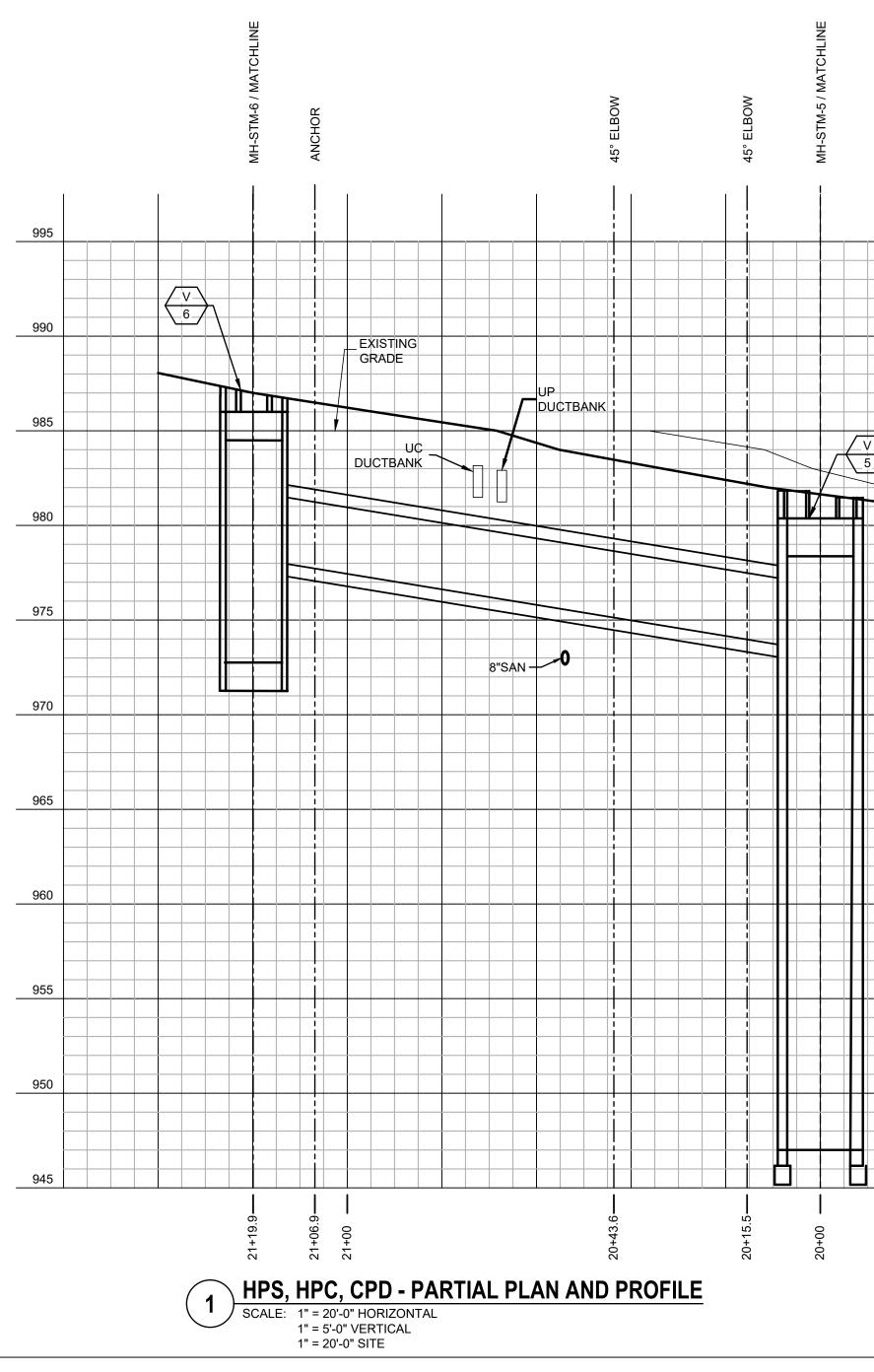
UTILIZE MITER PIPE CUTS TO ACHIEVE REQUIRED CHANGE IN DIRECTION.



thor 10/19/2023 8:36:39 AM Autodesk Docs://514-6926 - UKHC Cancer Treatment & Advance Ambulatory Center/A23-UKC_SHELLCORE_5146926.rvt

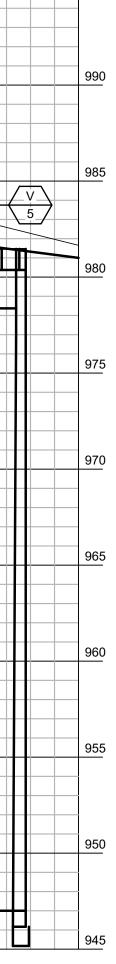






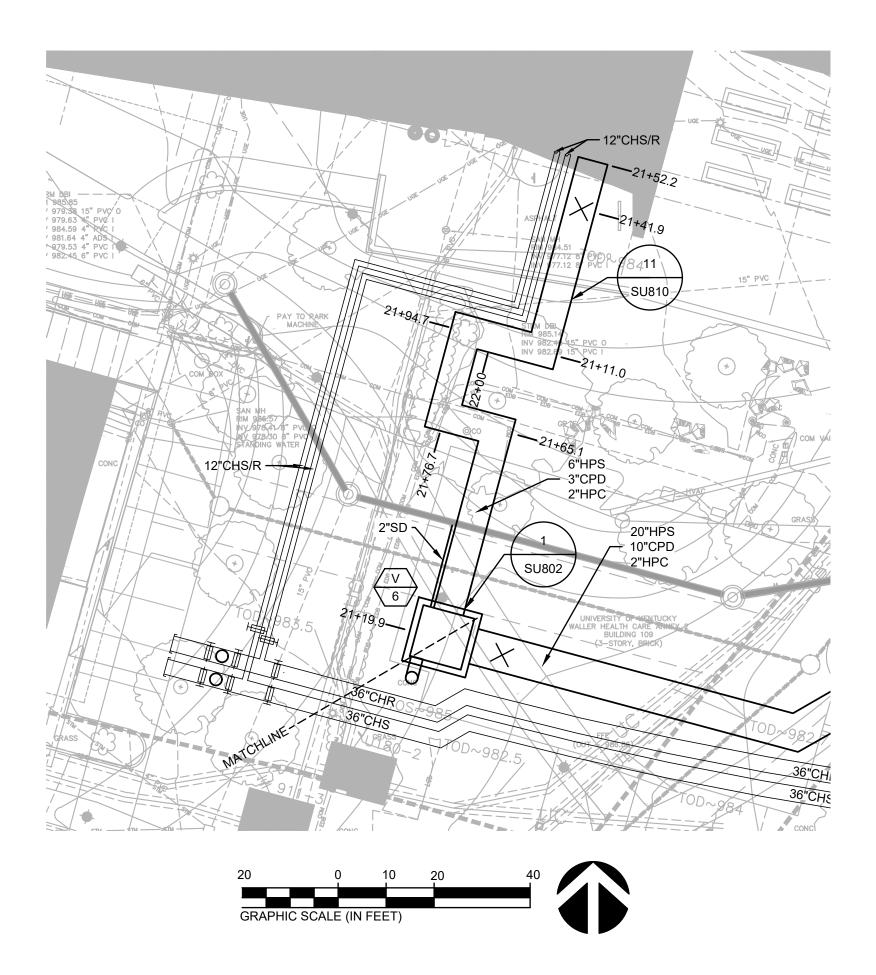
<u>GENERAL NOTES:</u> 1. COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST EXTENT POSSIBLE.

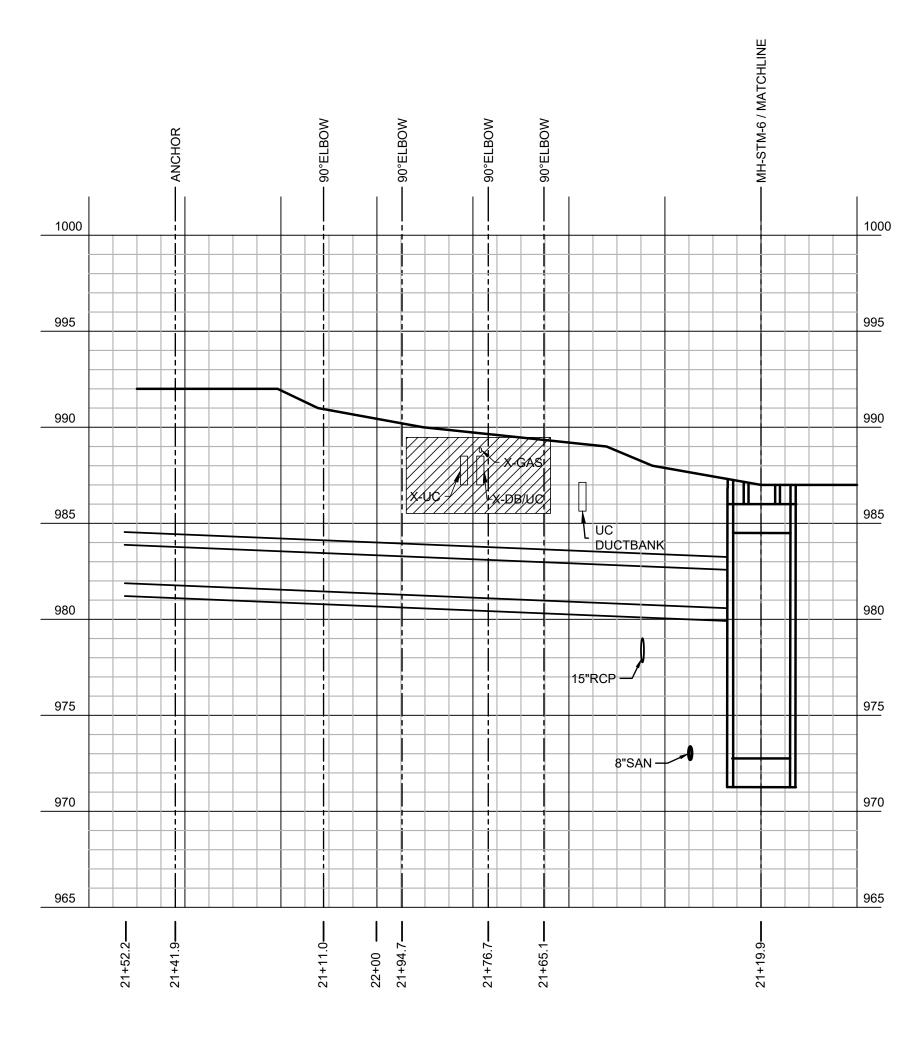
- REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.





thor 10/19/2023 8:36:39 AM Autodesk Docs://514-6926 - UKHC Cancer Treatment & Advance Ambulatory Center/A23-UKC_SHELLCORE_5146926.rvt





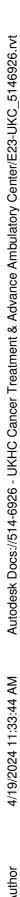
1 HPS, HPC, CPD - PARTIAL PLAN AND PROFILE SCALE: 1" = 20'-0" HORIZONTAL 1" = 5'-0" VERTICAL 1" = 20'-0" SITE

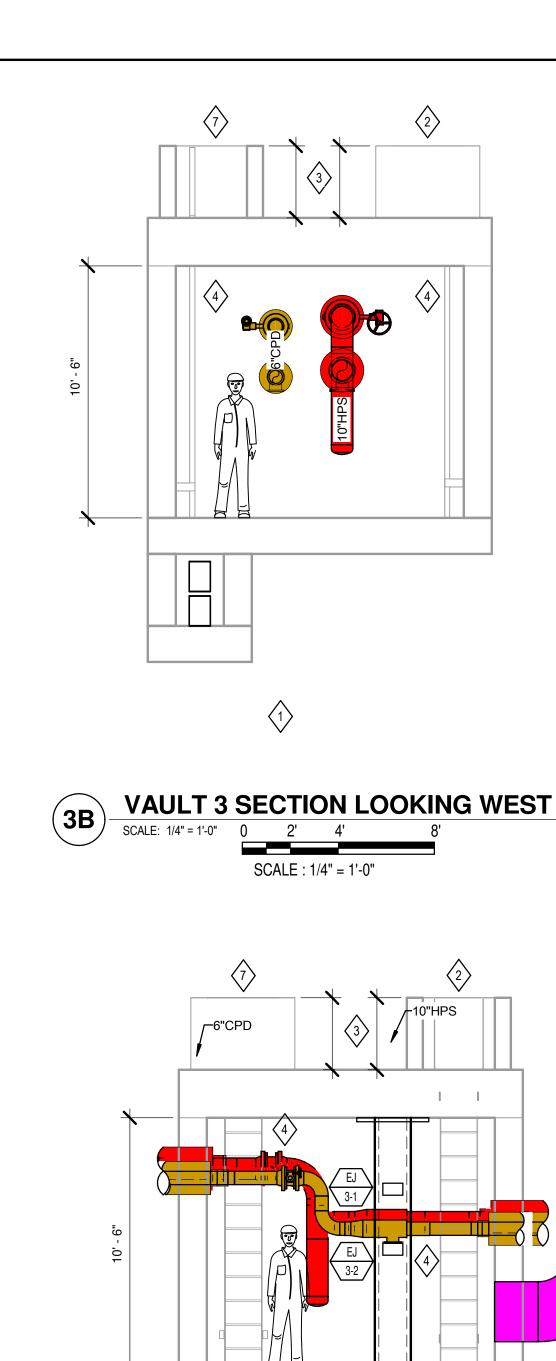
<u>GENERAL NOTES:</u> 1. COORDINATE ALL WORK WITH CIVIL, ELECTRICAL , AND TELECOM UTILITY DRAWINGS AND CONTRACTORS. WORK SHALL BE PHASED TO AVOID INTERRUPTION OF EXISTING SERVICES TO THE GREATEST EXTENT POSSIBLE.

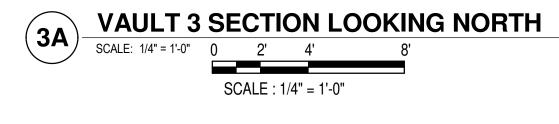
- REFER TO THE PROJECT PHASING PLAN FOR SPECIFIC ORDER OF CONSTRUCTION. NO SERVICES OR UTILITIES ARE TO BE TAKEN OUT OF SERVICE PRIOR TO TEMPORARY AND/OR PERMANENT UTILITY CONSTRUCTION.
- 3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED/SHORED DURING CONSTRUCTION.
- 4. SUBSURFACE CONDITIONS MAY VARY BETWEEN EXPLORATION LOCATIONS. GROUND WATER LEVELS INDICATED ON BORING PROFILES WERE MEASURED DURING DRILLING AND DO NOT REPRESENT STABILIZED GROUND WATER READINGS. REFER TO GEOLOGICAL REPORTS IN THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

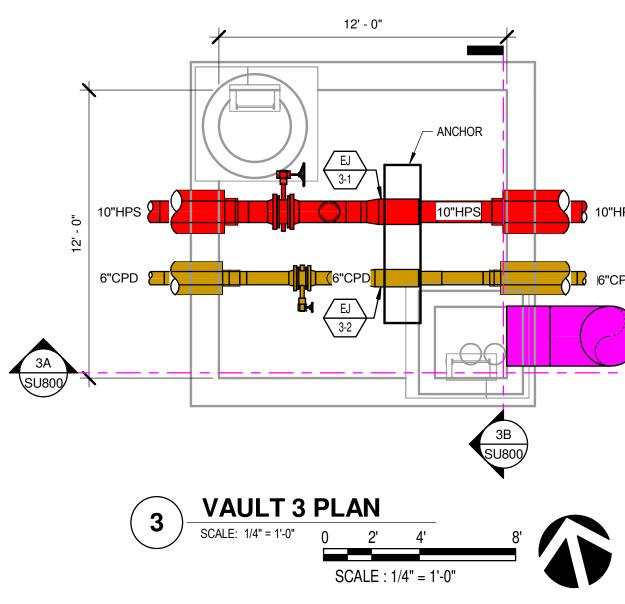


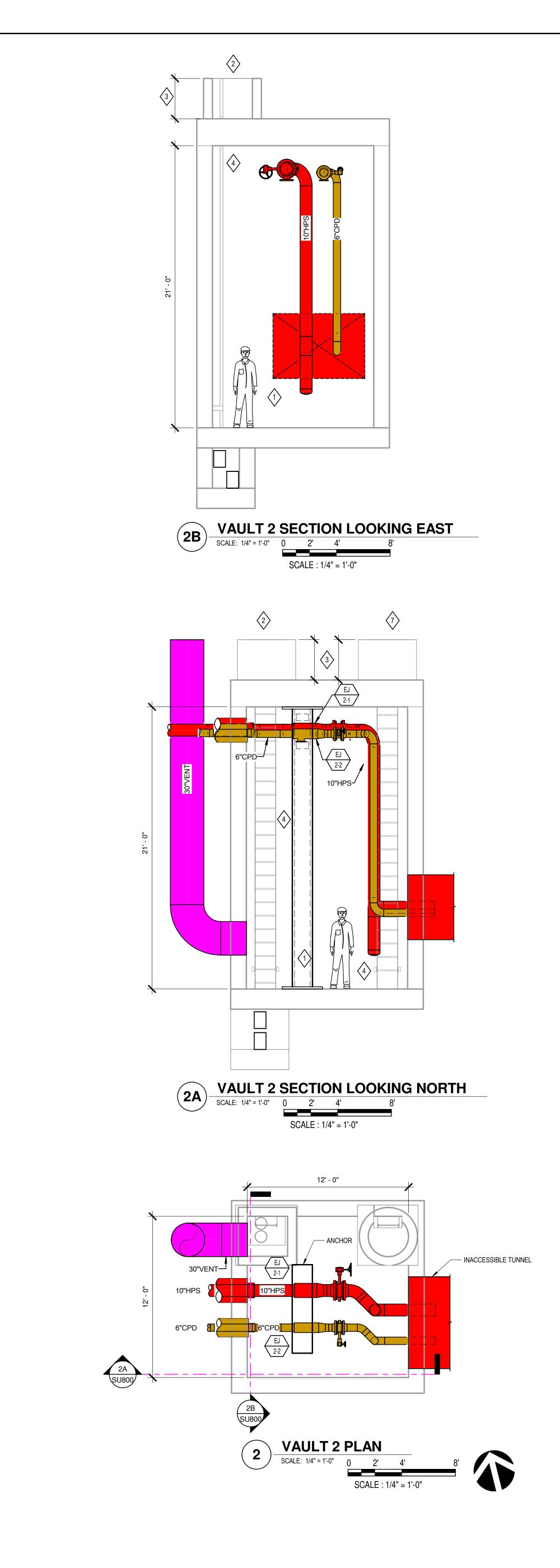
0/19/2023 8:36:39 AM



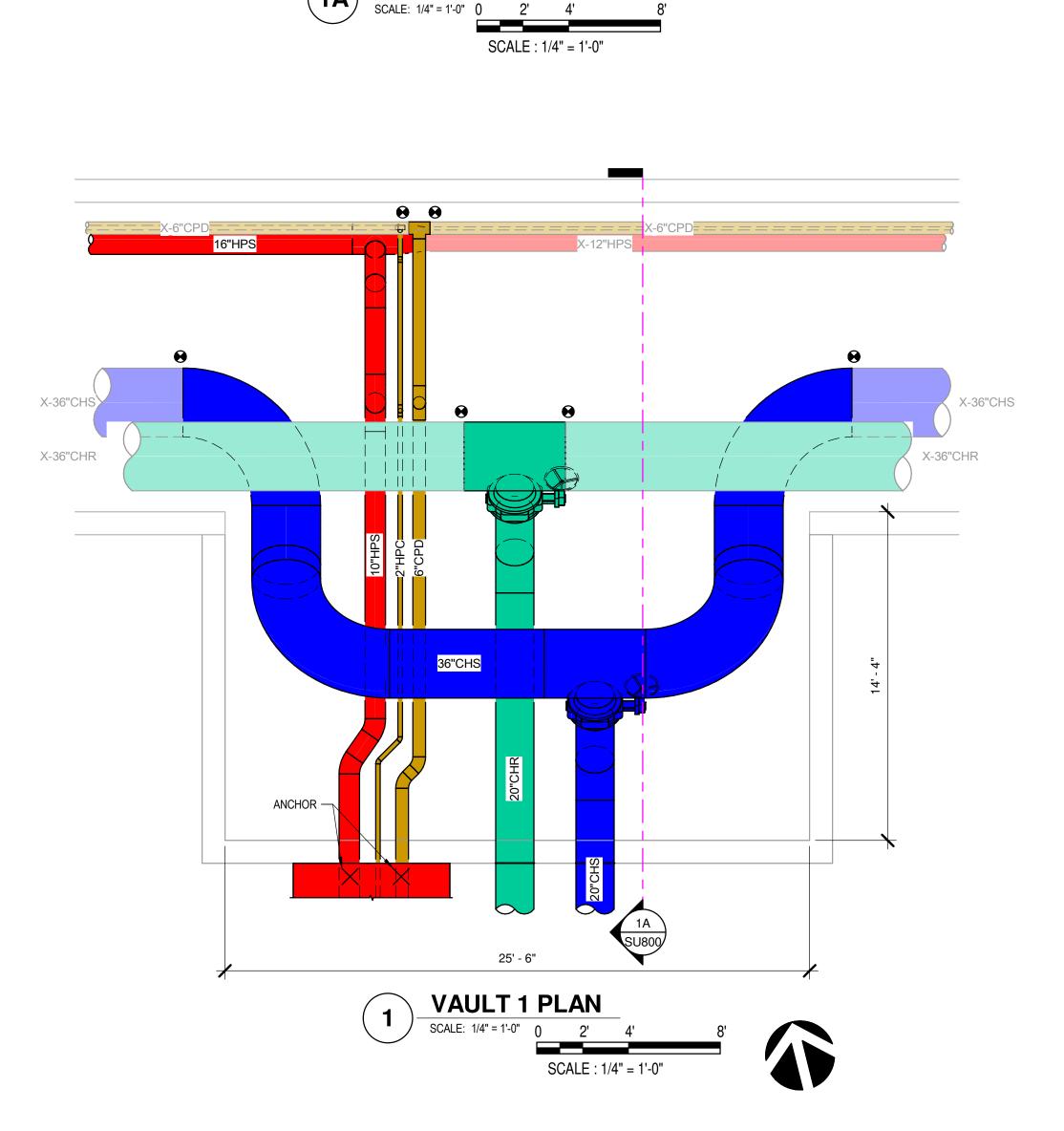


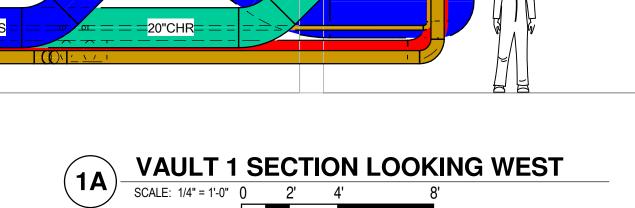






6"CPD _____30"VENT



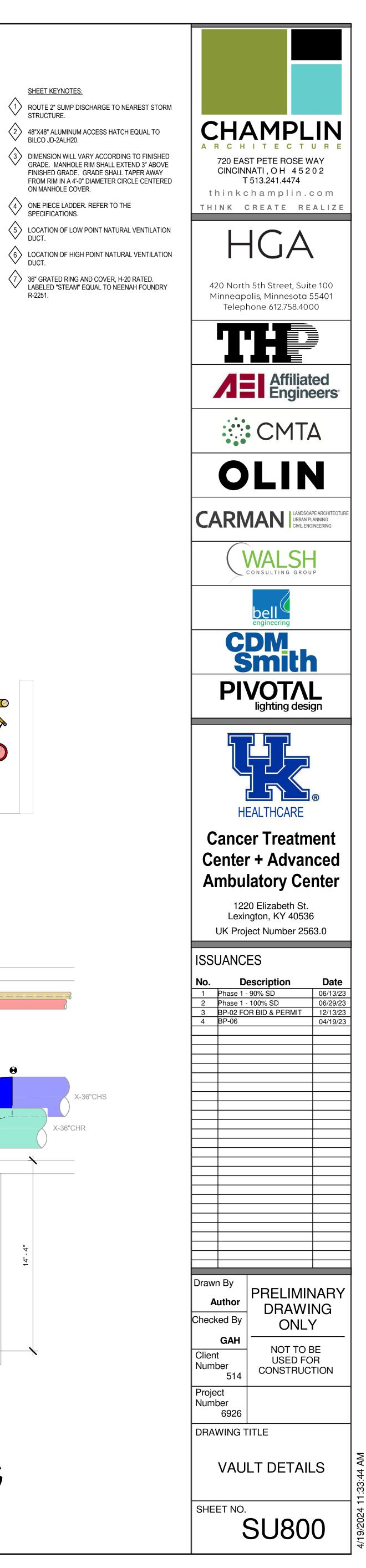


10"HPS-

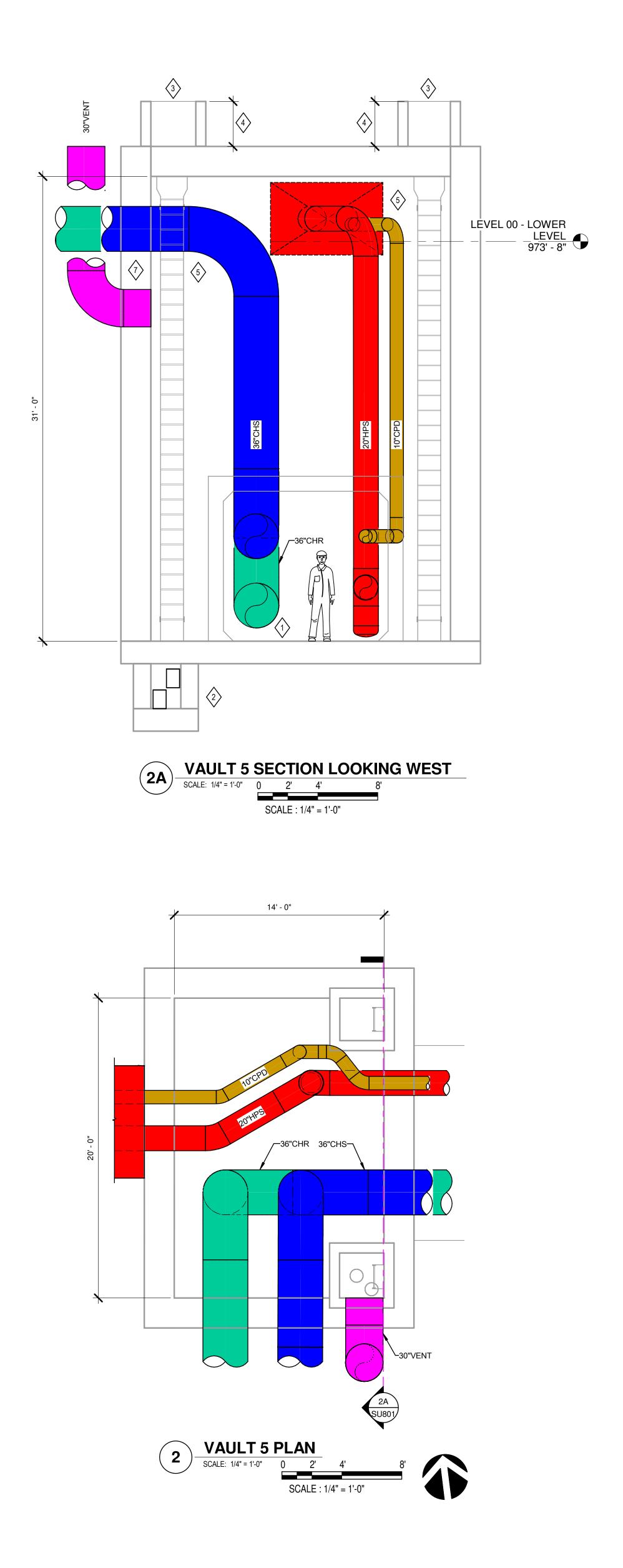
/-36"CHS

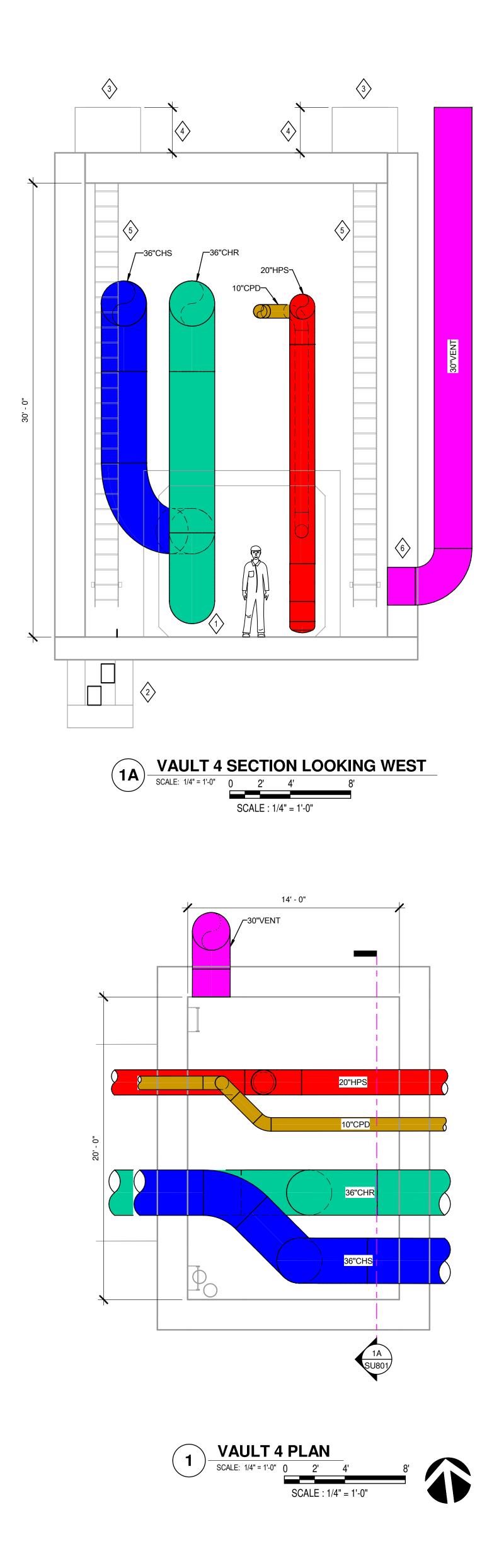


SHEET KEYNOTES:



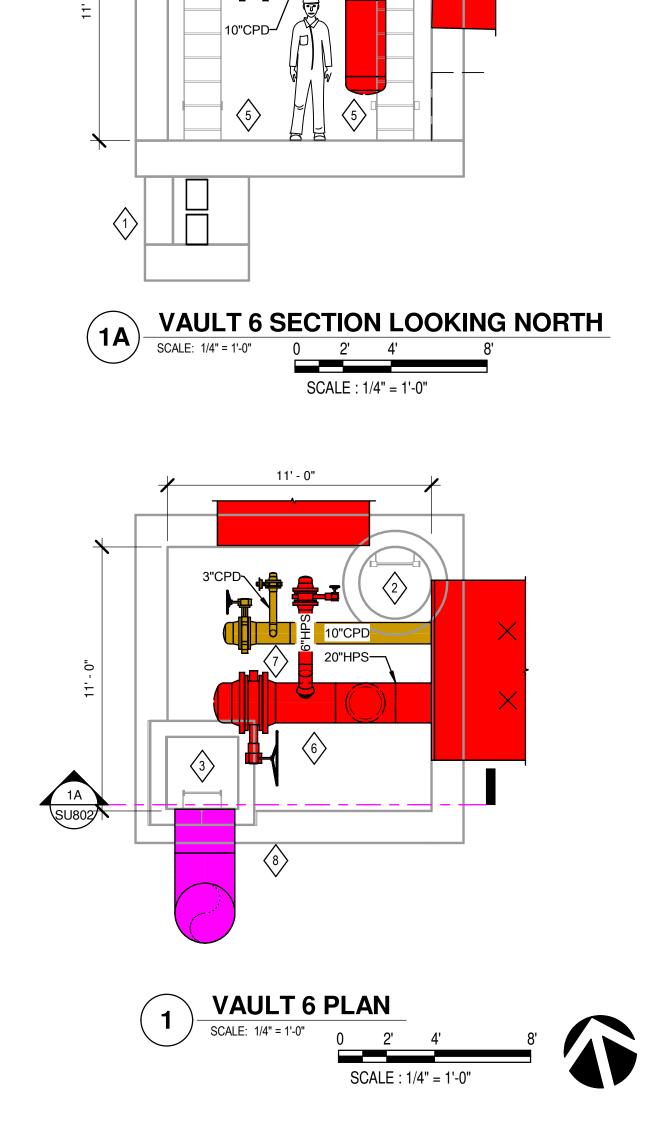
or 4/19/2024 11:33:47 AM Autodesk Docs://514-6926 - UKHC Cancer Treatment & Advance Ambulatory Center/E23-UKC_5146926.rvt





SHEET KEYNOTES:Image: Sheet Keynotes:<





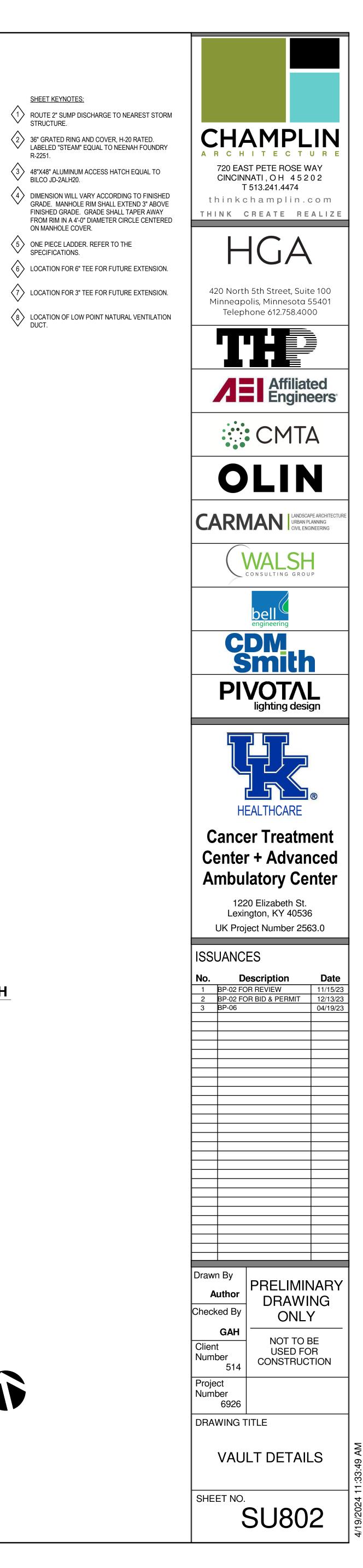
 $\langle 3 \rangle$

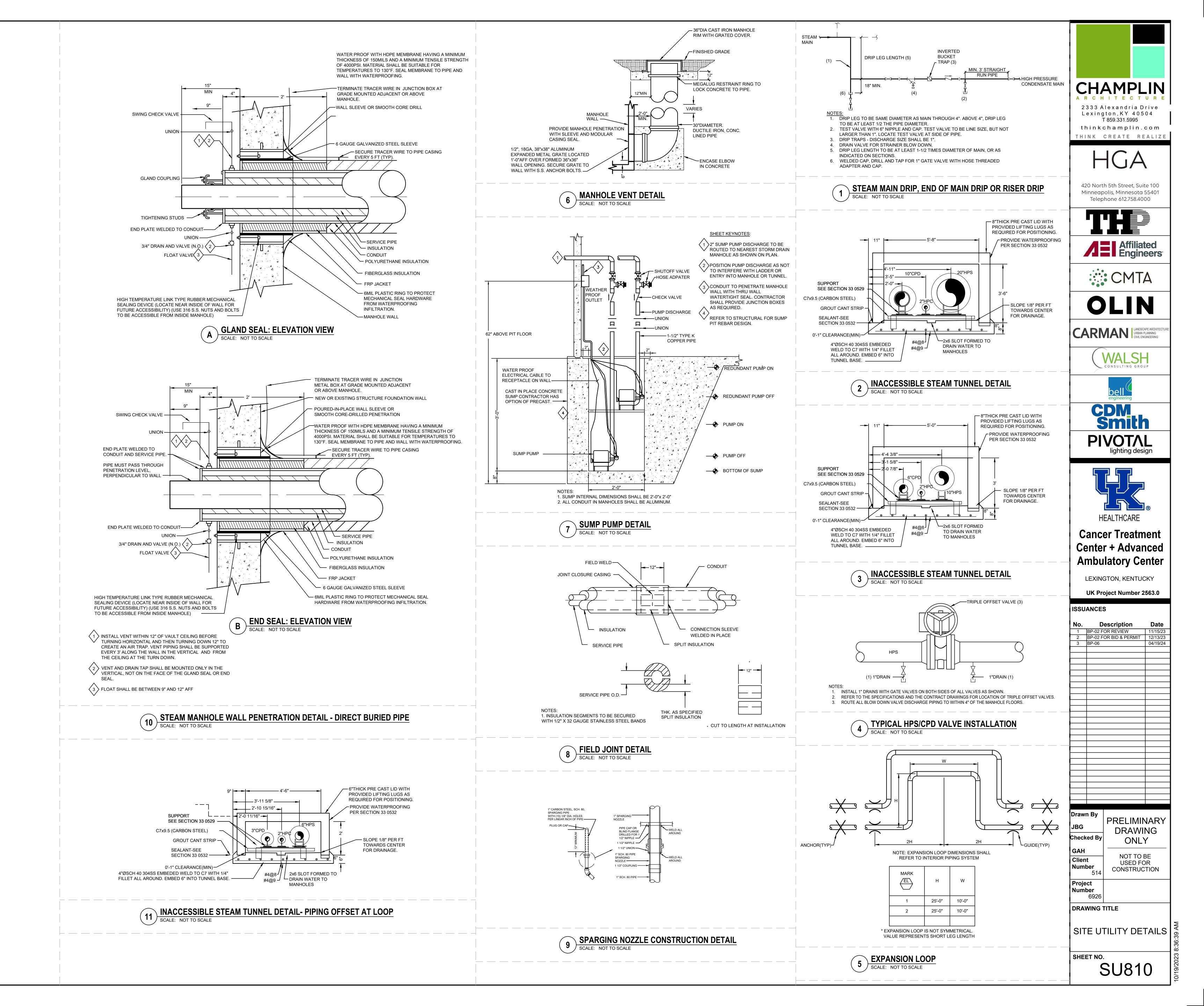
INACCESSIBLE

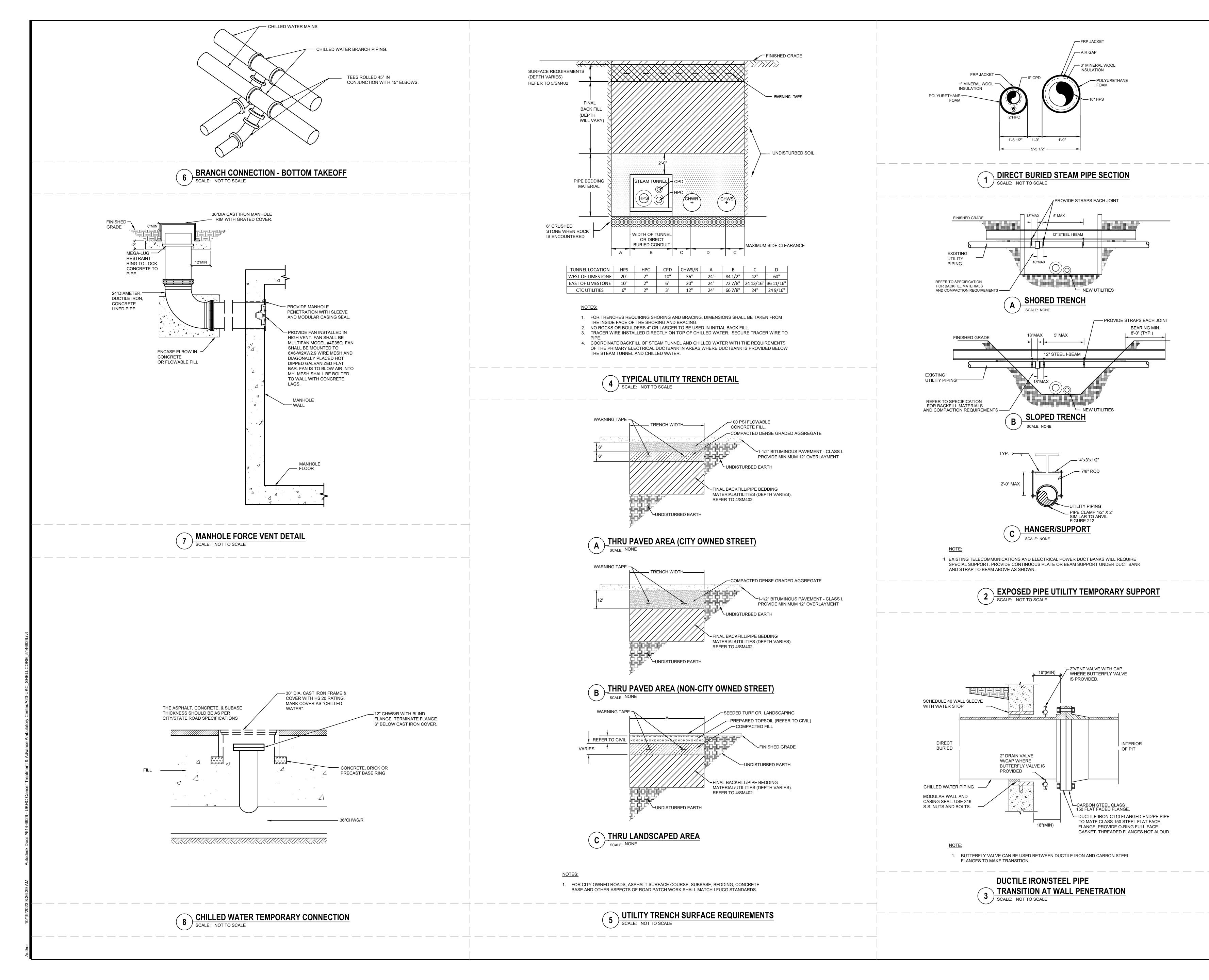
$\langle 3 \rangle$	48"X48" ALUMINUM ACCESS HATCH EQUAL TO BILCO JD-2ALH20.
$\langle 4 \rangle$	DIMENSION WILL VARY ACCORDING TO FINISHED GRADE. MANHOLE RIM SHALL EXTEND 3" ABOVE FINISHED GRADE. GRADE SHALL TAPER AWAY FROM RIM IN A 4'-0" DIAMETER CIRCLE CENTERED ON MANHOLE COVER.
$\langle 5 \rangle$	ONE PIECE LADDER. REFER TO THE SPECIFICATIONS.
6	LOCATION FOR 6" TEE FOR FUTURE EXTENSION.
$\langle 7 \rangle$	LOCATION FOR 3" TEE FOR FUTURE EXTENSION.
8	LOCATION OF LOW POINT NATURAL VENTILATION DUCT.

36" GRATED RING AND COVER, H-20 RATED. LABELED "STEAM" EQUAL TO NEENAH FOUNDRY R-2251.

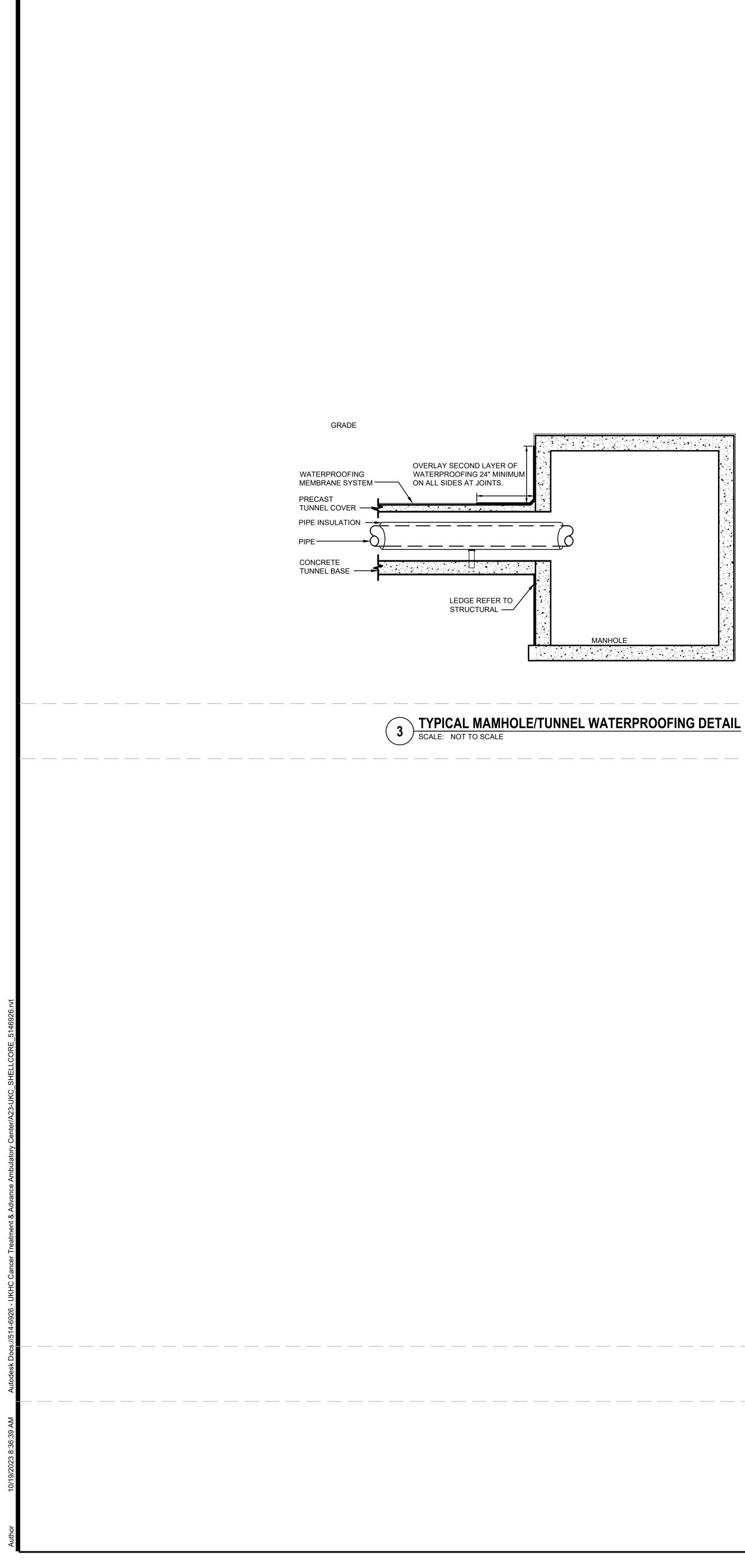
SHEET KEYNOTES:











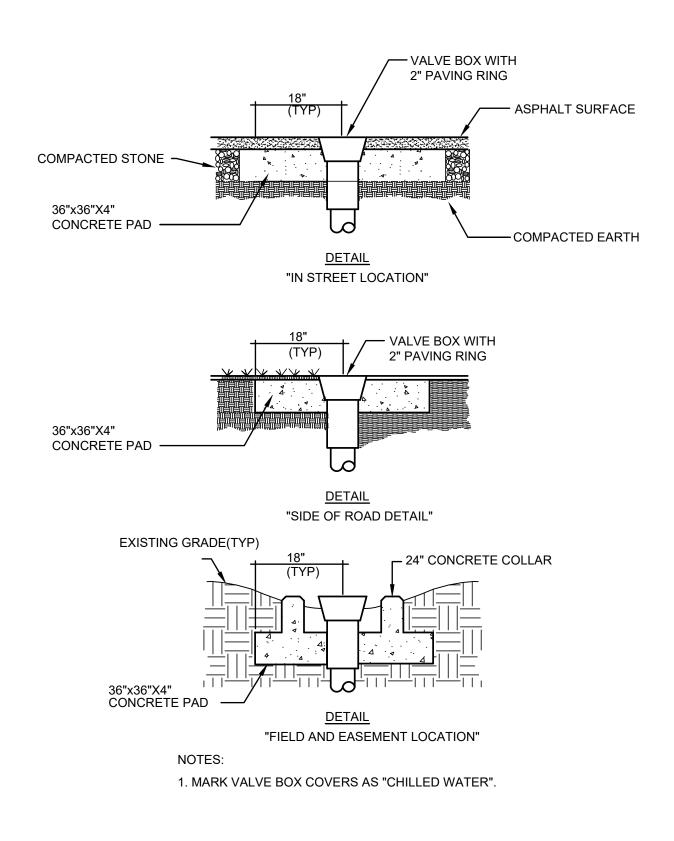
CENTERING DISK-

BACK FILL AND COMPACT — AROUND RISER

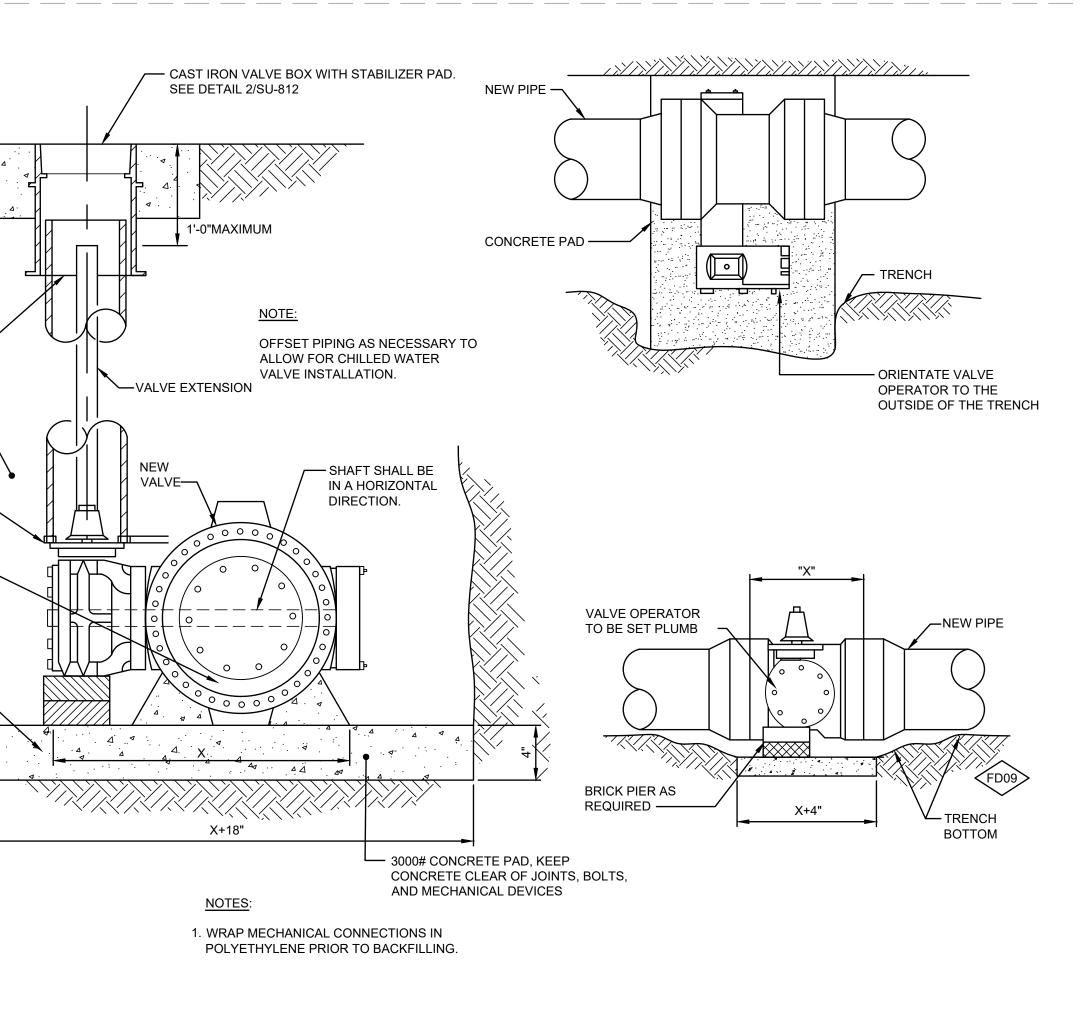
RISER PIPE SHALL SIT ON COMPRESSIBLE FILLER, NOT ON VALVE

BRICK PIER REQUIRED TO PLUMB OPERATOR NUT

NON-SHRINK CEMENT



1 VALVE BOX STABILIZING PAD SCALE: NOT TO SCALE

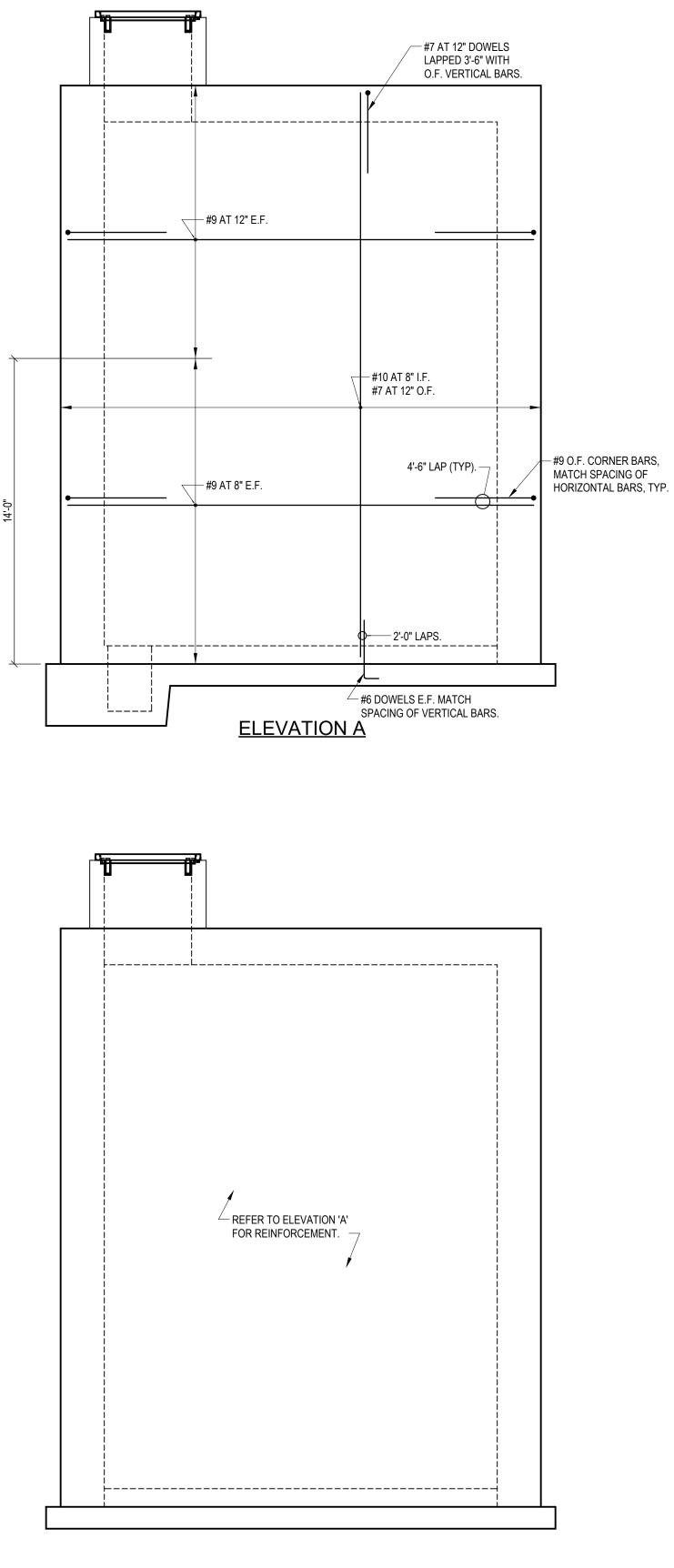


2 BUTTERFLY VALVE INSTALLATION SCALE: NOT TO SCALE



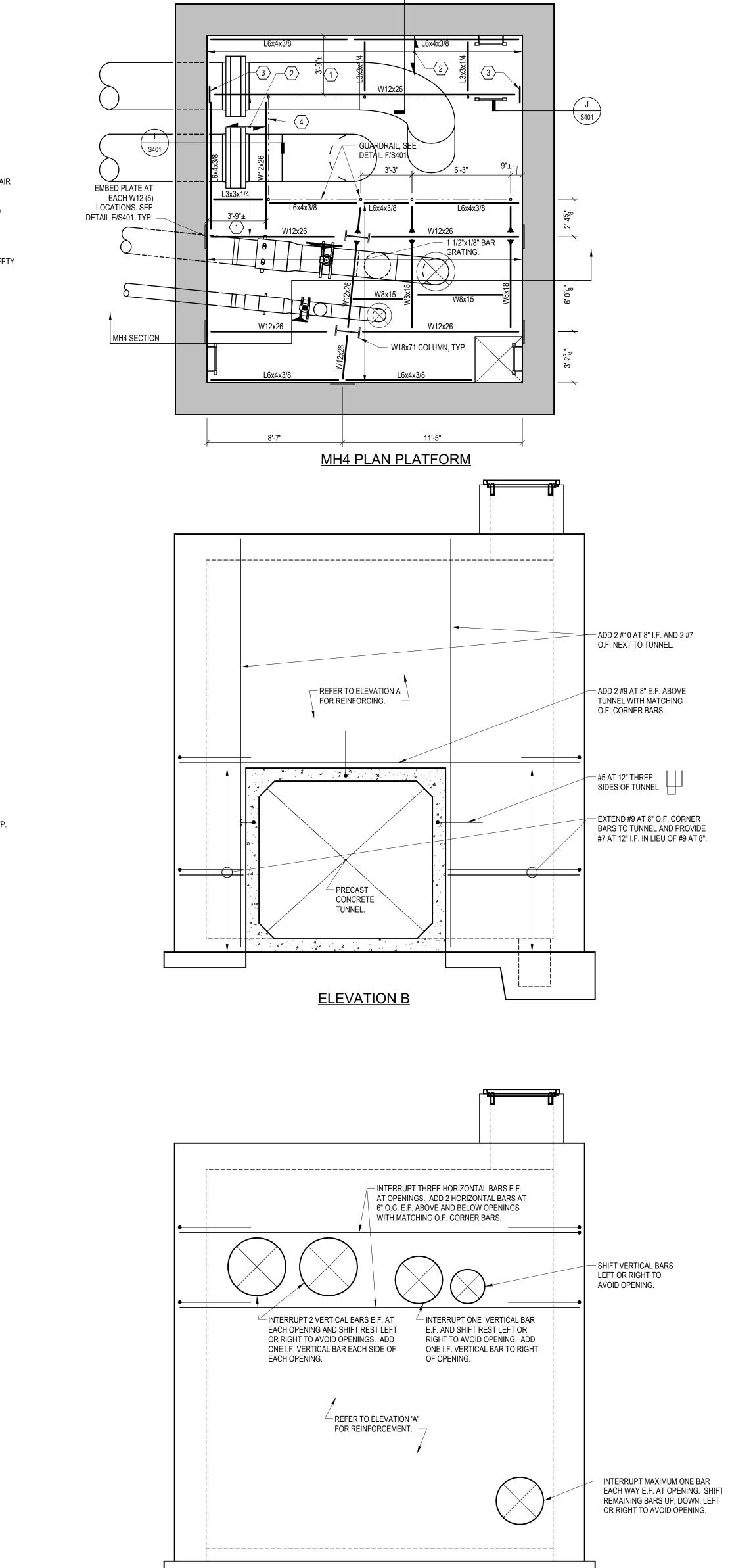
KEY NOTES:

- 1. PLATFORM, FURNISH AND INSTALL IN EXISTING MANHOLE. DIMENSIONS SHOWN ARE APPROXIMATE AND MUST BE FIELD MEASURED TO FIT AROUND MECHANICAL PIPING. COORDINATE DIMENSIONS AND ELEVATION WITH MECHANICAL CONTRACTOR. HOT DIP GALVANIZE ALL STEEL FRAMING, RAILINGS, ANCHORS, AND HARDWARE. CLEAN AND REPAIR GALVANIZING AFTER INSTALLATION.
- 2. SERRATED BAR GRATING 1 1/2" DEEP WITH 1/8" BARS SPACED 1"x4" APART, NOMINAL, AND GALVANIZED. SPAN DIRECTION AS SHOWN.
- 3. BEAM CONNECTION TO EXISTING CONCRETE WALL.
- 4. PIPE RAIL, POSTS, AND TOE PLATE AT PERIMETER OF PLATFORM. COORDINATE WITH SAFETY GATES AT LADDERS. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS



ELEVATION C



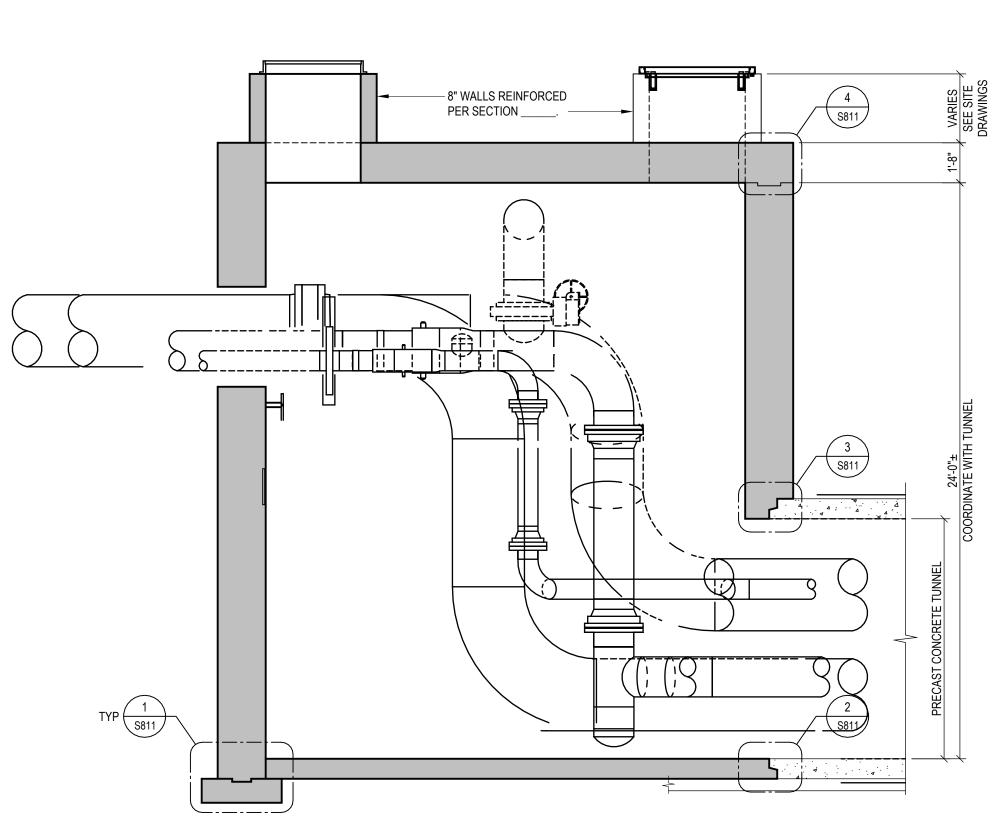


- #9 O.F. CORNER BARS,

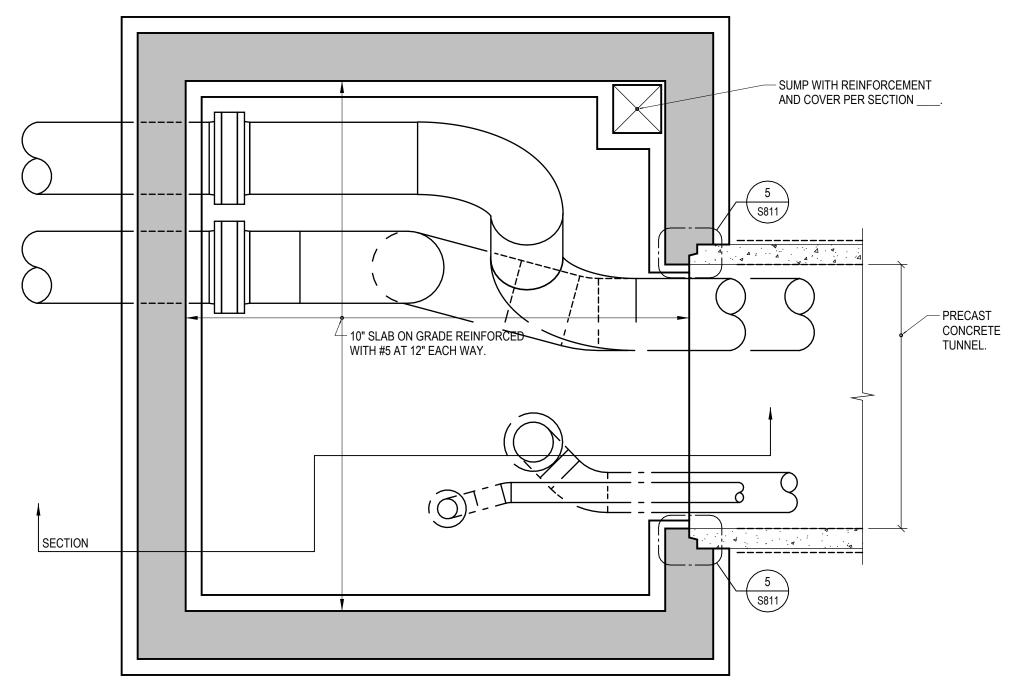
S401

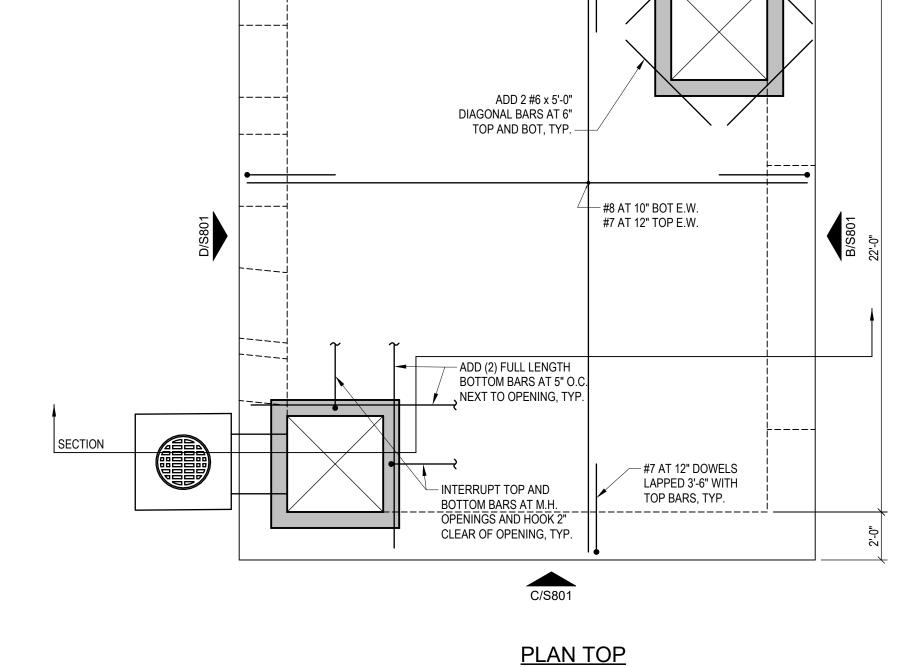


VAULT SECTION



PLAN BOTTOM



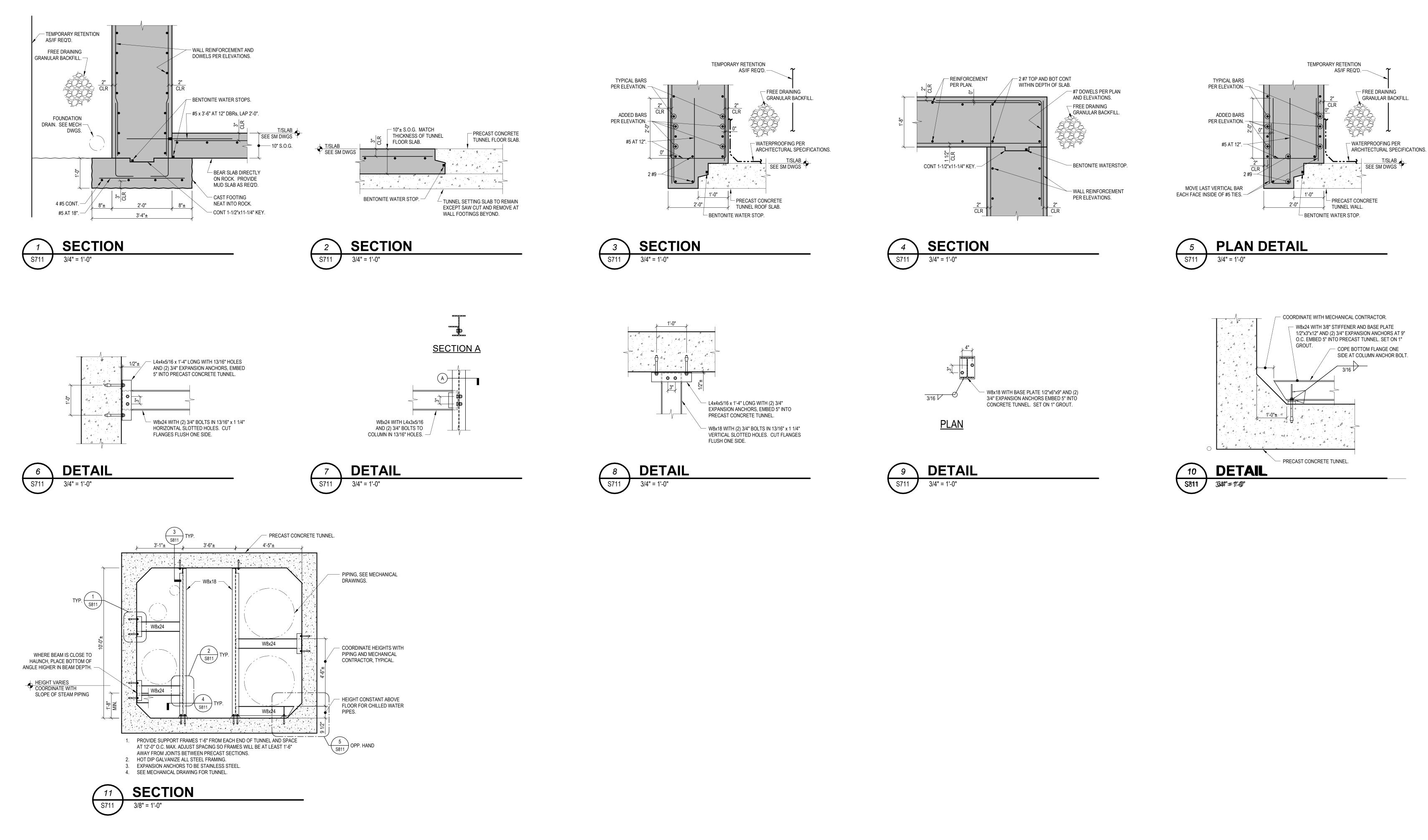


20'-0"

A/S801

2'-0"





4/9/2024 1:57:31 PM Autodesk Docs://514-6926 - UKHC Cancer Treatment & Advance Ambulatory Center/S23-UKC_5146926.rvt

SET

