

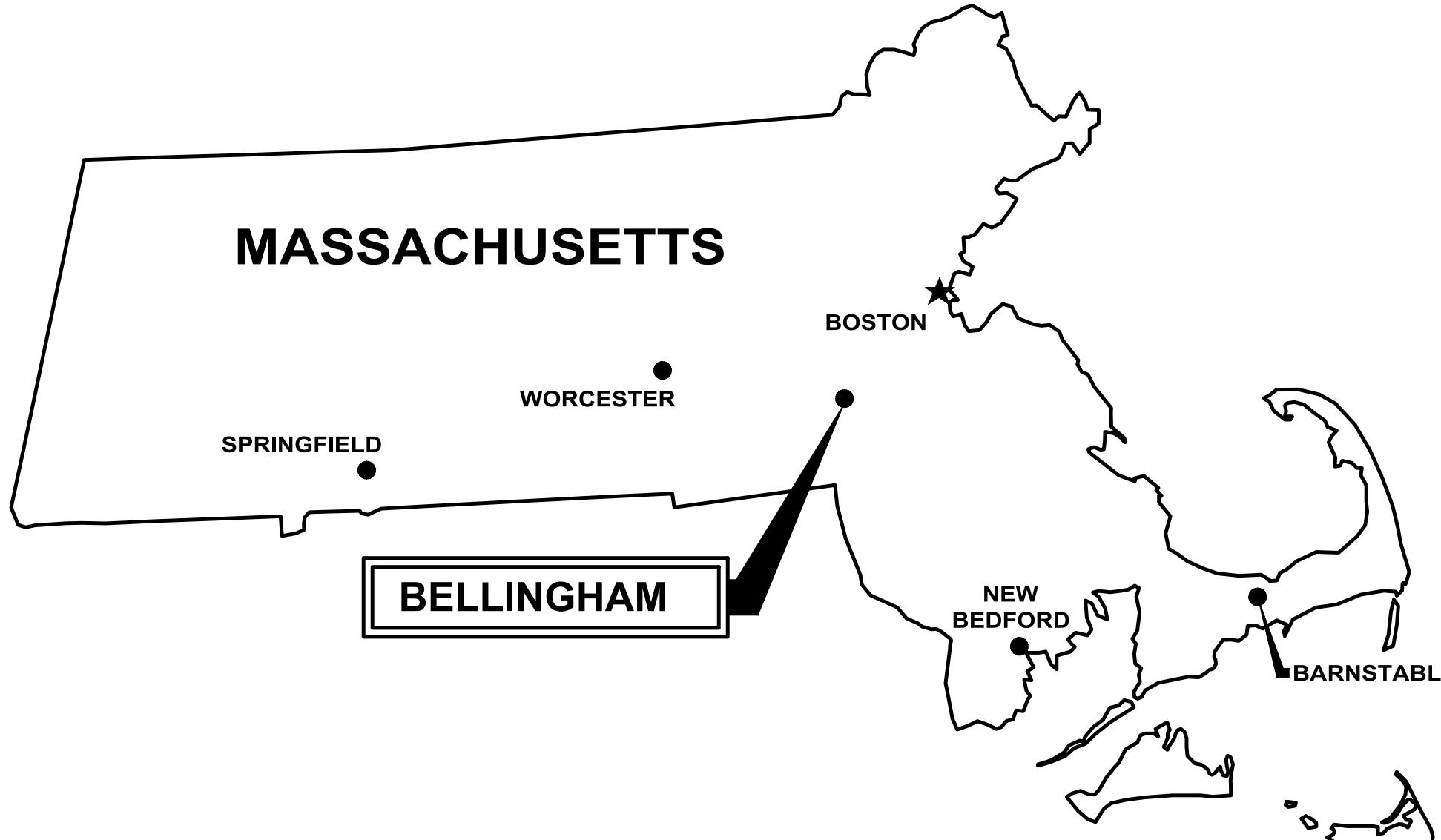
TOWN OF BELLINGHAM, MASSACHUSETTS

CONTRACT DRAWINGS FOR

WELL NO.11 REPLACEMENT

PROCESS UPGRADES

MAY 2025
PERMITTING SUBMITTAL



DRAWING INDEX

GENERAL

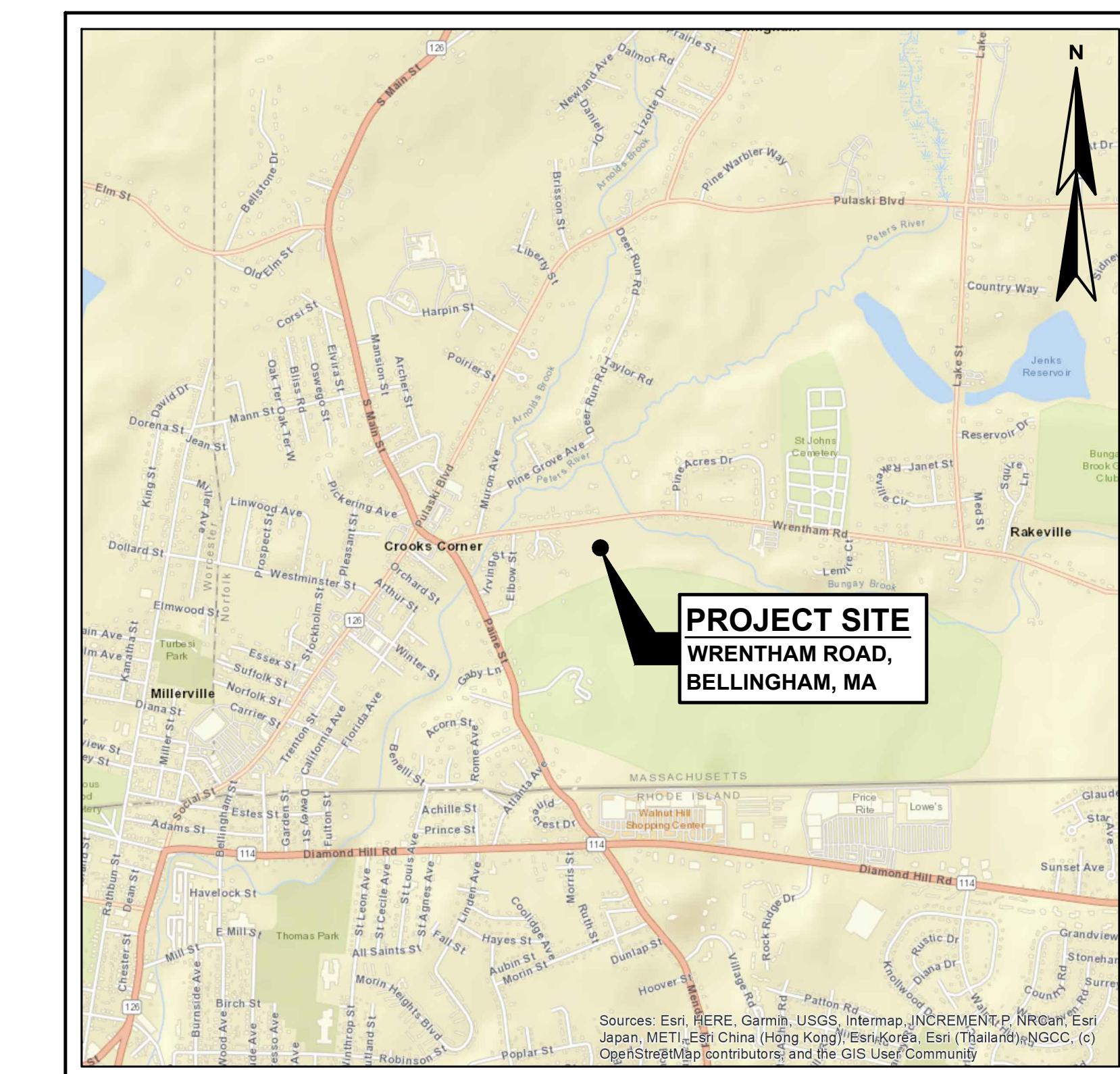
--- COVER SHEET

CIVIL

C-001 CIVIL GENERAL NOTES, LEGEND, AND ABBREVIATIONS
C-101 OVERALL SITE PLAN
C-102 DEMOLITION AND MODIFICATIONS SITE PLAN
C-501 CIVIL DETAILS I
C-502 CIVIL DETAILS II
C-503 EROSION CONTROL AND SEDIMENTATION NOTES & DETAILS

PROCESS

PR-001 PROCESS GENERAL NOTES AND DETAILS
PR-101 PROCESS BUILDING DEMOLITION AND MODIFICATIONS PLAN



LOCATION PLAN
SCALE: 1"=2,000'

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WP PROJECT No. 21934

GENERAL NOTES

- THE OWNER WILL BE RESPONSIBLE FOR OBTAINING THE PERMITS LISTED IN THE SUPPLEMENTARY OR SPECIAL CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL OBTAINED PERMITS ARE AVAILABLE FOR REVIEW FROM THE OWNER. ALL OTHER PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS_OF_WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW FROM THE OWNER.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- CONTRACTOR SHALL COMPLY WITH THE COORDINATION REQUIREMENTS AND RELATED COSTS, IF ANY, AS SPECIFIED IN SPECIFICATION SECTION 01050.
- CONTRACTOR SHALL NOTE THAT, IN GENERAL, ALL EXISTING CONDITION INFORMATION ON THE DRAWINGS ARE SHOWN WITH A LIGHTER LINE WEIGHT AND WITH A SLOTTED TYPE TEXT.
- ALL EXISTING SEWER AND STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, EXCEPT WHEN IN DIRECT CONFLICT WITH THE NEW SEWER OR WHEN NOT SHOWN OR INDICATED.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
- IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTICE TO THE RESPECTIVE UTILITY POLE OWNER. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.

EXISTING SITE CONDITIONS

- THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN, OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. THE CONTRACTOR WILL REALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.

- BELOW GRADE UTILITY INFORMATION IS BASED ON INFORMATION PROVIDED BY EACH UTILITY. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY COMPANY REPRESENTATIVE PRIOR TO COMMENCING WORK. REFER TO SPECIFICATION SECTION 01050. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED. UTILITY CONTACTS ARE AS FOLLOWS:

ELECTRIC: WATER/SEWER/DRAIN: BELLINGHAM DEPARTMENT OF PUBLIC WORKS
(800) 642-4274
26 BLACKSTONE STREET
BELLINGHAM, MA 02019
(508) 966-5813

TELEPHONE/CABLE: DIG SAFE: (888) 344-7233
(800) 922-0204

- THERE ARE NO KNOWN HAZARDOUS ENVIRONMENTAL CONDITIONS WITHIN THE AREA OF WORK. REFER TO SPECIFICATION SECTION 00800-SC-5.06. IF THE PRESENCE OF HAZARDOUS ENVIRONMENTAL CONDITIONS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER IMMEDIATELY. ALL ACTIVITIES, HANDLING AND DISPOSAL OF HAZARDOUS ENVIRONMENTAL CONDITIONS AND MATERIALS SHALL BE IN ACCORDANCE WITH OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS.

SITE DEMOLITION

- A SOLID GREY HATCH HIGHLIGHTS AND REPRESENTS THE DEMOLITION OF ANY ITEM(S) IN THE AREA ASSOCIATED WITH THE HATCH.
- REFER TO THE EXISTING SITE PLAN, FOR ADDITIONAL INFORMATION REGARDING EXISTING FACILITIES. REFER TO THE LAYOUT DRAWING FOR LIMITS OF WORK.
- REFER TO PROCESS, INSTRUMENTATION AND ELECTRICAL DRAWINGS FOR SPECIFIC INFORMATION REGARDING DEMOLITION AND REMOVAL.
- REFER TO SPECIFICATION SECTION 01010A, WHICH CONTAINS INFORMATION ON CONSTRAINTS OF CONSTRUCTION SEQUENCING.
- DEMOLISH/REMOVE EXISTING PIPING AS REQUIRED FOR CONSTRUCTION OF NEW FACILITIES. ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE SHALL BE COORDINATED WITH THE OWNER AND ENGINEER BEFORE COMMENCING THAT WORK. EXISTING PIPING THAT NEEDS TO BE REMOVED TO CONSTRUCT THE NEW FACILITIES, BUT IS TO REMAIN, SHALL BE REINSTALLED/REPLACED AS NEEDED. EXISTING PIPES AND CONDUIT DESIGNATED AS "ABANDONED" MAY BE REMOVED IF THE CONTRACTOR SO CHOOSES. IF ABANDONED PIPE CONFLICTS WITH NEW SITE PIPING OR FACILITIES, THEN A PORTION OF THE ABANDONED PIPE SHALL BE REMOVED, AND THE NEW ENDS OF ABANDONED PIPE CAPPED OR PLUGGED WITH CONCRETE.
- ALL EXISTING PIPING AND UTILITIES WHICH ARE BEING PROPOSED STRUCTURES, AND ARE TO BE ABANDONED, SHALL BE REMOVED TO A MINIMUM OF 5-FEET OUTSIDE OF THE STRUCTURE. PIPE AND UTILITIES BEING PROPOSED STRUCTURES THAT ARE TO REMAIN SHALL BE CONCRETE ENCASED, UNLESS OTHERWISE INDICATED. REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS.
- SEVERING OF EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTINGS, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. PLUG ENDS OF ABANDONED PIPE SEGMENTS WITH CONCRETE UNLESS SPECIAL CIRCUMSTANCES DICTATE PLUGGING ABANDONED PIPES WITH BLIND FLANGES, RESTRAINED MECHANICAL JOINT PLUGS, ETC. AS APPROPRIATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE OWNER RESERVES THE RIGHT TO RETAIN ANY SUCH PIPING, EQUIPMENT AND MATERIALS DESIGNATED FOR DEMOLITION. SUCH MATERIALS TO BE RETAINED SHALL BE PROPERLY STORED IN AN ON-SITE LOCATION. COORDINATE LOCATION AND MATERIALS TO BE SALVAGED WITH THE OWNER/ENGINEER. REFER TO SPECIFICATION SECTION 02050A.
- THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
- THE CONTRACTOR SHALL TAKE ALL THE NECESSARY STEPS TO ENSURE THAT ALL PROCESS FLOWS ARE MAINTAINED DURING CONSTRUCTION. GRAVITY OF PUMPED BYPASSES AND OTHER MEANS OF MAINTAINING FLOW SHALL BE SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY STOPPAGES OR BYPASSES WITH THE OWNER AND ENGINEER. REFER TO SPECIFICATION SECTION 01010A.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND GROUNDWATER Dewatering OPERATIONS.

SITE CLEARING, GRUBBING AND GRADING

- STRIPPING OF TOPSOIL (LOAM) SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02115. REFER TO THE LAYOUT AND GRADING DRAWINGS FOR LIMIT OF WORK AND STRIPPING.
- CONTRACTOR SHALL MINIMIZE CLEARING OPERATIONS. CLEARING AND GRUBBING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02110. CLEARING LIMITS SHALL BE AS INDICATED ON THE DRAWINGS, BUT AT ALL TIMES WITHIN EXISTING ROAD RIGHTS_OF_WAY AND PROPERTY LINES ON STATE OR COUNTY OWNED PROPERTY OR EASEMENTS. ALL CLEARING AND GRUBBING MATERIAL SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT A SITE PROVIDED BY THE CONTRACTOR IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS.

CIVIL ABBREVIATIONS

EXISTING	AND
Ø, DIA	DIAMETER
#, NO	NUMBER
AC	ASBESTOS CEMENT
APP'D	APPROVED
BR	BRICK
BLDG	BUILDING
CB	CATCH BASIN
CEN	CENTER
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIPP	CURED-IN-PLACE-PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
COR	CORNER
CPE	CORRUGATED POLYETHYLENE PIPE
CY	CUBIC YARD
DEMO	DEMOLITION
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DR	DRAIN
DWG	DRAWING
EL	ELEVATION
EHH	ELECTRIC HANDHOLE
EMH	ELECTRIC MANHOLE
FM	FORCE MAIN
FT	FEET
G	GAS
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
IN	INCH
INF	INFILTRANT
INV	INVERT
LB	POUNDS
LF	LINEAR FOOT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MW	MONITORING WELL
N	NORTH
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N/A	NOT AVAILABLE/APPLICABLE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OUT	OUTFALL
PC	PERFORATED CLAY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PS	PRIMARY SLUDGE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REQ'D	REQUIRED
S	SLOPE, SEWER
SD	STORM DRAIN
SF	SQUARE FEET
SMH	SANITARY SEWER MANHOLE
SQ	SQUARE
STA	STATION
T, XFMR	TRANSFORMER
TBM	TEMPORARY BENCH MARK
THK	THICKNESS
TOS	TOP OF STRUCTURE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
VC	VITRIFIED CLAY
VF	VERTICAL FOOT
W/	WITH
W	POTABLE WATER

LEGEND

PROPERTY/ROW LINE	EXISTING	PROPOSED
SETBACK LINE	—	—
EASEMENT LINE	—	—
CENTERLINE	—	—
EDGE OF PAVEMENT	—	—
CURBING	—	—
EDGE OF GRAVEL	—	—
EDGE OF CONCRETE	—	—
CONTOUR	123	123
BUILDING	—	—
STONEWALL	—	—
TREELINE	—	—
CHAIN LINK FENCE	○○	○○
STOCKADE FENCE	—	—
SILT FENCE	—	—
RETAINING WALL	—	—
GUARDRAIL	—	—
SEWER	8'S	8'S
SEWER FORCE MAIN	4"FM	4"FM
GAS	4"G	4"G
WATER	8"W	8"W
STORM DRAIN	15"SD	15"SD
UNDERDRAIN	6"UD	6"UD
CULVERT	12" CMP	12" CMP
UNDERGROUND ELECTRIC	—	—
OVERHEAD ELECTRIC	—	—
UNDERGROUND TELEPHONE	—	—
UNDERGROUND CABLE TV	—	—
IRON PIPE/REBAR	●	●
DRILLHOLE	●	●
MONUMENT	■	■
SURVEY CONTROL POINT	△	△
SPOT ELEVATION	x 134.5	x 134.5
SEWER MANHOLE	● SMH	● SMH
DRAINAGE MANHOLE	● DMH	● DMH
CATCH BASIN	● CB	● CB
ELECTRIC HANDHOLE	● EHH	● EHH
TELEPHONE MANHOLE	● TMH	● TMH
SHUTOFF VALVE	●	●
WATER SERVICE SHUTOFF	●	●
YARD HYDRANT	●	●
HYDRANT	●	●
GAS SERVICE SHUTOFF	●	●
GAS GATE VALVE	●	●
UTILITY POLE	●	●
UTILITY POLE W/ GUY	●	●
UTILITY POLE W/ LIGHT	●	●
LIGHT POLE	●	●
BOLLARD	●	●
FLAGPOLE	●	●
CONIFEROUS TREE	●	●
DECIDUOUS TREE	●	●
SHRUB	●	●
WETLAND FLAG	●	●
EDGE OF WATER	—	—
STREAM	—	—
EDGE OF WETLANDS	—	—
FLOODPLAIN	—	—
WETLANDS	—	—
DRAINAGE FLOW	—	—
DRAINAGE SWALE	—	—
PAVEMENT MARKINGS	—	—
SIGN	—	—
MAILBOX	—	—
TEMPORARY BENCH MARK	—	—
TEST PIT	—	—
TEST BORING	—	—
TEST PROBE	—	—
MONITORING WELL	—	—
LIMIT OF WORK	—	—
STAGING AREA	—	—
RIPRAP	—	—
RAILROAD	—	—
MATCHLINE	—	—
ROCK OUTCROP	—	—
HEAVY DUTY PAVEMENT	—	—
NORMAL DUTY PAVEMENT	—	—
WALKWAY PAVEMENT	—	—

TOWN OF BELLINGham, MASSACHUSETTS
WELL NO. 11 REPLACEMENT
PROCESS UPGRADeS

CIVIL GENERAL NOTES, LEGEND, AND ABBREVIATIONS

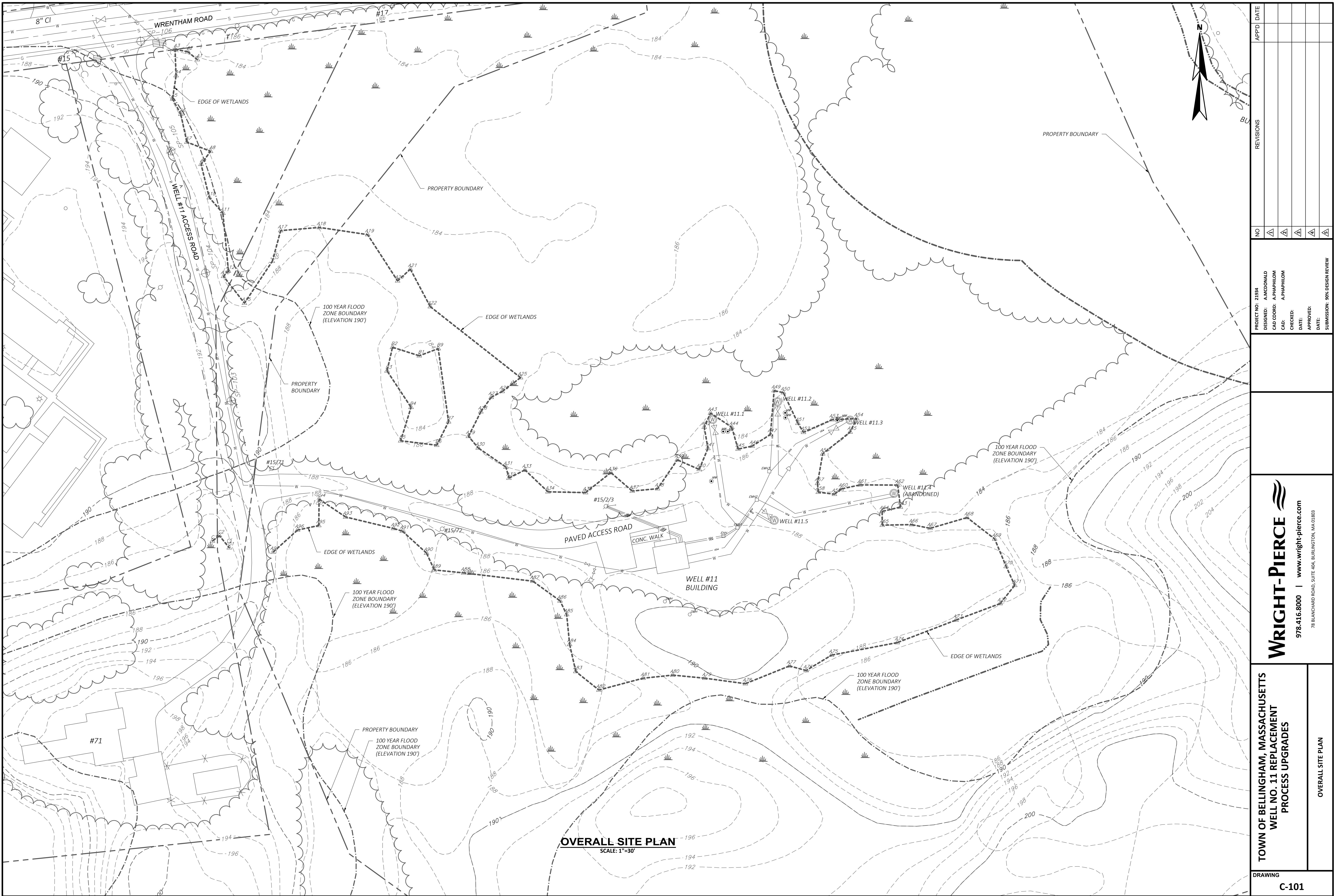
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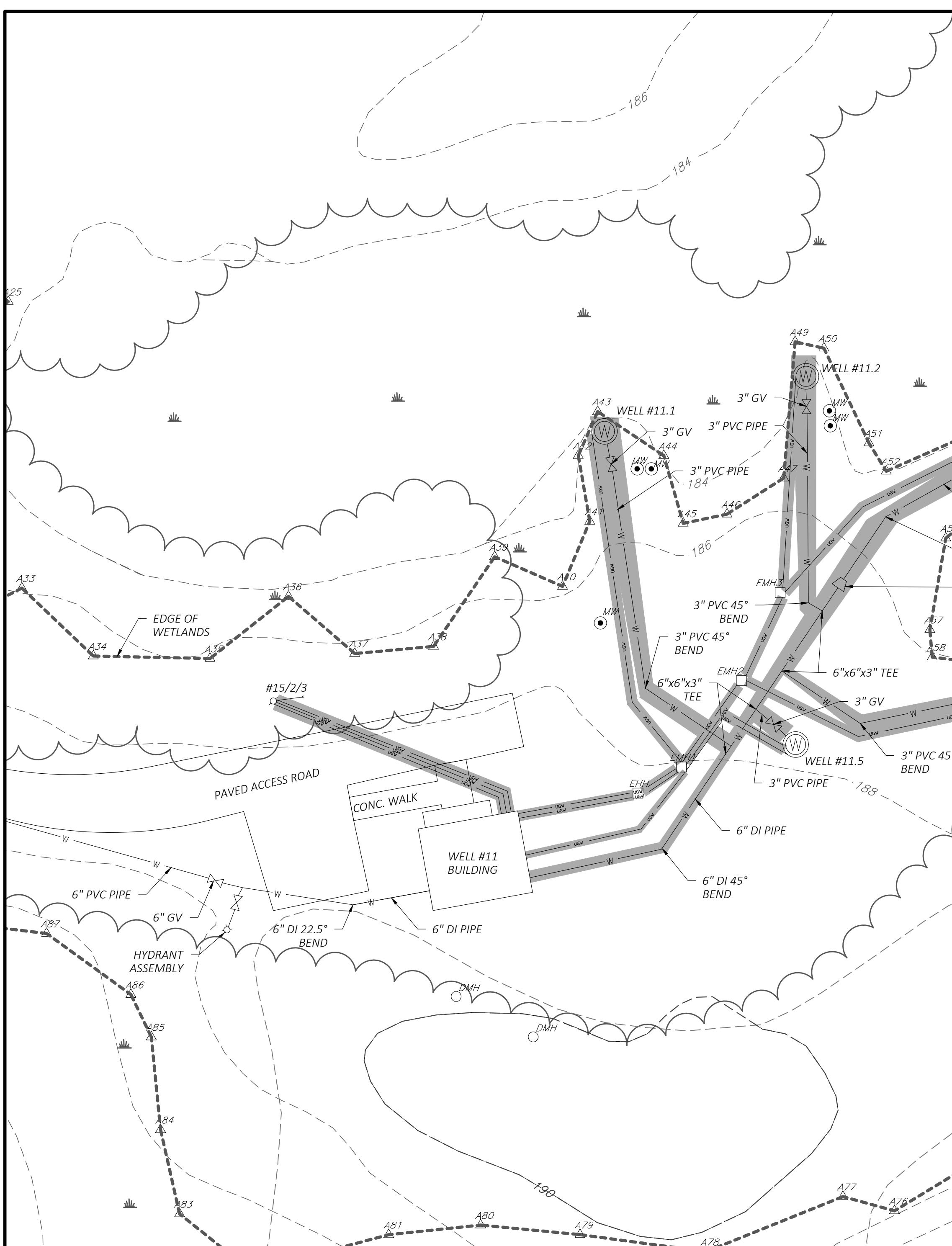
78 BANCHARD ROAD, SUITE 404, BURLINGTON, MA 01803

DRAWING C-001

NO	△	△	△
REVISIONS	△	△	△
APFD DATE	△	△	△

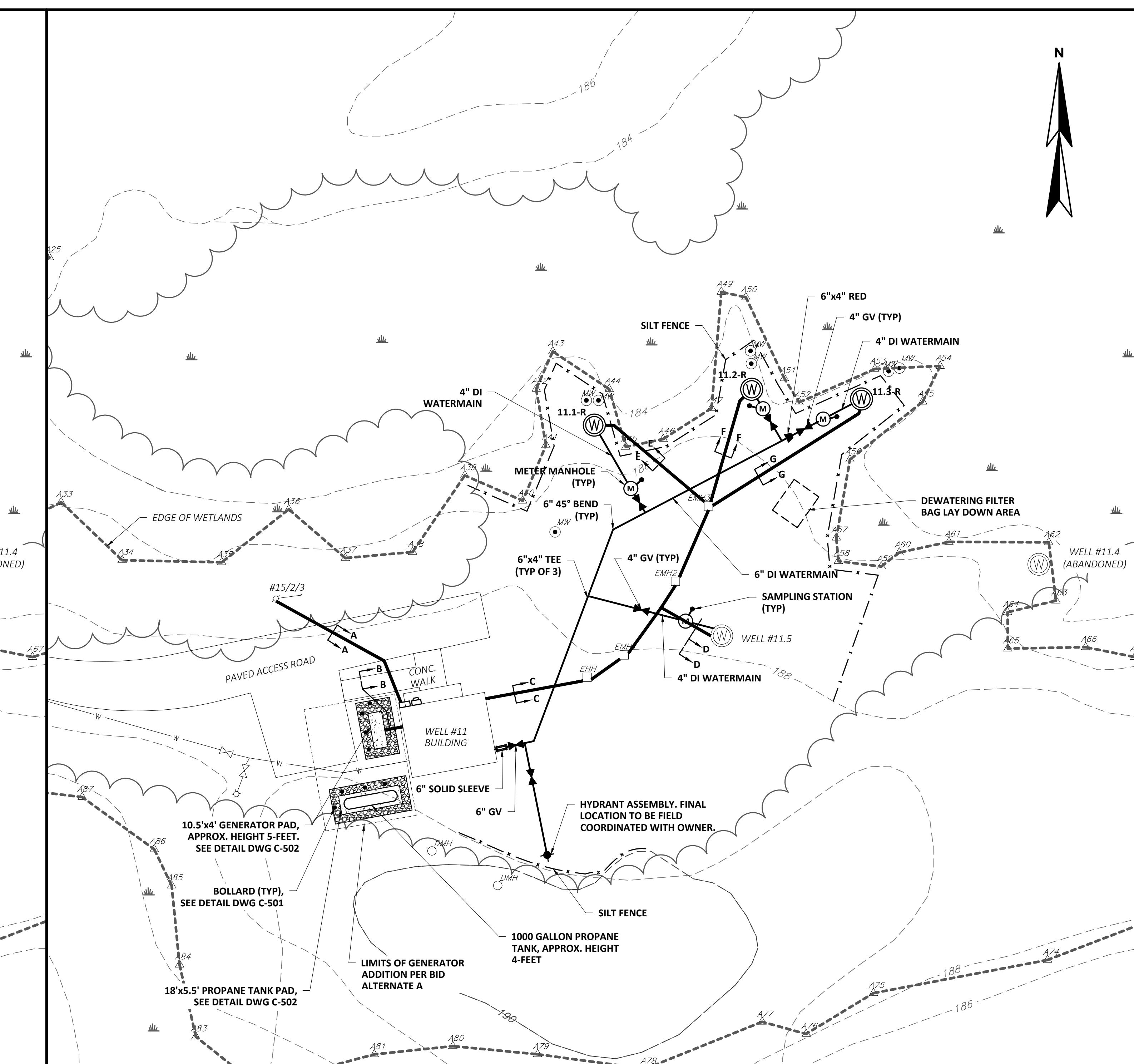
PROJECT NO: 21934	DESIGNED: ANDY.PHAPIPHON
CAD COORD: A.PHAPIPHON	CHECKED:
CAD: CAD	APPROVED:
DATE: DATE	SUBMISSION: 90% DESIGN REVIEW





EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1"=20'



MODIFICATIONS PLAN

SCALE: 1"=20'

NOTES:

1. FOR GENERAL NOTES AND LEGEND REFER TO DWG C-001.
2. FOR MISCELLANEOUS CIVIL DETAILS REFER TO DWGS C-501, 502, 503, AND 504.
3. EXISTING ITEMS TO BE DEMOLISHED AS PART OF THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO: 3" PVC PIPE, 6" DUCTILE IRON PIPE, TEES, GATE VALVES, VALVE BOXES, AND COUPLING.
4. EXISTING WELLS NO. 11.1, 11.2, AND 11.3 TO BE TAKEN OUT OF SERVICE AND DECOMMISSIONED IN ACCORDANCE WITH MASSDEP REQUIREMENTS BY A MASSDEP REGISTERED WELL DRILLER FOLLOWING COMPLETION OF THE PROLONGED PUMPING TEST FOR WELLS NO. 11.1-R, 11.2-R, AND 11.3-R.
5. EXISTING WELLS NO. 11.1, 11.2, AND 11.3 PUMPS, MOTORS, AND LEVEL TRANSDUCERS TO BE REMOVED AND FURNISHED TO THE OWNER FOLLOWING COMPLETION OF THE PROLONGED PUMPING TEST FOR WELLS NO. 11.1-R, 11.2-R, AND 11.3-R.
6. THE EXISTING WELL SCREENS SHALL BE FILLED WITH WASHED GRAVEL OR PEA-STONE TO A MINIMUM OF TWO FEET ABOVE THE WELL SCREEN. THE FILL OVERLYING THE GRAVEL/PEA-STONE SHALL BE GRADED TO A FINER GRAIN-SIZE TO MITIGATE GROUT MIGRATION TO THE SCREEN PORTION OF THE DECOMMISSIONED WELL. A CEMENT-BENTONITE GROUT OR APPROVED EQUAL SHALL BE PLACED WITHIN THE WELL CASING TO A DEPTH OF TWO FEET BELOW GROUND ELEVATION.

PROJECT NO.:	21934	NO.:		REVISIONS:	
DESIGNED:	AMODONALD	APD:		APD:	DATE
CAD COORD.:	APPHAPLON	APD:		APD:	
CAD:	APPHAPLON	APD:		APD:	
DATE:		APD:		APD:	
APPROVED:		APD:		APD:	
SUBMISSION:	90% DESIGN REVIEW				

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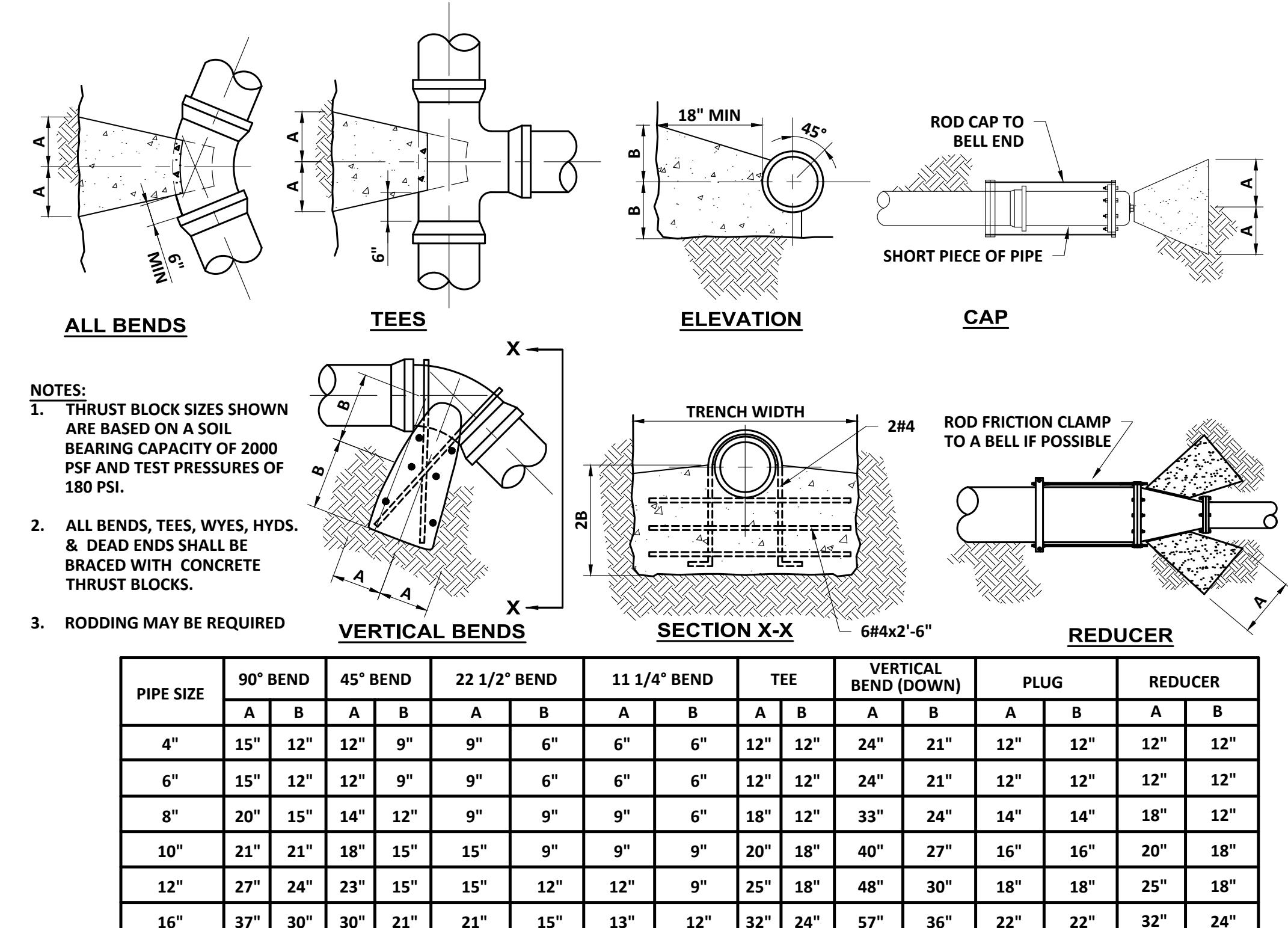
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TOWN OF BELLINGHAM, MASSACHUSETTS
WELL NO. 11 REPLACEMENT
PROCESS UPGRADES

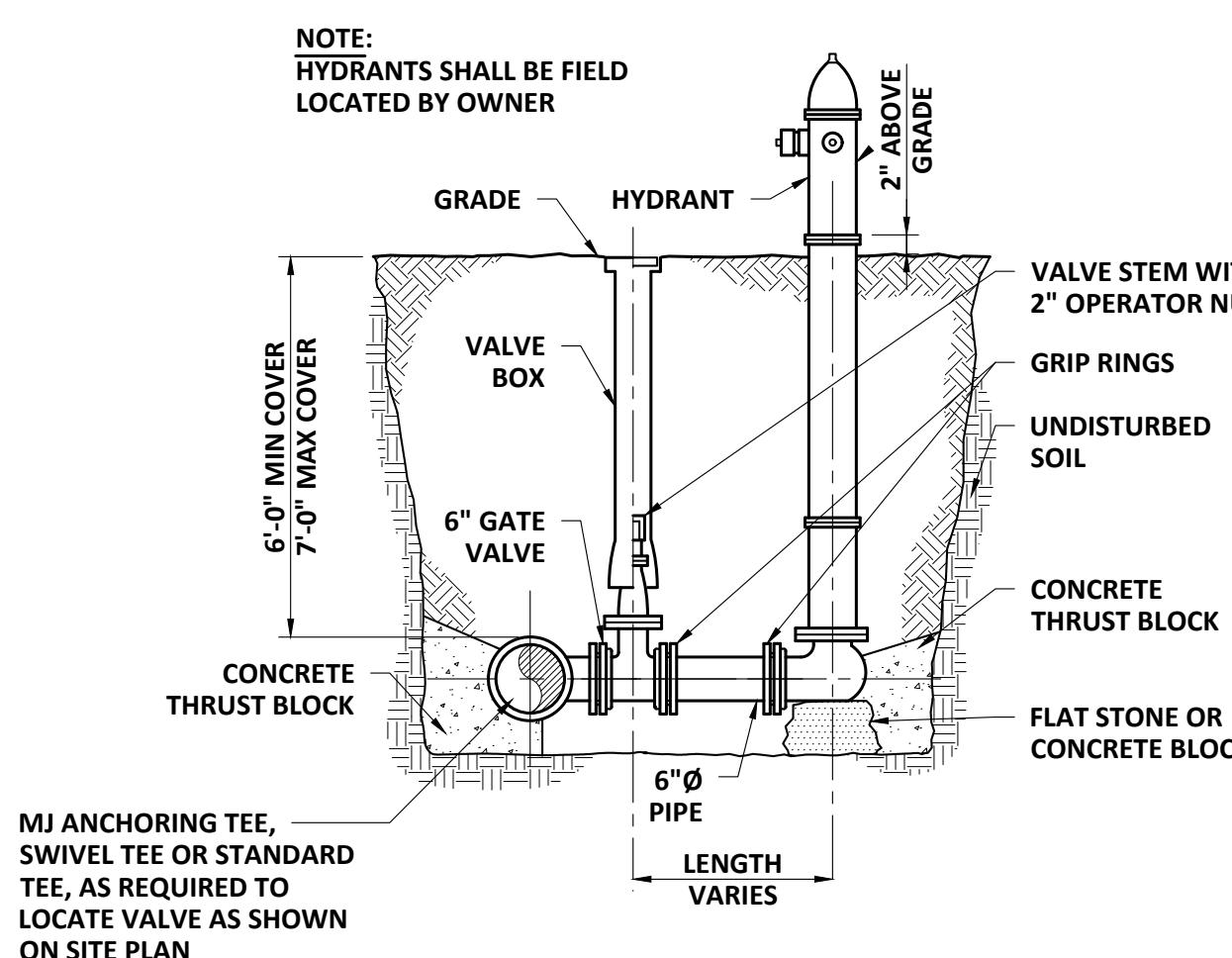
DEMOLITION AND MODIFICATIONS SITE PLAN

DRAWING
C-102



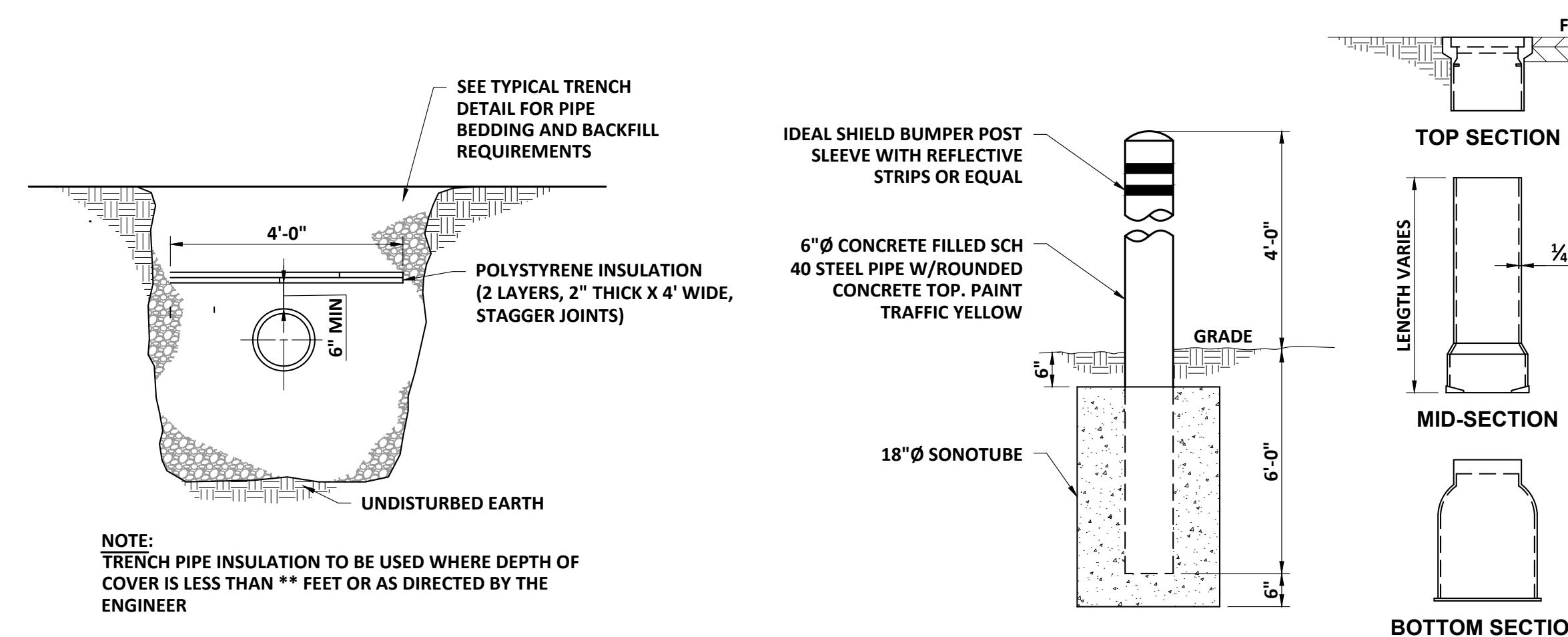
NOTES:

1. THRUST BLOCK SIZES SHOWN ARE BASED ON A SOIL BEARING CAPACITY OF 2000 PSF AND TEST PRESSURES OF 180 PSI.
2. ALL BENDS, TEES, WYES, HYD. & DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
3. RODDING MAY BE REQUIRED



HYDRANT ASSEMBLY

SCALE: NTS



BOLLARD

SCALE: NTS

VALVE BOX

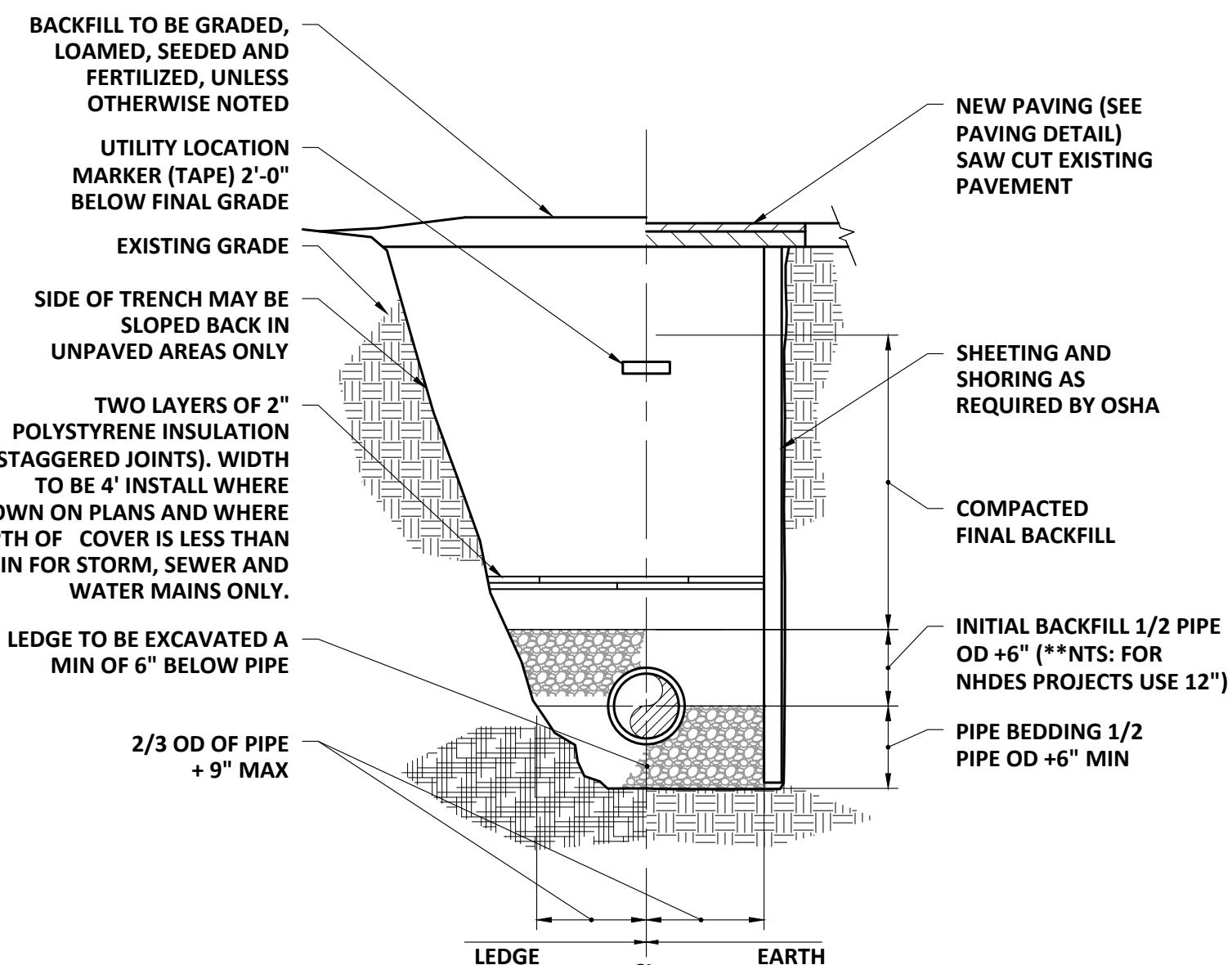
SCALE: NTS

NO.	REVISIONS	APPD DATE
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△	△	△
△	△	△
△	△	△

PROJECT NO: 21934
DESIGNED: A.MCDONALD
CAD COORD: A.PHAPHILION
CHECKED: DATE:
APPROVED: DATE:
SUBMISSION: 90% DESIGN REVIEW

THRUST BLOCKS

NTS

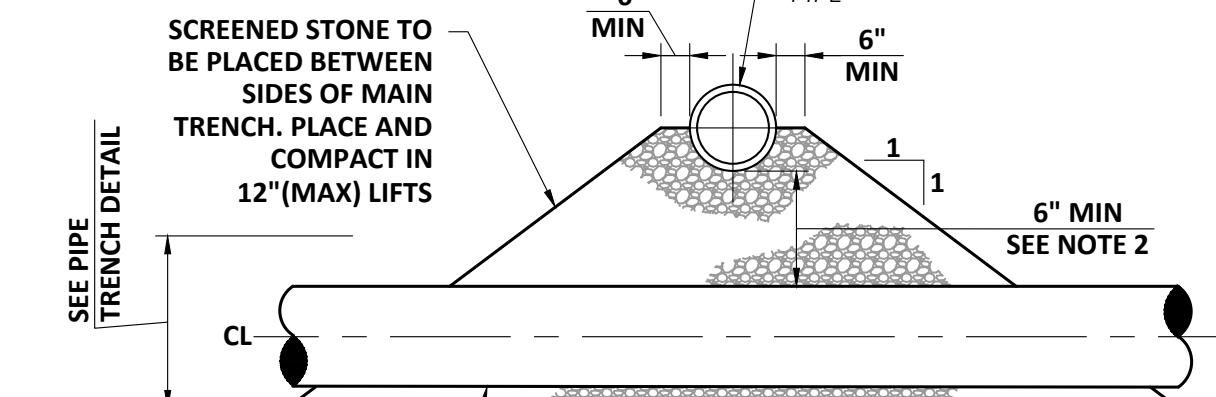


NOTES:

1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELLED ALONG BEDDING/INITIAL BACKFILL.
3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.

PIPE TRENCH

SCALE: "NTS"

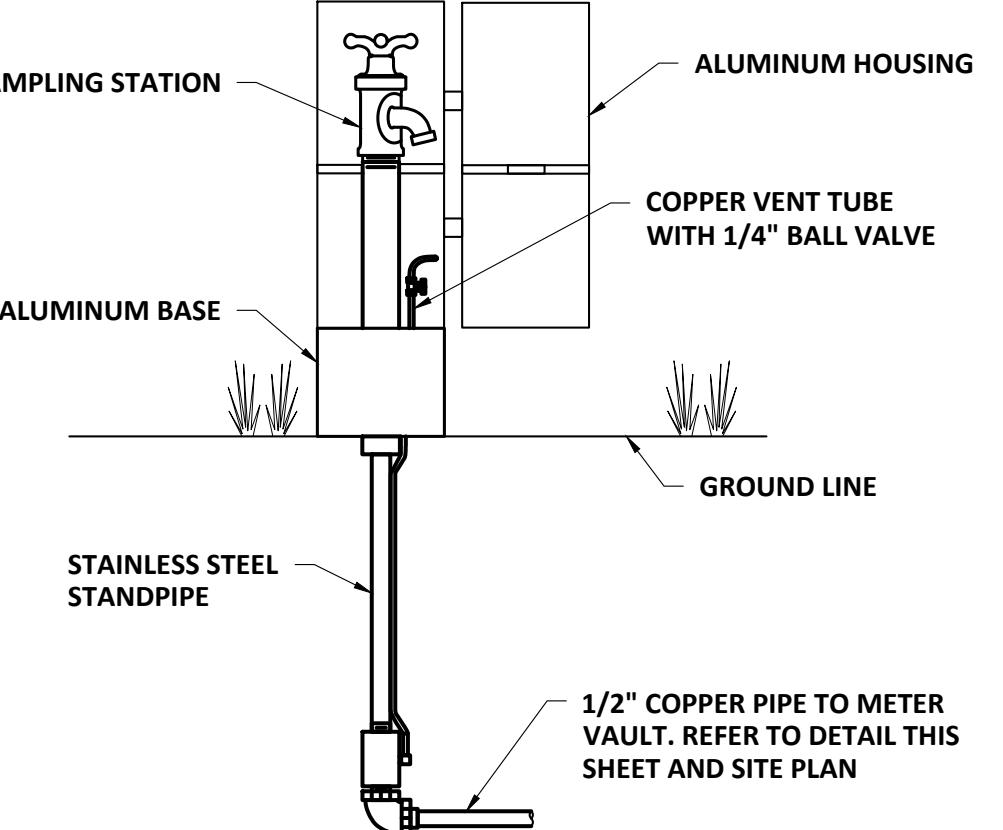


NOTES:

1. JOINTS ON EACH PIPE TO BE AS FAR FROM INTERSECTION AS POSSIBLE.
2. IF LESS THAN 12", FLOWABLE FILL MAY BE REQUIRED RATHER THAN SCREENED STONE TO FACILITATE PROPER PIPE BEDDING AND COMPACTION AT ENGINEER'S DISCRETION. REFER TO SPECIFICATIONS SECTION 02225 FOR ADDITIONAL INFORMATION.

PIPE CROSSING

SCALE: NTS

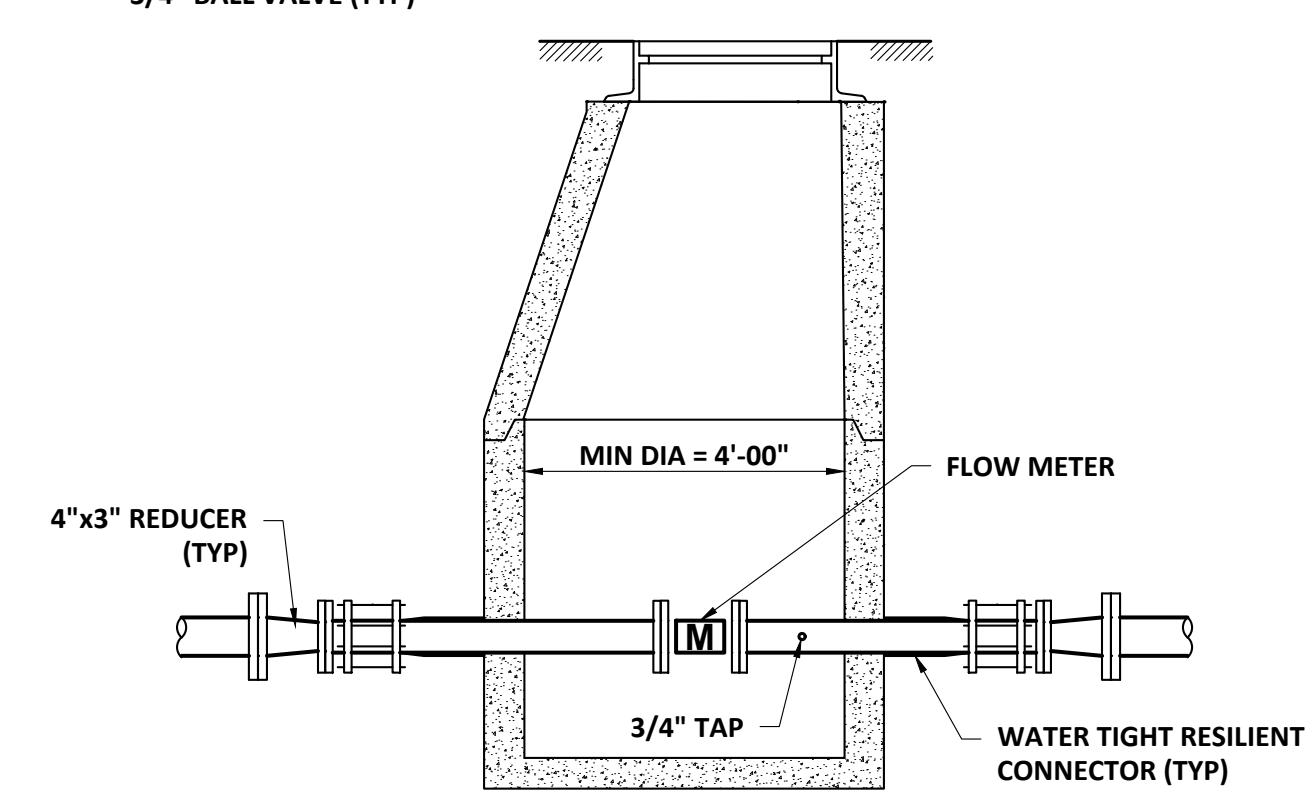
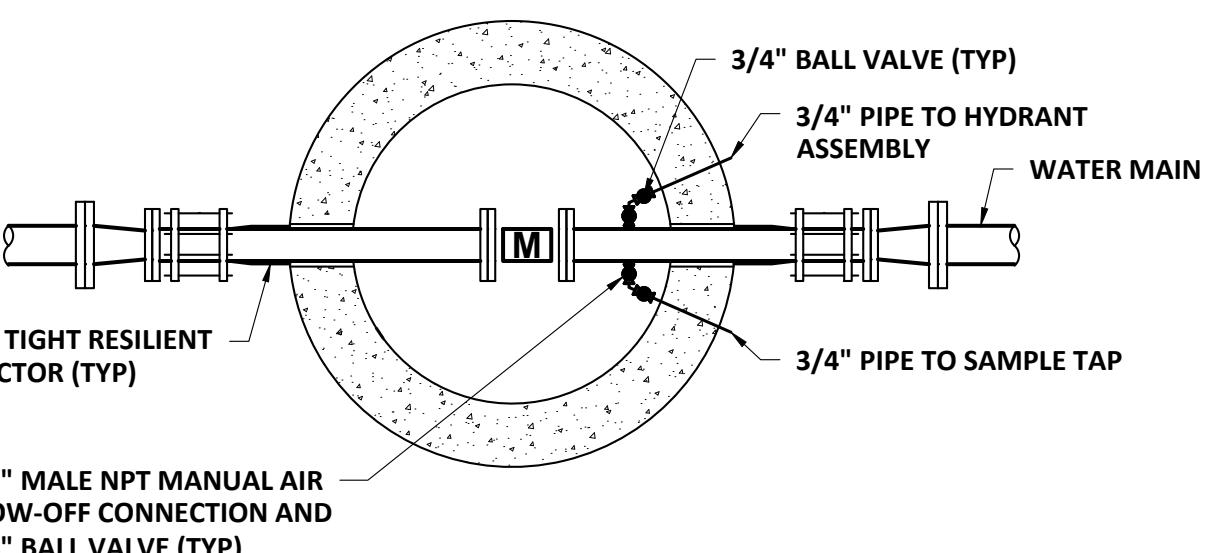


NOTES:

1. SUBGRADE SHALL BE COMPAKTED BACKFILL CONSISTING OF EXCAVATED MATERIAL, GRAVEL BORROW.
2. PIPE SHALL BE INSTALLED WITH A MINIMUM OF 6" SAND BEDDING AND 12" OF SAND COVER.
3. SHALL BE ECLIPSE #88-55 AS MANUFACTURED BY KUPFERLE FOUNDRY COMPANY, OR APPROVED EQUAL.

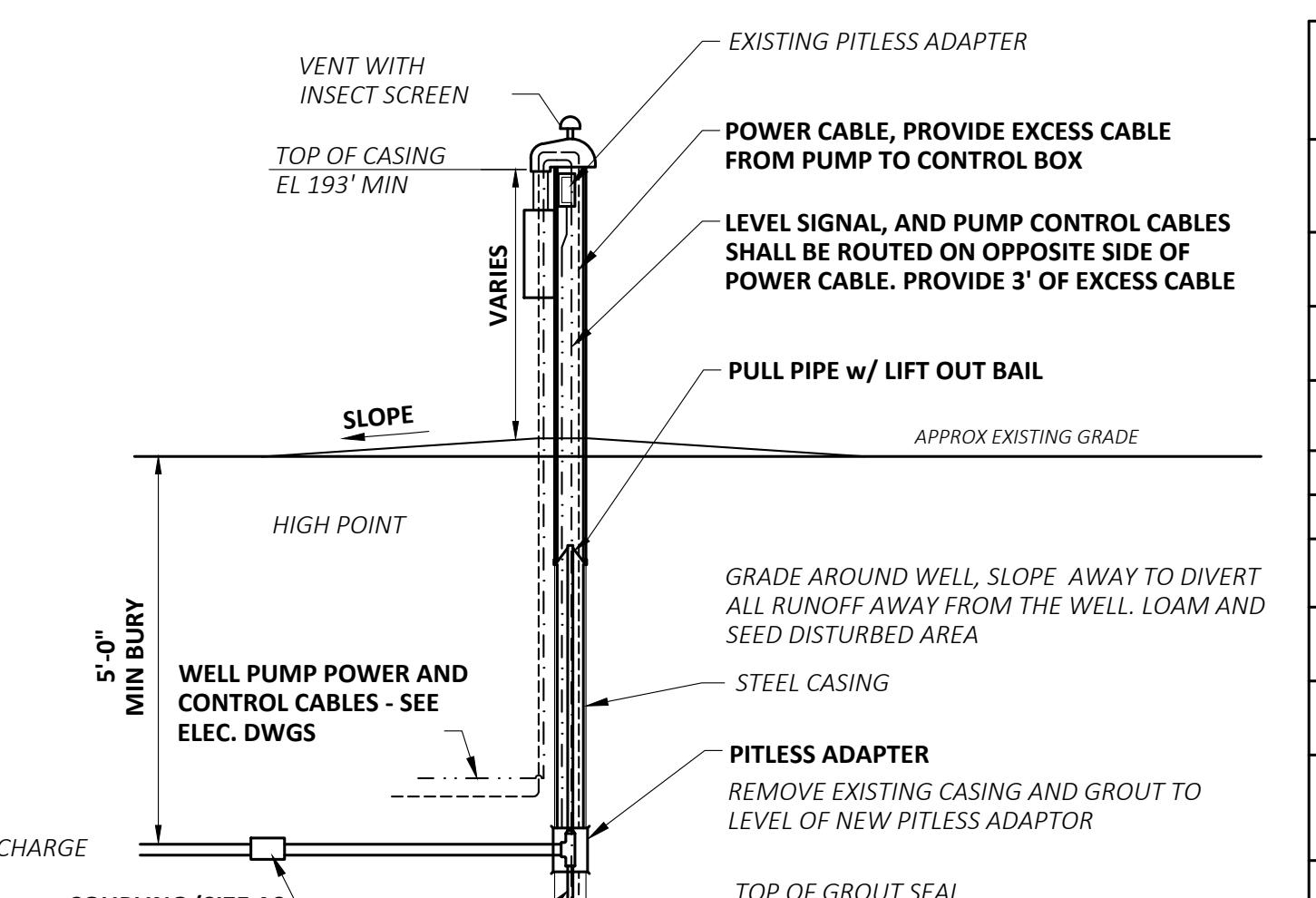
SAMPLING STATION

SCALE: "NTS"



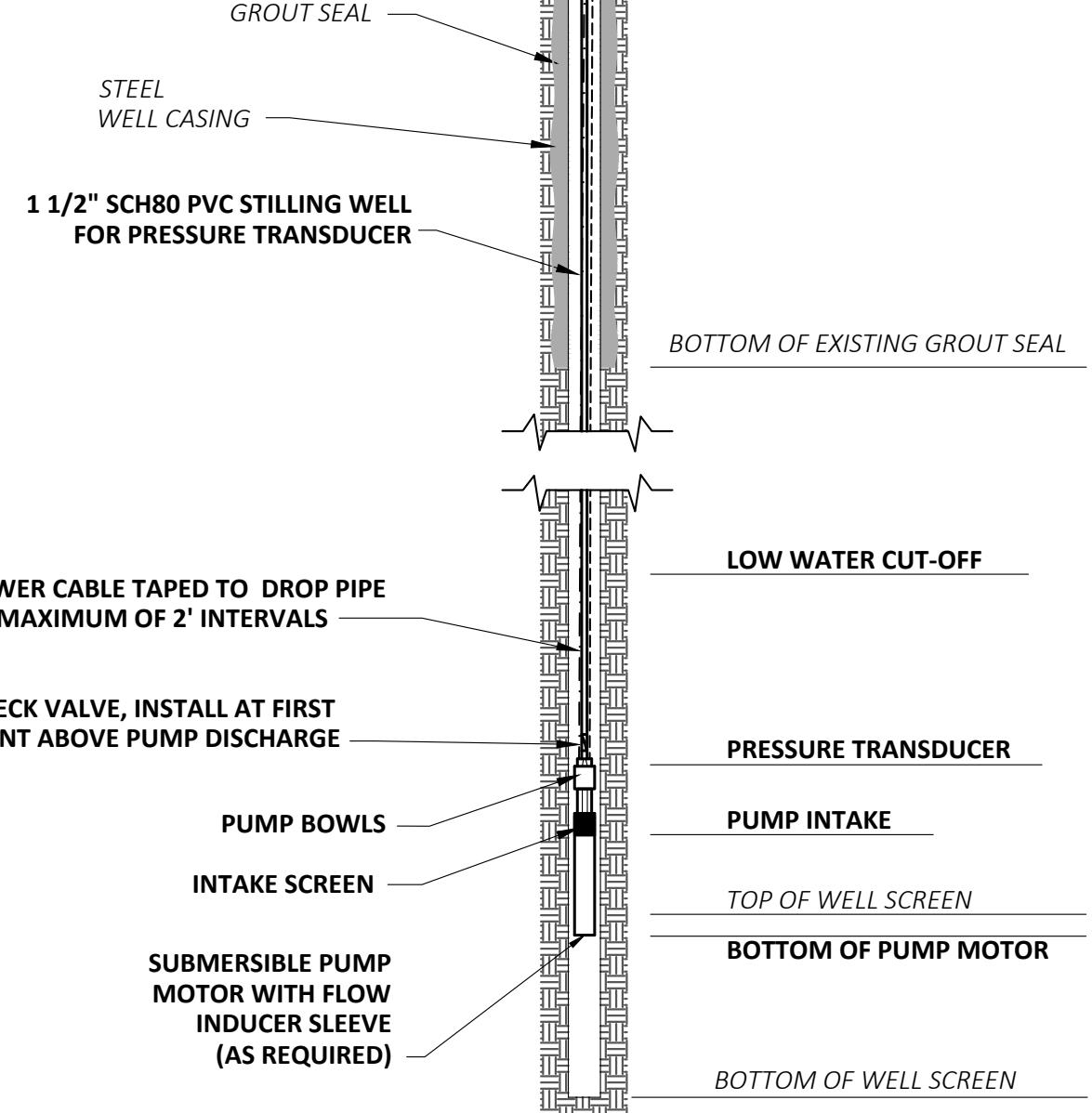
METERING MANHOLE

SCALE: NTS



EXISTING WELL NO. 11 ELEVATIONS (FEET BELOW TOP OF WELL CASING) WMA PERMITTED CAPACITY: 250 GPM (TOTAL)			
DESCRIPTION	WELL 11.1	WELL 11.2	WELL 11.3
WELL CASING DIAMETER (INCH)	8	8	8
TOP OF WELL CASING	0	0	0
PRESSURE/LEVEL TRANSDUCER	28.2	29.4	28.4
PUMP INTAKE	31.5	32.5	31.5
TOP OF WELL SCREEN	32.6	31.8	32.5
WELL SCREEN LENGTH (FEET)	38.6	37.8	38.5
PUMP COLUMN DIAMETER (INCH)	2" HOSE	2" HOSE	2" HOSE
DISCHARGE/PITLESS DISCHARGE DIAMETER (INCH)	3	3	3
PITLESS ADAPTER (Y/N)	Y	Y	Y
INSTALLED WITH FLOW INDUCER (Y/N)	N	N	N

"ALL DEPTHS EXPRESSED IN FEET BELOW TOP OF CASING."

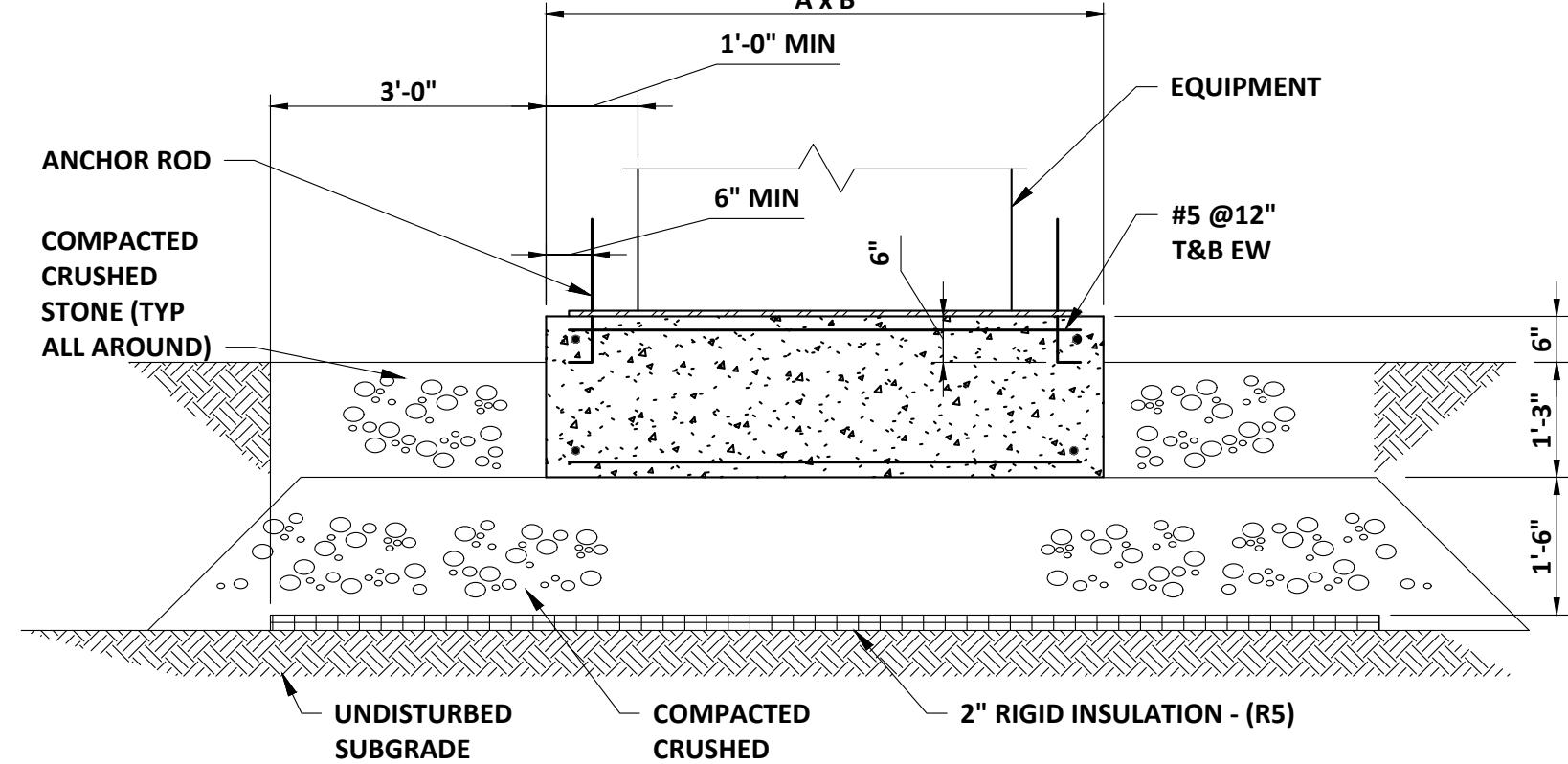


NOTES:

1. REMOVE EXISTING WELL PUMP, PIPING, CHECK VALVE, AND APPURTENANCES AT WELL.
2. REFER TO TABLES FOR WELL ELEVATIONS AND SIZING FOR TYPICAL EXISTING WELL AND REPLACEMENT WELLS.

TYPICAL WELL PUMP AND APPURTENANCES DETAIL

SCALE: NTS

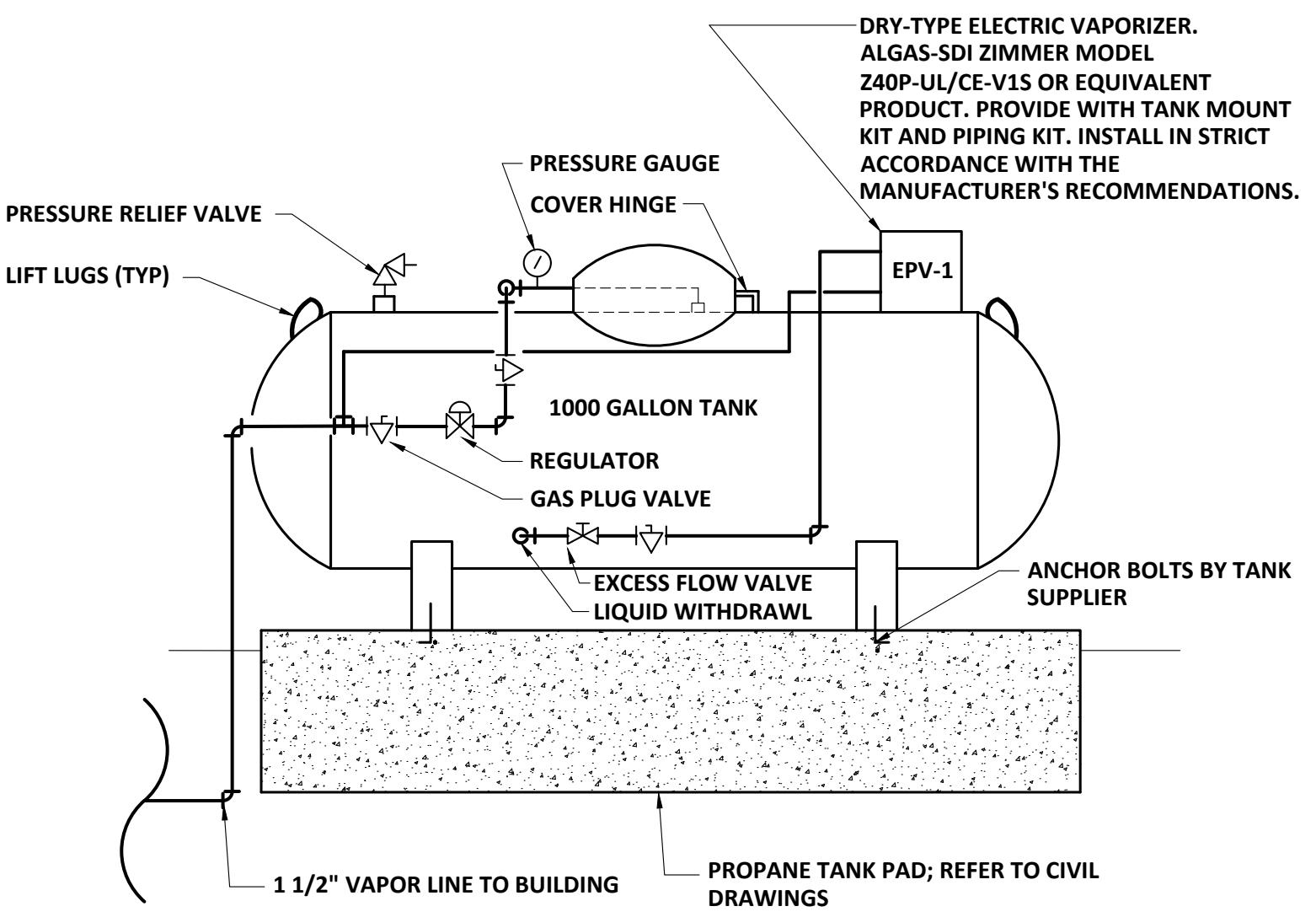


NOTES:

1. DETAIL IS APPLICABLE FOR ALL EXTERIOR EQUIPMENT UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. A AND B DIMENSIONS SHALL BE DETERMINED BY THE GENERAL CONTRACTOR BASED ON THE EQUIPMENT SUPPLIED.
3. CONCRETE PAD SHALL ATTAIN THE SPECIFIED COMPRESSIVE STRENGTH PRIOR TO STARTUP OF EQUIPMENT.
4. REFER TO ELECTRICAL DRAWINGS FOR EMERGENCY STAND-BY GENERATOR CONCRETE PAD GROUNDING SYSTEM DETAIL.

EXTERIOR CONCRETE PADS

NTS

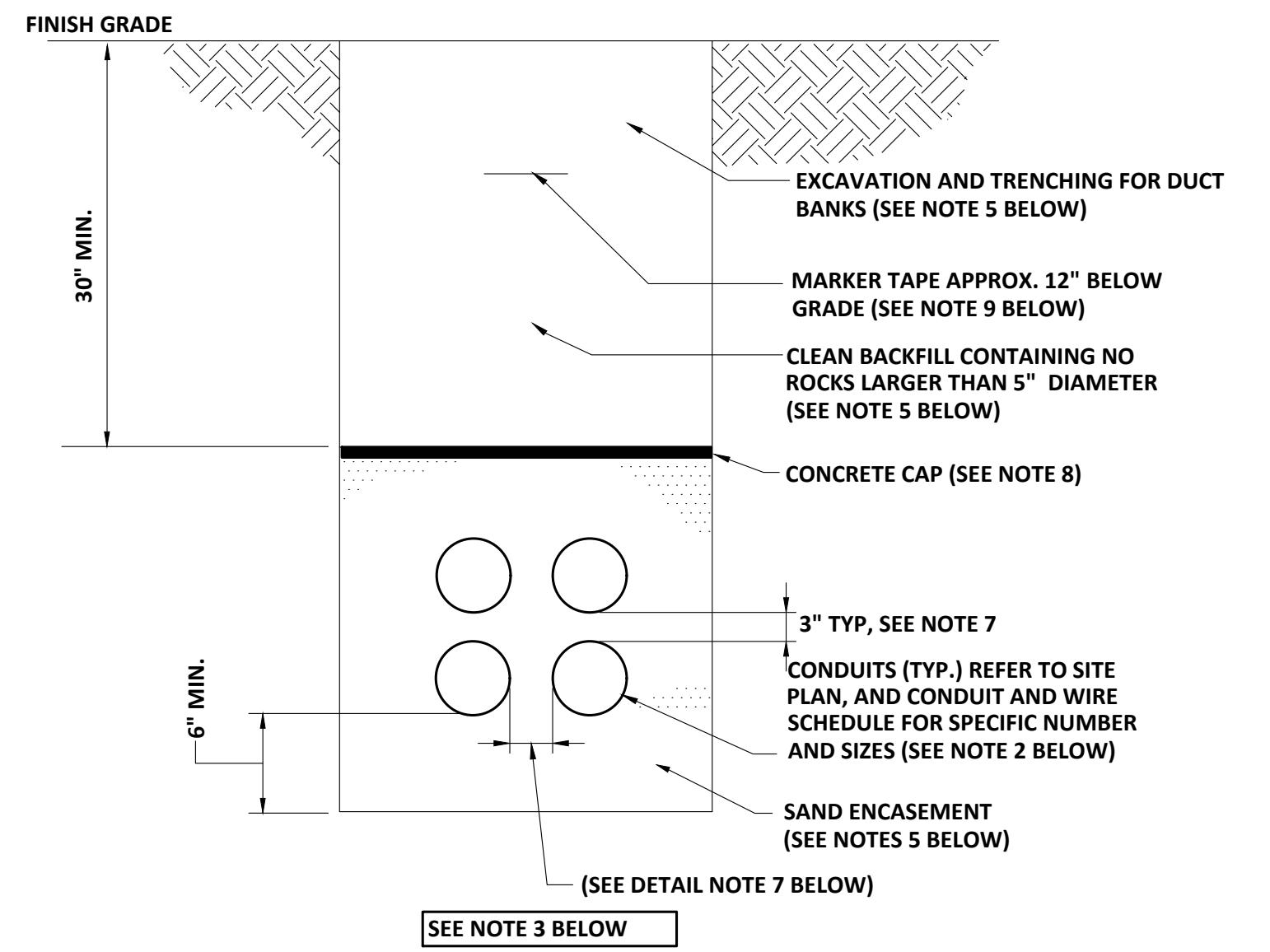


NOTES:

1. TANK PROVIDED BY GAS SUPPLIER - PIERS & PIPING FROM BUILDING TO THE TANK BY THE CONTRACTOR.
2. TANKS TO BEAR ON CONCRETE PAD. REFER TO STRUCTURAL DRAWINGS.
3. TANK CONSTRUCTED PER ASME CODE.
4. LIQUID LINES SHALL BE SCHEDULE 80 STEEL WITH 3,000 LB FORGED FITTINGS. VAPOR LINES SHALL BE SCHEDULE 40 WITH EXTRUDED POLYETHYLENE CORROSION COATING AND 125 LB MALLEABLE IRON FITTINGS.

PROPANE TANK AND PIPING DETAIL

NTS



(REFER TO DUCT BANK NOTES BELOW FOR ADDITIONAL REQUIREMENTS)

NOTES: (DUCT BANK DETAIL)

1. DIMENSIONS TYPICAL FOR ALL DUCT BANKS, UNLESS OTHERWISE NOTED.
2. FOR CONDUIT DETAILS, SEE CONDUIT AND WIRE SCHEDULE ON THE DRAWINGS. REFERENCES P1 AND C1 DENOTE CONDUIT NUMBERS. REFER TO SPECIFIC DUCT BANK SECTIONS AND CONDUIT AND WIRE SCHEDULES FOR DETAILS.
3. THIS TYPICAL DUCT BANK SECTION HAS BEEN SHOWN AS AN EXAMPLE OF THE REQUIREMENTS FOR THE UNDERGROUND INSTALLATION FOR THE DUCT BANK SYSTEM. THIS DENOTES SPECIFIC SPACING, SAND ENCASEMENT, SAND SUBBASE, ETC. REQUIRED FOR DUCT BANK INSTALLATIONS. THE SPECIFIC CONDUIT SIZING AND NUMBERS HAVE BEEN SHOWN BY EACH SPECIFIC DUCT BANK SECTION.
4. EXCAVATION, TRENCHING AND BACKFILLING SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR THE WORK OF THIS CONTRACT.
5. SAND ENCASEMENT SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR THE WORK OF THIS CONTRACT. CONDUIT SHALL REST ON 6" OF SAND. CONDUIT SHALL NOT REST ON HARD PACKED EARTH.
6. INSTALL MARKER TAPE THE ENTIRE LENGTH OF EACH DUCT BANK.
7. TYPICAL SPACING BETWEEN CONDUITS SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
8. PROVIDE A 2" CONCRETE CAP ON SECTIONS OF DUCT BANK WHICH DO NOT MEET SUFFICIENT DEPTH AS REQUIRED BY THE NEC. IF SUFFICIENT DEPTH IS MAINTAINED, A CONCRETE CAP IS NOT REQUIRED.

TYPICAL DUCT BANK DETAIL

NTS

TOWN OF BELLINGHAM, MASSACHUSETTS
WELL NO. 11 REPLACEMENT
PROCESS UPDATES

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DRAWING
C-502

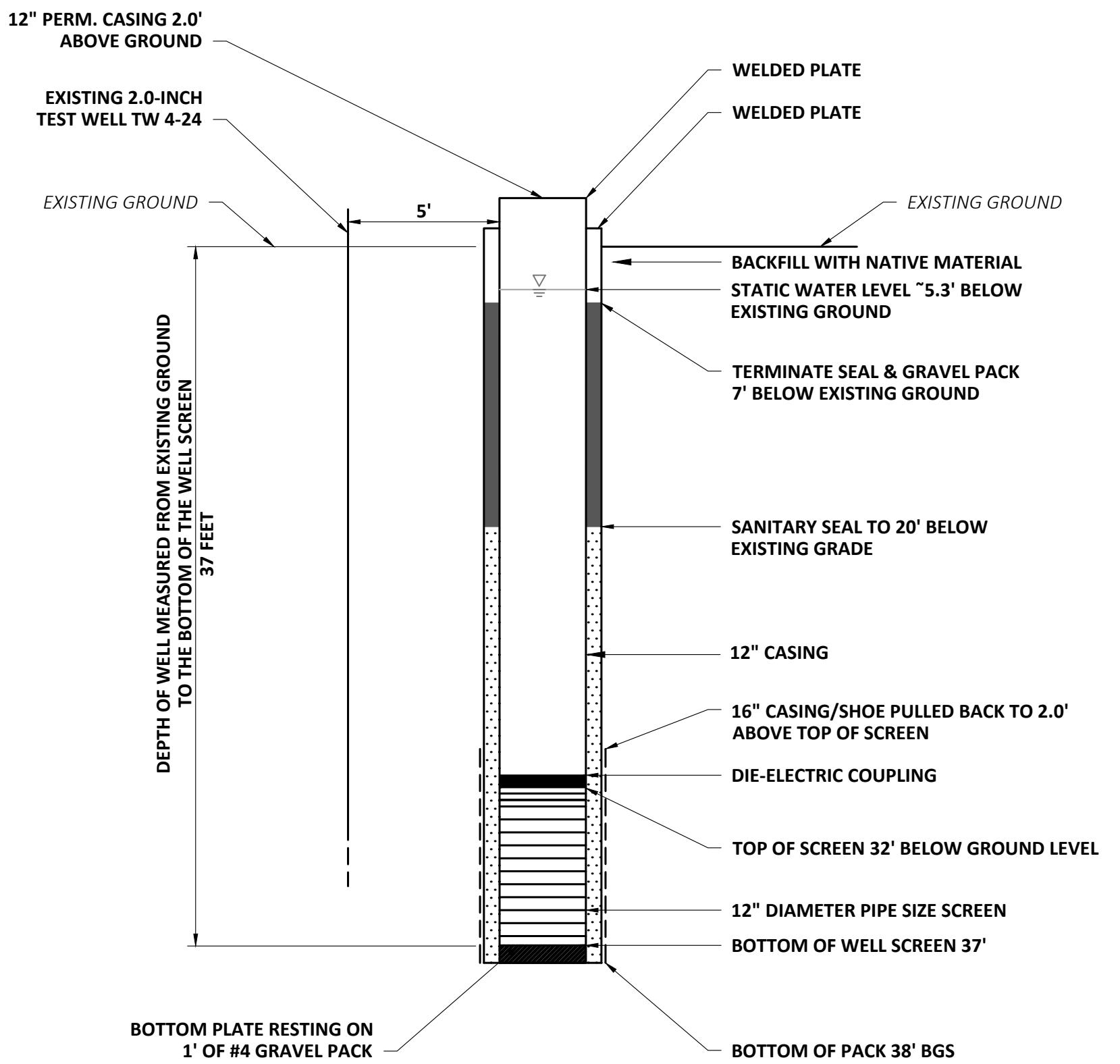
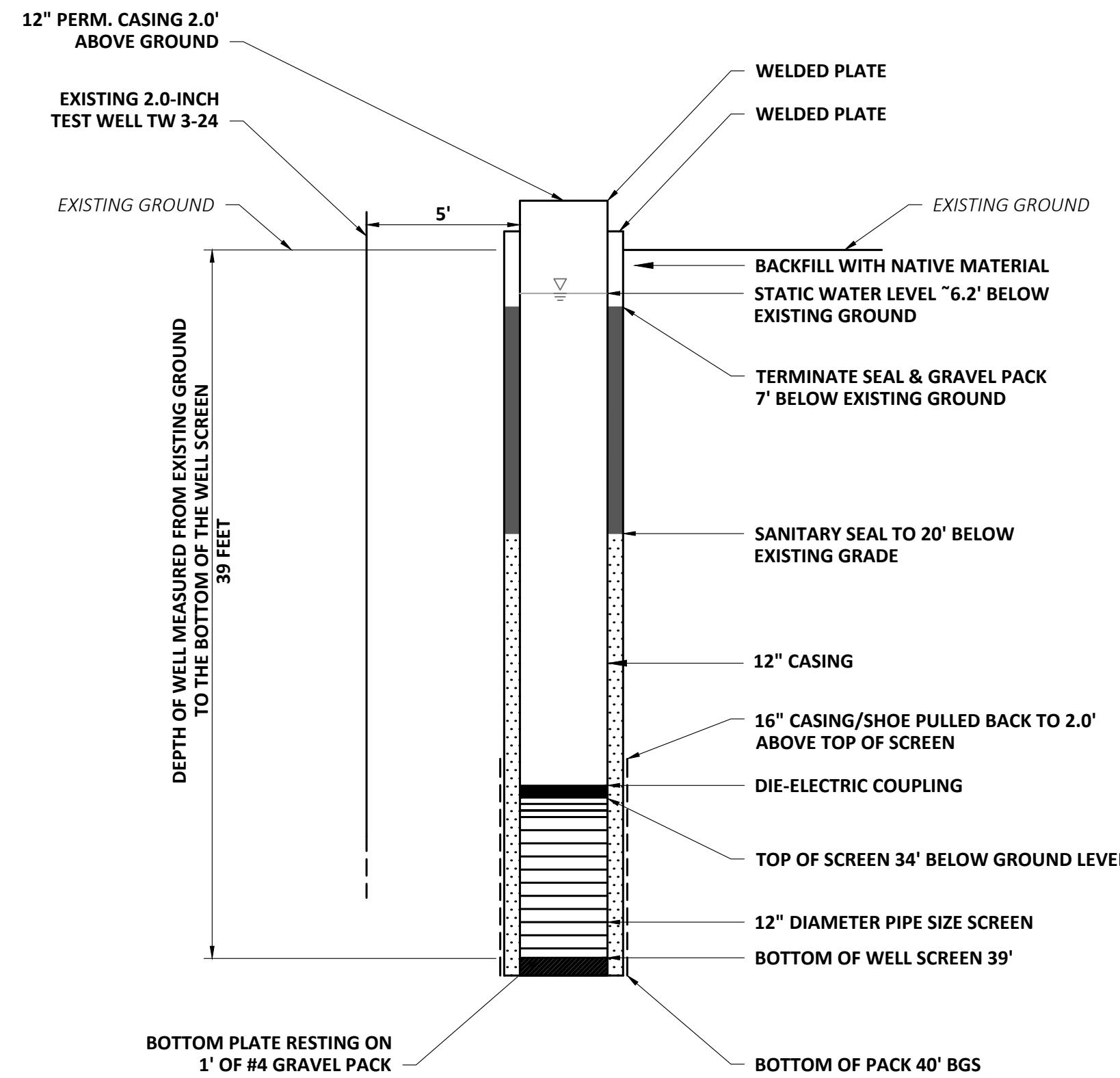
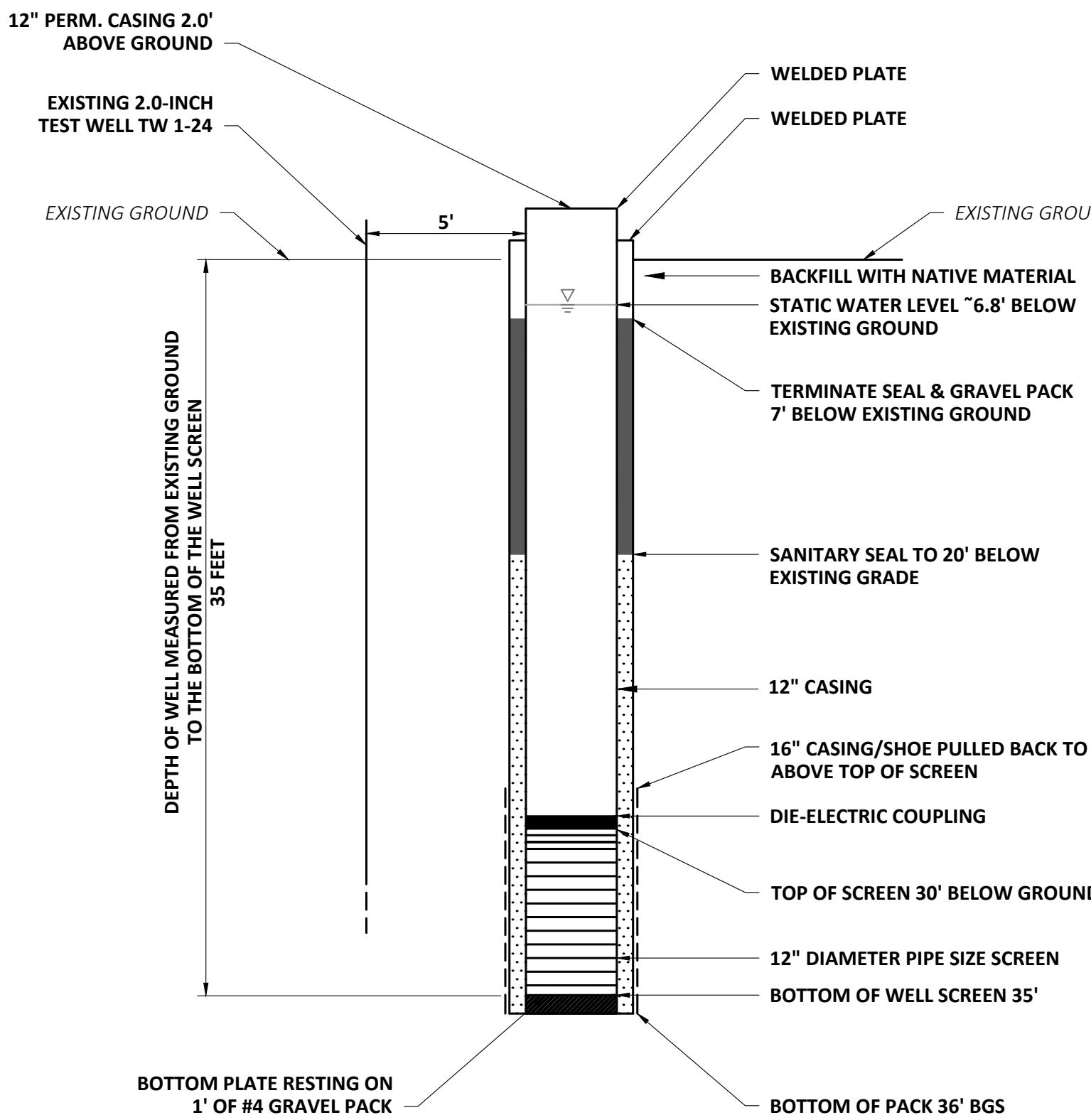
NO.	REVISIONS	APPD DATE

PROJECT NO: 21934
DESIGNED: A.MCDONALD
CAD COORD: A.PHILIPON
CAD: CHECKED: DATE: APPROVED: DATE: SUBMISSION: 90% DESIGN REVIEW

WELL NO. 11.1-R ELEVATIONS	
(BELOW GROUND SURFACE)	
WMA PERMITTED CAPACITY: 250 GPM	
DESCRIPTION	ELEVATION
TOP OF PITLESS WELL CASING	-4.0
GROUND ELEVATION	0.0
DISCHARGE	5.0
STATIC WATER LEVEL*	6.8
TOP OF GROUT SEAL	7.0
BOTTOM OF GROUT SEAL	20.0
LOW WATER CUT OFF	24.0
LEVEL TRANSDUCER	26.0
PUMP INTAKE	29.0
TOP OF WELL SCREEN	30.0
BOTTOM OF WELL SCREEN	35.0

WELL NO. 11.2-R ELEVATIONS	
(BELOW GROUND SURFACE)	
WMA PERMITTED CAPACITY: 250 GPM	
DESCRIPTION	ELEVATION
TOP OF PITLESS WELL CASING	-4.5
GROUND ELEVATION	0.0
DISCHARGE	5.0
STATIC WATER LEVEL*	6.2
TOP OF GROUT SEAL	7.0
BOTTOM OF GROUT SEAL	20.0
LOW WATER CUT OFF	28.0
LEVEL TRANSDUCER	30.0
PUMP INTAKE	33.0
TOP OF WELL SCREEN	34.0
BOTTOM OF WELL SCREEN	39.0

WELL NO. 11.2-R ELEVATIONS	
(BELOW GROUND SURFACE)	
WMA PERMITTED CAPACITY: 250 GPM	
DESCRIPTION	ELEVATION
TOP OF PITLESS WELL CASING	-4.5
GROUND ELEVATION	0.0
DISCHARGE	5.0
STATIC WATER LEVEL*	5.3
TOP OF GROUT SEAL	7.0
BOTTOM OF GROUT SEAL	20.0
LOW WATER CUT OFF	26.0
LEVEL TRANSDUCER	28.0
PUMP INTAKE	31.0
TOP OF WELL SCREEN	32.0
BOTTOM OF WELL SCREEN	37.0



PROPOSED REPLACEMENT WELL NO. 11.1-R

SCALE: NTS

NOT

1. SEE LOG OF TEST WELL FOR FORMATION DESCRIPTION IN APPENDIX OF PROJECT SPECIFICATIONS.

PROPOSED REPLACEMENT WELL NO. 11.2-R

NO

1. SEE LOG OF TEST WELL FOR FORMATION DESCRIPTION IN APPENDIX OF PROJECT SPECIFICATIONS.

PROPOSED REPLACEMENT WELL NO. 11.3-R

SCALE: NTS

NOT

1. SEE LOG OF TEST WELL FOR FORMATION DESCRIPTION IN APPENDIX OF PROJECT SPECIFICATIONS.

DRAWING		PROJECT NO: 21934	NO	REVISIONS	APP'D	DATE
TOWN OF BURLINGTON, MASSACHUSETTS		DESIGNED: A.MCDONALD	1			
WELL NO. 11 REPLACEMENT		CAD COORD: A.PHAPHILOM	2			
PROCESS UPGRAGES		CAD:	3			
		CHECKED:	4			
		DATE:	5			
		APPROVED:				
		DATE:				
		SUBMISSION: 90% DESIGN REVIEW				
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