

SUNRAY SHORES WATER DISTRICT

CONTRACT #1

WATER BOOSTER PUMP STATION PROJECT

BELMONT, NEW HAMPSHIRE

MARCH 2024
(REVISED MAY 2024, JULY 2024)

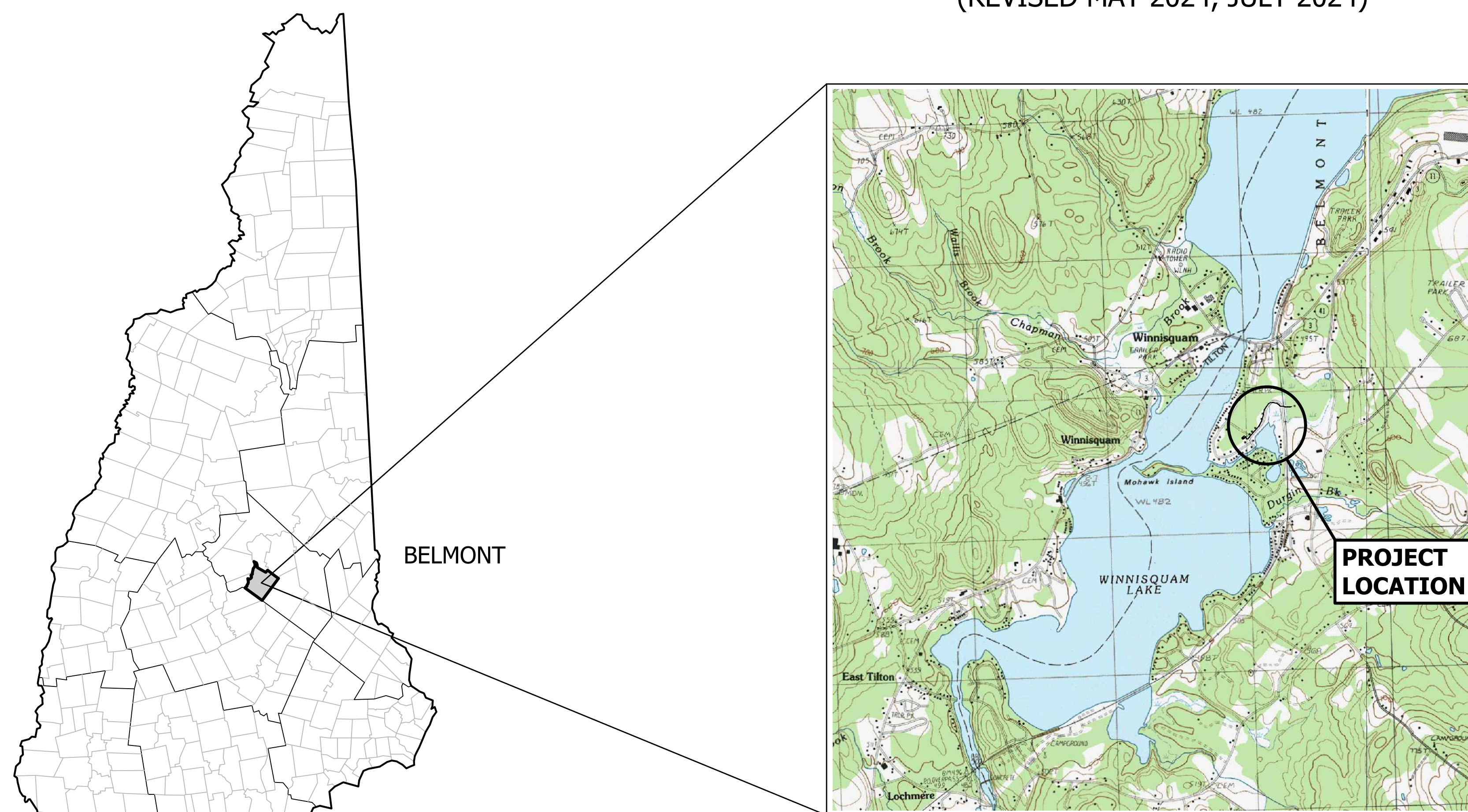
OWNER:

SUNRAY SHORES WATER DISTRICT
PO BOX 100
WINNISQUAM, NH 03289

ENGINEER & SURVEYOR:

horizons
Engineering

34 SCHOOL STREET
LITTLETON, NH 03561
(603) 444-4111



LOCATION PLAN

SCALE: 1" = 2000'

<u>SHEET(S)</u>	<u>DESCRIPTION</u>
C1.00	COVER
C1.01	OVERVIEW, GENERAL NOTES AND LEGEND

PLAN AND PROFILE

C2.01	BOOSTER PUMP STATION SITE GRADING PLAN
C2.02-C2.04	TRANSMISSION WATER MAIN PLAN AND PROFILE
C2.05	TRANSMISSION WATER MAIN - ALT RR CROSSING

DETAIL SHEETS

D1.01	BOOSTER PUMP STATION DETAILS AND NOTES
D1.02	BOOSTER PUMP STATION DETAILS AND NOTES
D1.03	BOOSTER PUMP STATION DETAILS AND NOTES
D1.04	STANDARD WATER SYSTEM DETAILS AND NOTES
D1.05	TRAFFIC CONTROL PLAN & LANE CLOSURE DETAIL
D1.06	EROSION CONTROL DETAILS AND NOTES
D1.07	NHDOT RAILROAD CROSSING DETAILS AND NOTES

FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING

© 2024
horizons
Engineering
All rights reserved



EXISTING CONDITIONS LEGEND

---	APPROXIMATE PROPERTY LINE (TAX MAP)
• 484.9'	SPOT ELEVATION
---	MAJOR CONTOUR, 10-FOOT INTERVAL
---	MINOR CONTOUR, 2-FOOT INTERVAL
---	TREELINE (APPROXIMATE)
---	EDGE OF WETLAND
OHU	OVERHEAD UTILITY LINE
UGE	UNDERGROUND ELECTRIC LINE
S	SEWER MAIN
W	WATER MAIN
3"W	3" PE WATER MAIN (APPROX. PER REF. PLAN)
---	GUARD RAIL
•	BOLLARD OR GATE POST
○	UTILITY POLE
---	GUY WIRE
⊥	WATER SHUTOFF
⊥	BLOW-OFF / GATE VALVE
⊙	WELL
⊙	SEWER MANHOLE
⊙	TELECOMM CABINET
⊙	CABLE CABINET
⊙	PROPANE TANK
⊙	MAILBOX
⊙	DECIDUOUS TREE
⊙	CONIFER TREE
⊙	SHRUB
⊙	GRAVEL
⊙	PAVEMENT

PROPOSED CONDITIONS LEGEND

---	3"W	TRANSMISSION WATER MAIN
---	4"W	WATER MAIN
---	SF	SILT FENCE
---	---	LIMIT OF DISTURBANCE
⊥	⊥	WATER SHUTOFF
⊥	⊥	GATE VALVE
⊙	⊙	BLOW OFF VALVE
⊙	⊙	GRAVEL
⊙	⊙	PAVEMENT

NOTES

- 90° PIPE DIA" x 90° BEND, MJ, JOINT RESTRAINTS
 - 45° PIPE DIA" x 45° BEND, MJ, JOINT RESTRAINTS
 - 22.5° PIPE DIA" x 22.5° BEND, MJ, JOINT RESTRAINTS
 - 11.25° PIPE DIA" x 11.25° BEND, MJ, JOINT RESTRAINTS
- A. CLOSE ALL GATE VALVES TO BE ABANDONED. SAWCUT EXISTING PAVEMENT 2 FT SQUARE AROUND BOX TOP. REMOVE EXISTING VALVE BOX TOPS & COVERS AND SALVAGE TO OWNER. FILL VOID WITH STRUCTURAL FILL AND BITUMINOUS PAVEMENT TO MATCH PERMANENT PATCH DETAIL(S). (TYPICAL ALL ABANDONED VALVES)
- B. PIPES TO BE ABANDONED SHALL BE FILLED WITH FLOWABLE FILL AND CAPPED, TYPICAL ALL ABANDONED PIPES
- C. CONTRACTOR TO ACQUIRE ALL NECESSARY CONSTRUCTION EASEMENTS, IN WRITING, FROM PROPERTY OWNERS PRIOR TO CONSTRUCTING WATER MAIN.

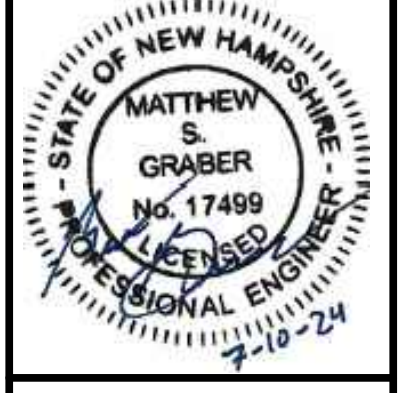
GENERAL NOTES

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND "TECHNICAL SPECIFICATIONS FOR SUNRAY SHORES WATER DISTRICT, CONTRACT #1, WATER BOOSTER PUMP STATION, BELMONT, NH DATED MARCH 2024, REVISED MAY 2024, REVISED JULY 2024."
2. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
3. ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DATA COLLECTION AND PREPARATION OF RECORD DRAWINGS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.
6. UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF EXISTING UTILITIES AND SHALL REPAIR ANY DAMAGE AS QUICKLY AS POSSIBLE AT HIS OWN EXPENSE. ALL UTILITIES ENCOUNTERED SHALL BE LOCATED BY DEPTH AND TIES AND SHOWN BY THE CONTRACTOR ON HIS "AS BUILT" DRAWINGS. HAND EXCAVATION SHALL BE DONE WHEREVER UNDERGROUND UTILITIES ARE SHOWN OR ANTICIPATED. THE CONTRACTOR SHALL CONTACT DIG SAFE AND THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION IN ORDER TO VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS.
7. THIS PLAN IS BASED ON A FIELD SURVEY COMPLETED IN APRIL, MAY AND NOVEMBER OF 2023 WITH CARLSON BRX6 DUAL FREQUENCY SURVEY GRADE GPS RECEIVERS AND A LEICA TS12 ROBOTIC TOTAL STATION.
8. THE HORIZONTAL DATUM IS ON THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD83 (2011). THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
9. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE PER THE TOWN OF BELMONT TAX ASSESSOR MAPS AT THE TIME THIS PLAN WAS PREPARED.
10. THE TREE LINE DEPICTED HEREON IS APPROXIMATE BASED ON AERIAL IMAGERY.
11. ALL ROAD SHOULDERS SHALL BE GRADED AT A MINIMUM OF 4% AND EXISTING DRAINAGE DITCHES AND SWALES OUTSIDE OF THE SHOULDER THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO FREE FLOWING TO THE NEAREST DRAINAGE STRUCTURE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF PAVEMENT SURFACE DURING UNLOADING AND/OR MOVEMENTS OF EQUIPMENT WITHIN THE WORK AREA. ANY DAMAGE TO THE PAVEMENT SURFACE SHALL BE REPAIRED TO THE SATISFACTION OF AND AT NO EXPENSE SUNRAY SHORES WATER DISTRICT OR THE TOWN OF BELMONT.
13. PERMANENT PAVEMENT PATCHES SHALL BE COMPLETED NO LATER THAN NOVEMBER 15TH. REPAIR OF ANY SETTLING OR HEAVING OF TEMPORARY OR PERMANENT PATCHES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. ANY WATER MAIN CROSSING DITCH LINES SHALL MAINTAIN A MINIMUM FIVE (5) FEET OF COVER.
15. NO SHEETING SHALL BE LEFT IN PLACE WITHIN RIGHTS-OF-WAY.
16. INVASIVE PLANT SPECIES MAY BE ENCOUNTERED DURING CONSTRUCTION. IF AND AS IDENTIFIED, THE CONTRACTOR SHALL FOLLOW PROHIBITED INVASIVE PLANT SPECIES RULES: [HTTP://WWW.NH.GOV/STATE/NH-USRULES/STATE_AGENCIES/AGR3800.HTML](http://www.nh.gov/govt/state/nh-usrules/state_agencies/agr3800.html) AND THE NHDOT'S 2018 BEST MANAGEMENT PRACTICES FOR THE CONTROL OF INVASIVE AND NOXIOUS PLANT SPECIES: [HTTPS://WWW.NH.GOV/DOT/ORG/PROJECTDEVELOPMENT/ENVIRONMENT/UNITS/PROGRAM-MANAGEMENT/DOCUMENTS/FINAL-ENV1MANUAL1-INVASIVESPECIES.PDF](https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/final-env1manual1-invasivespecies.pdf)

WETLAND NOTES

- STATE AND FEDERAL JURISDICTIONAL WETLANDS WERE DELINEATED BY N.H. CERTIFIED WETLAND SCIENTIST, ELIAS BUZZELL CWS NO. 318 ON APRIL 18 2023. WETLANDS MAPPING WAS DONE BY N.H. LICENSED LAND SURVEYORS, HORIZONS ENGINEERING, INC. IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
1. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.01) WITH THE TECHNIQUES OUTLINED IN THE 1987 "U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1."
 2. U.S. ARMY CORPS OF ENGINEERS. 2009. "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION. U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY ERDC/EL TR-09-19."
 3. U.S. ARMY CORPS OF ENGINEERS. 2012. "NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY."
 4. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.02) WITH THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-79/31 ENTITLED "CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, COWARDIN ET AL, 1979."
 5. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2004. 3RD ED., "FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND." NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
 6. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE. 2010. "FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0." L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.

NO.	DATE	REVISION DESCRIPTION



horizons Engineering
 Civil and Structural Engineering
 Land Surveying and Environmental Consulting
 MAINE • NEW HAMPSHIRE • VERMONT
 www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
 BELMONT, NEW HAMPSHIRE
 CONTRACT # 1
 WATER BOOSTER PUMP STATION PROJECT
 OVERVIEW, GENERAL NOTES AND LEGEND

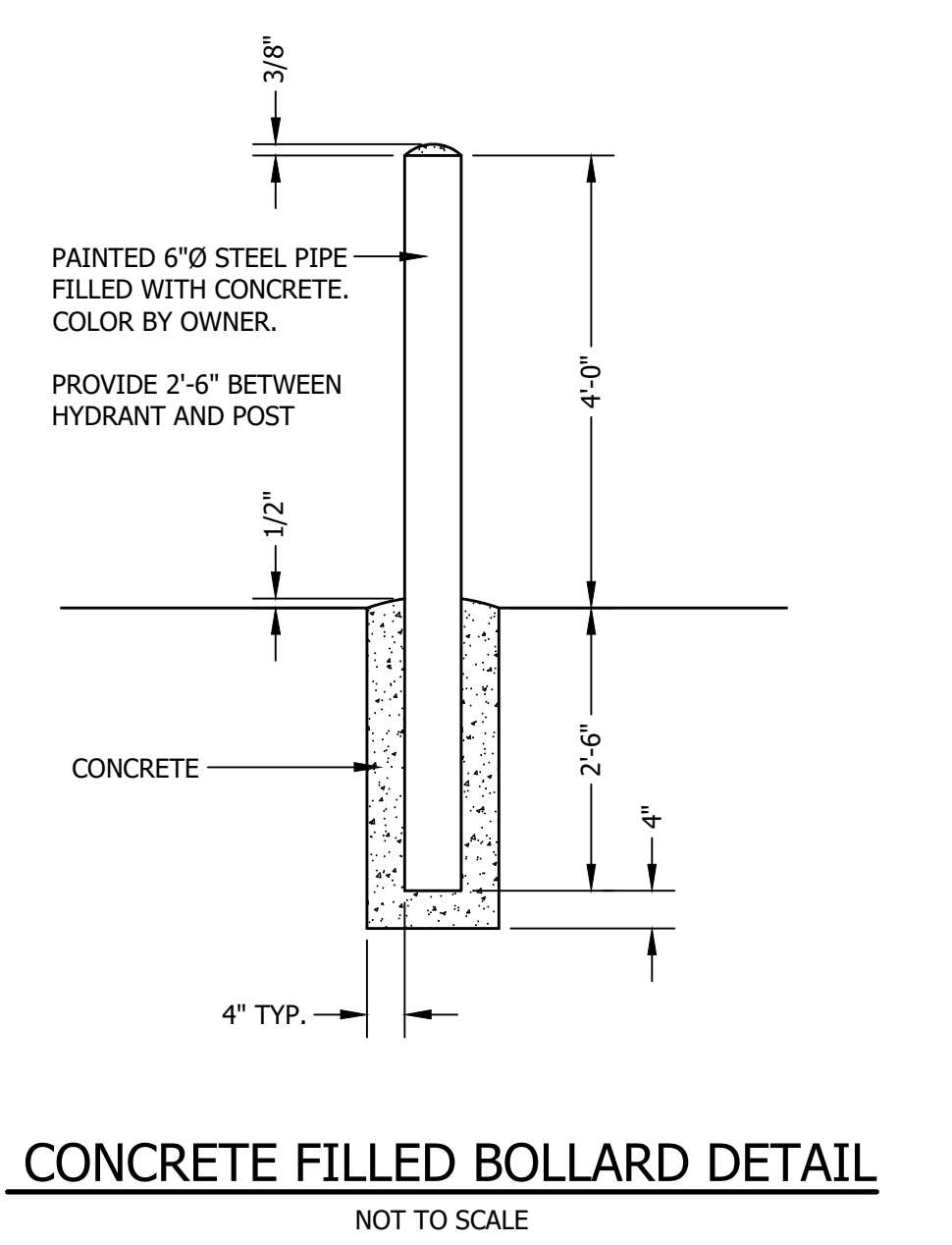
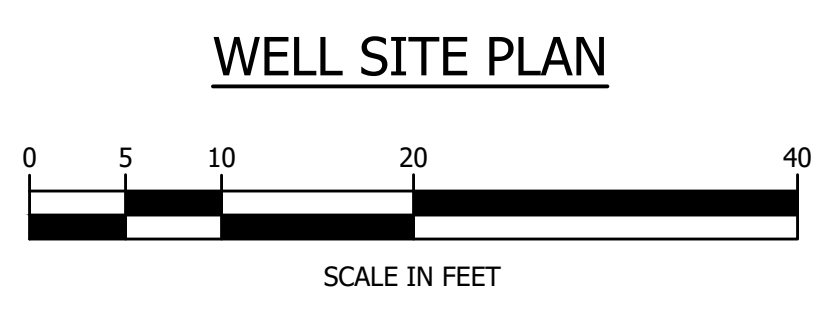
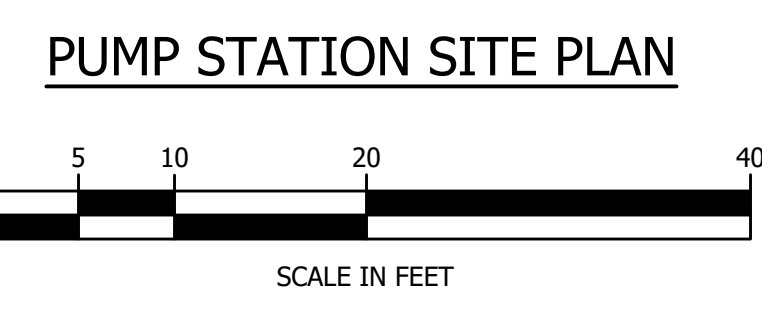
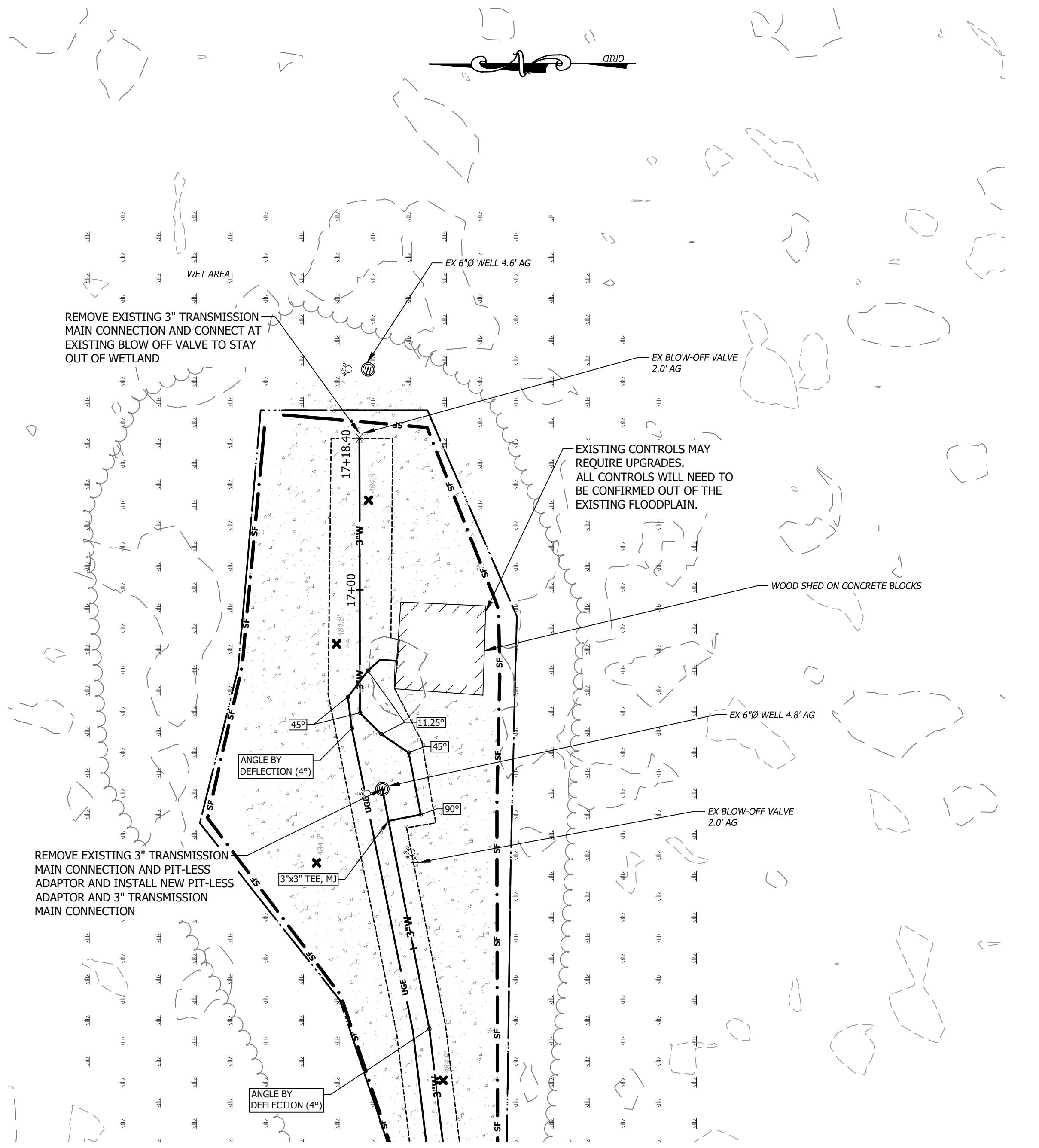
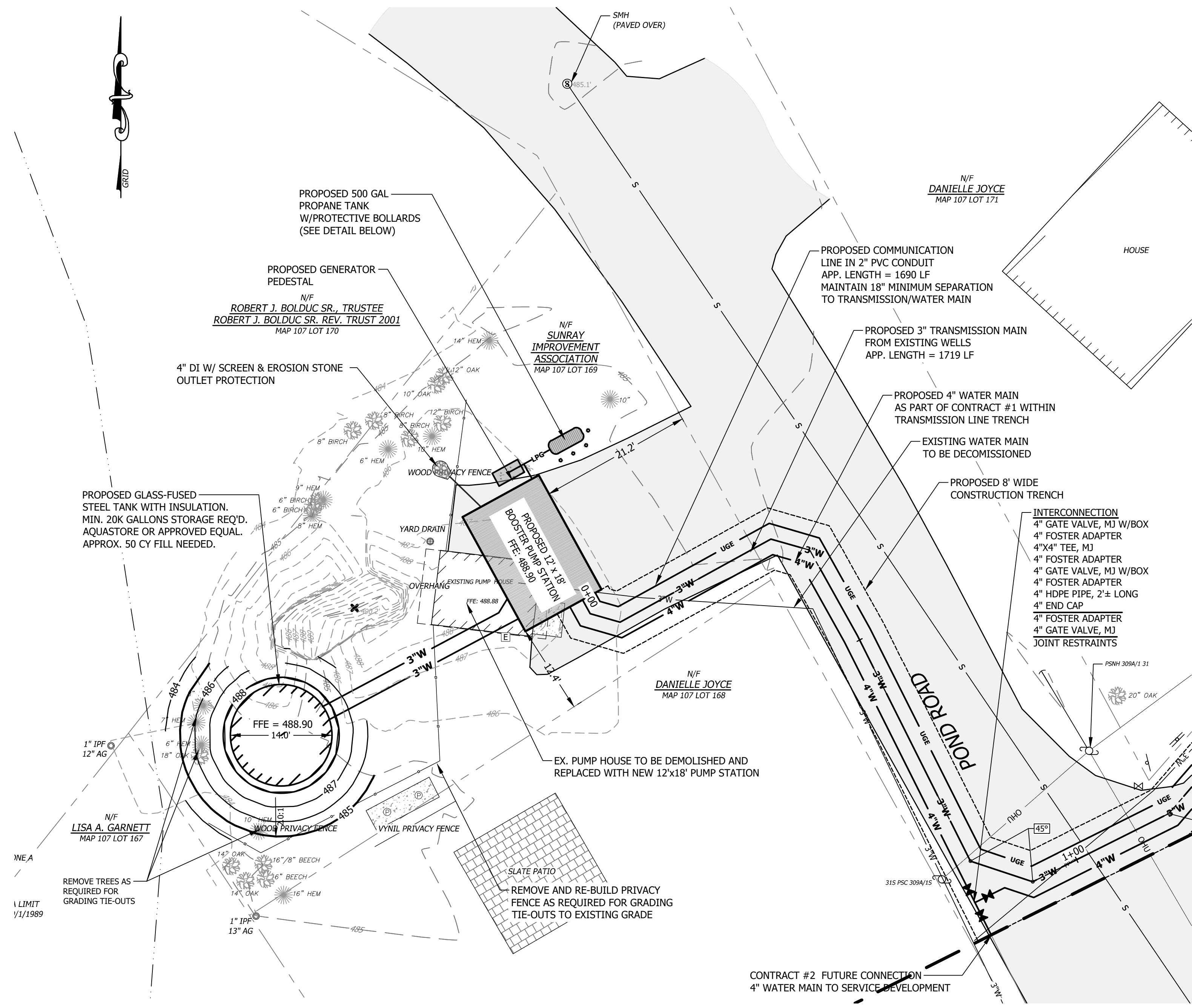
FOR CONSTRUCTION
 PWS# 0202020

DATE OF PRINT
 JULY 11 2024
 HORIZONS ENGINEERING



SHEET C1.01

Z:\proj_2022\220963 Sunray Shores Water System\Hazen\Civil\Final\220963_C011_COVER.DWG 10:48 AM 7/11/2024 9:18:08 AM MattGrabner



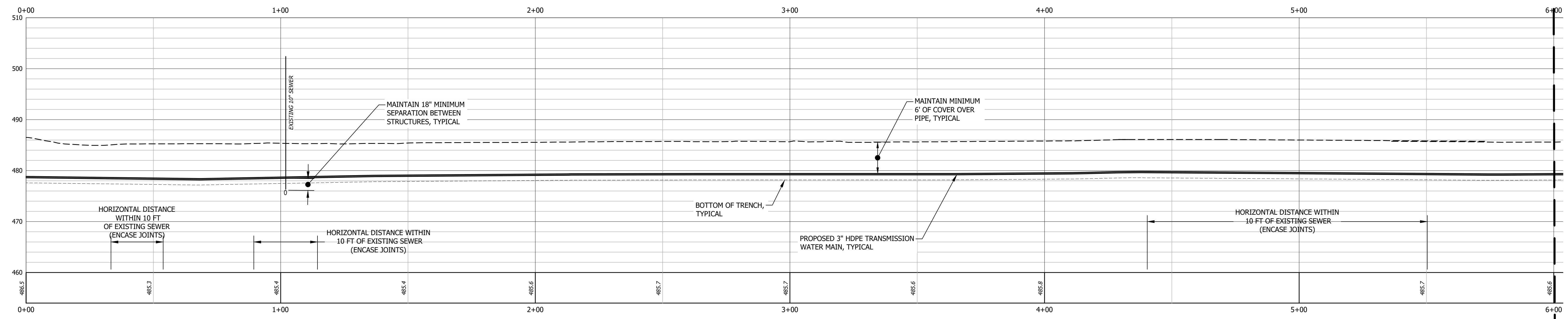
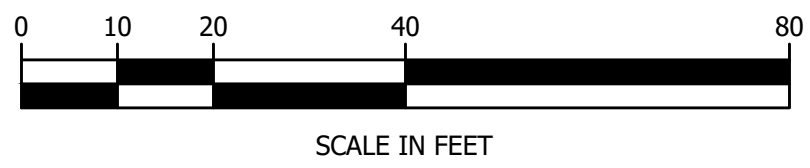
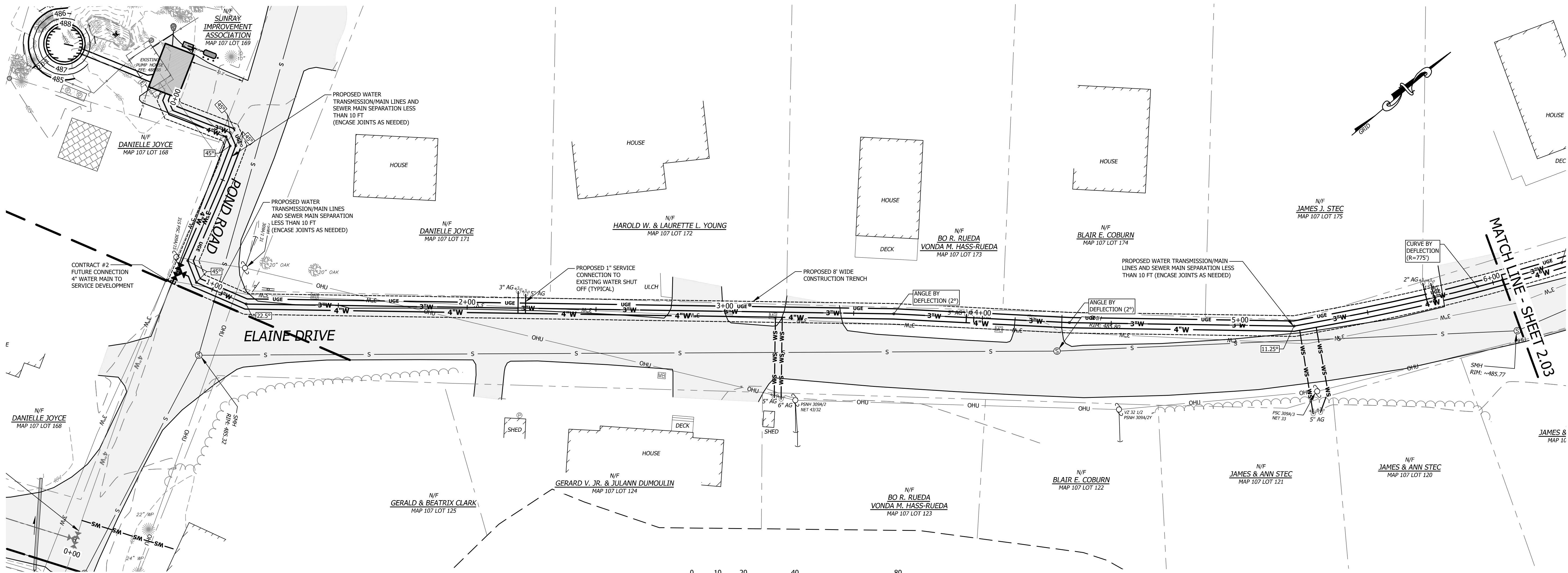
FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



PROJECT #:	220963	DATE:	MARCH 2024	PROJECT DESCRIPTION:	
MAP LOT (OR ARCHIVE):		SURVEYED BY:	HEI	NO.	
ENGINEERED BY:	LJM/MSG	DRAWN BY:	LJM	DATE:	
CHECKED BY:				NO.	
horizons Engineering Civil and Structural Engineering Land Surveying and Environmental Consulting MAINE • NEW HAMPSHIRE • VERMONT www.horizonsengineering.com					
SUNRAY SHORES WATER DISTRICT BELMONT, NEW HAMPSHIRE CONTRACT #1 WATER BOOSTER PUMP STATION PROJECT PUMP STATION AND WELL SITE IMPROVEMENTS PLAN					
SHEET 2.01					

Z:\proj_2022\220963\Sunray Shores Water System\Plans\Site\Final\220963_CDR1_CUT_05.dwg, She: 2.01, 7/11/2024 8:48:36 AM, MattGraber



**TRANSMISSION WATER MAIN
STA 0+00 TO STA 6+00**

**FOR CONSTRUCTION
PWS# 0202020**

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING

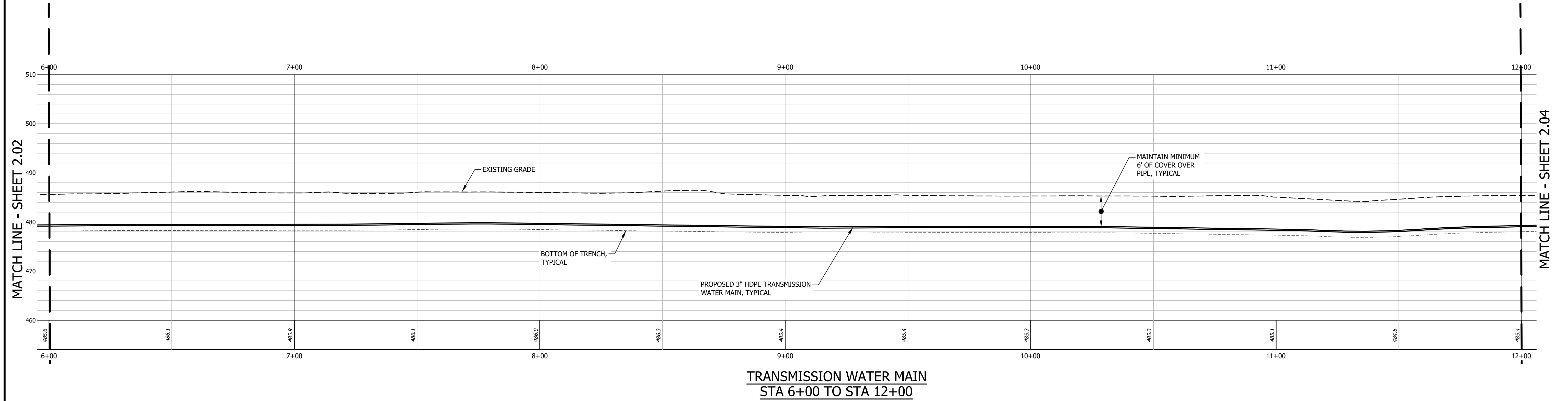
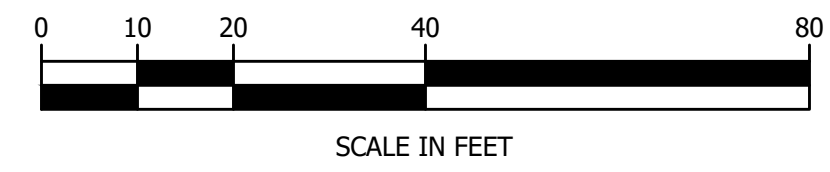
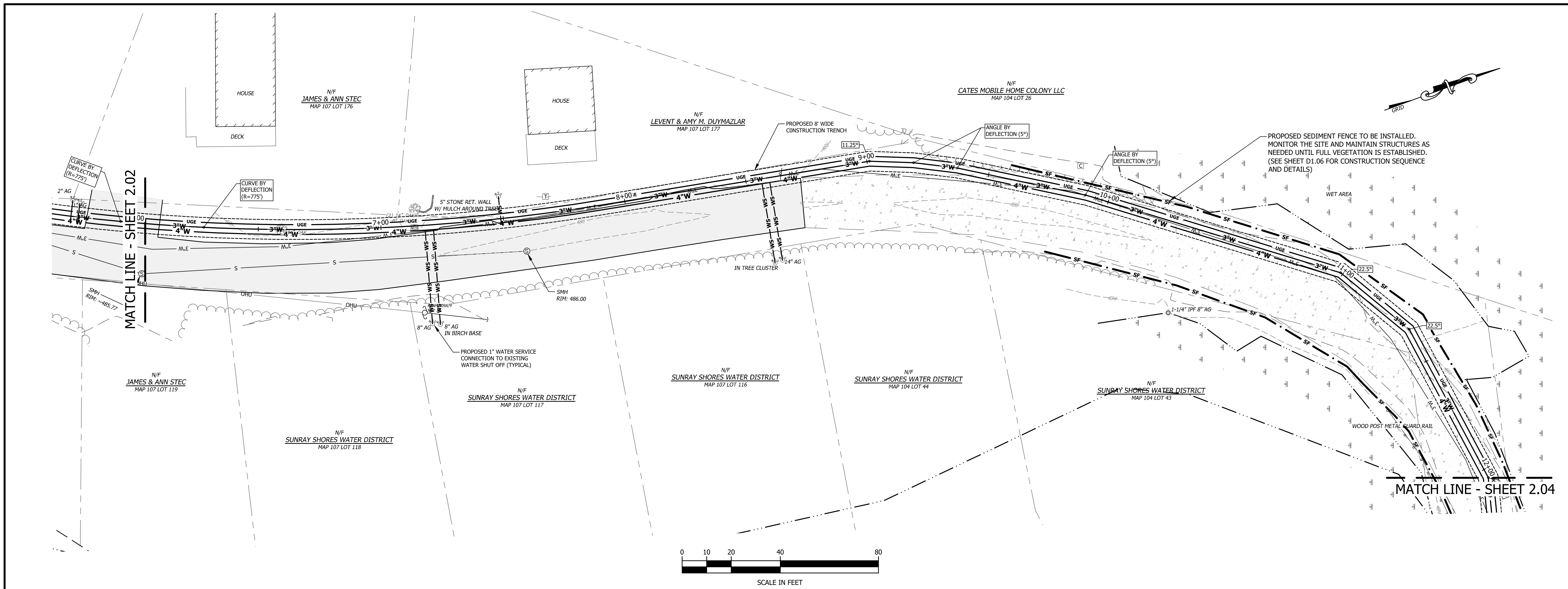
© 2024
All rights reserved.

NO.	DATE	REVISION DESCRIPTION	ENG./DWG.

PROJECT #:	220963	CHECKED BY:	LJM
DATE:	MARCH 2024	DRAWN BY:	LJM
MAP LOT (OR ARCHIVE):	HEI	DESIGNED BY:	LJM/MSG
SURVEYED BY:	HEI	ENGINEERED BY:	LJM/MSG

horizons Engineering Civil and Structural Engineering Land Surveying and Environmental Consulting MAINE • NEW HAMPSHIRE • VERMONT www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT BELMONT, NEW HAMPSHIRE CONTRACT # 1 WATER BOOSTER PUMP STATION PROJECT TRANSMISSION WATER MAIN PLAN AND PROFILE STA 0+00 TO STA 6+00



TRANSMISSION WATER MAIN
STA 6+00 TO STA 12+00

FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



PROJECT #:	220963
DATE:	MARCH 2024
MAP LOT (OR ARCHIVE):	
SURVEYED BY:	HEI
ENGINEERED BY:	LJM/MSG
DRAWN BY:	LJM
CHECKED BY:	
NO.	
DATE	
REVISION DESCRIPTION	
ENG. DWG	

STATE OF NEW HAMPSHIRE
MATTHEW S. GRABER
No. 17499
LICENSED PROFESSIONAL ENGINEER
7-10-24

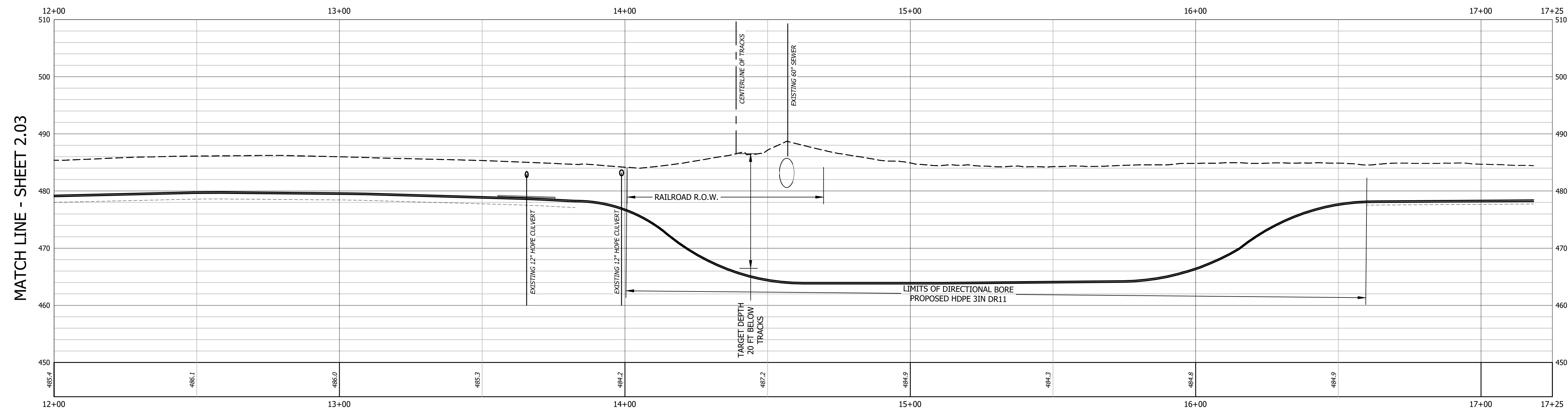
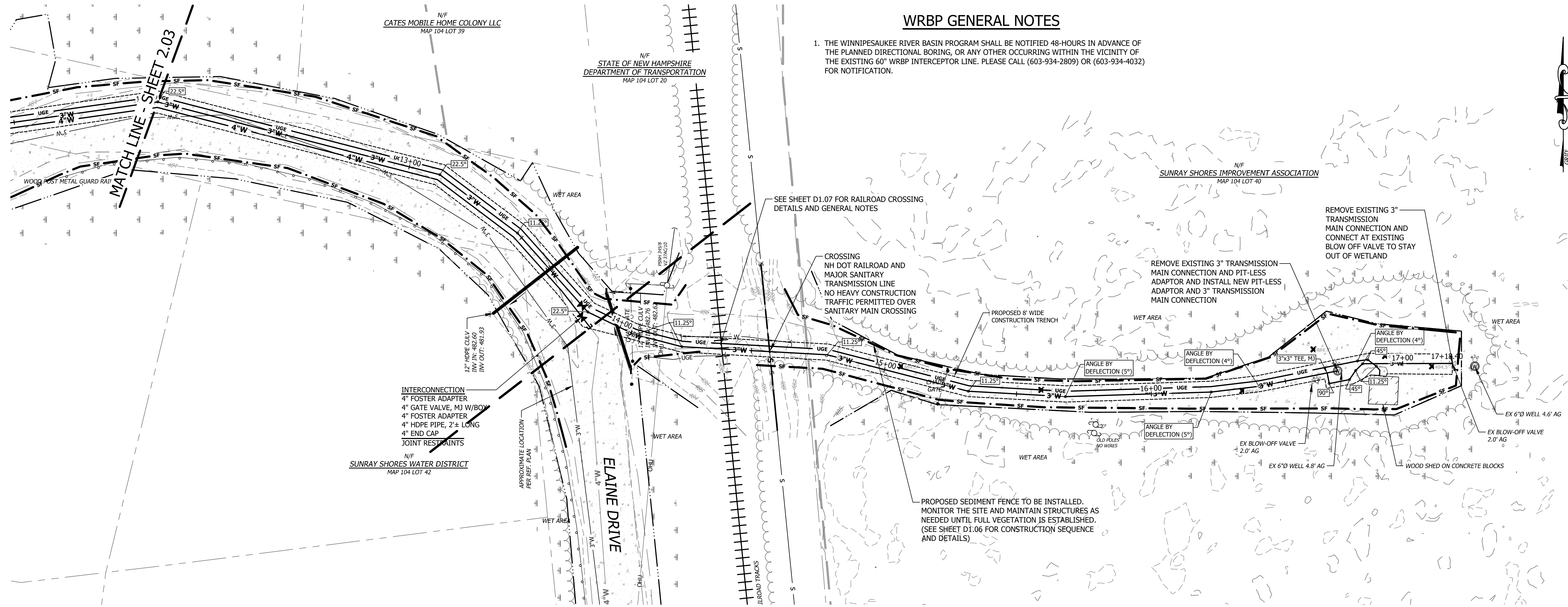
horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
TRANSMISSION WATER MAIN
PLAN AND PROFILE STA 6+00 TO STA 12+00

SHEET 2.03

WRBP GENERAL NOTES

1. THE WINNIPESAUKEE RIVER BASIN PROGRAM SHALL BE NOTIFIED 48-HOURS IN ADVANCE OF THE PLANNED DIRECTIONAL BORING, OR ANY OTHER OCCURRING WITHIN THE VICINITY OF THE EXISTING 60" WRBP INTERCEPTOR LINE. PLEASE CALL (603-934-2809) OR (603-934-4032) FOR NOTIFICATION.



**TRANSMISSION WATER MAIN
STA 12+00 TO STA 17+18**

NOT FOR CONSTRUCTION
PENDING NHDOT APPROVAL
PWS# 0202020

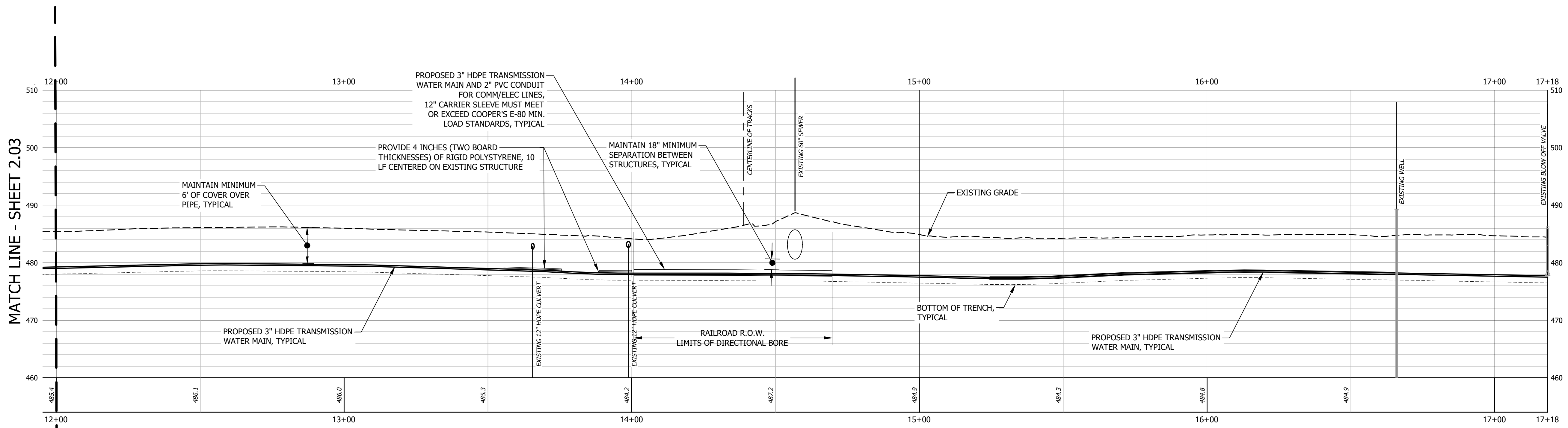
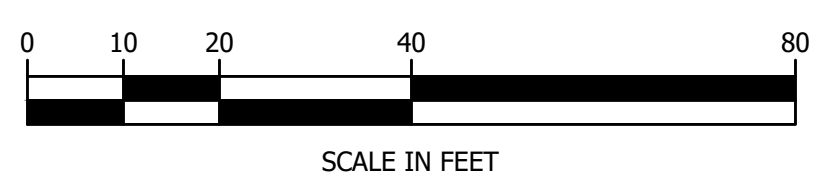
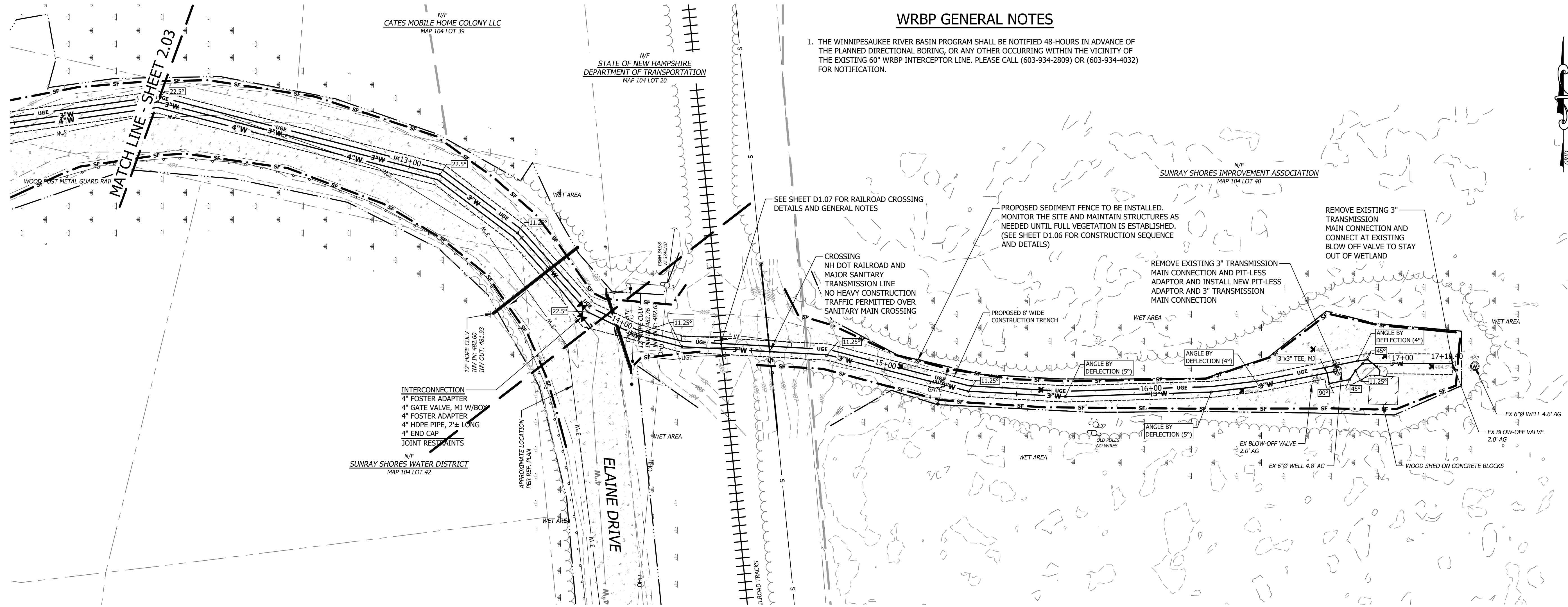
DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



ENG	DWG	REVISION DESCRIPTION	DATE	NO.	PROJECT #:	DATE:	MAP LOT (OR ARCHIVE)	SURVEYED BY:	ENGINEERED BY:	DRAWN BY:	CHECKED BY:
MSG	MSG	UPDATE RR CROSSING NOTES AND ADD SAMPLE TAP	06/28/2024	2	220963	MARCH 2024	(OR ARCHIVE)	HEI	LJM/MSG	LJM	
<p>STATE OF NEW HAMPSHIRE MATTHEW S. GRABER No. 17499 LICENSED PROFESSIONAL ENGINEER 7-10-24</p>											
<p>horizons Engineering Civil and Structural Engineering Land Surveying and Environmental Consulting MAINE • NEW HAMPSHIRE • VERMONT www.horizonsengineering.com</p>											
<p>SUNRAY SHORES WATER DISTRICT BELMONT, NEW HAMPSHIRE CONTRACT # 1 WATER BOOSTER PUMP STATION PROJECT TRANSMISSION WATER MAIN PLAN AND PROFILE STA 12+00 TO STA 17+18</p>											
<p>SHEET 2.04</p>											

WRBP GENERAL NOTES

1. THE WINNIPESAUKEE RIVER BASIN PROGRAM SHALL BE NOTIFIED 48-HOURS IN ADVANCE OF THE PLANNED DIRECTIONAL BORING, OR ANY OTHER OCCURRING WITHIN THE VICINITY OF THE EXISTING 60" WRBP INTERCEPTOR LINE. PLEASE CALL (603-934-2809) OR (603-934-4032) FOR NOTIFICATION.



**TRANSMISSION WATER MAIN -
ALTERNATE RR CROSSING
STA 12+00 TO STA 17+18**

**NOT FOR CONSTRUCTION
PENDING NHDOT APPROVAL
PWS# 0202020**

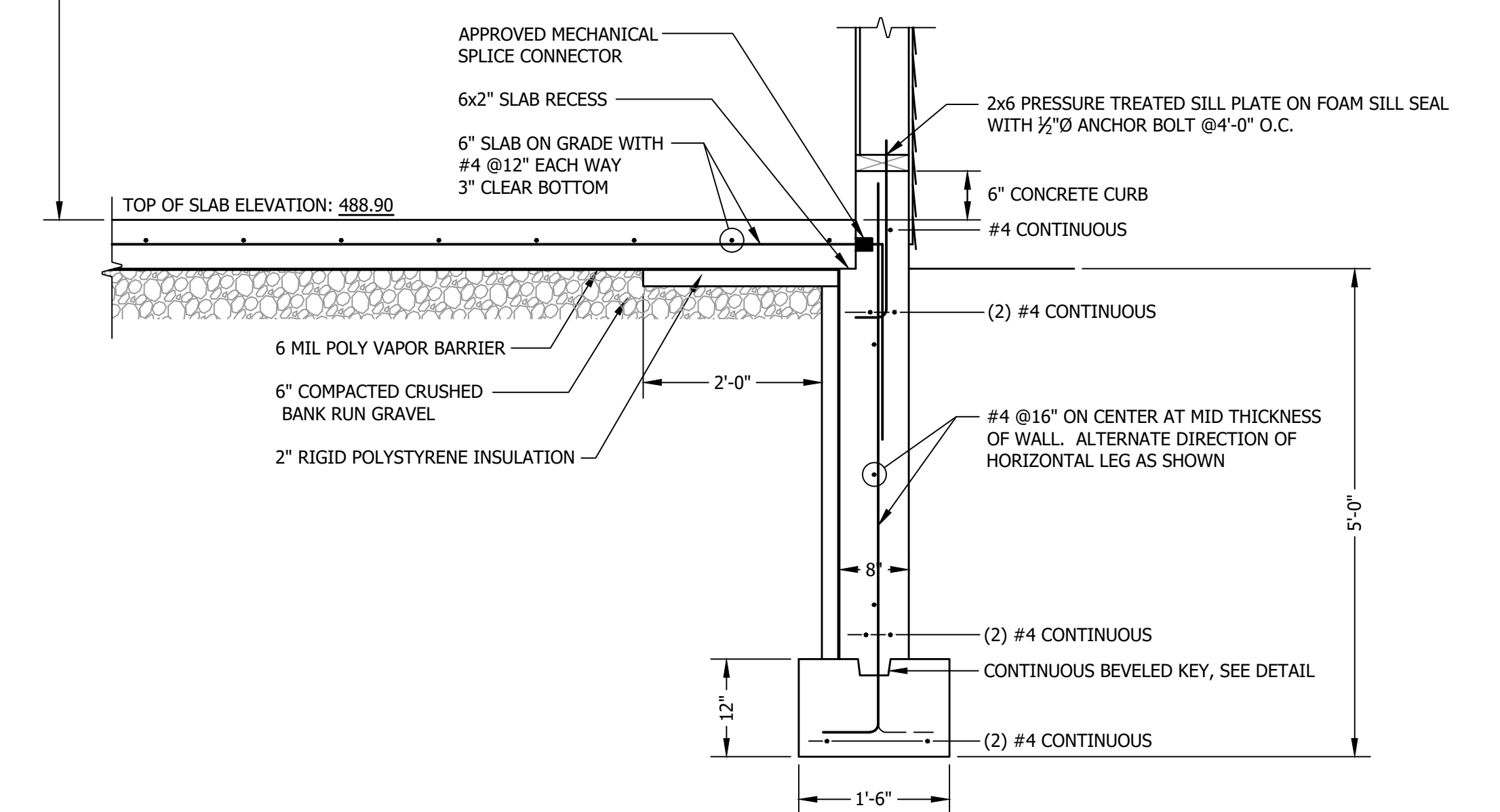
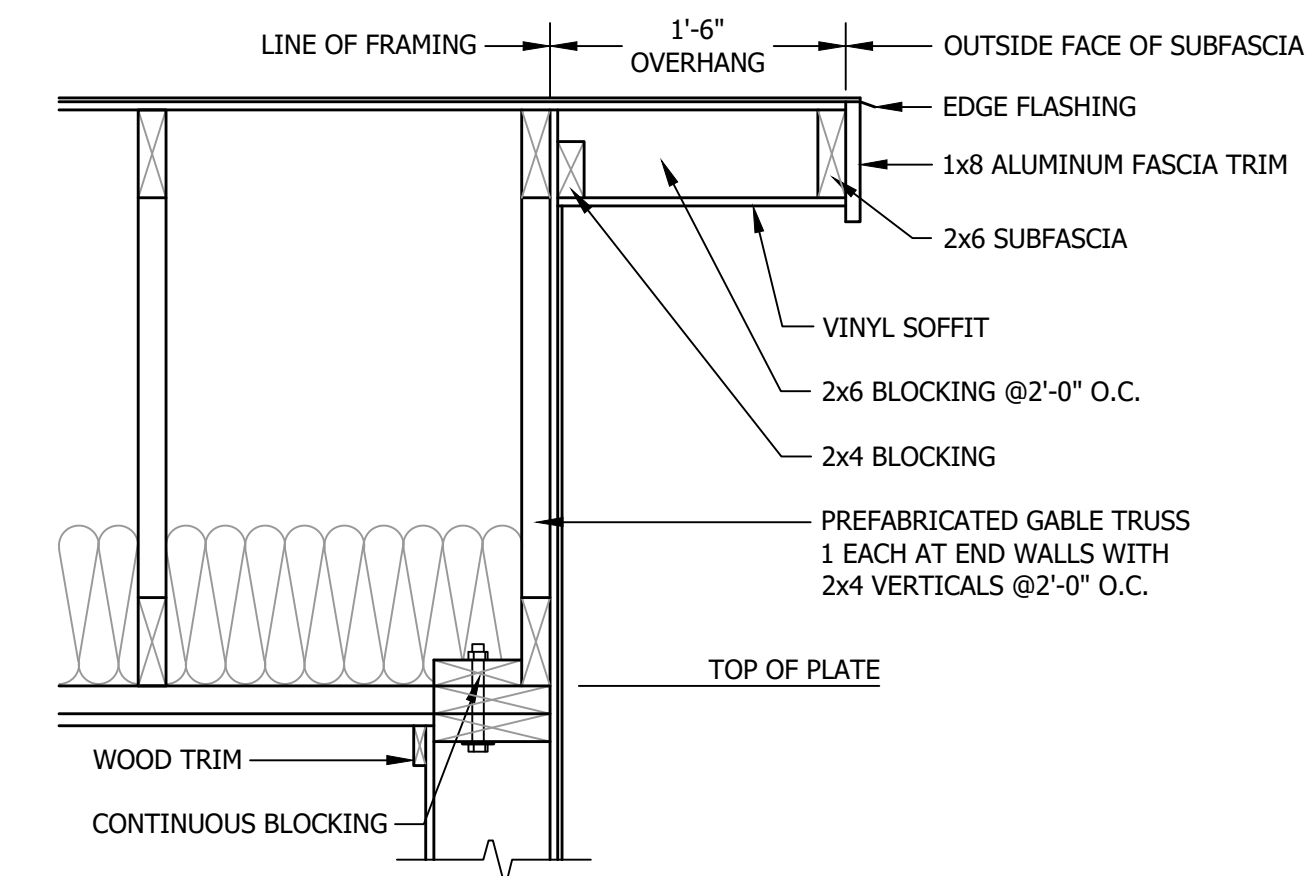
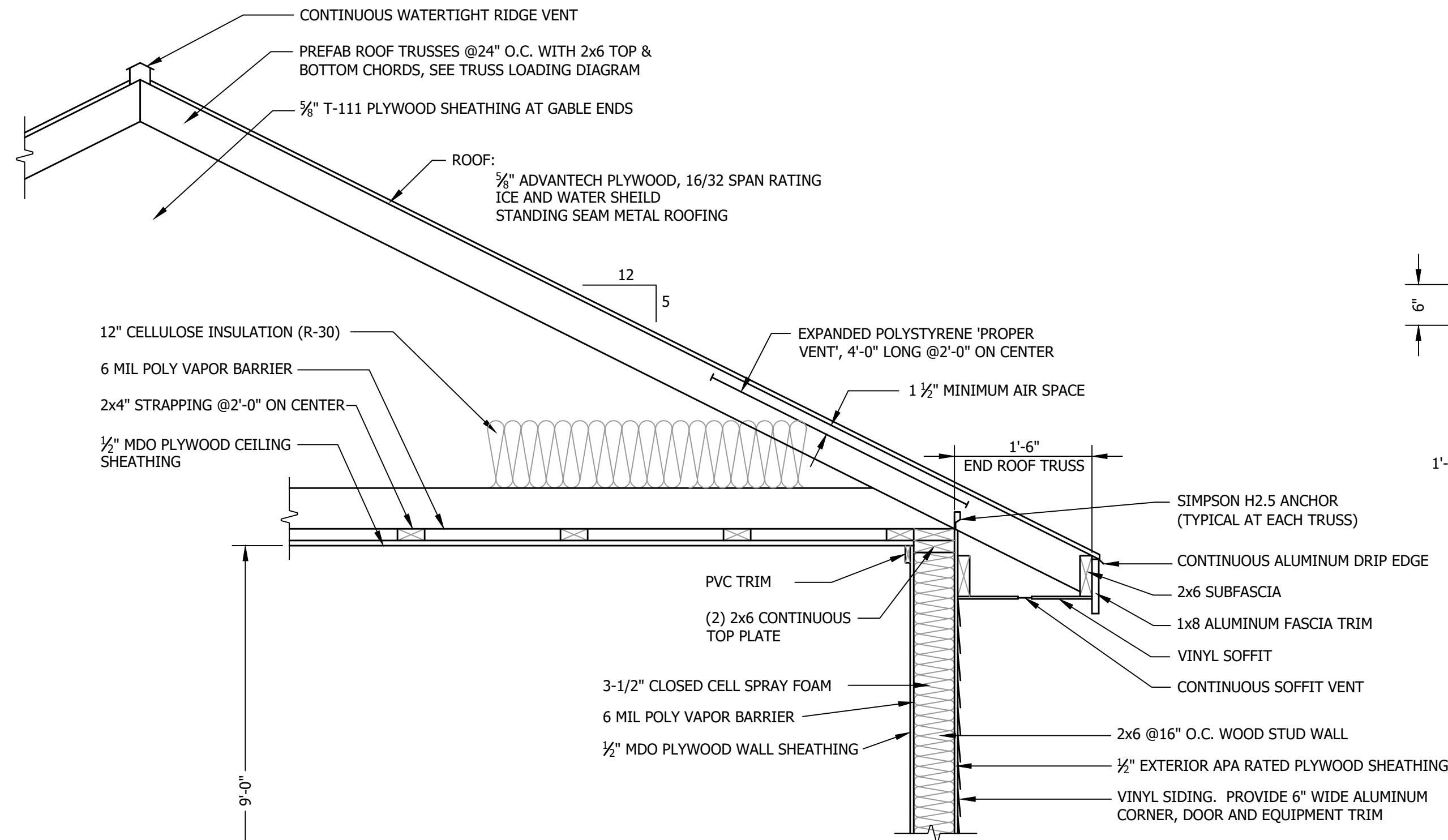
DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



PROJECT #:	220963	DATE:	MARCH 2024
MAP LOT (OR ARCHIVE):		SURVEYED BY:	HEI
ENGINEERED BY:	LJM/MSG	DRAWN BY:	LJM
CHECKED BY:			

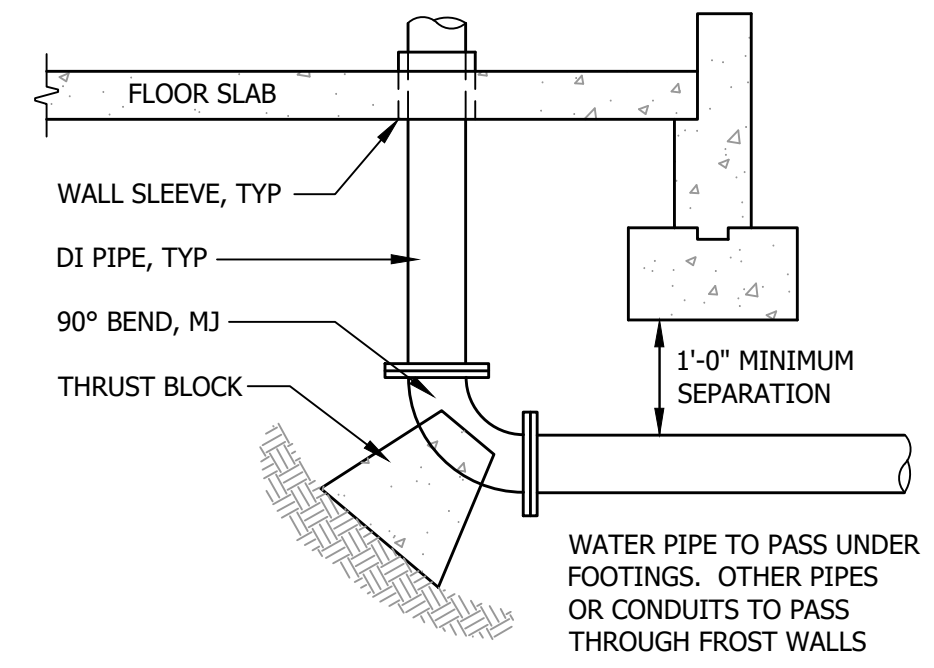
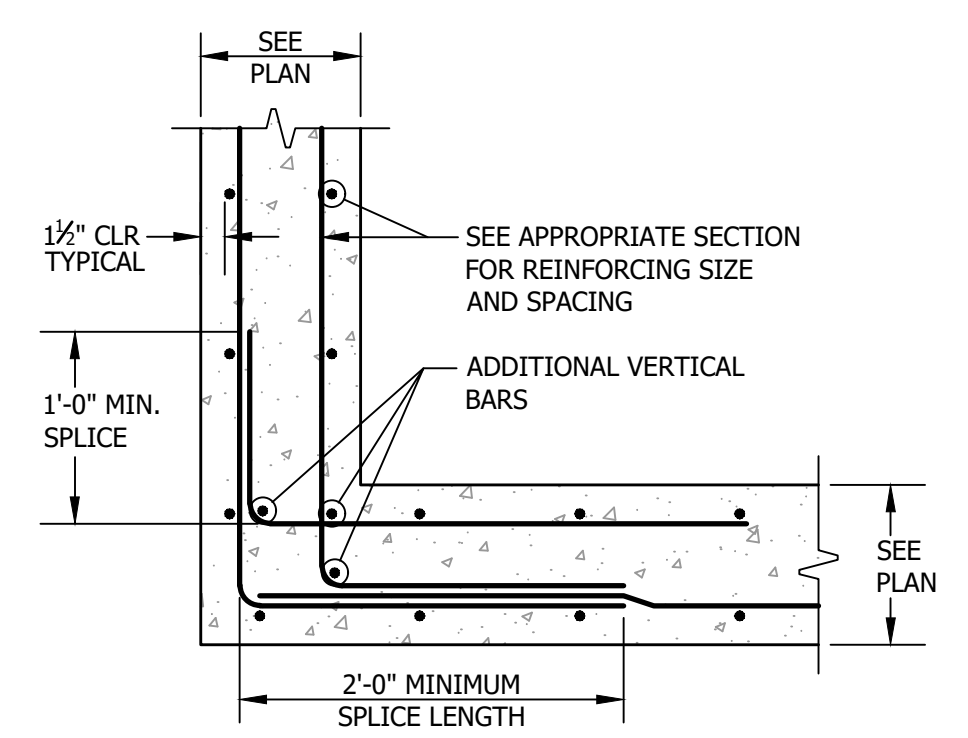
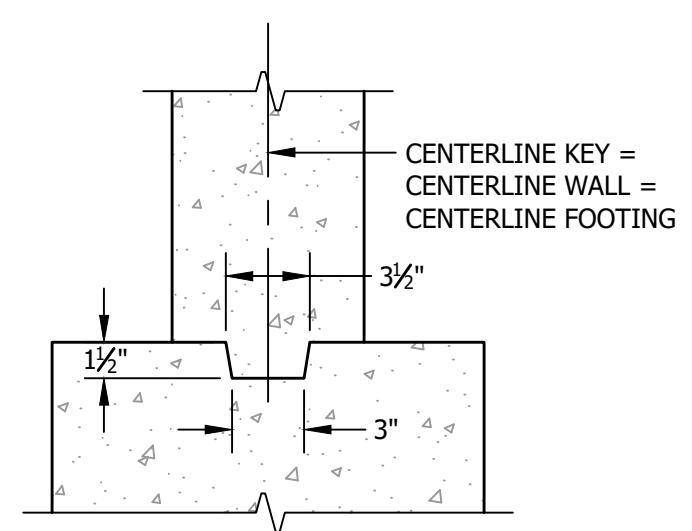
NO.	DATE	REVISION DESCRIPTION
1	05/20/2024	EXTEND PROPOSED 3" TRANSMISSION LINE TO STA 17+18.40

STATE OF NEW HAMPSHIRE MATTHEW S. GRABER No. 17499 LICENSED PROFESSIONAL ENGINEER 7-10-24	
horizons Engineering Civil and Structural Engineering Land Surveying and Environmental Consulting MAINE • NEW HAMPSHIRE • VERMONT www.horizonsengineering.com	
SUNRAY SHORES WATER DISTRICT BELMONT, NEW HAMPSHIRE CONTRACT # 1 WATER BOOSTER PUMP STATION PROJECT TRANSMISSION WATER MAIN - ALTERNATE RR CROSSING PLAN AND PROFILE STA 12+00 TO STA 17+18	
SHEET 2.05	



- PUMP STATION BUILDING NOTES**
- THE TYPICAL BUILDING WALL SECTION FROM THE OUTSIDE IN IS AS FOLLOWS:
 - VINYL SHAKE SIDING, "CERTAINTED" NORTHWOOD SHINGLE, 7 INCH STRAIGHT EDGE, PERFECTION SHINGLE, OR EQUAL
 - 1 X 6 PVC CORNER AND DOOR TRIM
 - 5/8" ADVANTECH, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, OR EQUAL
 - 2 X 6 PRESSURE TREATED DOUBLE SILL PLATE BOLTED TO THE CONCRETE
 - 2 X 6 WALL STUDS, 8 FEET HIGH +/-
 - 2 X 6 DOUBLE TOP PLATE
 - SIMPSON H2.5 ANCHORS, TOP PLATE TO RAFTERS, OR EQUAL
 - 3-1/2" INCH CLOSED CELL SPRAY FOAM INSULATION
 - THE TYPICAL BUILDING INTERIOR WALL SECTION IS AS FOLLOWS:
 - 2 X 6 PRESSURE TREATED DOUBLE SILL PLATE BOLTED TO THE CONCRETE
 - 2 X 6 WALL STUDS, 9 FEET HIGH +/-
 - 2 X 6 DOUBLE TOP PLATE
 - 1" X 6" PVC TOE KICK BOARD AROUND INTERIOR WALLS OF BUILDING IN CONTACT WITH CONCRETE
 - 1/2 INCH MDO PLYWOOD
 - INTERIOR PVC TRIM AS NEEDED
 - THE TYPICAL BUILDING CEILING SECTION FROM THE INTERIOR IS AS FOLLOWS:
 - 1/2 INCH MDO PLYWOOD
 - 2" X 4" STRAPPING
 - ROOF TRUSS BOTTOM CHORD
 - 12 INCH THICK CELLULOSE INSULATION
 - THE TYPICAL BUILDING ROOF SECTION FROM THE OUTSIDE IS AS FOLLOWS:
 - STANDING SEAM METAL ROOFING, 24 GAUGE MINIMUM, COLOR BY OWNER
 - ICE AND WATER SHIELD OVER ENTIRE ROOF
 - 5/8" ADVANTECH ROOF SHEATHING, OR EQUAL ROOF TRUSSES
 - RAFTER VENT, ENTIRE LENGTH OF RAFTER WHERE INSULATED
 - 12 INCHES CELLULOSE INSULATION
 - CONTINUOUS DRIP EDGE, EAVES AND RAKES
 - 2 X 6 SUBFASCIA AND BLOCKING
 - 1 X 8 PVC FASCIA TRIM
 - CONTINUOUS SOFFIT VENT
 - PROVIDE ADEQUATELY SIZED GABLE END VENTS TO ALLOW INSTALLATION OF INSULATION AND DEAD SPACE VENTING.

- PUMP STATION STRUCTURAL NOTES**
- PUMP STATION BUILDING HAS BEEN DESIGNED FOR THE MINIMUM EARTHQUAKE LOADS AS SPECIFIED IN THE ASCE 7-95, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
EARTHQUAKE DESIGN LOADS: CATEGORY IV
Aa = 0.11, Av = 0.11
SEISMIC PERF. CATEGORY D
BEARING WALL SYSTEM: Cv = 0.24, R = 6.5, Cd = 4
 - EXTERIOR PLYWOOD TO BE NAILED TO STUDS WITH MINIMUM 8d NAILS @ 6" ON CENTER AT PANEL EDGES AND 12" ON CENTER AT INTERIOR OF PANEL. PROVIDE BLOCKING AT ALL PANEL EDGES AND FASTEN PLYWOOD TO BLOCKING AS DESCRIBED ABOVE.
 - PROVIDE SIMPSON STRAP TIE HOLD DOWNS, STHD8, AT EACH BUILDING CORNER, AND THE DOOR JAMB ADJACENT TO LONGER WALL SECTION (5 TOTAL). STRAP TIES TO BE POSITIONED WITH 1 1/2" CLEAR FROM EDGE OF CONCRETE FOUNDATION TO EDGE OF STRAP TIE. INSTALLATION PER MANUFACTURER RECOMMENDATIONS.



PROJECT #:	220963	DATE:	MARCH 2024	NO.		REVISION DESCRIPTION		ENG. DWG.	
	MAP LOT (OR ARCHIVE)		HEI						
SURVEYED BY:	LJM/MSG	ENGINEERED BY:	LJM	DRAWN BY:	MSG	CHECKED BY:			

horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
BOOSTER PUMP STATION DETAILS AND NOTES

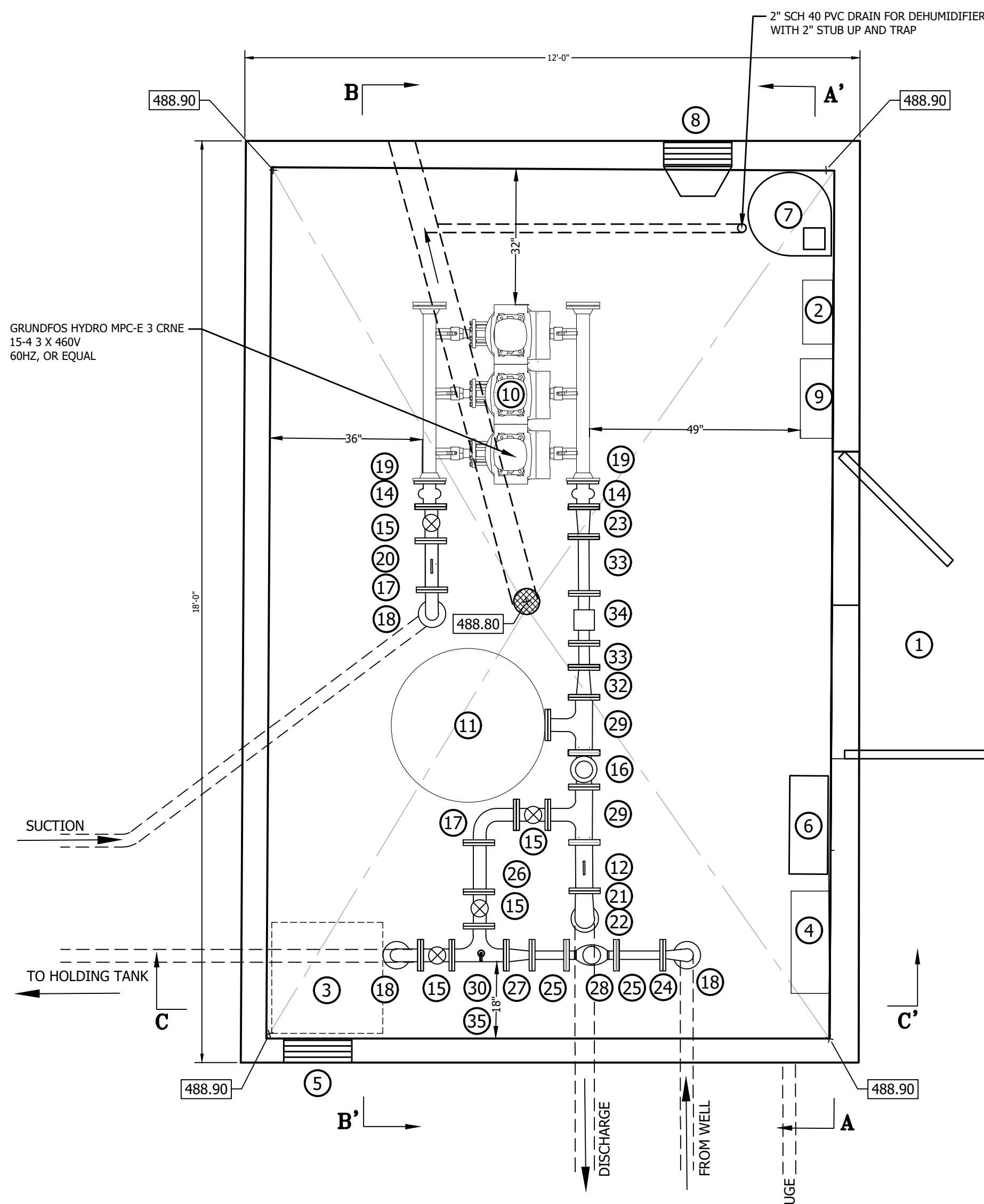
FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING

© 2024
horizons Engineering
All rights reserved.

SHEET D1.01

Z:\proj_2022\220963\Sunray Shores Water System\HazenandCoff\Final\DWG\02020200.DWG, PLOT DATE: 7/11/2024 9:10:09 AM, Author: hcr



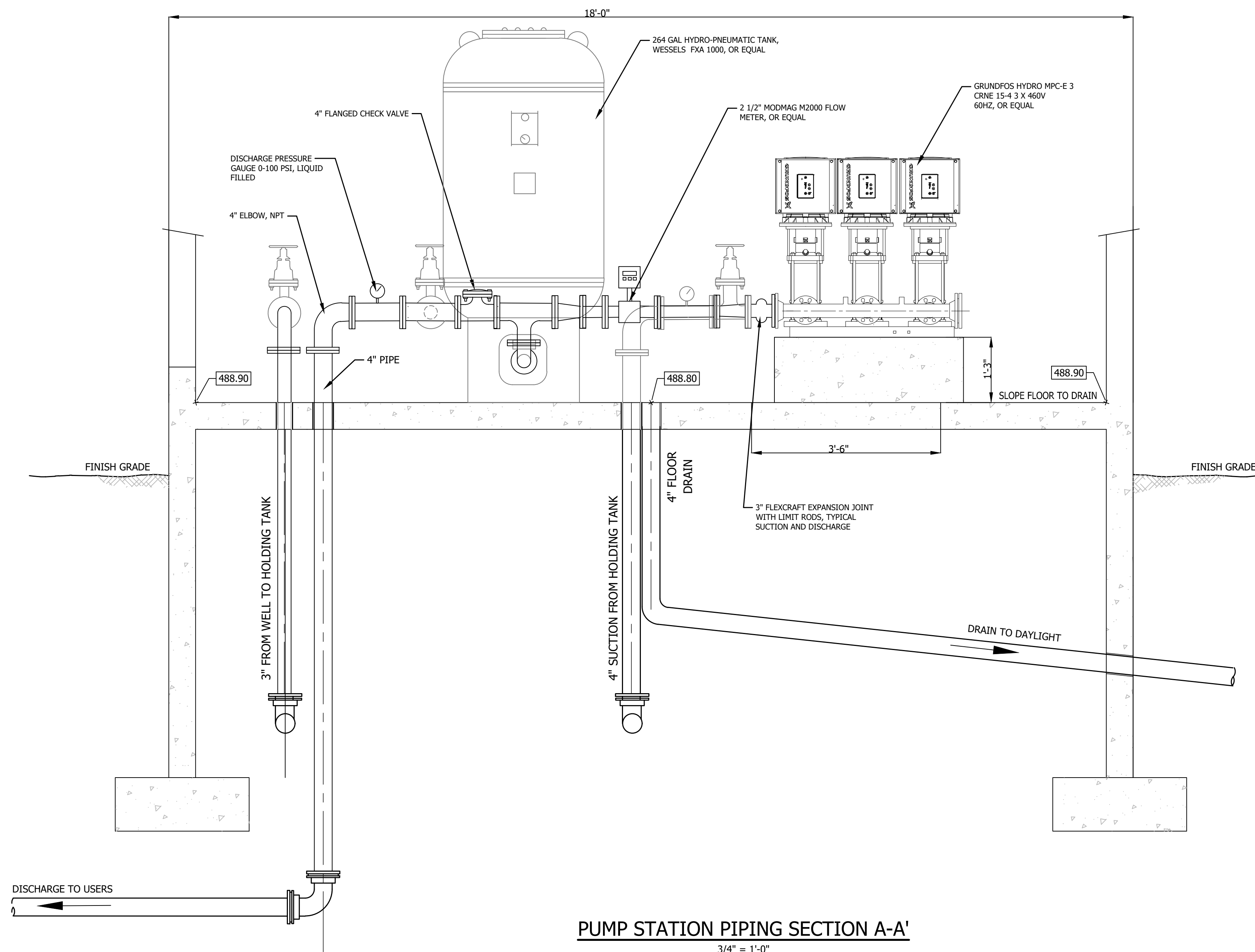
PUMP STATION BUILDING FLOOR PLAN
SCALE: 1/2" = 1'-0"

MECHANICAL EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
1	6'-0" x 6'-8" EXTERIOR, DOUBLE, HOLLOW METAL DOORS, WITH 10" x 10" LITES
2	AUTOMATIC TRANSFER SWITCH
3	PROPANE GAS HEATER, REZNOR V3, 30,000 BTU, MODEL UDAS, 26" x 26" x 12" H, CEILING MOUNT, WITH WALL MOUNT THERMOSTAT, OR EQUAL.
4	MAIN BREAKER PANEL
5	18" x 18" AIR INLET LOUVER AND GRAVITY RELIEF DAMPER, GREENHECK, OR EQUAL.
6	CONTROL PANEL
7	DEHUMIDIFIER, DAYTON MODEL 39K869, OR EQUAL.
8	18" x 18" AIR OUTLET LOUVER AND GRAVITY RELIEF DAMPER AND SIDEWALL DIRECT DRIVE 3/4 HP EXHAUST FAN, GREENHECK, OR EQUAL.
9	PUMP CONTROLS BY MANUFACTURER OF BOOSTER PUMP PACKAGE
10	GRUNDFOS HYDRO MPC-E 3CRNE 15-4 3 X 460V 60HZ OR EQUAL.
11	264 GAL HYDRO-PNEUMATIC TANK, WESSELS FXA 1000, OR EQUAL

VALVE & PIPING SCHEDULE

ITEM	DESCRIPTION	ITEM	DESCRIPTION
12	DISCHARGE PRESSURE GAUGE LIQUID FILLED 0-200 PSI	24	3" x 2" FLANGED REDUCING ELBOW
13	4" SCH80 SPOOL PIECE WITH MAINTENANCE COUPLING	25	2" SCH80 SPOOL PIECE WITH MAINTENANCE COUPLING
14	3" FLEXICRAFT ULTRASPOOL FLEXIBLE EXPANSION JOINT	26	3" SCH80 SPOOL PIECE WITH MAINTENANCE COUPLING
15	3" FLANGED GATE VALVE	27	3" x 2" ECCENTRIC REDUCING FLANGE
16	4" FLANGED CHECK VALVE	28	2" NEPTUNE MACH 10 ULTRASONIC FLOW METER
17	3" FLANGED ELBOW	29	4" x 3" FLANGED TEE
18	3" DUCTILE IRON THROUGH FLOOR	30	3" FLANGED TEE
19	4" COMPANION COUPLING	31	4" x 2" FLANGED TEE
20	SUCTION PRESSURE GAUGE LIQUID FILLED 0-200 PSI	32	4" x 2 1/2" ECCENTRIC REDUCING FLANGE
21	4" FLANGED ELBOW	33	2 1/2" SCH80 SPOOL PIECE WITH MAINTENANCE COUPLING
22	4" DUCTILE IRON THROUGH FLOOR	34	2 1/2" BADGER MODMAG M2000 FLOW METER, OR EQUAL
23	3" x 2 1/2" ECCENTRIC REDUCING FLANGE	35	SAMPLE TAP



PUMP STATION PIPING SECTION A-A'
3/4" = 1'-0"

NO.	DATE	REVISION DESCRIPTION
1	05/20/2024	UPDATE PUMPS AND HYDRO-PNEUMATIC TANK SIZE
2	06/28/2024	UPDATE RE-CROSSING NOTES AND ADD SAMPLE TAP

PROJECT #: 220963
DATE: MARCH 2024
MAP LOT (OR ARCHIVE)
SURVEYED BY: HEI
ENGINEERED BY: LJM/MSG
DRAWN BY: LJM
CHECKED BY: MSG

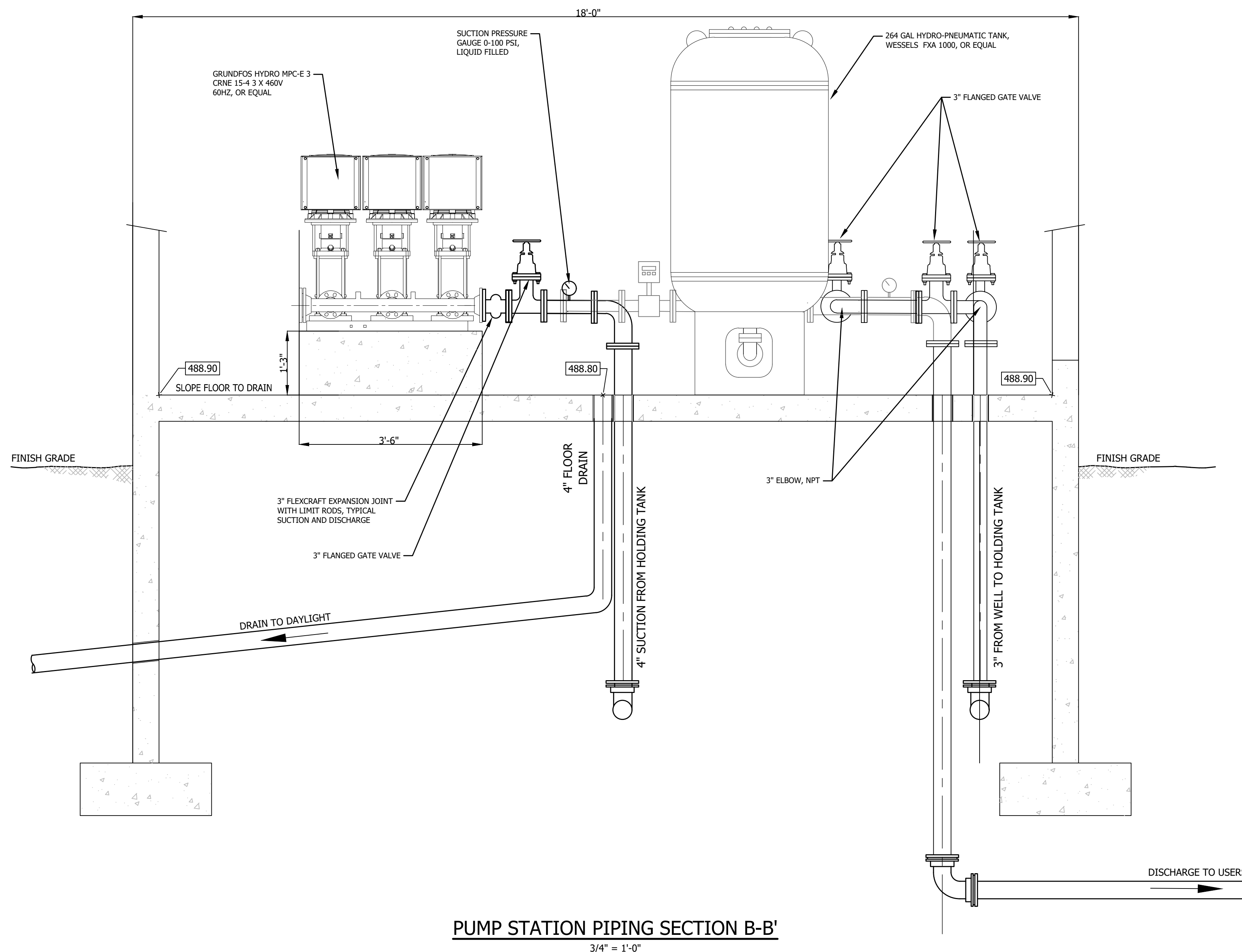
horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
BOOSTER PUMP STATION DETAILS AND NOTES

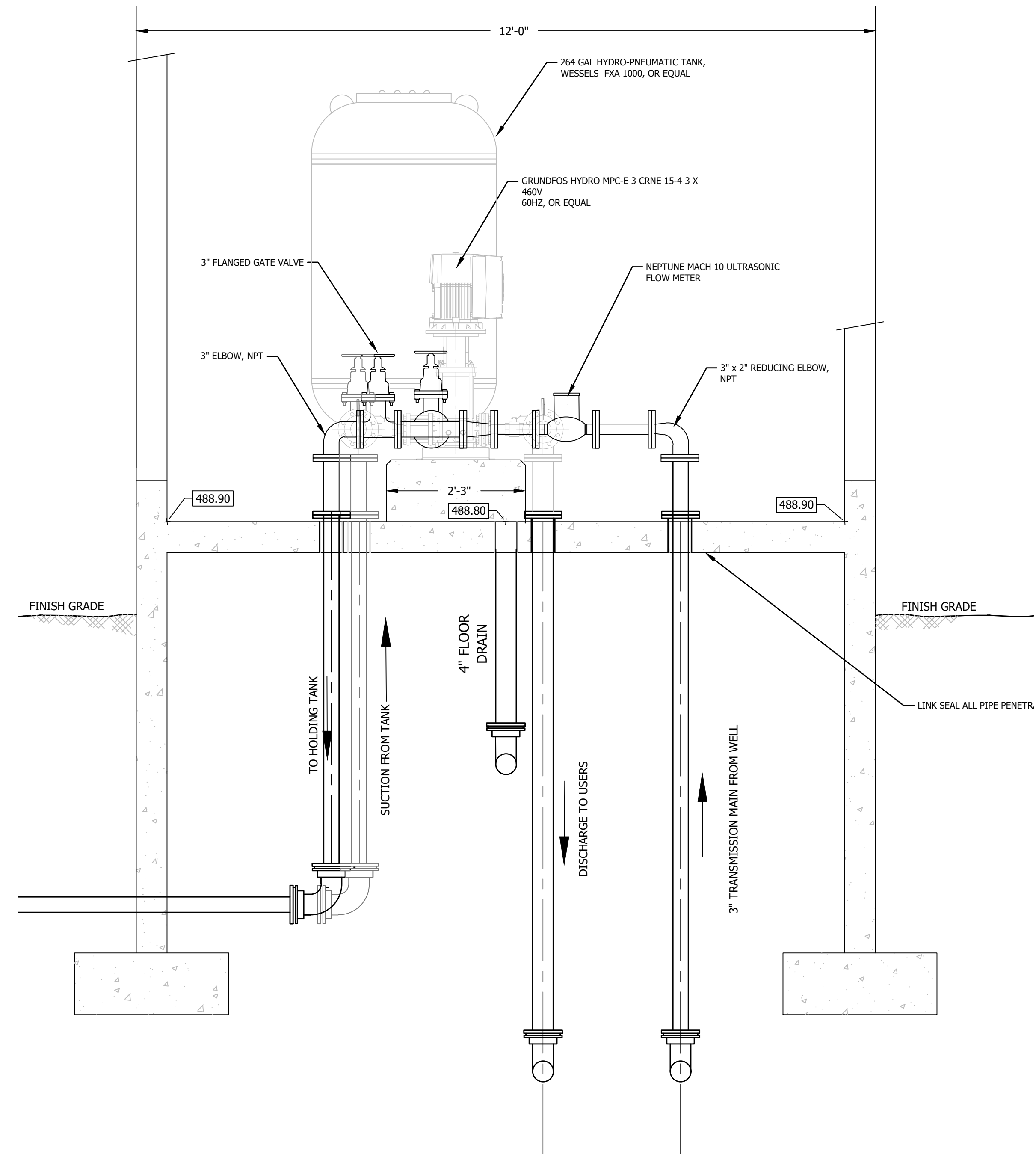
FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING





PUMP STATION PIPING SECTION B-B'
3/4" = 1'-0"



PUMP STATION PIPING SECTION C-C'

NOTES:

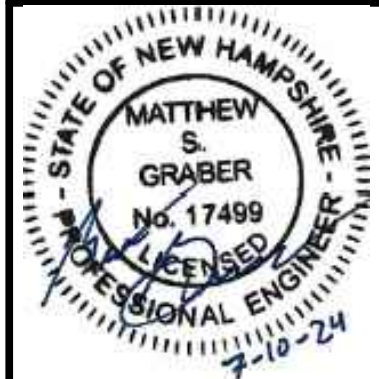
1. INTERIOR PIPING AND FITTINGS TO BE FLANGED CL52 DUCTILE IRON
2. PROVIDE FITTINGS AND COUPLING AS FOUND TO BE NEEDED
3. COUPLINGS TO BE PROVIDED FOR EACH PIPING RUN

FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



NO.	DATE	REVISION DESCRIPTION	ENG	DWG
1	05/20/2024	UPDATE PUMPS AND HYDRO-PNEUMATIC TANK SIZE	MSG	LJM



horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
BOOSTER PUMP STATION DETAILS AND NOTES

Z:\proj_2022\220683 Sunray Shores Water System\Hazen\Civil\Final\220683_CDWL_COVER.DWG, PLOT DATE: 07/11/2024 9:19:10 AM, Author: gaber

STANDARD TRENCH NOTES - WATER

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.**
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.**

100% PASSING	1 INCH SCREEN
90-100% PASSING	3/4 INCH SCREEN
20-55% PASSING	3/8 INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.**

- SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUND TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE.

- BASE COURSE FOR TRENCH REPAIR SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.**

- SHEETING:** ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.

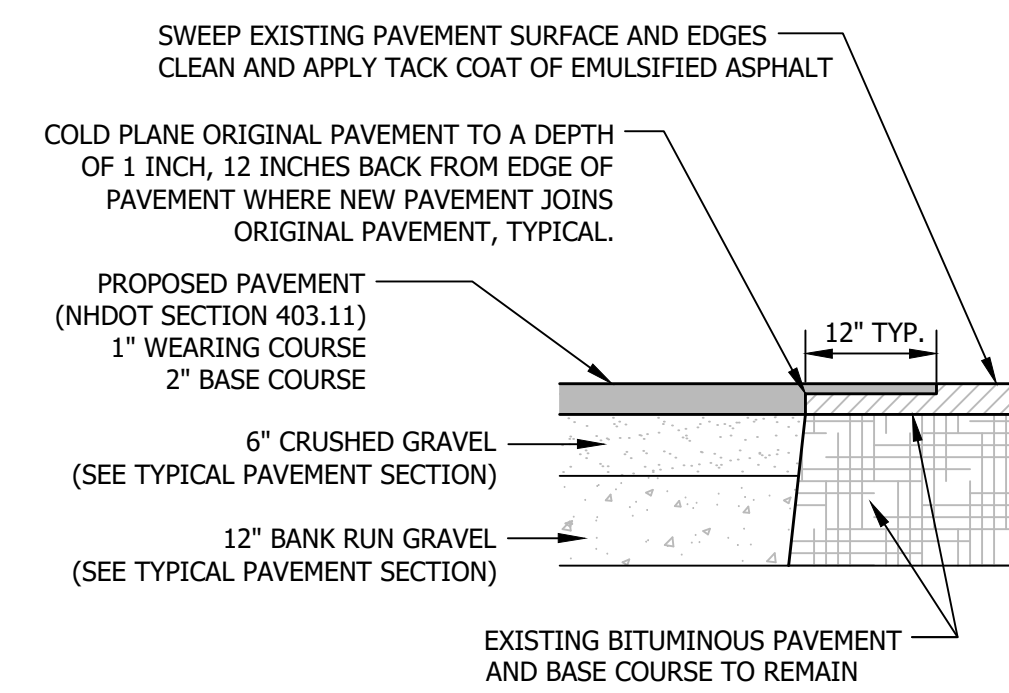
- TRENCH DIMENSIONS:** W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.

- WATER/SEWER SEPARATION:** WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER BY A MINIMUM OF 10 FEET HORIZONTALLY AND A MINIMUM OF 18 INCHES VERTICALLY, WITH THE WATER MAIN ABOVE THE SEWER.

- PIPE COVER:** COVER OVER WATER SHALL BE 5.5 FEET MINIMUM IN ALL LOCATIONS. EXCEPT AS MAY BE NOTED ON PLANS.

TRENCH PATCH NOTES

- ROADWAY CROSSINGS SHALL HAVE TEMPORARY ASPHALT BEFORE THE END OF LAST WORKDAY OF THE WEEK.
- ANY DISTURBANCE WITHIN 2 FEET FROM EDGE OF PAVEMENT SHALL RECEIVE 1 FOOT DEPTH OF CRUSHED SHOULDER GRAVEL.



PAVEMENT JOINING DETAIL

NOT TO SCALE

- BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
 - THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE.
 - CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A COMPRESSION STRENGTH OF 3,000 LBS. AT 28 DAYS.
 - BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.
- RESTRAINING JOINTS MAY BE USED FOR RESISTING THRUST FORCES WHERE THERE IS A SHORTAGE OF SPACE OR WHERE THE SOIL BEHIND A FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE, (MINIMUM 15 FEET).

NOMINAL PIPE DIA. (INCHES)	TOTAL THRUST (POUNDS)				
	DEAD END	90° BEND	45° BEND	22½° BEND	11¼° BEND
4	1,810	2,559	1,385	706	355
6	3,739	5,288	2,862	1,459	733
8	6,433	9,097	4,923	2,510	1,261
10	9,677	13,665	7,406	3,776	1,897
12	13,685	19,353	10,474	5,340	2,683
14	18,385	26,001	14,072	7,174	3,604
16	23,779	33,628	18,199	9,278	4,661
18	29,865	42,235	22,858	11,653	5,855
20	36,644	51,822	28,046	14,298	7,183
24	52,279	73,934	40,013	20,398	10,249

NOTE: TO DETERMINE THRUST AT PRESSURES OTHER THAN 100 PSI, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100. FOR EXAMPLE, THE THRUST ON A 12 INCH, 90° BEND AT 125 PSI IS:

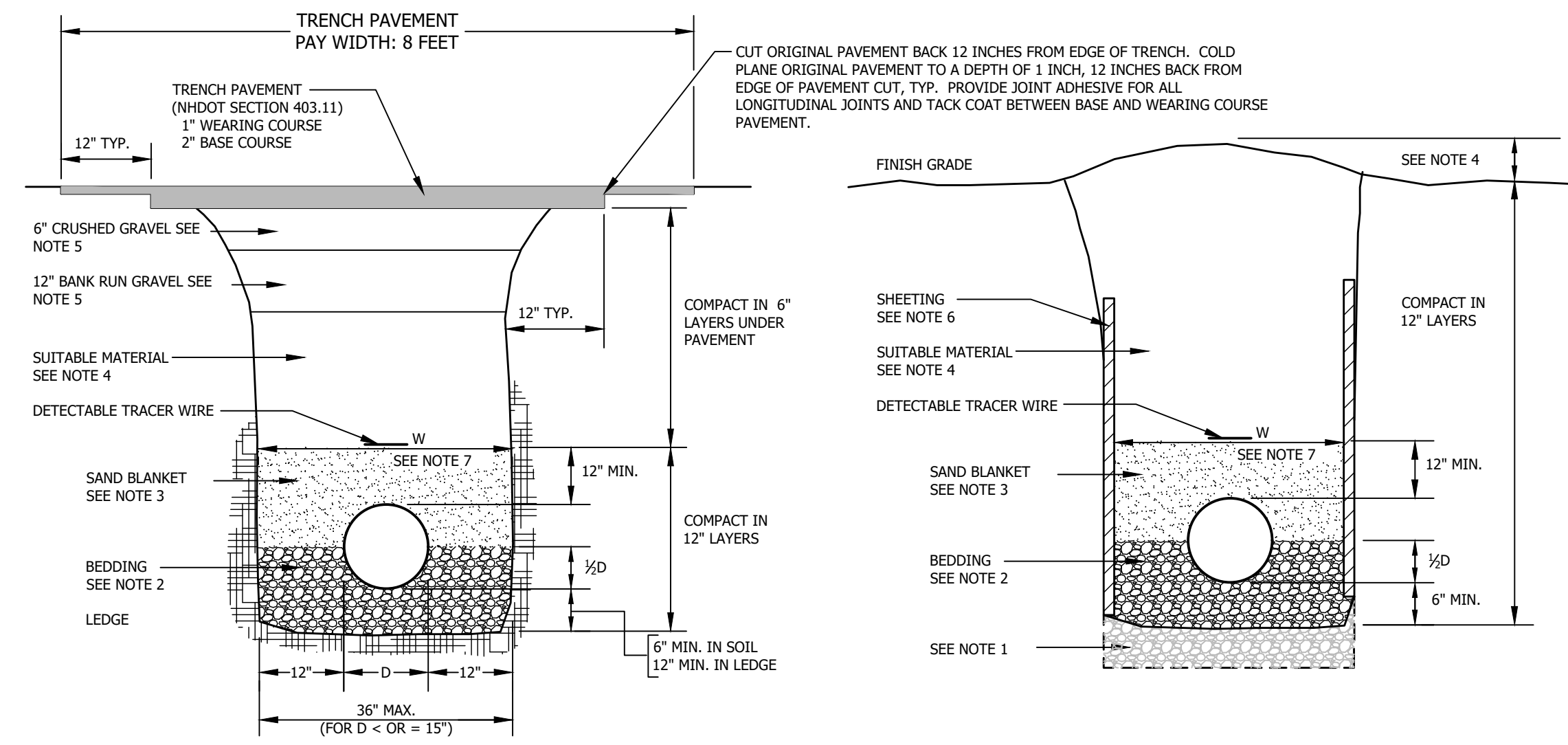
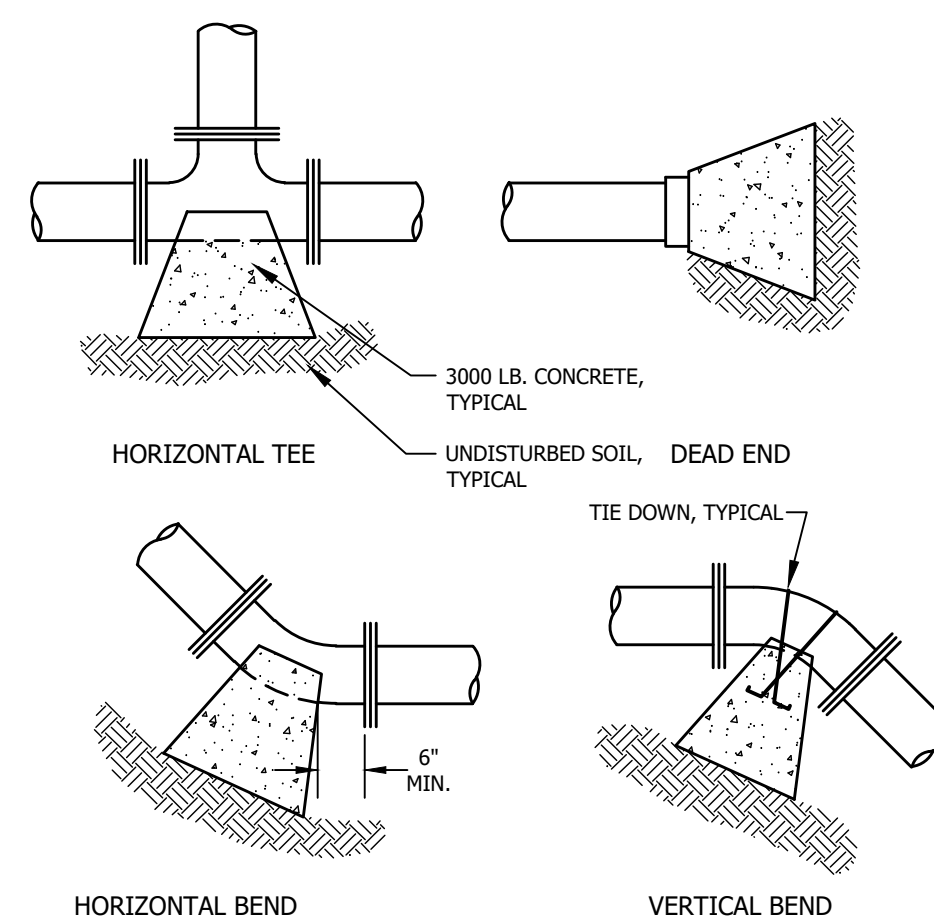
$$\frac{19,353 \times 125}{100} = 24,191 \text{ POUNDS}$$

TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUE OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED BELOW.

SOIL	BEARING LOAD (LBS./SQ. FT.)
MUCK	1,000
SOFT CLAY	1,500
SILT	3,000
SANDY SILT	4,000
SAND	4,000
SANDY CLAY	6,000

THRUST BLOCK NOTES & DETAILS

NOT TO SCALE



NOTE: MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT LIMIT FOR LEDGE EXCAVATION = 1/2 (12\"/>

LEDGE/SUB PAVEMENT CONSTRUCTION

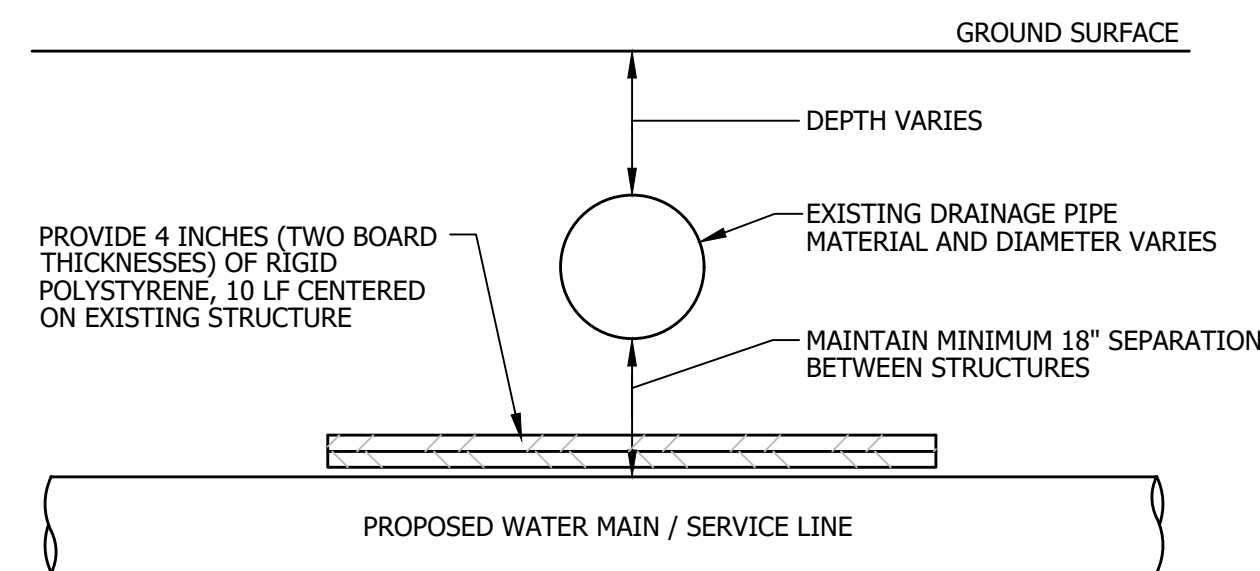
EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

STANDARD TRENCH SECTIONS (TOWN ROADS)

NOT TO SCALE

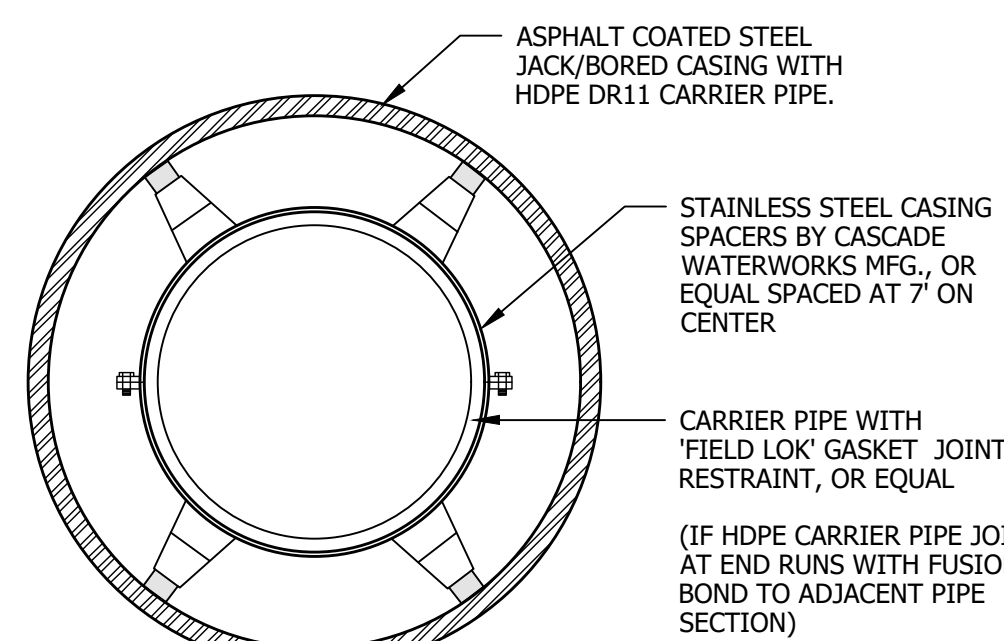
DRAINAGE CROSSING NOTES

- INSULATION THICKNESS AT DRAINAGE CROSSINGS SHALL BE 4 INCHES (TWO BOARD THICKNESS OF RIGID POLYSTYRENE) UNLESS DIRECTED OTHERWISE IN FIELD. THE CONTRACTOR SHALL NOTIFY TOWN AT LEAST 24 HOURS IN ADVANCE OF ANY CROSSING OF ANY DRAINAGE STRUCTURE.
- MINIMUM SEPARATION BETWEEN EXISTING DRAINAGE STRUCTURES AND NEW WATER MAIN AND APPURTENANCES SHALL BE 18 INCHES.



TYPICAL DRAINAGE CROSSING DETAIL

NO SCALE

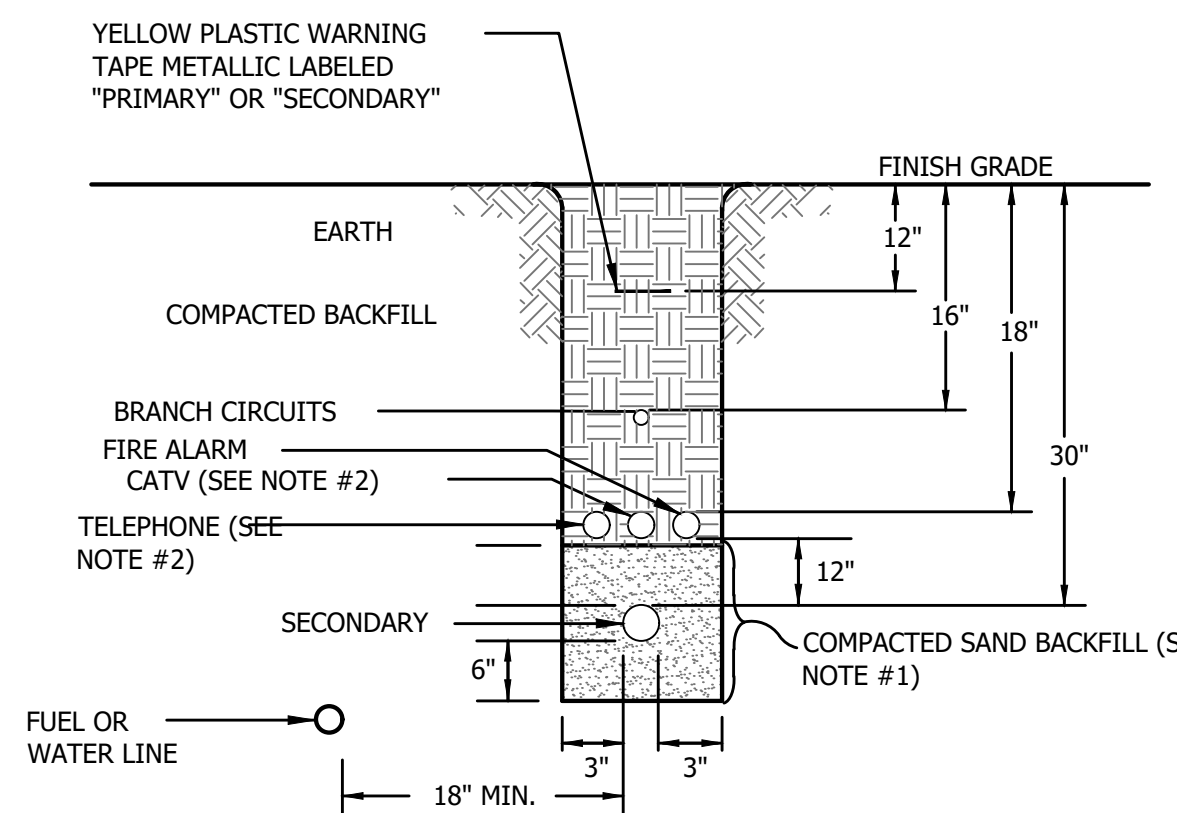


NOTES:

- SPACER MUST BE LOCATED WITHIN 2' OF END OF SLEEVE, TYP. BOTH ENDS
- ENDS OF SLEEVE TO BE SEALED WITH RUBBER OR HDPE SEAL AND T-304 STAINLESS STEEL BANDS, OR EQUAL

CARRIER PIPE AND SLEEVE DETAIL

NOT TO SCALE



TYPICAL CONDUIT TRENCH DETAIL SECTION

NO SCALE

NOTES TYPICAL CONDUIT TRENCH:

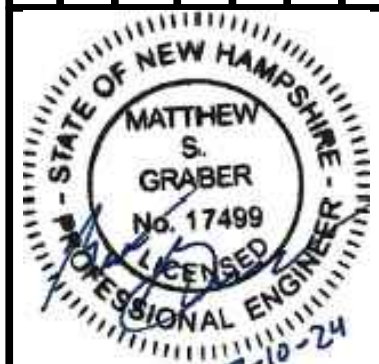
- SELECT SAND BACKFILL SHALL CONSIST OF FINE GRANULAR MATERIAL OF WHICH 100% SHALL PASS THROUGH A 1/4\"/>

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING

© 2024
horizons
All rights reserved

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

PROJECT #: 220963
DATE: MARCH 2024
MAP LOT (OR ARCHIVE)
SURVEYED BY: HEI
ENGINEERED BY: LJM/MSG
DRAWN BY: LJM
CHECKED BY: MSG

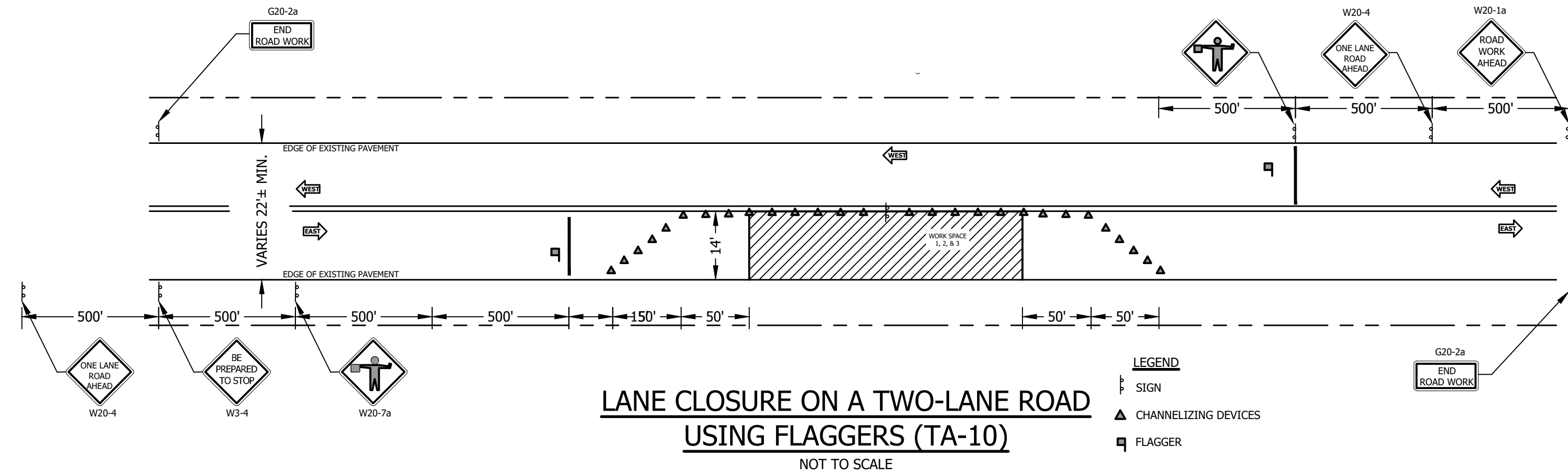


horizons
Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT

STANDARD WATER SYSTEM DETAILS AND NOTES

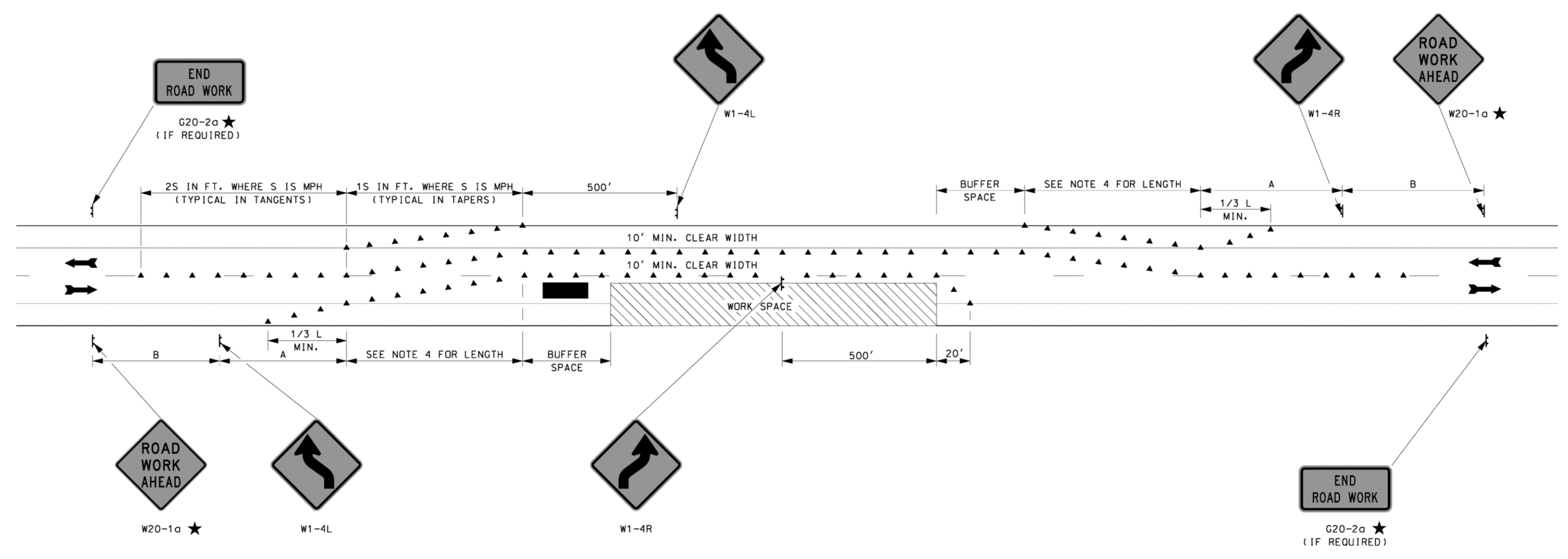
FOR CONSTRUCTION
PWS# 0202020



- NOTES:**
- CONTRACTOR TO NOTIFY LOCAL EMERGENCY SERVICES, NHDOT DISTRICT ONE OFFICE AND ROAD FORMAN 24 TO 48 HOURS PRIOR TO CONSTRUCTION OF WORK WITHIN THE RIGHT OF WAY.

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (< 30 MPH)	100'	100'	100'
URBAN (> 35 MPH)	350'	350'	350'
RURAL	500'	500'	500'
EXPRESSWAY / FREEWAY	1000'	1500'	2640'

**TYPICAL APPLICATION
TWO WAY TRAFFIC LANE SHIFT**



- GENERAL NOTES**
- ★ SEE AMENDMENT NO. 10 ON TC-1.
 - 1. FOR OPERATIONS WHERE TWO-WAY TRAFFIC LANE SHIFT CAN BE MAINTAINED ON TWO 10' MIN. CLEAR WIDTH LANES.
 - 2. FOR LONG-TERM STATIONARY OR INTERMEDIATE-TERM STATIONARY WORK, PAVEMENT MARKINGS INDICATING NO PASSING SHALL BE USED. DO NOT PASS SIGNS (R4-1) MAY BE REQUIRED.
 - 3. FOR TAPER LENGTH (L) CRITERIA, SEE MUTCD TABLES 6C-3 AND 6C-4.
 - 4. FOR SPEEDS > 50 MPH, LENGTH = L. FOR SPEEDS ≤ 50 MPH LENGTH = 1/2L.
 - 5. FOR BUFFER SPACE CRITERIA, SEE STOPPING SIGHT DISTANCE, MUTCD TABLE 6C-2.

NOT TO SCALE

STANDARD NO. TC-4

REVISION DATE	NO.	DESCRIPTION
06/03/2004		
03/16/2017		

* DGN FILE NAME: TC-4

STANDARD PLANS

New Hampshire DOT
Department of Transportation

STANDARD NO. TC-4

NO.	DATE	REVISION DESCRIPTION	ENG. DWG.



horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
TRAFFIC CONTROL PLAN & LANE CLOSURE DETAIL

**FOR CONSTRUCTION
PWS# 0202020**

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



SHEET D1.05

SEEDING RECOMMENDATIONS

- GRADING AND SHAPING**
A. SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

- ESTABLISHING VEGETATION**
A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
-AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ. FT.
-NITROGEN (N), 50 LBS., PER ACRE OR 1.1 LBS. PER 1,000 SQ. FT.
-PHOSPHATE (P₂O₅), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
-POTASH (K₂O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
(NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10).
B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

C. SEEDING GUIDE:

USE	SEEDING MIXTURE (SEE 3D)	SOIL TYPE			
		DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR

D. SEEDING RATES:

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH OR FLATPEA	15 OR 30	0.35 OR 0.75
TOTAL:	40 OR 55	0.95 OR 1.35
C TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL:	50	1.20

- E. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
- F. TEMPORARY SEEDING RATES:
- | SPECIES | POUNDS PER ACRE | POUNDS PER 1,000 SQ. FT. | REMARKS |
|--------------------|-----------------|--------------------------|---|
| WINTER RYE | 112 | 2.5 | BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 5TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH. |
| OATS | 80 | 2.0 | BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH. |
| ANNUAL RYEGRASS | 40 | 1.0 | GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL. |
| PERENNIAL RYEGRASS | 30 | 0.7 | GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1ST AND JUNE 1ST AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH. |

- MULCH**
A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING.
- MAINTENANCE TO ESTABLISH A STAND**
A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

EROSION CONTROL GENERAL NOTES

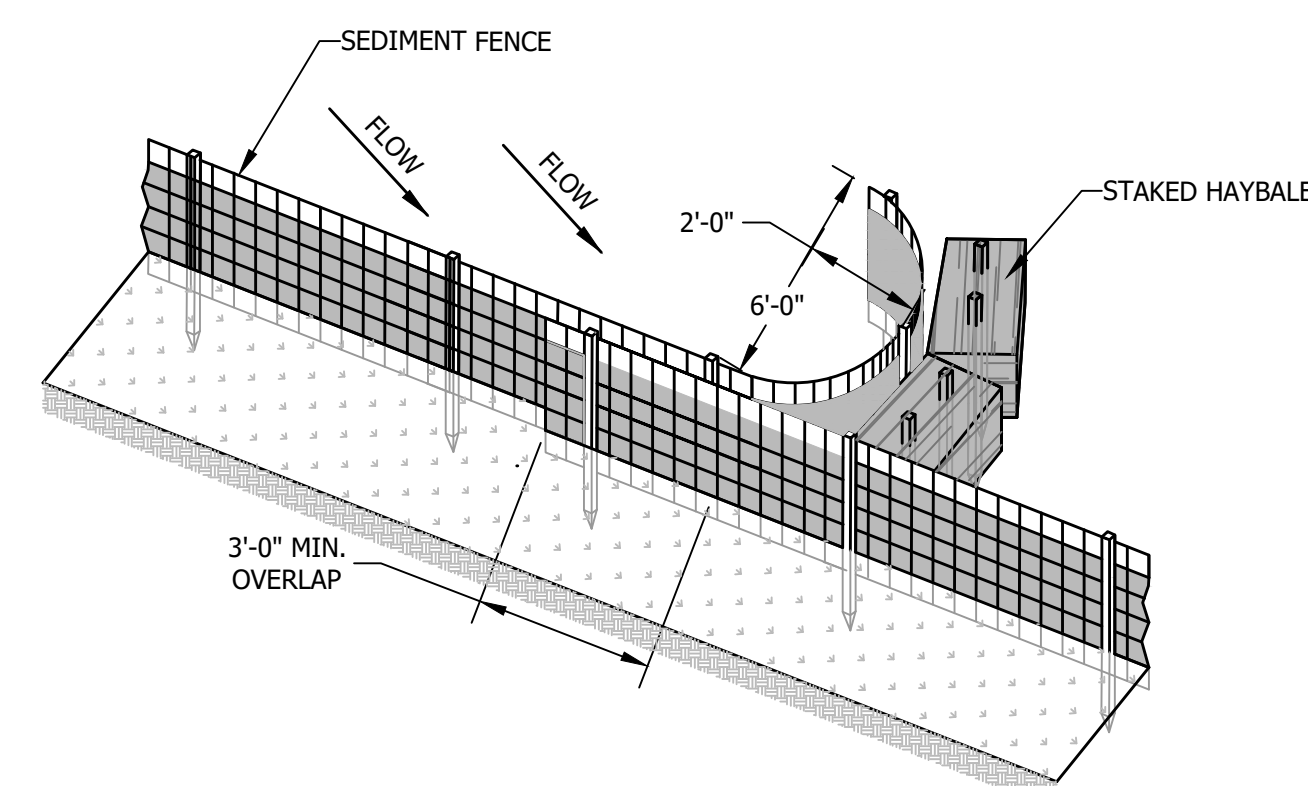
- KEEP SITE MODIFICATION TO A MINIMUM
1. CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
- EXPOSE AREAS OF BARE SOIL TO EROSION ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
- SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
- LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
- 5.0 AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.
- MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES
1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.
- PROTECT AREA AFTER CONSTRUCTION.
1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, GRADED AREAS ARE TO BE STABILIZED WITH NORTH AMERICAN GREEN DS150 MATTING OR EQUAL.
- INVASIVE SPECIES MONITORING / ELIMINATION
1. PRECAUTIONS SHALL BE TAKEN TO PREVENT IMPORT OR TRANSPORT OF SOIL OR SEED STOCK CONTAINING NUISANCE OR INVASIVE SPECIES SUCH AS PURPLE LOOSESTRIPE, KNOTWEED OR PHRAGMITES. THE CONTRACTOR SHALL ADDRESS INVASIVE SPECIES IN ACCORDANCE WITH THE REPORT "NH DOT BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE PLANTS (2008)".
2. TO PREVENT THE INTRODUCTION OF INVASIVE PLANT SPECIES TO THE SITE, THE CONTRACTOR SHALL CLEAN ALL SOILS AND VEGETATION FROM CONSTRUCTION EQUIPMENT AND MATTING BEFORE SUCH EQUIPMENT IS MOVED TO THE SITE.
3. IF ANY INVASIVE OR NUISANCE SPECIES ARE FOUND DURING CONSTRUCTION OR DURING THE EARLY STAGES OF VEGETATIVE ESTABLISHMENT, THE CONTRACTOR WILL COORDINATE WITH NHDOT AND THE NH WETLANDS BUREAU TO DETERMINE AGREED TO CONTROL MEASURES.
- POST CONSTRUCTION MONITORING
1. AFTER CONSTRUCTION IS COMPLETE THE DISTURBED AREAS WILL BE MONITORED FOR INVASIVE SPECIES DURING THE FIRST GROWING SEASON BUT BEFORE SEED SET. ANY INVASIVE SPECIES WILL BE MECHANICALLY REMOVED AND DISPOSED OF ACCORDING TO STANDARDS IN THE REPORT "NH DOT BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE PLANTS (2008)".

COLD WEATHER SITE STABILIZATION REQUIREMENTS

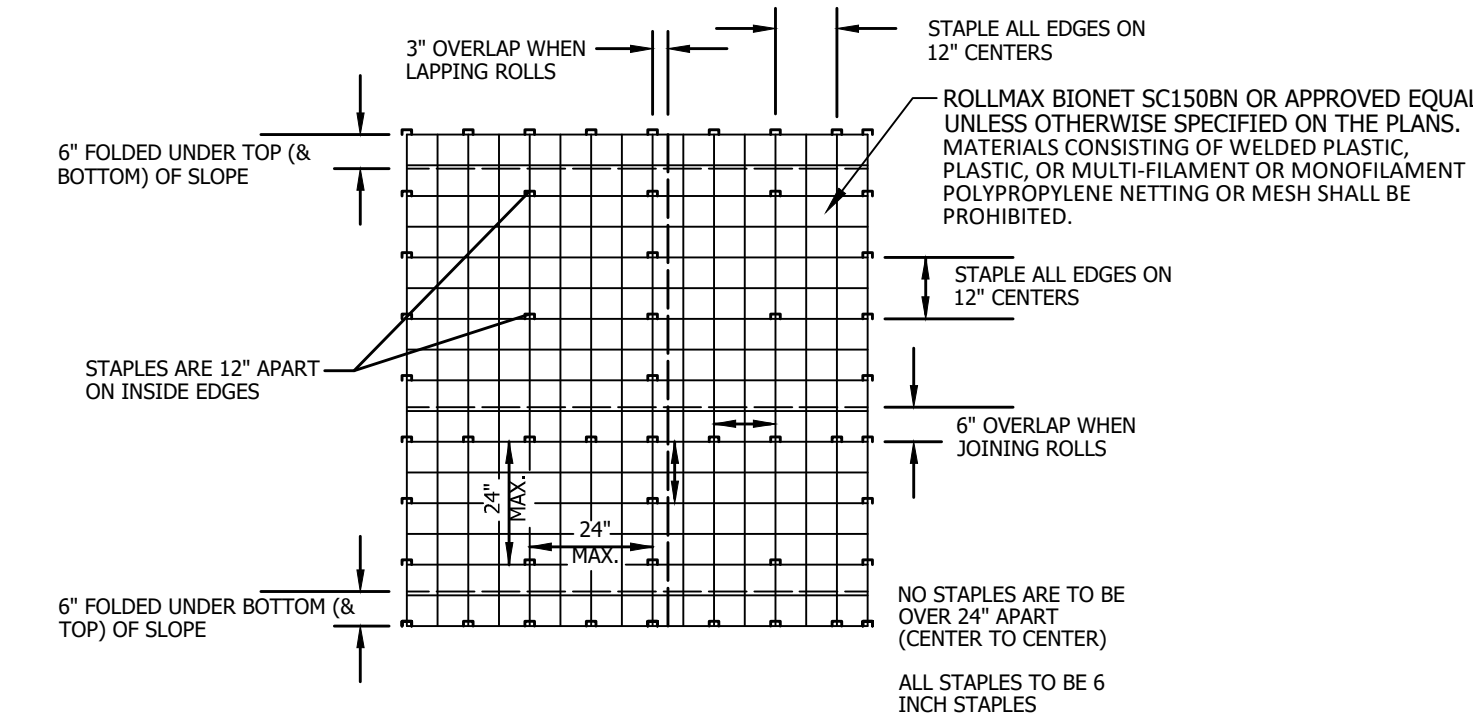
- TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:
- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
 - ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
 - ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
 - INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
 - INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
 - ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
 - ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
 - AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.

CONSTRUCTION SEQUENCE

- CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
- PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND NOTICE OF INTENT (NOI) FOR THE PROJECT.
- INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
- PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM WORK UNIT AREA SHALL BE ONE ACRE IN SIZE. THE MAXIMUM LENGTH OF TIME THAT A WORK UNIT MAY BE LEFT UNSTABILIZED IS 30 DAYS.
- BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
- PLACE TOPSOIL, SEED AND MULCH.
- COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
- MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.



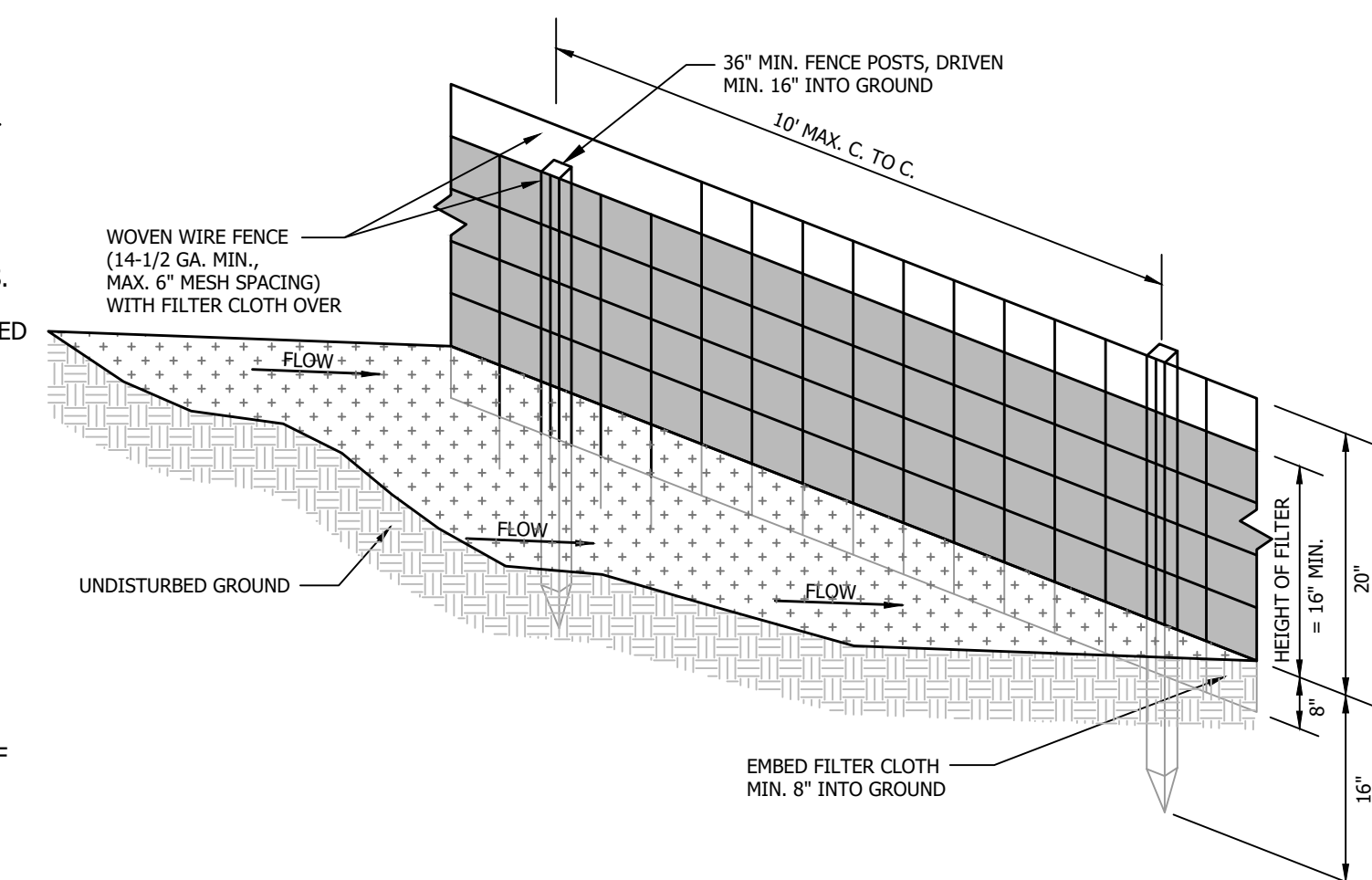
SEDIMENT FENCE POCKET
NO SCALE



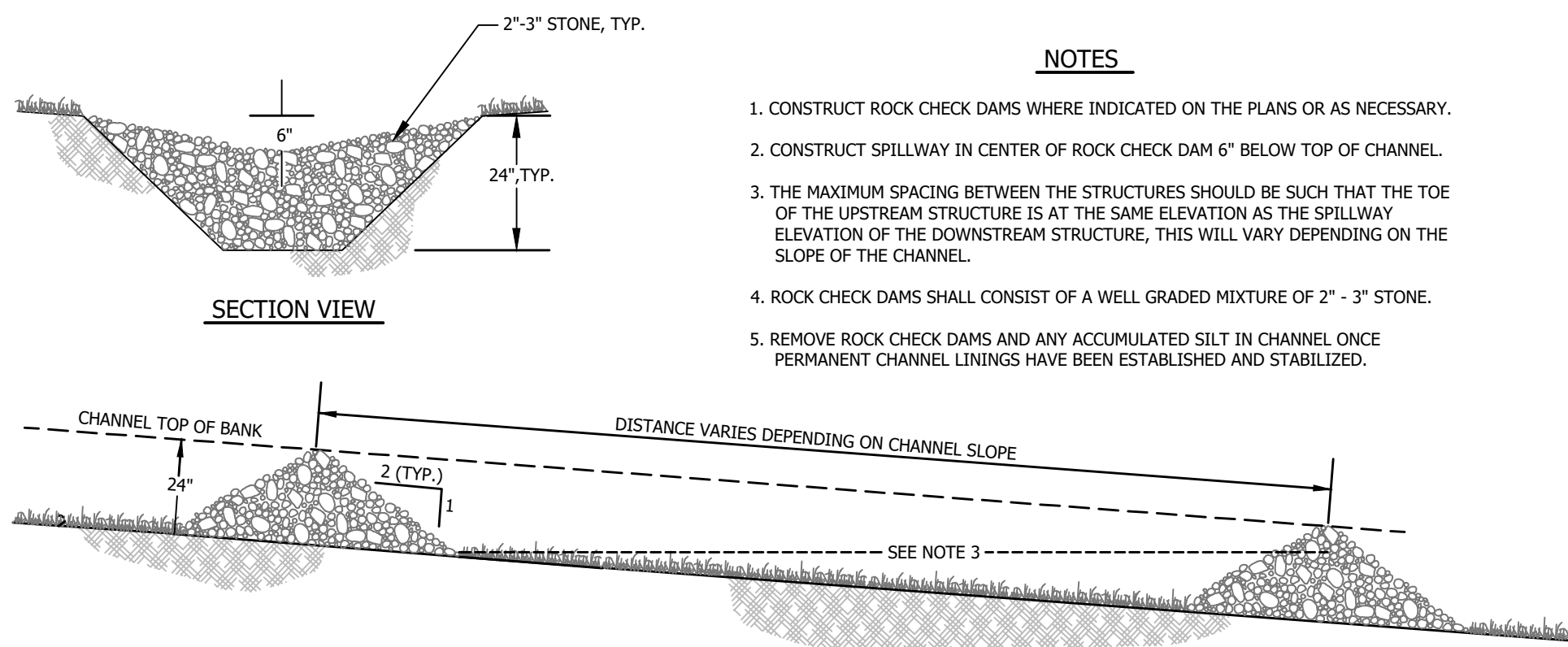
MULCH NETTING DETAIL
SOURCE: USDA SOIL CONSERVATION SERVICE
NO SCALE

CONSTRUCTION NOTES FOR SEDIMENT FENCE

- WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE, OR 50% OF ITS STORAGE IS USED.



SEDIMENT FENCE
NO SCALE



ROCK CHECK DAM DETAIL
NO SCALE

NOTES

- CONSTRUCT ROCK CHECK DAMS WHERE INDICATED ON THE PLANS OR AS NECESSARY.
- CONSTRUCT SPILLWAY IN CENTER OF ROCK CHECK DAM 6" BELOW TOP OF CHANNEL.
- THE MAXIMUM SPACING BETWEEN THE STRUCTURES SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM STRUCTURE IS AT THE SAME ELEVATION AS THE SPILLWAY ELEVATION OF THE DOWNSTREAM STRUCTURE, THIS WILL VARY DEPENDING ON THE SLOPE OF THE CHANNEL.
- ROCK CHECK DAMS SHALL CONSIST OF A WELL GRADED MIXTURE OF 2" - 3" STONE.
- REMOVE ROCK CHECK DAMS AND ANY ACCUMULATED SILT IN CHANNEL ONCE PERMANENT CHANNEL LININGS HAVE BEEN ESTABLISHED AND STABILIZED.

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

PROJECT #:	220963
DATE:	MARCH 2024
MAP LOT (OR ARCHIVE):	HEI
SURVEYED BY:	LJM/MSG
ENGINEERED BY:	LJM
DRAWN BY:	MSG
CHECKED BY:	

MATTHEW GRABER
LICENSED PROFESSIONAL ENGINEER
17499

horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
EROSION CONTROL DETAILS ND NOTES

FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING

© 2024
horizons Engineering
All rights reserved

SHEET D1.06

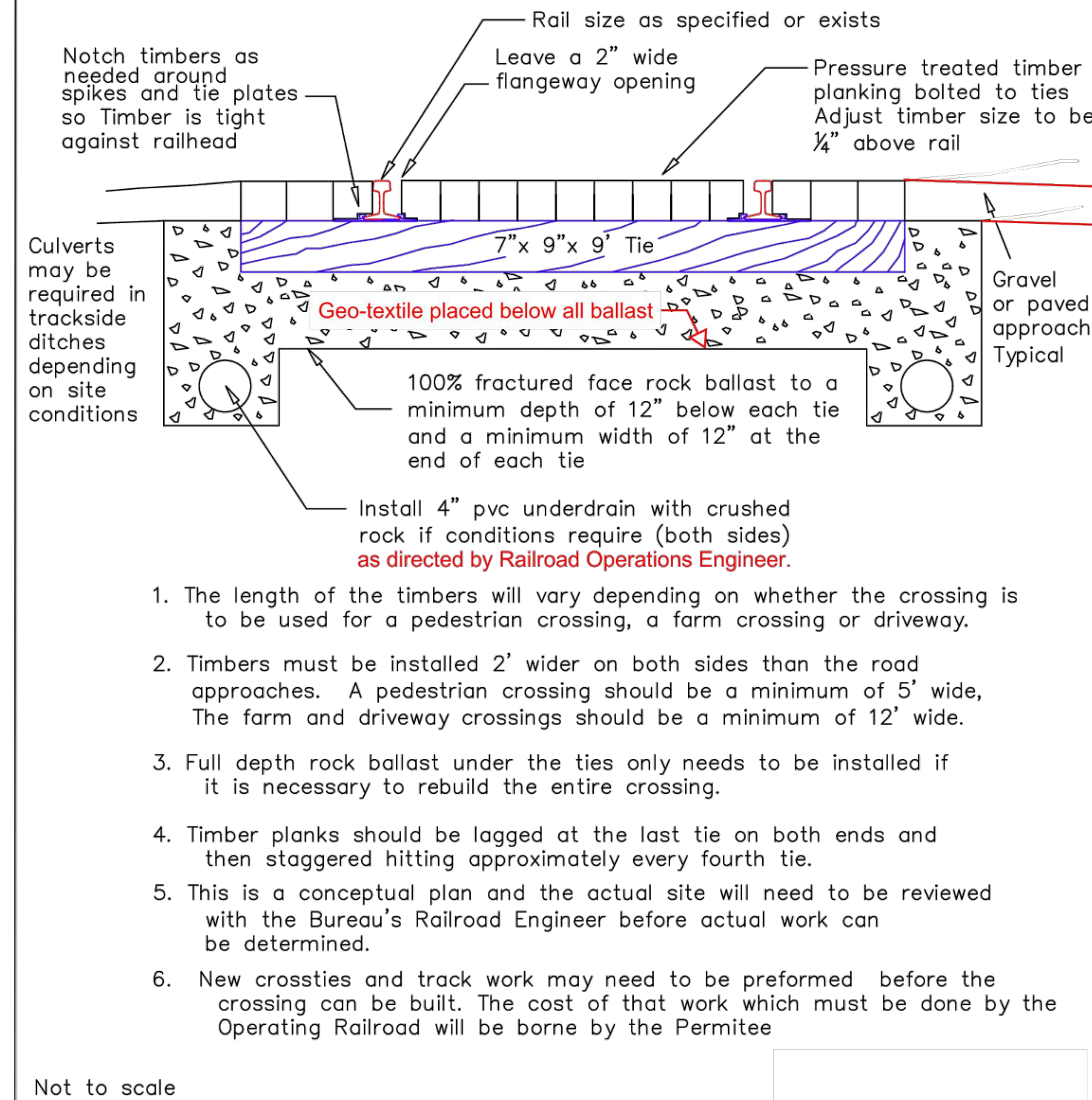
State of New Hampshire
Department of Transportation - Bureau of Rail & Transit

CROSSINGS			
RAILROAD INSTALLATION MINIMUM COVER DEPTHS			
INSTALLATION MUST MEET ALL CONDITIONS			
UTILITY FACILITY TYPE	A	B	C
	PERPENDICULAR * AND BELOW TRACKS	LONGITUDINAL 25' TO 50' FROM CENTER LINE OF TRACKS	BELOW DITCH LINE ELEV.
FLAMMABLE SUBSTANCES			
1. UNENCASED - EXIST.	Not Allowed	6'	6'
UNENCASED - NEW	Not Allowed	6'	6'
2. ENCASED - EXIST.	5.5'	6'	3'
ENCASED - NEW	5.5'	6'	3'
WATER AND SEWER			
EXIST.	5 1/2' ENCASED	4'	3'
NEW	5 1/2' ENCASED	4'	3'
DRAINAGE			
EXIST.	5 1/2'	4'	3'
NEW	5 1/2'	4'	3'
POWER (ALL TO BE IN CONDUIT)			
Secondary only. EXIST.	3 1/2' ENCASED	3 1/2'	3'
NEW	5 1/2' ENCASED	4'	3'
COMMUNICATIONS			
EXIST.	3 1/2' ENCASED	3 1/2'	3'
NEW	5 1/2' ENCASED	4'	3'
Notes.			
1. All utilities shall cross tracks at approximately a right angle. With NHDOT Railroad Operation Engineer approval crossings may be angled but must be more than a 45 degree angle in relation to the track.			
2. Sleeves and carrier pipes (drainage) must meet or exceed Cooper's E-80 minimum load standards.			
3. All depths indicated above are measured from the top of the crossties.			
4. Utilities must be at a minimum depth at ditches and slopes as noted above.			
5. Utilities shall not be installed within 45 ft of any bridge structure.			
6. Utilities shall be installed under tracks by boring or jacking, if practical.			
7. Exceptions to minimum depths and offsets indicated above may be granted.			
8. Refer to AREMA 2019 manual section 5.1.5.2 for encasement (casing) minimum length.			
9. Refer to AREMA 2019 manual Section 1-5 for other specific requirements.			

\\dot.state.nh.us\data\Rail-Transit\RAIL\Property Management\Procedure Handouts & Typicals\Construction Typicals


Revised Dated June 9, 2023

TIMBER PLANKED CROSSING DETAIL



1. The length of the timbers will vary depending on whether the crossing is to be used for a pedestrian crossing, a farm crossing or driveway.
2. Timbers must be installed 2' wider on both sides than the road approaches. A pedestrian crossing should be a minimum of 5' wide, The farm and driveway crossings should be a minimum of 12' wide.
3. Full depth rock ballast under the ties only needs to be installed if it is necessary to rebuild the entire crossing.
4. Timber planks should be lagged at the last tie on both ends and then staggered hitting approximately every fourth tie.
5. This is a conceptual plan and the actual site will need to be reviewed with the Bureau's Railroad Engineer before actual work can be determined.
6. New crossties and track work may need to be performed before the crossing can be built. The cost of that work which must be done by the Operating Railroad will be borne by the Permittee

Not to scale

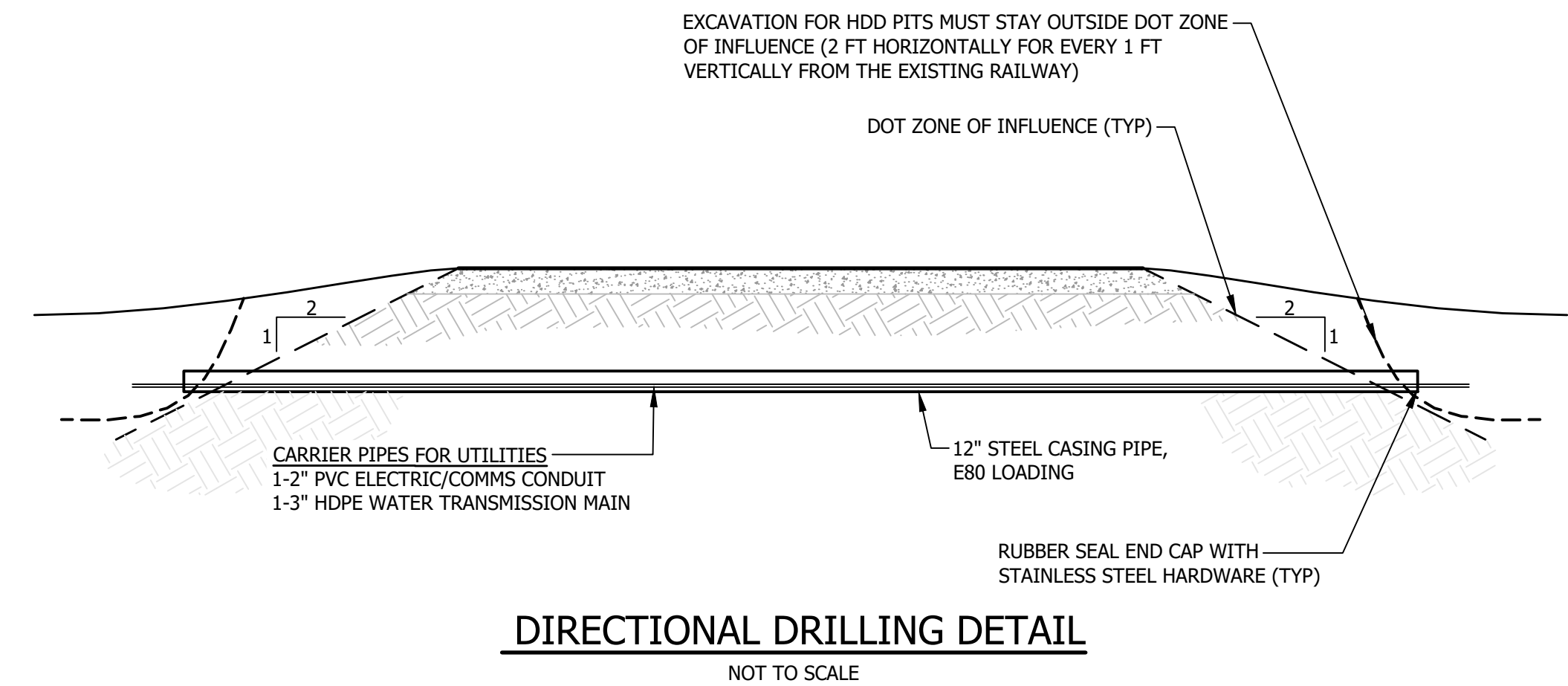


STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF RAIL & TRANSIT

P.O. BOX 483
CONCORD, NEW HAMPSHIRE 03302-0483
(603) 271-2468 FAX(603) 271-6767

TYPICAL TIMBER PLANKED CROSSING DETAIL

DATE	REVISIONS	DESCRIPTION	SHEET:
September 1, 2020			CT-1



DIRECTIONAL DRILLING DETAIL

NOT TO SCALE

HORIZONTAL DIRECTIONAL DRILL (HDD) NOTES

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND "TECHNICAL SPECIFICATIONS FOR SUNRAY SHORES CONTRACT #1 PUMP STATION, STORAGE AND TRANSMISSION MAIN", DATED MARCH 2024 REVISED MAY 2024.
2. CONTRACTOR SHALL CONDUCT WORK AS NOT TO DAMAGE THE RAILWAY OR INTERFERE WITH NORMAL RAILWAY OPERATIONS AND TRAFFIC. CONTRACTOR TO COORDINATE ALL CONSTRUCTION OPERATIONS WITH NEW HAMPSHIRE DOT BUREAU OF RAIL & TRANSIT (NHDOT BRT), ATTN: LOU BARKER, (603) 271-2425.
3. HDD SHALL BE IN ACCORDANCE WITH THE CURRENT AREMA GUIDELINES.
4. WELDS FOR THE STEEL CASING SHALL BE FIELD INSPECTED AND APPROVED BEFORE PULLING THROUGH THE BORE PATH.
5. ANY PROPOSED CHANGES TO MATERIALS, CONSTRUCTION METHODS AND DETAILS AS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED BY THE NHDOT BRT AND THE ENGINEER.
6. THE CASING PIPE SHALL BE OF LEAK PROOF CONSTRUCTION, COATED, CAPABLE OF WITHSTANDING COOPER E-80 RAILROAD LOADING.
7. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE AT LEAST 2 INCHES GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE(S) OR COUPLINGS. IN NO EVENT SHALL THE CASING PIPE DIAMETER BE LARGER THAN IS NECESSARY TO PERMIT THE INSERTION OF THE CARRIER PIPE.
8. BOTH CARRIER AND CASING PIPES SHALL BE INSTALLED WITH SUFFICIENT SLACK SO THAT THE PIPES ARE NOT IN TENSION.
9. CASINGS FOR CARRIER PIPES OF NON-FLAMMABLE SUBSTANCES SHALL HAVE BOTH ENDS OF THE CASING BLOCKED UP IN SUCH A WAY AS TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL, BUT ALLOWING LEAKAGE TO PASS IN THE EVENT OF A CARRIER PIPE BREAK.

NO.	DATE	REVISION DESCRIPTION	ENG.	DWG.

PROJECT #: 220963
DATE: MARCH 2024
MAP LOT (OR ARCHIVE) HEI
SURVEYED BY: LJM/MSG
ENGINEERED BY: LJM
DRAWN BY: LJM
CHECKED BY: MSG



horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

SUNRAY SHORES WATER DISTRICT
BELMONT, NEW HAMPSHIRE
CONTRACT # 1
WATER BOOSTER PUMP STATION PROJECT
NHDOT RAILROAD CROSSING DETAILS ND NOTES

FOR CONSTRUCTION
PWS# 0202020

DATE OF PRINT
JULY 11 2024
HORIZONS ENGINEERING



SHEET D1.07

Z:\proj_2022\220963\Sunray Shores Water System\Hansel\Chiff\Final\220963 COPIE_COVER.DWG.03.dwg, 01/07/21/2024 9:18:17 AM, Matt Graber