

SITE DEVELOPMENT PLANS

PREPARED FOR

NORTHERN PASS TRANSMISSION, LLC

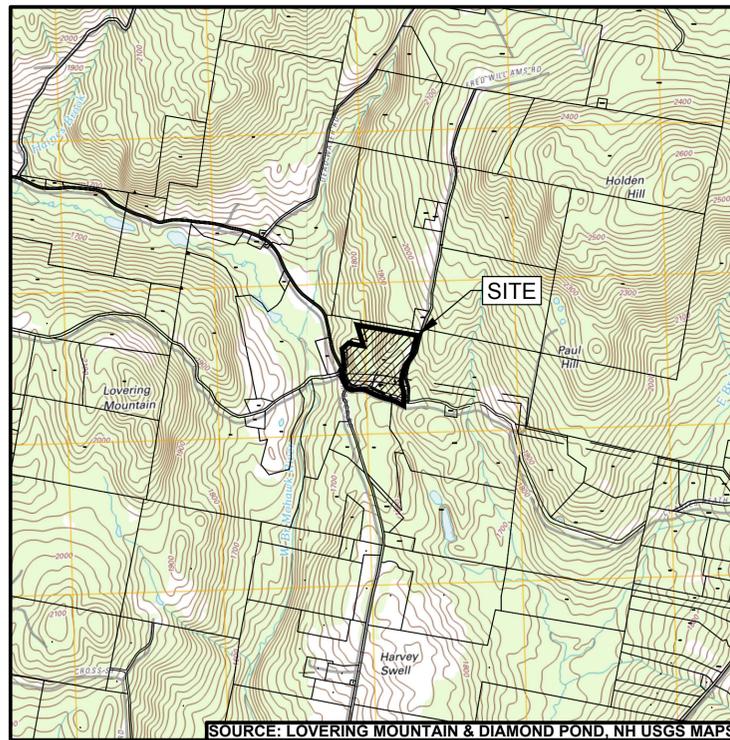
PROPOSED TRANSITION STATION #4

HEATH ROAD, STEWARTSTOWN, NH 03576

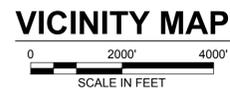
OWNER:



ENGINEER:



SOURCE: LOVERING MOUNTAIN & DIAMOND POND, NH USGS MAPS



OCTOBER 1, 2015

**FOR PERMITTING
PURPOSES ONLY
NOT FOR CONSTRUCTION**

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NEW HAMPSHIRE STATE LAW REQUIRES HOMEOWNERS AND CONTRACTORS TO CONTACT DIG SAFE, BY DIALING 8-1-1 AT LEAST THREE BUSINESS DAYS BEFORE BEGINNING ANY DIGGING OR EXCAVATION PROJECT. WHEN DIG SAFE RECEIVES A CALL, THE HOMEOWNER OR CONTRACTOR MUST WAIT 72 BUSINESS HOURS. DURING THIS TIME, UTILITY REPRESENTATIVES RESPOND TO MARK THEIR LINES WITHIN YOUR PRE-MARKED AREA. ALL INFORMATION REGARDING DIG SAFE RULES AND REGULATIONS CAN ALSO BE FOUND AT www.digsafe.com.



NO.	DATE	REVISION	ISSUED FOR PERMITTING	FP	DRWN	CHKD	APPRV.	BSS

Transmission Business

TRANSITION STATION #4
COVER SHEET

MILE NO:
SHEET 1 OF 21
NPTT401-CVR

BACKGROUND NOTES:

- BACKGROUND INFORMATION TAKEN FROM "EXISTING CONDITIONS PLAN" FOR TRANSITION STATION #4, HEATH ROAD, STEWARTSTOWN, NH. PREPARED BY CHA, CONSULTING, INC. DATED AUGUST 26, 2014. LAST REVISED OCTOBER 14, 2014. SURFACE OBSERVABLE INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA, CONSULTING INC. ON OR BETWEEN OCTOBER 16, 2013 AND AUGUST 22, 2014. WETLAND FLAGS SHOWN HEREON ARE BASED ON FIELD LOCATIONS BY CHA, CONSULTING, INC. IN NOVEMBER 2013. LOCATIONS PROVIDED BY NORMANDEAU, WETLANDS WERE DELINEATED BY NORMANDEAU IN 2013.
- ELEVATIONS, CONTOURS AND BENCHMARKS ARE BASED ON NAVD 1988 VERTICAL DATUM.
- HORIZONTAL LOCATIONS ARE BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD 83.
- THERE ARE DELINEATED WETLANDS AND WATERCOURSES LOCATED ONSITE. REFER TO WETLANDS, RIVERS, STREAMS AND VERNAL POOLS DELINEATION REPORT BY NORMANDEAU ENVIRONMENTAL CONSULTANTS DATED NOVEMBER 22, 2013.
- THE SITE IS LOCATED WITHIN ZONE 'X' FLOOD ZONE AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 33007C0365D PANEL 365 OF 1300, COOS COUNTY, NH, DATED FEBRUARY 20, 2013.
- PROPERTY AREA = 43.11 ACRES, NPDES/LIMIT OF DISTURBANCE (LOD) AREA TOTAL = 3.14 ACRES (OF WHICH 3.03 ACRES IS ON-SITE, 0.11 ACRES IS OFF-SITE).

GENERAL NOTES:

- GENERAL NOTES SHALL APPLY TO THE SITE DEVELOPMENT PLANS THROUGHOUT. REFER TO INDIVIDUAL SHEETS FOR SHEET SPECIFIC NOTES.
- CONTRACTOR(S) TO TAKE AND VERIFY ALL DIMENSIONS AND CONDITIONS OF THE WORK AND BE RESPONSIBLE FOR COORDINATION OF SAME. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK.
- ENGINEER ASSUMES NO RESPONSIBILITY AS TO THE CONTENT OF THE EXISTING CONDITIONS PLAN INCLUDING BUT NOT LIMITED TO LOCATION, SIZE, AND ELEVATIONS OF UTILITIES AND STRUCTURES NOT VISIBLE AND WHERE TAKEN FROM PLANS BY OTHERS.
- EXISTING CONDITIONS SURVEY INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIGSAFE" PRIOR TO COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE AND BUILDING CONDITIONS IN THE FIELD AND CONTACT THE OWNER AND ENGINEER IF THERE ARE ANY QUESTIONS AND/OR CONFLICTS REGARDING THE PLANS AND/OR EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS MANUAL FOR ADDITIONAL INFORMATION. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, INFORM THE OWNER AND CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
- ALL CONSTRUCTION SHALL COMPLY WITH PROJECT SPECIFICATION MANUAL, EVERSOURCE STANDARDS AND SPECIFICATIONS, AND THESE PLANS. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - NEW HAMPSHIRE STORMWATER MANUAL, VOLUMES 1, 2 & 3, DECEMBER 2008.
 - NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MANUAL ON DRAINAGE DESIGN FOR HIGHWAYS, REVISION DATE APRIL 1998.
 - NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS (2010).
 - EVERSOURCE BEST MANAGEMENT PRACTICES MANUAL (TO BE FURTHER DEVELOPED).
 - EVERSOURCE STANDARD SPECIFICATIONS (10-24-2014).
- DO NOT INTERRUPT EXISTING SERVICING UTILITIES AND FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER, THE LOCAL MUNICIPALITIES, THE UTILITY PROVIDER, AND ANY APPLICABLE REGULATORY AGENCY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.

- THE CONTRACTOR SHALL PROVIDE RECORD AS-BUILT DRAWINGS OF ALL CONSTRUCTION IN ACCORDANCE WITH OWNER AND REGULATORY AGENCY REQUIREMENTS (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
- WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING PLANS. IN CASE OF CONFLICT BETWEEN PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
- IF A CONFLICT ARISES BETWEEN PLANS, SPECIFICATIONS, AND/OR DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
- THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS IN ALL INSTANCES AND WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENT FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
- THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
- ALL NOTES AND DIMENSIONS DESIGNATED "TYPICAL" OR "(TYP.," APPLY TO ALL LIKE OR SIMILAR CONDITIONS THROUGHOUT THE PROJECT.
- ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF SUBMITTED, REVIEWED, AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS AND MATERIALS PER PLANS AND SPECIFICATIONS TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING, FABRICATION, OR DELIVERY TO THE SITE. FOR EACH SUBMITTAL, ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
- THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE AND OTHER INCIDENTAL DISTURBANCES AND DAMAGES DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE OWNER, ENGINEER AND REGULATORY AGENCY.
- THE CONTRACTOR SHALL COMPLY WITH 29 CFR PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
- NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
- DEMOLITION OF EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO BUILDINGS, STRUCTURES, PAVEMENT, WELLS, SEPTIC, SANITARY SEWER, FENCES, TREES, ETC. SHALL BE PER THE DIRECTION OF EVERSOURCE AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- PERMANENT BENCHMARKS SHALL BE INSTALLED UPON COMPLETION OF CLEARING.
- ELECTRICAL SUBSTATION COMPONENTS, UNDERGROUND TRANSMISSION LINES, OVER HEAD TRANSMISSION LINES AND THEIR FOUNDATIONS DEPICTED HEREIN ARE FOR REFERENCE ONLY.
- ANY CLEARED AND EXCAVATED MATERIALS WHICH ARE SUSPECTED OF BEING ENVIRONMENTALLY POLLUTED, CONTAMINATED, OR IMPACTED SHALL BE STOCKPILED ON-SITE ON TOP OF POLYETHYLENE SHEETING AND COVERED WITH POLYETHYLENE SHEETING. THE OWNER AND ENGINEER SHALL BE IMMEDIATELY INFORMED UPON ENCOUNTERING THIS MATERIAL. STORAGE, TESTING, TREATMENT, REMOVAL, AND DISPOSAL OF ENVIRONMENTALLY POLLUTED, CONTAMINATED, OR IMPACTED MATERIAL SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE NO DISTURBANCE BEYOND THE DEPICTED LIMIT OF DISTURBANCE.
- THE CONTRACTOR SHALL ESTABLISH BEST MANAGEMENT PRACTICES FOR BLASTING OF BEDROCK IN ACCORDANCE WITH THE NHDES PUBLICATION WD-10-12 "ROCK BLASTING AND WATER QUALITY MEASURES THAT CAN BE TAKEN TO PROTECT WATER QUALITY AND MITIGATE IMPACTS", 2010. IF THE BLAST ROCK VOLUME GENERATED IS GREATER THAN 5,000 CUBIC YARDS, THE CONTRACTOR SHALL DEVELOP A GROUNDWATER MONITORING PROGRAM FOR SUBMISSION TO THE OWNER AND ENGINEER. BLASTING SHALL NOT COMMENCE UNTIL THESE REQUIREMENTS ARE APPROVED BY THE NHDES, AS REQUIRED.
- PROPOSED STORM DRAINAGE SYSTEM SHALL BE HS-20 RATED.

EXISTING LEGEND

	PROPERTY LINE
	ADJOINING PROPERTY LINE
	RIGHT OF WAY LINE
	EASEMENT LINE
	MAJOR CONTOUR
	MINOR CONTOUR
	TREELINE
	OVER HEAD WIRE
	STOCKADE FENCE
	CHAIN LINK FENCE
	WETLANDS LINE
	STREAM OR WATERWAY
	STONEWALL
	WETLAND FLAG
	IRON PIPE
	CONCRETE BOUND WITH DRILL HOLE
	STONE BOUND WITH DRILL HOLE
	SURVEY CONTROL POINT
	UTILITY POLE
	WETLANDS

PROPOSED LEGEND

	MAJOR CONTOUR
	MINOR CONTOUR
	TREELINE
	PERIMETER FENCE
	GUIDERAIL
	SILT FENCE
	CONSTRUCTION FENCE
	LIMIT OF STONE SURFACING
	LIMIT OF DISTURBANCE
	STORMWATER SWALE
	UNDERDRAIN
	STORM SEWER PIPE
	STORM INLET
	MANHOLE
	OUTLET CONTROL STRUCTURE
	INLET PROTECTION
	FLARED END SECTION
	CLEANOUT
	SPOT ELEVATION
	SPOT ELEVATION
	RIP RAP
	STONE SURFACING
	GRASS
	NRCS SOIL TYPE/BOUNDARY

LIST OF ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE	MAX	MAXIMUM
APT	ANGLE POINT	MFR	MANUFACTURER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MH	MANHOLE
BIT	BITUMINOUS CONCRETE	MIN	MINIMUM
BLDG	BUILDING	N	NORTHING
BM	BENCH MARK	NO	NUMBER
BW	BOTTOM OF WALL	NOM	NOMINAL
CB	CATCH BASIN	OC	ON CENTER
CATV	CABLE TELEVISION	OCS	OUTLET CONTROL STRUCTURE
CI	CAST IRON PIPE	OD	OUTSIDE DIMENSION
CIC	CAST IRON COVER	PC	POINT OF CURVATURE
€	CENTERLINE	PCC	POINT OF CONCENTRIC CURVATURE
CL	CENTERLINE	POB	POINT OF BEGINNING
CLF	CHAIN LINK FENCE	PI	POINT OF INTERSECTION
CLR	CLEAR	PIV	POST INDICATOR VALVE
CMP	CORRUGATED METAL PIPE	PRC	POINT OF REVERSE CURVATURE
CO	CLEANOUT	PSI	POUNDS PER SQUARE INCH
CONC	CONCRETE	PT	POINT OF TANGENCY
COR	CORNER	PVC	POLYVINYL CHLORIDE PIPE
CTRS	CENTERS	R	RADIUS
DIA	DIAMETER	RAD PT	RADIUS POINT
DMH	DRAINAGE MANHOLE	RCP	REINFORCED CONCRETE PIPE
E	EASTING	SD	STORM DRAIN
EL	ELEVATION	SDMH	STORM DRAIN MANHOLE
EMH	ELECTRIC MANHOLE	SESC	SOIL EROSION AND SEDIMENT CONTROL
EOP	EDGE OF PAVEMENT	SS	SANITARY SEWER
EXP	EXPANSION	SSMH	SANITARY SEWER MANHOLE
EXIST	EXISTING	SSFM	SANITARY SEWER FORCE MAIN
G	GAS	SQ FT	SQUARE FOOT
GALV	GALVANIZED	SQ M	SQUARE METER
GR	GRATE	TYP	TYPICAL
HDPE	CORRUGATED HIGH DENSITY POLYETHYLENE PIPE	TW	TOP OF WALL
HT	HEIGHT	UC	UNDERGROUND COMMUNICATION
INV	INVERT	UD	UNDERDRAIN
LBS	POUNDS	UE	UNDERGROUND ELECTRICAL
LF	LINEAR FOOT	UP	UTILITY POLE
LFC	LOW FLOW CHANNEL	VC	VITRIFIED CLAY PIPE
LOD	LIMIT OF DISTURBANCE	W/O	WITHOUT



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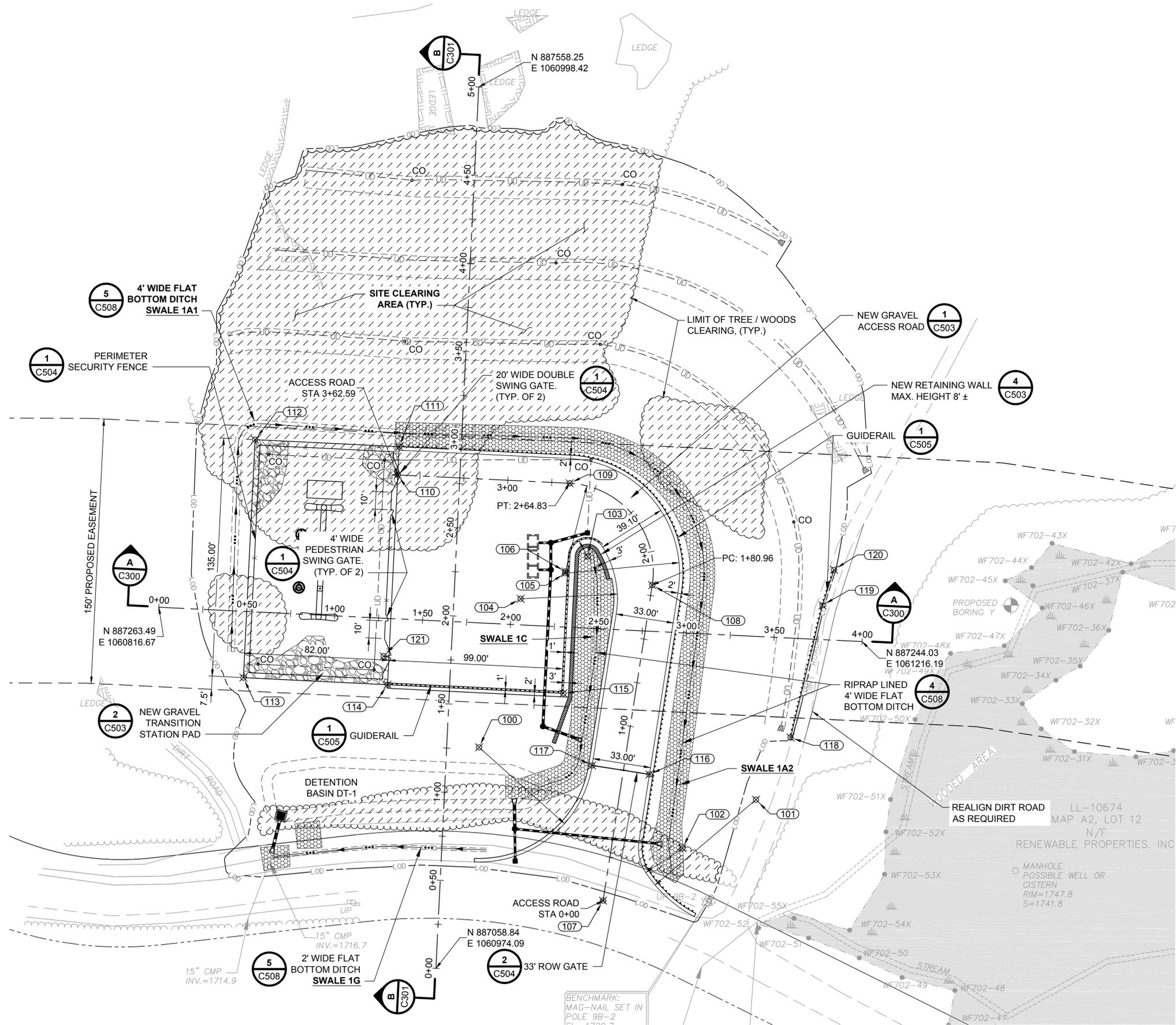
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ISSUED FOR PERMITTING	NO.	DATE	FP	DRWN	CHKD	BSS	APPRV.
1		10/7/15					
THE NORTHERN PASS							
Transmission Business							
#							
TRANSITION STATION #4 GENERAL NOTES AND LEGEND							
DATE: 10/7/2015							
SCALE: NTS							
DES: LRM CHK: RLR DRW: FP APR: BSS							
TOWN: STEWARTSTOWN, NH							
TRANSMISSION LINE:							
MILE NO:							
SHEET 2 OF 21							
NPTT402-G001							
REVISION: xxx							

SITE NOTES:

- REFER TO SHEET NPTT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
- THE SUBSTATION ELECTRICAL EQUIPMENT, ENCLOSURES, FOUNDATIONS, OTHER SUBSTATION APPURTENANCES, OVERHEAD TRANSMISSION, AND UNDERGROUND TRANSMISSION ARE SHOWN FOR REFERENCE ONLY.
- THIS DRAWING IS INTENDED TO DEPICT SITE LAYOUT ONLY.
- REFER TO SUBSTATION PHYSICAL DRAWINGS FOR FENCE AND GATE DETAILS.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE NO DISTURBANCE BEYOND DEPICTED LIMIT OF NPDES/LIMIT OF DISTURBANCE.
- NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
- UPON COMPLETION OF SITE CLEARING, THE CONTRACTOR SHALL FURNISH AND INSTALL PERMANENT BENCHMARKS IN THE LOCATIONS DEPICTED ON THE PLANS IN ACCORDANCE WITH THE STATE OF NEW HAMPSHIRE SURVEYING CODES AND STANDARDS. BENCHMARK ELEVATIONS SHALL BE SET IN FIELD AND VERIFIED PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL INSTALL GUIDERAIL SYSTEMS AS DEPICTED IN ACCORDANCE WITH NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD PLANS FOR THRIE BEAM SINGLE FACED GUIDERAIL WITH STEEL POSTS AND TERMINAL UNIT TYPE G-2. THIS END SECTION IS NOT CRASH WORTHY. IT IS INTENDED FOR USE PRIMARILY ON LOW SPEED ACCESS ROADS WHERE IT CAN NOT BE HIT.
- OFFSITE ROADWAY (TOWN AND/OR STATE) IMPROVEMENTS AS A RESULT OF THE STATION DEVELOPMENT ARE NOT ANTICIPATED.

SITE LAYOUT POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
100	887184.09	1060998.63	65' RAD PT
101	887154.44	1061155.92	75' RAD PT
102	887126.91	1061114.18	25' RAD PT
103	887292.23	1061060.28	10' RAD PT
104	887268.29	1061022.18	55' RAD PT
105	887282.76	1061047.47	65' RAD PT
106	887283.76	1061047.62	50' RAD PT ROAD
107	887097.24	1061069.05	ACCESS ROAD START
108	887276.03	1061097.02	ACCESS ROAD PC
109	887333.70	1061050.06	ACCESS ROAD PT
110	887338.46	1060952.41	ACCESS ROAD END AT CL GATE
111	887354.43	1060953.20	CORNER PAD
112	887358.45	1060871.29	CORNER PAD
113	887223.61	1060864.69	CORNER PAD
114	887219.60	1060946.59	CORNER PAD
115	887214.70	1061046.47	CORNER PAD
116	887168.76	1061095.42	ROW GATE
117	887173.86	1061062.82	ROW GATE
118	887189.67	1061175.58	GUIDERAIL
119	887264.59	1061193.71	GUIDERAIL
120	887284.71	1061200.28	GUIDERAIL
121	887235.72	1060944.38	CL GATE



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TRANSITION STATION #4
SITE LAYOUT PLAN

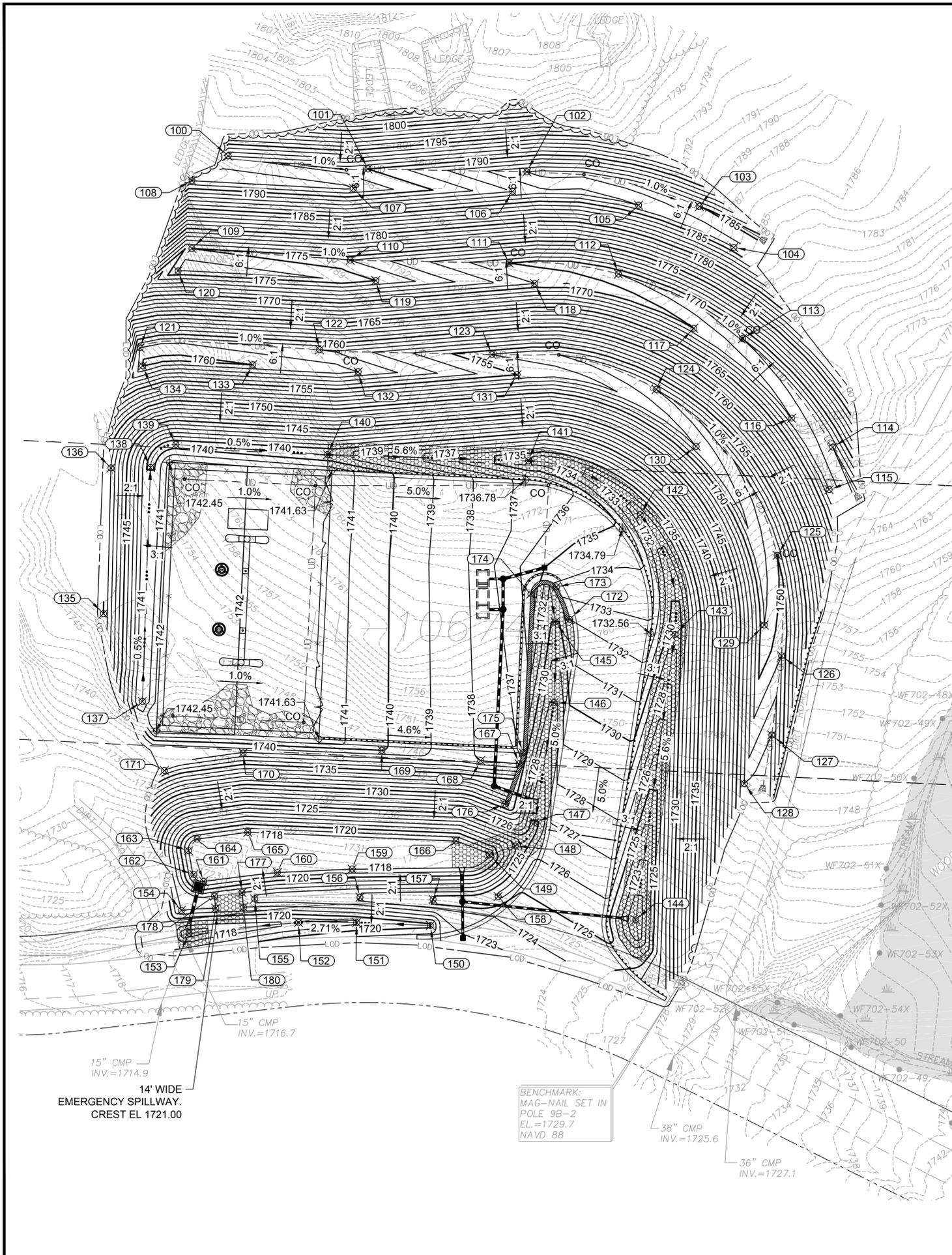
DATE: 10/7/2015
SCALE: 1" = 30'

DES: LRM
CHK: RLR
DRW: FP
APP: BSS

TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:

MILE NO:
SHEET 3 OF 21
NPTT403-C100

REVISION: 11/10/2013



GRADING NOTES:

1. REFER TO SHEET NPTT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. REFER TO SHEETS NPTT409-C300 & NPTT410-C301 FOR GRADING CROSS SECTIONS.
3. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
4. PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.
5. ALL FILL AND CUT SLOPES ARE 3-FT HORIZONTAL TO 1-FT VERTICAL (3:1) UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL PLACE 4" TOPSOIL AND SEED ON ALL CUT AND FILL SLOPES AS SPECIFIED UNLESS ANOTHER SURFACE MATERIAL IS INDICATED. EROSION CONTROL BLANKETS (NORTH AMERICAN GREEN SC250 OR ENGINEER APPROVED EQUAL) SHALL BE PLACED OVER ALL SEEDED SIDE SLOPES.
7. AFTER COMPLETION OF YARD SUBGRADE WORK, THE SURFACE COURSE FOR THE SUBSTATION (INSIDE THE FENCE, 3-FT OUTSIDE THE FENCE, AND WHERE INDICATED ON THE PLANS) SHALL CONSIST OF A 4-INCH LAYER OF CRUSHED BASALT (ANGULAR STONE) MEETING THE GRADATION REQUIREMENTS EXPLAINED IN THE SPECIFICATIONS.
8. CONTRACTOR SHALL PROTECT/REPAIR ALL SLOPES UNTIL FINAL VEGETATIVE OR STONE STABILIZATION.
9. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED AND STABILIZED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS.
10. STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING STORMWATER RUNOFF TO THEM.
11. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL 3-FT HORIZONTAL TO 1-FT VERTICAL SLOPES (3:1) OR STEEPER, AND BE NORTH AMERICAN GREEN SC250 OR APPROVED EQUAL.
12. EROSION CONTROL BLANKET (ECB) SHALL BE INSTALLED ON SWALES 1A1 & 1G. BOTTOM AND SIDE SLOPES UP TO 2 FOOT DEPTH AND SHALL BE NORTH AMERICAN GREEN SC 150 OR APPROVED EQUAL.
13. EARTHWORK AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL ENGINEERING REPORT BY OTHERS.

LAYOUT POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	887512.33	1060900.86	1792.00	B/SLOPE
101	887505.86	1060971.27	1790.00	B/SLOPE
102	887504.41	1061051.29	1790.00	B/SLOPE
103	887487.03	1061138.28	1785.00	B/SLOPE
104	887466.41	1061155.52	1786.00	T/SLOPE
105	887487.65	1061107.59	1787.00	T/SLOPE
106	887494.54	1061044.15	1788.00	T/SLOPE
107	887496.06	1060964.00	1792.00	T/SLOPE
108	887499.96	1060882.65	1792.00	T/SLOPE
109	887465.92	1060882.63	1775.00	B/SLOPE
110	887460.04	1060962.37	1774.00	B/SLOPE
111	887458.58	1061042.39	1770.00	B/SLOPE
112	887453.12	1061097.44	1769.00	B/SLOPE
113	887420.66	1061159.95	1768.00	B/SLOPE
114	887366.19	1061205.37	1767.00	B/SLOPE
115	887344.83	1061203.57	1768.00	T/SLOPE
116	887380.69	1061184.67	1769.00	T/SLOPE
117	887425.80	1061135.38	1770.00	T/SLOPE
118	887448.35	1061055.25	1771.00	T/SLOPE
119	887449.81	1060975.23	1775.00	T/SLOPE
120	887454.67	1060875.63	1779.00	T/SLOPE
121	887416.03	1060856.48	1759.00	B/SLOPE
122	887415.04	1060946.92	1758.00	B/SLOPE
123	887412.69	1061033.71	1754.00	B/SLOPE
124	887395.19	1061116.47	1752.00	B/SLOPE
125	887311.82	1061177.43	1750.00	B/SLOPE
126	887261.34	1061179.64	1749.00	B/SLOPE
127	887221.63	1061174.67	1747.00	B/SLOPE
128	887197.19	1061160.82	1747.00	T/SLOPE
129	887276.84	1061170.91	1751.00	T/SLOPE
130	887366.51	1061136.55	1753.00	T/SLOPE
131	887402.53	1061046.35	1755.00	T/SLOPE
132	887403.98	1060966.33	1759.00	T/SLOPE
133	887407.51	1060913.21	1760.00	T/SLOPE
134	887406.96	1060857.85	1760.00	T/SLOPE
135	887282.58	1060838.09	1750.00	T/SLOPE
136	887355.73	1060841.85	1749.00	T/SLOPE
137	887238.44	1060857.69	1740.50	CL 4' DITCH BEGIN
138	887355.91	1060861.77	1740.00	CL 4' DITCH PC
139	887367.47	1060874.56	1739.97	CL 4' DITCH PT
140	887362.38	1060950.96	1739.59	CL 4' DITCH, RIPRAP
141	887359.31	1061052.16	1734.06	CL 4' DITCH PC

LAYOUT POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
142	887332.14	1061108.44	1731.71	CL 4' DITCH POC
143	887272.12	1061125.86	1729.41	CL 4' DITCH PT
144	887128.83	1061106.13	1721.30	CL 4' DITCH INV
145	887278.48	1061065.63	1730.00	CL 4' DITCH BEGIN
146	887237.82	1061064.99	1728.00	CL 4' DITCH APT
147	887177.74	1061055.41	1724.96	CL 4' DITCH PC
148	887165.90	1061045.44	1723.15	CL 4' DITCH PT
149	887161.47	1061032.40	1718.00	CL 4' DITCH END
150	887125.97	1061002.75	1720.00	CL 2' DITCH
151	887127.40	1060965.56	1719.00	CL 2' DITCH APT
152	887127.51	1060936.33	1718.23	CL 2' DITCH APT
153	887122.01	1060881.19	1717.00	CL 2' DITCH INV
154	887133.58	1060877.32	1722.00	CL 4' BERM
155	887139.32	1060914.24	1723.00	CL 4' BERM
156	887140.13	1060967.25	1724.00	CL 4' BERM
157	887139.02	1061004.12	1725.00	CL 4' BERM
158	887140.51	1061036.82	1726.00	CL 3' BERM
159	887154.31	1060963.32	1718.00	B/POND
160	887152.54	1060925.71	1718.00	B/POND
161	887148.12	1060888.54	1718.00	B/POND
162	887151.61	1060883.59	1722.00	B/POND
163	887163.51	1060880.99	1718.00	B/POND
164	887169.33	1060885.23	1718.00	B/POND
165	887172.78	1060910.81	1718.00	B/POND
166	887168.34	1061015.57	1718.00	B/POND
167	887207.20	1061047.38	1738.00	T/SLOPE-T/WALL
168	887208.77	1061028.06	1738.00	T/SLOPE
169	887213.96	1060978.32	1740.00	T/SLOPE
170	887212.73	1060908.46	1738.00	T/SLOPE
171	887203.80	1060868.75	1737.00	T/SLOPE
172	887279.64	1061072.92	1732.00	T/WALL BEGIN, 52' RAD
173	887295.95	1061066.21	1733.90	T/WALL PCC, 7' RAD
174	887292.41	1061053.28	1735.65	T/WALL PT
175	887212.80	1061049.38	1736.90	T/WALL APT
176	887186.93	1061040.13	1731.00	T/WALL END
177	887142.50	1060907.87	1722.00	SPILLWAY
178	887140.75	1060893.98	1721.00	SPILLWAY
179	887134.67	1060894.62	1721.00	SPILLWAY
180	887135.18	1060908.64	1722.00	SPILLWAY

NORTH

0 30' 60'

SCALE IN FEET

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ISS	CHK	APP	DATE	NO.	REV	DATE	NO.	REV	DATE

THE NORTHERN PASS

Transmission Business

#

TRANSITION STATION #4
GRADING PLAN

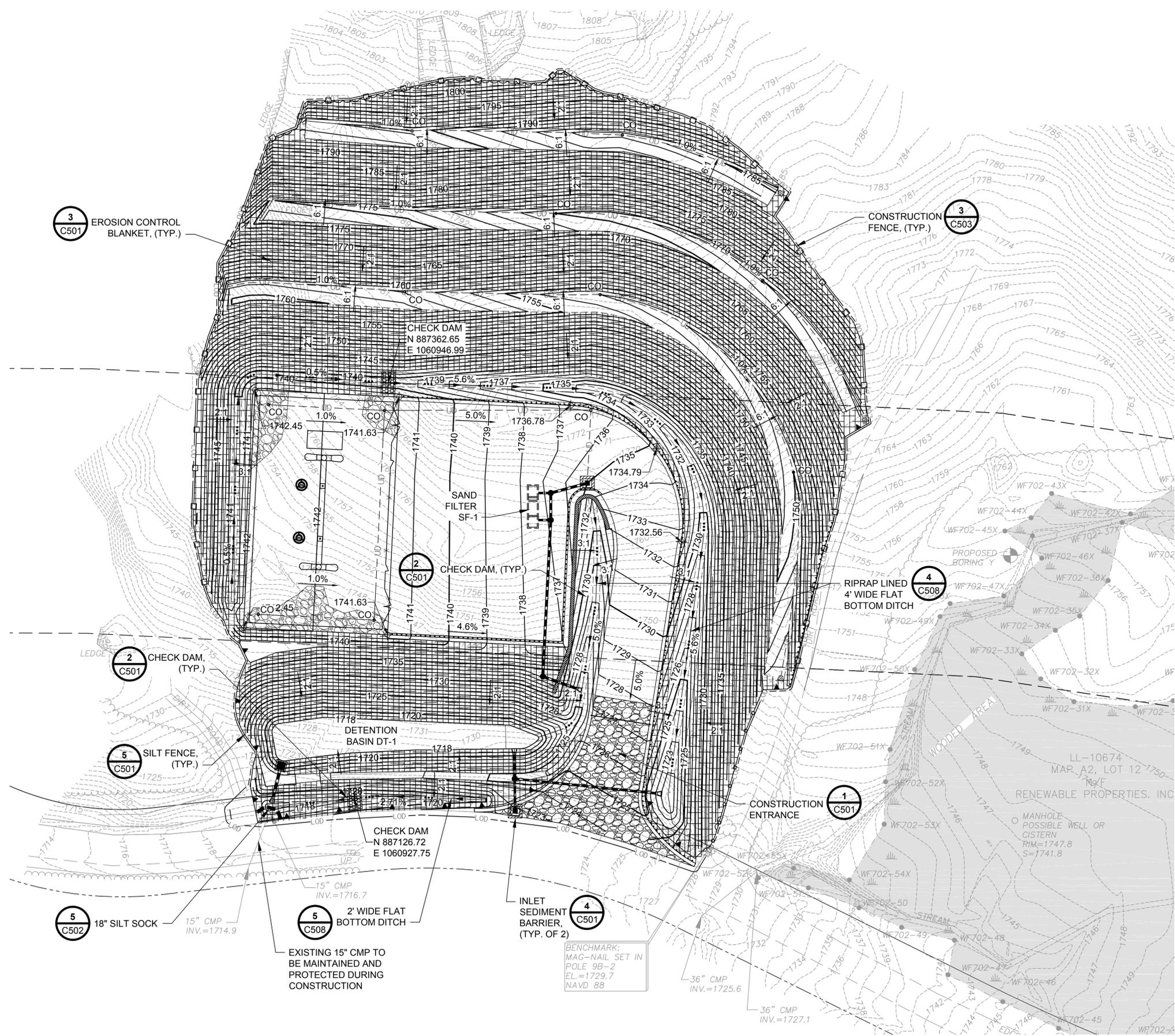
DATE: 10/17/2015

SCALE: H. 1" = 30'

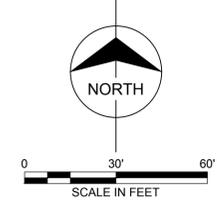
DES: LRM CHK: RLR
DRW: FP APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:

MILE NO:
SHEET 4 OF 21
NPTT404-C101

REVISION: 11/10/2013



- NOTES:**
- SEE SHEET NPPT411-C500 FOR EROSION AND SEDIMENTATION NOTES.
 - TOTAL LIMIT OF DISTURBANCE = 136,963 SF = 3.14 ACRES

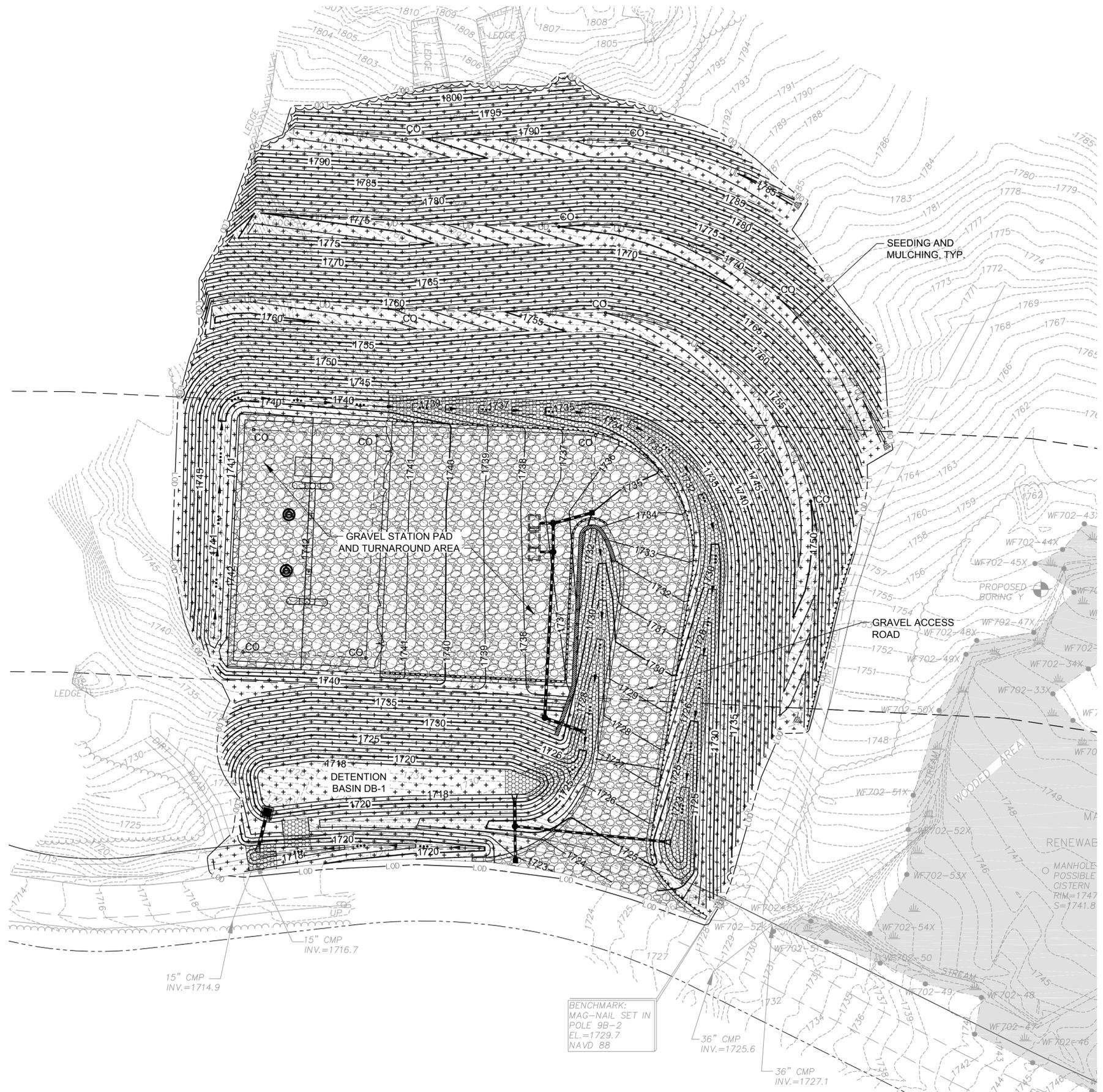


**FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION**

NO.	REVISION	DATE	BY	CHKD	APPRV.
1	ISSUED FOR PERMITTING	10/17/15	FP	RLR	BSS

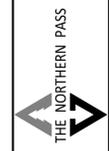


TRANSITION STATION #4
EROSION AND SEDIMENTATION
CONTROL PLAN
SCALE: 1" = 30'
DATE: 10/17/2015
DES: LRM
CHK: RLR
DRAW: FP
APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 5 OF 21
NPTT405-C102



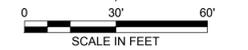
- PLANTING PLAN NOTES:**
- REFER TO SHEET NPTT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
 - THIS DRAWING IS INTENDED TO DESCRIBE LANDSCAPE INFORMATION ONLY.
 - ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED SHALL HAVE A MINIMUM OF 4" OF LOAM AND THE FOLLOWING SEED MIXTURE:
 NHDOT TYPE 44 (MIN. 80 LBS/ACRE):
 44% CREEPING RED FESCUE (MIN. 35 LBS/ACRE)
 38% PERENNIAL RYEGRASS (MIN. 30 LBS/ACRE)
 6% REDTOP (MIN. 5 LBS/ACRE)
 6% ALSIKE CLOVER (MIN. 5 LBS/ACRE)
 6% BIRDSFOOT TREFLOIL (MIN. 5 LBS/ACRE)
 ALL SEEDING SHALL BE IN ACCORDANCE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2010) SECTION 644 -- GRASS SEED AND THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUAL VOLUME 3 PERMANENT VEGETATION IN SECTION 4.1.
 - NO SEEDING SHALL BE PLACED BEFORE ROUGH GRADING HAS BEEN PROPERLY COMPLETED.
 - TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4". CONTRACTOR SHALL SUBMIT SAMPLES FROM EACH PROPOSED TOPSOIL SOURCE TO A CERTIFIED TESTING LABORATORY TO DETERMINE pH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. CONTRACTOR SHALL SUBMIT THE TEST RESULTS TO OWNER OR LANDSCAPE ARCHITECT FOR REVIEW. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR PROPER SOIL pH AND PLANT GROWTH AS RECOMMENDED BY TEST REPORTS AT NO INCREASE IN CONTRACT PRICE.
 - TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE PLANTING PLAN, NH DES STORMWATER MANUAL VOLUME 3, AND NH DOT STANDARD SPECIFICATIONS SECTION 644.
 - AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOILS -- PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
 - PLACING LOAM ON SITE: ALL SUBGRADE ELEVATIONS SHOULD BE UNIFORMLY GRADED TO RECEIVE LOAM AND SHALL BE INSPECTED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLACEMENT OF LOAM. PLACE LOAM TO FORM A MINIMUM DEPTH OF 4" WHEN ROLLED, UNLESS OTHERWISE INDICATED. ALL DEPRESSIONS EXPOSED DURING THE ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM.
 - SEED BED PREPARATION: AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENEED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEEDBED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEEDBED NOT MORE THAN 48 HOURS AFTER THE SEEDBED HAS BEEN PREPARED.
 - LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.
 - STRAW MULCH OR JUTE MATTING SHALL BE USED WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.

NO.	DATE	BY	CHKD	APPR.
1	10/17/15	FP	DRWN	BSS
1				
1				



Transmission Business

TRANSITION STATION #4
PLANTING PLAN
DATE: 10/17/2015
SCALE: 1" = 30'
DES: LRM CHK: RLR
DRW: FP APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 6 OF 21
NPTT406-C103
REVISION: 11/10/2013

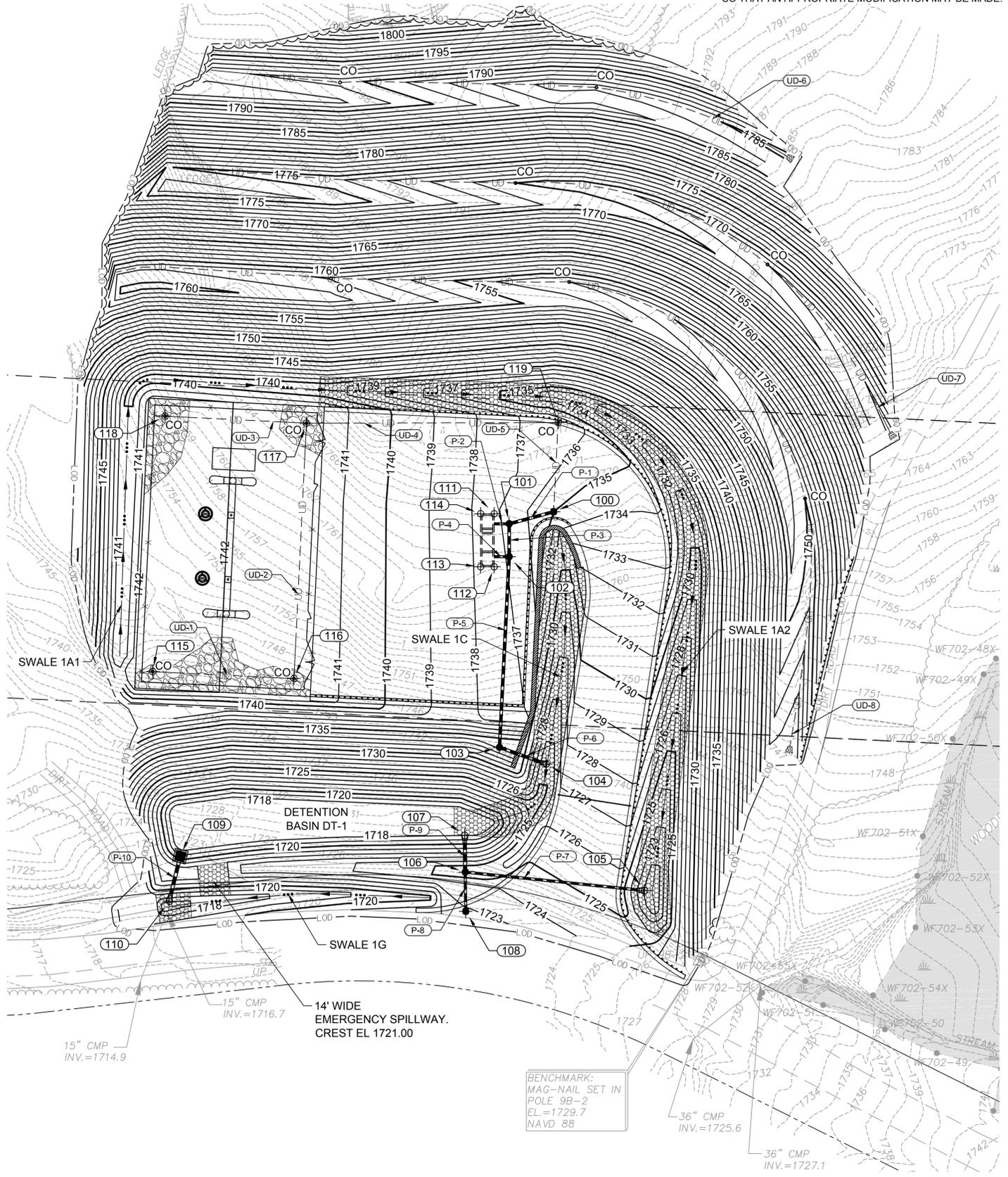


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Oct 5 2015

STORMWATER SYSTEM NOTES:

- REFER TO SHEET NPTT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
- THIS DRAWING IS INTENDED TO DESCRIBE THE STORMWATER SYSTEM ONLY.
- NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
- STORM DRAINAGE SYSTEM CONNECTIONS, MATERIALS, AND METHODS SHALL BE IN ACCORDANCE WITH THE NH DOT STANDARDS AND NH DOT SPECIFICATION SECTIONS 603 AND 604, AS WELL AS OTHER APPLICABLE INDUSTRY CODES AND GOVERNING AGENCY REQUIREMENTS.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROPOSED STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
- MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE RIMS, GRATES AND OTHER UTILITY TOPS TO BE RAISED OR LOWERED FLUSH WITH FINAL GRADE AS NECESSARY.
- THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH APPLICABLE REGULATORY AGENCIES FOR STORM DRAINAGE INSTALLATIONS AND CONNECTIONS.
- THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
- ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
- ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE OWNER, UTILITY PROVIDER, AND APPLICABLE REGULATORY AGENCY REQUIREMENTS.
- A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN ELECTRICAL AND TELEPHONE LINES TO STORM PIPING SHALL BE PROVIDED.
- SITE CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS.
- THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED BY THE OWNER, THE ENGINEER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.
- STORM DRAINAGE SHALL BE RATED FOR HS-20 LOADING.
- PROVIDE MINIMUM 0.5% SLOPE ON ALL UNDERDRAINS. ADDITIONAL UNDERDRAINS MAY BE REQUIRED AS DEEMED NECESSARY BY THE OWNER, GEOTECHNICAL ENGINEER AND/OR ENGINEER BASED ON FINDINGS AFTER EARTHWORK AND EXCAVATION OPERATIONS COMMENCE. PROVIDE UNDERDRAIN CLEANOUTS AT A MINIMUM OF EVERY 200' OF PIPE OR ONE CLEANOUT PER PIPE RUN WHERE THE PIPE RUN IS LESS THAN 200'.



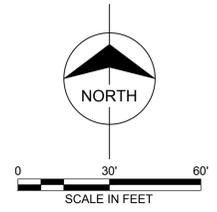
STORMWATER SYSTEM SCHEDULE						
STRUCTURE LOCATION			STRUCTURE TYPE	ELEVATIONS		
POINT #	NORTHING	EASTING		TOP	INVERT IN	INVERT OUT
100	887305.59	1061060.18	CB-1	GR 1735.00	1731.35 N	1731.25
101	887300.00	1061039.39	DIVERSION MH-1	RIM 1736.70	1731.04	1731.04
102	887284.68	1061039.39	MH-2	RM 1736.85	1730.90 N, 1726.38 E	1726.28 S
103	887195.98	1061034.87	MH-3	RIM 1734.00	1725.84 N	1725.74 E
104	887188.19	1061056.65	FES-1	-	-	1725.50
105	887129.33	1061102.55	FES-2	-	1721.30	-
106	887137.92	1061018.89	MH-4	RIM 1725.50	1718.25 S & E	1718.15 N
107	887154.97	1061018.66	FES-3	-	-	1718.00
108	887119.65	1061019.14	CB-2	GR 1722.74	-	1718.45
109	887145.32	1060885.98	OCS-1	GR 1720.90	1717.90 (2" ORIFICE) 1718.95 (WEIR)	1717.50 S
110	887124.36	1060880.77	FES-4	-	-	1717.00
111	887304.66	1061032.39	SAND FILTER SF-1	GROUND 1737.24	1730.95	-
112	887280.01	1061032.39	SAND FILTER SF-1	GROUND 1737.44	-	1726.45
113	887280.01	1061026.07	SAND FILTER SF-1	GROUND 1737.65	-	-
114	887304.66	1061026.07	SAND FILTER SF-1	GROUND 1737.65	-	-
115	887231.21	1060873.07	UNDERDRAIN CO	GROUND 1742.50	-	1739.00
116	887227.98	1060938.99	UNDERDRAIN CO	GROUND 1741.74	1738.67	1738.67
117	887346.84	1060944.82	UNDERDRAIN CO	GROUND 1741.70	1738.08	1738.08
118	887350.06	1060878.89	UNDERDRAIN CO	GROUND 1742.36	-	1738.41
119	887347.09	1061062.21	UNDERDRAIN CO	GROUND 1736.41	1733.09	1733.09

PIPE SCHEDULE			
PIPE #	LENGTH (FT)	SLOPE	SIZE
P-1	21	0.010	15" HDPE
P-2	7	0.013	2" PVC
P-3	15	0.010	15" HDPE
P-4	7	0.010	15" HDPE
P-5	88	0.005	15" HDPE
P-6	20	0.012	15" HDPE
P-7	80	0.038	15" HDPE
P-8	18	0.011	15" HDPE
P-9	13	0.011	18" HDPE
P-10	18	0.027	18" RCP

UNDERDRAIN SCHEDULE		
PIPE #	LENGTH (FT)	SLOPE
UD-1	66	0.005
UD-2	119	0.005
UD-3	66	0.005
UD-4	117	0.042
UD-5	41	0.042
UD-6	275	0.005
UD-7	384	0.005
UD-8	486	0.005

NOTE:
ALL UNDERDRAINS ARE
12" PERFORATED HDPE.

- STORMWATER SYSTEM DETAILS REFERENCE LIST**
- 1 C506 STORM MANHOLE / CATCH BASIN
 - 2 C506 MANHOLE FRAME & COVER
 - 4 C506 TYPE B GRATE & FRAME
 - 5 C506 DIVERSION MANHOLE
 - 1 C507 SAND FILTER
 - 2 C507 OUTLET CONTROL STRUCTURE
 - 1,2,3 C508 END SECTIONS
 - 4,5 C508 RIPRAP / GRASS SWALE
 - 6 C508 PIPE TRENCH
 - 1,4 C509 DETENTION BASIN / SPILLWAY / SLOPE DETAILS
 - 2 C509 UNDER DRAIN
 - 3 C509 CLEANOUT
 - 1 C510 DETENTION BASIN CROSS SECTION
 - 2 C510 ANTI SEEP COLLAR



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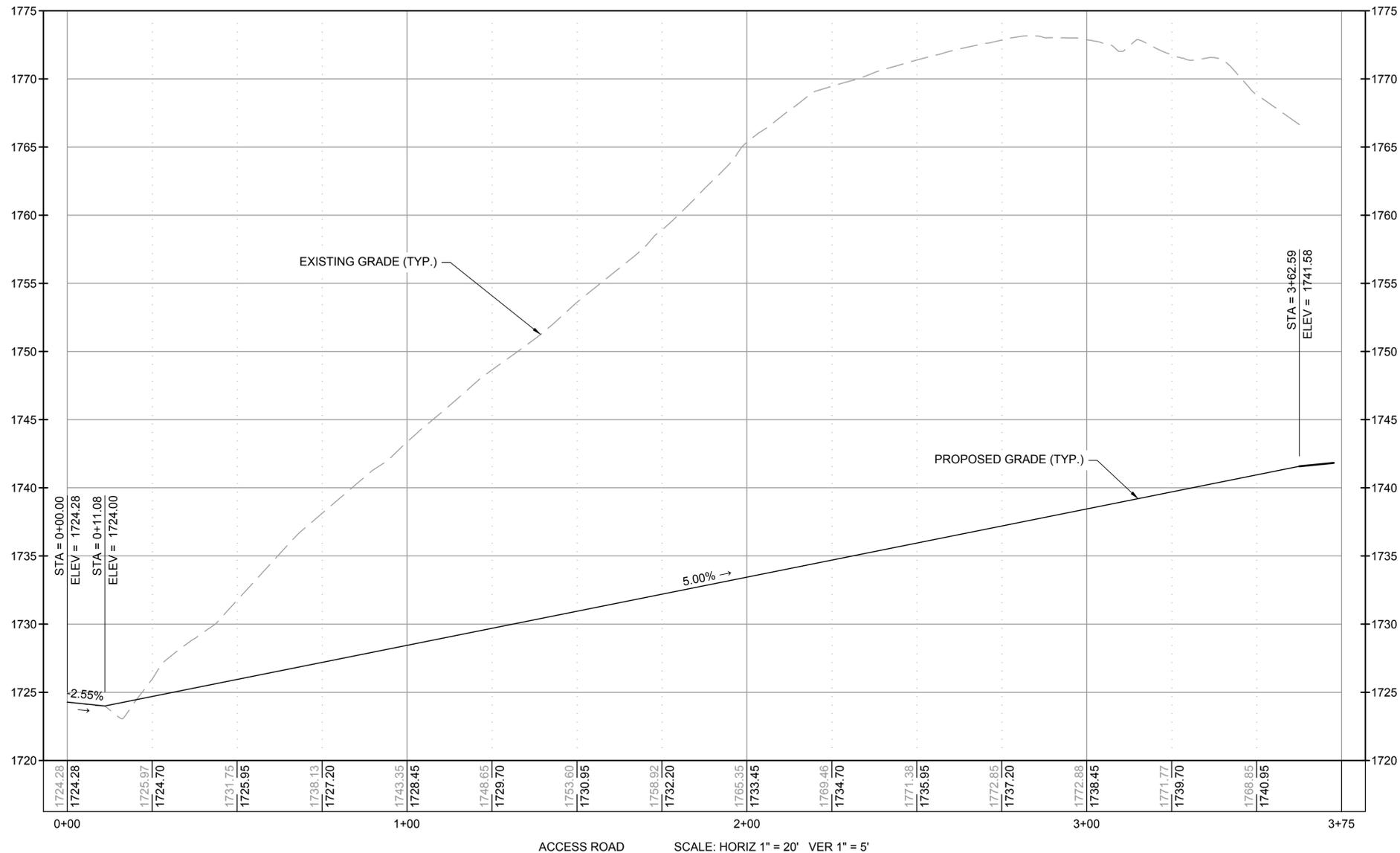
NO.	REVISION	DATE	BY	CHKD	APPV.
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS



Transmission Business

TRANSITION STATION #4
STORMWATER SYSTEM PLAN

DES: LRM CHK: RLR
DRW: FP APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 7 OF 21
NPTT407-C104



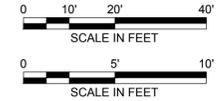
ACCESS ROAD SCALE: HORIZ 1" = 20' VER 1" = 5'

ACCESS ROAD PROFILE NOTES:

- REFER TO SHEET NPPT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
- THIS DRAWING IS INTENDED TO DESCRIBE THE STATION ACCESS ROAD GEOMETRY ONLY.
- NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
- PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.

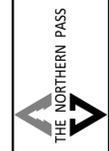


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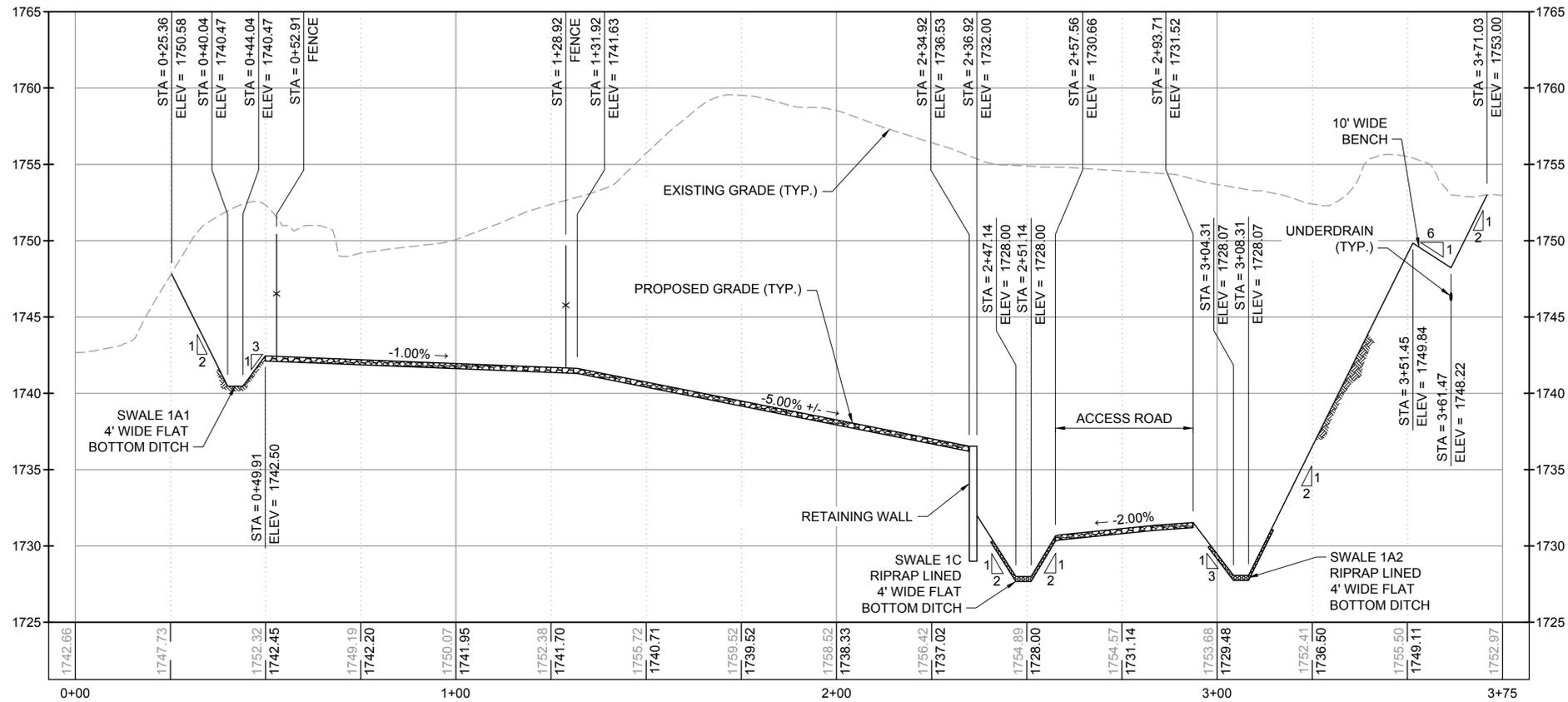
NO.	ISSUED FOR PERMITTING	REVISION	DATE	DRWN	CHKD	APPRV.
1			10/7/15	FP	RLR	BSS



Transmission Business

TRANSITION STATION #4
ACCESS ROAD PROFILE
DATE: 10/7/2015
SCALE: H 1" = 20' V 1" = 5'

DES: LRM CHK: RLR
DRW: FP APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 8 OF 21
NPTT408-C200



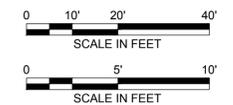
CROSS SECTION A-A SCALE: HORIZ 1" = 20' VER 1" = 5'

GRADING CROSS SECTION NOTES:

1. REFER TO SHEET NPPT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. THIS DRAWING IS INTENDED TO DESCRIBE THE GRADING CROSS SECTION ONLY.
3. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
4. PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.
5. CONTRACTOR SHALL PLACE 4" TOPSOIL AND SEED ON ALL CUT AND FILL SLOPES AS SPECIFIED UNLESS ANOTHER SURFACE MATERIAL IS INDICATED.
6. EARTHWORK AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS REPORT BY OTHERS.
7. STRIP AND STOCKPILE EXISTING TOPSOIL IN AREAS OF PROPOSED GRADING AND EARTHWORK.



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Oct 5 2015



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NO.	ISSUED FOR PERMITTING	REVISION	DATE	DRWN	CHKD	APPRV.
1			10/7/15	FP	RLR	BSS

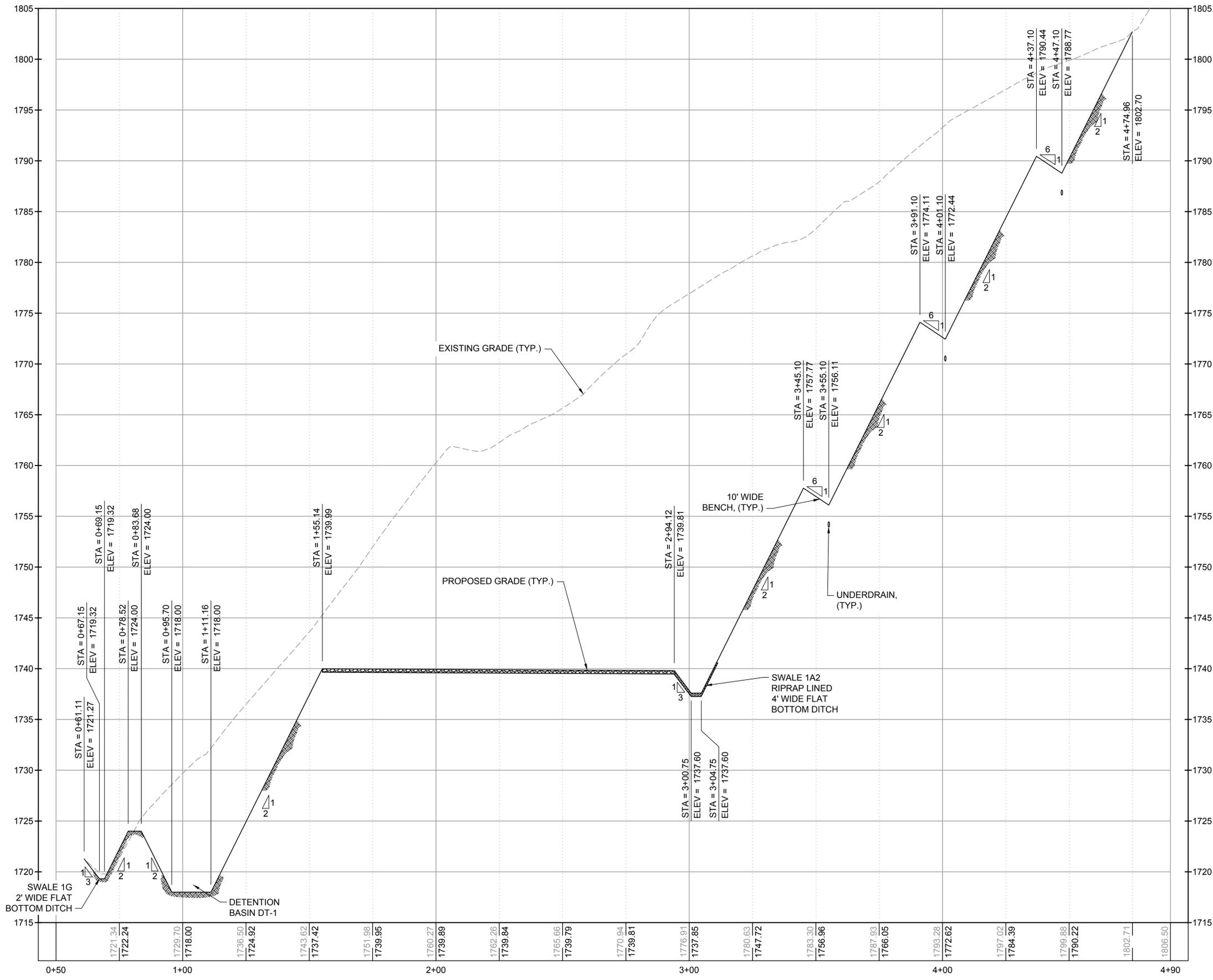


Transmission Business

TRANSITION STATION #4
SITE CROSS SECTION A-A
DATE: 10/7/2015
SCALE: H 1" = 20' V 1" = 5'

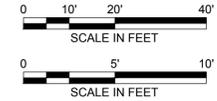
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:

MILE NO:
SHEET 9 OF 21
NPPT409-C300



CROSS SECTION B-B SCALE: HORIZ 1" = 20' VER 1" = 5'

- GRADING CROSS SECTION NOTES:**
- REFER TO SHEET NPTT402-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
 - THIS DRAWING IS INTENDED TO DESCRIBE THE GRADING CROSS SECTIONS ONLY.
 - NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
HORIZONTAL DATUM - NAD83
VERTICAL DATUM - NAVD88
 - PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.
 - CONTRACTOR SHALL PLACE 4" TOPSOIL AND SEED ON ALL CUT AND FILL SLOPES AS SPECIFIED UNLESS ANOTHER SURFACE MATERIAL IS INDICATED.
 - EARTHWORK AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS REPORT BY OTHERS.
 - STRIP AND STOCKPILE EXISTING TOPSOIL IN AREAS OF PROPOSED GRADING AND EARTHWORK.



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NO.	REVISION	DATE	DRWN	CHKD	APPRV.
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

TOWN: STEWARTSTOWN, NH
 TRANSMISSION LINE:
 MILE NO:
 SHEET 10 OF 21
 NPTT410-C301

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:

- THE SEDIMENT AND EROSION CONTROL PLAN IS ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL TREATMENT FOR THIS SITE. SEE SEDIMENT AND EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCE. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.
- CONSTRUCTION ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE GENERAL NOTES, SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING BY THE OWNER, QUALIFIED PROFESSIONAL, AND APPROPRIATE REGULATORY AGENCY PRIOR TO IMPLEMENTATION.
- THE EROSION AND SEDIMENTATION CONTROL MEASURES, CONSTRUCTION SEQUENCE AND PHASING IS THE MINIMUM RECOMMENDED. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ADDITIONAL MEASURES AND SEQUENCING AS REQUIRED BASED ON ACTUAL FIELD OPERATIONS AND CONDITIONS AND BE CONSISTENT WITH THE NEW HAMPSHIRE STORMWATER MANUAL. SIGNIFICANT ADDITIONS AND/OR MODIFICATIONS FROM THE PLANS SHALL BE SUBMITTED, REVIEWED AND APPROVED BY THE OWNER, QUALIFIED PROFESSIONAL AND APPLICABLE REGULATORY AGENCIES.
- THE SEDIMENT AND EROSION CONTROL PLAN WAS DEVELOPED TO HELP PROTECT THE EXISTING ROADWAY AND STORM DRAINAGE SYSTEMS, ADJACENT PROPERTIES, AND ADJACENT WETLAND AREA FROM SEDIMENT LADEN SURFACE RUNOFF AND EROSION.
- APPROPRIATE EROSION/SEDIMENT CONTROL MEASURES AS DESCRIBED HEREIN, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ALL CLEARING, DEMOLITION AND CONSTRUCTION ACTIVITY WITHIN THE APPROVED LIMITS OF DISTURBANCE. SCHEDULE WORK TO MINIMIZE THE LENGTH OF TIME THAT BARE SOIL WILL BE EXPOSED. CONTRACTOR SHALL ONLY EXCAVATE AS MUCH UTILITY AND STORM PIPE TRENCH WORK AS CAN BE COMPLETED, BACKFILLED AND STABILIZED IN ONE DAY SO AS TO LIMIT THE AMOUNT OF OPEN, DISTURBED TRENCHING. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- THE CONTRACTOR SHALL INSTALL ALL SPECIFIED EROSION/SEDIMENT CONTROL MEASURES AND WILL BE REQUIRED TO MAINTAIN THEM IN THEIR INTENDED FUNCTIONING CONDITION AND BE IN STRICT CONFORMANCE WITH THE STANDARDS BELOW. THE CONTRACTOR SHALL SUPPLY AND MAINTAIN THESE STANDARDS AND HAVE THEM AVAILABLE ON-SITE FOR THE DURATION OF CONSTRUCTION. THE OWNER, AGENTS OF THE REGULATORY AGENCIES AND/OR QUALIFIED PROFESSIONAL SHALL HAVE THE AUTHORITY TO REQUIRE SUPPLEMENTAL MAINTENANCE OR ADDITIONAL MEASURES IF FIELD CONDITIONS ARE ENCOUNTERED BEYOND WHAT WOULD NORMALLY BE ANTICIPATED.
 - EVSOURCE BEST MANAGEMENT PRACTICES MANUAL (TO BE FURTHER DEVELOPED).
 - NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUAL, DECEMBER 2008.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (STRAW BALES, SILT FENCE, JUTE MESH, RIP RAP ETC.) ON-SITE FOR MAINTENANCE AND EMERGENCY REPAIRS.
- STONE CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED AT START OF CONSTRUCTION AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE STRAW BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE FOR MORE THAN 2 MONTHS.
- COMPLY WITH REQUIREMENTS OF THE EPA FOR NPDES AND RECORD KEEPING.
- VISUAL SITE INSPECTIONS SHALL BE CONDUCTED WEEKLY, AND AFTER EACH MEASURABLE PRECIPITATION EVENT OF 0.50 INCHES OR GREATER BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT THE EROSION AND SEDIMENT CONTROL (E&S) BMPS ARE OPERATIONAL AND EFFECTIVE IN PREVENTING POLLUTION. PROVIDE WRITTEN REPORTS IN ACCORDANCE WITH ANY APPLICABLE OWNER, QUALIFIED PROFESSIONAL, AND/OR REGULATORY AGENCY REQUIREMENTS.
- STOCKPILES OF EARTH MATERIALS SHALL CONFORM TO SOIL STOCKPILE PRACTICES IN SECTION 4.1 OF THE NH DES STORMWATER MANUAL VOLUME 3.
- DEWATERING SUMP PITS SHALL BE INSTALLED WHEN WATER COLLECTS DURING DURING EXCAVATION TO TRAP AND FILTER WATER FOR PUMPING INTO A SUITABLE DISCHARGE AREA. A PERFORATED VERTICAL STANDPIPE WRAPPED IN NON-WOVEN FILTER FABRIC IS PLACED IN THE CENTER OF THE PIT TO COLLECT FILTERED WATER WHERE IT IS THEN REMOVED FROM THE SUMP PIT IN AN AUTHORIZED MANNER. UNDER NO CIRCUMSTANCES SHALL DEWATERING DRAINAGE BE DISCHARGED INTO A SANITARY SEWER. CONSTRUCTION DEWATERING SHALL CONFORM TO CONSTRUCTION DEWATERING REQUIREMENTS OF THE NH DES STORMWATER MANUAL VOLUME 3 SECTION 4.2.

- WATER SHALL BE USED FOR DUST CONTROL IN APPROPRIATE AREAS.
- ALL REGULATORY AGENCY PERMITS REQUIRED FOR THE SITE SHALL BE OBTAINED PRIOR TO SITE WORK COMMENCES.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- MAXIMUM SLOPES SHALL NOT EXCEED 3-FT HORIZONTAL TO 1-FT VERTICAL (3:1), UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL VERIFY SLOPE STABILITY OF ALL SLOPES PRIOR TO CONSTRUCTION. UNSTABLE SLOPES SHALL BE LAID BACK (FLATTENED) UNTIL STABLE OR PROVIDE REINFORCING TO ACHIEVE STABILIZATION. SLOPE BENCHES SHALL BE IN ACCORDANCE WITH THE NHDES STORMWATER MANUAL.
- THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
- TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE PLANTING PLAN, NH DES STORMWATER MANUAL VOLUME 3, AND NH DOT STANDARD SPECIFICATIONS SECTION 644.

ALTERATION OF TERRAIN STANDARD NOTES:

- THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AS NECESSARY PRIOR TO FURTHER EARTH MOVING OPERATIONS. PREVENTION OF EROSION AND SEDIMENT TRANSPORTATION ISSUES WILL BE FACILITATED BY THE PROMPT EMPLOYMENT OF EFFECTIVE TEMPORARY AND PERMANENT CONTROL DEVICES, AS CONDITIONS WARRANT. ADDITIONAL CONTROL DEVICES THAT ARE DETERMINED NECESSARY, NOT OUTLINED HEREIN, MAY BE INSTALLED BY THE OWNER OR OPERATOR.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE PRIOR TO ROUGH GRADING THE SITE AND OTHER EARTH MOVING ACTIVITIES.
- DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL DURING THE LIFE OF THE PROJECT. REMOVE TRAPPED SEDIMENT FROM COLLECTOR DEVICES AS NEEDED.
- TABLE IS DEFINED AS:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED,
 - A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED,
 - A MINIMUM 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED,
 - OR EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS ARE AS NOTED IN THE "VEGETATION MEASURES" SECTION ON THIS SHEET.
- STANDARD WINTER NOTES:
 - ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
 - ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT 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.
 - AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

WINTER CONSTRUCTION NOTES:

- WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED AS SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE SHALL BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.
- TEMPORARY MULCH SHALL BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.
- AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE SHALL BE PERMANENTLY MULCHED THE SAME DAY.
- IN THE EVENT OF A SNOWFALL GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.
- LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.
- A DITCH THAT WILL BE CONSTRUCTED DURING THE WINTER MUST BE STABILIZED WITH RIPRAP.
- PERMANENT STABILIZATION CONSISTS OF AT LEAST 85% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.
- DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH AND EROSION CONTROLS.
- APPLY STRAW MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.
- USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR MIX FOR ALL SLOPES GREATER THAN 8% OR OTHER AREAS EXPOSED TO DIRECT WIND.
- INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGE WAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3%.
- SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

CONSTRUCTION SEQUENCE:

- THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED (COORDINATE ALL SITE ACTIVITIES AND CONSTRUCTION SEQUENCE WITH THAT OF THE STATION ELECTRICAL EQUIPMENT, OVERHEAD AND UNDERGROUND TRANSMISSION LINES, AND OTHER STATION RELATED CONSTRUCTION):
- CONTACT THE OWNER, QUALIFIED PROFESSIONAL, AND REGULATORY AGENT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT SITE.
 - CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD AND APPROVED BY THE REGULATORY AGENT PRIOR TO THE START OF WORK ON THE SITE. INSTALL PERIMETER EROSION/SEDIMENT CONTROL MEASURES.
 - CONSTRUCT STONE CONSTRUCTION ENTRANCES/EXITS AND INSTALL INLET PROTECTION FOR CATCH BASINS OR INSTALL SILT SACKS ON CATCH BASIN INLETS LOCATED IN OFF-SITE ROADS. INSTALL SILT FENCE AND OTHER EROSION CONTROL DEVICES INDICATED ON THESE PLANS AT PERIMETER OF PROPOSED SITE DISTURBANCE AND INSTALL ALL EROSION/SEDIMENT CONTROL MEASURES AND TREE PROTECTION INDICATED ON THESE PLANS. INSTALL SEDIMENT BASINS AND SEDIMENT TRAPS IF REQUIRED AT LOW AREAS OF SITE OR AS ORDERED BY THE QUALIFIED PROFESSIONAL OR AS SHOWN ON THESE PLANS.
 - CLEAR AND GRUB SITE. STOCKPILE CHIPS. STOCKPILE TOPSOIL. INSTALL EROSION CONTROLS AT STOCKPILES.
 - COMMENCE INSTALLATION OF STORM DRAINAGE SYSTEM.
 - COMMENCE EARTHWORK. CONSTRUCT FILL SLOPE. INSTALL ADDITIONAL EROSION CONTROLS AS WORK PROGRESSES AND CONTINUE STORM DRAINAGE SYSTEM CONSTRUCTION, TOPSOIL AND SEED SLOPES WHICH HAVE ACHIEVED FINAL SITE GRADING.
 - CONSTRUCTION STAKING OF ALL FOUNDATION CORNERS, UTILITIES, ACCESS DRIVES, FENCES AND OTHER SITE APPURTENANCES.
 - ROUGH GRADING AND FILLING OF SUBGRADES AND SLOPES.
 - BEFORE DISPOSING OF SOIL OR RECEIVING BORROW FOR THE SITE, THE CONTRACTOR MUST PROVIDE EVIDENCE THAT EACH SPOIL OR BORROW AREA HAS AN EROSION AND SEDIMENT CONTROL PLAN APPROVED BY THE APPROPRIATE REGULATORY AGENCIES AND WHICH IS BEING IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL ALSO NOTIFY THE APPROPRIATE REGULATORY AGENCIES IN WRITING OF ALL RECEIVING SPOIL AND BORROW AREAS WHEN THEY HAVE BEEN IDENTIFIED.
 - CONTINUE INSTALLATION OF STORM DRAINAGE AS SUBGRADE ELEVATIONS ARE ACHIEVED.
 - CONSTRUCT PAD SUBGRADE PREPARATION AND BEGIN FOUNDATION CONSTRUCTION.

- THROUGHOUT CONSTRUCTION SEQUENCE, REMOVE SEDIMENT FROM BEHIND SILT FENCES, STRAW BALES AND OTHER EROSION CONTROL DEVICES, AND FROM SEDIMENT TRAPS AS REQUIRED. REMOVAL SHALL BE ON A PERIODIC BASIS (EVERY SIGNIFICANT RAINFALL OF 0.50 INCH OR GREATER). INSPECTION OF EROSION/SEDIMENT CONTROL MEASURES SHALL BE ON A WEEKLY BASIS AND AFTER EACH RAINFALL OF 0.50 INCHES OR GREATER. SEDIMENT COLLECTED SHALL BE DEPOSITED AND SPREAD EVENLY UPLAND ON SLOPES DURING CONSTRUCTION.
- COMPLETE GRADING TO SUBGRADES AND COMPLETE CONSTRUCTION OF FOUNDATIONS.
- CONSTRUCT CURBS, PAVEMENT STRUCTURE AND SIDEWALKS
- CONDUCT FINE GRADING.
- PAVING OF ACCESS ROAD
- CONSTRUCT OFF-SITE ROADWAY IMPROVEMENTS, AS NECESSARY.
- INSTALL YARD SURFACE STONE. FINAL FINE GRADING OF SLOPE AND NON-PAVED AREAS.
- PLACE 4" TOPSOIL ON SLOPES AFTER FINAL GRADING IS COMPLETED. FERTILIZE, SEED, AND MULCH.
- LANDSCAPE INTERIOR NON-PAVED AREAS, NON-GRAVELED AREAS, AND PERIMETER AREAS.
- INSTALL ON-SITE SIGNAGE AND PAVEMENT MARKINGS
- CLEAN STORM DRAINAGE PIPE STRUCTURES, DETENTION SYSTEMS AND WATER QUALITY DEVICES OF DEBRIS AND SEDIMENT.
- UPON DIRECTION OF THE OWNER, QUALIFIED PROFESSIONAL, AND REGULATORY AGENT, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED FOLLOWING STABILIZATION OF THE SITE.

ROUGH GRADING OPERATIONS

- DURING THE REMOVAL AND/OR PLACEMENT OF EARTH AS INDICATED ON THE GRADING PLAN, TOPSOIL SHALL BE STRIPPED AND APPROPRIATELY STOCKPILED FOR REUSE.
- ALL STOCKPILED TOPSOIL SHALL BE SEEDED, APPLY MULCH OR STRAW, AND ENCLOSED BY A SILTATION FENCE.

FILLING OPERATIONS

- PRIOR TO FILLING, ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE PROPERLY IMPLEMENTED, MAINTAINED AND FULLY INSTALLED, AS DIRECTED BY THE QUALIFIED PROFESSIONAL AND AS SHOWN ON THIS PLAN.

PLACEMENT OF DRAINAGE STRUCTURES, UTILITIES, AND FOUNDATION CONSTRUCTION OPERATIONS

- SILT FENCES SHALL BE INSTALLED AT THE DOWNHILL SIDES OF EXCAVATIONS, MUD PUMP DISCHARGES, AND UTILITY TRENCH MATERIAL STOCKPILES. STRAW BALES MAY BE USED IF SHOWN ON THE EROSION CONTROL PLANS OR IF DIRECTED BY THE QUALIFIED PROFESSIONAL.

FINAL GRADING AND PAVING OPERATIONS

- ALL INLET AND OUTLET PROTECTION SHALL BE PLACED AND MAINTAINED AS SHOWN ON EROSION CONTROL PLANS AND DETAILS, AND AS DESCRIBED IN SPECIFICATIONS AND AS DESCRIBED HEREIN.
- NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND ANY ROAD OR DRIVEWAY SHOULDER AND BANKS SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.
- PAVEMENT SUB-BASE AND BASE COURSES SHALL BE INSTALLED OVER AREAS TO BE PAVED AS SOON AS FINAL SUB-GRADES ARE ESTABLISHED AND UNDERGROUND UTILITIES AND STORM DRAINAGE SYSTEMS HAVE BEEN INSTALLED.
- AFTER CONSTRUCTION OF PAVEMENT, TOPSOIL, FINAL SEED, MULCH AND LANDSCAPING, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONLY AFTER ALL AREAS HAVE BEEN PAVED AND/OR GRASS HAS BEEN WELL ESTABLISHED AND THE SITE HAS BEEN INSPECTED AND APPROVED BY THE OWNER AND THE APPLICABLE REGULATORY AGENCIES.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM OF 85% UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.
- MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOT AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS WHEN AUTHORIZED BY LOCAL GOVERNING AUTHORITY. FILE NOT (NOTICE OF TERMINATION) WITH GOVERNING AUTHORITY RESPONSIBLE FOR REGULATING STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES PER NPDES.



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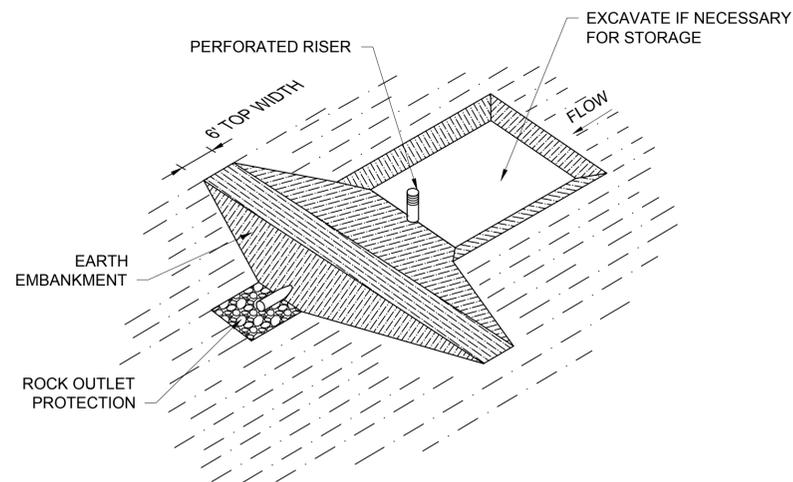
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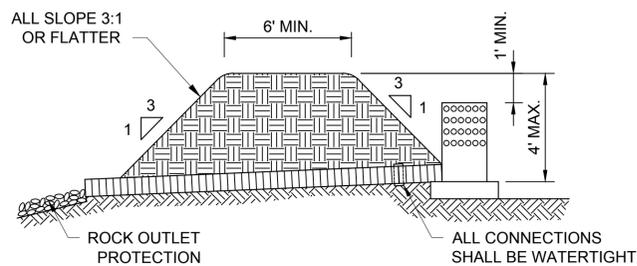
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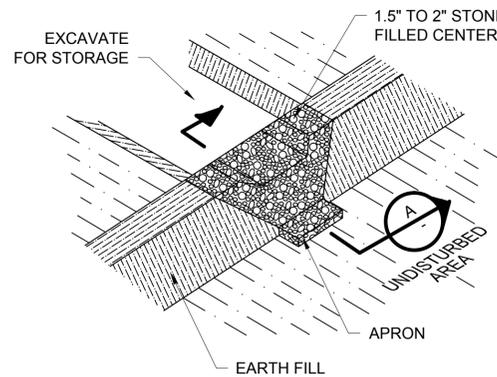
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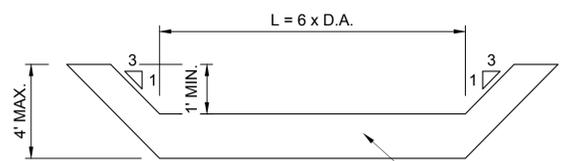
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PIPE OUTLET SEDIMENT TRAP
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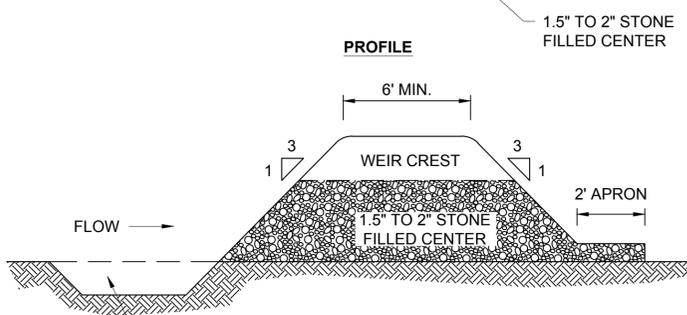
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ISOMETRIC VIEW



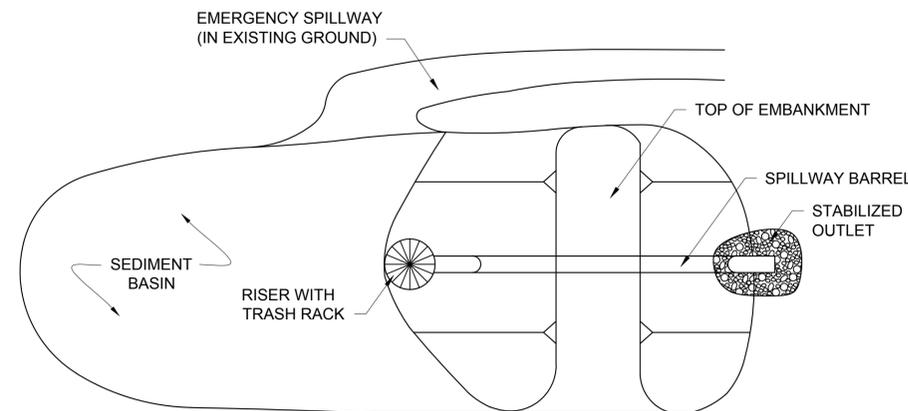
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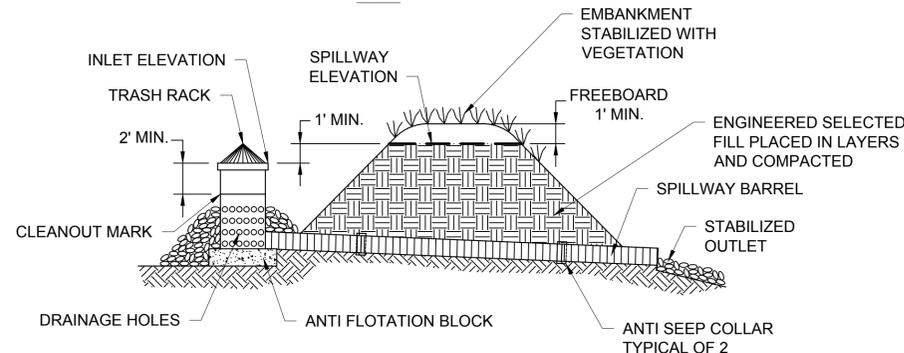
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STONE OUTLET SEDIMENT TRAP
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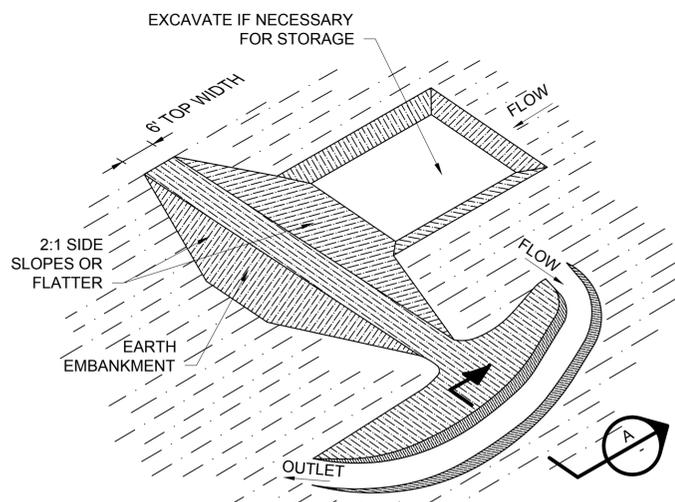
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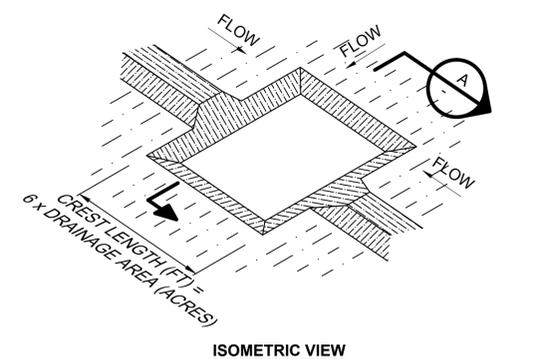
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TYPICAL SEDIMENT BASIN
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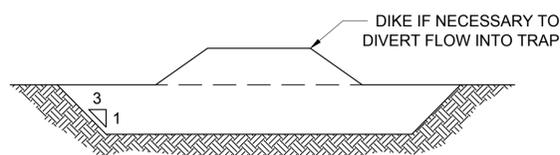
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ISOMETRIC VIEW



ISOMETRIC VIEW



SECTION A

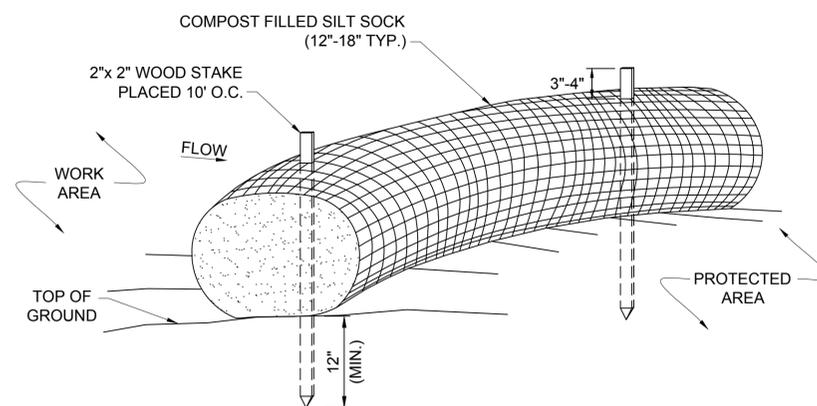
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SECTION A

EMBANKMENT

EARTH OUTLET SEDIMENT TRAP
NOT TO SCALE

4
C102



NOTES:

- SILT SOCK SHALL BE FILTREXX™ SILT SOCK™ OR APPROVED EQUIVALENT.
- SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
- SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
- COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE QUALIFIED PROFESSIONAL.

SILT SOCK
NOT TO SCALE

5
C102

NOTES:

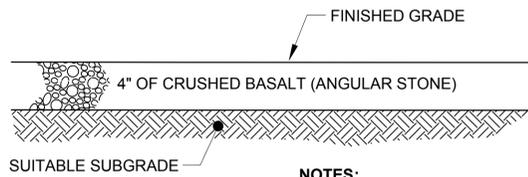
- REQUIRED FOR DISTURBED AREAS GREATER THAN 5 ACRES WITHIN A DRAINAGE AREA LESS THAN 100 ACRES.
- SEDIMENT BASIN WILL BE REMOVED WITHIN 3 YEARS.



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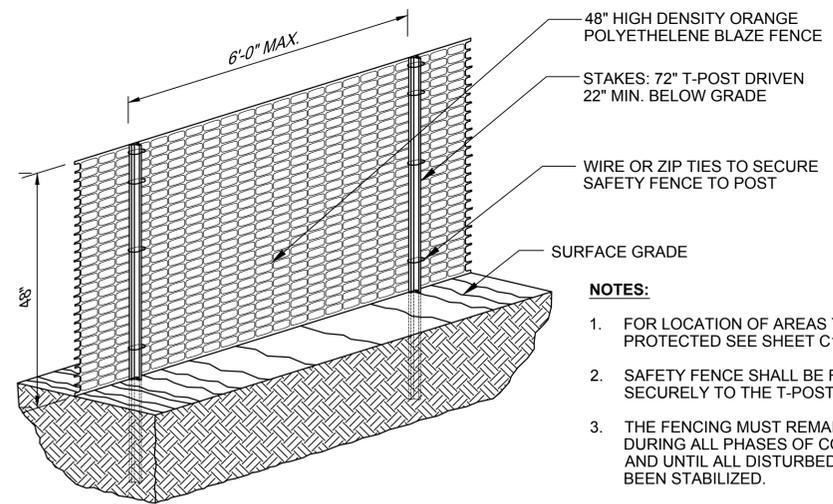
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SUBSTATION AND ACCESS ROAD SURFACE STONE GRADATION	
SIEVE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
1-1/2 INCH	100
1 INCH	93-100
1/2 INCH	27-58
1/4 INCH	0-8

- NOTES:**
1. REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER ROAD FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.
 2. SUBSTATION SURFACE STONE SHALL EXTEND 3-FT OUTSIDE THE SUBSTATION PERIMETER FENCE.
 3. GRAVEL ACCESS ROADS SHALL HAVE AT LEAST 8 INCHES OF PROCESSED AGGREGATE BASE.

SUBSTATION AND ACCESS ROAD GRAVEL SURFACE SECTION
NOT TO SCALE

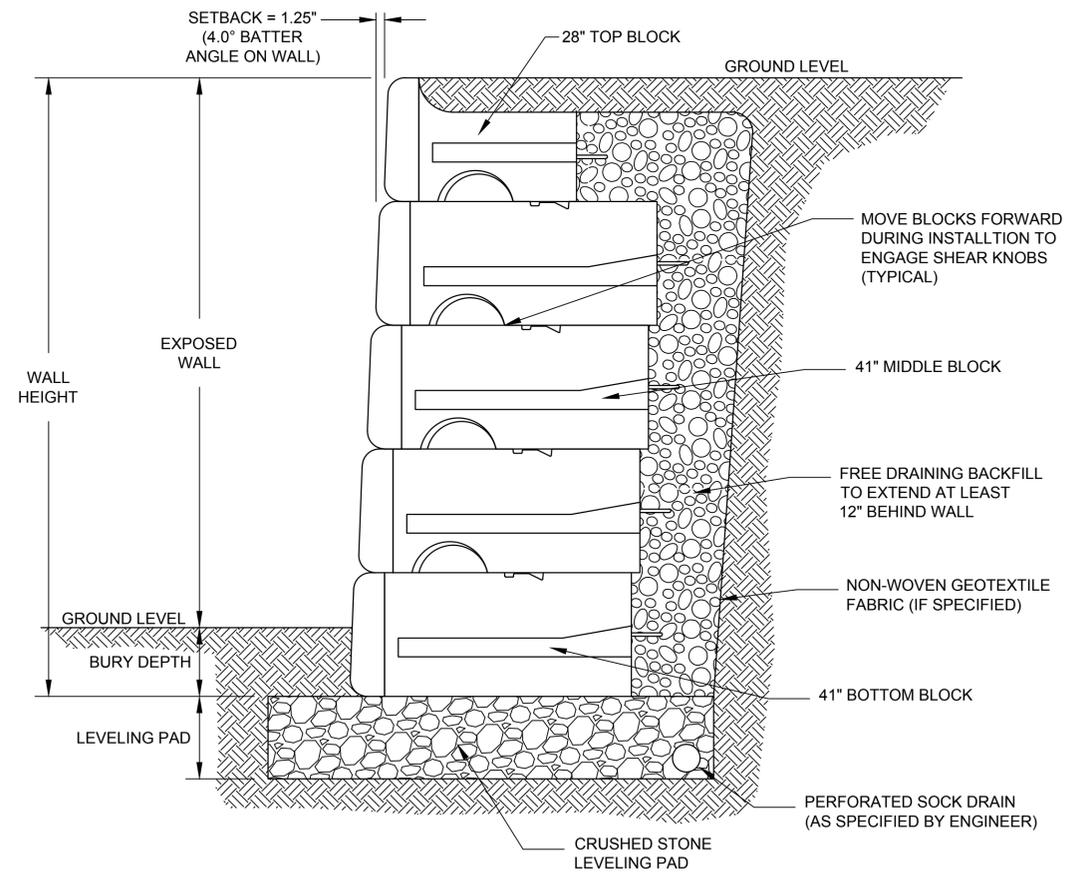


- NOTES:**
1. FOR LOCATION OF AREAS TO BE PROTECTED SEE SHEET C102.
 2. SAFETY FENCE SHALL BE FASTENED SECURELY TO THE T-POSTS.
 3. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.

CONSTRUCTION FENCE
NOT TO SCALE

WALL NOTES:

1. WALL SYSTEM IS BASIS OF DESIGN IS REDIROCK INTERNATIONAL WALL SYSTEM OR APPROVED EQUAL.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF RETAINING WALL MANUFACTURER OF SYSTEM, PROFILE, LAYOUT, TYPICAL CROSS SECTIONS AND STABILITY CALCULATIONS SIGNED AND SEALED BY A NEW HAMPSHIRE LICENSED ENGINEER.



RETAINING WALL
NOT TO SCALE



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NO.	REVISION	DATE	DRWN	CHKD	APPRV.
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

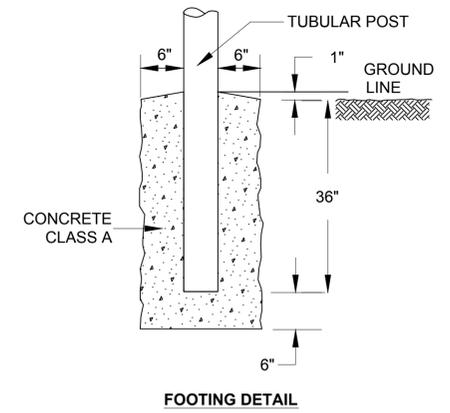
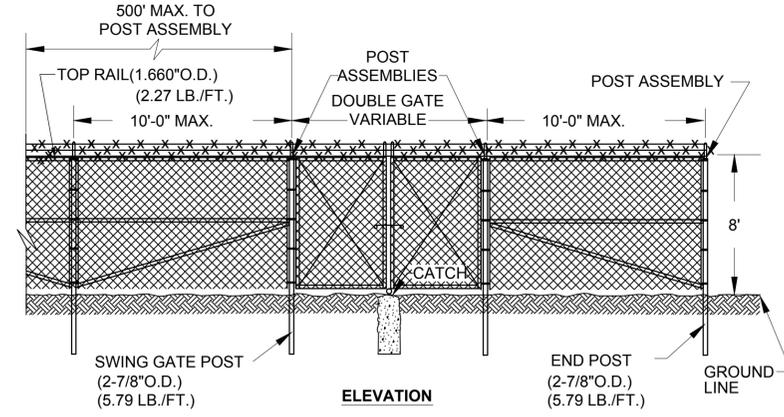
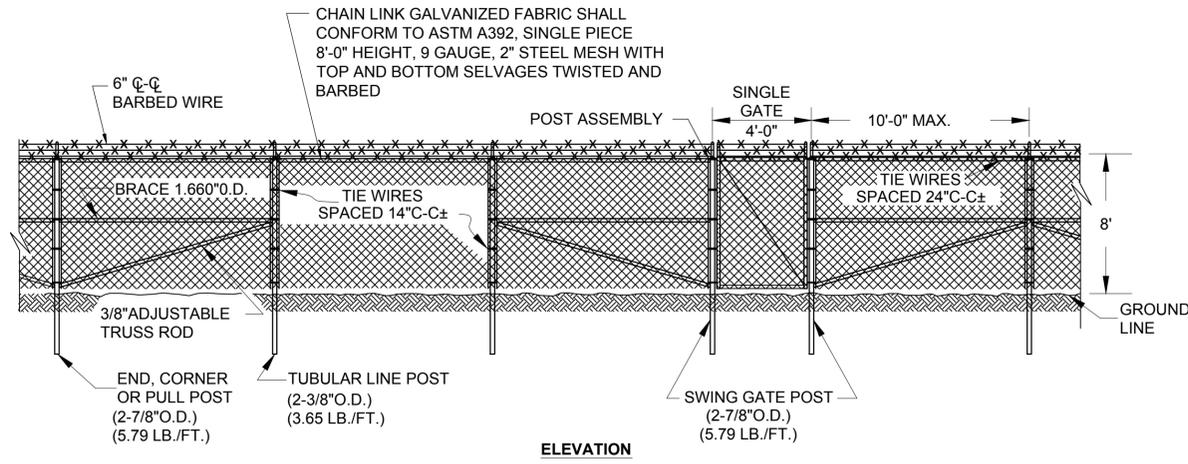


Transmission Business

TRANSITION STATION #4
CONSTRUCTION DETAILS
SCALE: NTS

DES: LRM | CHK: RLR
DRW: FP | APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 14 OF 21
NPTT414-C503

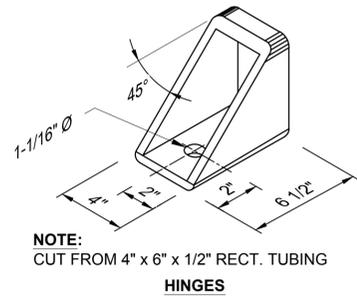
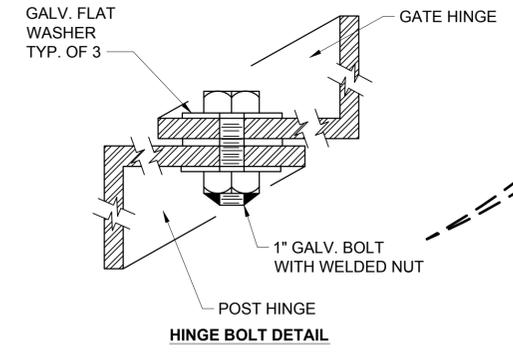
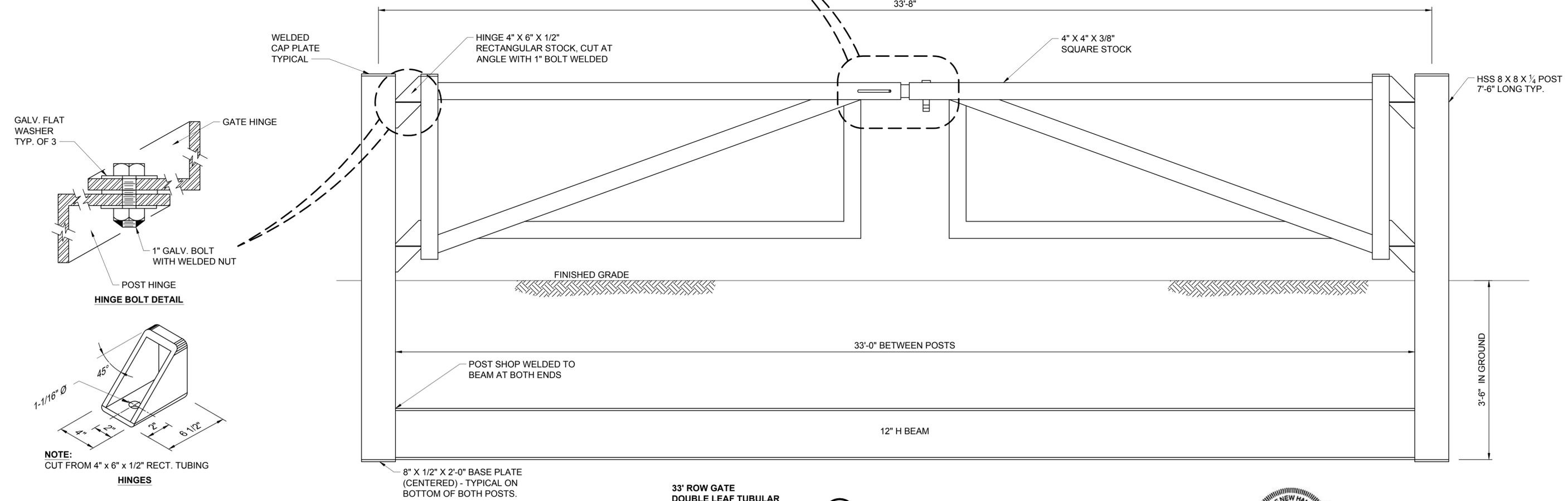
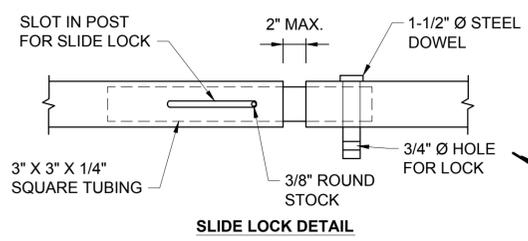
NOTE:
ALL END POSTS SHALL HAVE ONE BRACE
ALL CORNER AND INTERMEDIATE BRACE OR
PULL POSTS SHALL HAVE TWO BRACES, WITH
A MAXIMUM SPACING OF BETWEEN POST
ASSEMBLIES OF 500 FEET.



SECURITY FENCE
NOT TO SCALE

1
C100
C101-C104

- NOTES:
- GATE ASSEMBLY AS MFG. BY JOHN BROWN & SONS, WEARE, NH 603-529-7975 OR APPROVED EQUAL.
 - ENTIRE GATE ASSEMBLY SHALL BE PRIMED & TOP COATED FOREST GREEN AFTER FABRICATION.



NO.	DATE	REVISION	ISSUED FOR PERMITTING	FP	DRWN	CHKD	APPRV.
1	10/7/15						BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #4
CONSTRUCTION DETAILS

DATE: 10/7/2015

SCALE: NTS

DES: LRM CHK: RLR
DRW: FP APR: BSS

TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:

MILE NO:
SHEET 15 OF 21

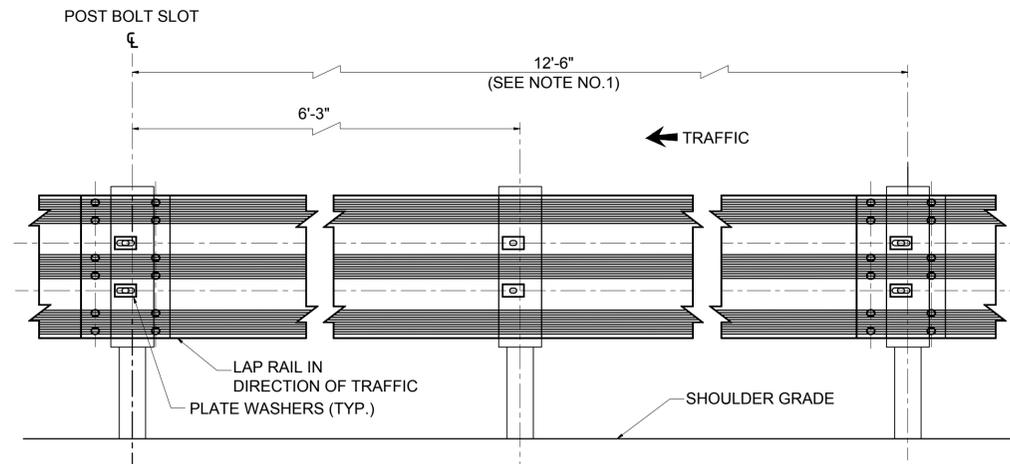
NPTT415-C504

REVISION: XXX

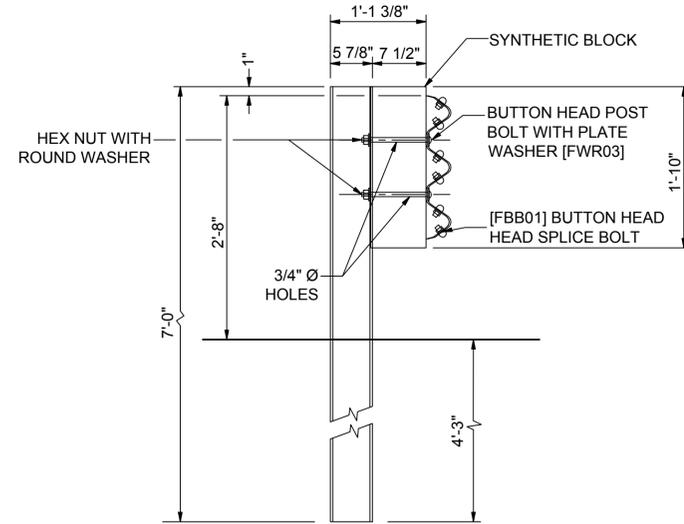


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Oct 5 2015

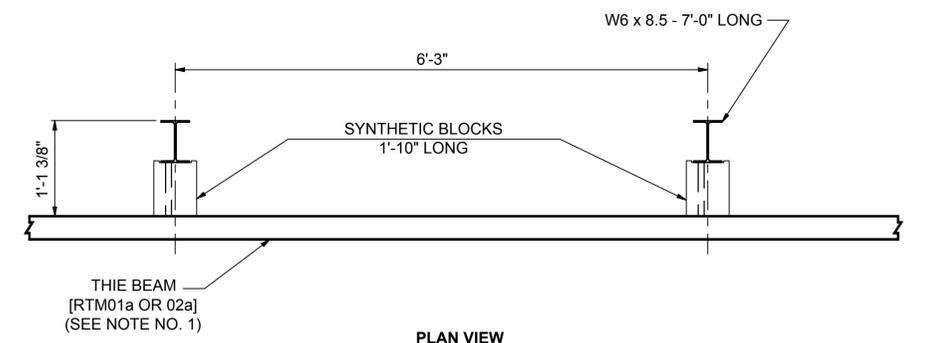
**FOR PERMITTING
PURPOSES ONLY
NOT FOR CONSTRUCTION**



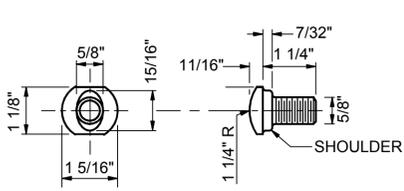
ELEVATION VIEW



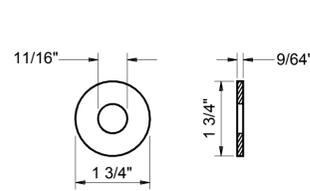
SIDE VIEW AT SPLICE POST



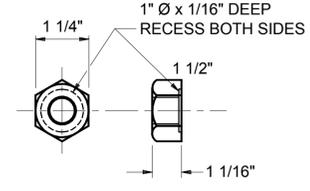
PLAN VIEW



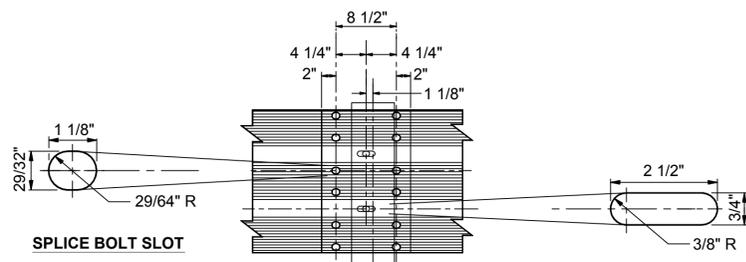
SPLICE POST [FBB01] (12 REQ'D PER SPLICE)



ROUND WASHER [FWC16a]



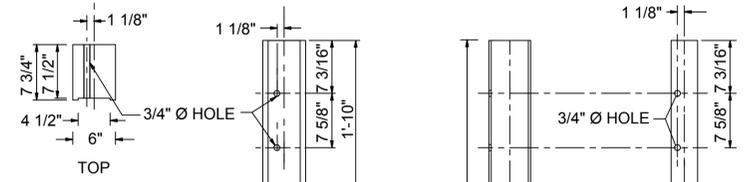
NUT FOR SPLICE & POST BOLTS [FBB01]



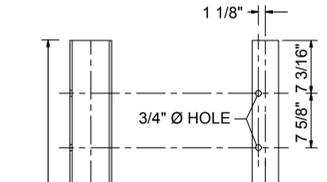
SPLICE BOLT SLOT

BEAM SPLICE

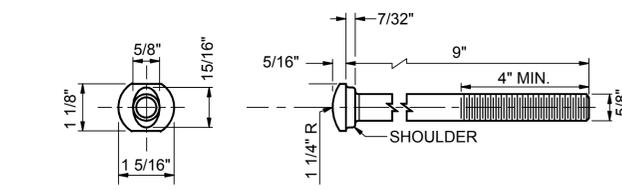
POST ASSEMBLY SLOT



SYNTHETIC OFFSET BLOCK



STRUCTURAL SHAPE STEEL POST & BLOCK



POST BOLT

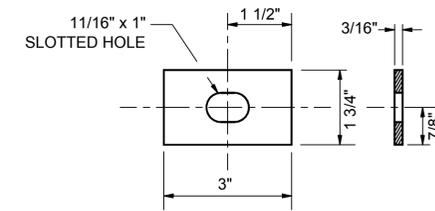
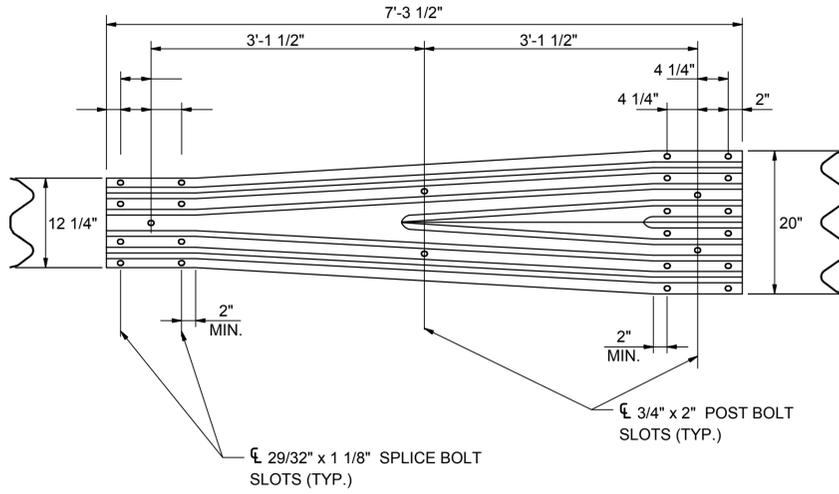
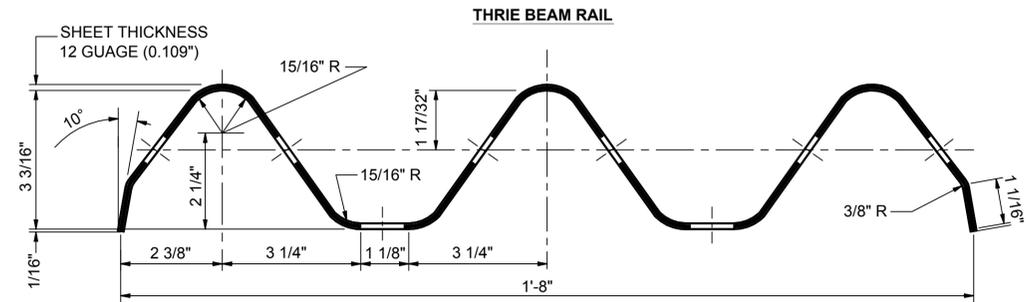


PLATE WASHER [FWC03]

NOTE : LONGER ERECTION BOLTS MAY BE REQUIRED.



W-THRIE BEAM TRANSITION SECTION [RTM01a]



THRIE BEAM RAIL SECTION [RTM01a & RTM02a]

NOTES:

- 25'-0" RAIL PANELS MAY BE USED IN PLACE OF 12'-6" PANELS, EXCEPT ON CURVES WITH A RAIL RADIUS OF LESS THAN 300 FT.
- GUIDERAIL HEIGHT SHALL BE SET FROM THE GRADE AT THE FACE OF RAIL.
- DESIGNATIONS PROVIDED IN BRACKETS [] REFERENCE STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST ADOPTED VERSION, AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.
- SEE STD. NO. DL-1 FOR BEAM GUIDERAIL DELINEATORS.
- PAID FOR UNDER APPROPRIATE 606 ITEMS, OR AS SHOWN ON PLANS.
- DIMENSIONS OF PLASTIC AND SYNTHETIC BLOCKOUTS ARE AS SHOWN ON MANUFACTURER'S DRAWINGS.
- POSTS SHORTER THAN THE 7'-0" INDICATED ON THE DETAIL, BUT NOT LESS THAN 6'-6", MAY ONLY BE USED WHEN
 - THE SLOPE BEHIND THE GUIDERAIL IS NO STEEPER THAN 4:1
 - WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK OF THE SLOPE IS A MINIMUM OF 2'-0"
 - AND THEN ONLY AS APPROVED OR SPECIFICALLY SHOWN ON THE PLANS.

SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
NOTE : NHDOT GUIDERAIL DETAILS SHOWN FOR REFERENCE ONLY.

NHDOT GUIDERAIL (GR-14) 1
NOT TO SCALE C100
C101-C104



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NO.	REVISION	DATE	DRWN	CHKD	APPRV.
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

THE NORTHERN PASS

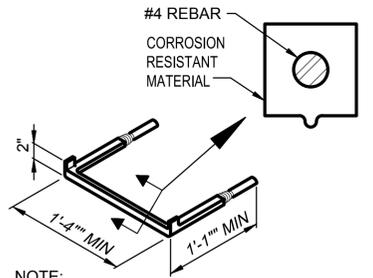
Transmission Business

TRANSITION STATION #4
CONSTRUCTION DETAILS

DES: LRM CHK:RLR
DRW: FP APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 16 OF 21
NPTT416-C505

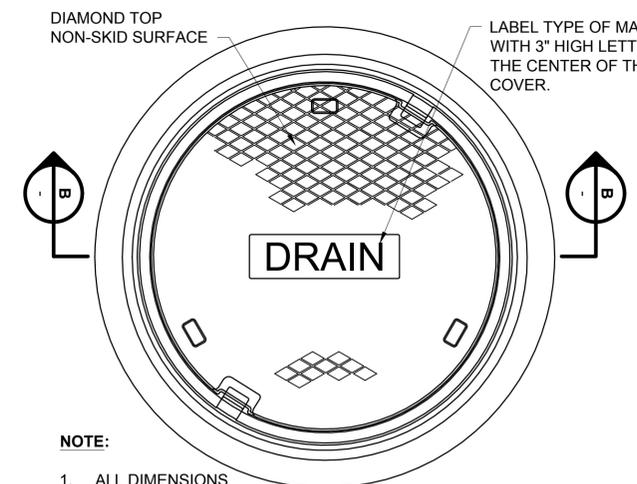
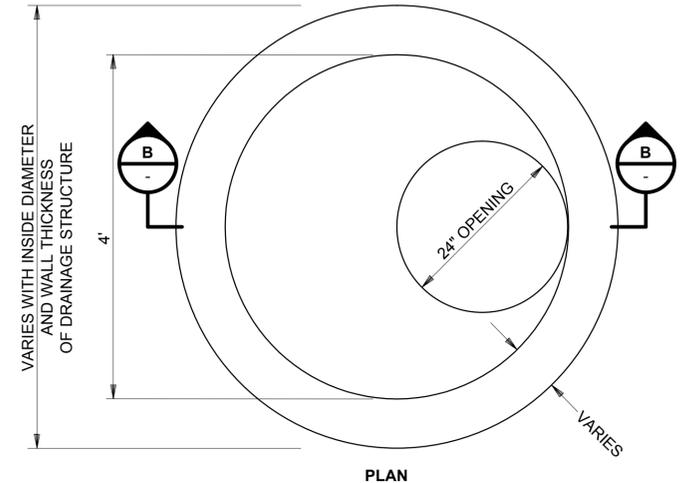
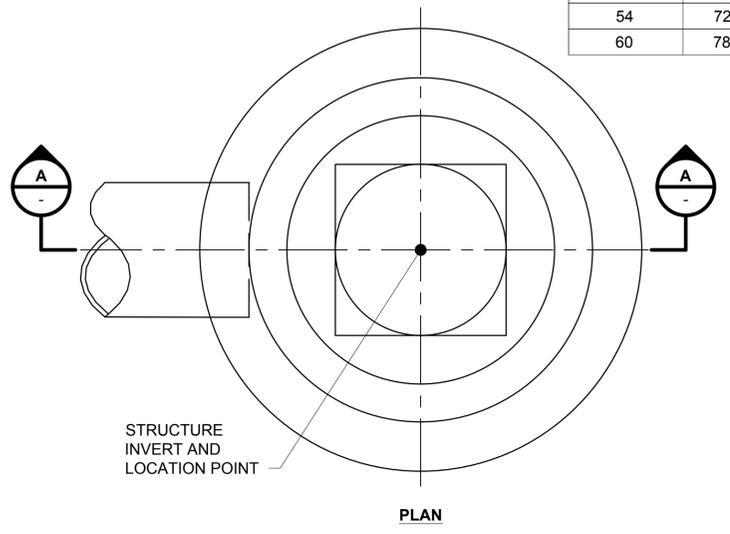
DIAMETER	WALL THICKNESS (MIN.)	FLOOR THICKNESS (MIN.)
4'	5"	6"
5'	6"	8"
6'	7"	8"
8'	9"	10"

PIPE SIZE	CORE HOLE SIZE		CORE HOLE SIZE	
	RCP CORE HOLE DIA.	FEET	PLASTIC CORE HOLE DIA.	FEET
6	INCHES		7	0.6
12	18	1.5	18	1.5
15	22	1.8	20	1.7
18	26	2.2	24	2.0
24	34	2.8	32	2.7
30	42	3.5	42	3.5
36	48	4.0	48	4.0
42	54	4.5	54	4.5
48	64	5.3	64	5.3
54	72	6.0		
60	78	6.5		



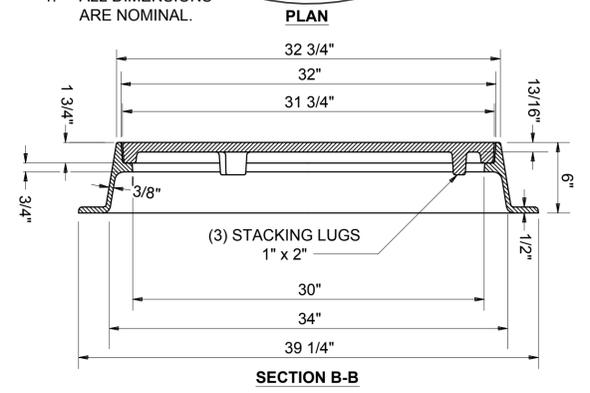
NOTE:
No. 4 REBAR ENCASED IN CORROSION RESISTANT RUBBER OR OTHER MATERIAL APPROVED BY THE OWNER'S REPRESENTATIVE.

MANHOLE STEP
NOT TO SCALE

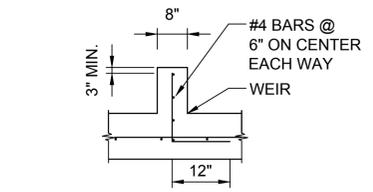


NOTE:

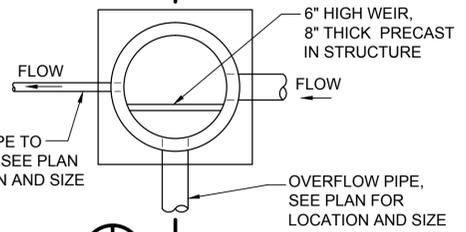
- ALL DIMENSIONS ARE NOMINAL.



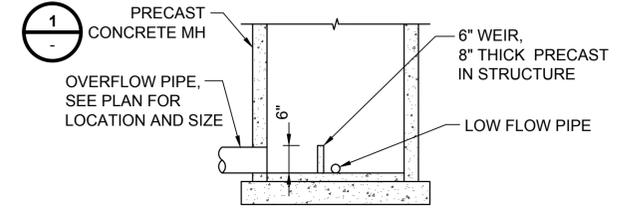
MANHOLE FRAME AND COVER
NOT TO SCALE



WEIR REINFORCEMENT



PLAN

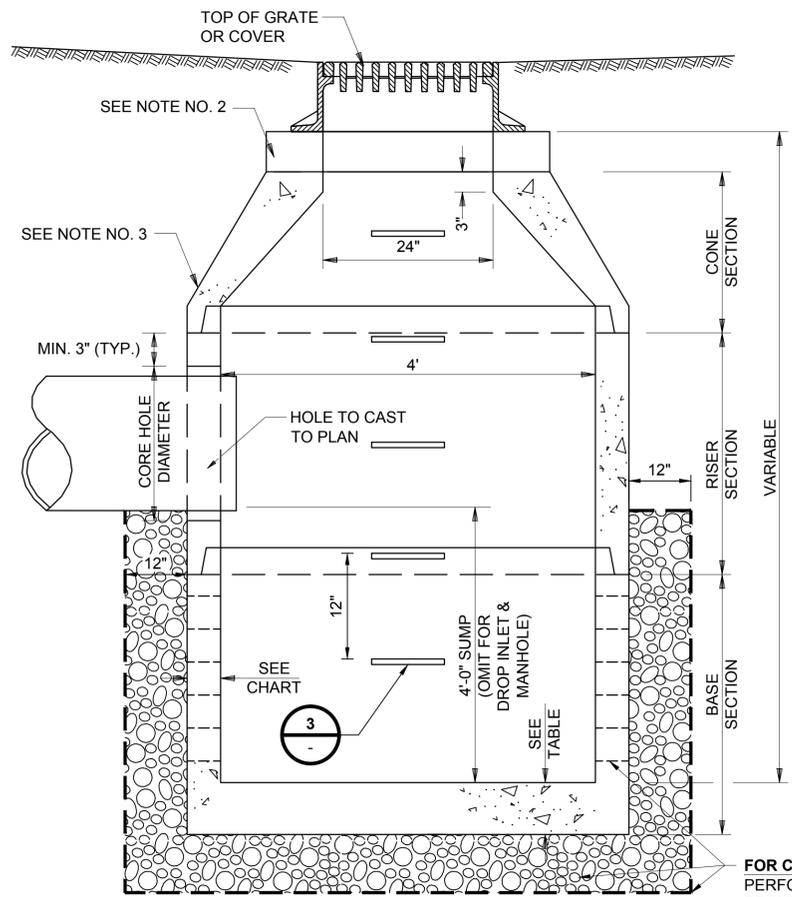


SECTION A

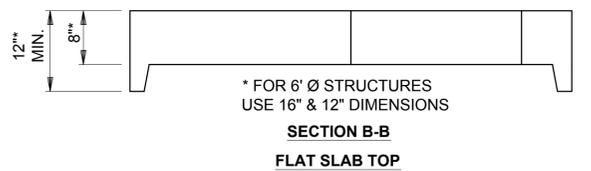
NOTE:

- SEE SHEET NPTT407-C104 FOR LOCATION OF DIVERSION MANHOLE.

DIVERSION MANHOLE MH-1
NOT TO SCALE



PRECAST CONCRETE MANHOLE AND CATCH BASIN
NOT TO SCALE



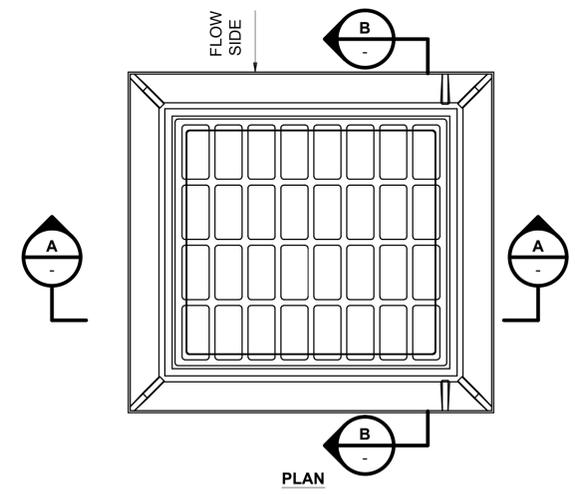
* FOR 6' Ø STRUCTURES USE 16" & 12" DIMENSIONS

SECTION B-B
FLAT SLAB TOP

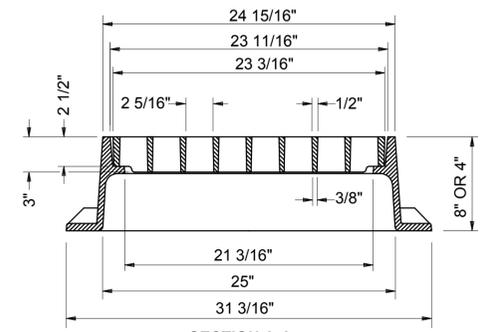
GENERAL NOTES:

- CATCH BASIN TO CONFORM TO NH DOT SECTION 604.1 REQUIREMENTS.
- FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
- CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
- PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
- OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
- PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
- ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

FOR CATCH BASIN ONLY:
PERFORATE STRUCTURE IN SUMP AREA AND PROVIDE CRUSHED STONE ALL AROUND WRAPPED WITH GEOTEXTILE FABRIC.

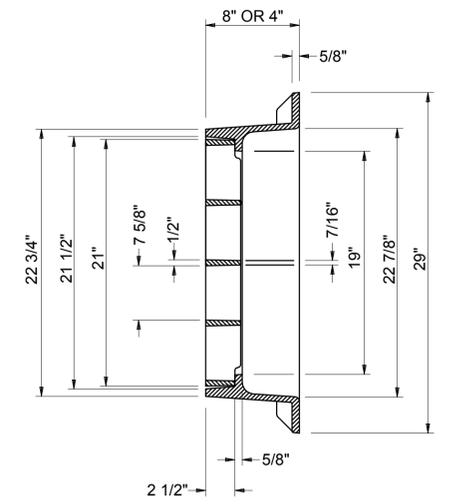


PLAN



SECTION A-A

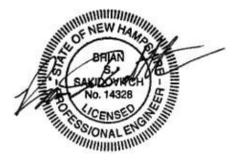
TYPE "B" GRATE AND FRAME
NOT TO SCALE



SECTION B-B

NOTES:

- ALL DIMENSIONS ARE NOMINAL.
- FRAME AVAILABLE IN 4" OR 8" HEIGHTS.
- FREE OPEN AREA = 2.55 S.F.
- USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.



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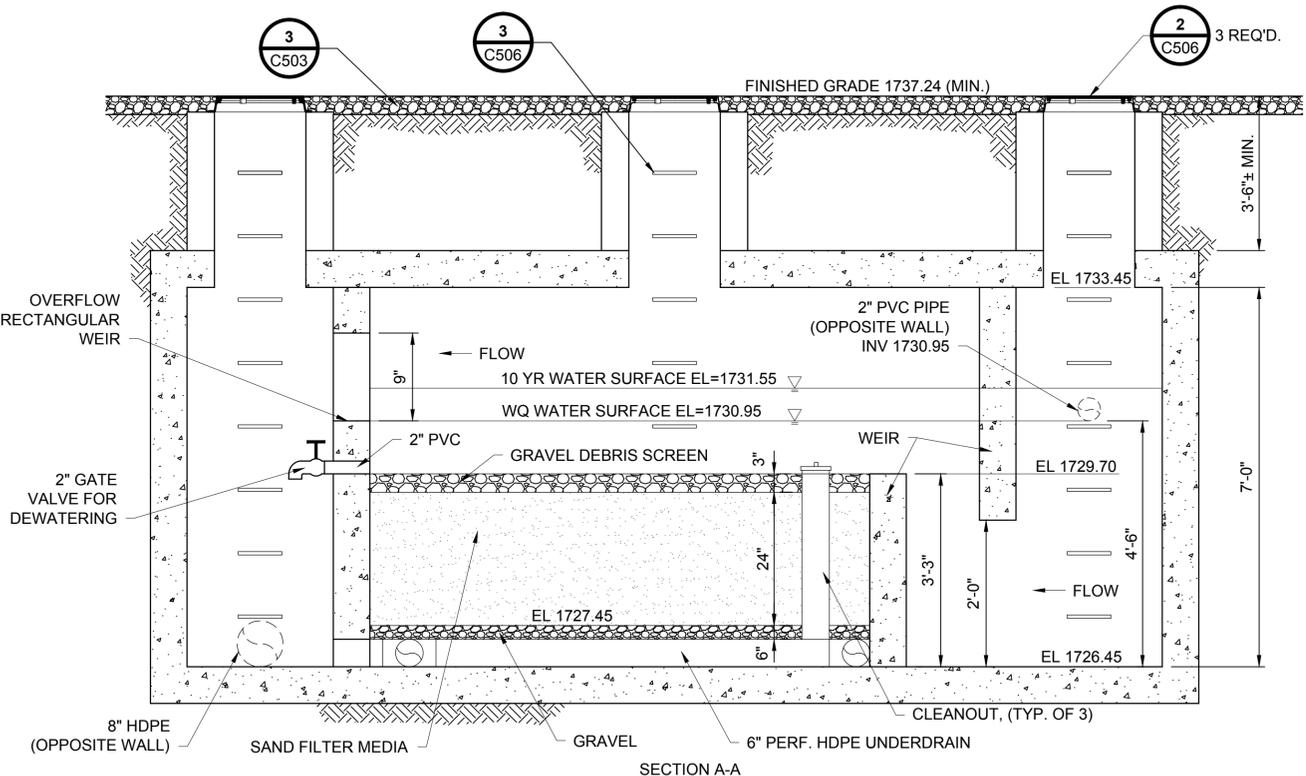
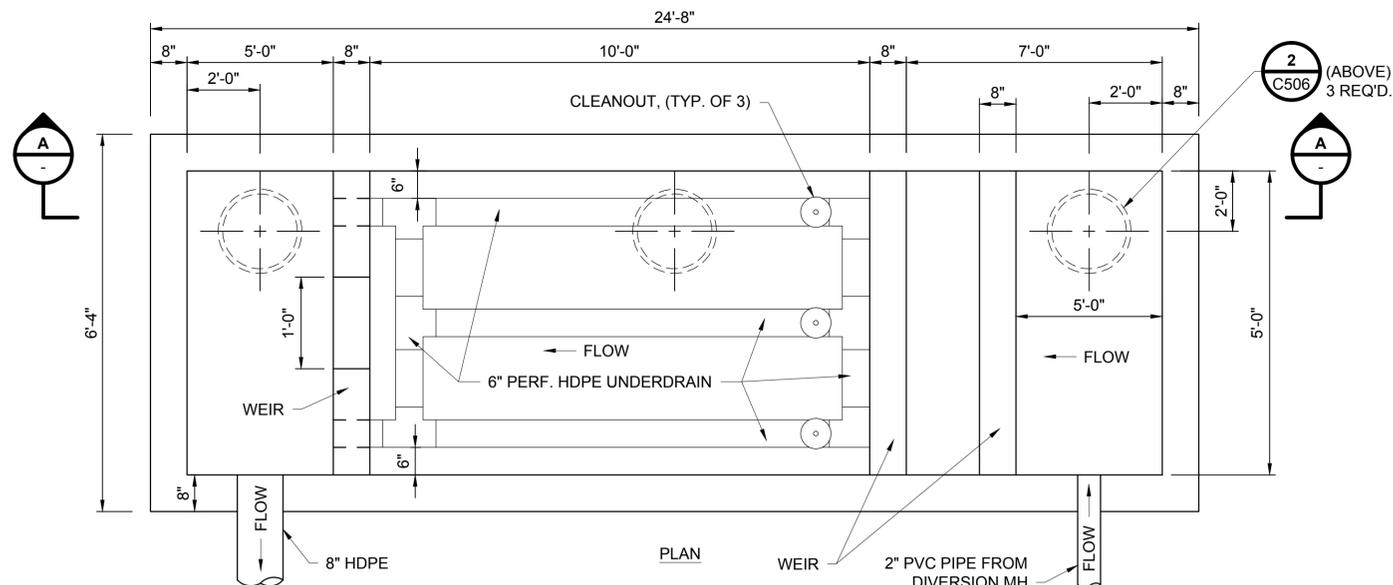
FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	FP	RLR	BSS
1	ISSUED FOR PERMITTING	10/7/15			
	REVISION		DRWN	CHKD	APPRV.



Transmission Business

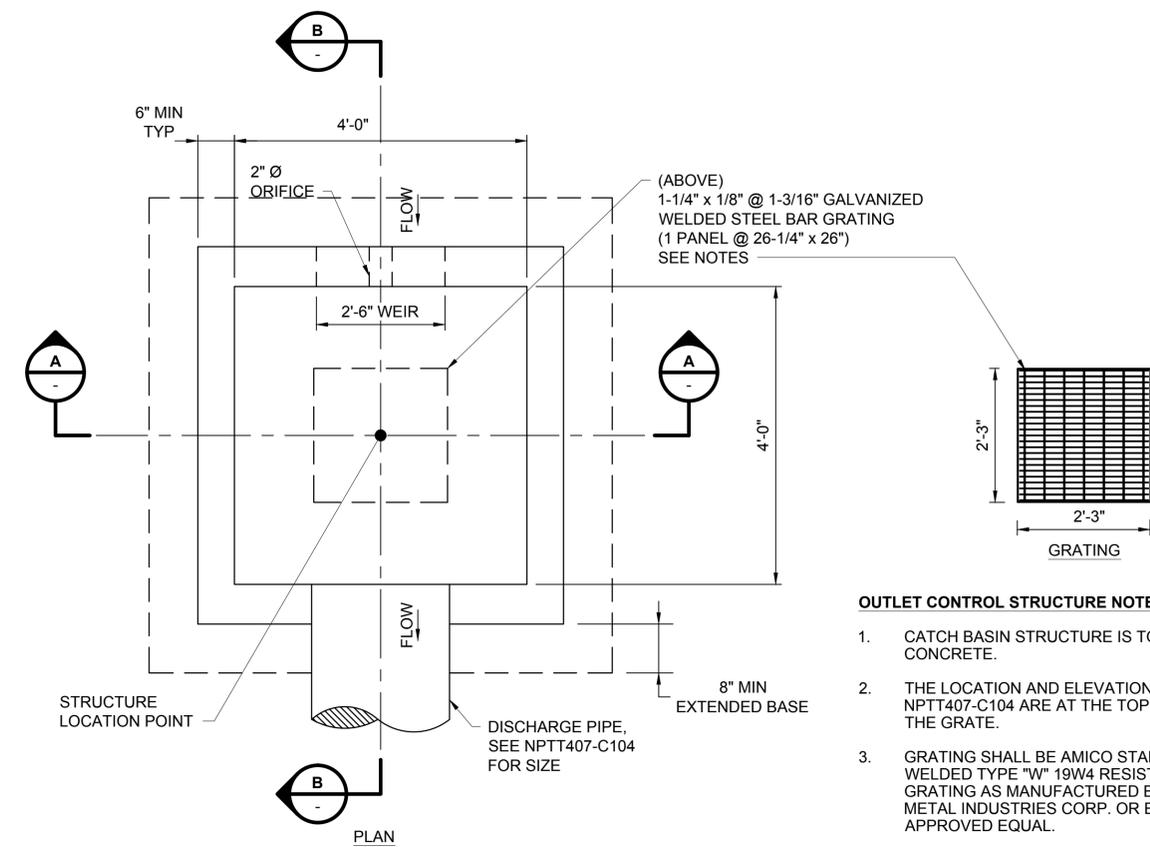
TRANSITION STATION #4
CONSTRUCTION DETAILS



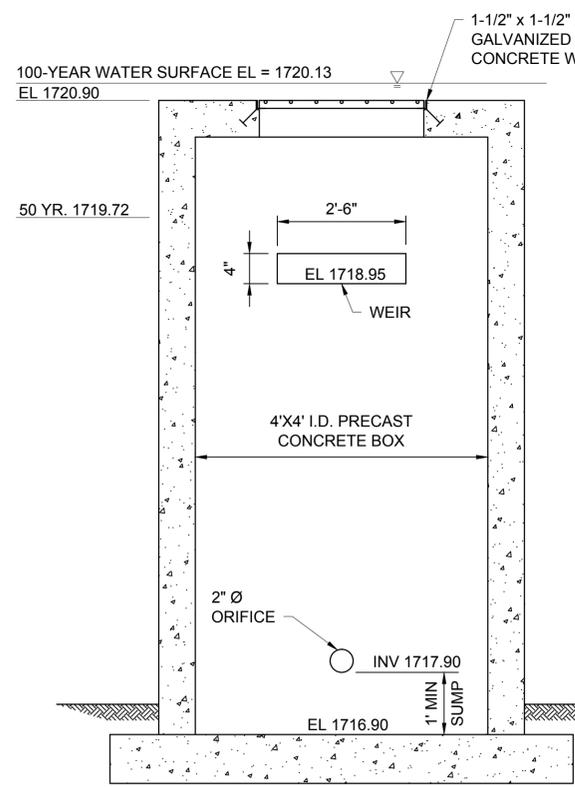
MATERIAL	SPECIFICATIONS / TEST METHOD	SIZE	NOTES
SAND FILTER	ASTM C-33 CONCRETE SAND	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GREYSTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
UNDERDRAIN PIPING	ASTM F758, TYPE PS28	6" RIGID SCHEDULE 40 PVC OR HDPE	3/8" PERFORATED @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES.
UNDERDRAIN GRAVEL	ASTM C-33	NO. 4 (1" TO 2" DIA. STONE)	CLEAN WASHED STONE, FREE OF FINES AND ORGANIC MATERIAL
GRAVEL DEBRIS SCREEN	ASTM D448	NO. 8 (3/8" PEA GRAVEL)	CLEAN WASHED STONE

- NOTES:**
- SAND FILTER CHAMBER SHALL BE PRE-CAST CONCRETE.
 - STRUCTURE SHALL BE DESIGNED PER ACI 318 AND ASTM C890.
 - STRUCTURE SHALL BE DESIGNED TO RESIST HS-20 TRUCK LOADING.
 - PROVIDE EXTERIOR ASPHALTIC WATERPROOF COATING.
 - CONTRACTOR SHALL PROVIDE ANTI-FLOTATION CALCULATIONS AND DEVICES AS REQUIRED FOR A STABLE INSTALLATION.
 - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, STEEL REINFORCEMENT AND BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NEW HAMPSHIRE LICENSED ENGINEER.
 - ABSOLUTELY NO RUNOFF IS TO ENTER THE SAND FILTER UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. SURFACE OF FILTER BED IS TO BE LEVEL.

SAND FILTER SF-1
NOT TO SCALE

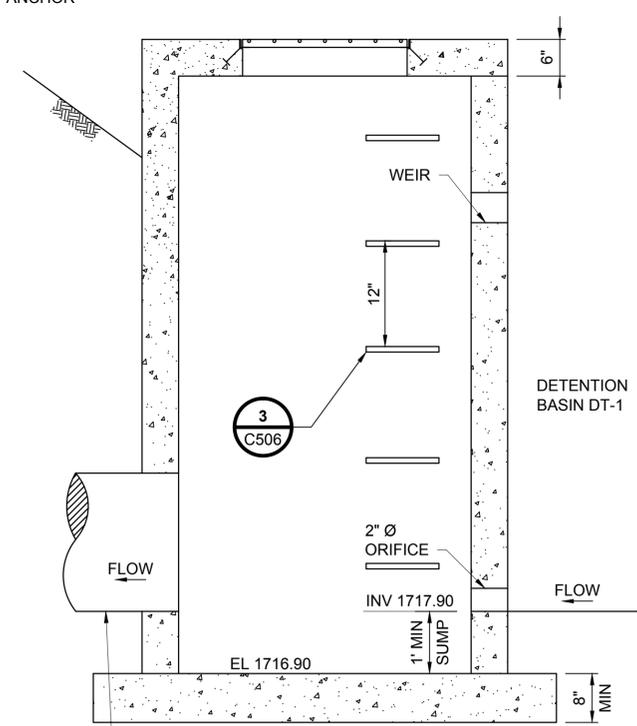


- OUTLET CONTROL STRUCTURE NOTES:**
- CATCH BASIN STRUCTURE IS TO BE PRECAST CONCRETE.
 - THE LOCATION AND ELEVATION INDICATED ON NPTT407-C104 ARE AT THE TOP CENTER OF THE GRATE.
 - GRATING SHALL BE AMICO STANDARD WELDED TYPE "W" 19W4 RESISTANCE WELDED GRATING AS MANUFACTURED BY ALABAMA METAL INDUSTRIES CORP. OR ENGINEERING APPROVED EQUAL.



SECTION A-A

OC5-1
OUTLET CONTROL STRUCTURE
NOT TO SCALE



SECTION B-B



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FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY	CHKD	APPRV.
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

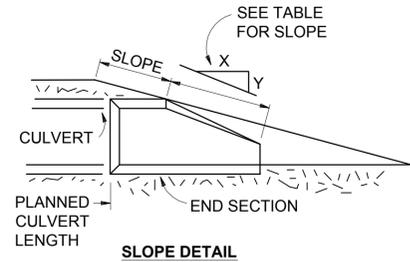
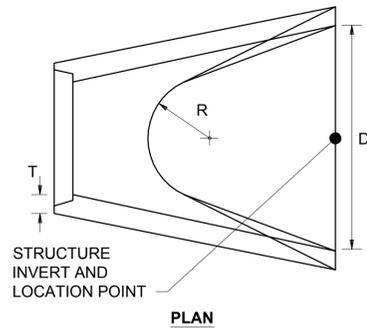


Transmission Business

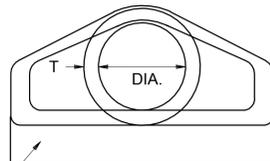
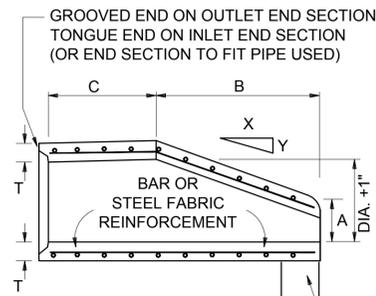
TRANSITION STATION #4
CONSTRUCTION DETAILS

DES: URM
CHK: RLR
DRW: FP
APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 18 OF 21
NPTT418-C507

ITEM NO.	PIPE DIA.	APPROX. SLOPE X to Y	A	B	C	D	R	T
603.30118	18"	3 TO 1	9"	27"	46"	36"	12"	2 1/2"



- NOTES:**
- DESIGN OF END SECTION SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE.
 - CUT OFF WALL TO BE POURED IN FIELD, IF NECESSARY, AS DIRECTED BY THE ENGINEER.
 - PAYMENT FOR THE CUT OFF WALL WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.



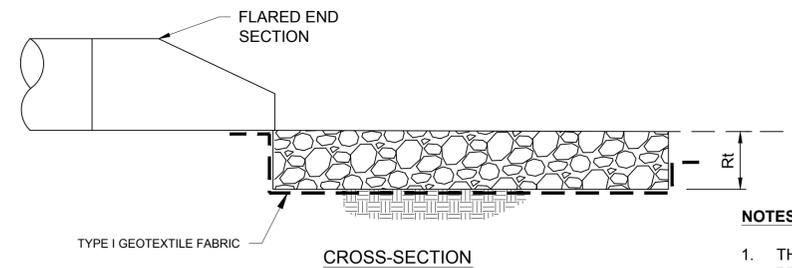
LONGITUDINAL SECTION

END VIEW

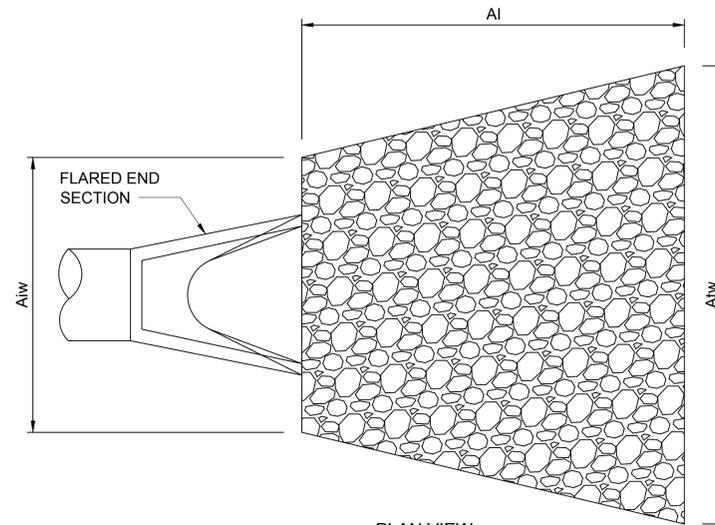
OPTIONAL CONCRETE CUTOFF WALL - WHEN ORDERED

CONCRETE END SECTION FOR REINFORCED CONCRETE PIPE
NOT TO SCALE

1
C104



CROSS-SECTION



PLAN VIEW

NOTES:

- THE SUBGRADE FOR GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN.
- THE ROCK USED FOR RIP-RAP SHALL CONFORM TO NHDOT CLASS C STONE.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE PREPARED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

OUTLET NO.	PIPE DIA Pd (IN)	RIP RAP		APRON		
		SIZE D50 (IN)	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
FES-1	15	6	18	12.00	4.00	15.00
FES-3	18	6	18	14.00	4.50	10.00
FES-4	18	6	18	13.00	4.50	18.00

CONSTRUCTION SPECIFICATIONS

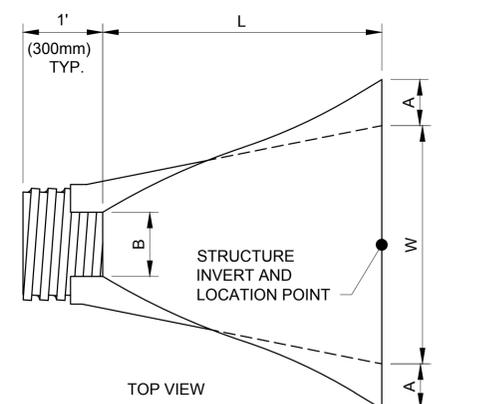
PREPARE BEDDING:
BACKFILL MATERIAL AROUND THE END SECTION MAY BE THE SAME AS THE MATERIAL AROUND THE PIPE, PLACE A FEW INCHES OF BACKFILL MATERIAL IN THE TRENCH OR DITCH WHERE THE END SECTION WILL BE PLACED. COMPACT AND CONTOUR THIS BEDDING MATERIAL TO GENERALLY MATCH THE END SECTION. EXCAVATE AN AREA IN THE BEDDING WHERE THE TOE TROUGH WILL SEAT SO THAT THE END SECTION WILL BE LEVEL WITH THE BOTTOM OF THE TRENCH OR DITCH IN THE FINISHED INSTALLATION.

PLACE END SECTION OF PIPE:
OPEN THE END SECTION COLLAR AND SEAT IT OVER THE TWO PIPE CONNECTIONS. ONCE THE END SECTION IS POSITIONED, CHECK TO MAKE SURE THAT THE INVERT OF THE END SECTION MATCHES THE INVERT OF THE PIPE AND THAT THE END SECTION IS LEVEL WITH THE TRENCH OR DITCH BOTTOM.

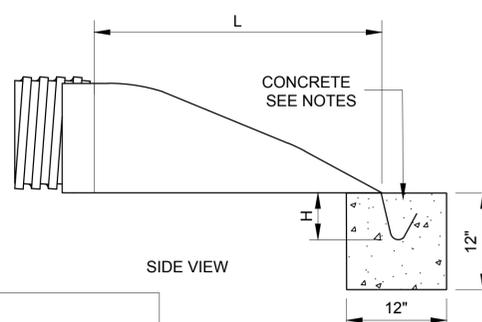
SECURE THE END SECTION:
SLIP THE STAINLESS STEEL ROD THROUGH THE PRE-DRILLED HOLES AT THE TOP OF THE COLLAR. THE ROD SHOULD BE BETWEEN THE CROWNS OF THE TWO PIPE CONNECTIONS. PLACE A WASHER ON EITHER END OF THE ROD. PLACE A NUT ON EITHER END OF THE ROD AND TIGHTEN WITH A WRENCH.

SECURE THE TOE TROUGH:
TO PREVENT WASHOUTS FROM HIGH VELOCITY FLOW, IT IS RECOMMENDED THAT THE TROUGH BE SECURED WITH CONCRETE. POUR CONCRETE IN THE TROUGH UP TO THE LEVEL OF THE TRENCH OR DITCH BOTTOM AND ALONG THE ENTIRE LENGTH OF THE TROUGH.

FINISH BACKFILL:
SHOVEL BACKFILL AROUND THE END SECTION IN 6 TO 9 INCH LAYERS EQUALLY ON BOTH SIDES, KNIFING IT TO ELIMINATE VOIDS. TAMP WITH A SMALL-FACED COMPACTOR OR OTHER EQUIPMENT SUITABLE FOR SMALL AREAS. CONTINUE PLACING, KNIFING, AND COMPACTING BACKFILL LAYERS TO THE TOP OF THE END SECTION TO SEAT IT WELL INTO THE BACKFILL.



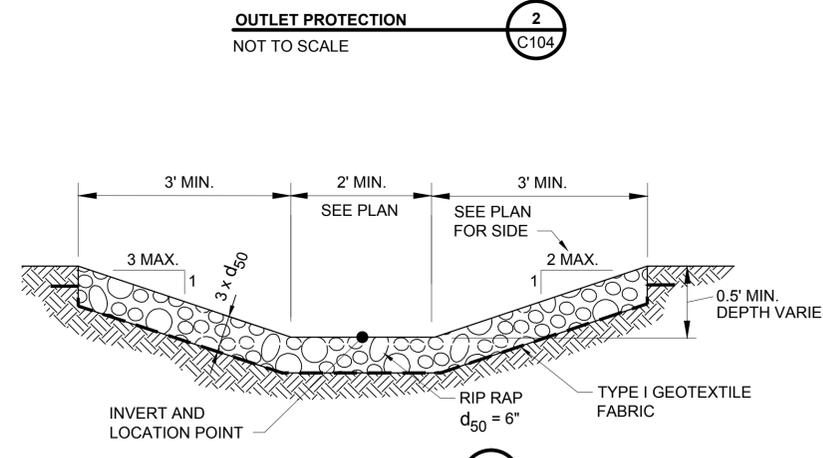
TOP VIEW



SIDE VIEW

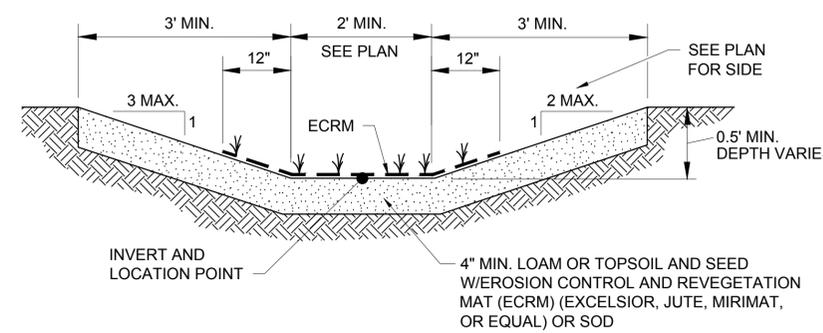
END SECTION FOR HDPE
NOT TO SCALE

3
C104



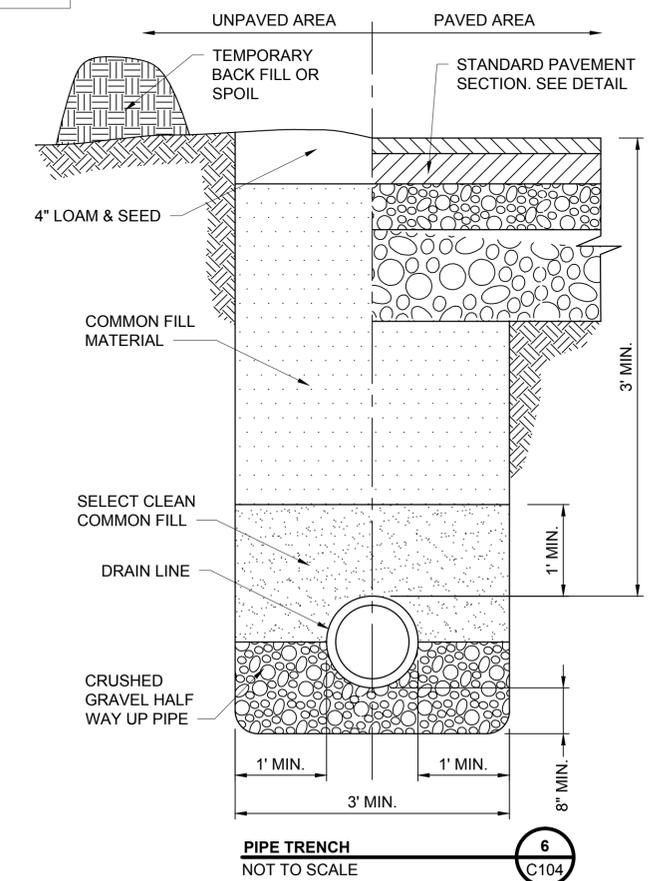
RIPRAP SWALE CROSS SECTION
NOT TO SCALE

4
C100



GRASS SWALE CROSS SECTION
NOT TO SCALE

5
C100



PIPE TRENCH
NOT TO SCALE

6
C104



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Oct 5 2015

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NO. 1
ISSUED FOR PERMITTING
DATE 10/7/15
REVISION

DATE: 10/7/2015

SCALE: NTS

TRANSMISSION BUSINESS

THE NORTHERN PASS

TRANSITION STATION #4
CONSTRUCTION DETAILS

DES: LRM
CHK: RLR
DRAW: FP
APR: BSS

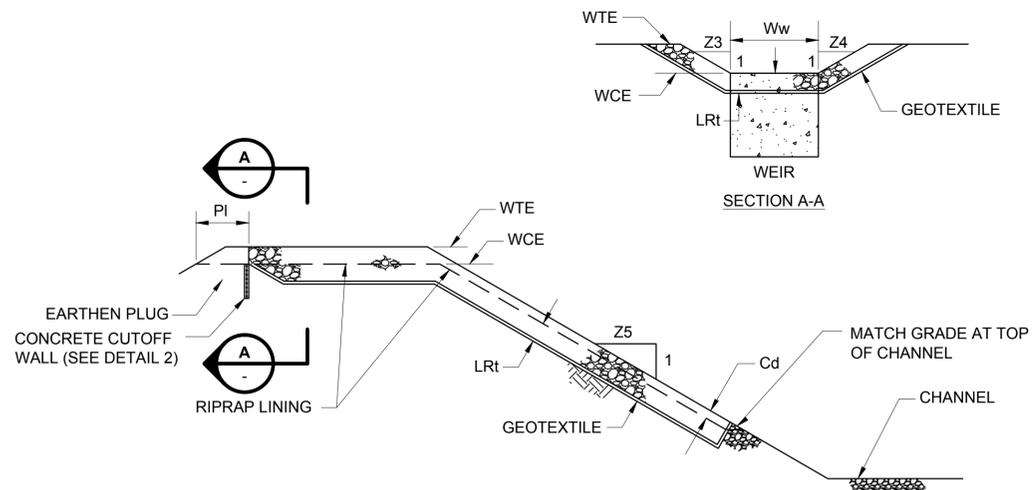
TOWN: STEWARTSTOWN, NH

TRANSMISSION LINE:

MILE NO:
SHEET 19 OF 21

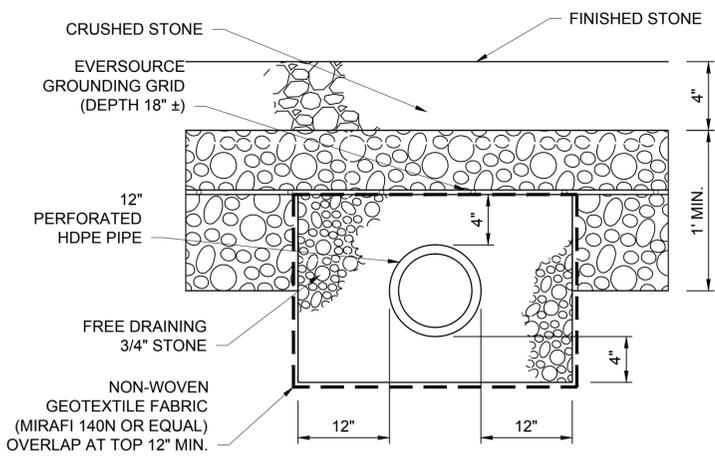
NPTT419-C508

REVISION: xxx



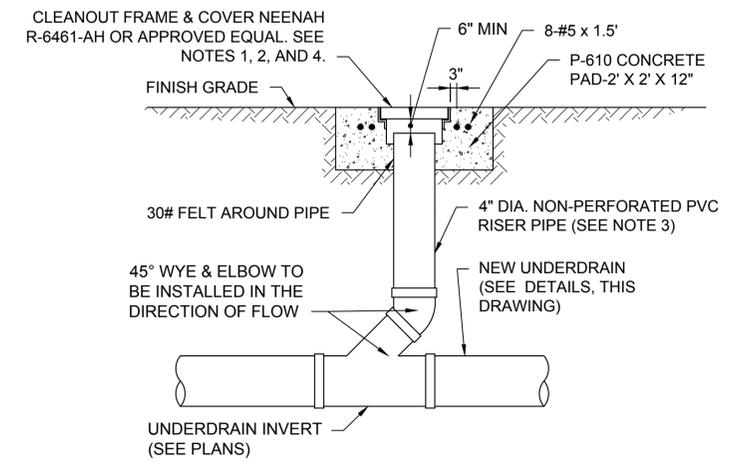
BASIN NO.	WEIR					LINING		CHANNEL		
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	PI (FT)	RIPRAP SIZE	RIPRAP THICK. Lrt (IN)	Z5 (FT)	DEPTH Cd (FT)
DT-1	3	3	1722.00	1721.00	14	1	12"	36"	2	0.25

SECTION THROUGH SPILLWAY 1
C104

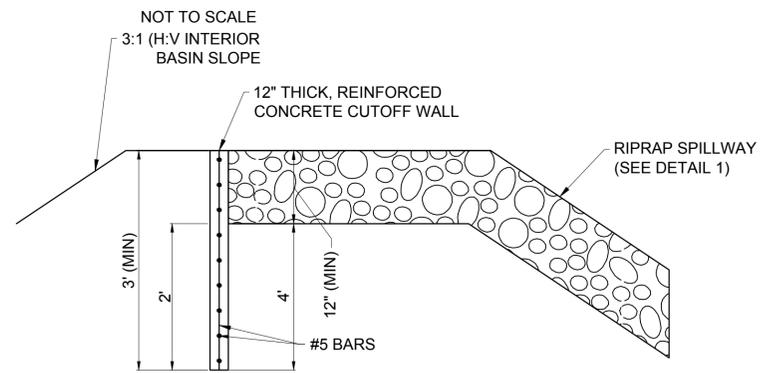


UNDERDRAIN 2
NOT TO SCALE
C104
C509

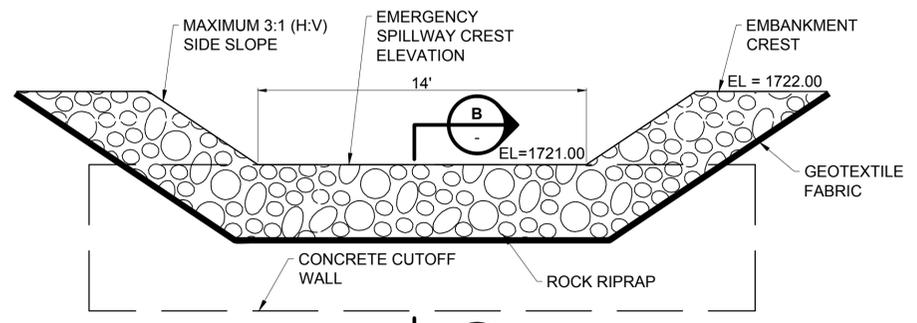
- NOTES**
- CLEANOUT FRAME AND COVER SHALL BE DUCTILE IRON DESIGNED TO HS-20 LOADINGS.
 - NO LOAD SHALL BE TRANSFERRED FROM CLEANOUT FRAME AND COVER TO 4" PVC UNDERDRAIN CLEANOUT OR 12" COLLECTION STRUCTURE.
 - STANDARD MANUFACTURER FITTINGS SHALL BE USED TO CONNECT VERTICAL UNDERDRAINS TO 12" PVC UNDERDRAINS AND OUTLET PIPES.
 - ALL UNDERDRAIN CLEANOUT AND COLLECTION STRUCTURE COVERS SHALL BE BOLT DOWN TYPE.
 - INVERTS FROM OPPOSITE DIRECTIONS MAY NOT BE AT THE SAME ELEVATIONS AS SHOWN IN DETAIL REFER TO THE PLANS FOR INVERT ELEVATIONS.



UNDERDRAIN CLEANOUT 3
NOT TO SCALE
C104



SECTION B-B



SPILLWAY APRON 4
NOT TO SCALE
C104

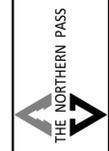
- NOTES**
- SEE SECTION THROUGH SPILLWAY FOR FURTHER INFORMATION.



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Oct 5 2015

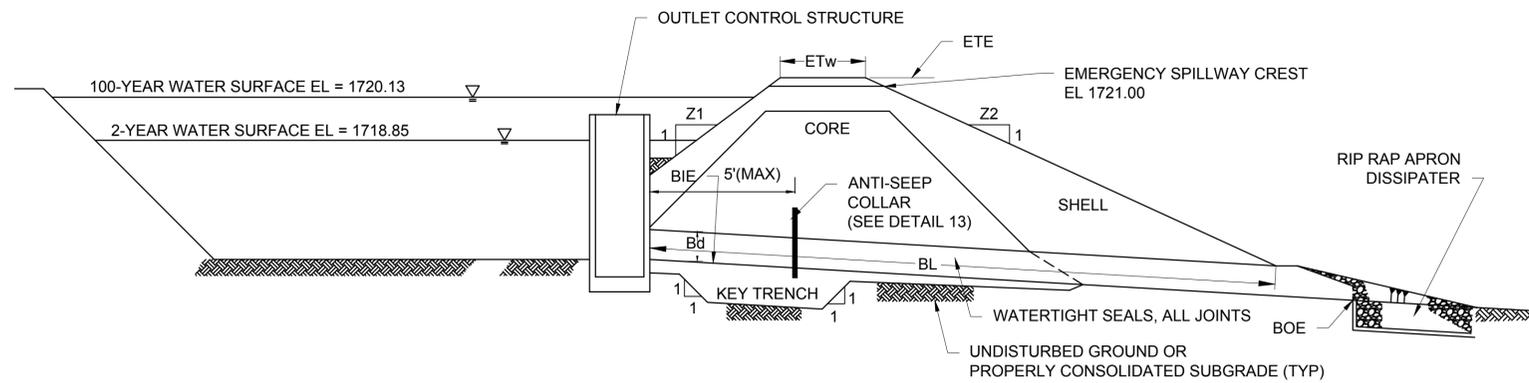
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NOT FOR CONSTRUCTION**

NO.	DATE	REVISION	ISSUED FOR PERMITTING	DATE	FP	DRWN	RLR	CHKD	BSS	APPRV.
1	10/7/15									



TRANSITION STATION #4
CONSTRUCTION DETAILS
SCALE: NTS
DATE: 10/7/2015

DES: LRM | CHK: RLR
DRW: FP | APR: BSS
TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:
MILE NO:
SHEET 20 OF 21
NPTT420-C509

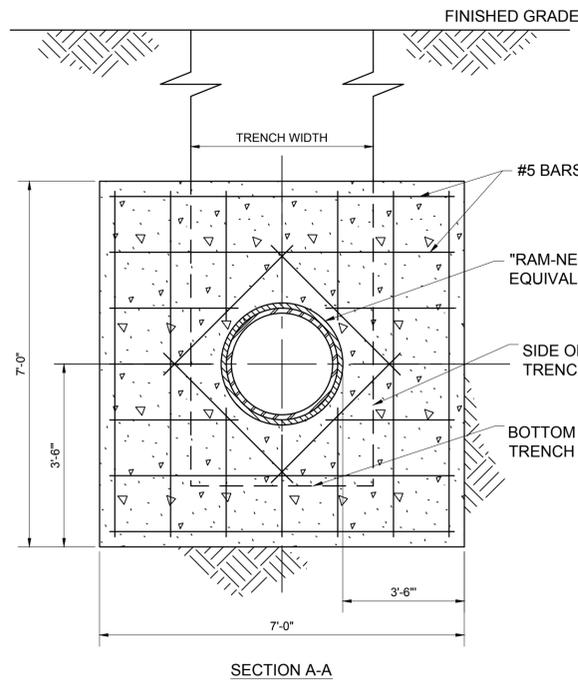


BASIN NO.	Z1 (FT)	Z2 (FT)	BARREL				EMBANKMENT			
			DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH BL (FT)	OUTLET ELEV BOE (FT)	TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	CREST (FT)
DT-1	2:1	2:1	18"	1717.50	RCP	18	1717.00	1722.00	4	10

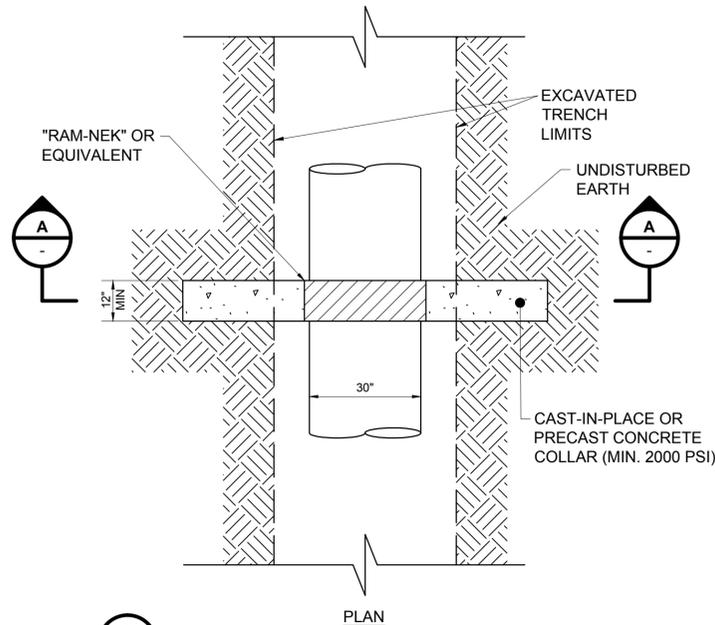
DETECTION BASIN CROSS SECTION
NOT TO SCALE

NOTES:

1. WRAP PIPE WITH "RAM-NEK" OR EQUIVALENT WHERE PIPE IS EXPOSED TO CONCRETE PRIOR TO POURING.
2. EXCAVATION & BACKFILL SHALL BE AS SPECIFIED.
3. DO NOT PLACE WITHIN 2 FEET OF A PIPE JOINT.
4. REFER TO DETAIL 1 FOR LOCATION



ANTI SEEP COLLAR
NOT TO SCALE



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Oct 5 2015

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NOT FOR CONSTRUCTION**

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #4
CONSTRUCTION DETAILS

DATE: 10/7/2015

DES: LRM CHK: RLR
DRW: FP APR: BSS

TOWN: STEWARTSTOWN, NH
TRANSMISSION LINE:

MILE NO:
SHEET 21 OF 21

REVISION: xxx

NO.	DATE	ISSUED FOR PERMITTING	REVISION	FP	DRWN	RLR	BSS
1	10/7/15						