

NO.	REVISION	DATE	BY	CHKD	APPRV.
7	ISSUED FOR PERMIT	12/28/15	REG	SCG	TSG
6	ISSUED FOR PERMIT	12/14/15	REG	SCG	TSG
5	ISSUED FOR PERMIT	11/19/15	REG	SCG	TSG
4	ISSUED FOR REVIEW - ALIGNMENT ADJ.	5-18-15	REG	SCG	TSG
3	ISSUED FOR REVIEW - ALIGNMENT ADJ.	9-8-15	REG	SCG	TSG
2	ISSUED FOR REVIEW	10/14/14	REG	SCG	TSG
1	ISSUED FOR REVIEW	8-25-14	JRD	TSG	CS
0	ISSUED FOR REVIEW				



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  - ALL VERTICAL CURVES TO BE 400' UNLESS OTHERWISE NOTED.
  - ANCHOR BLOCK DESIGN, BY OTHERS, TO INCLUDE PULLING TENSIONS AND ACCIDENTAL ENTANGLEMENT BY PASSING VESSELS.

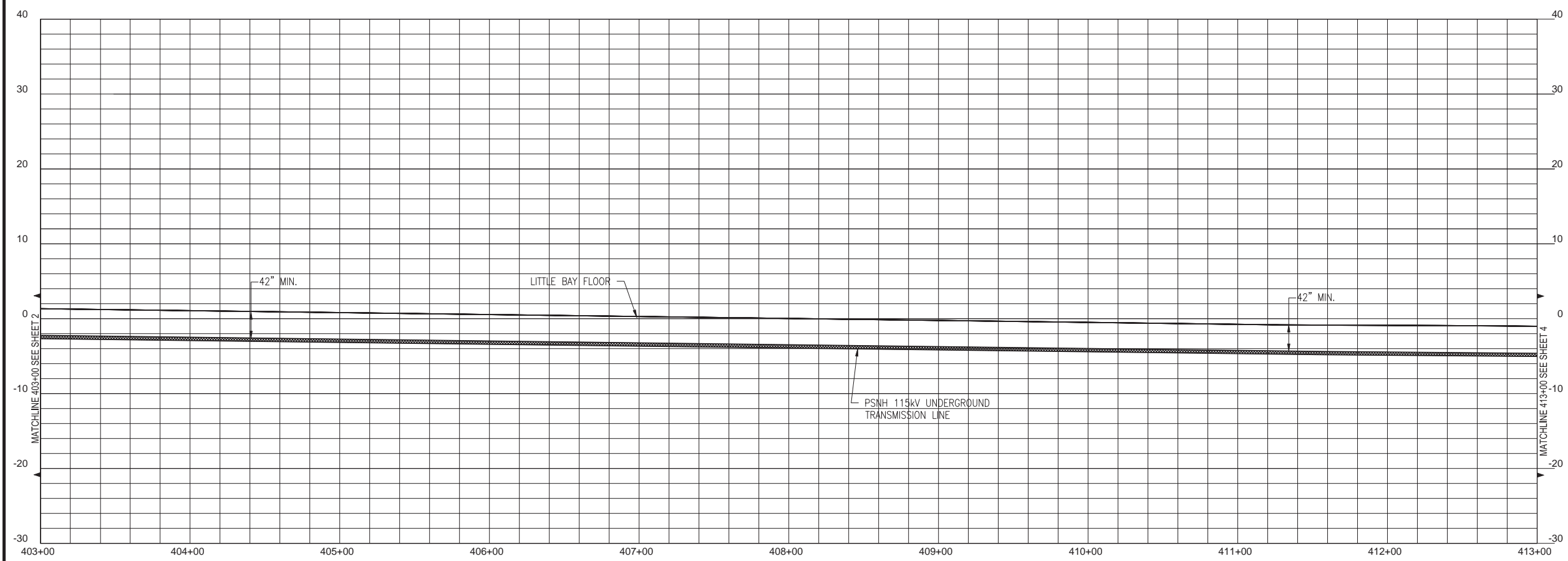
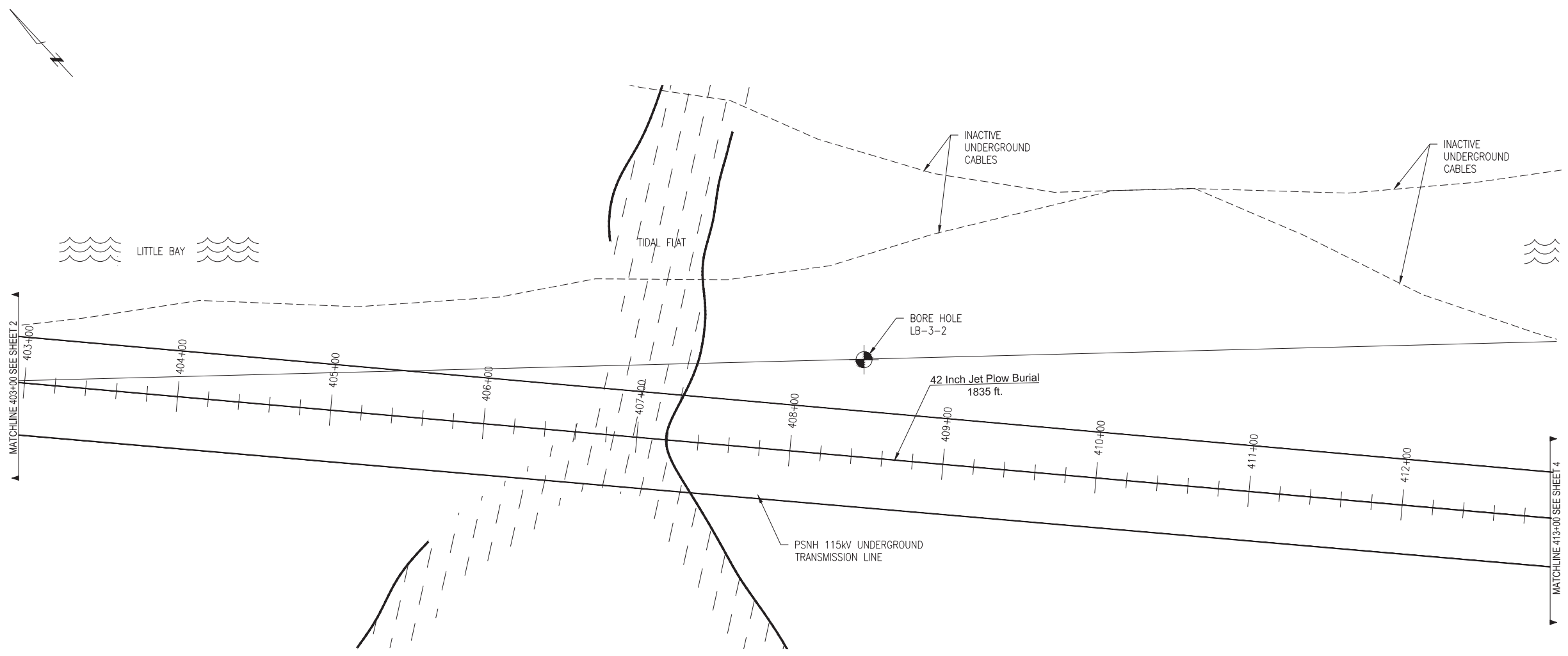
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A Newmarket Utilities Company

Transmission Business

UNDERGROUND TRANSMISSION PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40', V. 1"=8'

TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 8  
DISCIPLINE/SHT NO.

SHEET 2 OF 12  
2 OF 12  
REVISION: 01/23/2014



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NO.	REVISION	DATE	DRWN	CHKD	APPRV.
7	ISSUED FOR PERMIT RELOCATE RISER	12/28/15	REC	SCG	TSG
6	ISSUE FOR PERMIT	12/14/15	REC	SCG	TSG
5	ISSUE FOR PERMIT	11/19/15	REC	SCG	TSG
4	ISSUE FOR PERMIT - ALIGNMENT ADJ.	5-18-15	REC	SCG	TSG
3	ISSUED FOR REVIEW - ALIGNMENT ADJ.	5-18-15	REC	SCG	TSG
2	ISSUED FOR REVIEW - ALIGNMENT ADJ.	10/14/14	REC	SCG	TSG
1	ISSUED FOR REVIEW	8-25-14	JRD	TSG	CS
0	ISSUED FOR REVIEW	8-25-14	JRD	TSG	CS

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T 7

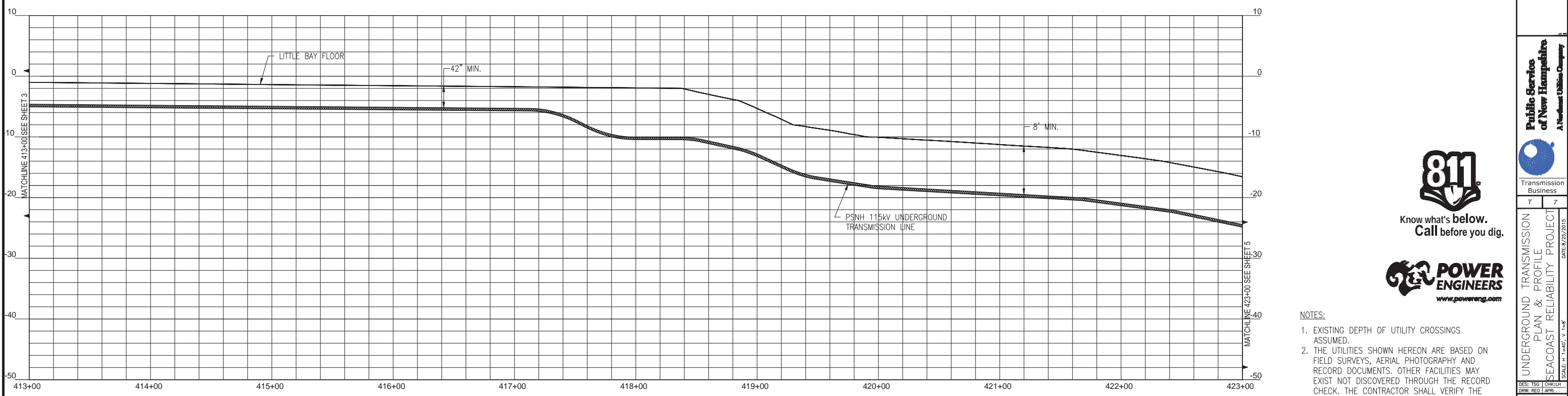
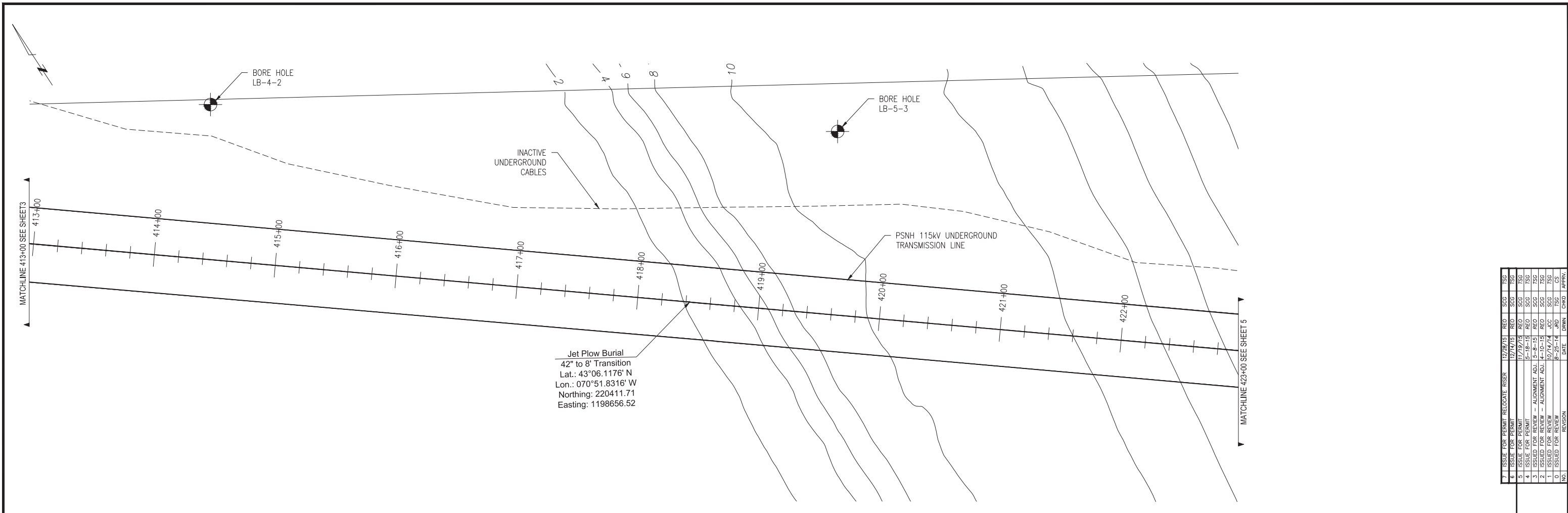
UNDERGROUND TRANSMISSION  
PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40', V. 1"=8'  
DATE: 8/25/2015

DES: TSG  
CHKD: T  
DRW: REC  
APR: TSG

TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 8  
DISCIPLINE/SHT NO.

SHEET 3 OF 12  
3 OF 12

REVISION: 01/23/2014

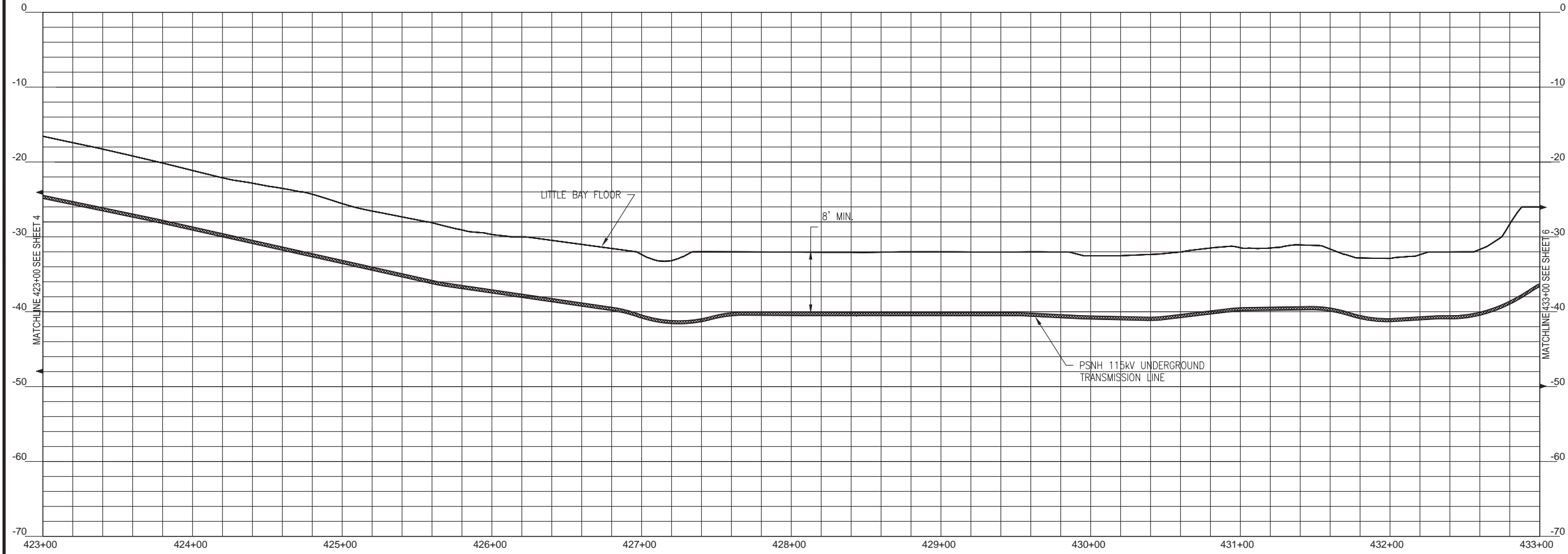
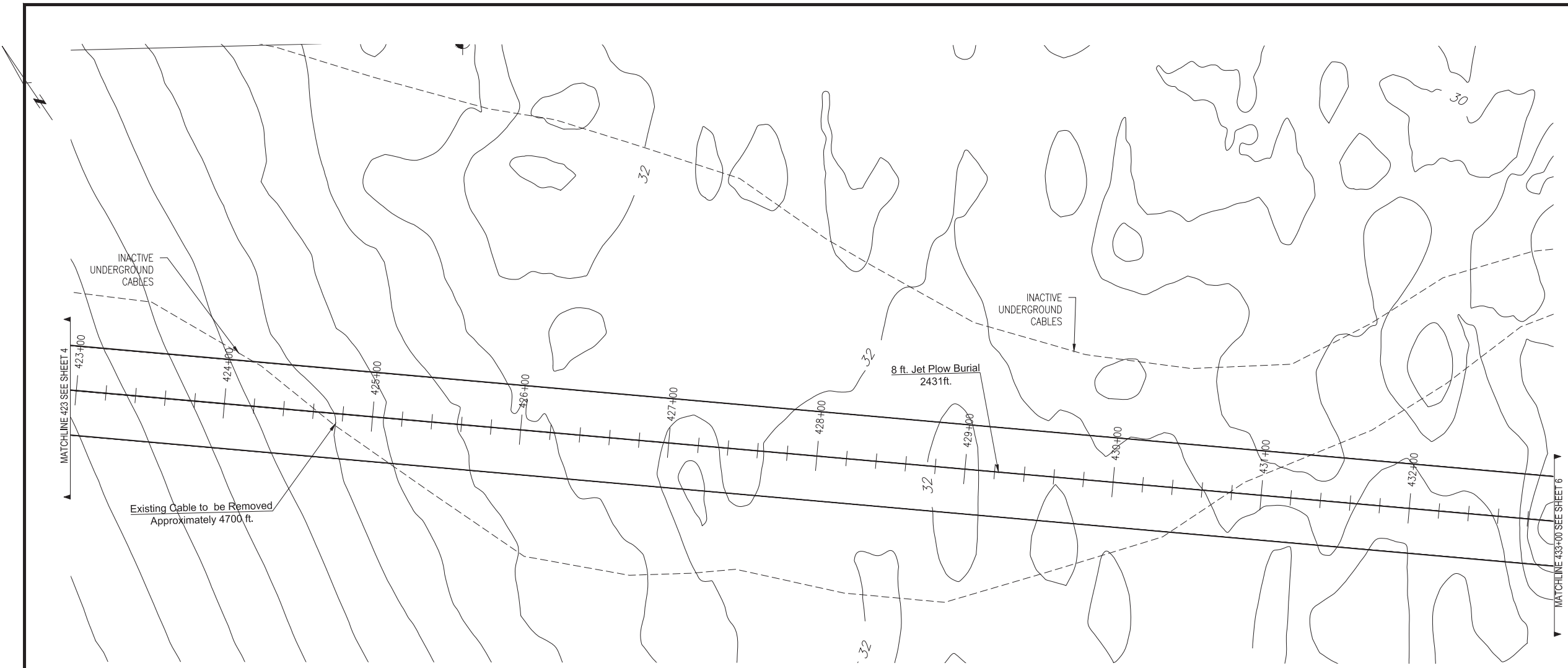


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7	ISSUE FOR PERMIT RELOCATE RISER	12/28/15	REO	SCG	TSG
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1	ISSUE FOR PERMIT	10/14/14	SCG	SCG	TSG
0	ISSUE FOR PERMIT	8-25-14	JRD	TSG	CS

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Transmission Business

UNDERGROUND TRANSMISSION PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
DATE: 8/25/2015  
SCALE: H: 1"=40', V: 1"=8'  
TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 8  
DISCIPLINE/SHT NO.  
SHEET 4 OF 12  
4 OF 12  
REVISION: 01/23/2014



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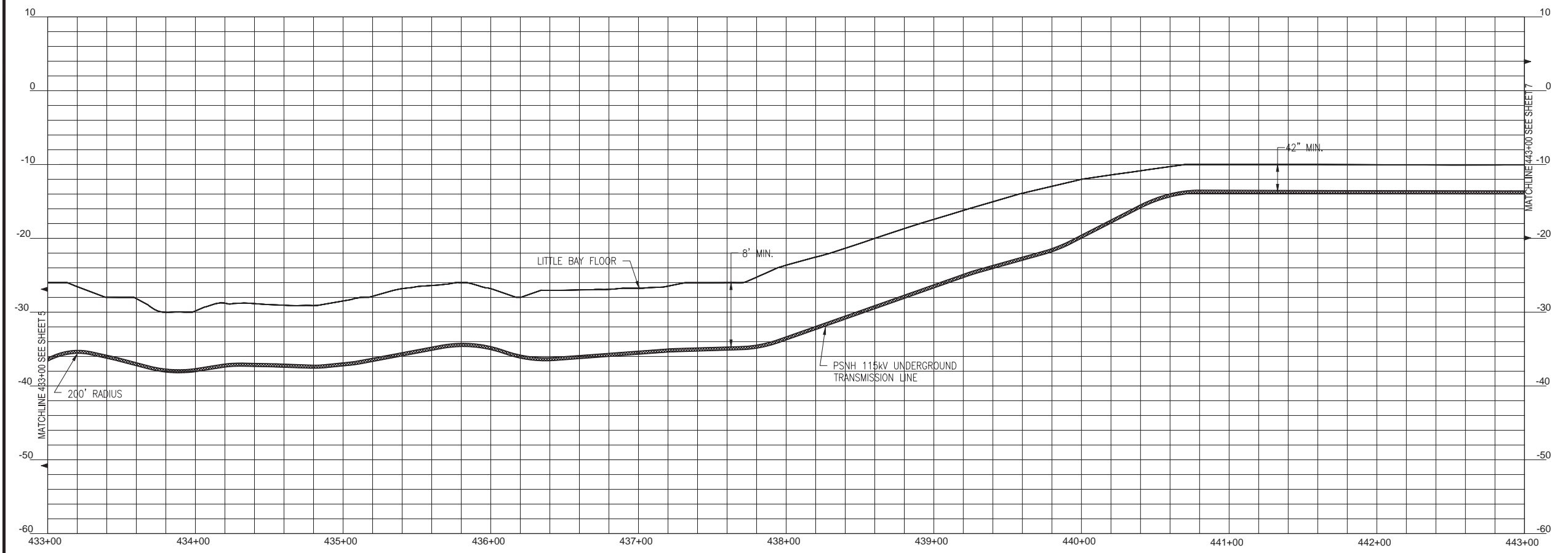
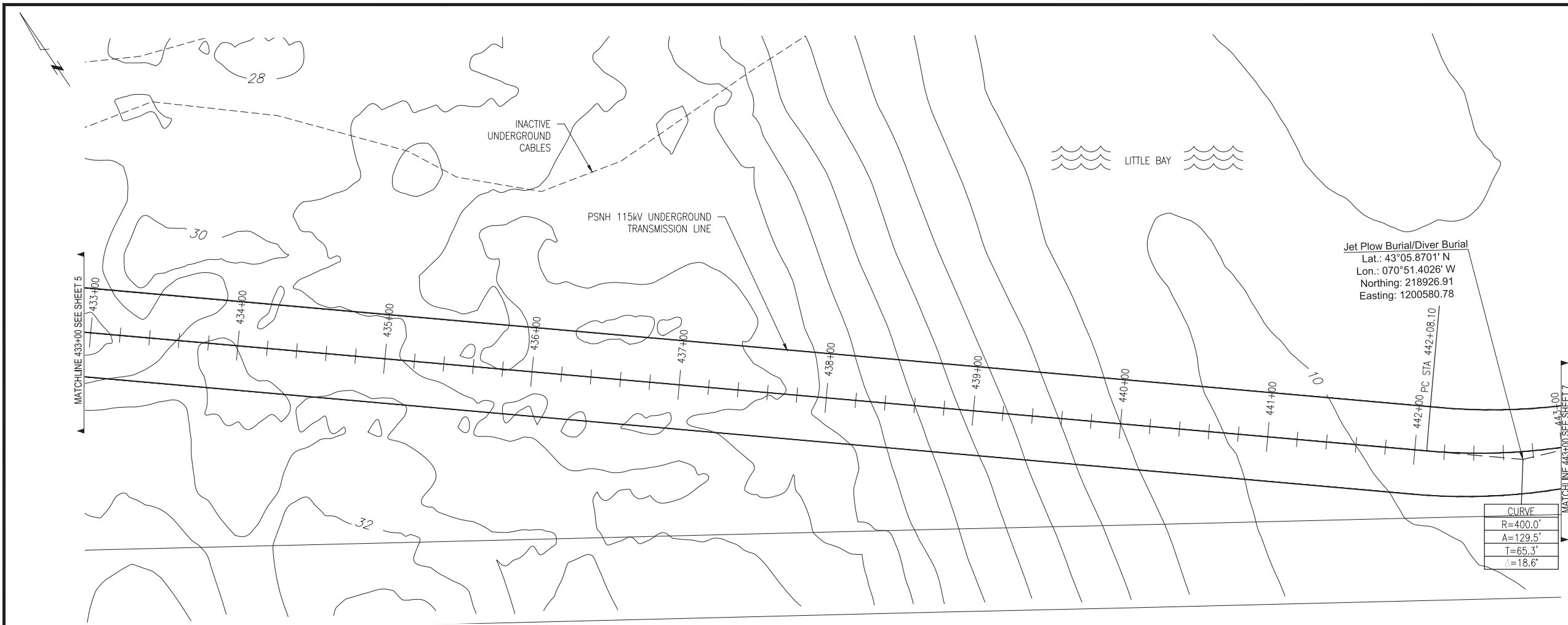
NO.	REVISION	DATE	BY	CHKD	APPRV.
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1	ISSUED FOR REVIEW	8-25-14	JRD	TSG	CS
0					

Public Services  
of New Hampshire  
A Northeast Utilities Company

Transmission  
Business

UNDERGROUND TRANSMISSION  
PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40'; V. 1"=8'

TOWN:  
NEWINGTON, NH  
TRANSMISSION LINE:  
F-107  
MILE NO: 8  
DISCIPLINE/SHT NO.  
SHEET 5 OF 12  
5 OF 12



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1	ISSUED FOR REVIEW	8-25-14	JRD	TSG	CS
0	ISSUED FOR REVIEW				

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Transmission Business

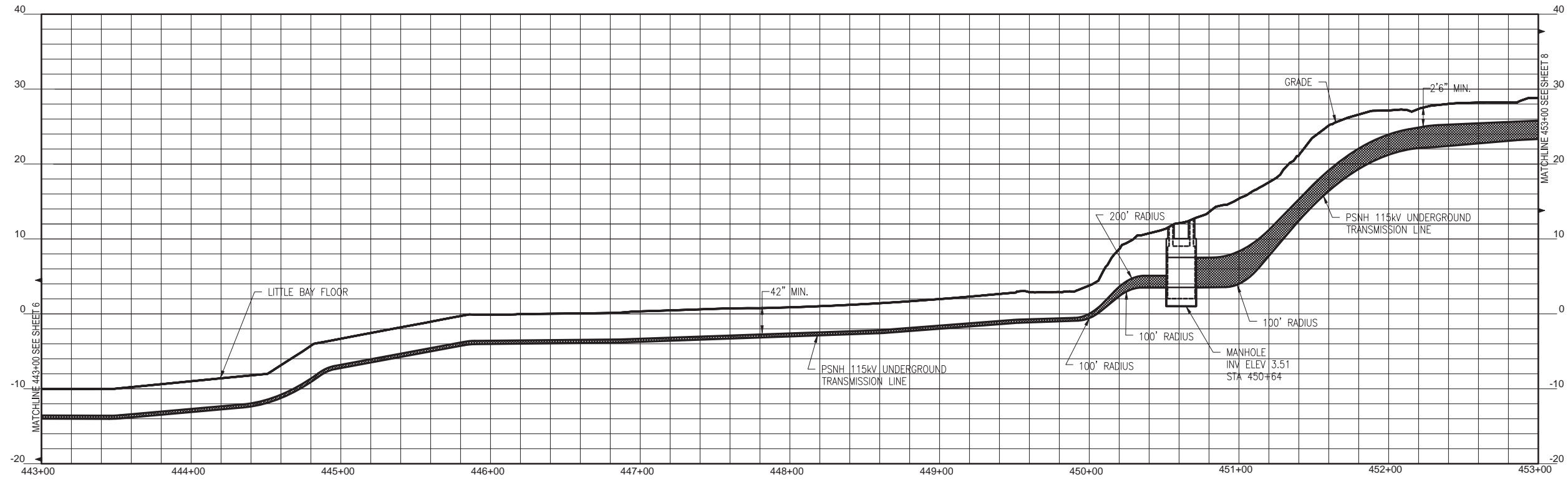
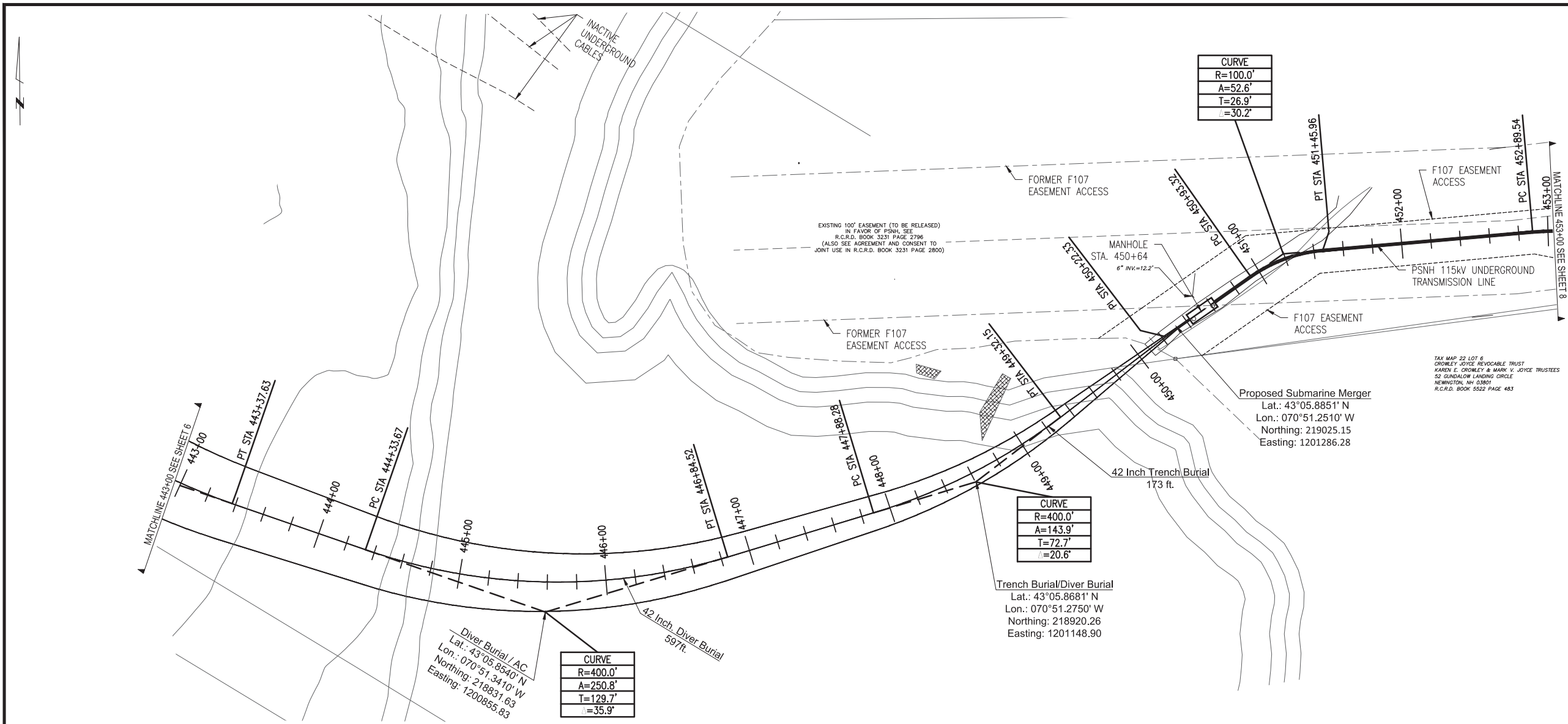
UNDERGROUND TRANSMISSION PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
DATE: 8/25/2015  
SCALE: H. 1"=40', V. 1"=8'

DES: TSG  
CHKD: TSG  
DRAW: REC  
APR: TSG

TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 9  
DISCIPLINE/SHT NO.

SHEET 6 OF 12  
**6 OF 12**

REVISION: 01/23/2014



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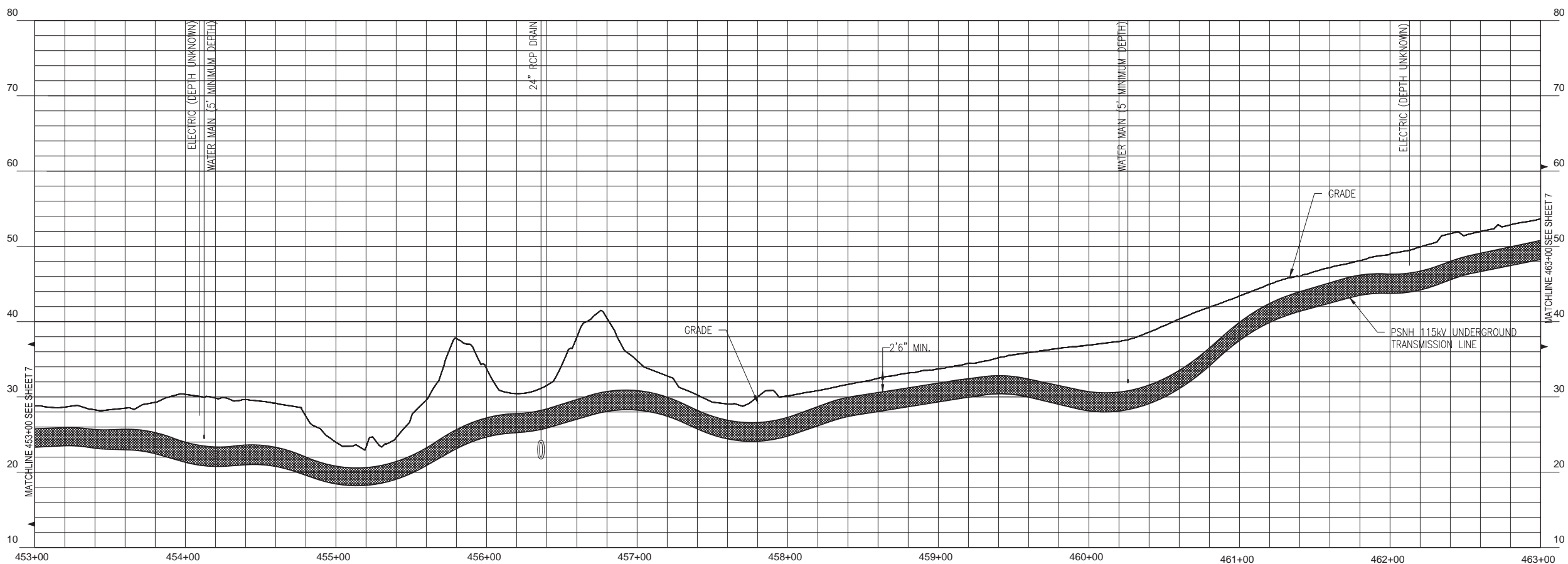
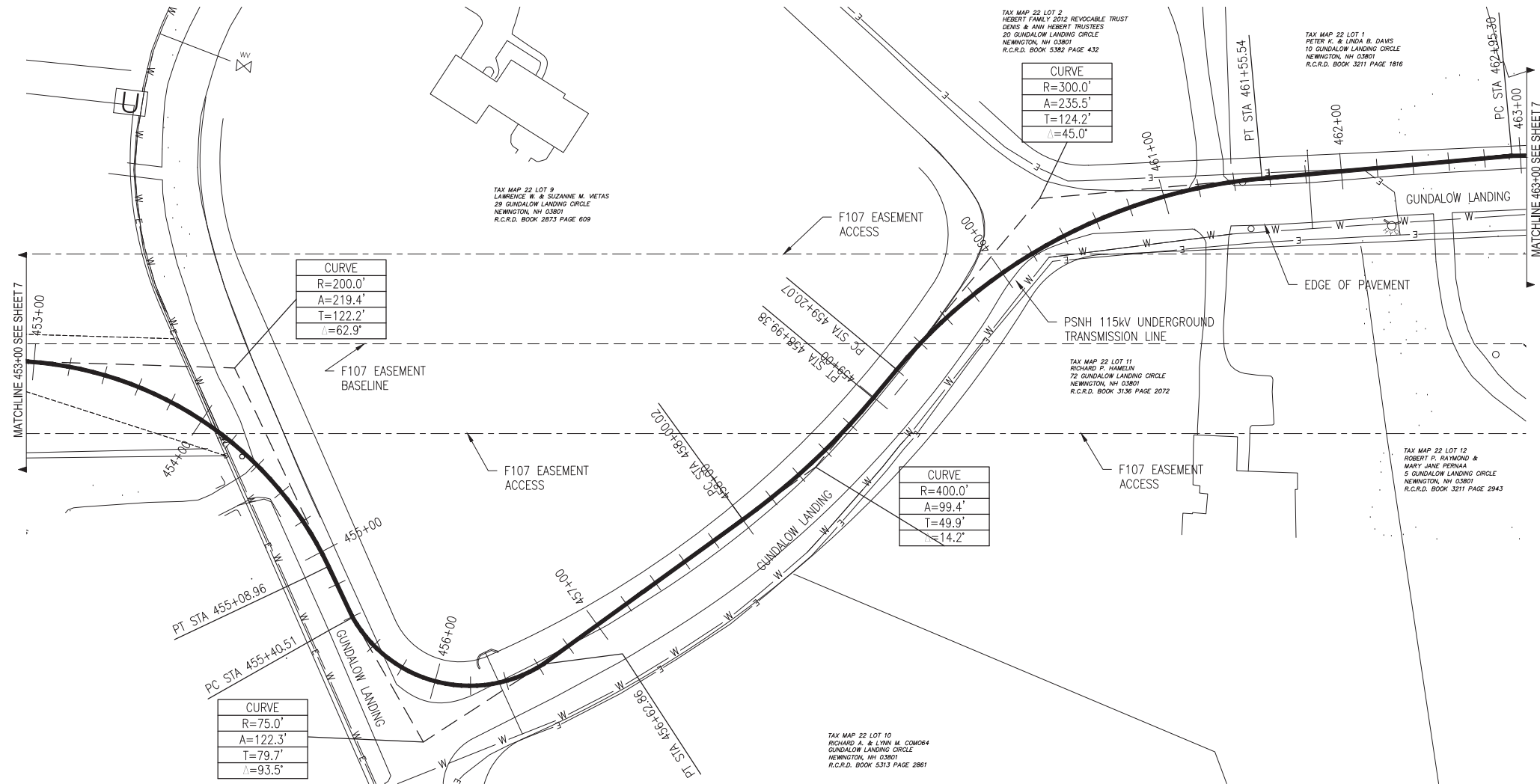
NO.	REVISION	DATE	DRWN	CHKD	APPRV.
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1	ISSUE FOR PERMIT	8-25-14	REG	SCG	TSG

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UNDERGROUND TRANSMISSION PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40', V. 1"=8'  
DATE: 8/25/2015  
TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 9  
DISCIPLINE/SHT NO.  
SHEET 7 OF 12  
7 OF 12  
REVISION: 01/23/2014



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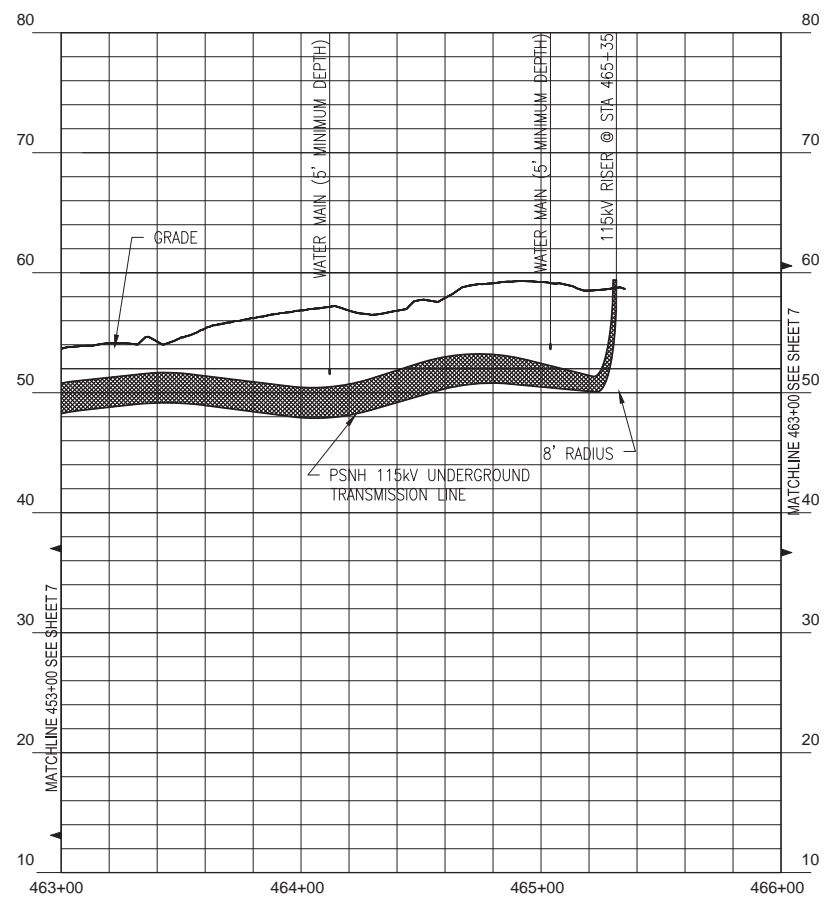
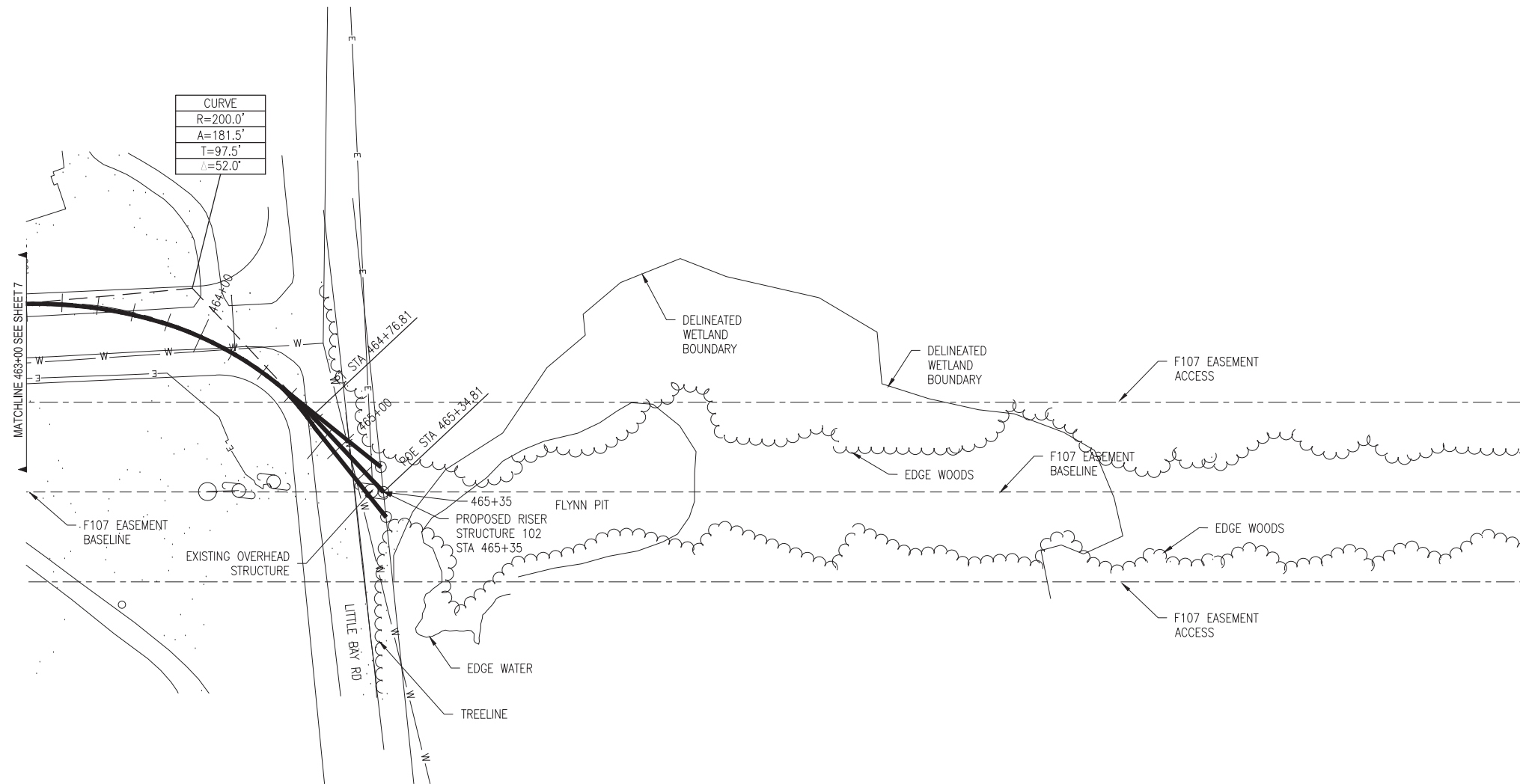
Transmission Business

UNDERGROUND TRANSMISSION PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40', V. 1"=8'

TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 9  
DISCIPLINE/SHT NO.

SHEET 8 OF 12  
8 OF 12

REVISION: 01/23/2014



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7	ISSUE FOR PERMIT RELOCATE RISER	12/28/15	REC	SCG	TSO
6	ISSUE FOR PERMIT	12/14/15	REC	SCG	TSO
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SEACOAST RELIABILITY PROJECT  
SCALE: H. 1"=40', V. 1"=8'

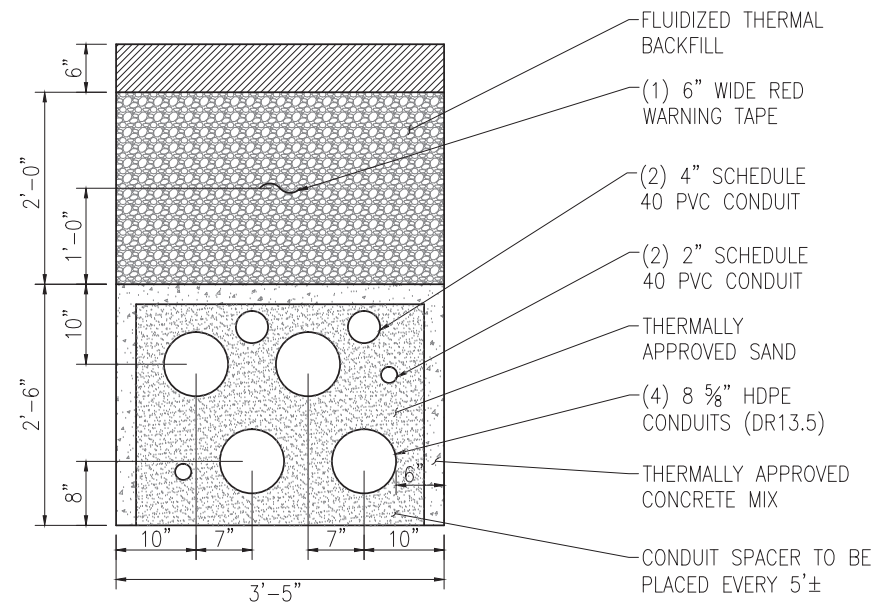
DES: TSO  
CHKD: T  
DRW: REC  
APR: T

TOWN: NEWINGTON, NH  
TRANSMISSION LINE: F-107  
MILE NO: 9  
DISCIPLINE/SHT NO.

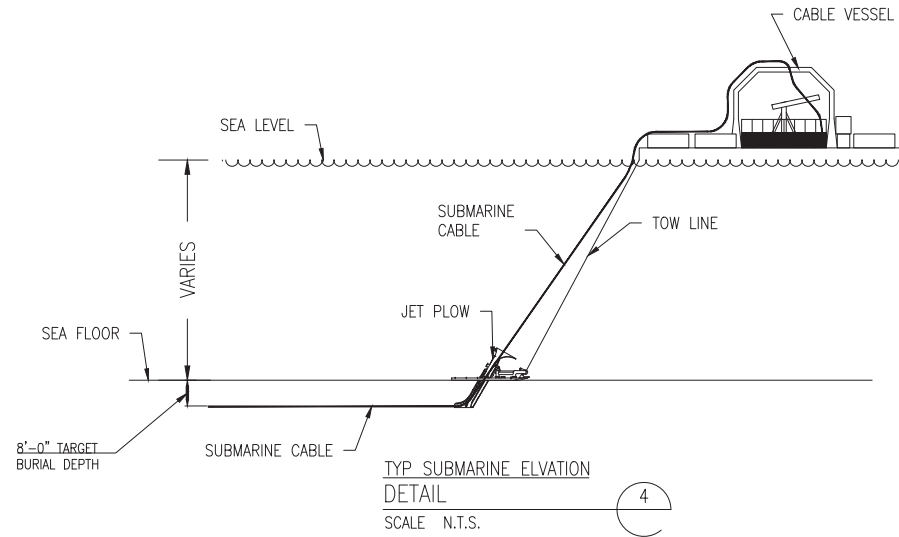
SHEET 8 OF 12  
9 OF 12

REVISION: 01/23/2014

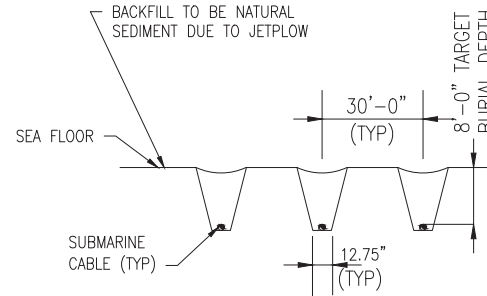




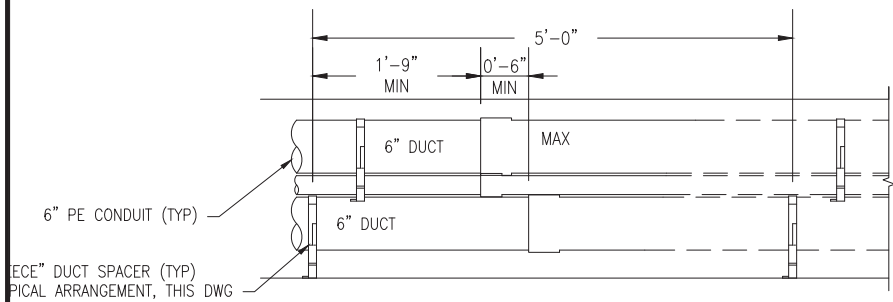
TYP TRENCH  
DETAIL  
SCALE N.T.S.



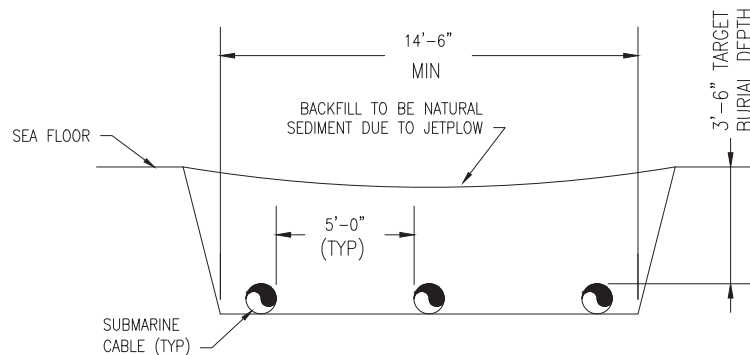
TYP SUBMARINE ELVATION  
DETAIL  
SCALE N.T.S.



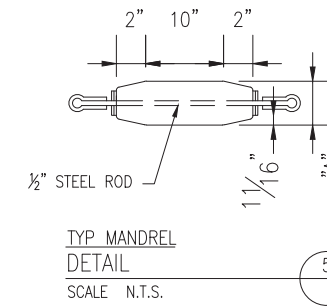
TYP SUBMARINE CROSS SECTION  
DETAIL  
SCALE N.T.S.



TYP DUCT ELEVATION  
DETAIL  
SCALE N.T.S.



WEST BANK SUBMARINE CROSS SECTION  
DETAIL  
SCALE N.T.S.



TYP MANDREL  
DETAIL  
SCALE N.T.S.

DIMENSION "A" TO BE  
1/2" LESS THAN THE INSIDE  
DIAMETER OF THE  
SPECIFIED SIZE CONDUIT.

NOTES:

- NOTES:
1. STAGGER BELL ENDS.
  2. AVOID STANDING ON CONDUIT.
  3. BELL ENDS SHALL BE INSTALLED ALL IN THE SAME DIRECTION BETWEEN TERMINATIONS. (SEE PULL DIRECTION DETAIL.)
  4. ALL TRENCH DETAILS AND PHASING SHOWN AS LOOKING AHEAD STATIONS.
  5. ALL DUCT SPACERS ARE UNDERGROUND DEVICES "WUNPEECE" SPACERS, OR APPROVED EQUIVALENT.

NO.	REVISION	DATE	DRWN	CHKD	APPRV
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Public Service  
of New Hampshire  
A New England Utilities Company

Transmission  
Business



Know what's below.  
Call before you dig.



T 7

UNDERGROUND TRANSMISSION  
PLAN & PROFILE  
SEACOAST RELIABILITY PROJECT  
SCALE: AS NOTED

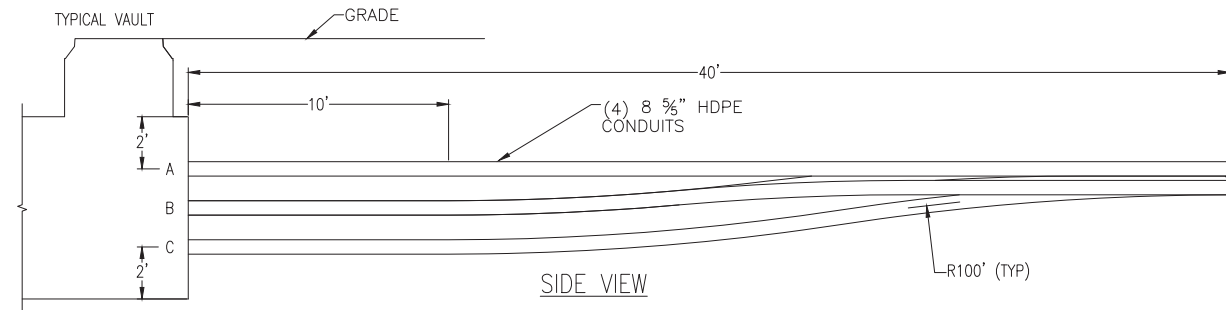
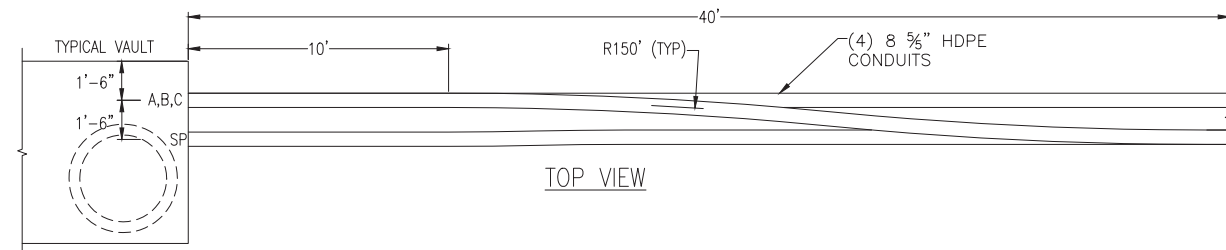
DES: SSG  
CHKD: JCH  
DRW: REG  
APR: -  
TOWN:  
NEWINGTON, NH  
TRANSMISSION LINE:  
F-107  
MILE NO:  
DISCIPLINE/SHT NO.

SHEET 10 OF 12

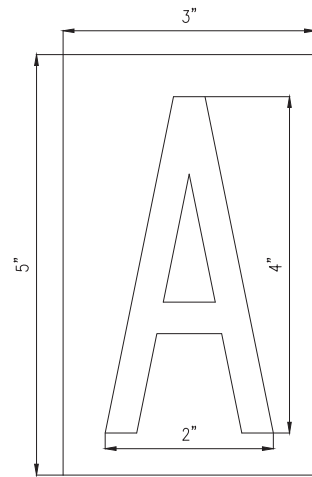
DETAILS

REVISION: 01/23/2014





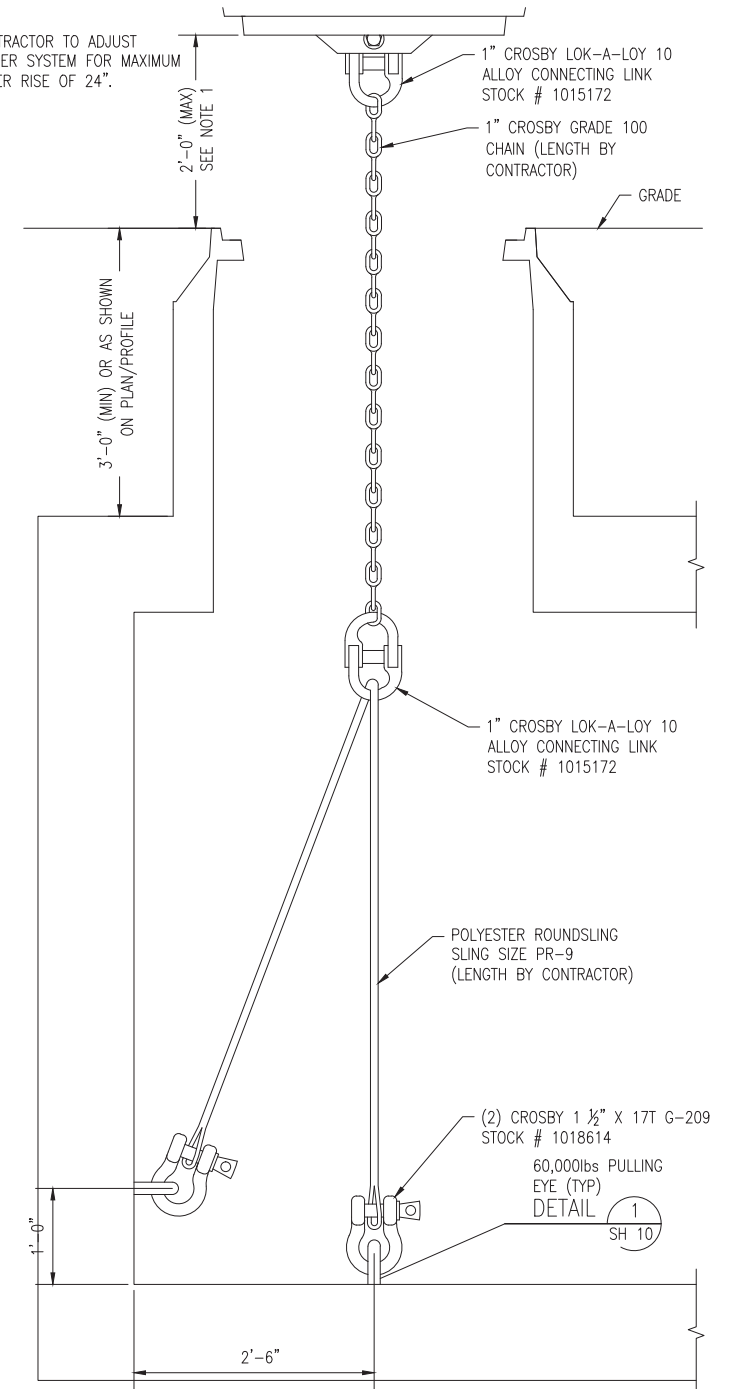
SPLICE VAULT TRANSITION DETAIL  
 1  
 NTS SH 11



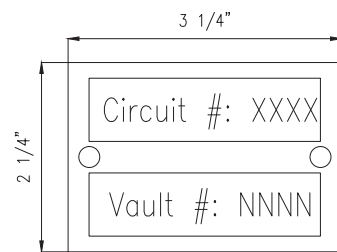
PHASE IDENTIFICATION TAG  
 DETAIL  
 2  
 NTS SH 11

- NOTES
- CHARACTER SHALL BE 4" HIGH BOLD TYPE.
  - CHARACTER SHALL BE CENTERED ON SIGN.
  - BACKGROUND: WHITE  
 LETTERING: BLACK  
 CHARACTERS: A, B & C AS SHOWN

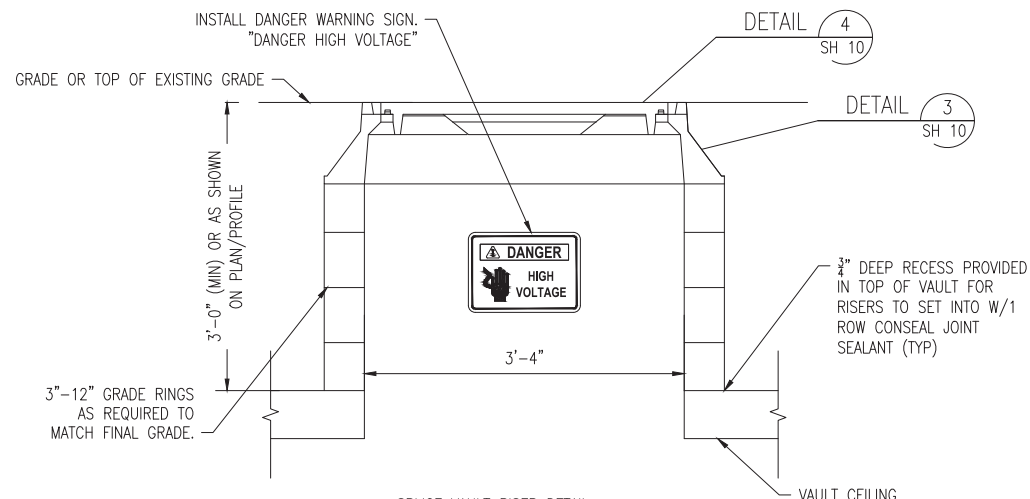
NOTE:  
 1. CONTRACTOR TO ADJUST  
 TETHER SYSTEM FOR MAXIMUM  
 COVER RISE OF 24".



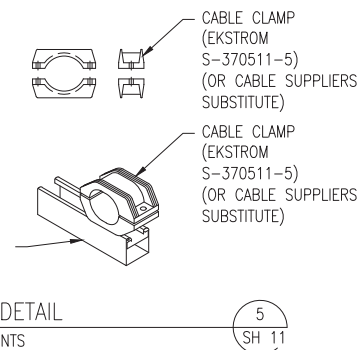
MANHOLE TETHER DETAIL  
 8  
 NTS SH 11



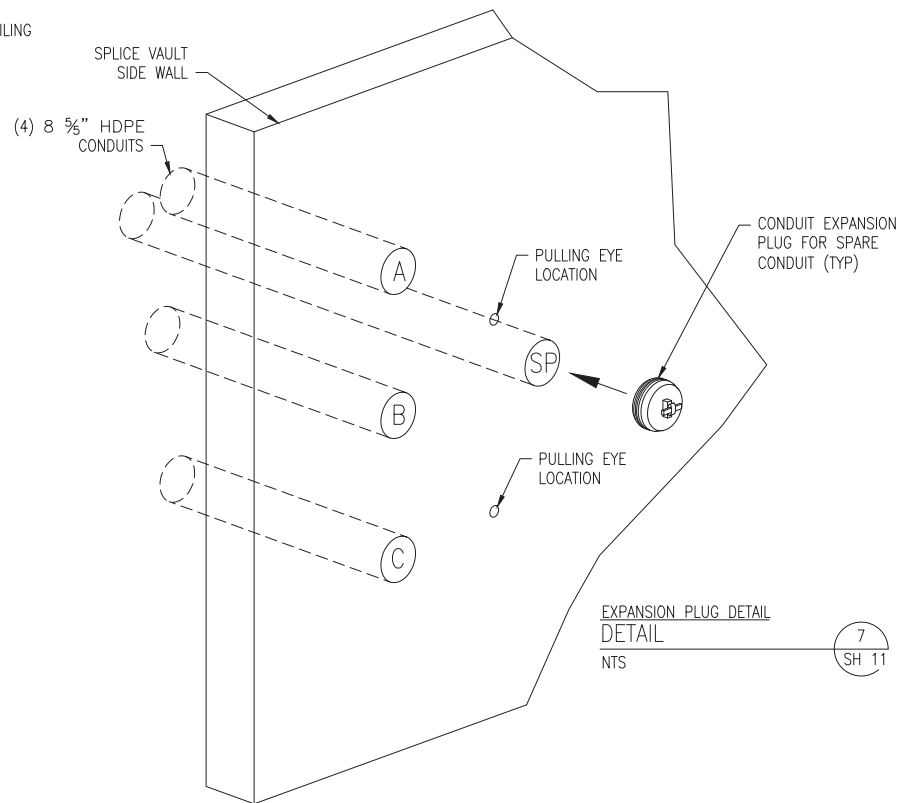
CIRCUIT IDENTIFICATION TAG  
 DETAIL  
 3  
 NTS SH 11



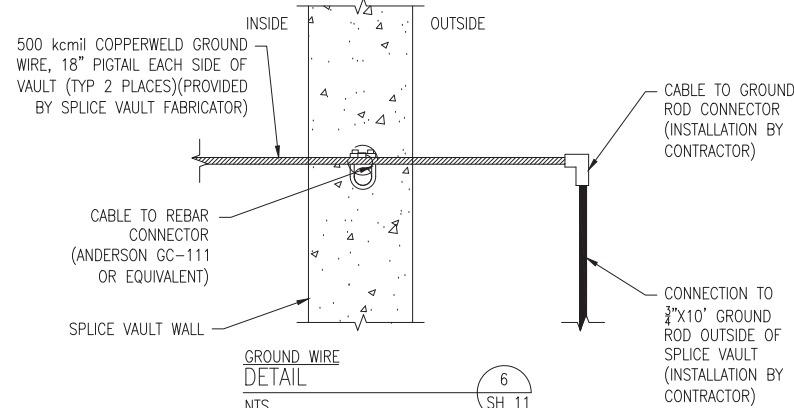
SPLICE VAULT RISER DETAIL  
 4  
 NTS SH 11



DETAIL  
 5  
 NTS SH 11



EXPANSION PLUG DETAIL  
 7  
 NTS SH 11



GROUND WIRE  
 DETAIL  
 6  
 NTS SH 11

NO.	REVISION	DATE	DRWN	CHKD	APPRV.
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6	ISSUE FOR PERMIT	12/14/15	REC	SCG	TSG
5	ISSUE FOR PERMIT	11-19-14	REC	SCG	TSG
4	ISSUE FOR REVIEW - ALIGNMENT ADJ.	5-18-15	REC	SMG	TSG
3	ISSUE FOR REVIEW - ALIGNMENT ADJ.	9-8-15	REC	SMG	TSG
2	ISSUE FOR REVIEW - ALIGNMENT ADJ.	10/14/14	REC	SMG	TSG
1	ISSUE FOR REVIEW	8-25-14	REC	SMG	TSG
0	ISSUE FOR REVIEW	8-25-14	REC	SMG	TSG

**Public Service of New Hampshire**  
 A Versant Utilities Company

Transmission Business

UNDERGROUND TRANSMISSION  
 PLAN & PROFILE  
 SEACOAST RELIABILITY PROJECT

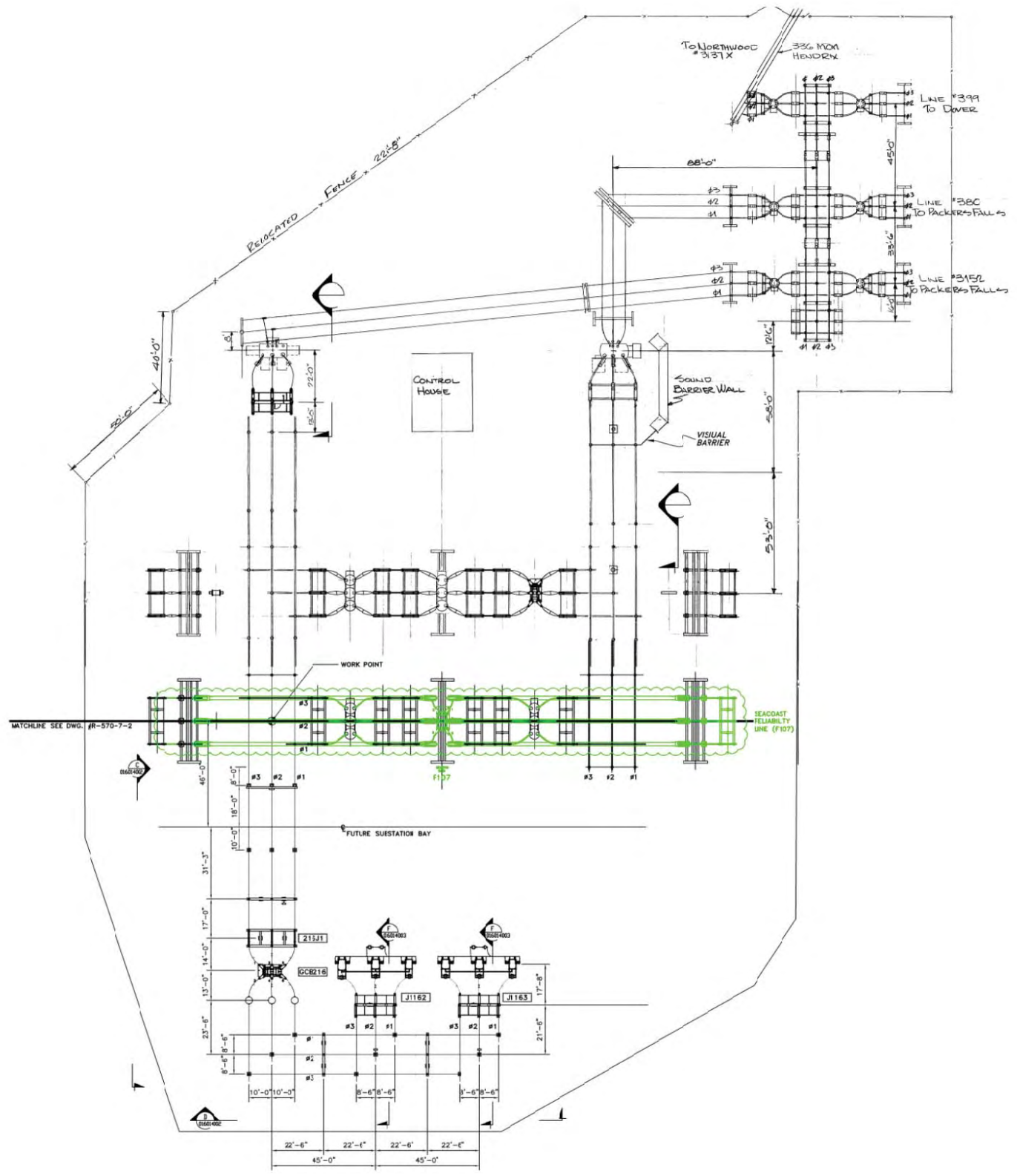
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TOWN: NEWINGTON, NH  
 TRANSMISSION LINE: F-107  
 MILE NO:  
 DISCIPLINE/SHT NO:  
 SHEET 12 OF 12

DATE: 8/25/2015  
 SCALE: AS NOTED

**811**  
 Know what's below.  
 Call before you dig.

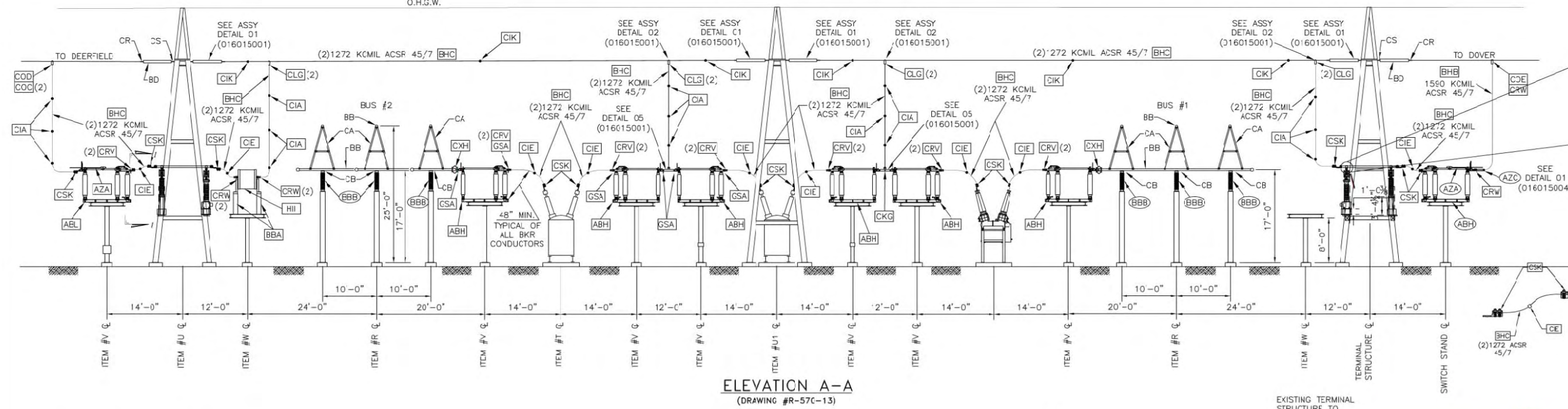
**POWER ENGINEERS**  
 www.powereng.com



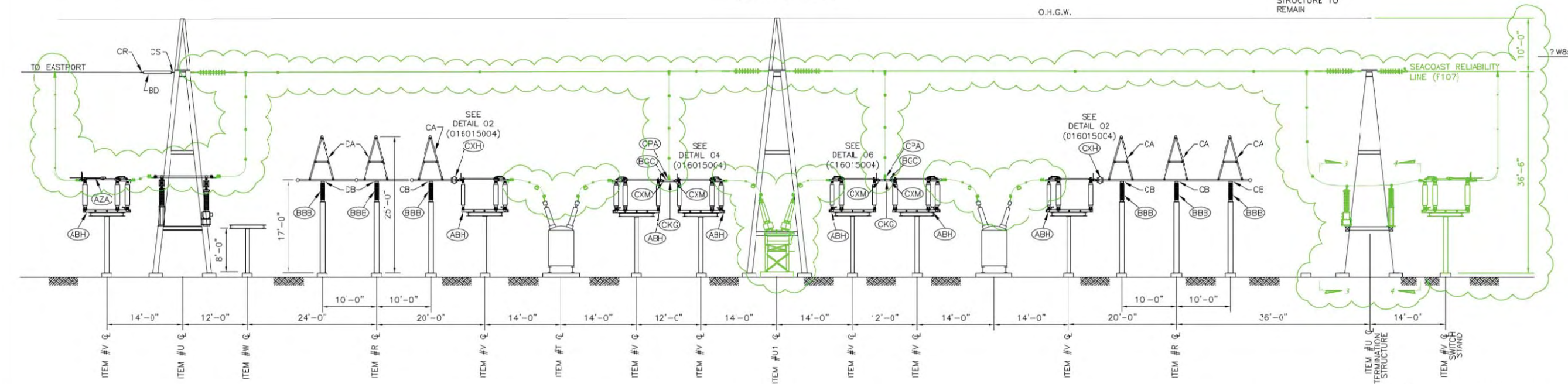
**ADDITIONS**

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0	ISSUED FOR PERMITTING	4/015	LEIDOS	SAH	NAL					DRW	MB-PEI
1	RECORD DRAWING	9-8-05	MB	LLM	WFC					ENGR	JWC-PEI
										CHECKED	WFC-PEI
										APPROVED	VCD-PSNH
										DATE	11/10/04
										SCALE	1/32" = 1'-0"
										FILE: 016014001.DWG	DRAWING NO. C16014001

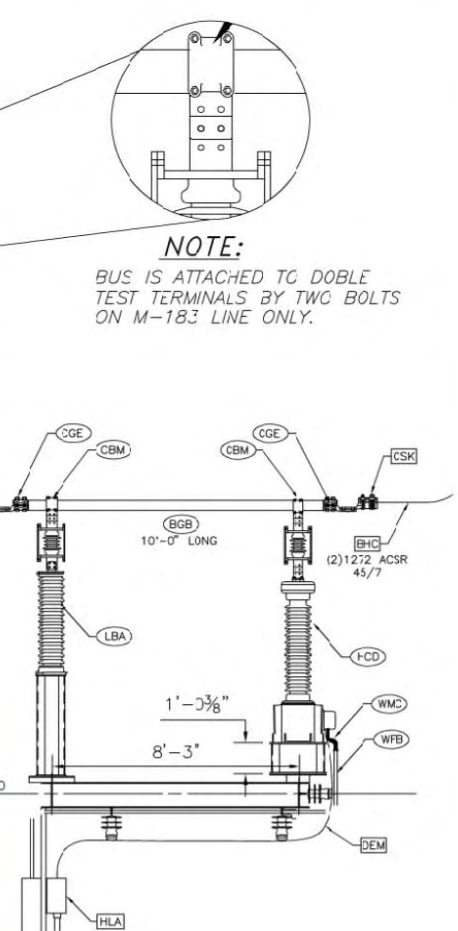
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 11/18/04



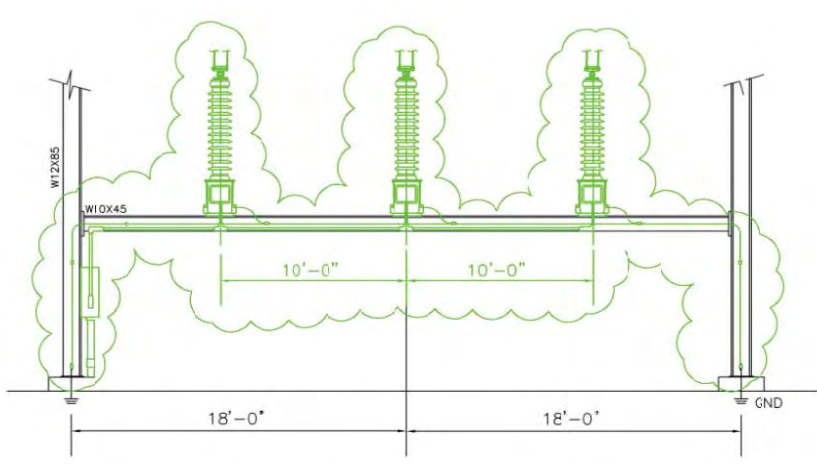
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(DRAWING #R-57C-13)



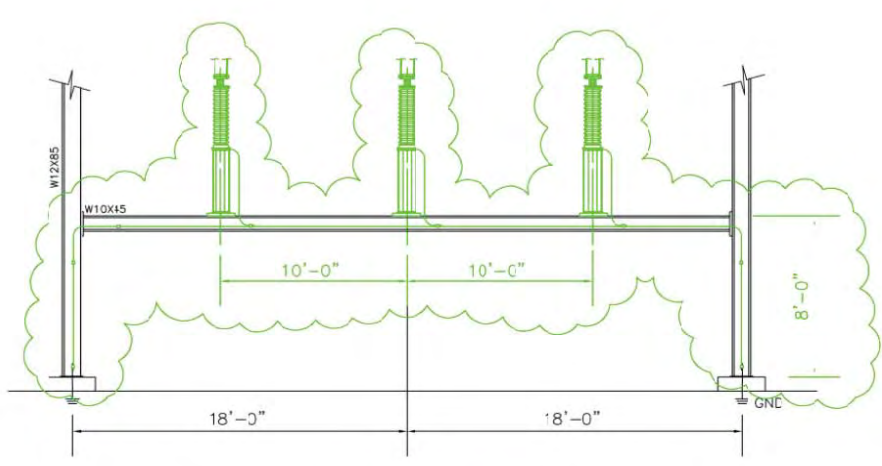
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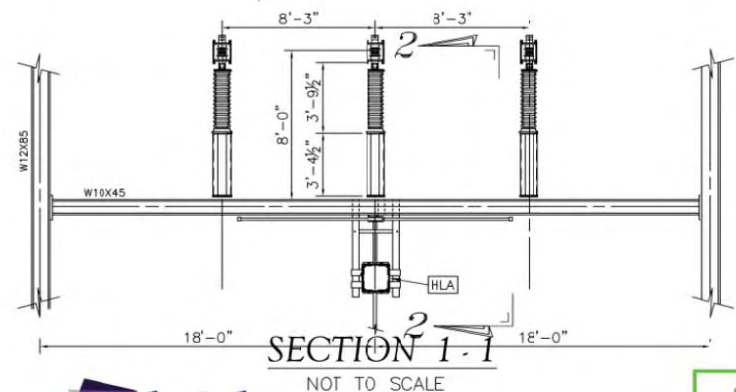
**SECTION 2-2**  
NOT TO SCALE



**SECTION 3-3**  
NOT TO SCALE



**SECTION 4-4**  
NOT TO SCALE



**SECTION 1-1**  
NOT TO SCALE

**LEGEND**  
 [XXX] DENOTES 2010 CONSTRUCTION  
 [XXX] DENOTES 2011 CONSTRUCTION  
 [XXX] DENOTES 2015 CONSTRUCTION

**ADDITIONS**



CONTRACT SERVICES	REV	DESCRIPTION	ENG/PI#	DATE	DRN	CHK	APPR
0	ISSUED FOR PERMITTING			4/015	LEIDOS	SAH	NAL
10	ISSUED FOR CONSTRUCTION, REV. RB428			11/3/13	JN	JFK	DLC
9	AS-BUILT FOR REV 7262			6/18/11	JTH	SMA	GRP
8	HOLLOW CORE INSULATOR REPL. IFC, REV 7262			2/7/11	JTH	SMA	GRP
7	AS-BUILT FOR TERMINAL UPGRADE REV. 6866			12/7/10	JTH	SMA	GRP
6	TERMINAL UPGRADE IFC REV. 6866			5/8/10	JTH	SMA	GRP
5	01B, L175 & M181 LA & CVT REPL. PROJECT AS-BUILT			01/08	DGP		
4	M-183 LA & CVT REPLACEMENT PROJECT			02/07	DGP	KPM	CEC
11	AS-BUILT, REV. RB428			05/20/14	JN	DLC	DLC

DRAWN FOR REVISION RB465

**Public Service of New Hampshire**  
A Northeast Utilities Company

**GENERAL ARRANGEMENT & ELEVATIONS**  
MADBURY 115KV S/S  
MADBURY, N.H.

SCALE: 3/32" = 1'-0"  
FILE: R-570-13.1-NO MM.DWG  
DRAWING NO: R-570-13.1

T	11
DRAWN	CLG-PEI
ENGINEER	JWC-PEI
CHECKED	WFC-PEI
APPROVED	MOB-PSNH
DATE	11/18/04





**Public Service Company of New Hampshire  
Seacoast Reliability Project**

**Madbury, Durham, Newington & Portsmouth, NH**

**New Hampshire Department of Environmental Services  
Alteration of Terrain Permit Application**

**Construction Notes**

*Prepared for:*

**Public Service Company of New Hampshire  
d/b/a/ Eversource Energy  
780 North Commercial Street  
Manchester, NH 03101**

*Prepared by:*

**Normandeau Associates, Inc.  
25 Nashua Road  
Bedford, NH 03110**

**March 2016**





**GENERAL NOTES:**

1. BACKGROUND AND EXISTING CONDITION INFORMATION PROVIDED BY EVERSOURCE, POWER ENGINEERS, AND CORNERSTONE ENERGY SERVICES INCLUDING CONTOURS, DESIGN AND STRUCTURE LOCATIONS, CROSS SECTIONS, EXISTING STRUCTURES (LiDAR), PARCEL DATA AND LANDOWNER INFORMATION. WETLAND, STREAMS AND OTHER NATURAL RESOURCES DELINEATED BY NORMANDEAU ASSOCIATES (2013-2015). IMPACT ANALYSIS PREPARED BY NORMANDEAU ASSOCIATES BASED ON DESIGN AND NATURAL RESOURCES INFORMATION (2015). AERIAL PHOTO (NH COASTAL 2014), NH DOT ROADS, FEMA FLOODPLAINS, CONSERVATION LANDS (CONSNH) PROVIDED BY NH GRANIT AND ARE PUBLICALLY AVAILABLE. HISTORICAL AND ARCHAEOLOGY DATA PROVIDED BY VICTORIA BUNKER, INC.
2. 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. CONTRACTORS SHOULD REFER TO DETAILED ENGINEERING PLANS FOR CONSTRUCTION. PERMIT AND ACCESS ROAD/WORK PAD PLANS ARE FOR GENERAL USE ONLY.
3. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
4. ELECTRICAL SUBSTATION COMPONENTS, UNDERGROUND TRANSMISSION LINES, OVER HEAD TRANSMISSION LINES AND THEIR FOUNDATIONS DEPICTED HEREIN ARE FOR REFERENCE ONLY.
5. CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE NO DISTURBANCE BEYOND THE DEPICTED LIMIT OF DISTURBANCE. ANY CHANGES SHALL BE APPROVED AND PERMITTED IN ADVANCE.
6. ALL REGULATORY AGENCY PERMITS REQUIRED FOR THE SITE SHALL BE OBTAINED PRIOR TO SITE WORK COMMENCING.
7. THE PROJECT SHALL MEET THE REQUIRMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

**EROSION AND SEDIMENTATION CONTROL NOTES:**

1. PRIOR TO THE COMMENCEMENT OF ALL CLEARING, DEMOLITION AND CONSTRUCTION ACTIVITY WITHIN THE APPROVED LIMITS OF DISTURBANCE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES.
2. PRIOR TO THE COMMENCEMENT OF ALL CLEARING, DEMOLITION AND CONSTRUCTION ACTIVITY WITHIN THE APPROVED LIMITS OF DISTURBANCE, THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
3. CONSTRUCTION ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE GENERAL NOTES, SEQUENCE PROVIDED ON THE CONSTRUCTION PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO IMPLEMENTATION.
4. 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, ENGINEER AND APPLICABLE REGULATORY AGENCIES.
5. 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.
6. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
7. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
8. AREAS REMAINING UNSTABILIZED FOR A PERIOD OF MORE THAN 30 DAY SHALL BE TEMPORAR LY SEEDED AND MULCHED. HAY MULCH SHALL BE APPLIED AT A MINIMUM RATE OF 1-1/2 TONS /ACRE.
9. PERMANENT SEEDING SHALL OCCUR BETWEEN APRIL 1 AND JUNE 1, AND/OR BETWEEN AUGUST 15 AND OCTOBER 15. ALL SEEDING FROM SEPTEMBER 15 SHALL BE HAY MULCHED.
10. STRAW WATTLES ARE RECOMMENDED ALONG THE EDGES OF ALL WETLAND MATTING WITHIN WETLAND AREAS AND ADJACENT TO STREAMS. ADDITIONAL MEASURES SHOULD BE BASED ON SITE-SPECIFIC CONDITIONS, RISK OF EROSION AND SLOPE AND SHALL INCLOUDE SILT FENCE, STAKED HAYBALES OR APPROVED EROSION CONTROL MIX BERMS AND/OR COMBINATIONS OF THE ABOVE.
11. 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.

12. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, RIP RAP ETC.) ON-SITE FOR MAINTENANCE AND EMERGENCY REPAIRS.
13. 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.
14. AT NO TIME SHALL THE TOTAL UNSTABILIZED DISTURBED AREA ON-SITE BE GREATER THAN (5) FIVE ACRES .
15. WATER SHALL BE USED FOR DUST CONTROL IN APPROPRIATE AREAS IN ACCORDANCE WITH ENV-A 1000.
16. 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.
17. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
18. 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.
19. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
20. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
21. 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.
22. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK REMOVE ALL TEMPORARY EROSION CONTROLS.

**WINTER CONSTRUCTION NOTES:**

1. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 % 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.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. 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.

**BLASTING BMPS:**

1. A. BEST MANAGEMENT PRACTICES FOR BLASTING. ALL ACTIVITIES RELATED TO BLASTING SHALL FOLLOW BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT CONTAMINATION OF GROUNDWATER INCLUDING PREPARING, REVIEWING AND FOLLOWING AN APPROVED BLASTING PLAN; PROPER DRILLING, EXPLOSIVE HANDING AND LOADING PROCEDURES; OBSERVING THE ENTIRE BLASTING PROCEDURES; EVALUATING BLASTING PERFORMANCE; AND HANDLING AND STORAGE OF BLASTED ROCK.
2. LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
  - (A) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS.
  - (B) EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL.
  - (C) SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL.

- (D) LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED.
- (E) LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT.
- (F) EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
3. EXPLOSIVE SELECTION. THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
- (A) EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION.
- (B) EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER.
4. PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
5. MUCK PILE MANAGEMENT. MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
- (A) REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE.
- (B) MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
6. SPILL PREVENTION MEASURES AND SPILL MITIGATION. SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:
- (A) THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
1. STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE.
  2. SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY.
  3. LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY.
  4. INSPECT STORAGE AREAS WEEKLY.
  5. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS.
  6. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS.
  7. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
- (B) THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
1. EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED.
  2. PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS.
  3. HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS.
  4. USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES.
  5. PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
- (C) THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
- (D) FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT WILL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES [NOTE THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT" OR ITS SUCCESSOR DOCUMENT. (SEE [HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF](http://des.nh.gov/organization/commissioner/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF) )