

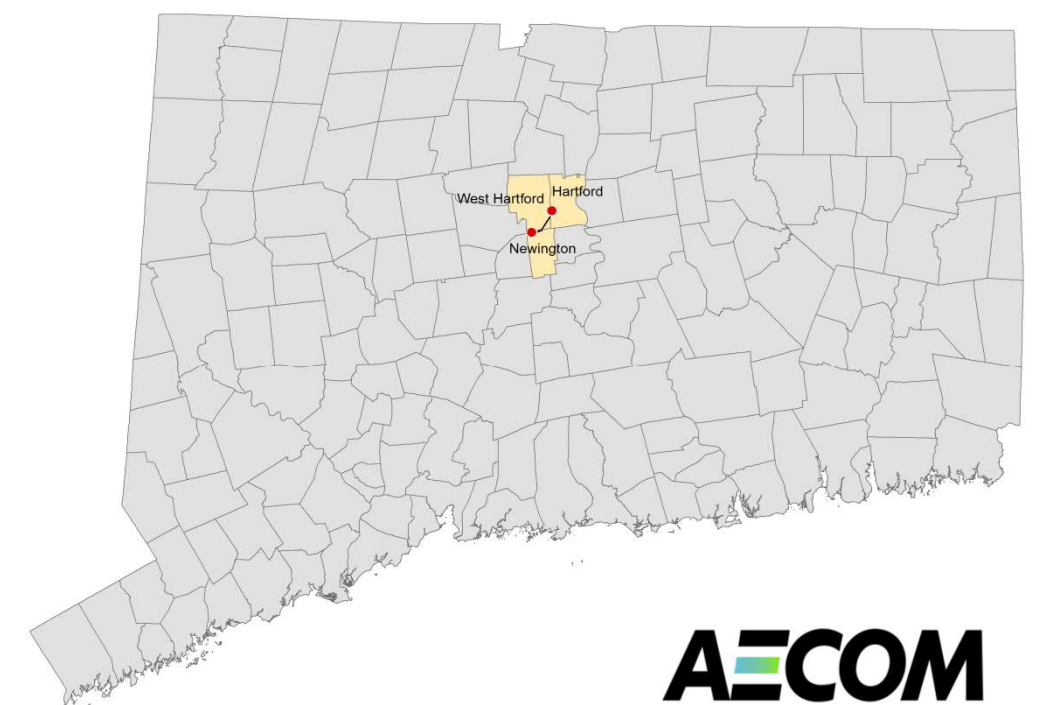
# EVERSOURCE ENERGY

## GREATER HARTFORD-CENTRAL CONNECTICUT RELIABILITY PROJECT

### DEVELOPMENT AND MANAGEMENT PLAN FOR NEW 115-kV TRANSMISSION LINE - UNDERGROUND SEGMENT

#### VOLUME 1-UG APPENDICES

JULY 2018



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**GREATER HARTFORD-CENTRAL CONNECTICUT RELIABILITY PROJECT  
DEVELOPMENT AND MANAGEMENT PLAN FOR  
NEW 115-KV TRANSMISSION LINE – UNDERGROUND SEGMENT  
VOLUME 1-UG APPENDICES\***

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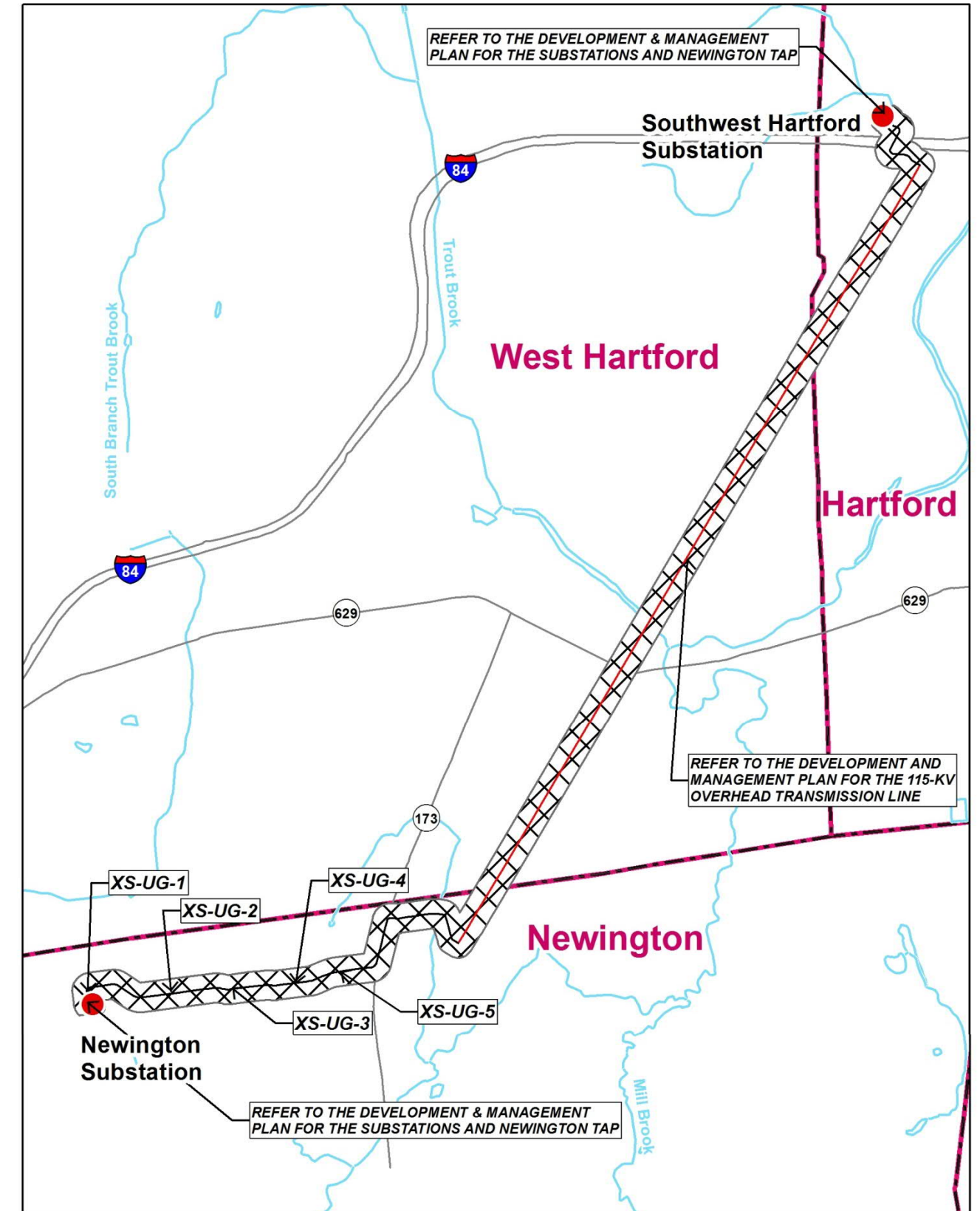
**UNDERGROUND SEGMENT OF THE 115-KV TRANSMISSION LINE**

EXHIBIT A.1	CROSS SECTION SHEETS: 115-kV UNDERGROUND LINE (XS-UG-1 TO XS-UG-5)
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\* Eversource elected to prepare three Development and Management (D&M) Plans for the Greater Hartford-Central Connecticut Reliability Project: one for the substations and Newington Tap modifications, and two for the 115-kV transmission line (one for the overhead line segment and one for the underground line segment). This D&M Plan addresses all construction activities for the underground segment of the 115-kV transmission line.

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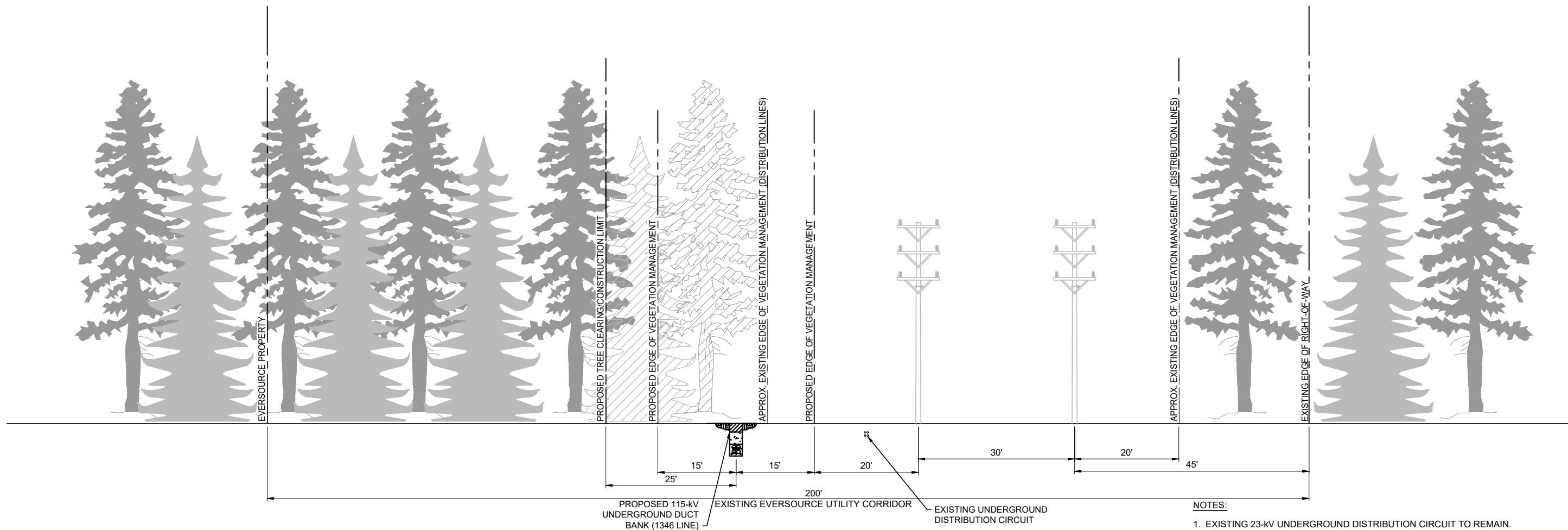
# **APPENDIX A**

## **NEW 115-kV TRANSMISSION LINE - UNDERGROUND SEGMENT**

EXHIBIT A.1	CROSS SECTION SHEETS: 115-kV UNDERGROUND LINE (XS-UG-1 TO XS-UG-5)
EXHIBIT A.2	USGS / MAP SHEET INDEX (1:24,000 SCALE)
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EXHIBIT A.4	PLAN AND PROFILE DRAWINGS

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EVERSOURCE ROW ROUTE  
 CROSS SECTION 1: NEAR NEWINGTON S.S. TO AVERY ROAD  
 IN THE TOWN OF NEWINGTON  
 LOOKING EAST  
 (0.03 MILES)



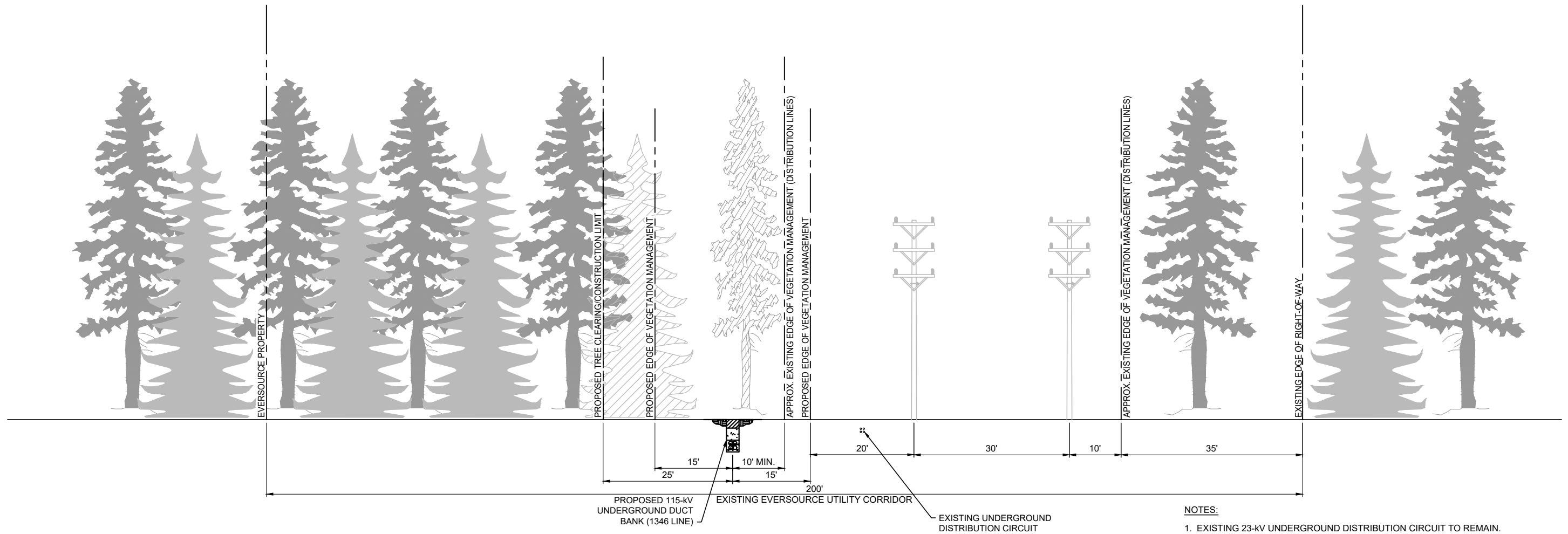
- NOTES:
1. EXISTING 23-kV UNDERGROUND DISTRIBUTION CIRCUIT TO REMAIN.
  2. EXISTING 23-kV OVERHEAD DISTRIBUTION CIRCUITS TO REMAIN.
  3. CONSTRUCTION WORK AREA WILL ENCOMPASS APPROXIMATELY 40' OF THE 200' SECTION OF UTILITY CORRIDOR.
  4. ALL VEGETATION MANAGEMENT AND CLEARING LIMITS ARE APPROXIMATE.
  5. SPLICE VAULT TO BE INSTALLED ALONG THIS ROW SEGMENT WEST OF AVERY ROAD.



TITLE  
**GREATER HARTFORD CENTRAL CONNECTICUT RELIABILITY PROJECT**  
**PROPOSED UNDERGROUND CONFIGURATION**  
**EXHIBIT A.1**

BY	M. PEPICH	CHKD	D. GOGOL	APP	APP
DATE	8/2/16	DATE	8/2/16	DATE	DATE
SCALE	NONE	MICROFILM DATE	DWG. NO. <b>XS-UG-1</b>		
P.A. #					

EVERSOURCE ROW ROUTE  
 CROSS SECTION 2: ROW BETWEEN AVERY ROAD AND WEST HARTFORD ROAD  
 IN THE TOWN OF NEWINGTON  
 LOOKING EAST  
 (0.17 MILES)



NOTES:

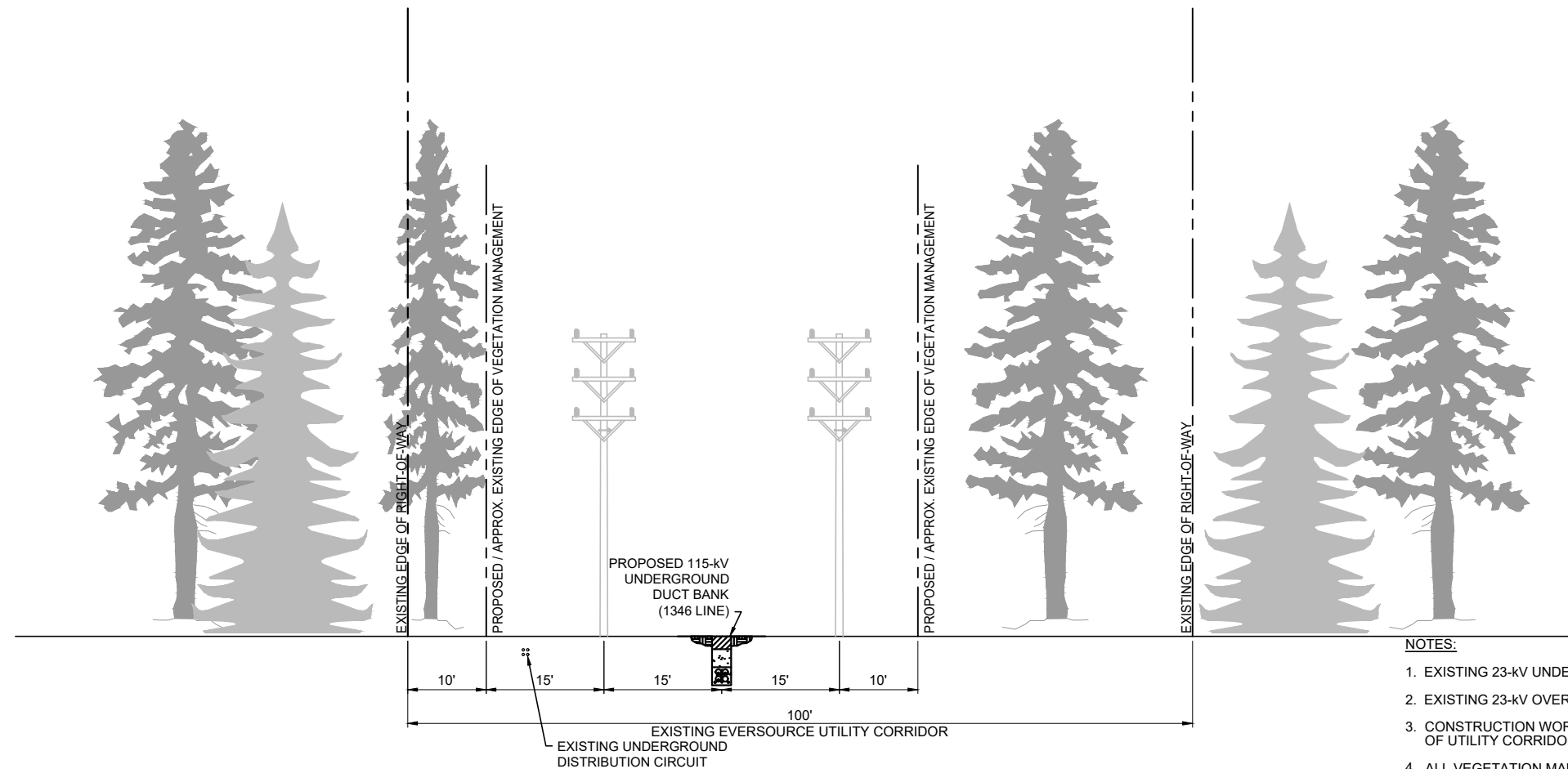
1. EXISTING 23-kV UNDERGROUND DISTRIBUTION CIRCUIT TO REMAIN.
2. EXISTING 23-kV OVERHEAD DISTRIBUTION CIRCUITS TO REMAIN.
3. CONSTRUCTION WORK AREA WILL ENCOMPASS APPROXIMATELY 40' OF THE 200' SECTION OF UTILITY CORRIDOR.
4. ALL VEGETATION MANAGEMENT AND CLEARING LIMITS ARE APPROXIMATE.



TITLE  
**GREATER HARTFORD CENTRAL CONNECTICUT RELIABILITY PROJECT**  
**PROPOSED UNDERGROUND CONFIGURATION**  
**EXHIBIT A.1**

BY	M. PEPICH	CHKD	D. GOGOL	APP	APP
DATE	8/2/16	DATE	8/2/16	DATE	DATE
SCALE	NONE	MICROFILM	DATE	DWG. NO.	XS-UG-2
P.A. #					

EVERSOURCE ROW ROUTE  
 CROSS SECTION 3: ROW BETWEEN AVERY ROAD AND WEST HARTFORD ROAD  
 IN THE TOWN OF NEWINGTON  
 LOOKING EAST  
 (0.12 MILES)



NOTES:

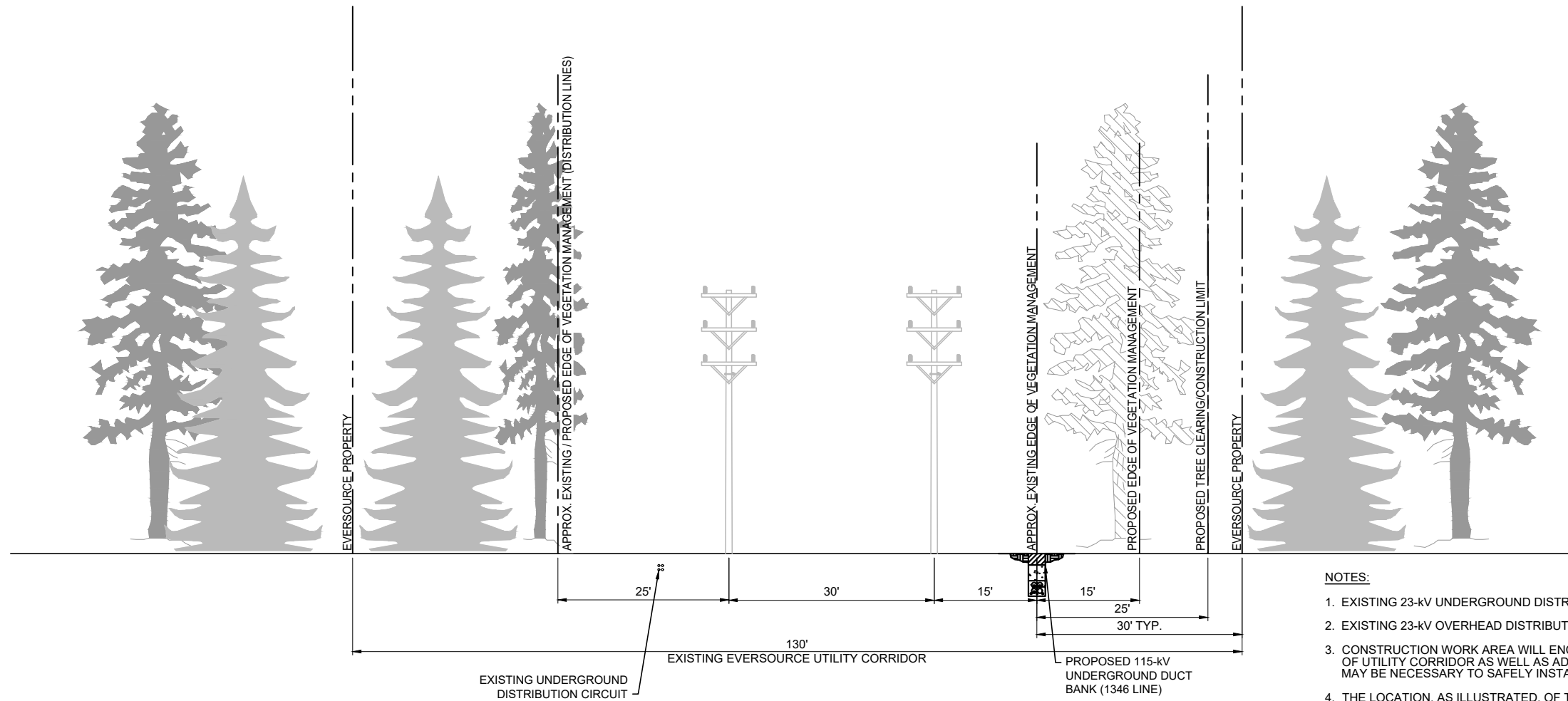
1. EXISTING 23-kV UNDERGROUND DISTRIBUTION CIRCUIT TO REMAIN.
2. EXISTING 23-kV OVERHEAD DISTRIBUTION CIRCUITS TO REMAIN.
3. CONSTRUCTION WORK AREA WILL ENCOMPASS APPROXIMATELY 55' OF THE 100' SECTION OF UTILITY CORRIDOR.
4. ALL VEGETATION MANAGEMENT AND CLEARING LIMITS ARE APPROXIMATE.
5. TEMPORARY DISTRIBUTION POLES, RANGING IN HEIGHT FROM APPROXIMATELY 60 TO 80 FEET, WILL BE INSTALLED AS NEEDED NEAR THE EXISTING 23-kV OVERHEAD POLES TO FACILITATE CONSTRUCTION OF THE UNDERGROUND CABLE SYSTEM. THE EXISTING 23-kV CIRCUITS WILL BE TEMPORARILY TRANSFERRED TO THESE NEW, TALLER POLES TO INCREASE THE HEIGHT OF THE DISTRIBUTION CIRCUITS AND THUS MAINTAIN CLEARANCE FROM THE 115-kV CABLE CONSTRUCTION EQUIPMENT. AFTER THE INSTALLATION OF THE 115-kV CABLE SYSTEM, THE 23-kV CIRCUITS WILL BE RETURNED TO THE EXISTING WOOD POLES AND THE TEMPORARY DISTRIBUTION POLES WILL BE REMOVED FROM THE RIGHT-OF-WAY.

**EVERSOURCE**  
 ENERGY

TITLE  
**GREATER HARTFORD CENTRAL CONNECTICUT RELIABILITY PROJECT**  
**PROPOSED UNDERGROUND CONFIGURATION**  
**EXHIBIT A.1**

BY	M. PEPICH	CHKD	D. GOGOL	APP	APP
DATE	8/2/16	DATE	8/2/16	DATE	DATE
SCALE	NONE	MICROFILM	DATE	DWG. NO.	<b>XS-UG-3</b>
P.A. #					

EVERSOURCE ROW ROUTE  
 CROSS SECTION 4: ROW EAST OF WEST HARTFORD ROAD  
 IN THE TOWN OF NEWINGTON  
 LOOKING EAST  
 (0.17 MILES)



NOTES:

- EXISTING 23-kV UNDERGROUND DISTRIBUTION CIRCUIT TO REMAIN.
- EXISTING 23-kV OVERHEAD DISTRIBUTION CIRCUITS TO REMAIN.
- CONSTRUCTION WORK AREA WILL ENCOMPASS APPROXIMATELY 40' OF THE 130' SECTION OF UTILITY CORRIDOR AS WELL AS ADDITIONAL WORK AREAS AT DISTRIBUTION POLES AS MAY BE NECESSARY TO SAFELY INSTALL THE CABLE SYSTEM (REFER TO MAP SHEETS).
- THE LOCATION, AS ILLUSTRATED, OF THE 1346 LINE DUCT BANK IN RELATION TO THE SOUTHERN EDGE OF THE EVERSOURCE ROW IS TYPICAL. THE ACTUAL DISTANCE MAY VARY BASED ON TOPOGRAPHY AND THE SITE-SPECIFIC CONFIGURATION OF THE TRANSMISSION LINE (E.G. ENTRY AND EXITS TO THE SPLICE VAULT).
- ALL VEGETATION MANAGEMENT AND CLEARING LIMITS ARE APPROXIMATE.
- SPLICE VAULT TO BE LOCATED EAST OF WEST HARTFORD ROAD IN UPLAND AREA WITHIN DISTRIBUTION RIGHT-OF-WAY.

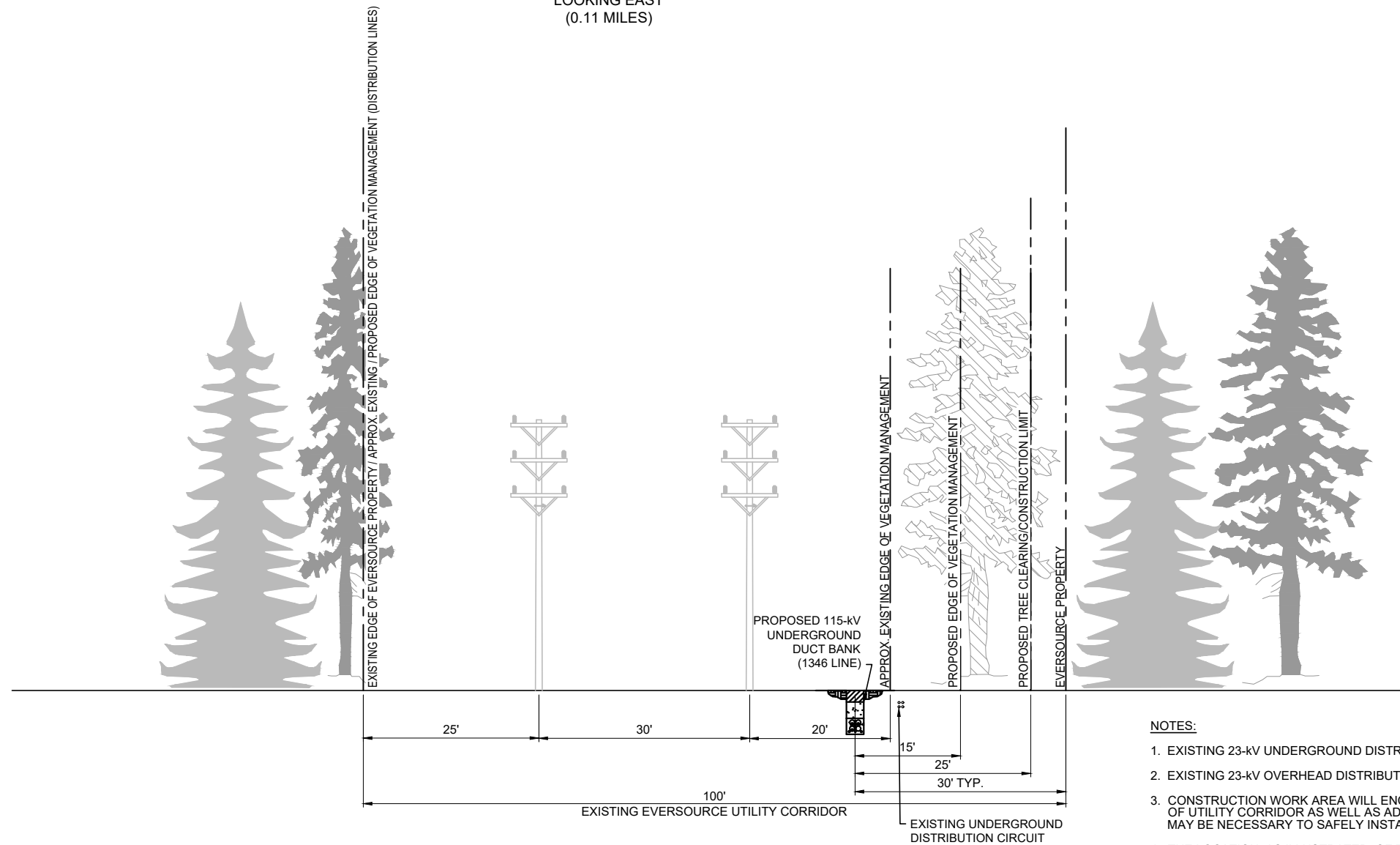
**EVERSOURCE**  
 ENERGY

TITLE  
**GREATER HARTFORD CENTRAL CONNECTICUT RELIABILITY PROJECT**  
**PROPOSED UNDERGROUND CONFIGURATION**  
**EXHIBIT A.1**

BY	M. PEPICH	CHKD	D. GOGOL	APP	APP
DATE	8/2/16	DATE	8/2/16	DATE	DATE
SCALE	NONE	MICROFILM	DATE	DWG. NO.	XS-UG-4
P.A. #					



EVERSOURCE ROW ROUTE  
 CROSS SECTION 5: ROW EAST OF WEST HARTFORD ROAD  
 IN THE TOWN OF NEWINGTON  
 LOOKING EAST  
 (0.11 MILES)



NOTES:

1. EXISTING 23-kV UNDERGROUND DISTRIBUTION CIRCUIT TO REMAIN.
2. EXISTING 23-kV OVERHEAD DISTRIBUTION CIRCUITS TO REMAIN.
3. CONSTRUCTION WORK AREA WILL ENCOMPASS APPROXIMATELY 40' OF THE 100' SECTION OF UTILITY CORRIDOR AS WELL AS ADDITIONAL WORK AREAS AT DISTRIBUTION POLES AS MAY BE NECESSARY TO SAFELY INSTALL THE CABLE SYSTEM (REFER TO MAP SHEETS).
4. THE LOCATION, AS ILLUSTRATED, OF THE 1346 LINE DUCT BANK IN RELATION TO THE SOUTHERN EDGE OF THE EVERSOURCE RIGHT-OF-WAY IS TYPICAL. THE ACTUAL DISTANCE MAY VARY BASED ON TOPOGRAPHY AND THE SITE-SPECIFIC CONFIGURATION OF THE TRANSMISSION LINE (E.G. ENTRY AND EXITS TO THE SPLICE VAULT).
5. ALL VEGETATION MANAGEMENT AND CLEARING LIMITS ARE APPROXIMATE.

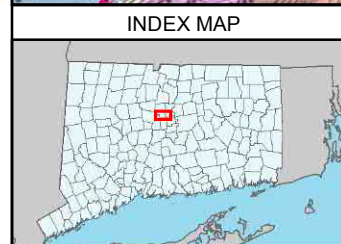
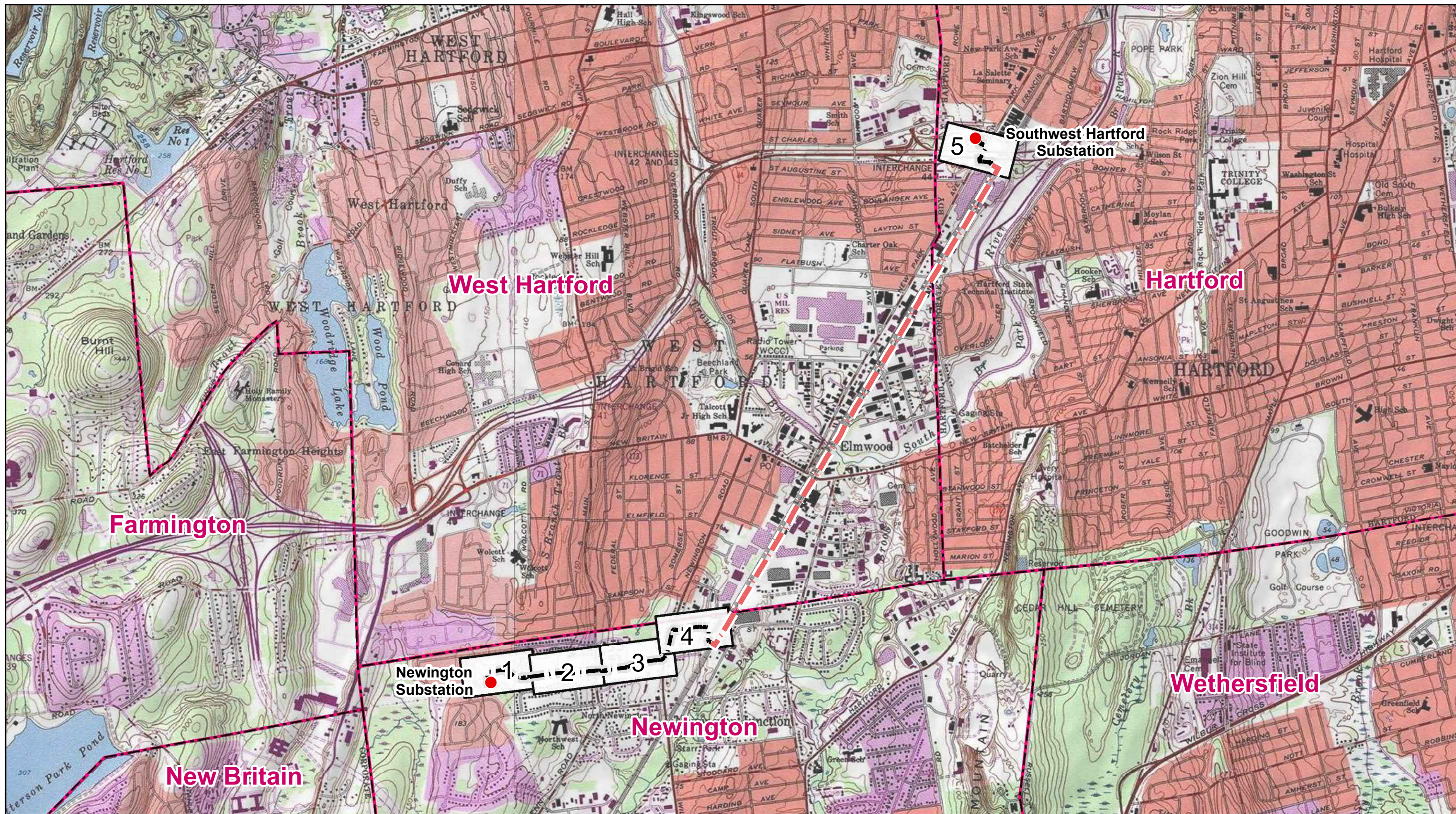
**EVERSOURCE**  
 ENERGY

TITLE  
**GREATER HARTFORD CENTRAL CONNECTICUT RELIABILITY PROJECT**  
**PROPOSED UNDERGROUND CONFIGURATION**  
**EXHIBIT A.1**

BY	M. PEPICH	CHKD	D. GOGOL	APP	APP
DATE	8/2/16	DATE	8/2/16	DATE	DATE
SCALE	NONE	MICROFILM	DATE	DWG. NO.	XS-UG-5
P.A. #					

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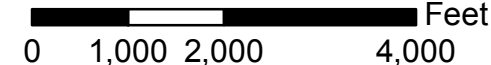


**Legend**

- Substation
- Overhead Eversource Line
- Underground Eversource Line
- 1 Map Sheet Extent and Number
- Municipal Boundary



1 inch = 2,000 feet

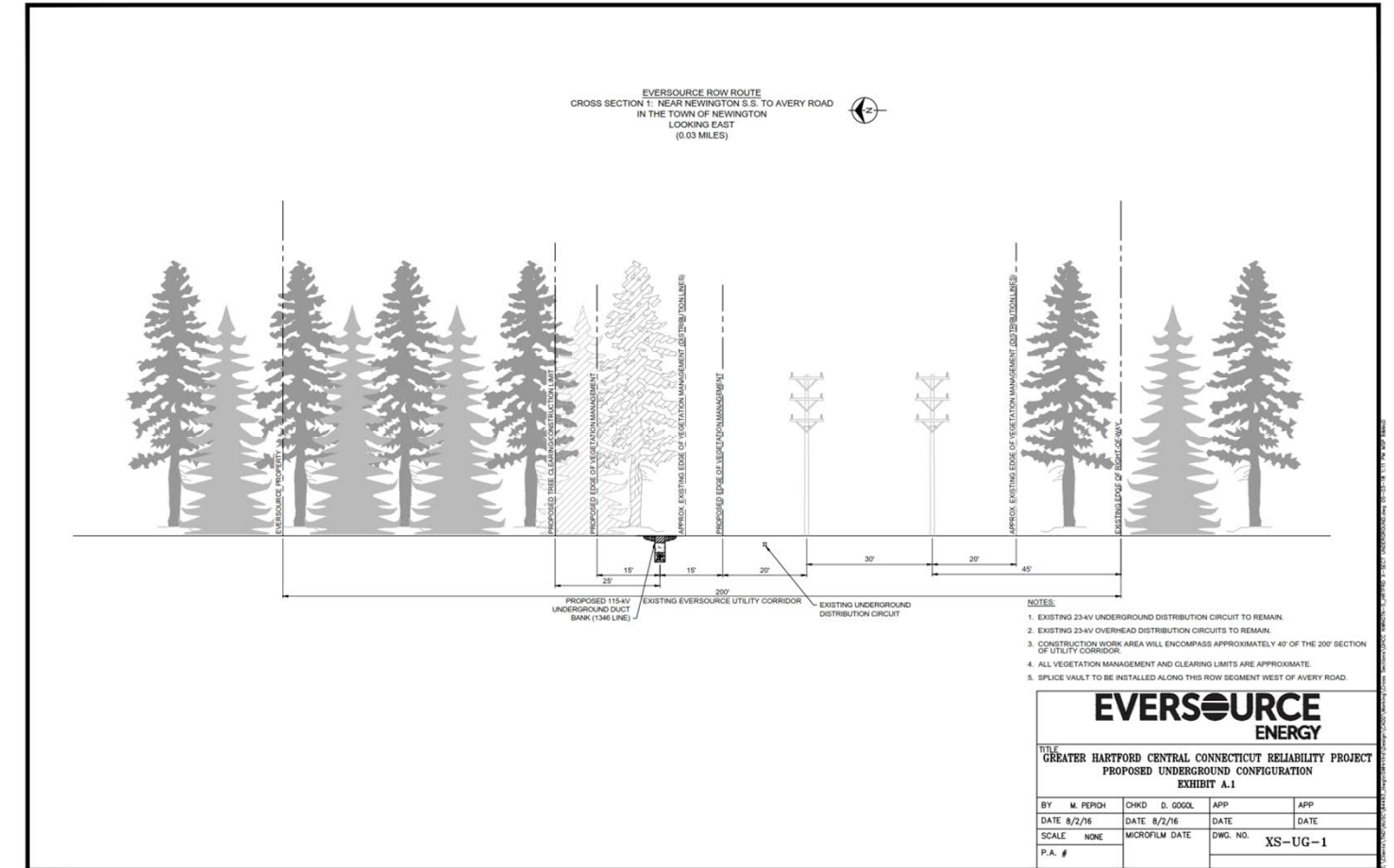


NO. DATE		REVISIONS		BY CHK APP APP		5/1/2018		<b>EVERSOURCE</b> Greater Hartford-Central Connecticut Reliability Project (GHCRP) Underground Segment of the 115-kV Transmission Line Newington and Hartford, CT		<b>AECOM</b>



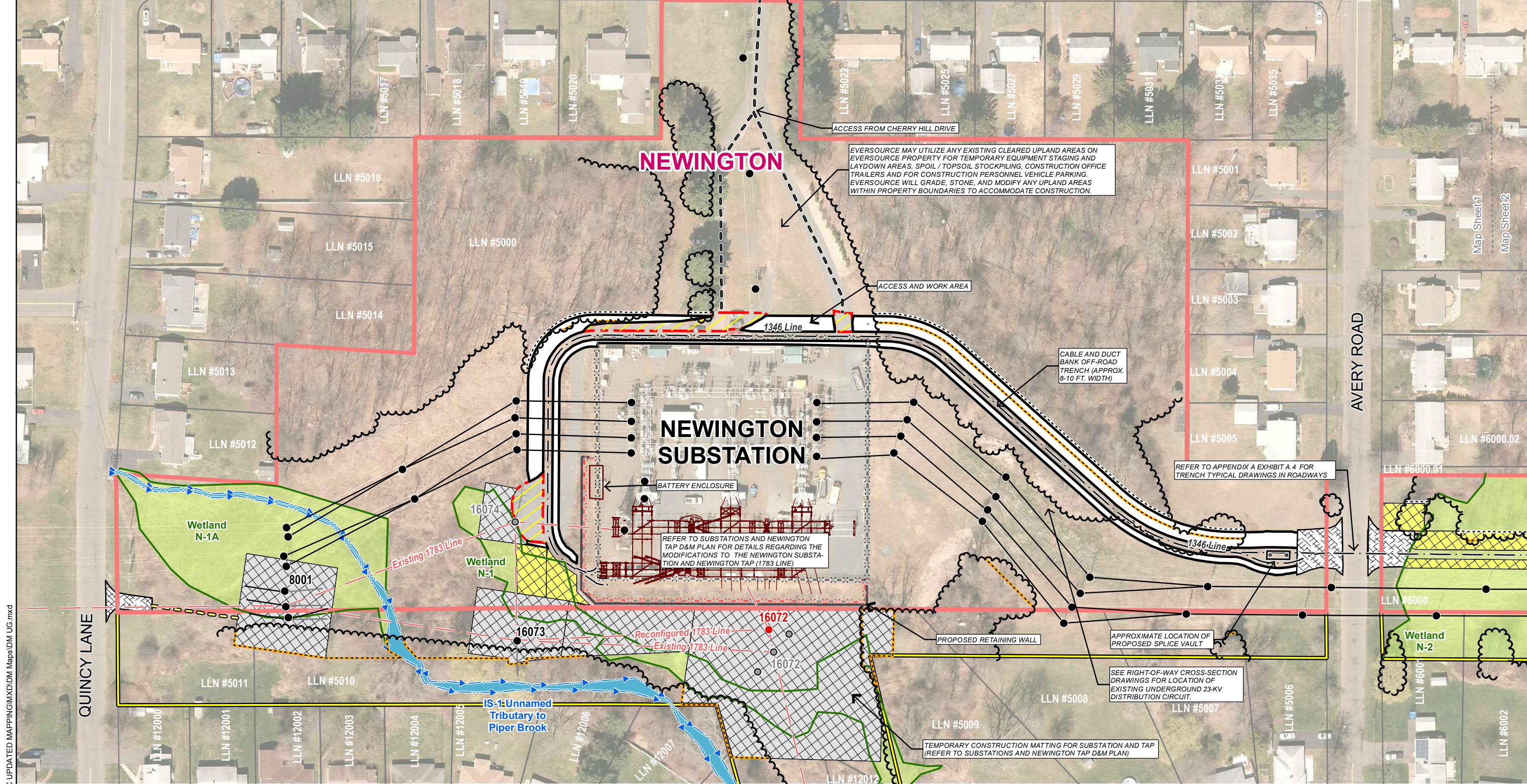
MAP SHEET 1 of 5  
 Greater Hartford-Central Connecticut Reliability Project (GHCCRP)  
 115-kV Transmission Line – Underground Segment  
 Newington, Connecticut

Line List Number	Town	Site Address	Owner Name
5000	NEWINGTON	185 CHERRY HILL DRIVE	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)
5001	NEWINGTON	57 AVERY ROAD	ALISHA GIANNANTONIO
5002	NEWINGTON	51 AVERY ROAD	DONALD B & EILEEN S LU ROBERTS ET AL
5003	NEWINGTON	45 AVERY ROAD	CHRIS J & CAITLIN Q O'NEILL
5004	NEWINGTON	41 AVERY ROAD	RONALD A WHITE
5005	NEWINGTON	35 AVERY ROAD	RICHARD J CANELLO
5006	NEWINGTON	7 AVERY ROAD	KIU MAN YEUNG
5007	NEWINGTON	124 BARNARD DRIVE	SABEENA ARORA
5008	NEWINGTON	128 BARNARD DRIVE	MITCHELL R SCOTT
5009	NEWINGTON	132 BARNARD DRIVE	DANIEL LUDZINSKI
5010	NEWINGTON	156 RESERVOIR ROAD	TOWN OF NEWINGTON
5011	NEWINGTON	16 QUINCY LANE	SAMUEL WEITZ
5012	NEWINGTON	34 QUINCY LANE	ALDINA C PORTAL
5013	NEWINGTON	40 QUINCY LANE	JOHN E JR & DOROTHY D GUYAN
5014	NEWINGTON	46 QUINCY LANE	JENNIFER L CYR
5015	NEWINGTON	52 QUINCY LANE	MICHELINA BREININGER
5016	NEWINGTON	58 QUINCY LANE	JOSE E & ROSA REIS
5017	NEWINGTON	213 CHERRY HILL DRIVE	LENA J GUBKIN
5018	NEWINGTON	207 CHERRY HILL DRIVE	ERIN E PIETROWICZ
5019	NEWINGTON	201 CHERRY HILL DRIVE	JASON BOURGEOIS
5020	NEWINGTON	195 CHERRY HILL DRIVE	THOMAS J BASCETTA JR
5022	NEWINGTON	171 CHERRY HILL DRIVE	ROBERT F & CARYL B & KELLY RYDER
5025	NEWINGTON	165 CHERRY HILL DRIVE	RALPH W & MARIANNE HAWKES
5027	NEWINGTON	159 CHERRY HILL DRIVE	KAMI ANTUNES
5029	NEWINGTON	153 CHERRY HILL DRIVE	REICH THECLA COVELLE
5031	NEWINGTON	147 CHERRY HILL DRIVE	DAVID R CAMERON
5033	NEWINGTON	141 CHERRY HILL DRIVE	NANCY SHORTELL
5035	NEWINGTON	135 CHERRY HILL DRIVE	JONATHAN SEILER
6000	NEWINGTON	32 AVERY ROAD	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)
6000.01	NEWINGTON	41 WEST HARTFORD ROAD	TEMPLE SINAI OF NEWINGTON INC
6000.02	NEWINGTON	36 AVERY ROAD	JUDITH A BERGSTROM
6001	NEWINGTON	8 AVERY ROAD	JOSEPH E GUZZO & KATHERINE P LU
6002	NEWINGTON	102 BARNARD DRIVE	MARIA MARTINS
12000	NEWINGTON	6 QUINCY LANE	ARNOLD E GUYETTE & M LU GERMAINE LU, GARY A GUYETTE ETAL SURV
12001	NEWINGTON	64 THORNTON DRIVE	IRVING & BETTY W SEIDMAN
12002	NEWINGTON	58 THORNTON DRIVE	JOSEPH E GAVIN
12003	NEWINGTON	54 THORNTON DRIVE	NICHOLAS J MITROU
12004	NEWINGTON	48 THORNTON DRIVE	CYNTHIA P SCALORA
12005	NEWINGTON	42 THORNTON DRIVE	ELIZABETH B DOUGHERTY ESTATE C/O RONALD W DOUGHERTY EXECUTOR
12006	NEWINGTON	38 THORNTON DRIVE	LINDA C ISARAI
12007	NEWINGTON	34 THORNTON DRIVE	STEPHEN A & JENNIFER A PROUTY SURV
12008	NEWINGTON	30 THORNTON DRIVE	SANDRA M TILLEY
12012	NEWINGTON	136 BARNARD DRIVE	DOM & MARIA S DAMORE



- SITE SPECIFIC NOTES**
- A. INSTALL CONSTRUCTION ENTRANCE TRACK PAD AT AVERY ROAD CROSSING FOR ROADWAY PROTECTION AND EROSION AND SEDIMENT CONTROL. UNDERLAY TRACKING PAD WITH GEOTEXTILE FABRIC. MAINTAIN IF TRACKING PAD BECOMES CLOGGED WITH SOIL. ANY SEDIMENT TRACKED ONTO THE ROAD SURFACE SHALL BE SWEEPED CLEAN AT THE END OF EACH WORK DAY. REMOVE TRACKING PAD AFTER CONSTRUCTION IS COMPLETE. REFER TO EVERSOURCE'S BMP MANUAL (2016) PAGE 3-8 AND 3-9 AND D&M PLAN APPENDIX B DETAIL SHEET 4.
  - B. CONSULT WITH EVERSOURCE COMPLIANCE MONITOR TO DETERMINE IF PROTECTION MEASURES FOR STATE-LISTED RARE SPECIES ARE REQUIRED.
  - C. REFER TO D&M PLAN APPENDIX B DETAIL SHEETS 1 & 2 FOR WORK IN OR NEAR WETLANDS OR WATERCOURSES.
  - D. FOR THE UNDERGROUND TRANSMISSION LINE INSTALLATION, NO WORK IS REQUIRED IN WETLAND N-1A, AND ONLY MINOR CONSTRUCTION MATTING AND TRENCHING IS REQUIRED IN WETLAND N-1 ADJACENT TO THE NEWINGTON SUBSTATION FACILITY. NO OTHER WORK IS AUTHORIZED IN WETLANDS N-1A OR N-1 FOR INSTALLATION OF THE UNDERGROUND TRANSMISSION LINE.
  - E. ALL PROJECT CONSTRUCTION ACTIVITIES IN WETLANDS N-1 AND N-2 SHALL BE CONTAINED WITHIN THE LOCATION AND ALIGNMENT OF DEPICTED WORKSPACES, WORK PADS AND ACCESS ROADS. ALL ACCESS/WORK AREAS IN WETLANDS MUST USE TEMPORARY CONSTRUCTION MATTING.
  - F. ALL PROJECT WETLANDS HAVE KNOWN POPULATIONS OF INVASIVE SPECIES, THEREFORE ADHERENCE TO THE WETLAND INVASIVE SPECIES CONTROL Bmps APPLIES FOR ALL MATTING AND EQUIPMENT IN WETLANDS.





EVERSOURCE MAY UTILIZE ANY EXISTING CLEARED UPLAND AREAS ON EVERSOURCE PROPERTY FOR TEMPORARY EQUIPMENT STAGING AND LAYDOWN AREAS, SPOIL / TOPSOIL STOCKPILING, CONSTRUCTION OFFICE TRAILERS AND FOR CONSTRUCTION PERSONNEL VEHICLE PARKING. EVERSOURCE WILL GRADE, STONE, AND MODIFY ANY UPLAND AREAS WITHIN PROPERTY BOUNDARIES TO ACCOMMODATE CONSTRUCTION.

**NEWINGTON**

**NEWINGTON SUBSTATION**

REFER TO SUBSTATIONS AND NEWINGTON TAP D&M PLAN FOR DETAILS REGARDING THE MODIFICATIONS TO THE NEWINGTON SUBSTATION AND NEWINGTON TAP (1783 LINE)

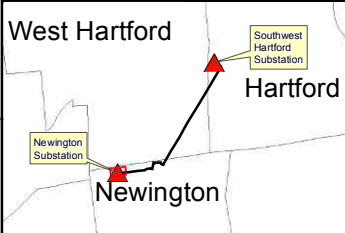
CABLE AND DUCT BANK OFF-ROAD TRENCH (APPROX. 8-10 FT. WIDTH)

REFER TO APPENDIX A EXHIBIT A.4 FOR TRENCH TYPICAL DRAWINGS IN ROADWAYS

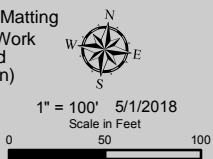
SEE RIGHT-OF-WAY CROSS-SECTION DRAWINGS FOR LOCATION OF EXISTING UNDERGROUND 23-KV DISTRIBUTION CIRCUIT.

TEMPORARY CONSTRUCTION MATTING FOR SUBSTATION AND TAP (REFER TO SUBSTATIONS AND NEWINGTON TAP D&M PLAN)

- General Notes:
- The limits of tree clearing, as shown, define areas where vegetation removal and grubbing, grading, and excavation may occur. Minor deviations may be required in some locations. Additionally, danger or hazard tree removal may be required outside of the vegetation removal limits. Vegetation removal equipment may operate anywhere within the limits of vegetation management in uplands. In wetlands and across water resources, temporary clearing routes (consisting of construction mats or equivalent) would be used by the clearing contractor only (these are not depicted on the map sheets and will be determined based on field conditions at the time of construction). Refer to detail sheets 1 & 2 in Appendix B of Volume 1 of the D&M Plan for additional measures in wetland resource areas.
  - All work will be conducted in accordance with the relevant portions of Eversource's "Best Management Practices Manual for Massachusetts and Connecticut (September 2016)" (BMP manual), unless more stringent project-specific measures apply. All work will be conducted in accordance with the requirements of siting approvals from the Council and regulatory approvals from the U.S. Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection, and with all project protocols. Refer to detail sheets 1-4 in Appendix B of Volume 1 of the D&M Plan.
  - Erosion and Sedimentation Control Measures will be installed during construction, as required, to comply with the provisions (as applicable) of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Eversource's BMP manual, and regulatory approvals.
  - Inlet protection shall be installed for any stormwater catch basin within the work zone.
  - Paved surfaces shall be protected during construction as necessary and any damage to such surfaces shall be repaired at the expense of the contractor.
  - Spills resulting from construction activities shall be stockpiled and will be disposed of in accordance with regulatory requirements for the project. Spills shall not be spread within yards/lawns, or sensitive environmental resource areas. Stockpiling of soil and / or topsoil can occur within upland areas adjacent to the trench or within existing cleared upland areas of ROW.



○ Existing Structure to be Removed Str Label	— Eversource Right-of-Way	— Non-Jurisdictional Ditch	▨ Construction Tracking Pad	— Existing Access	▨ Parcel Boundary
● Proposed Structure Str Label	— Proposed Fence	— Delineated Perennial Watercourse	▨ Temporary Construction Matting	— Alternate Access	▨ Historic District
● Existing Structure Str Label	— Existing Fence	— Delineated Intermittent Watercourse	▨ Stone Work Pad	— Municipal Boundary	▨ Temporary Construction Matting for Substation and Tap Work (Refer to Substations and Newington Tap D&M Plan)
— Underground Eversource Line	— Approximate Tree Line	— Delineated Wetland Boundary Outline	▨ Area of Disturbance	— Proposed Guy Wire	
— Overhead Eversource Line	— Vegetation Limit After	— Field Delineated Wetland	▨ Temporary Workspace	— Existing Guy Wire	
— Eversource Owned Property	— Proposed Tree Clearing Line	— FEMA 100-Year Flood Zone	— Access Road to Be Improved	— Guy Wire to be Removed	
	LLN # LLNs/Property Owner	— Floodway	— Proposed Access		



**EVERSOURCE**  
 Greater Hartford-Central Connecticut  
 Reliability Project (GHCRP)  
 Underground Segment of the  
 115-kV Transmission Line  
 Newington and Hartford, CT

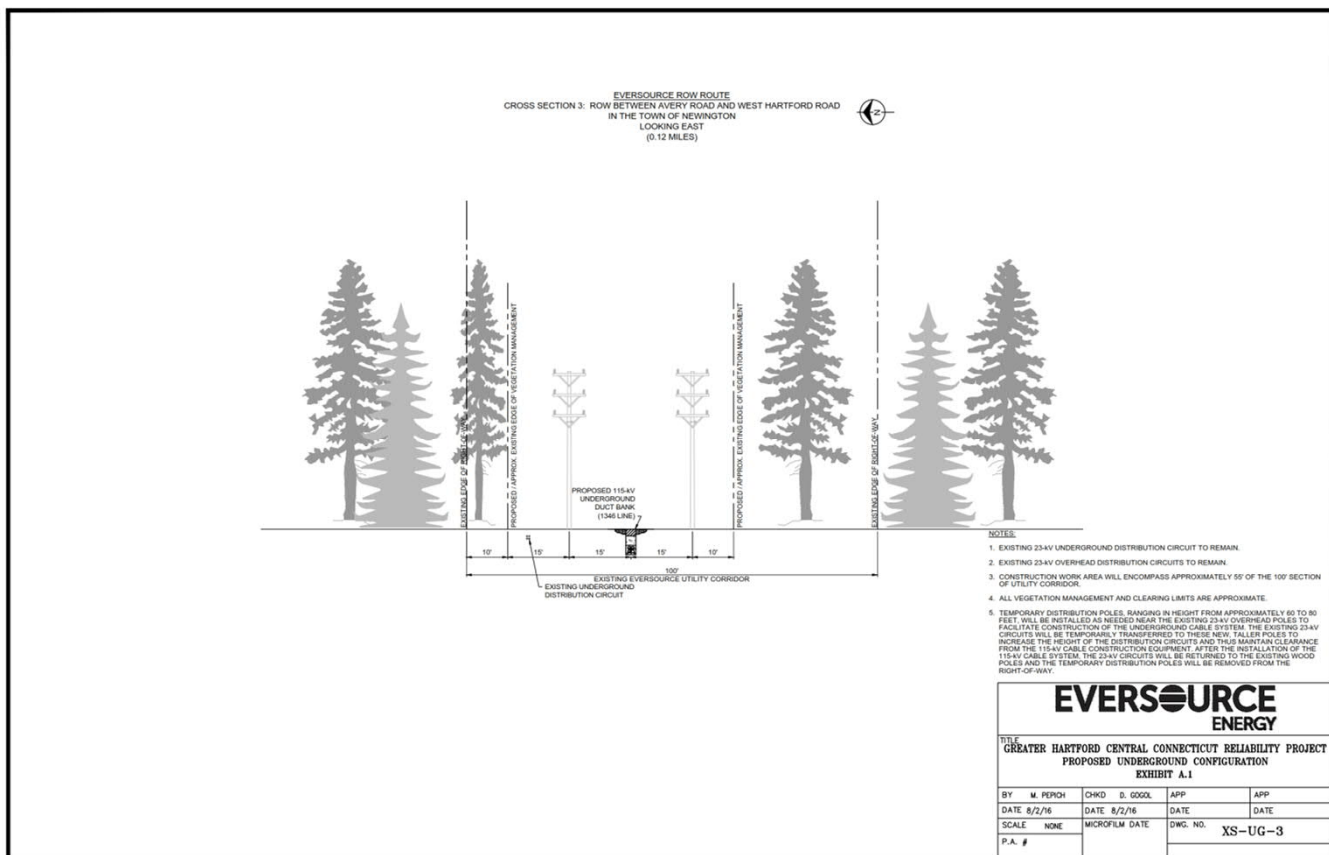
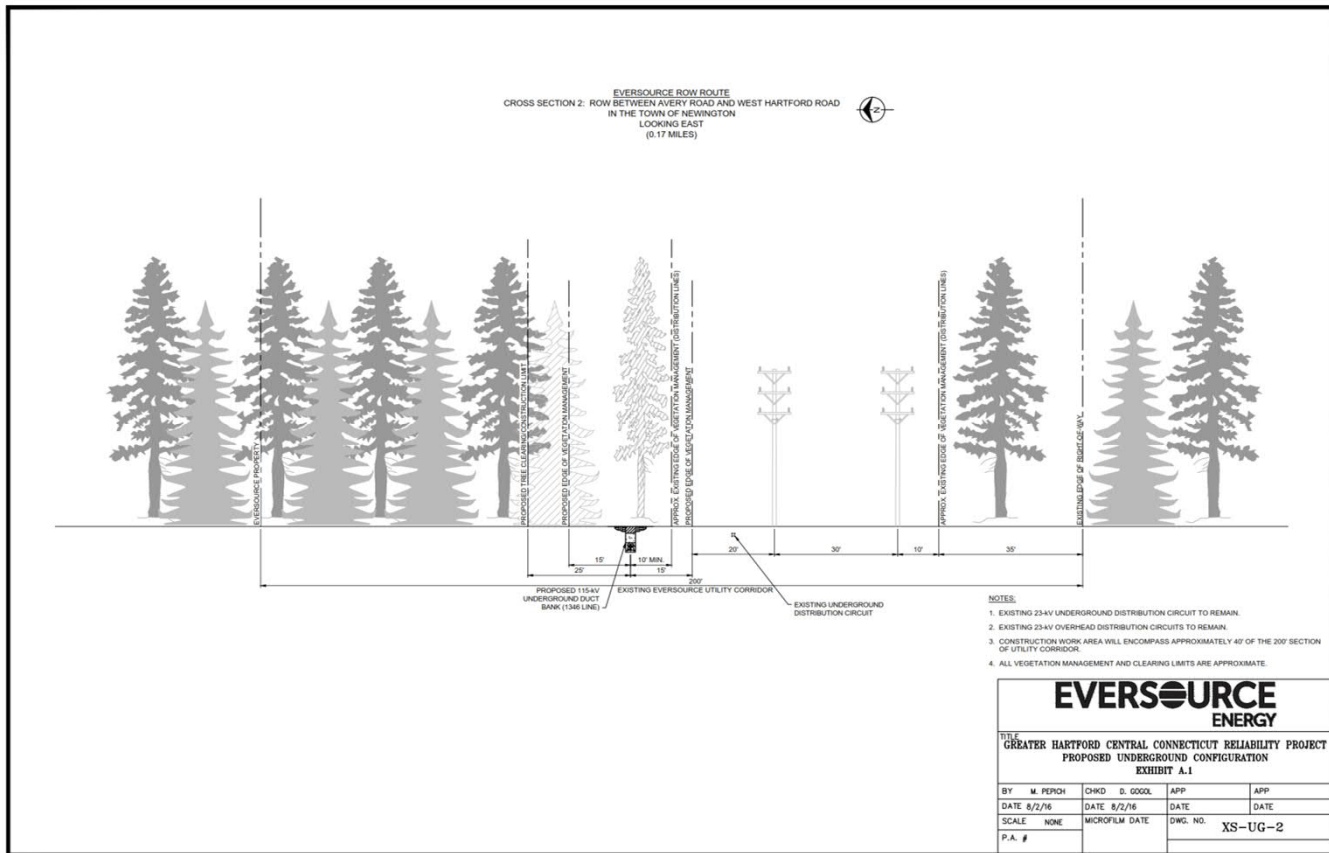
Exhibit A.3: Aerial Map  
 Map Sheet 1 of 5

**AECOM**

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MAP SHEET 2 of 5  
 Greater Hartford-Central Connecticut Reliability Project (GHCCRP)  
 115-kV Transmission Line – Underground Segment  
 Newington, Connecticut

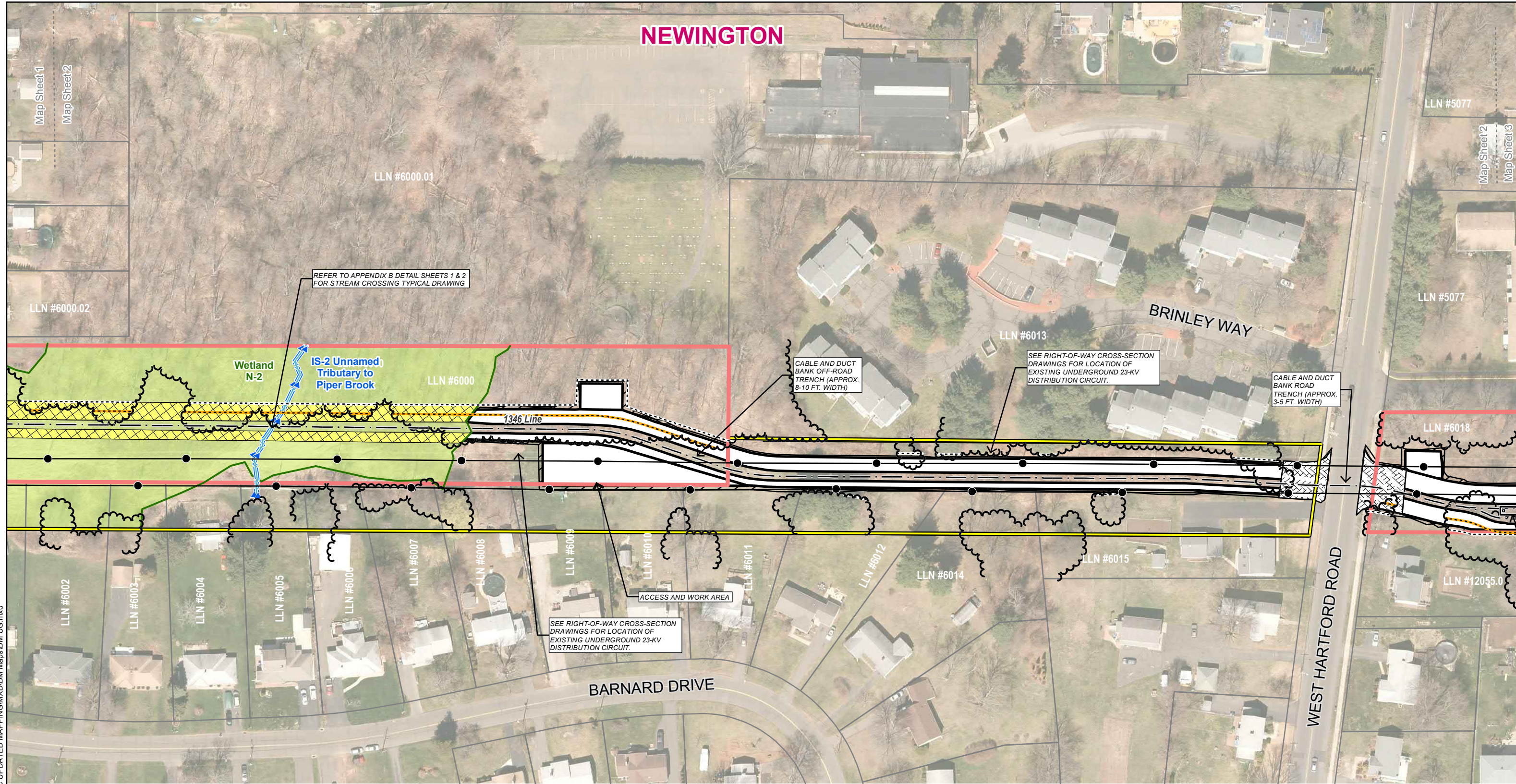


Line List Number	Town	Site Address	Owner Name
5077.65	NEWINGTON	239 HAMPTON COURT	ISAAC J SCHAEFFER
5077.66	NEWINGTON	241 HAMPTON COURT	ALFRED S & ANDREE LEVESQUE
5077.67	NEWINGTON	243 HAMPTON COURT	DANIELLE GRADY
5077.68	NEWINGTON	245 HAMPTON COURT	MARY A FERREIRA
5077.69	NEWINGTON	247 HAMPTON COURT	MIRO & VESNA TOKIC
5077.70	NEWINGTON	249 HAMPTON COURT	JESSICA I HARRIS
5077.71	NEWINGTON	251 HAMPTON COURT	DAVID B FOSTER
5077.72	NEWINGTON	271 HAMPTON COURT	MARRY JANE & TIMOTHY AHERN
5077.73	NEWINGTON	275 HAMPTON COURT	DAVID PILON & MARC BRODY
5077.74	NEWINGTON	279 HAMPTON COURT	SYLVIA ZAPPULLA
5077.75	NEWINGTON	283 HAMPTON COURT	KEITH D DUMONT
5077.76	NEWINGTON	285 HAMPTON COURT	ROBERT MC COOL
5077.77	NEWINGTON	287 HAMPTON COURT	SAIRA PASHA
5077.78	NEWINGTON	291 HAMPTON COURT	PATRIZIA MANCINI
5077.79	NEWINGTON	295 HAMPTON COURT	AMIR SHAHBAZ & SAIMA IOBAL
5077.80	NEWINGTON	301 HAMPTON COURT	DMITRY & MARINA L LAPIN
5077.81	NEWINGTON	303 HAMPTON COURT	DAVID F & ROSEMARY W ANDLE
5077.82	NEWINGTON	305 HAMPTON COURT	STEPHEN D KAGAN
5077.83	NEWINGTON	307 HAMPTON COURT	HEATHER CLINGER
5077.91	NEWINGTON	331 HAMPTON COURT	ALLEN M LINARES
5077.92	NEWINGTON	329 HAMPTON COURT	JOSEPH F UBA
5077.93	NEWINGTON	333 HAMPTON COURT	TATYANA ANISIMOV
5077.94	NEWINGTON	335 HAMPTON COURT	RICHARD G & EDYTHE TERRY
5077.95	NEWINGTON	337 HAMPTON COURT	JOSEPH R & CARLA ISABEL DOMINGO
5077.96	NEWINGTON	339 HAMPTON COURT	JENIMOLE & KURUVILLA JACOB
5077.97	NEWINGTON	341 HAMPTON COURT	MICHELE M HARRISON
5077.98	NEWINGTON	343 HAMPTON COURT	MARY KULIG-ROGERS
5077.99	NEWINGTON	345 HAMPTON COURT	WAGNER PROPERTIES LLC
6000	NEWINGTON	32 AVERY ROAD	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)
6000.01	NEWINGTON	41 WEST HARTFORD ROAD	TEMPLE SINAI OF NEWINGTON INC
6000.02	NEWINGTON	36 AVERY ROAD	JUDITH A BERGSTROM
6001	NEWINGTON	8 AVERY ROAD	JOSEPH E GUZZO & KATHERINE P LU
6002	NEWINGTON	102 BARNARD DRIVE	MARIA MARTINS
6003	NEWINGTON	94 BARNARD DRIVE	HOWARD E & DIANE KMADEL
6004	NEWINGTON	88 BARNARD DRIVE	HELEN J APARO
6005	NEWINGTON	82 BARNARD DRIVE	TUAN DANG DO
6006	NEWINGTON	74 BARNARD DRIVE	JOHN RE
6007	NEWINGTON	68 BARNARD DRIVE	JENNY L GORDON
6008	NEWINGTON	62 BARNARD DRIVE	MICHAEL J & TAMMY SAMAROTTO
6009	NEWINGTON	56 BARNARD DRIVE	KEITH D WHITEHOUSE
6010	NEWINGTON	50 BARNARD DRIVE	JOHN M LAZLO
6011	NEWINGTON	44 BARNARD DRIVE	CATHERINE A FISHER
6012	NEWINGTON	40 BARNARD DRIVE	CHRISTOPHER H & SAMANTHA K FERRI
6013.07	NEWINGTON	21 BRINLEY WAY	BIBI KHAN
6013.08	NEWINGTON	22 BRINLEY WAY	AMEER KHAN
6013.09	NEWINGTON	23 BRINLEY WAY	SAMUEL J & NICOLE M LAURENCIN
6013.10	NEWINGTON	24 BRINLEY WAY	ANDREW J COORDS
6013.11	NEWINGTON	25 BRINLEY WAY	HARVEY C LEE
6013.12	NEWINGTON	26 BRINLEY WAY	MARILEE W BONTEMPO
6013.13	NEWINGTON	27 BRINLEY WAY	LINDA BORAWSKI
6013.14	NEWINGTON	28 BRINLEY WAY	JOHN GALLI REV TRUST
6013.25	NEWINGTON	51 BRINLEY WAY	CYNTHIA NARDI & AUDREY A CIPRIANO
6013.26	NEWINGTON	52 BRINLEY WAY	DAVID BORNSTEIN
6013.27	NEWINGTON	53 BRINLEY WAY	MATTHEW BOJARSKI
6013.28	NEWINGTON	54 BRINLEY WAY	DEBORA ZACHARIAH
6013.29	NEWINGTON	55 BRINLEY WAY	JENNIE SONG
6013.30	NEWINGTON	56 BRINLEY WAY	JOHN LU & KYLE J CAFFREY
6014	NEWINGTON	36 BARNARD DRIVE	RALPH J MORISSETTE
6015	NEWINGTON	75 WEST HARTFORD ROAD	FEDERICO BRAGONI TRUSTEE & WALTER & MICHELE BRAGONI TRUSTEES
6018	NEWINGTON	68 WEST HARTFORD ROAD	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)
12055.01	NEWINGTON	74 WEST HARTFORD ROAD	MARIA E & JOSE R CALE

- SITE SPECIFIC NOTES
- INSTALL CONSTRUCTION ENTRANCE TRACK PAD AT WEST HARTFORD ROAD CROSSING FOR ROADWAY PROTECTION AND EROSION AND SEDIMENT CONTROL. UNDERLAY TRACKING PAD WITH GEOTEXTILE FABRIC. MAINTAIN IF TRACKING PAD BECOMES CLOGGED WITH SOIL. ANY SEDIMENT TRACKED ONTO THE ROAD SURFACE SHALL BE SWEEPED CLEAN AT THE END OF EACH WORK DAY. REMOVE TRACKING PAD AFTER CONSTRUCTION IS COMPLETE. REFER TO EVERSOURCE'S BMP MANUAL (2016) PAGE 3-8 AND 3-9 AND D&M PLAN APPENDIX B DETAIL SHEET 4.
  - CONSULT WITH EVERSOURCE COMPLIANCE MONITOR TO DETERMINE IF PROTECTION MEASURES FOR STATE-LISTED RARE SPECIES ARE REQUIRED.
  - REFER TO APPENDIX B DETAIL SHEETS 1 & 2 FOR WORK IN OR NEAR WETLANDS OR WATERCOURSES.
  - ALL PROJECT CONSTRUCTION ACTIVITIES IN WETLAND N-2 AND WATERCOURSE IS-2 SHALL BE CONTAINED WITHIN THE LOCATION AND ALIGNMENT OF DEPICTED WORKSPACES, WORK PADS AND ACCESS ROADS. ALL ACCESS/WORK AREAS IN WETLANDS MUST USE TEMPORARY CONSTRUCTION MATTING. ACCESS OR WORK AREAS ACROSS ANY WATERCOURSES MUST SPAN THE FULL WIDTH OF ITS BANKS, TO THE EXTENT PRACTICABLE.
  - ALL PROJECT WETLANDS HAVE KNOWN POPULATIONS OF INVASIVE SPECIES, THEREFORE ADHERENCE TO THE WETLAND INVASIVE SPECIES CONTROL Bmps APPLIES FOR ALL MATTING AND EQUIPMENT IN WETLANDS.

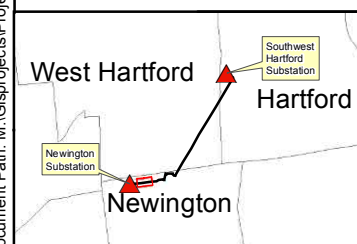


# NEWINGTON

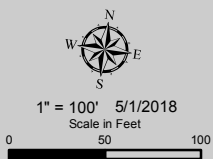


**General Notes:**

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- Paved surfaces shall be protected during construction as necessary and any damage to such surfaces shall be repaired at the expense of the contractor.
- Spills resulting from construction activities shall be stockpiled and will be disposed of in accordance with regulatory requirements for the project. Spills shall not be spread within yards/lawns, or sensitive environmental resource areas. Stockpiling of soil and / or topsoil can occur within upland areas adjacent to the trench or within existing cleared upland areas of ROW.



○ Existing Structure to be Removed	— Str Label	— Eversource Right-of-Way	— Non-Jurisdictional Ditch	▨ Construction Tracking Pad	— Existing Access	▭ Parcel Boundary
● Proposed Structure	Str Label	— Proposed Fence	— Delineated Perennial Watercourse	▨ Temporary Construction Matting	— Alternate Access	▭ Historic District
● Existing Structure	Str Label	— Existing Fence	— Delineated Intermittent Watercourse	▭ Stone Work Pad	— Municipal Boundary	
● Underground Eversource Line		— Approximate Tree Line	— Delineated Wetland Boundary Outline	▭ Area of Disturbance	— Proposed Guy Wire	
● Overhead Eversource Line		— Vegetation Limit After Construction	— Field Delineated Wetland	▭ Temporary Workspace	— Existing Guy Wire	
▭ Eversource Owned Property		— Proposed Tree Clearing Line	— FEMA 100-Year Flood Zone	▭ Access Road to Be Improved	— Guy Wire to be Removed	
		LLN # LLNs/Property Owner	▨ Floodway	— Proposed Access		



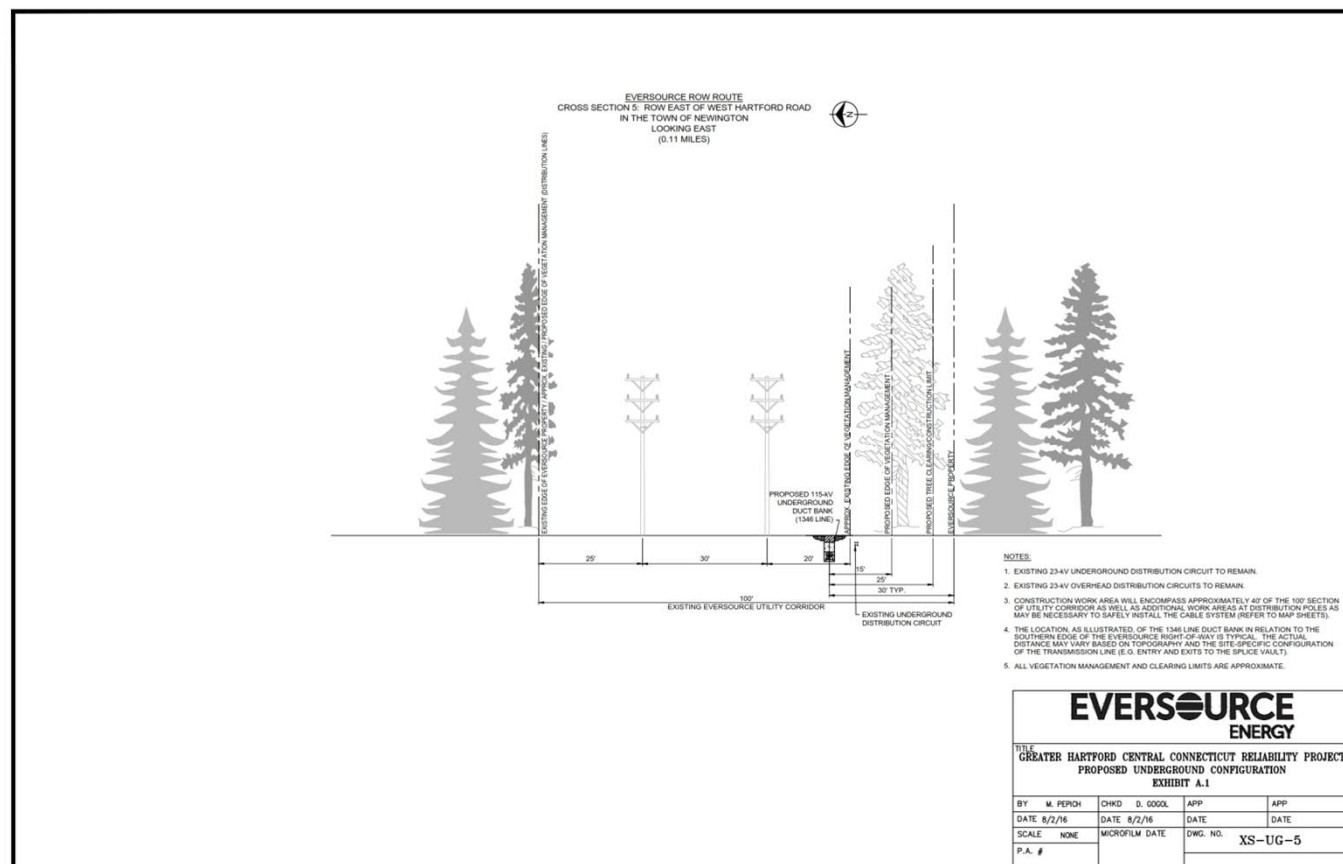
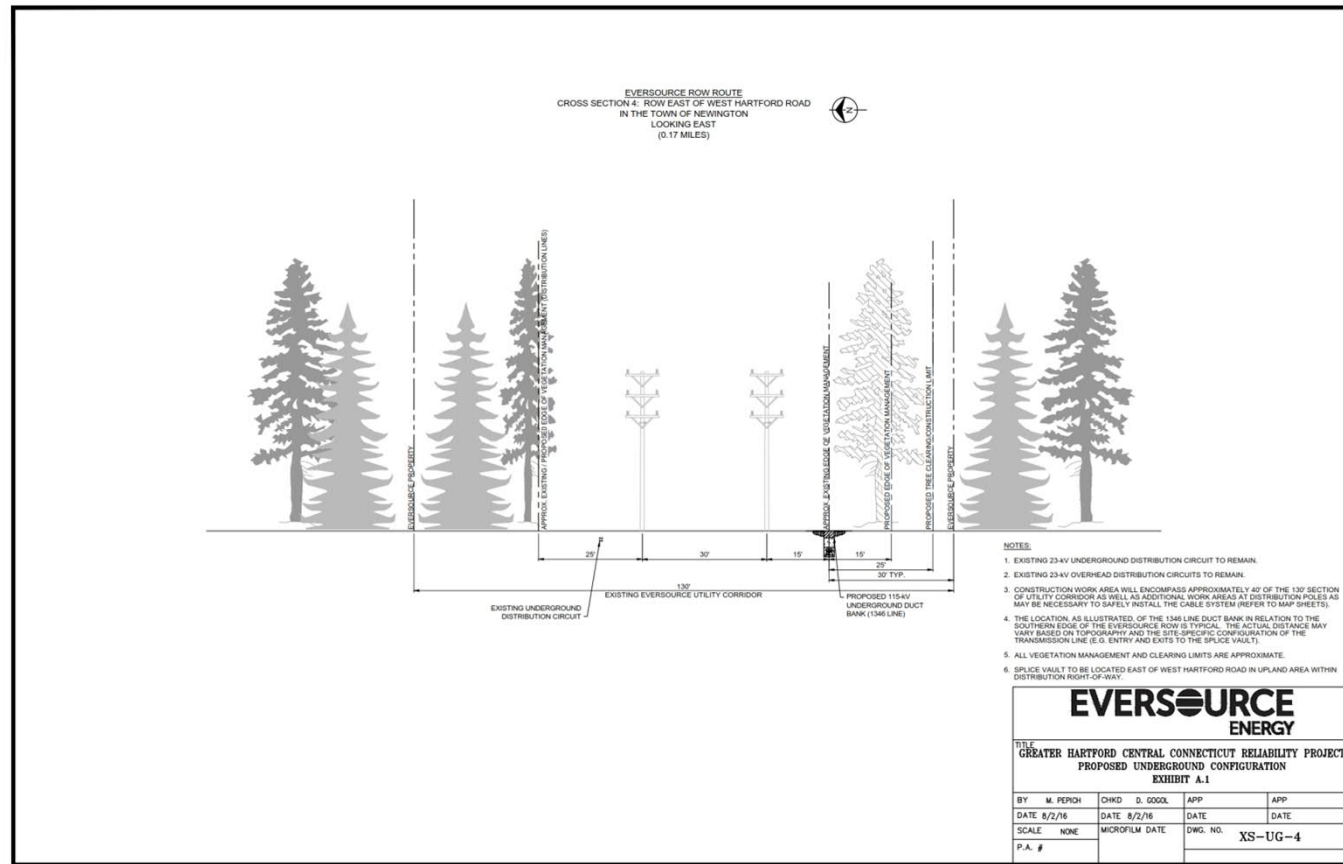
**Greater Hartford-Central Connecticut Reliability Project (GHCCRP)**  
**Underground Segment of the 115-kV Transmission Line**  
**Newington and Hartford, CT**

Exhibit A.3: Aerial Map	<b>AECOM</b>
Map Sheet 2 of 5	

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MAP SHEET 3 of 5  
 Greater Hartford-Central Connecticut Reliability Project (GHCCRP)  
 115-kV Transmission Line – Underground Segment  
 Newington, Connecticut

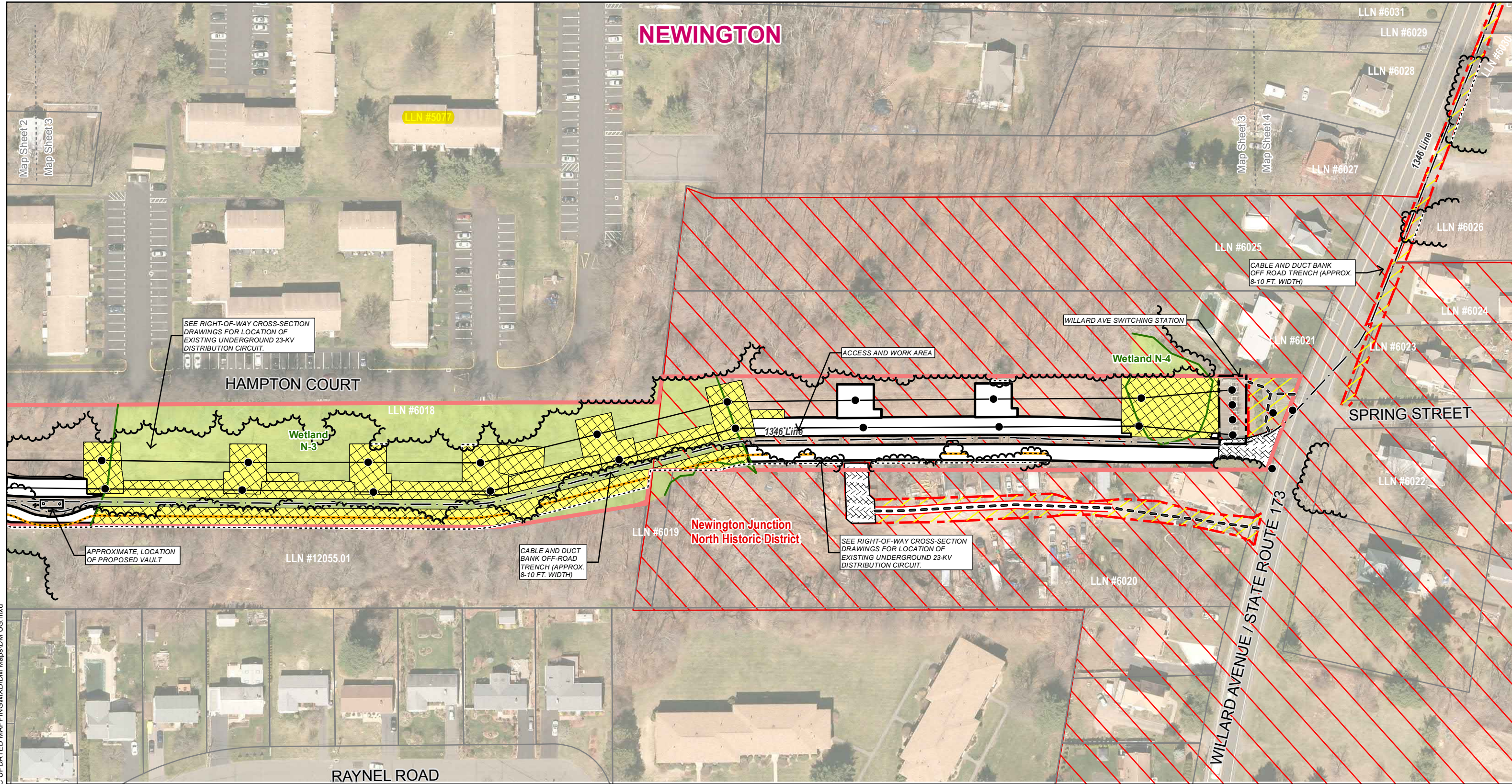


Line List Number	Town	Site Address	Owner Name
5077.65	NEWINGTON	239 HAMPTON COURT	ISAAC J SHAEFFER
5077.66	NEWINGTON	241 HAMPTON COURT	ALFRED S & ANDREE LEVESQUE
5077.67	NEWINGTON	243 HAMPTON COURT	DANIELLE GRADY
5077.68	NEWINGTON	245 HAMPTON COURT	MARY A FERREIRA
5077.69	NEWINGTON	247 HAMPTON COURT	MIRO & VESNA TOKIC
5077.70	NEWINGTON	249 HAMPTON COURT	JESSICA I HARRIS
5077.71	NEWINGTON	251 HAMPTON COURT	DAVID B FOSTER
5077.72	NEWINGTON	271 HAMPTON COURT	MARRY JANE 7 TIMOTHY AHERN
5077.73	NEWINGTON	275 HAMPTON COURT	DAVID PILON & MARC BRODY
5077.74	NEWINGTON	279 HAMPTON COURT	SYLVIA ZAPPULLA
5077.75	NEWINGTON	283 HAMPTON COURT	KEITH DUMONT
5077.76	NEWINGTON	285 HAMPTON COURT	ROBERT MC COOL
5077.77	NEWINGTON	287 HAMPTON COURT	SAIRA PASHA
5077.78	NEWINGTON	291 HAMPTON COURT	PATRIZIA MANCINI
5077.79	NEWINGTON	295 HAMPTON COURT	AMIR SHAHBAZ 7 SAIMA IOBAL
5077.80	NEWINGTON	301 HAMPTON COURT	DMITRY & MARINA L LAPIN
5077.81	NEWINGTON	303 HAMPTON COURT	DAVID F & ROSEMARY W ANDLE
5077.82	NEWINGTON	305 HAMPTON COURT	STEPHEN D KAGAN
5077.83	NEWINGTON	307 HAMPTON COURT	HEATHER CLINGER
5077.91	NEWINGTON	331 HAMPTON COURT	ALLEN M LINARES
5077.92	NEWINGTON	329 HAMPTON COURT	JOSEPH F UBA
5077.93	NEWINGTON	333 HAMPTON COURT	TATYANA ANISIMOV
5077.94	NEWINGTON	335 HAMPTON COURT	RICHARD G & EDYTHE TERRY
5077.95	NEWINGTON	337 HAMPTON COURT	JOSEPH R & CARLA ISABEL DOMINGO
5077.96	NEWINGTON	339 HAMPTON COURT	JENIMOLE & KURUVILLA JACOB
5077.97	NEWINGTON	341 HAMPTON COURT	MICHELE M HARRISON
5077.98	NEWINGTON	343 HAMPTON COURT	MARY KULIG-ROGERS
5077.99	NEWINGTON	345 HAMPTON COURT	WAGNER PROPERTIES LLC
6018	NEWINGTON	68 WEST HARTFORD ROAD	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)
6019	NEWINGTON	79 WILLARD AVENUE #REAR	JOSEPHINE CIERI
6020	NEWINGTON	79 WILLARD AVENUE	THOMAS E & SANDRA A DONAGHER
6021	NEWINGTON	63 WILLARD AVENUE	JOSEPHINE M CIERI
6022	NEWINGTON	74 WILLARD AVENUE	ANNETTE D BLOOM
6023	NEWINGTON	64 WILLARD AVENUE	ROBERT A FOURNIER
6024	NEWINGTON	56 WILLARD AVENUE	LORRAINE L HAWLEY
6025	NEWINGTON	55 WILLARD AVENUE	JOSEPHINE CIERI
6026	NEWINGTON	40-42 WILLARD AVENUE	G1 LLC
6027	NEWINGTON	45 WILLARD AVENUE	JUAN PICHARDO
6028	NEWINGTON	41 WILLARD AVENUE	JOSE M NARVAEZ & RENTERIA LUZ PAOLA
6029	NEWINGTON	43 WILLARD AVENUE	ROSE PINA
6030	NEWINGTON	34-36 WILLARD AVENUE	MARIA P TEMPONI & ALFEU T FELIX
6031	NEWINGTON	31 WILLARD AVENUE	GREGORY C LADAS & HELEN N LADAS LU ETAL
12055.01	NEWINGTON	74 WEST HARTFORD ROAD	MARIA E & JOSE R CALE

- SITE SPECIFIC NOTES
- INSTALL CONSTRUCTION ENTRANCE TRACK PAD AT WILLARD AVENUE (STATE ROUTE 173) FOR ROADWAY PROTECTION AND EROSION AND SEDIMENT CONTROL. UNDERLAY TRACKING PAD WITH GEOTEXTILE FABRIC. MAINTAIN IF TRACKING PAD BECOMES CLOGGED WITH SOIL. ANY SEDIMENT TRACKED ONTO THE ROAD SURFACE SHALL BE SWEEPED CLEAN AT THE END OF EACH WORK DAY. REMOVE TRACKING PAD AFTER CONSTRUCTION IS COMPLETE. REFER TO EVERSOURCE'S BMP MANUAL (2016) PAGE 3-8 AND 3-9 AND D&M PLAN APPENDIX B DETAIL SHEET 4.
  - IMPLEMENT WORKING HOURS, TRAFFIC MANAGEMENT, AND PAVEMENT RESTORATION MEASURES IN ACCORDANCE WITH CT DOT PERMIT.
  - MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG STATE ROUTE 173 IN ACCORDANCE WITH PROPERTY OWNER AGREEMENTS.
  - CONSULT WITH EVERSOURCE COMPLIANCE MONITOR TO DETERMINE IF PROTECTION MEASURES FOR STATE-LISTED RARE SPECIES ARE REQUIRED.
  - REFER TO D&M PLAN APPENDIX B DETAIL SHEETS 1 & 2 FOR WORK IN OR NEAR WETLANDS OR WATERCOURSES.
  - ALL PROJECT CONSTRUCTION ACTIVITIES IN WETLAND N-3 AND N-4 SHALL BE CONTAINED WITHIN THE LOCATION AND ALIGNMENT OF DEPICTED WORKSPACES, WORK PADS AND ACCESS ROADS. ALL ACCESS/WORK AREAS IN WETLANDS MUST USE TEMPORARY CONSTRUCTION MATTING.
  - ALL PROJECT WETLANDS HAVE KNOWN POPULATIONS OF INVASIVE SPECIES, THEREFORE ADHERENCE TO THE WETLAND INVASIVE SPECIES CONTROL BMPS APPLIES FOR ALL MATTING AND EQUIPMENT IN WETLANDS.

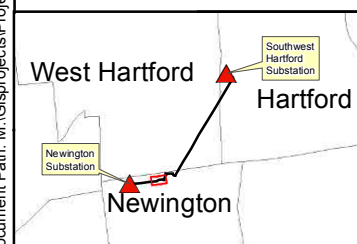


# NEWINGTON

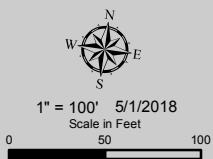


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○ Existing Structure to be Removed	Str Label	— Eversource Right-of-Way	— Non-Jurisdictional Ditch	▨ Construction Tracking Pad	— Existing Access	▭ Parcel Boundary
● Proposed Structure	Str Label	— Proposed Fence	— Delineated Perennial Watercourse	▨ Temporary Construction Matting	— Alternate Access	▨ Historic District
● Existing Structure	Str Label	— Existing Fence	— Delineated Intermittent Watercourse	▭ Stone Work Pad	— Municipal Boundary	
● Underground Eversource Line		— Approximate Tree Line	— Delineated Wetland Boundary Outline	▭ Area of Disturbance	— Proposed Guy Wire	
● Overhead Eversource Line		— Vegetation Limit After Construction	— Field Delineated Wetland	▨ Temporary Workspace	— Existing Guy Wire	
▭ Eversource Owned Property		— Proposed Tree Clearing Line	— FEMA 100-Year Flood Zone	▭ Access Road to Be Improved	— Guy Wire to be Removed	
	LLN # LLNs/Property Owner	— Floodway		▭ Proposed Access		



**EVERSOURCE**  
 Greater Hartford-Central Connecticut  
 Reliability Project (GHCRP)  
 Underground Segment of the  
 115-kV Transmission Line  
 Newington and Hartford, CT

Exhibit A.3: Aerial Map  
 Map Sheet 3 of 5

**AECOM**

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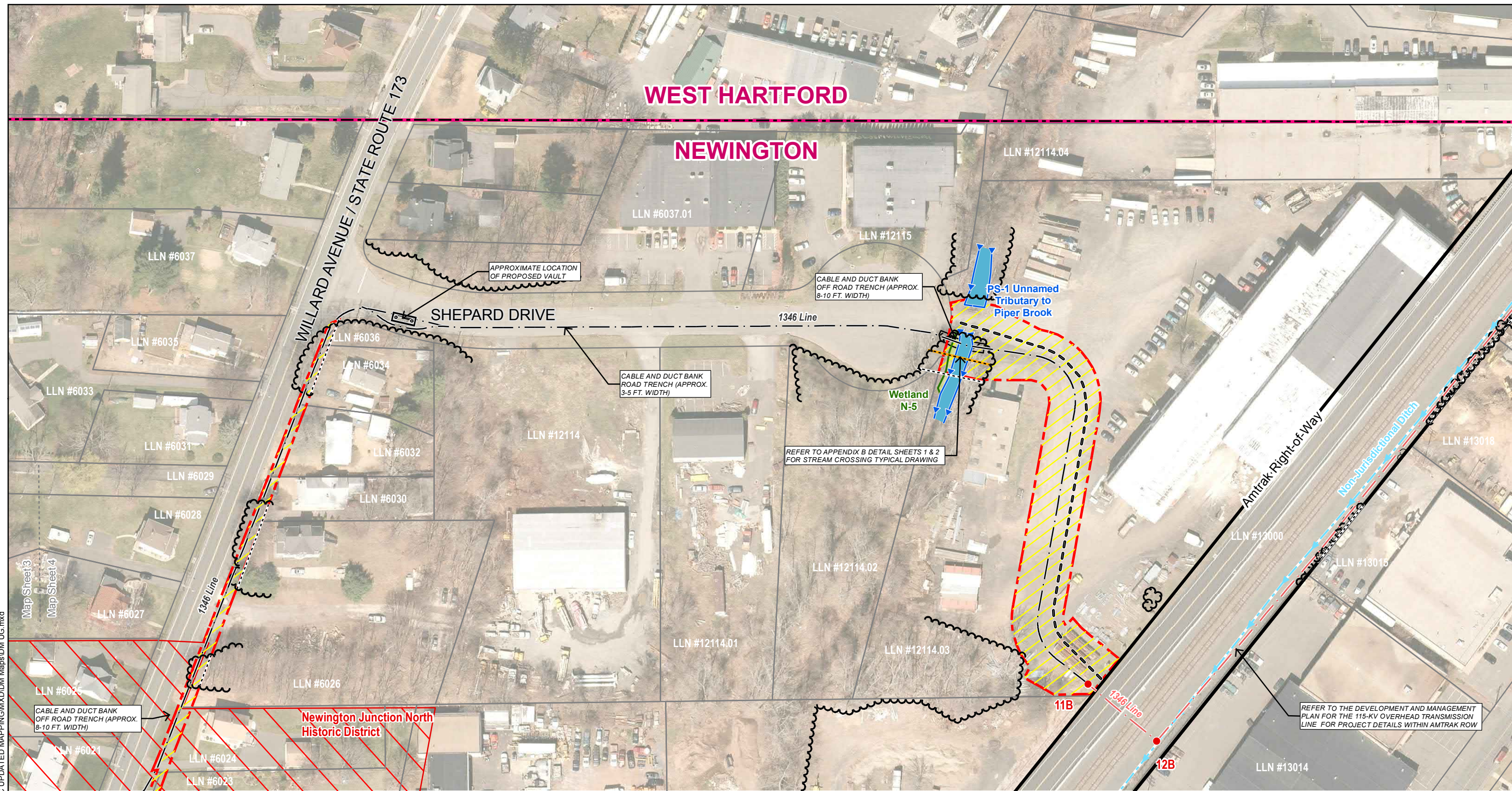
MAP SHEET 4 of 5  
 Greater Hartford-Central Connecticut Reliability Project (GHCCRP)  
 115-kV Transmission Line – Underground Segment  
 Newington, Connecticut

Refer to Appendix A Exhibit A.4 for Underground Trench within Roadways Detail.

Line List Number	Town	Site Address	Owner Name
6021	NEWINGTON	63 WILLARD AVENUE	JOSEPHINE M CIERI
6023	NEWINGTON	64 WILLARD AVENUE	ROBERT A FOURNIER
6024	NEWINGTON	56 WILLARD AVENUE	LORRAINE L HAWLEY
6025	NEWINGTON	55 WILLARD AVENUE	JOSEPHINE CIERI
6026	NEWINGTON	40-42 WILLARD AVENUE	G1 LLC
6027	NEWINGTON	45 WILLARD AVENUE	JUAN PICHARDO
6028	NEWINGTON	41 WILLARD AVENUE	JOSE M NARVAEZ & RENTERIA LUZ PAOLA
6029	NEWINGTON	43 WILLARD AVENUE	ROSE PINA
6030	NEWINGTON	34-36 WILLARD AVENUE	MARIA P TEMPONI & ALFEU T FELIX
6031	NEWINGTON	31 WILLARD AVENUE	GREGORY C LADAS & HELEN N LADAS LU ETAL
6032	NEWINGTON	30 WILLARD AVENUE	VALERIE L CAVAGNARO
6033	NEWINGTON	27 WILLARD AVENUE	BRUCE W & JACQUELINE F JACKSON
6034	NEWINGTON	24 WILLARD AVENUE	MELVIN R PARENT
6035	NEWINGTON	25 WILLARD AVENUE	TRICIA PINTO
6036	NEWINGTON	5 SHEPARD DRIVE	TOWN OF NEWINGTON
6037	NEWINGTON	17 WILLARD AVENUE	ALAN B KLIMINSKY
6037.01	NEWINGTON	22 - 28 SHEPARD DRIVE	S D ASSOCIATES OF NEWINGTON LT C/O HIGHLAND MANAGEMENT
12114	NEWINGTON	22 WILLARD AVENUE	G1 LLC
12114.01	NEWINGTON	33 SHEPARD DRIVE	LESZEK M SCHOENBORN
12114.02	NEWINGTON	47 SHEPARD DRIVE	S D ASSOCIATES OF NEWINGTON LT C/O HIGHLAND MANAGEMENT
12114.03	NEWINGTON	53-55 SHEPARD DRIVE	3S ASSOCIATES LLC
12114.04	NEWINGTON	48 SHEPARD DRIVE	C & G PROPERTIES LLC
12114.05	WEST HARTFORD	51 BROOK STREET	C & G PROPERTIES LLC
12115	NEWINGTON	46 SHEPARD DRIVE	SHEPARD'S PIE LLC C/O ENTERPRISE BUILDERS INC
13000	NEWINGTON	176 WILLARD AVE	NATIONAL RAILROAD PASSENGER CORP (AMTRAK)
13014	NEWINGTON	136-140 DAY STREET	GEORGE A GUERTIN TRUST
13015	NEWINGTON	124-128 DAY STREET	EAZ REALITY LLC
13018	NEWINGTON	110 DAY STREET	MARTIN & MARTIN LLC

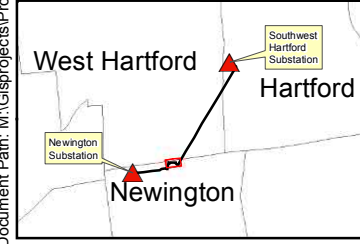
- SITE SPECIFIC NOTES
- A. IMPLEMENT WORKING HOURS, TRAFFIC MANAGEMENT, AND PAVEMENT RESTORATION MEASURES IN ACCORDANCE WITH MUNICIPAL AND CT DOT PERMITS.
  - B. MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG WILLARD AVENUE (STATE ROUTE 173) AND BUSINESSES ALONG SHEPARD DRIVE IN ACCORDANCE WITH PROPERTY OWNER AGREEMENTS.
  - C. REFER TO D&M PLAN APPENDIX B DETAIL SHEETS 1 & 2 FOR WORK IN OR NEAR WETLANDS OR WATERCOURSES.
  - D. ALL PROJECT CONSTRUCTION ACTIVITIES IN WETLAND N-5 AND WATERCOURSE PS-1, SHALL BE CONTAINED WITHIN THE LOCATION AND ALIGNMENT OF DEPICTED WORKSPACE. TO THE EXTENT PRACTICABLE, CONTRACTOR SHALL CONDUCT TRENCHING OPERATIONS THROUGH WATERCOURSE PS-1 WITH EXCAVATION EQUIPMENT LOCATED AT THE TOP OF STREAM BANK ON EITHER SIDE OF THE WATERCOURSE.
  - E. ALL PROJECT WETLANDS HAVE KNOWN POPULATIONS OF INVASIVE SPECIES, THEREFORE ADHERENCE TO THE WETLAND INVASIVE SPECIES CONTROL BMPS APPLIES FOR ALL MATTING AND EQUIPMENT IN WETLANDS.



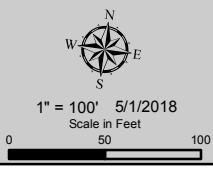


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<ul style="list-style-type: none"> <li>Existing Structure to be Removed Str Label</li> <li>Proposed Structure Str Label</li> <li>Existing Structure Str Label</li> <li>Underground Eversource Line</li> <li>Overhead Eversource Line</li> <li>Eversource Owned Property</li> </ul>	<ul style="list-style-type: none"> <li>Eversource Right-of-Way</li> <li>Proposed Fence</li> <li>Existing Fence</li> <li>Approximate Tree Line</li> <li>Vegetation Limit After Construction</li> <li>Proposed Tree Clearing Line</li> <li>LLN # LLNs/Property Owner</li> </ul>	<ul style="list-style-type: none"> <li>Non-Jurisdictional Ditch</li> <li>Delineated Perennial Watercourse</li> <li>Delineated Intermittent Watercourse</li> <li>Delineated Wetland Boundary Outline</li> <li>Field Delineated Wetland</li> <li>FEMA 100-Year Flood Zone</li> <li>Floodway</li> </ul>	<ul style="list-style-type: none"> <li>Construction Tracking Pad</li> <li>Temporary Construction Matting</li> <li>Stone Work Pad</li> <li>Area of Disturbance</li> <li>Temporary Workspace</li> <li>Access Road to Be Improved</li> <li>Proposed Access</li> </ul>	<ul style="list-style-type: none"> <li>Existing Access</li> <li>Alternate Access</li> <li>Municipal Boundary</li> <li>Proposed Guy Wire</li> <li>Existing Guy Wire</li> <li>Guy Wire to be Removed</li> </ul>	<ul style="list-style-type: none"> <li>Parcel Boundary</li> <li>Historic District</li> </ul>
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**EVERSOURCE**  
 Greater Hartford-Central Connecticut  
 Reliability Project (GHCRP)  
 Underground Segment of the  
 115-kV Transmission Line  
 Newington and Hartford, CT

Exhibit A.3: Aerial Map  
 Map Sheet 4 of 5

**AECOM**

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MAP SHEET 5 of 5  
 Greater Hartford-Central Connecticut Reliability Project (GHCCRP)  
 115-kV Transmission Line – Underground Segment  
 Hartford, Connecticut

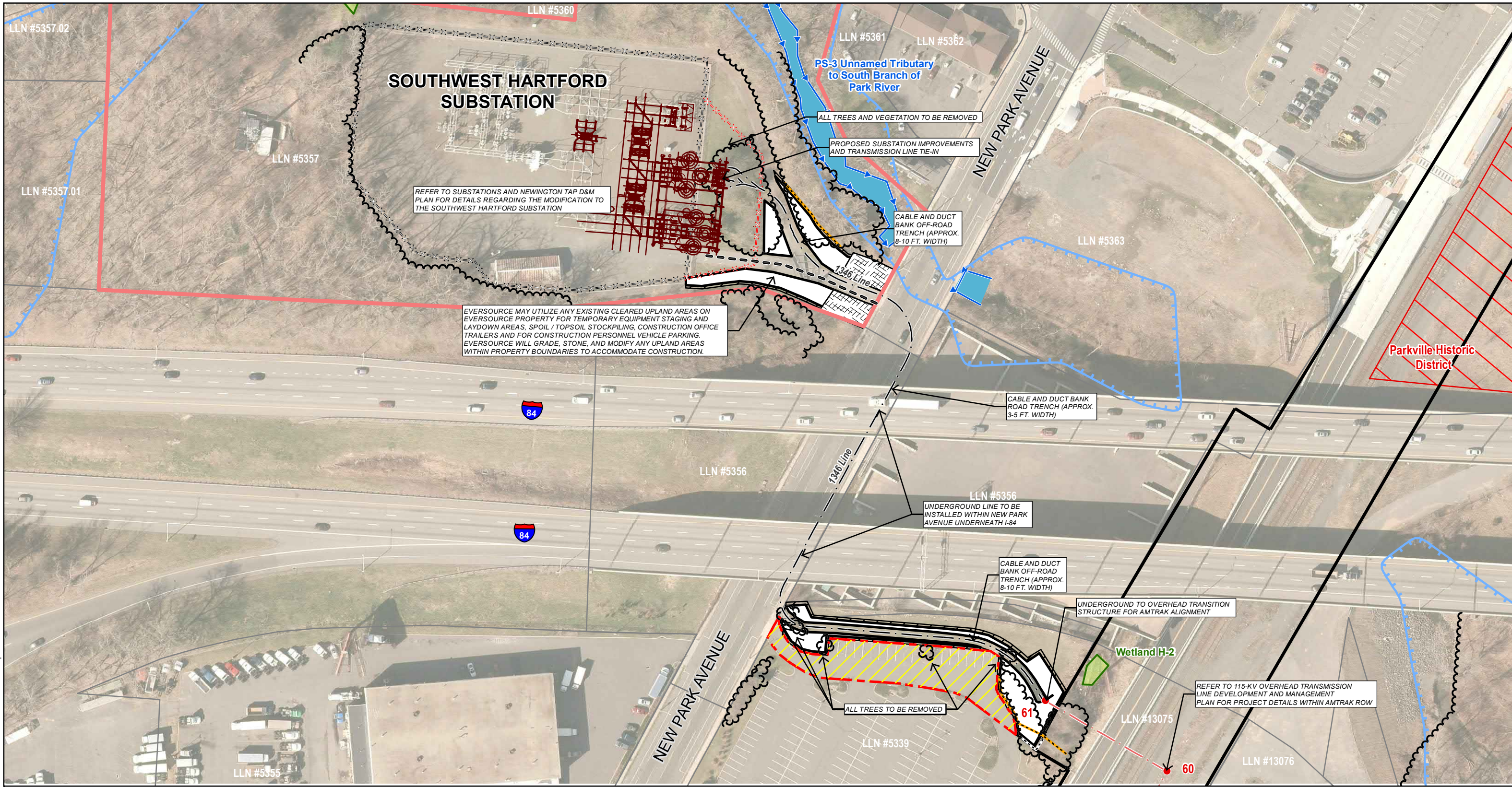
Refer to Appendix A Exhibit A.4 for Underground Trench within Roadways Detail.

Line List Number	Town	Site Address	Owner Name
5339	HARTFORD	330 NEW PARK AVENUE	INLAND WESTERN HARTFORD NEW PARK LLC
5356	HARTFORD	152 NEW PARK AVENUE	STATE OF CONNECTICUT HIGHWAY DEPARTMENT
5357	HARTFORD	219 NEW PARK AVENUE	THE CONNECICUT LIGHT & POWER COMPANY (EVERSOURCE)
5357.01	HARTFORD	120 PROSPECT AVENUE	CITY OF HARTFORD
5357.02	HARTFORD	130 PROSPECT AVENUE	BURGER KING CORPORATION
5360	HARTFORD	186 PROSPECT AVENUE	BURGER KING CORPORATION
5361	HARTFORD	217 NEW PARK AVENUE	GREGORY H & PAUL FERRUOLO
5362	HARTFORD	7 KANE STREET	DRIVE CLEAN CO LLC
5363	HARTFORD	150 NEW PARK AVENUE	REHOLD HARTFORD LLC C/O AHOLD FINANCIAL SERVICE
13075	HARTFORD	AMTRAK ROW	NATIONAL RAILROAD PASSENGER CORP (AMTRAK)
13076	HARTFORD	490 FLATBUSH AVENUE	DANNY CORP

SITE SPECIFIC NOTES

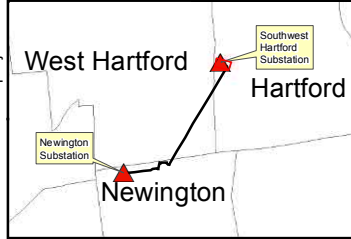
- A. INSTALL CONSTRUCTION ENTRANCE TRACK PAD AT SOUTHWEST HARTFORD SUBSTATION FOR ROADWAY PROTECTION AND EROSION AND SEDIMENT CONTROL. UNDERLAY TRACKING PAD WITH GEOTEXTILE FABRIC. MAINTAIN IF TRACKING PAD BECOMES CLOGGED WITH SOIL. ANY SEDIMENT TRACKED ONTO THE ROAD SURFACE SHALL BE SWEEPED CLEAN AT THE END OF EACH WORK DAY. REMOVE TRACKING PAD AFTER CONSTRUCTION IS COMPLETE. REFER TO EVERSOURCE'S BMP MANUAL (2016) PAGE 3-8 AND 3-9 AND D&M PLAN APPENDIX B DETAIL SHEET 4.
- B. IMPLEMENT WORKING HOURS, TRAFFIC MANAGEMENT, AND PAVEMENT RESTORATION MEASURES IN ACCORDANCE WITH MUNICIPAL PERMIT.
- C. NO OVERNIGHT PARKING OR STORAGE OF EQUIPMENT ALLOWED WITHIN THE 100-YEAR FLOODPLAIN OR WITHIN 25 FEET OF WETLANDS OR WATERCOURSES. NO REFUELING OR STORAGE OF FUELS OR HAZARDOUS MATERIALS IN THE FLOODPLAIN OR WITHIN 25 FEET OF WETLANDS OR WATERCOURSES. EXCEPTIONS AND BMPS ALSO APPLY, SEE APPENDIX B DETAIL SHEET 1 & 2.



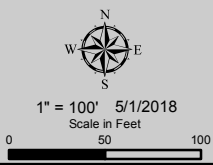


**General Notes:**

- The limits of tree clearing, as shown, define areas where vegetation removal and grubbing, grading, and excavation may occur. Minor deviations may be required in some locations. Additionally, danger or hazard tree removal may be required outside of the vegetation removal limits. Vegetation removal equipment may operate anywhere within the limits of vegetation management in uplands. In wetlands and across water resources, temporary clearing routes (consisting of construction mats or equivalent) would be used by the clearing contractor only (these are not depicted on the map sheets and will be determined based on field conditions at the time of construction). Refer to detail sheets 1 & 2 in Appendix B of Volume 1 of the D&M Plan for additional measures in wetland resource areas.
- All work will be conducted in accordance with the relevant portions of EverSource's "Best Management Practices Manual for Massachusetts and Connecticut (September 2016)" (BMP manual), unless more stringent project-specific measures apply. All work will be conducted in accordance with the requirements of siting approvals from the Council and regulatory approvals from the U.S. Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection, and with all project protocols. Refer to detail sheets 1-4 in Appendix B of Volume 1 of the D&M Plan.
- Erosion and Sedimentation Control Measures will be installed during construction, as required, to comply with the provisions (as applicable) of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, EverSource's BMP manual, and regulatory approvals.
- Inlet protection shall be installed for any stormwater catch basin within the work zone.
- Paved surfaces shall be protected during construction as necessary and any damage to such surfaces shall be repaired at the expense of the contractor.
- Spills resulting from construction activities shall be stockpiled and will be disposed of in accordance with regulatory requirements for the project. Spills shall not be spread within yards/lawns, or sensitive environmental resource areas. Stockpiling of soil and / or topsoil can occur within upland areas adjacent to the trench or within existing cleared upland areas of ROW.



<ul style="list-style-type: none"> <li>Existing Structure to be Removed</li> <li>Proposed Structure</li> <li>Existing Structure</li> <li>Underground EverSource Line</li> <li>Overhead EverSource Line</li> <li>Eversource Owned Property</li> </ul>	<ul style="list-style-type: none"> <li>Eversource Right-of-Way</li> <li>Proposed Fence</li> <li>Existing Fence</li> <li>Approximate Tree Line</li> <li>Vegetation Limit After</li> <li>Proposed Tree Clearing Line</li> <li>LLN # LLNs/Property Owner</li> </ul>	<ul style="list-style-type: none"> <li>Non-Jurisdictional Ditch</li> <li>Delineated Perennial Watercourse</li> <li>Delineated Intermittent Watercourse</li> <li>Delineated Wetland Boundary Outline</li> <li>Field Delineated Wetland</li> <li>FEMA 100-Year Flood Zone</li> <li>Floodway</li> </ul>	<ul style="list-style-type: none"> <li>Construction Tracking Pad</li> <li>Temporary Construction Matting</li> <li>Stone Work Pad</li> <li>Area of Disturbance</li> <li>Temporary Workspace</li> <li>Access Road to Be Improved</li> <li>Proposed Access</li> </ul>	<ul style="list-style-type: none"> <li>Existing Access</li> <li>Alternate Access</li> <li>Municipal Boundary</li> <li>Proposed Guy Wire</li> <li>Existing Guy Wire</li> <li>Guy Wire to be Removed</li> </ul>	<ul style="list-style-type: none"> <li>Parcel Boundary</li> <li>Historic District</li> </ul>
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**EVERSOURCE**  
 Greater Hartford-Central Connecticut  
 Reliability Project (GHCRP)  
 Underground Segment of the  
 115-kV Transmission Line  
 Newington and Hartford, CT

Exhibit A.3: Aerial Map  
 Map Sheet 5 of 5

**AECOM**

Document Path: M:\GIS\Projects\Projects\Eversource\GHCC UPDATED MAPPING\DXD\DM Maps\DM UG.mxd



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# EVERSOURCE ENERGY

## GHCCRP NEWINGTON TO SW HARTFORD 115-kV TRANSMISSION LINE LINE 1346

**CSC DOCKET NUMBER 474**

**Newington, West Hartford &  
Hartford**

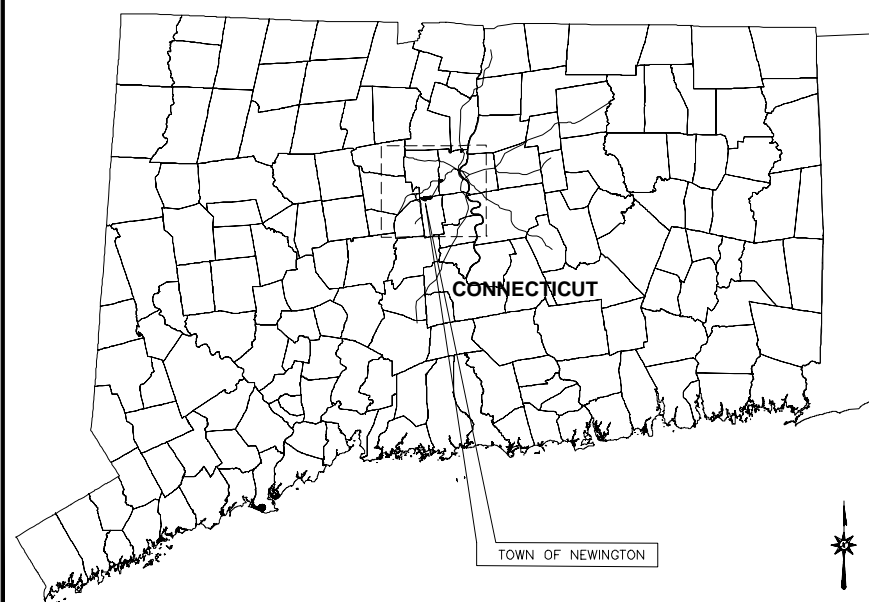
**Newington Substation  
to  
SW Hartford Substation**

**Underground Transmission  
Line Construction  
Contract Drawings**

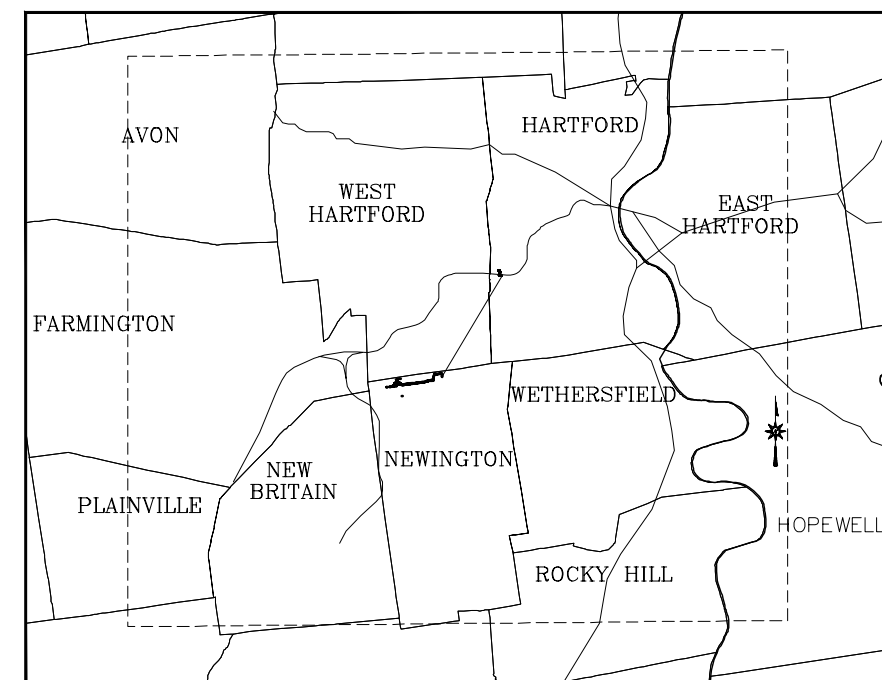
MARCH 9, 2018

84493

**EXHIBIT A.4**



LOCATION MAP  
N.T.S.



VICINITY MAP  
N.T.S.

NO	DATE	BY	CKD	APP	DESCRIPTION
A	06/30/17	JAS	KMR	LPP	30% ISSUED FOR REVIEW
B	11/16/17	JAS	KMR	LPP	70% ISSUED FOR REVIEW
C	03/09/18	JAS	KMR	LPP	90% ISSUED FOR REVIEW / IFB / D&M



9400 WARD PARKWAY  
KANSAS CITY, MO 64114  
816-333-9400  
LICENSEE NO. 000165

**PRELIMINARY - NOT  
FOR CONSTRUCTION**

5/9/2018 11:37 AM - jpschultz - Z:\Clients\IND\NUSC\84493 - Newington\Drawings\115-kv\Working\UG - NEWINGTON NOTES.dwg - Layout1

DRAWING LIST TABLE	
DRAWING NUMBER	DRAWING TITLE
00	COVER SHEET
01245-00011-PG01	GENERAL NOTES
01245-00011-PG02	SHEET LAYOUT AND PROJECT OVERVIEW
01245-10011-PG03	PLAN AND PROFILE
01245-10011-PG04	PLAN AND PROFILE
01245-10011-PG05	PLAN AND PROFILE
01245-10011-PG06	PLAN AND PROFILE
01245-10011-PG07	PLAN AND PROFILE
01245-10011-PG08	PLAN AND PROFILE
01245-10011-PG09	PLAN AND PROFILE
01245-10011-PG10	PLAN AND PROFILE
01245-10011-PG11	PLAN AND PROFILE
01245-10011-PG12	PLAN AND PROFILE
01245-10011-PG13	PLAN AND PROFILE
01245-10011-PG14	PLAN AND PROFILE
01245-10011-PG15	PLAN AND PROFILE
01245-10011-PG16	PLAN AND PROFILE
01245-10011-PG17	PLAN AND PROFILE
01245-10011-PG18	PLAN AND PROFILE
01245-45001-PG19	DUCT BANK SECTIONS
01245-46001-PG20	VAULT, GROUNDING AND HANDHOLE DETAILS
01245-46002-PG21	VAULT AND GROUNDING DETAILS
01245-47001-PG22	TRANSITION STRUCTURE DETAILS
01245-47002-PG23	SUBSTATION CABLE TERMINATION DETAILS
01245-71001-PG24	BONDING SCHEMATICS

115-kV CABLE PULLING CALCULATIONS									
CABLE PULL		CONDUIT SIZE AND TYPE	LENGTH OF RUN IN FEET	VOLTAGE CLASS	SIZE	PULLING TENSION (in pounds) FORWARD	SIDEWALL PRESSURE (in lbs/ft of radius) FORWARD	PULLING TENSION (in pounds) REVERSE	SIDEWALL PRESSURE (in lbs/ft of radius) REVERSE
FROM	TO								
Newington	Vault 1	8" PVC	1145	115 kV	5000 kcmil CU XLPE	8532	50	17777	1756**
Vault 1	Vault 2	8" PVC	1820	115 kV	5000 kcmil CU XLPE	13489	63	11278	56
Vault 2	Vault 3	8" PVC	2225	115 kV	5000 kcmil CU XLPE	24117	414	17855	88
Vault 3	S. Riser Pole	8" PVC	960	115 kV	5000 kcmil CU XLPE	18431	1821**	6759	83
N. Riser Pole	SW Hartford	8" PVC	940	115 kV	5000 kcmil CU XLPE	12986	1212**	9810	894
MAXIMUM ALLOWABLE PULLING TENSIONS AND SIDEWALL PRESSURES IN ACCORDANCE WITH MANUFACTURER'S STANDARDS									
5000 kcmil Cu XLPE 115-kV, 1/C: MAX PULLING TENSION = 40,000 lbs., MAX SIDEWALL PRESSURE = 1,200 lbs/ft									
*All cables assumed to be lubricated with Polywater J or equivalent									
**Exceeds manufacturer's limits									

CURVE TABLE							
CURVE NO.	RADIUS	CURVE LENGTH	TANGENT LENGTH	DEFLECTION ANGLE	POINT OF INTERSECTION	POINT OF CURVATURE	POINT OF TANGENCY
C1	50'	78.39'	49.85'	N52° 34' 06.30"W	N 822,132.75, E 999,552.99	N 822,139.24, E 999,602.41	N 822,182.15, E 1,010,684.35
C2	50'	78.50'	49.96'	N37° 19' 14.24"E	N 822,386.03, E 999,518.94	N 822,336.52, E 999,525.60	N 822,392.73, E 999,568.45
C3	100'	72.46'	37.90'	S76° 56' 49.30"E	N 822,439.94, E 999,917.44	N 822,434.86, E 999,879.88	N 822,418.85, E 999,948.93
C4	200'	144.06'	75.31'	S76° 49' 30.21"E	N 822,246.11, E 1,000,206.86	N 822,288.02, E 1,000,144.29	N 822,255.89, E 1,000,281.54
C5	200'	63.08'	31.80'	S88° 25' 29.87"E	N 822,371.01, E 1,001,160.68	N 822,366.88, E 1,001,129.15	N 822,365.15, E 1,001,191.94
C6	200'	63.67'	32.11'	S88° 30' 37.02"E	N 822,342.02, E 1,001,315.39	N 822,347.93, E 1,001,283.84	N 822,346.29, E 1,001,347.22
C7	200'	9.37'	4.69'	N83° 42' 42.96"E	N 822,405.50, E 1,001,789.20	N 822,404.88, E 1,001,784.55	N 822,405.91, E 1,001,793.87
C8	200'	8.77'	4.39'	N83° 47' 52.24"E	N 822,416.68, E 1,001,918.45	N 822,416.31, E 1,001,914.08	N 822,417.25, E 1,001,922.80
C9	200'	49.79'	25.02'	N89° 40' 22.32"E	N 822,426.03, E 1,001,989.86	N 822,422.79, E 1,001,965.05	N 822,423.07, E 1,002,014.71
C10	244'	61.37'	30.85'	N89° 36' 48.86"E	N 822,414.83, E 1,002,083.73	N 822,418.49, E 1,002,053.09	N 822,418.90, E 1,002,114.30
C11	200'	51.44'	25.86'	N75° 03' 16.01"E	N 822,484.57, E 1,002,607.91	N 822,481.16, E 1,002,582.27	N 822,494.39, E 1,002,631.83
C12	200'	47.47'	23.85'	N74° 29' 10.65"E	N 822,590.79, E 1,002,866.73	N 822,581.73, E 1,002,844.66	N 822,594.40, E 1,002,890.30
C13	100'	4.70'	2.35'	N82° 37' 57.07"E	N 822,636.23, E 1,003,163.22	N 822,635.87, E 1,003,160.90	N 822,636.48, E 1,003,165.56
C14	100'	94.79'	51.29'	N56° 49' 27.23"E	N 822,665.60, E 1,003,441.71	N 822,660.22, E 1,003,390.70	N 822,710.17, E 1,003,467.10
C15	100'	28.13'	14.16'	N21° 36' 37.04"E	N 822,809.99, E 1,003,523.96	N 822,797.68, E 1,003,516.95	N 822,823.75, E 1,003,527.28
C16	50'	71.12'	43.08'	N54° 18' 00.54"E	N 823,341.32, E 1,003,652.02	N 823,299.43, E 1,003,641.93	N 823,337.52, E 1,003,694.94
C17	100'	23.27'	11.69'	N88° 22' 54.63"E	N 823,329.88, E 1,003,781.44	N 823,330.91, E 1,003,769.79	N 823,331.57, E 1,003,793.00
C18	50'	7.96'	3.99'	N86° 16' 34.15"E	N 823,397.20, E 1,004,243.67	N 823,396.62, E 1,004,239.73	N 823,397.14, E 1,004,247.66
C19	50'	19.65'	9.95'	S77° 54' 15.56"E	N 823,396.30, E 1,004,305.17	N 823,396.44, E 1,004,295.22	N 823,392.35, E 1,004,314.31
C20	50'	19.95'	10.11'	S78° 04' 33.64"E	N 823,388.34, E 1,004,323.59	N 823,392.35, E 1,004,314.31	N 823,388.26, E 1,004,333.70
C21	50'	80.00'	51.48'	S43° 40' 09.54"E	N 823,387.15, E 1,004,461.83	N 823,387.60, E 1,004,410.35	N 823,335.71, E 1,004,459.88
C22	50'	53.79'	29.83'	S28° 39' 18.92"E	N 823,083.26, E 1,004,450.33	N 823,113.07, E 1,004,451.46	N 823,068.11, E 1,004,476.03

CURVE TABLE							
CURVE NO.	RADIUS	CURVE LENGTH	TANGENT LENGTH	DEFLECTION ANGLE	POINT OF INTERSECTION	POINT OF CURVATURE	POINT OF TANGENCY
C23	100'	93.52'	50.50'	N58° 32' 40.78"W	N 833,746.99, E 1,010,734.84	N 833,704.05, E 1,010,761.41	N 833,751.09, E 1,010,684.51
C24	30'	59.68'	46.19'	N28° 20' 32.85"W	N 833,768.61, E 1,010,469.78	N 833,764.85, E 1,010,515.81	N 833,809.14, E 1,010,491.92
C25	50'	86.00'	58.08'	N20° 37' 23.75"W	N 834,103.89, E 1,010,652.98	N 834,052.92, E 1,010,625.13	N 834,123.85, E 1,010,598.43
C26	100'	95.10'	51.49'	N42° 39' 20.95"W	N 834,155.79, E 1,010,511.15	N 834,138.10, E 1,010,559.50	N 834,205.43, E 1,010,497.46
C27	50'	52.20'	28.76'	N45° 19' 17.67"W	N 834,234.27, E 1,010,489.51	N 834,206.54, E 1,010,497.16	N 834,241.60, E 1,010,461.70

**GENERAL NOTES:**

- VERTICAL RADII SHALL BE 200' UNLESS OTHERWISE NOTED AND MAINTAIN A MINIMUM HORIZONTAL RADIUS OF 100'. CONTRACTOR SHALL NOT DEVIATE FROM STATED RADII WITHOUT ENGINEER APPROVAL.
- DUCT BANK SHALL MAINTAIN A TYPICAL COVER DEPTH OF 3'-0" UNLESS OTHERWISE SHOWN ON DRAWINGS. MAINTAIN 2'-0" TYPICAL VERTICAL CLEARANCE OVER OR UNDER EXISTING UTILITIES AND MAINTAIN 2'-0" TYPICAL HORIZONTAL CLEARANCE FOR ADJACENT EXISTING UTILITIES SHOWN ON DRAWINGS UNLESS OTHERWISE NOTED.
- STATIONING INDICATED IS AT CENTERLINE OF DUCT BANK SECTIONS.
- CONTRACTOR SHALL PLUG CONDUIT SYSTEM WHEN WORK IS CEASED IN ACCORDANCE PER SPECIFICATIONS.
- CONTRACTOR SHALL PERFORM ALL RESTORATION WORK AS REQUIRED IN ACCORDANCE WITH SPECIFICATIONS.
- ANY DEVIATIONS FROM THE PROPOSED DUCT BANK ALIGNMENT AS SHOWN ON THE DRAWINGS SHALL REQUIRE APPROVAL FROM ENGINEER.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND CONSTRUCTION DRAWINGS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND REQUIREMENTS.
- ALL UNDERGROUND FACILITY ELEVATIONS & LOCATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN. THE DEPTH OF THE UNDERGROUND UTILITIES SHOWN ON THE PROFILE OF THESE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ACTUAL ELEVATIONS AND LOCATIONS OF ALL UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SURFACE OR UNDERGROUND FACILITIES WETHER SHOWN OR NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL HAVE THE LOCAL UTILITY LOCATING SERVICE LOCATE ALL FACILITIES BEFORE CONSTRUCTION.
- SPLICE VAULT MINIMUM DEPTH OF COVER, AS MEASURED AT ANY POINT OF BURIED SPLICE VAULTS, SHALL BE 3'-0" UNLESS OTHERWISE SHOWN ON DRAWINGS.
- VAULT LOCATIONS ARE SUBJECT TO ADJUSTMENT DUE TO UNFORESEEN CONDITIONS, AND WILL REQUIRE APPROVAL FROM ENGINEER.
- CONTRACTOR SHALL COORDINATE WITH EVERSOURCE ON CLEANING EXISTING DISTRIBUTION RIGHT-OF-WAY PRIOR TO START OF CONSTRUCTION.
- NORTHING AND EASTING DESIGNATIONS FOR SPLICE VAULT LOCATIONS ARE REFERENCED TO OUTSIDE CORNERS OF SPLICE VAULT.
- NORTHING AND EASTING DESIGNATIONS FOR HANDHOLE LOCATIONS ARE REFERENCED TO CENTER OF HANDHOLE.
- ALL UTILITIES DENOTED WITH A "V" ARE GRAVITY FACILITIES WITH INTERPOLATED ELEVATIONS BASED ON SURVEY FIELD DATA. ALL OTHER UTILITIES ARE SHOWN AT DEPTHS NOTED BELOW.
- ASSUMED DEPTH OF GRAVITY FACILITIES WHERE INVERT INFORMATION WAS NOT AVAILABLE IS 3'-6".
- ASSUMED DEPTH OF NON-GRAVITY UTILITIES ARE:  
WATER: 4'-6"  
GAS: 3'-0"  
ELECTRIC: 3'-0"  
TELECOMMUNICATIONS: 3'-0"

**SURVEY NOTES**

- THE EXISTING CONDITIONS DEPICTED ON THESE DRAWINGS ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY VHB BETWEEN MARCH 2017 AND JUNE 2017.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES DEPICTED ON THESE DRAWINGS ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE DEPICTED ON THESE DRAWINGS.
- THE HORIZONTAL AND VERTICAL VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON NAD83 CONNECTICUT STATE PLANE ZONE AND NAVD 1988 DATUMS AND WERE DETERMINED USING RTN GPS SURVEY METHODS.

**Legend**

	CATCH BASIN		CONCRETE CURB
	SLOPED GRANITE EDGING		SLOPED CONCRETE EDGING
	ROUND CATCH BASIN		BITUMINOUS BERM
	FLARED END SECTION		DRAIN MANHOLE
	DOWNSPOUT		SEWER MANHOLE
	DRAIN MANHOLE		ELECTRIC MANHOLE
	SEWER MANHOLE		TELEPHONE MANHOLE
	ELECTRIC MANHOLE		MANHOLE
	TELEPHONE MANHOLE		SIGNAL MANHOLE
	MANHOLE		WATER MANHOLE
	SIGNAL MANHOLE		WATER GATE
	WATER MANHOLE		SIAMESE CONNECTION
	WATER GATE		FIRE HYDRANT
	SIAMESE CONNECTION		GAS GATE
	FIRE HYDRANT		STREET SIGN
	GAS GATE		LIGHT POLE
	STREET SIGN		FLOOD LIGHT
	LIGHT POLE		UTILITY POLE
	FLOOD LIGHT		UTILITY POLE W/LIGHT
	UTILITY POLE		GUY POLE
	UTILITY POLE W/LIGHT		GUY WIRE
	GUY POLE		BOLLARD/POST
	GUY WIRE		BORING
	BOLLARD/POST		MONITORING WELL
	BORING		TEST PIT
	MONITORING WELL		WETLAND FLAG
	TEST PIT		SPOT ELEVATION
	WETLAND FLAG		HANDICAP SYMBOL
	SPOT ELEVATION		EDGE OF PAVEMENT
	HANDICAP SYMBOL		EDGE OF GRAVEL/LANDSCAPE
	EDGE OF PAVEMENT		EDGE OF TRAVELED WAY
	EDGE OF GRAVEL/LANDSCAPE		EDGE OF PATH
	EDGE OF TRAVELED WAY		BUILDING OVERHANG
	EDGE OF PATH		CURB
	BUILDING OVERHANG		STEEL GUARD RAIL
	CURB		WOOD GUARD RAIL
	STEEL GUARD RAIL		BARBED/WIRE FENCE
	WOOD GUARD RAIL		CHAIN LINK FENCE
	BARBED/WIRE FENCE		WOOD FENCE
	CHAIN LINK FENCE		UNDERGROUND DRAINAGE LINE
	WOOD FENCE		UNDERGROUND SEWER LINE
	UNDERGROUND DRAINAGE LINE		OVERHEAD WIRE
	UNDERGROUND SEWER LINE		UNDERGROUND ELECTRIC LINE
	OVERHEAD WIRE		UNDERGROUND GAS LINE
	UNDERGROUND ELECTRIC LINE		UNDERGROUND WATER LINE
	UNDERGROUND GAS LINE		UNDERGROUND TELEPHONE LINE
	UNDERGROUND WATER LINE		UNDERGROUND CABLE LINE
	UNDERGROUND TELEPHONE LINE		UNDERGROUND FIBER OPTIC LINE
	UNDERGROUND CABLE LINE		STONE WALL
	UNDERGROUND FIBER OPTIC LINE		TREE LINE
	STONE WALL		STREAM
	TREE LINE		WETLAND EDGE
	STREAM		PROPERTY LINE
	WETLAND EDGE		EASEMENT LINE
	PROPERTY LINE		STATE FREEWAY LINE
	EASEMENT LINE		STATE HIGHWAY LINE
	STATE FREEWAY LINE		CITY/TOWN LAYOUT LINE
	STATE HIGHWAY LINE		
	CITY/TOWN LAYOUT LINE		

**EXHIBIT A.4**

NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFD / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

84493	
date	detailed
MARCH 9, 2018	J. SCHATZ
designed	checked
K.RIEGEL	L. PULS

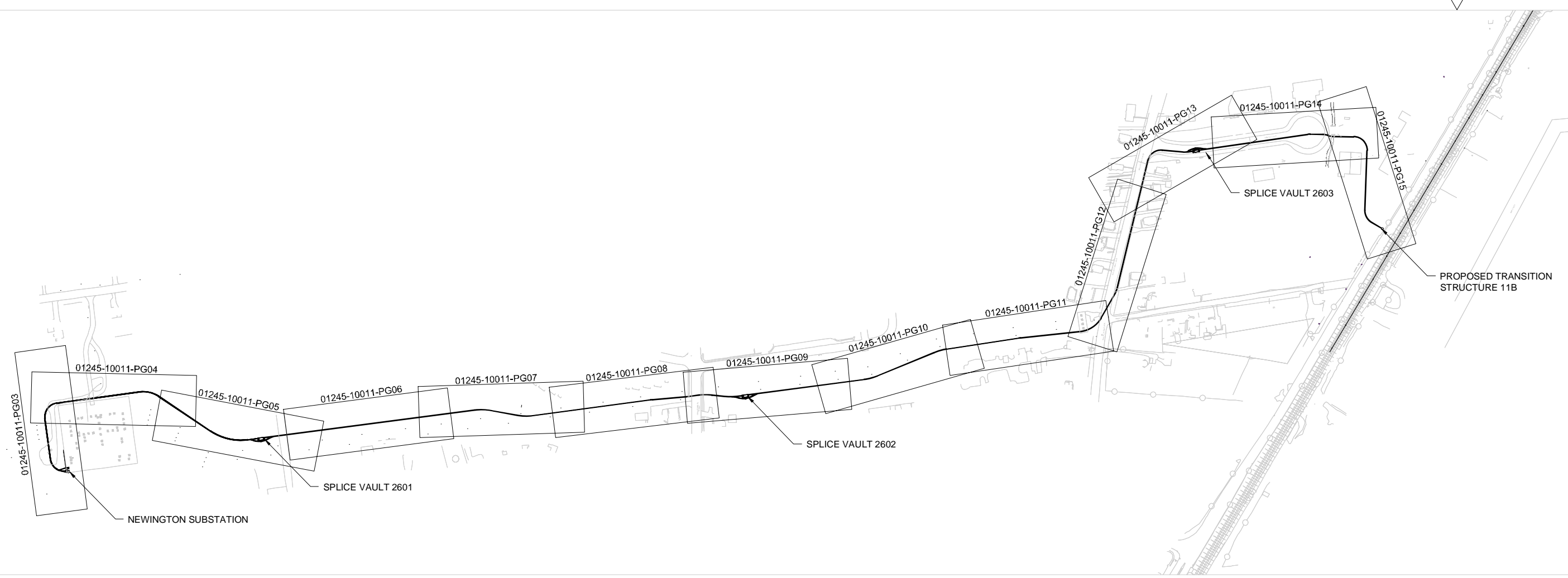
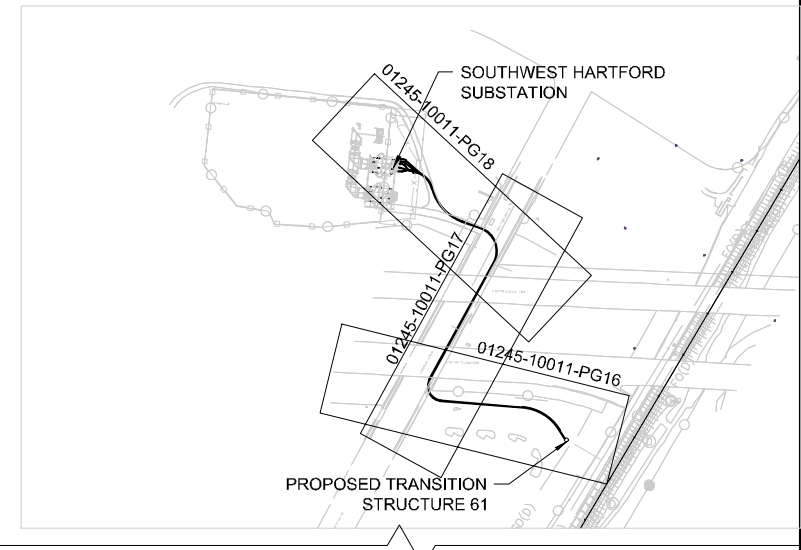
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
GENERAL NOTES

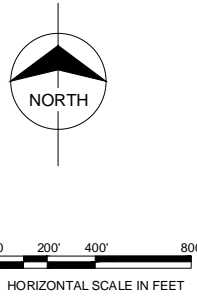
CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	N/A	SHEET	D	FIELD BOOK & PAGES			



**EXHIBIT A.4**

**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS MEDONNELL**

84493

date	MARCH 9, 2018	detailed	J.SCHATZ
designed	K.RIEGEL	checked	L. PULS

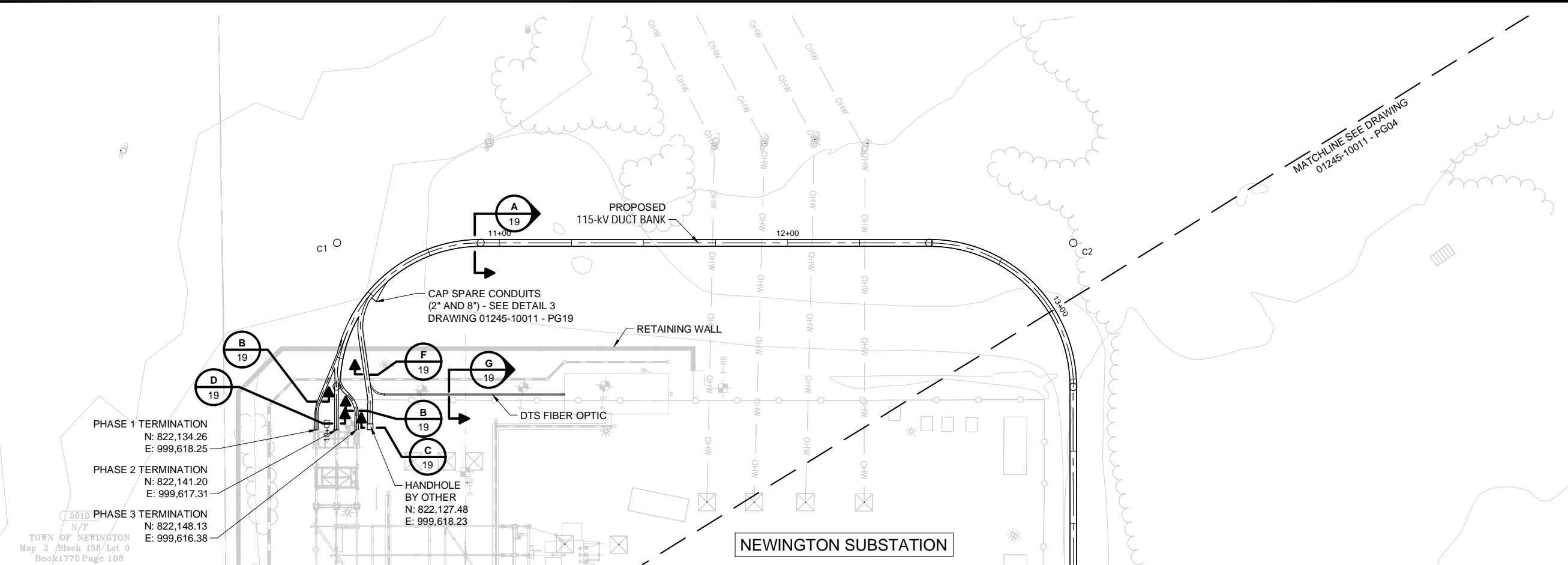
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
SHEET LAYOUT & PROJECT OVERVIEW  
CT

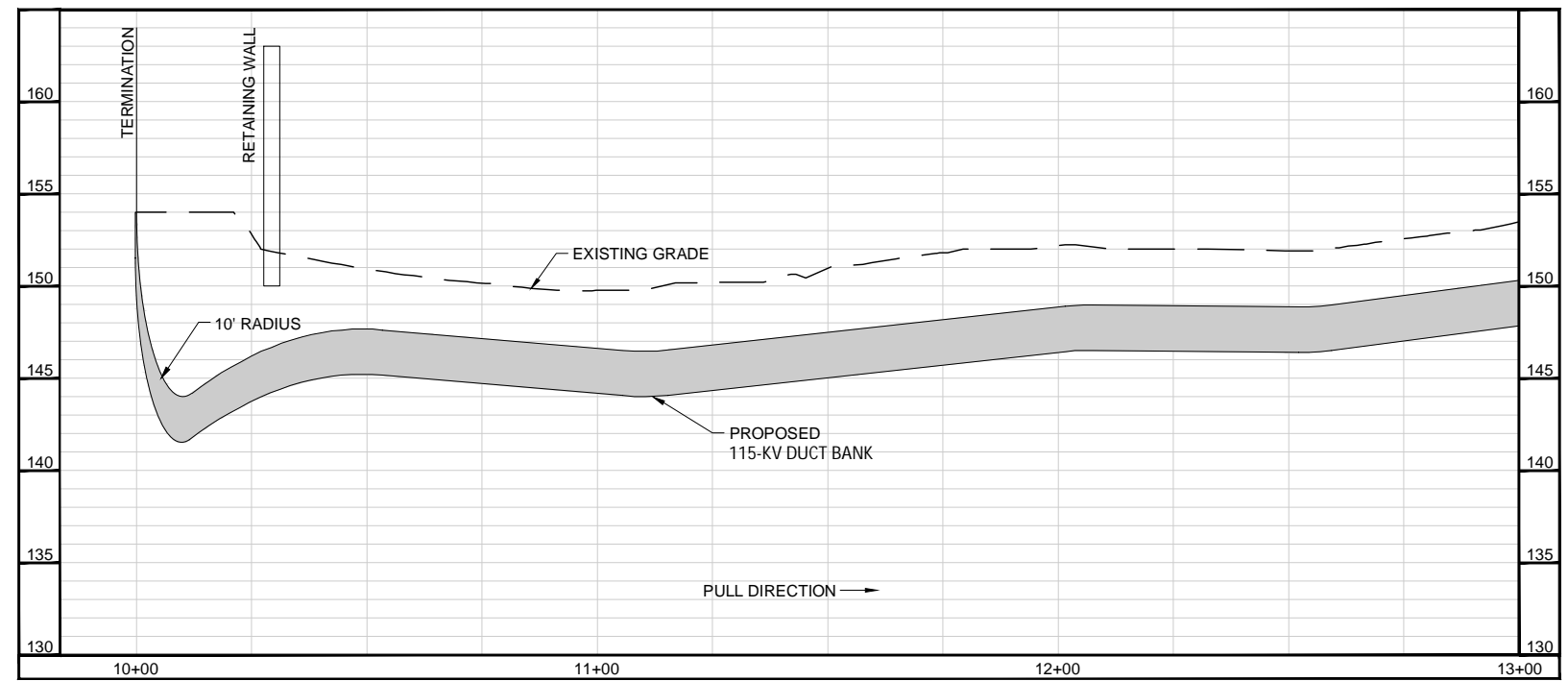
BY	JAS-BMcD	DWG	KMR-BMcD	APP	LPP-BMcD	APP	-
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V-SCALE	1"=5'	V.S.		R.E. DWG			
REV. PROJ. NUMBER		DWG NO.	01245-00011-PG02				

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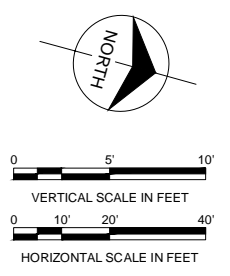
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 E: 999,617.31  
 PHASE 3 TERMINATION  
 N: 822,148.13  
 E: 999,616.38

5010 N/F  
 TOWN OF NEWINGTON  
 Map 2 / Block 150 / Lot 0  
 Book 1770 Page 108



**GENERAL NOTE:**  
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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

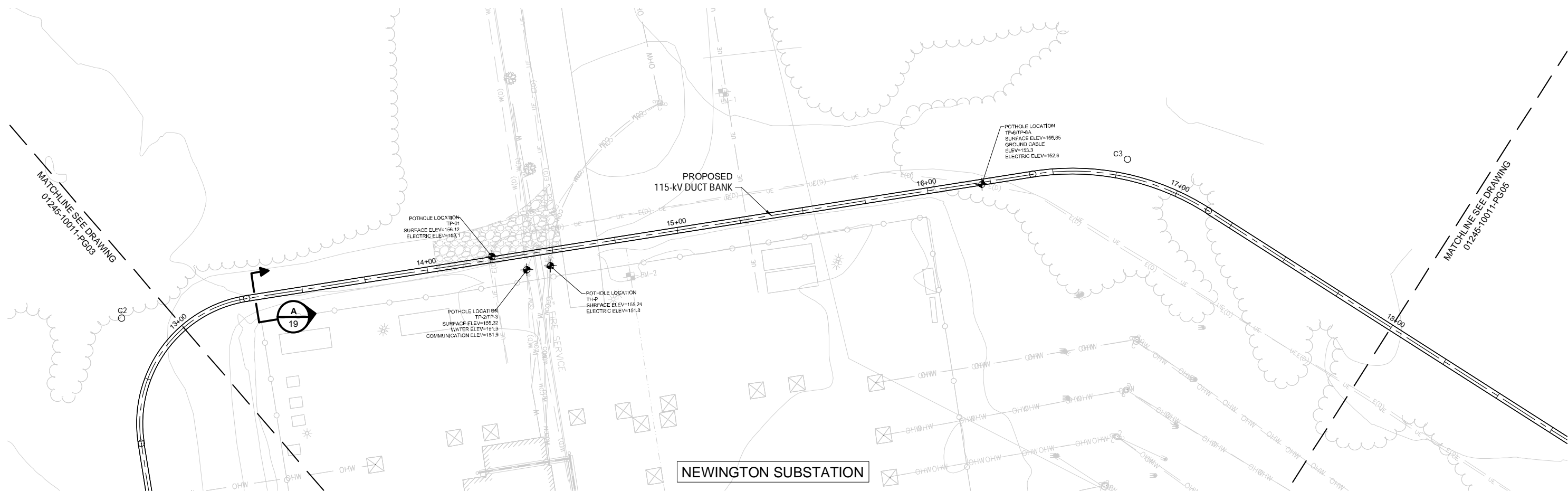
**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 10+00 TO 13+00

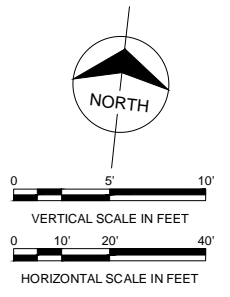
BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-	
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	-	
H-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES				
V-SCALE	1"=5'	V.S.	-	R.E. DWG				
R.E. PROJ. NUMBER							DWG NO.	01245-10011-PG03



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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

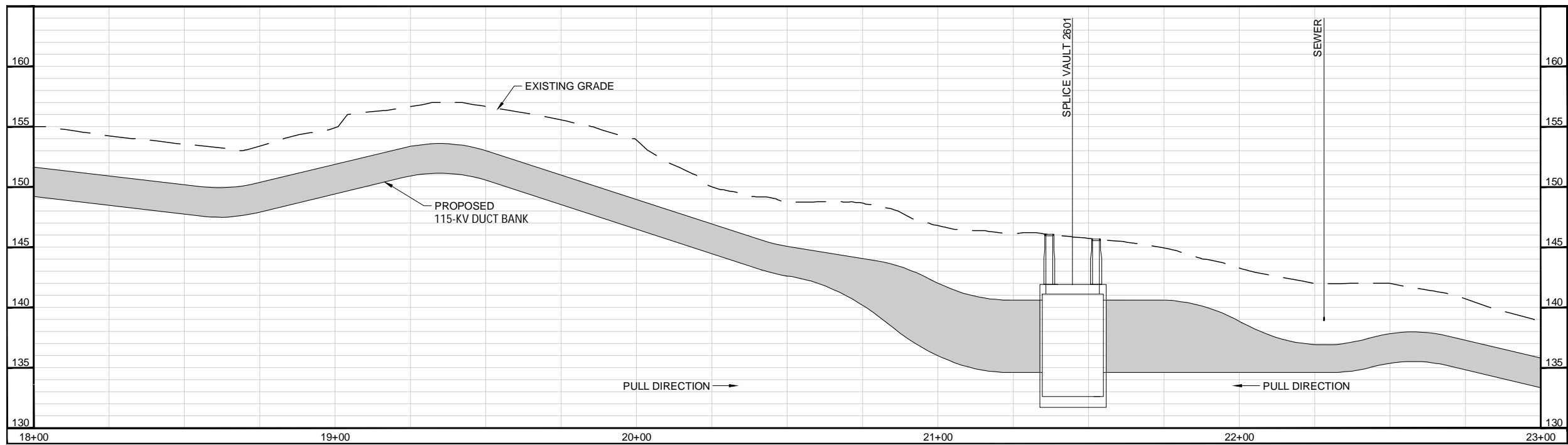
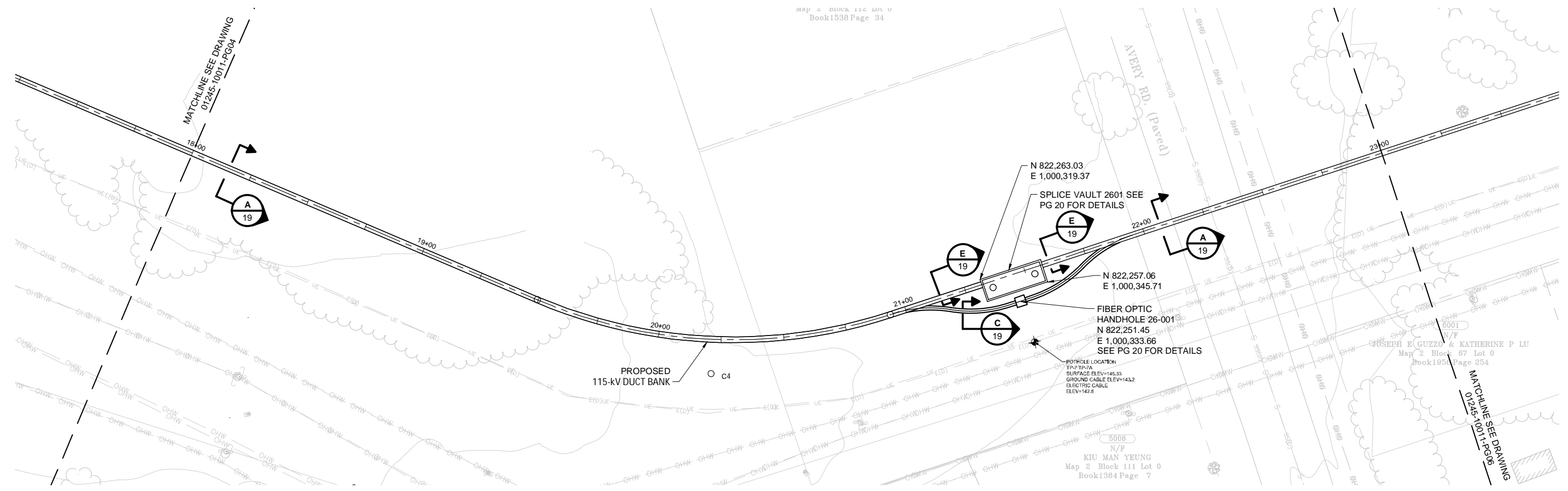
**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 13+00 TO 18+00  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		R.E. DWG			
REV. PROJ. NUMBER		DWG NO.	01245-10011-PG04				

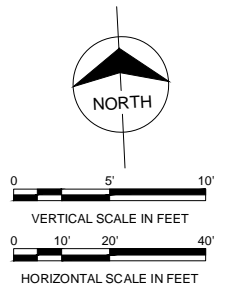
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MAP 2 BLOCK 111 LOT 0  
Book1538 Page 34



GENERAL NOTE:  
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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB & D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

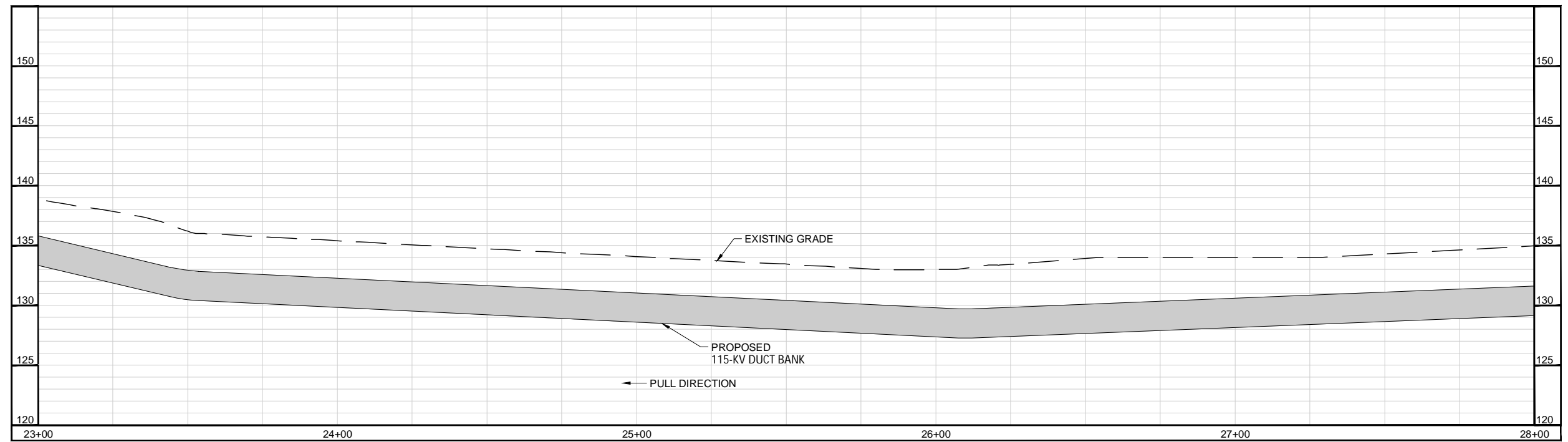
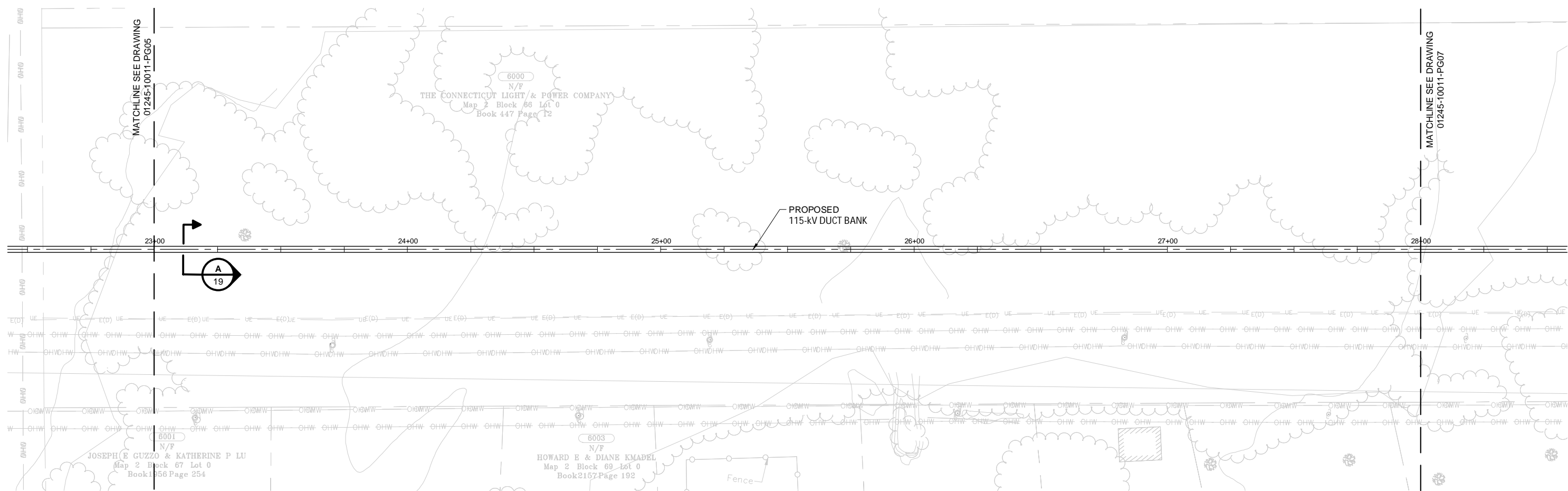
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
PLAN & PROFILE - STA. 18+00 TO 23+00  
CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
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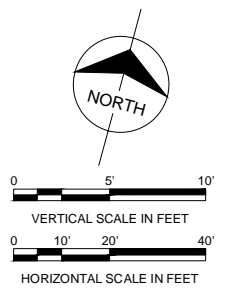
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GENERAL NOTE:  
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## EXHIBIT A.4

### PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP



84493

date **MARCH 9, 2018** detailed **J. SCHATZ**

designed **K. RIEGEL** checked **L. PULS**

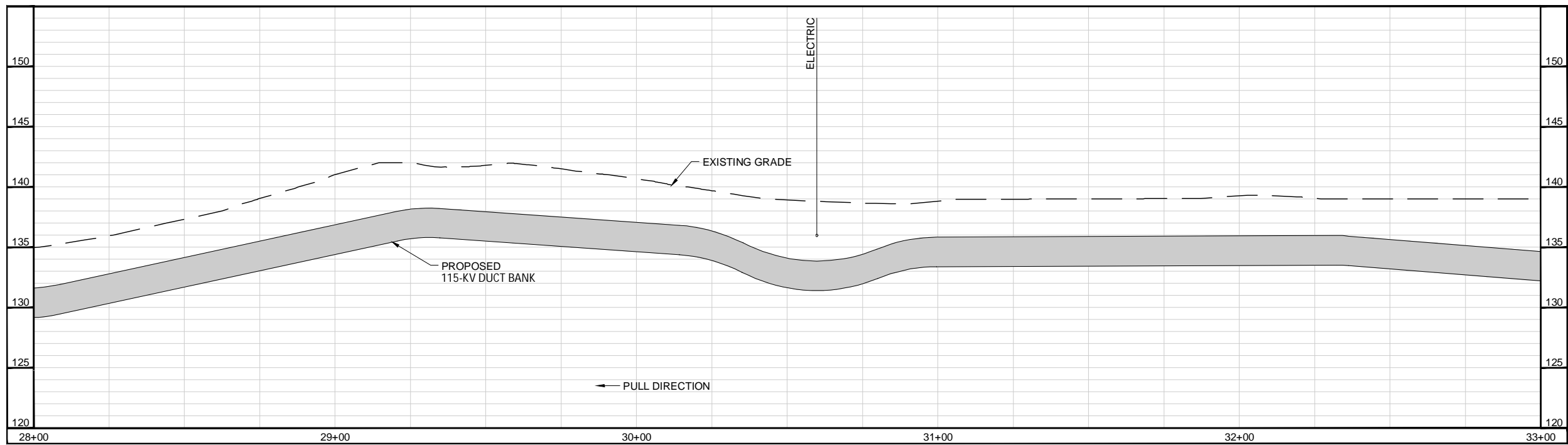
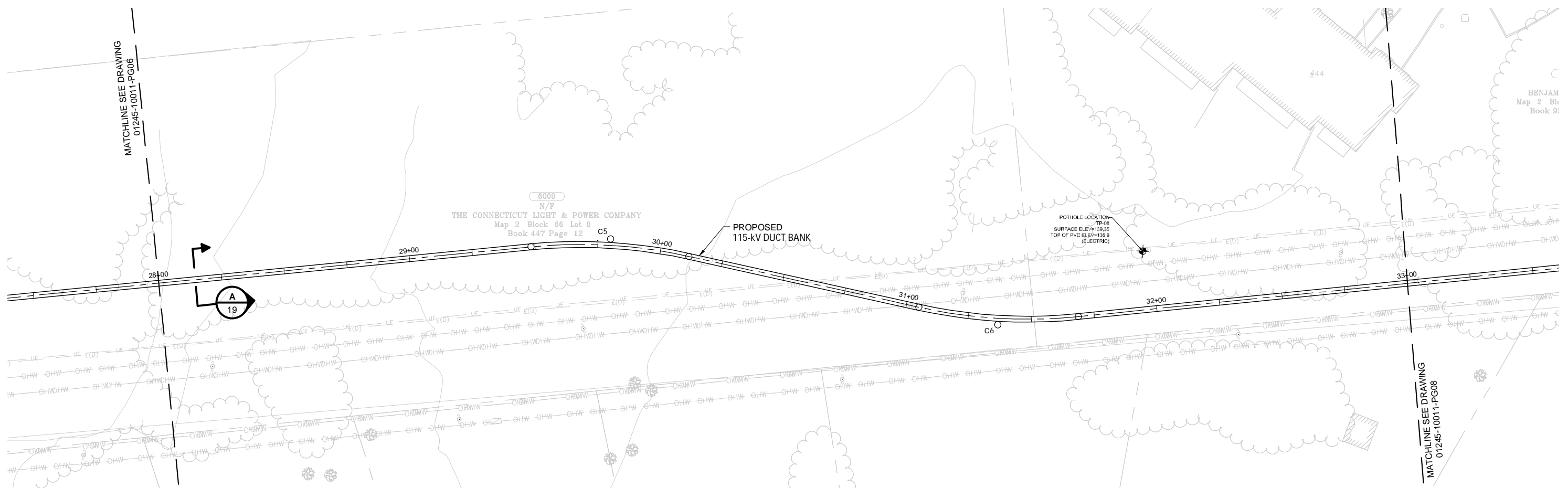
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

## EVERSOURCE ENERGY

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 23+00 TO 28+00

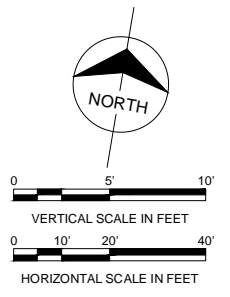
BY JAS-EMcD	CHK KMR-EMcD	APP LPP-EMcD	APP -
DATE 3/9/18	DATE 3/9/18	DATE 3/9/18	DATE
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VP-SCALE 1"=5'	V.S.	R.E. DWG	
R.E. PROJ. NUMBER			DWG NO. <b>01245-10011-PG06</b>

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GENERAL NOTE:  
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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB & D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**  
 84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

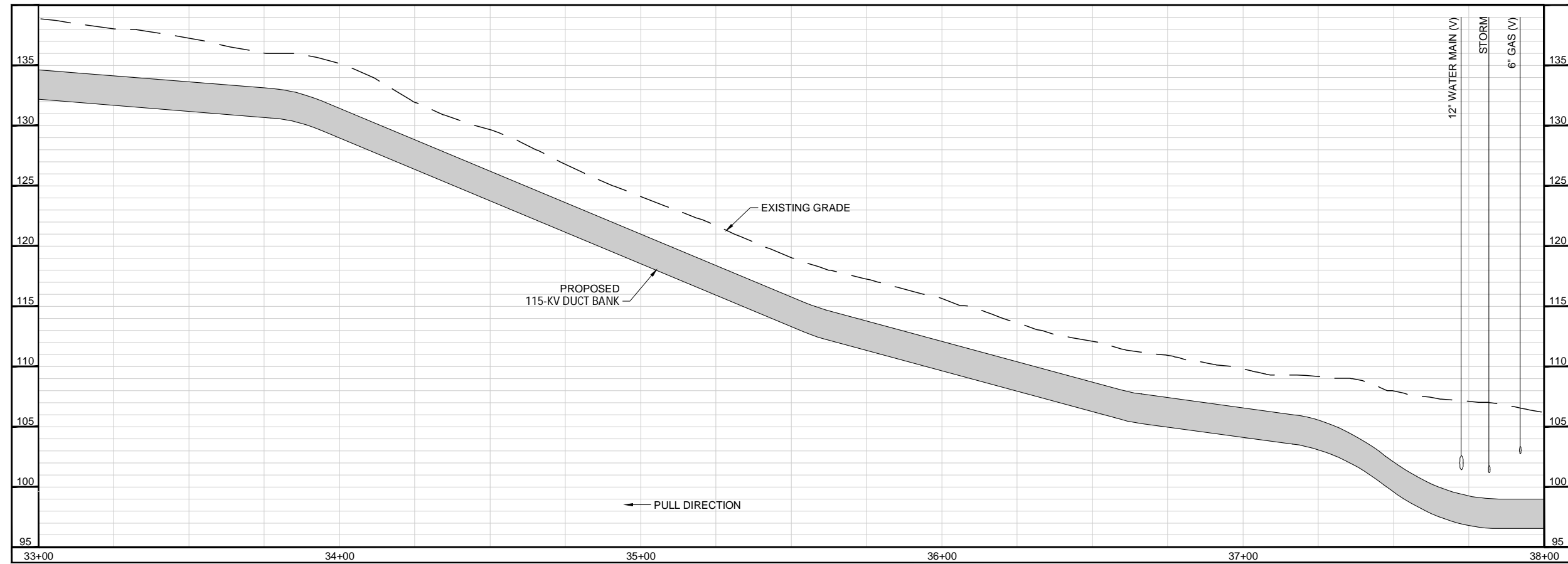
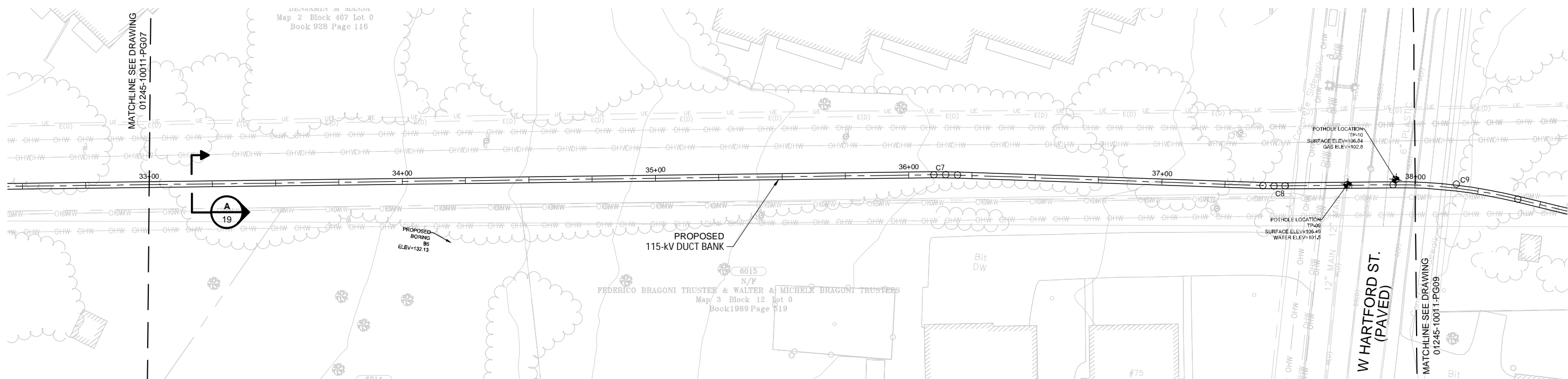
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 28+00 TO 33+00  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		R.E. DWG			
REV. PROJ. NUMBER		DWG NO.	01245-10011-PG07				

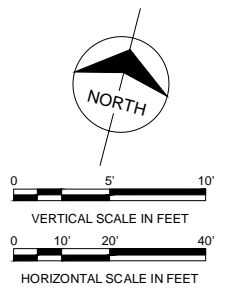
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GENERAL NOTE:  
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# EXHIBIT A.4

## PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

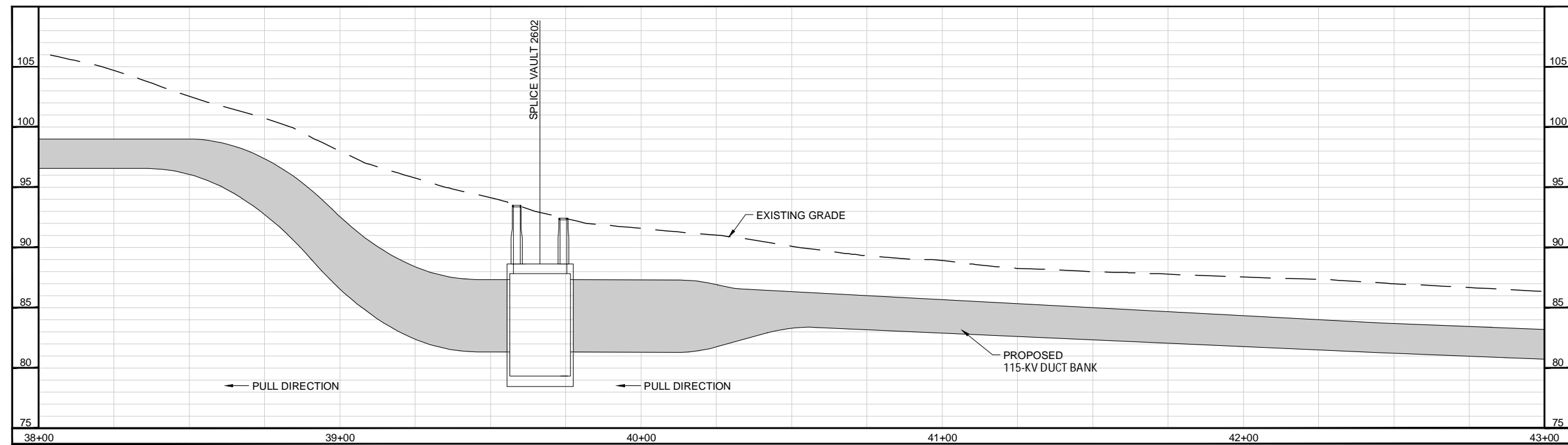
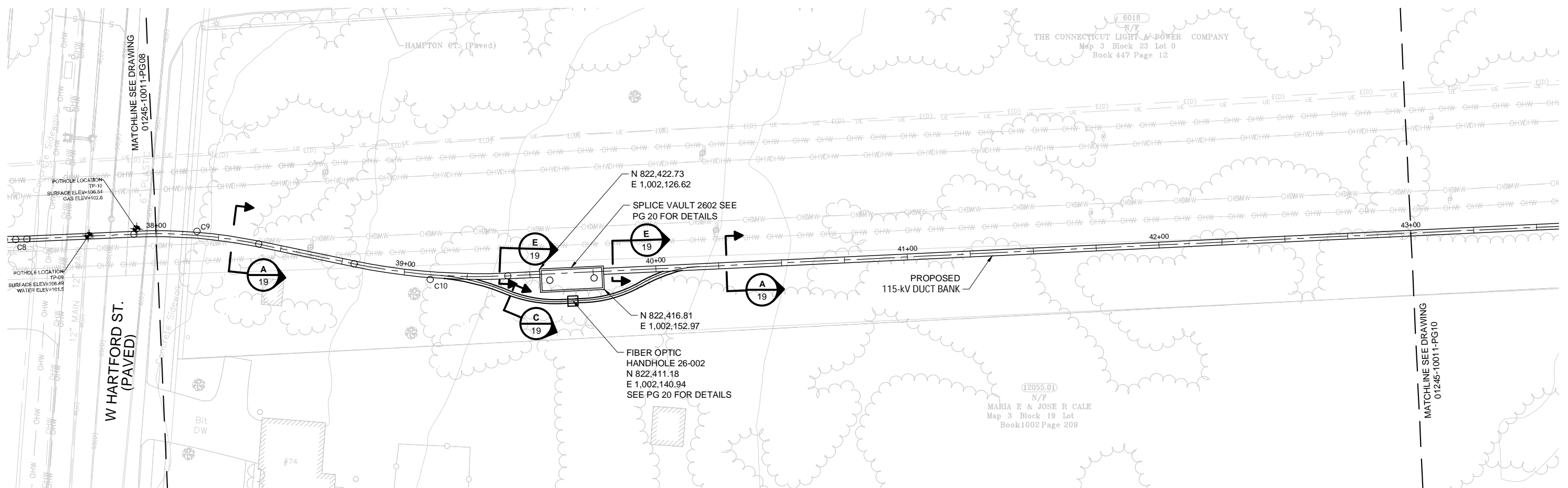
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 33+00 TO 38+00  
 CT

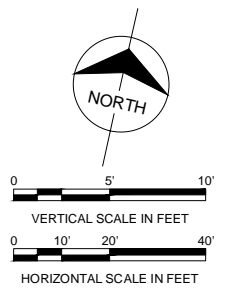
BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		R.E. DWG			
REV. PROJ. NUMBER		DWG NO.	01245-10011-PG08				

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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB & D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**  
 84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

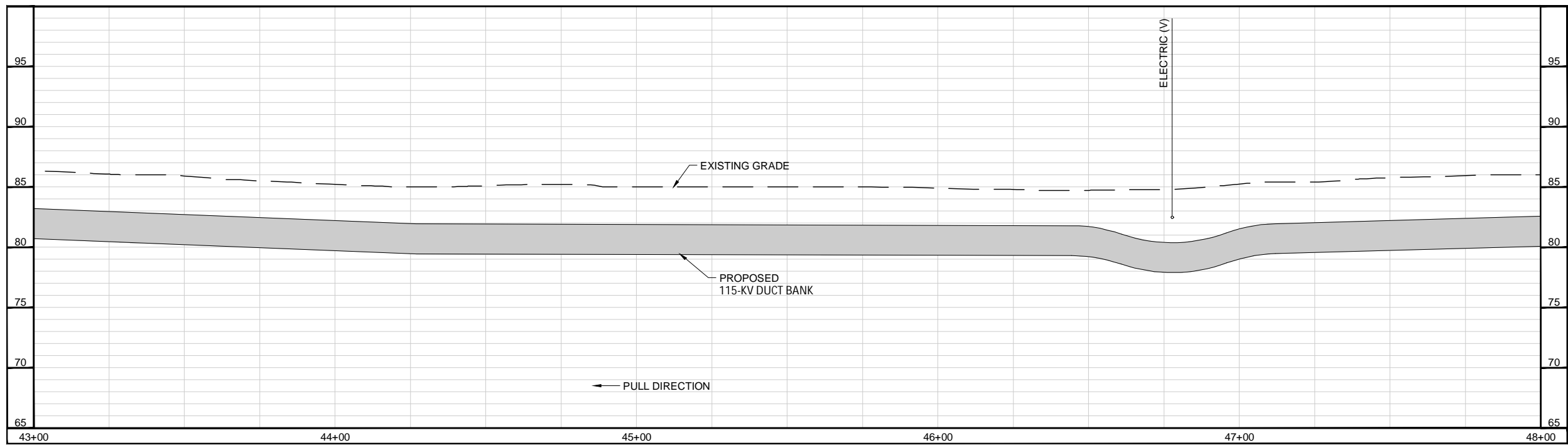
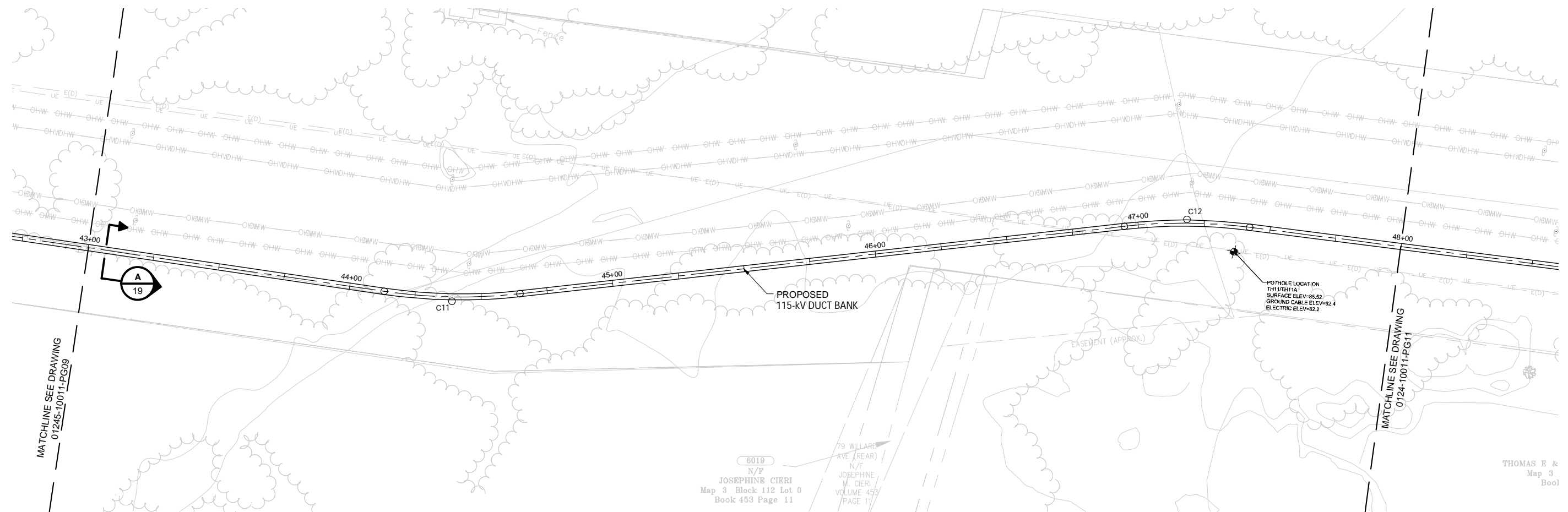
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 38+00 TO 43+00  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		RE. DWG			
REV. PROJ. NUMBER		DWG. NO.		01245-10011-PG09			

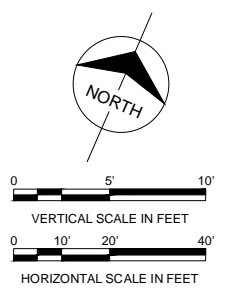
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GENERAL NOTE:  
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## EXHIBIT A.4

### PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB & D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

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date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

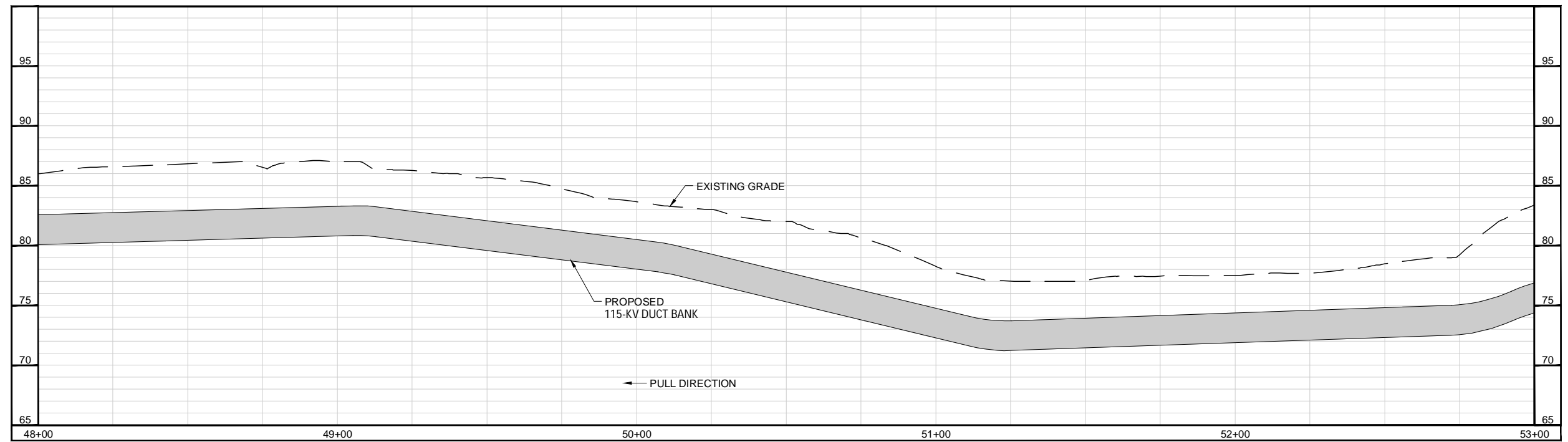
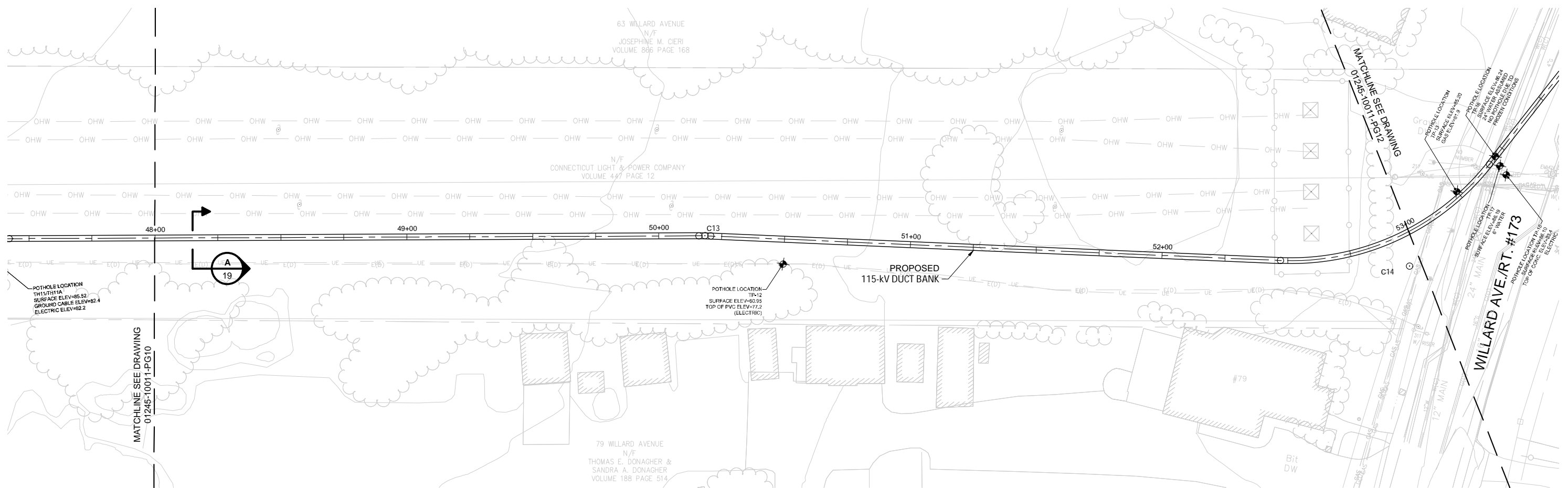
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 43+00 TO 48+00  
 CT

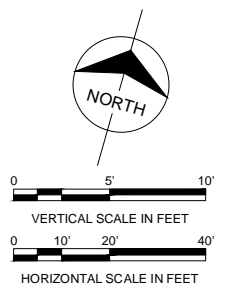
BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		R.E. DWG			
REV. PROJ. NUMBER		DWG NO.	01245-10011-PG10				

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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

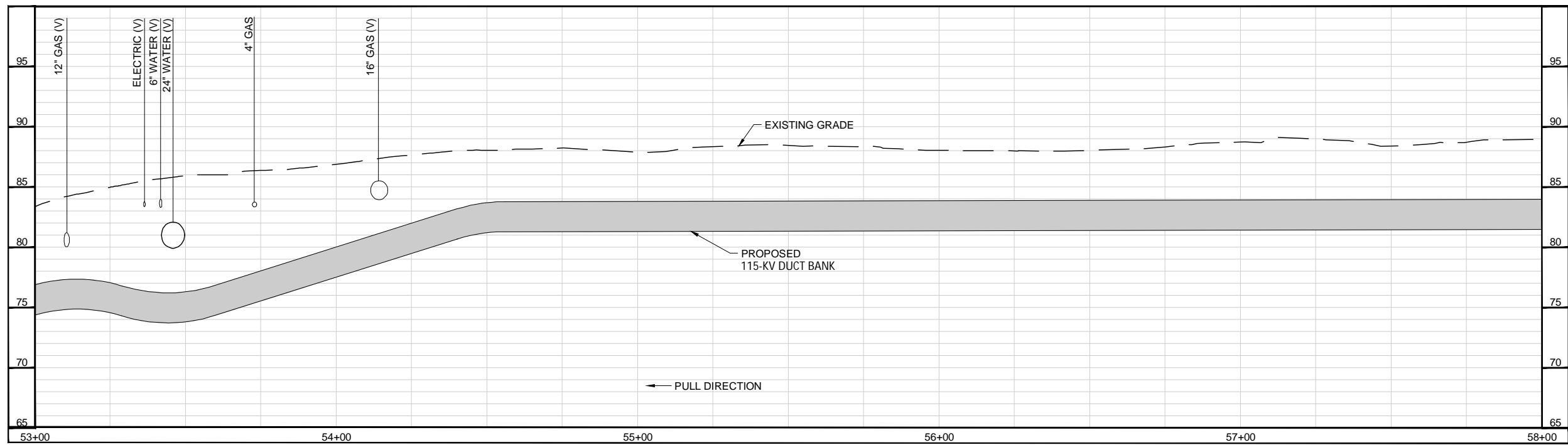
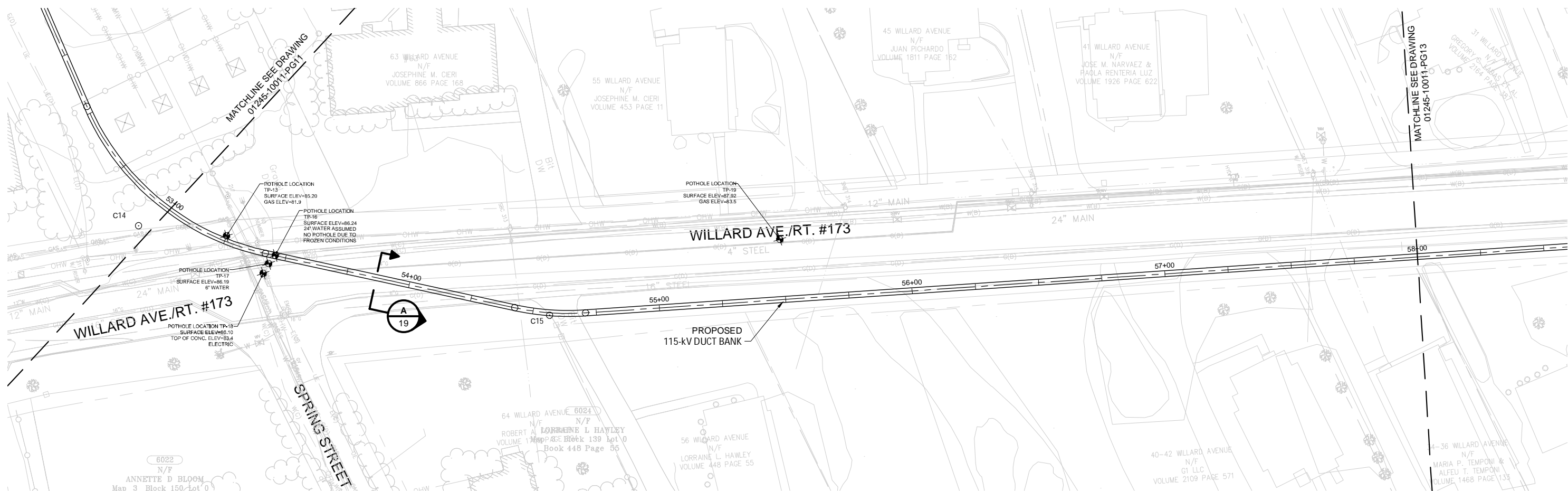
**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 48+00 TO 53+00  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
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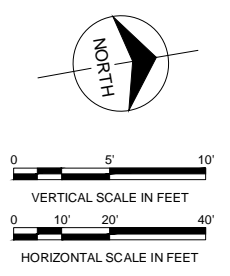


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**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

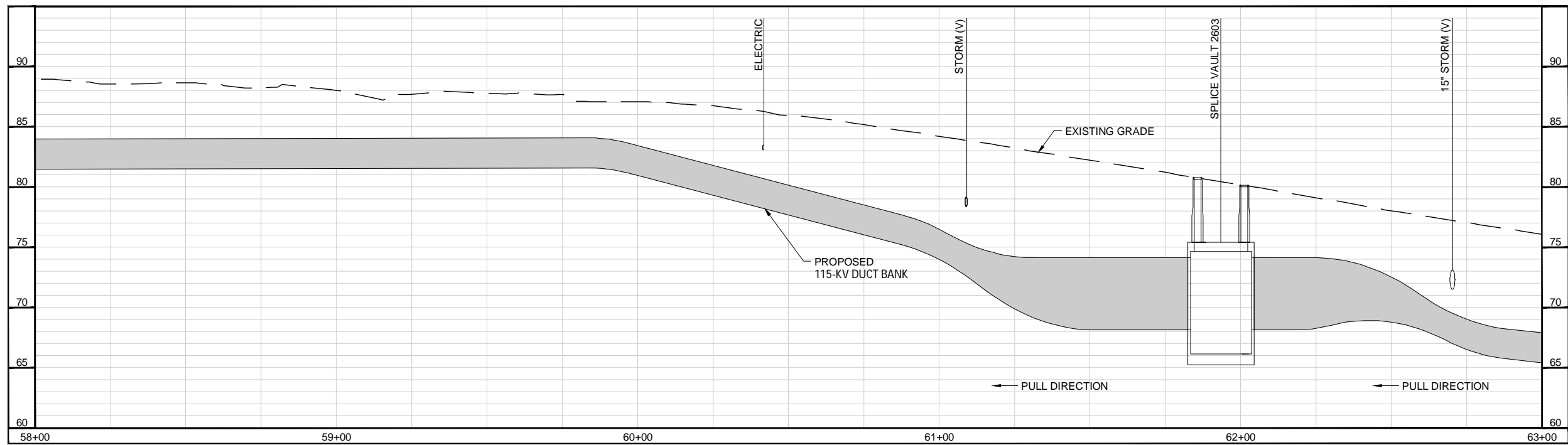
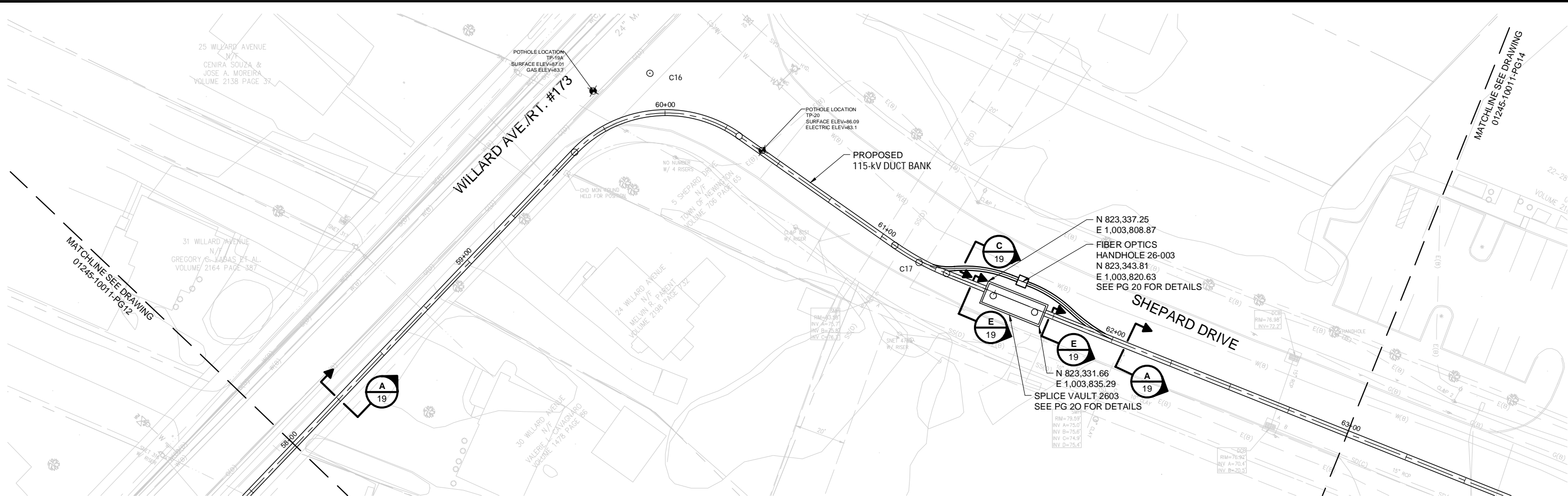
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 53+00 TO 58+00  
 CT

BY	JAS-BMcD	CHKD	KMR-BMcD	APP	LPP-BMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
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V-SCALE	1"=5'	V.S.		R.E. DWG			
REF. PROJ. NUMBER		DWG NO.	01245-10011-PG12				

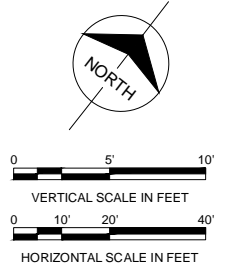
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GENERAL NOTE:  
 1. ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

## EXHIBIT A.4

### PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

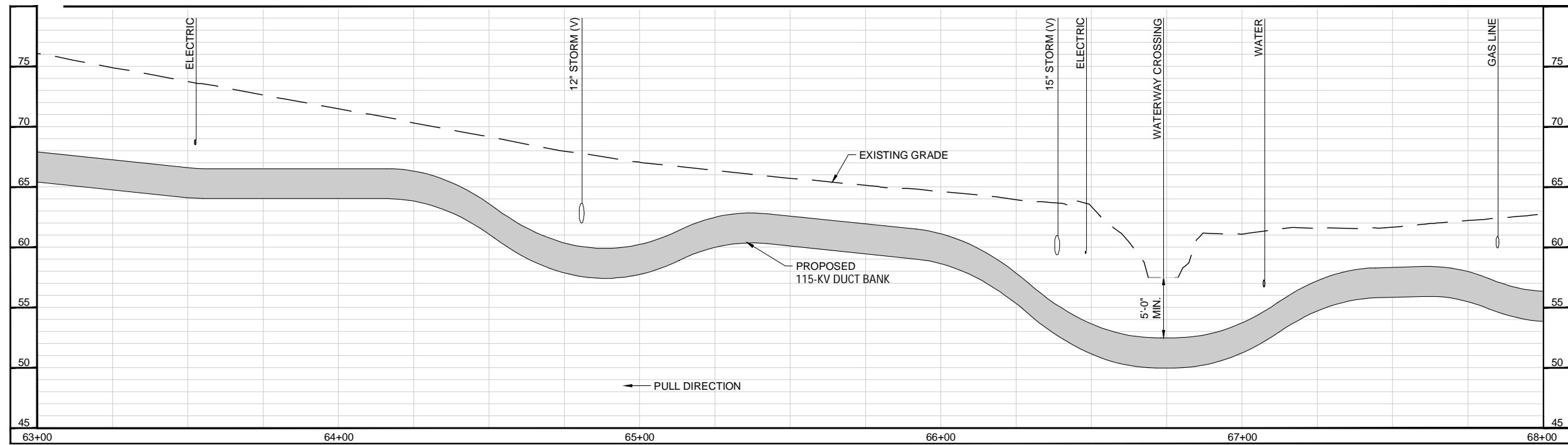
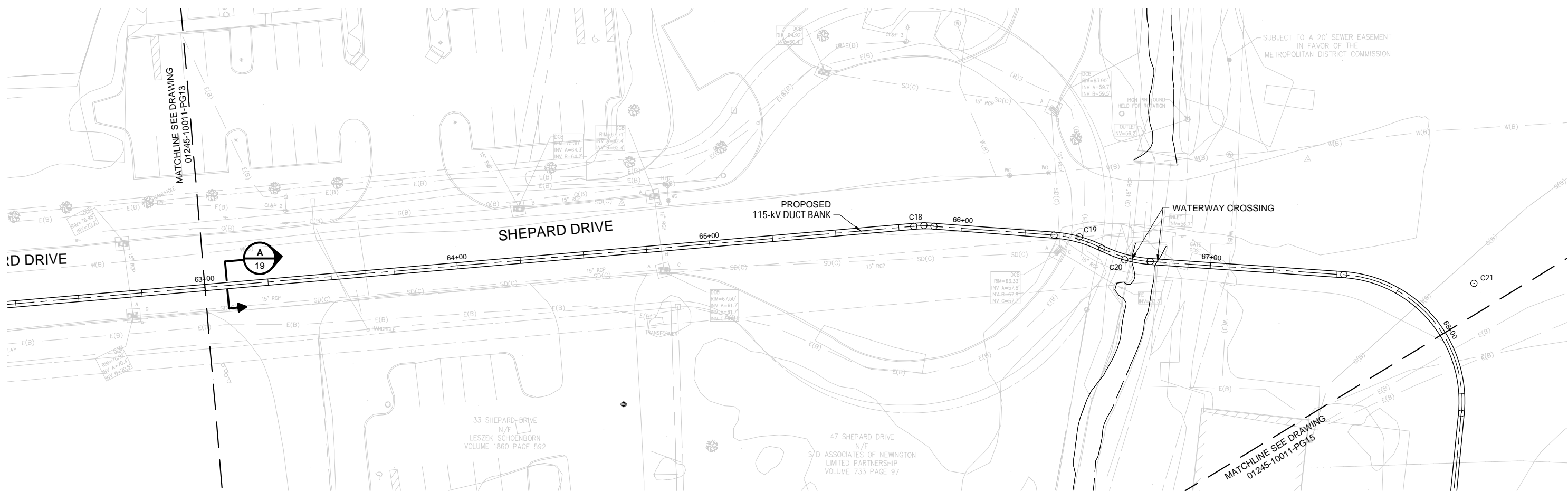
**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 58+00 TO 63+00

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
VP-SCALE	1"=5'	V.S.		R.E. DWG			
REF. PROJ. NUMBER		DWG. NO.	01245-1001-PG13				



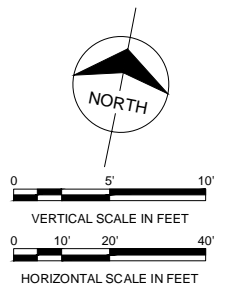
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GENERAL NOTE:  
 1. ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

## EXHIBIT A.4

### PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

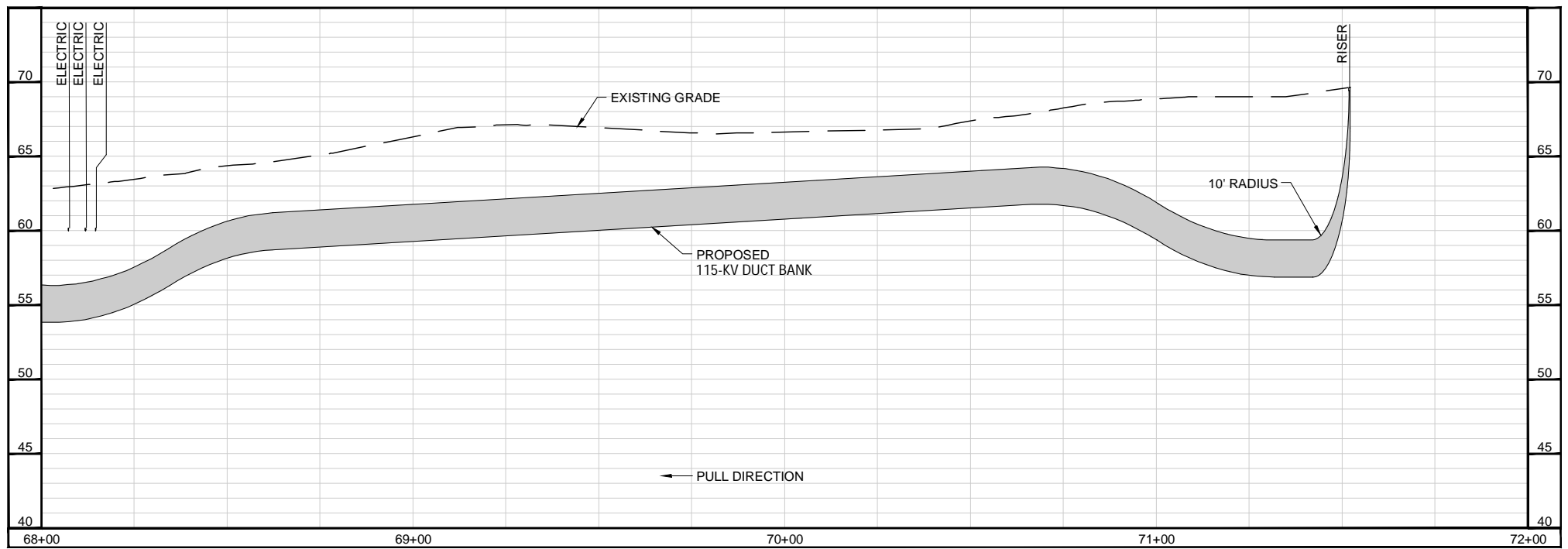
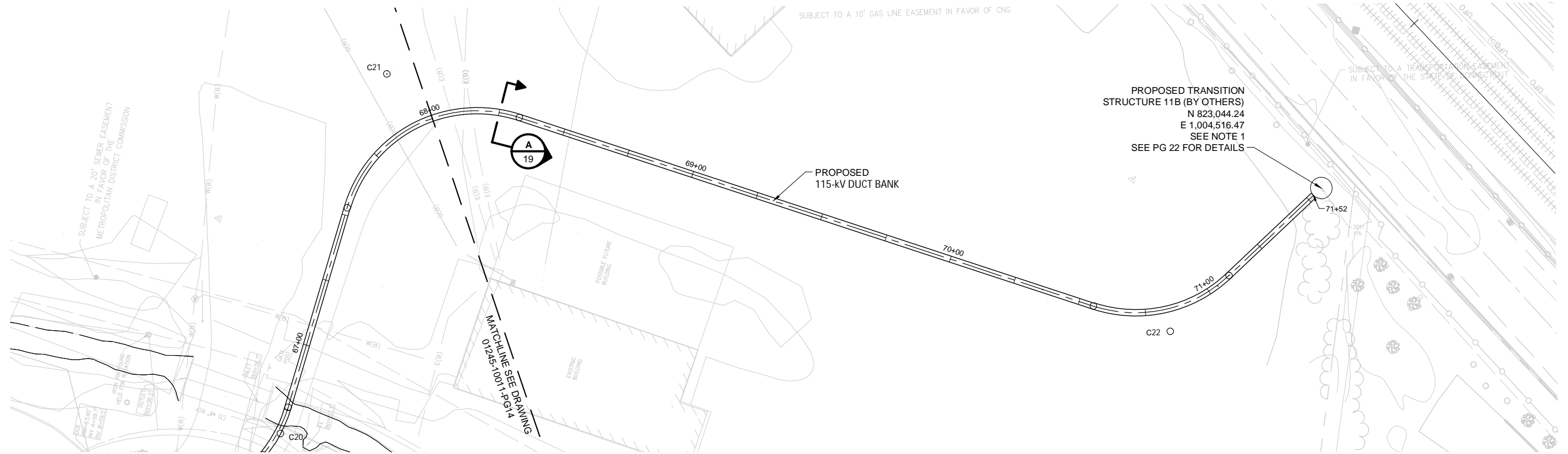
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 63+00 TO 68+00  
 CT

BY	JAS-BMcD	CHKD	KMR-BMcD	APP	LPP-BMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
HP-SCALE	1"=20'	SIZE	D	FIELD BOOK & PAGES			
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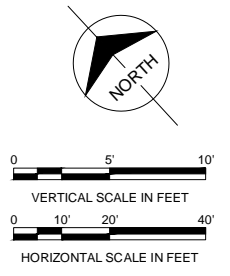
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- GENERAL NOTES:**
- CONTRACTOR SHALL CONSTRUCT DUCT BANK TO OVERHEAD FOUNDATION AND NOTIFY OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO POURING DUCT BANK CONCRETE.
  - ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

EXHIBIT A.4

PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

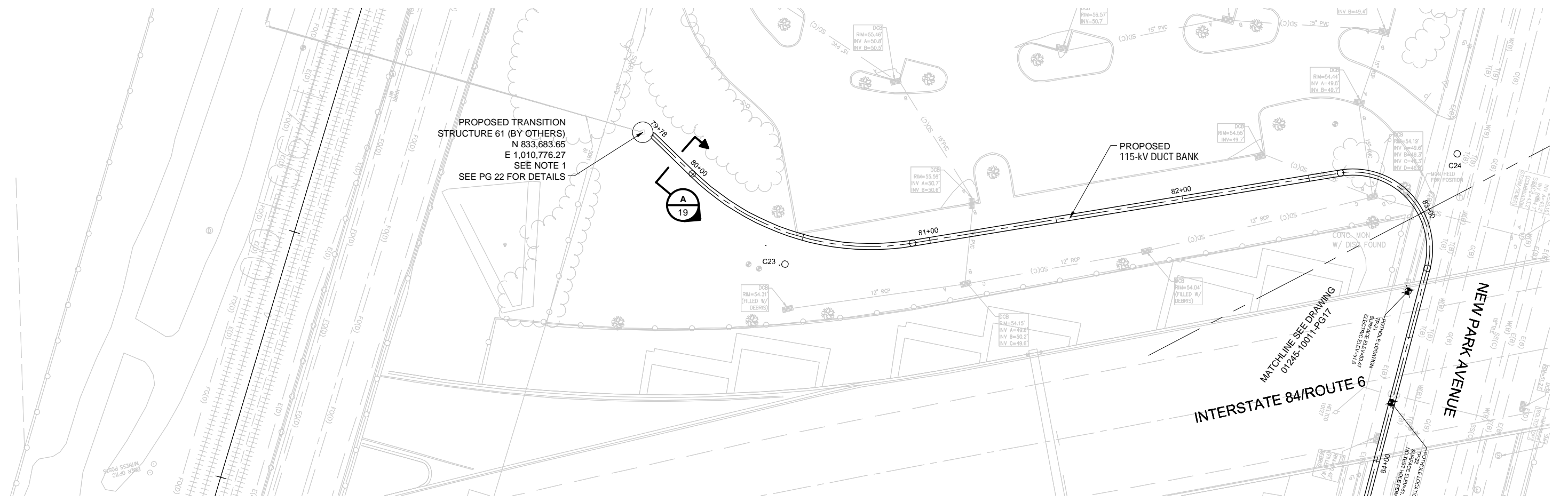
NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
PLAN & PROFILE - STA. 68+00 TO 71+52

CT

BY	JAS-BMcD	CHKD	KMR-BMcD	APP	LPP-BMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
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REV. PROJ. NUMBER		DWG NO.	01245-10011-PG15				



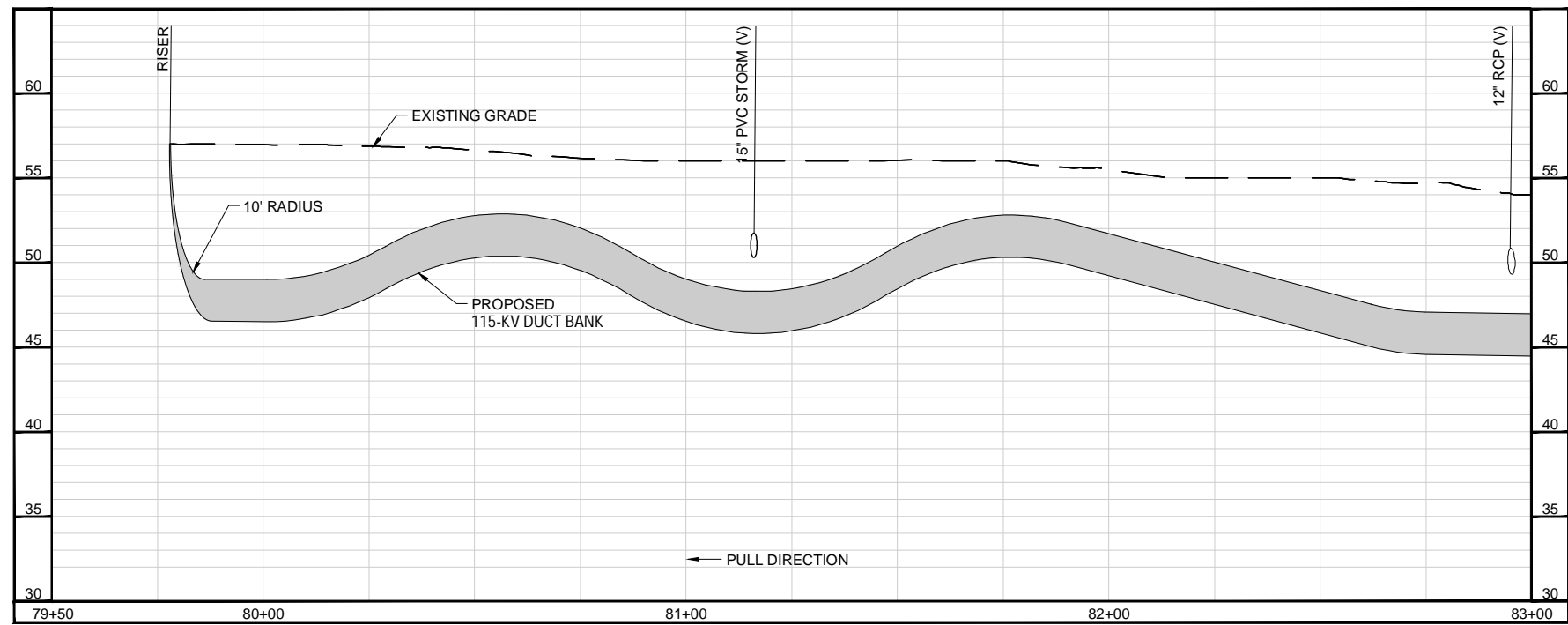
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PROPOSED TRANSITION  
 STRUCTURE 61 (BY OTHERS)  
 N 833,683.65  
 E 1,010,776.27  
 SEE NOTE 1  
 SEE PG 22 FOR DETAILS

PROPOSED  
115-KV DUCT BANK

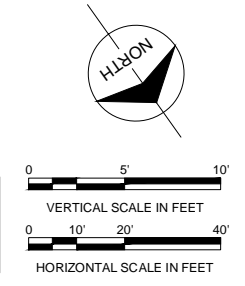
MATCHLINE SEE DRAWING  
 01245-10011-PG17  
 INTERSTATE 84/ROUTE 6  
 NEW PARK AVENUE



- GENERAL NOTES:**
- CONTRACTOR SHALL CONSTRUCT DUCT BANK TO OVERHEAD FOUNDATION AND NOTIFY OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO POURING DUCT BANK CONCRETE.
  - ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

EXHIBIT A.4

PRELIMINARY - NOT FOR CONSTRUCTION



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C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS  
MCDONNELL**

84493

date **MARCH 9, 2018**

designed **K.RIEGEL**

detailed **J.SCHATZ**

checked **L. PULS**

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

## EVERSOURCE ENERGY

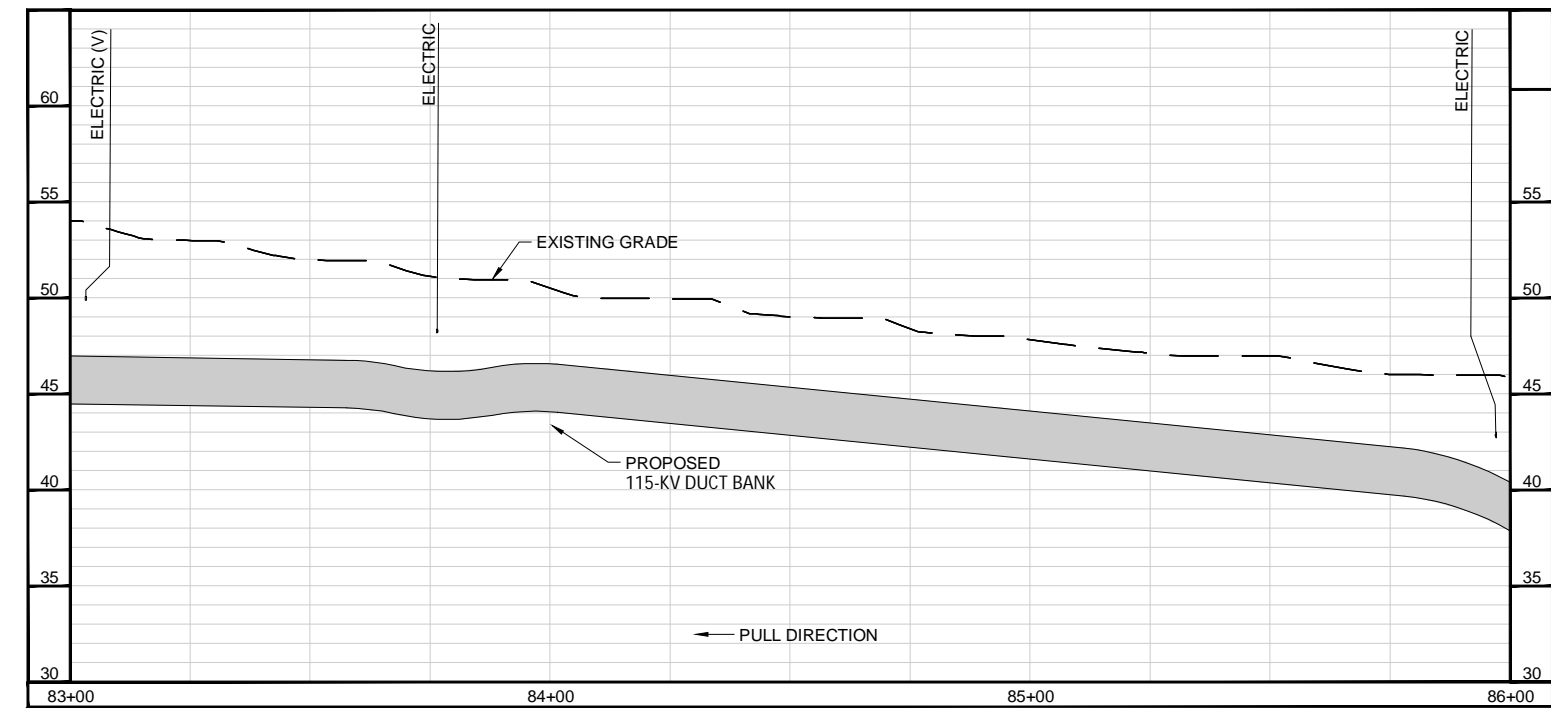
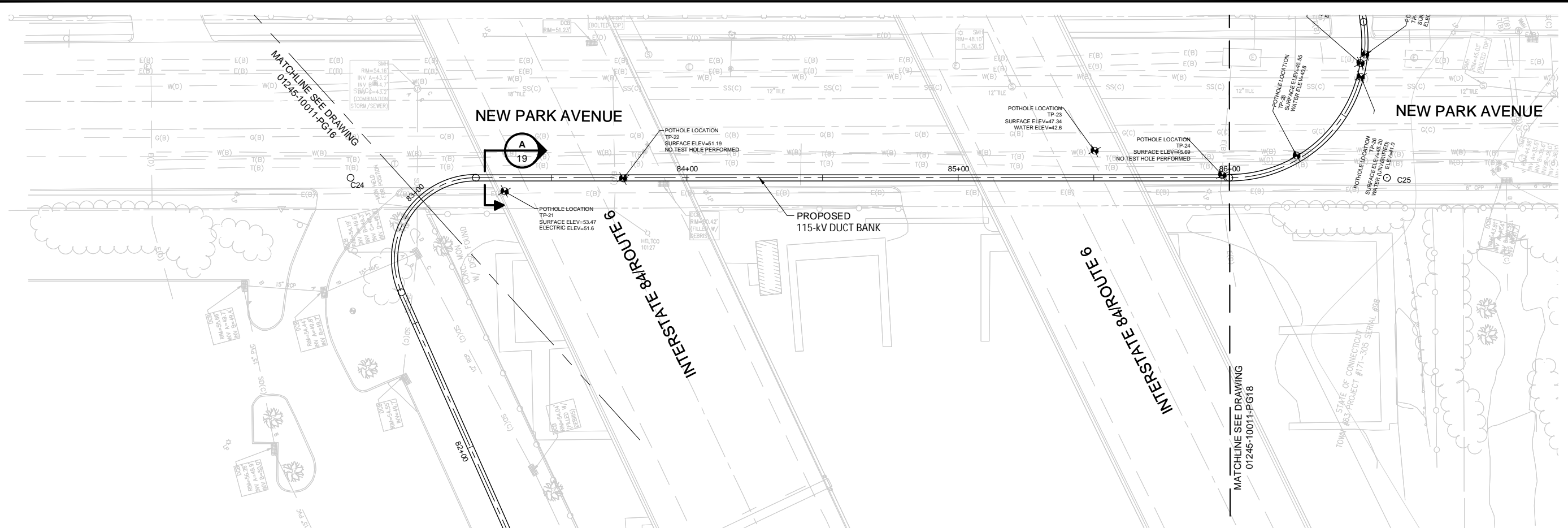
NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
PLAN & PROFILE - STA. 79+78 TO 83+00

CT

BY JAS-EMcD	CWD KMR-EMcD	APP LPP-EMcD	APP -
DATE 3/9/18	DATE 3/9/18	DATE 3/9/18	DATE
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VP-SCALE 1"=5'	V.S.	R.E. DWG	

DWG NO. 01245-10011-PG16

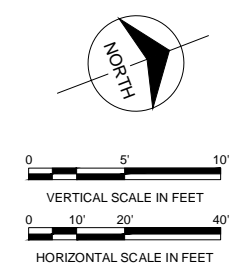
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GENERAL NOTE:  
 1. ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

EXHIBIT A.4

PRELIMINARY - NOT FOR CONSTRUCTION



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

84493

date **MARCH 9, 2018**

designed **K.RIEGEL**

detailed **J.SCHATZ**

checked **L. PULS**

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

## EVERSOURCE ENERGY

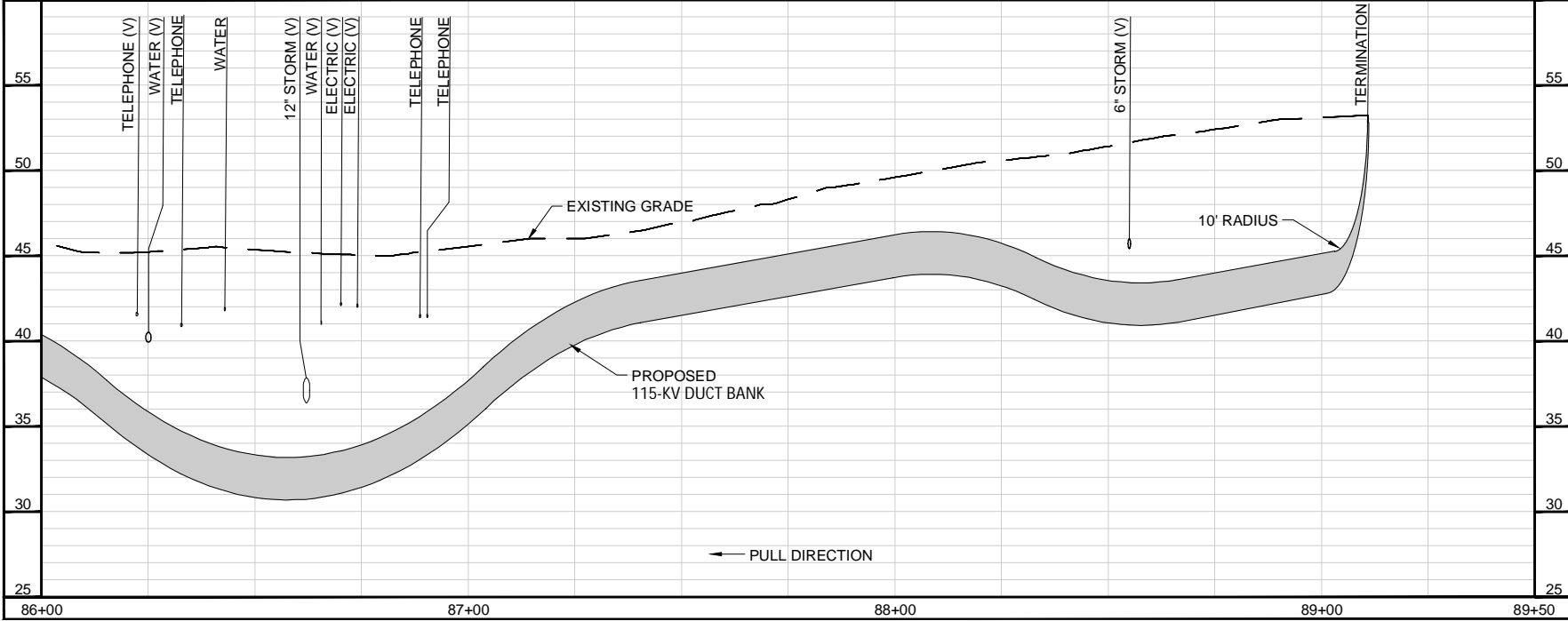
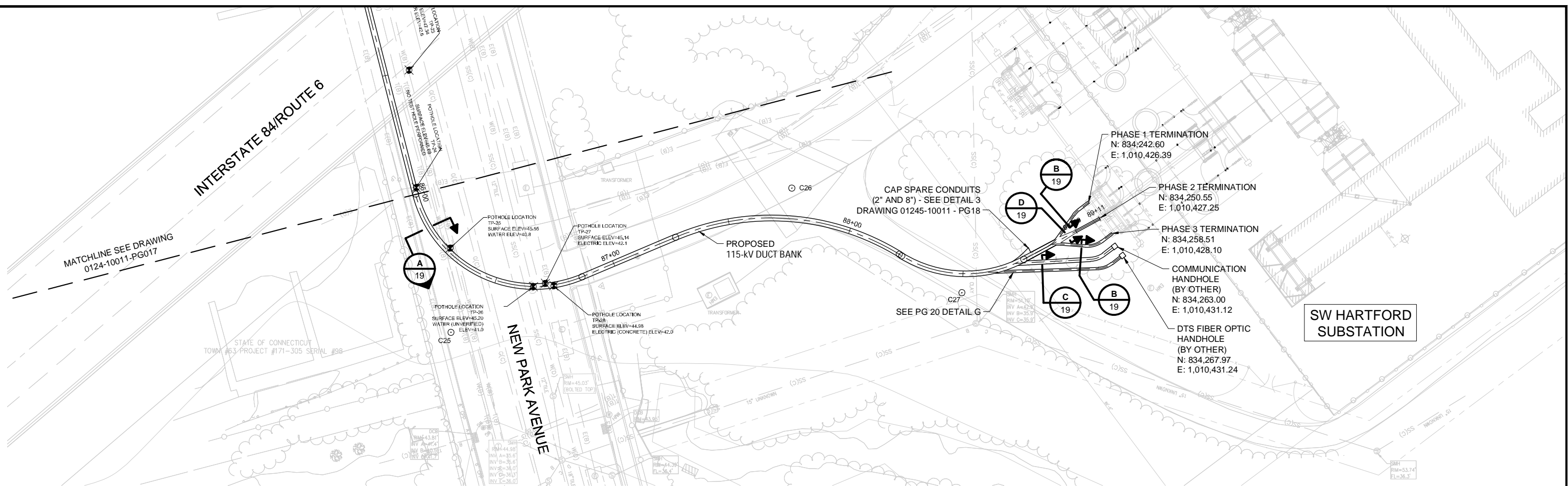
NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 83+00 TO 86+00  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
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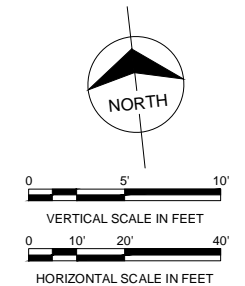


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GENERAL NOTE:  
 1. ALL CONDUIT INSTALLATION WORK SHALL BE PERFORMED BY QUALIFIED, LICENSED ELECTRICAL CONTRACTORS OR BE INSTALLED UNDER THE DAILY SUPERVISION THEREOF.

**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**



NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

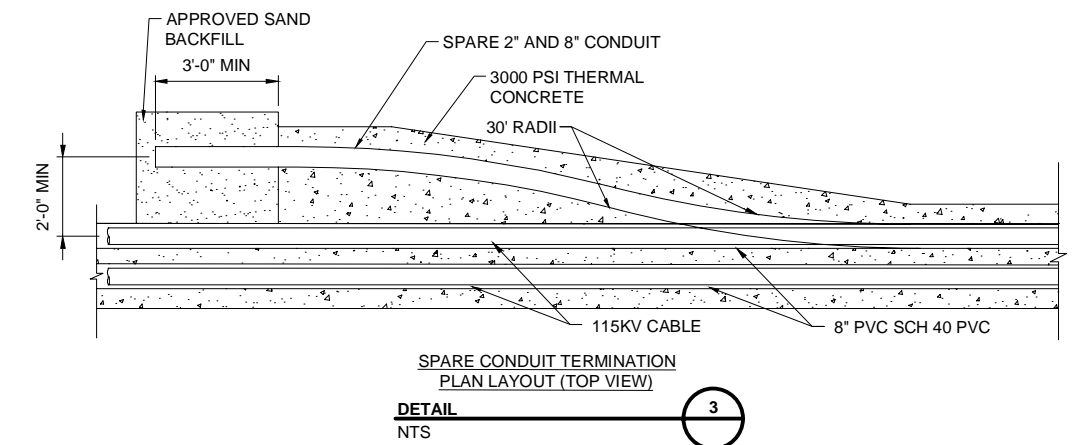
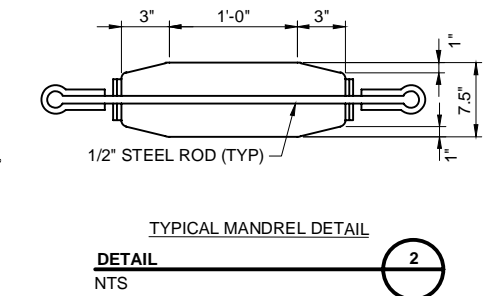
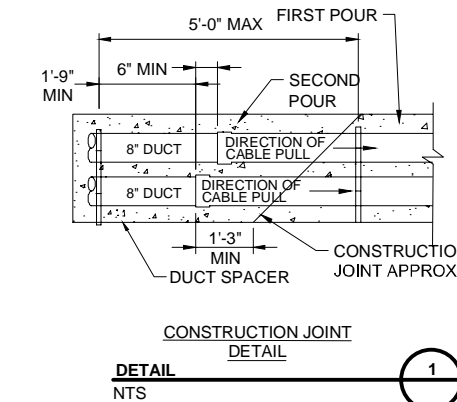
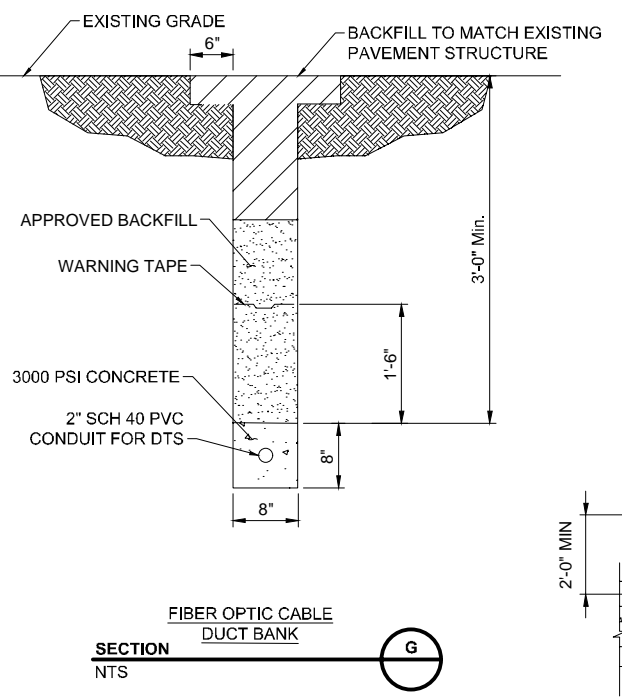
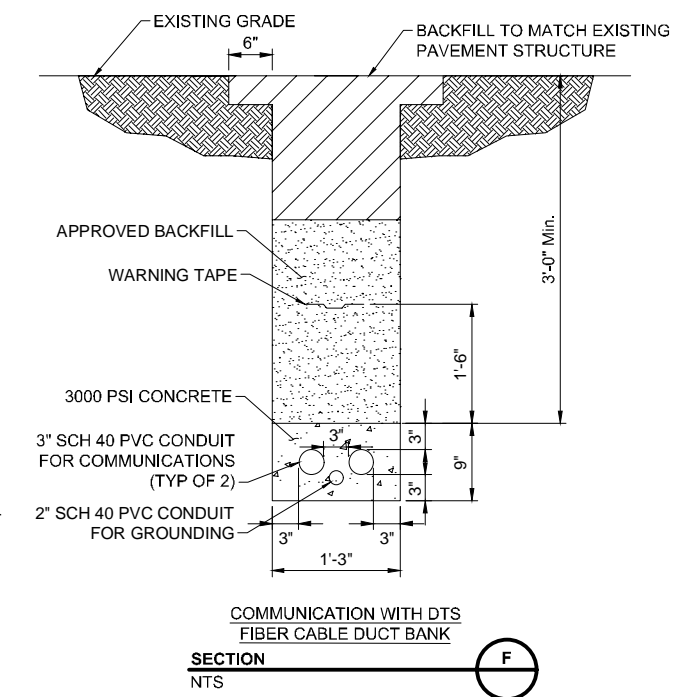
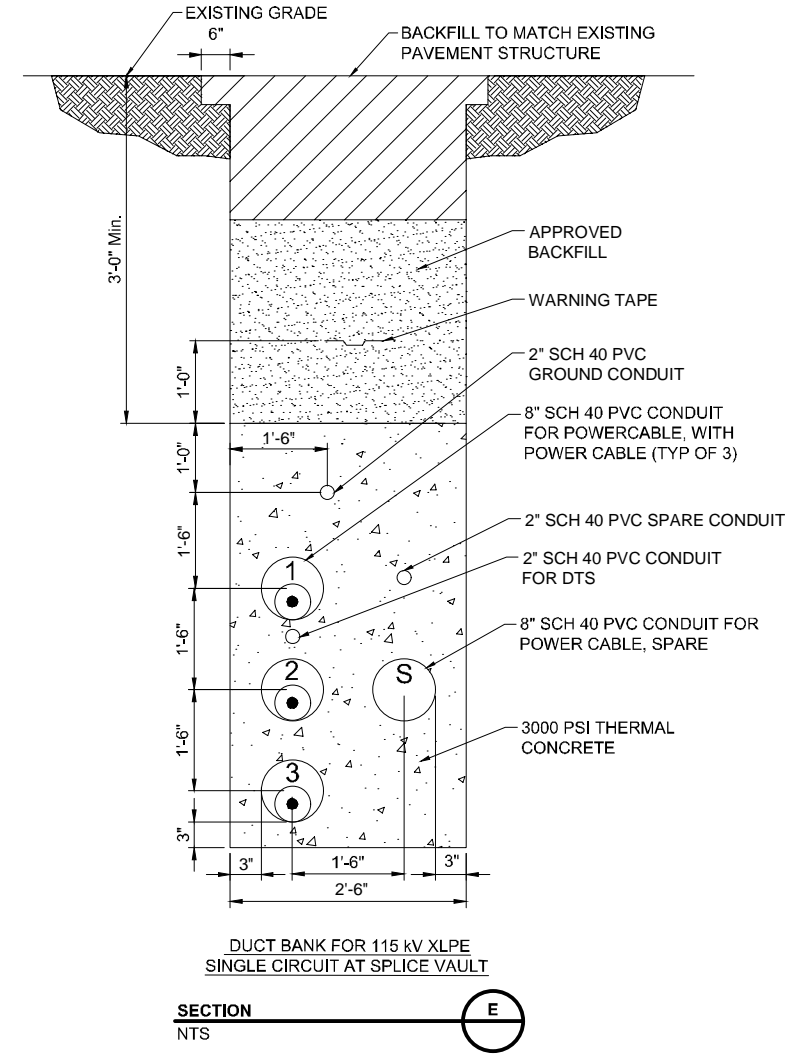
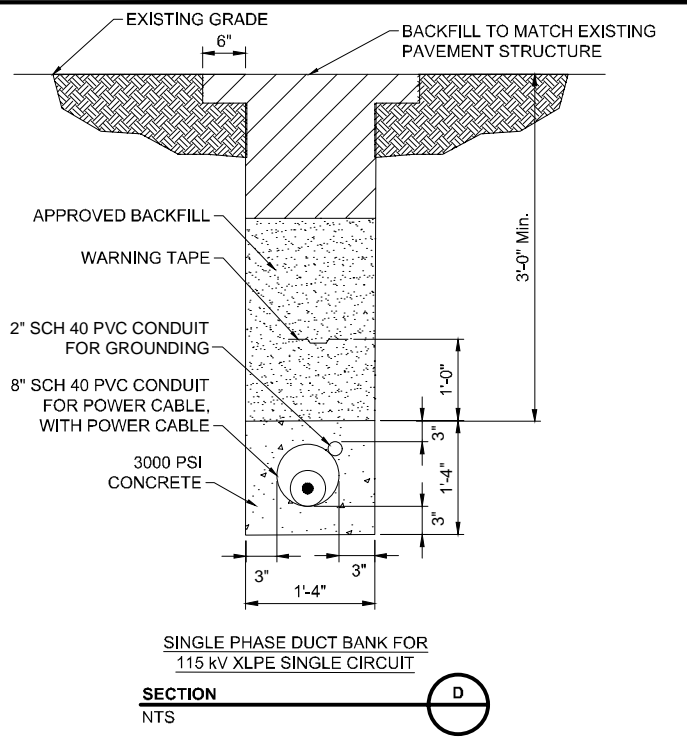
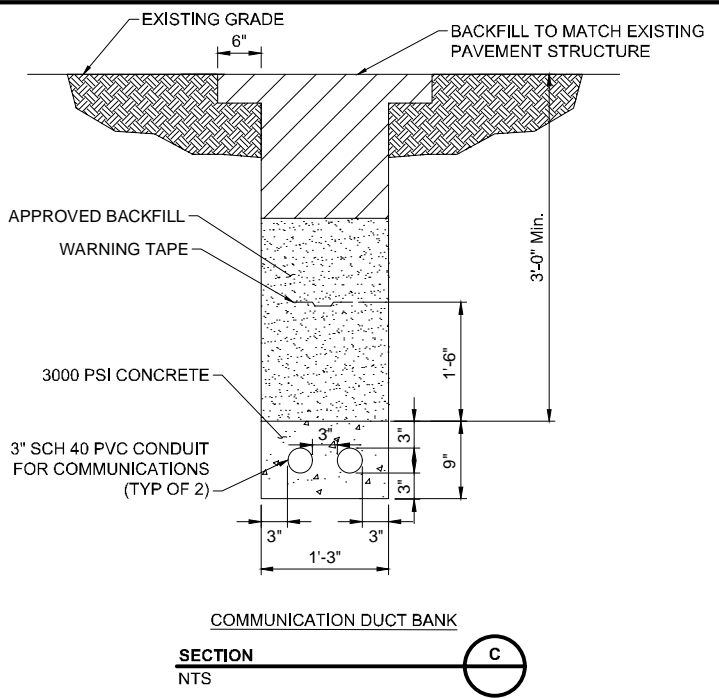
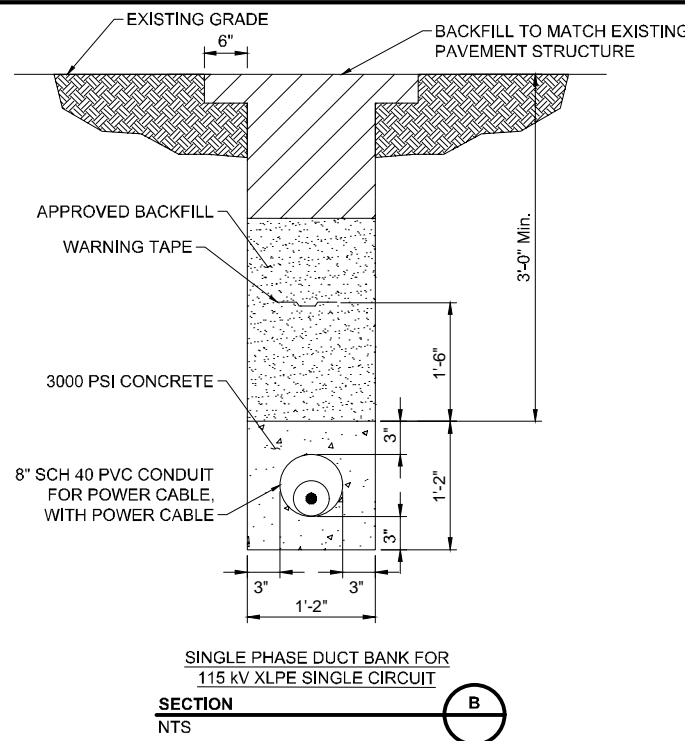
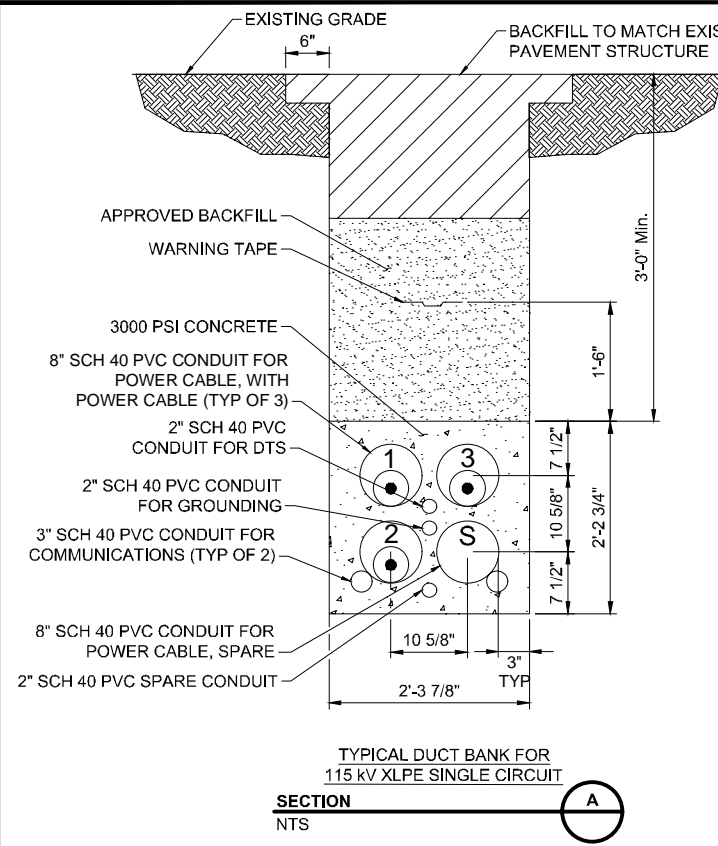
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 PLAN & PROFILE - STA. 86+00 TO 89+11  
 CT

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE	
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V-SCALE	1"=5'	V.S.		R.E. DWG			
R.E. PROJ. NUMBER		DWG NO.	01245-10011-PG18				

3/7/2018 4:40 PM - j.schatz - Z:\Clients\IND\NUSC\64493\_Nwrns\SWH\trd\Design\CADD\Working\UG\_NEWINGTON\_SECTION.dwg - Layout1  
 NU VER: BDR-VER



**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**

NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**  
84493

date: MARCH 9, 2018  
detailed: J. SCHATZ

designed: K. RIEGEL  
checked: L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

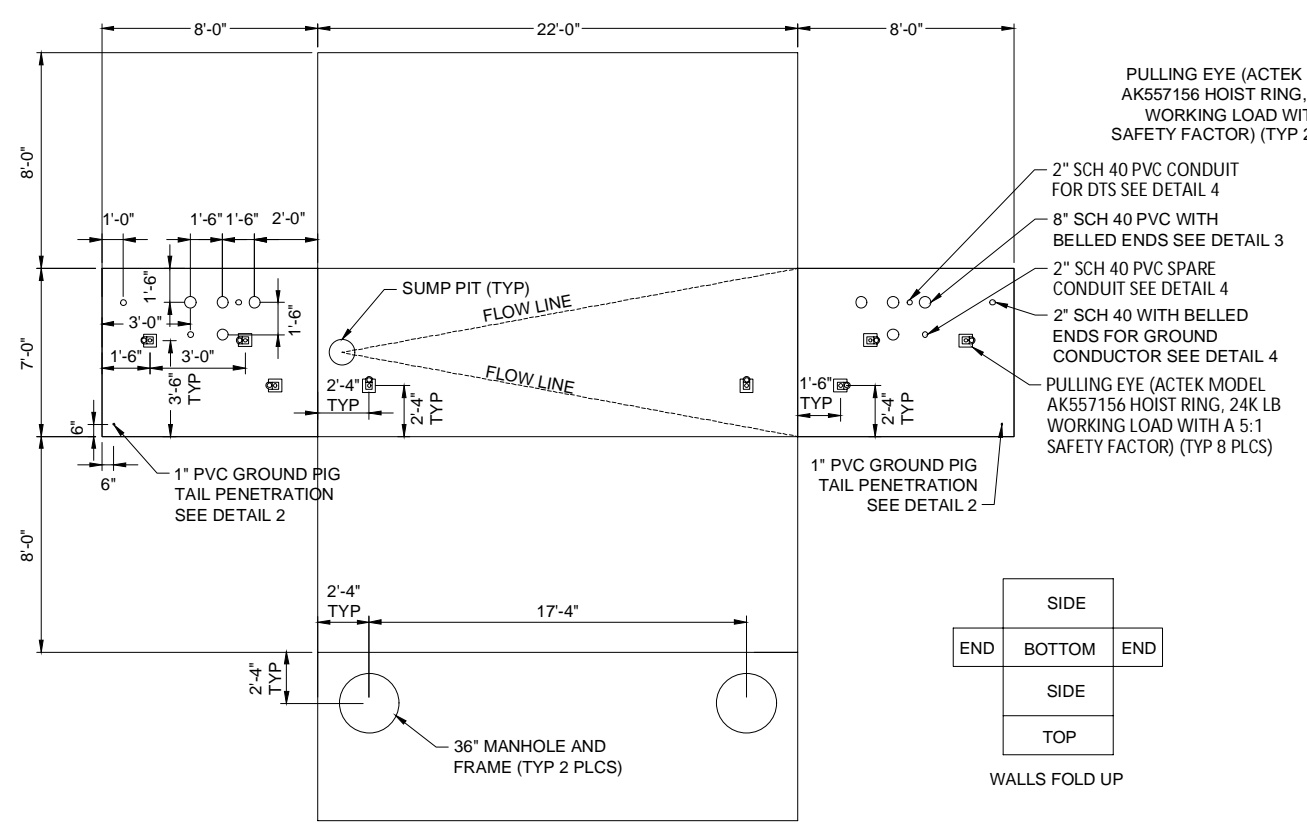
NEWINGTON TO SW HARTFORD  
115-kV XLPE SINGLE CIRCUIT  
DUCT BANK SECTIONS

CT

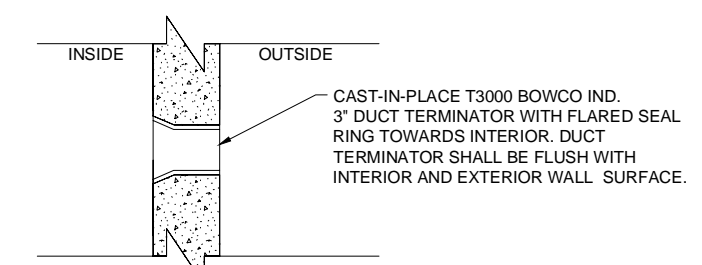
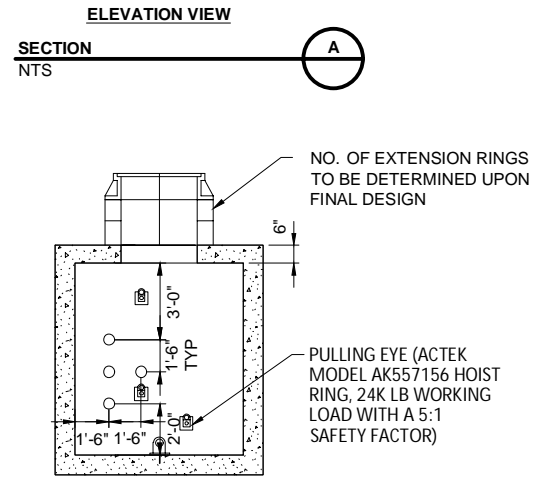
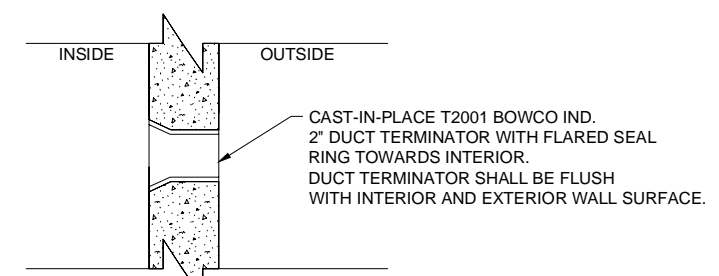
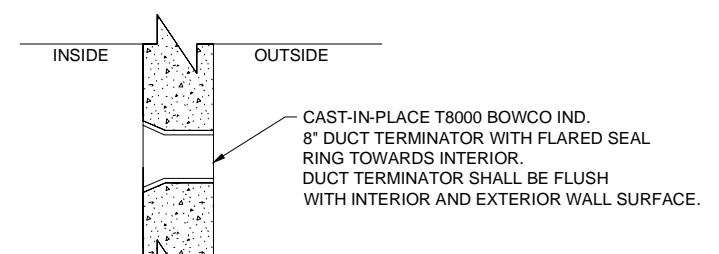
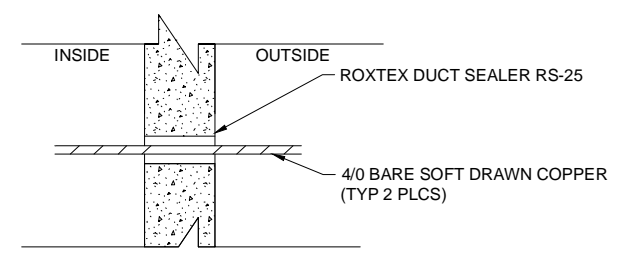
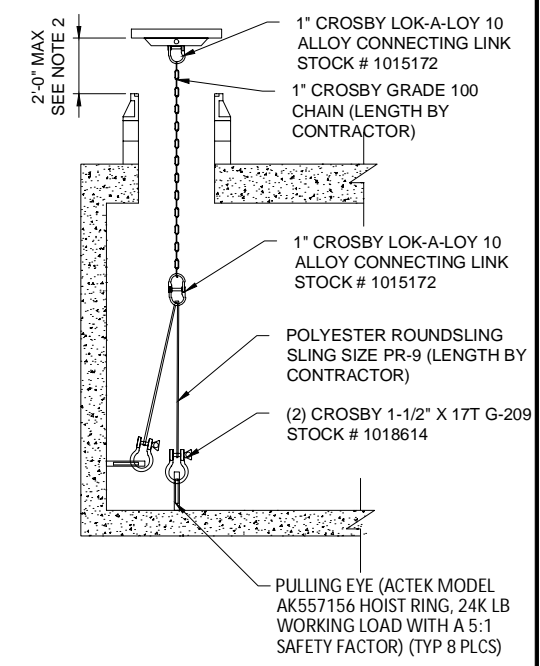
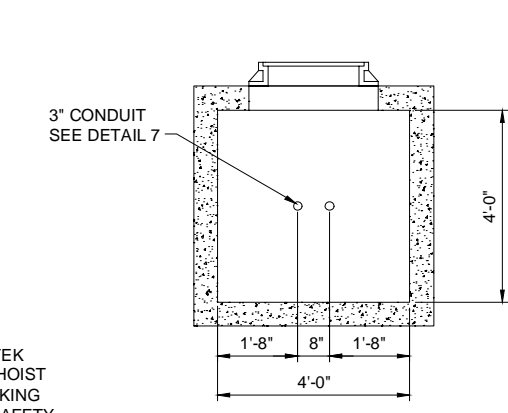
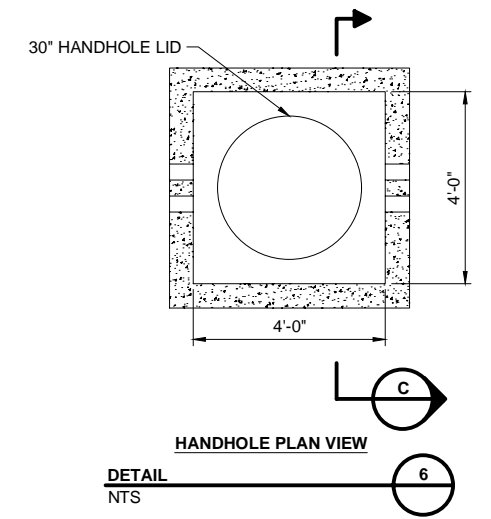
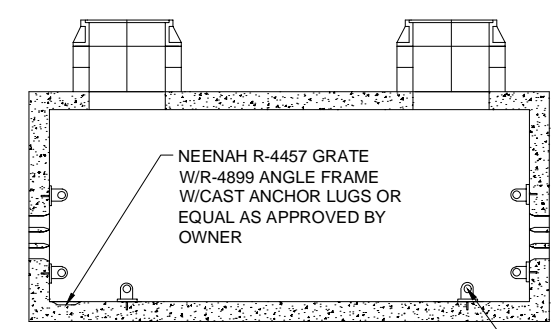
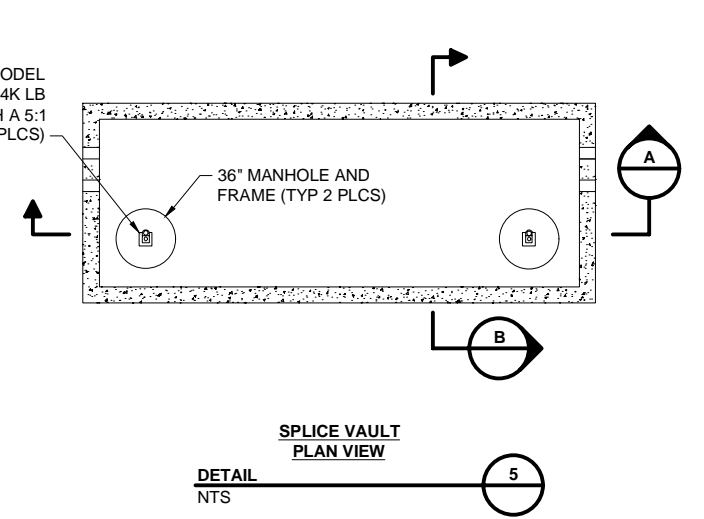
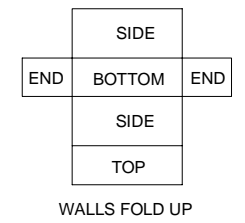
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VP-SCALE: N/A	V.S.: -	REV. DWG: -	
REV. PROJ. NUMBER: -	DWG NO.: 01245-45001-PG19		



3/9/2018 11:01 AM - jaszchaltz - Z:\Clients\TND\USCC\84493\_Nwght\SWHfrfrd\Design\CADD\Working\UG\_NEWINGTON VAULT\_GROUNDING AND\_HANDHOLE\_DETAILS.dwg - Layout1  
 NU VER: BUR-MER



**TYPICAL SPLICE VAULT DEVELOPMENT PLAN**  
 DETAIL NTS 1



- NOTES:**
- REBAR WITHIN SPLICE CHAMBER WALLS SHALL NOT FORM A CLOSED LOOP AROUND ANY INDIVIDUAL 8" CONDUIT OPENING.
  - CONTRACTOR TO ADJUST TETHER SYSTEM FOR MAXIMUM COVER RISE OF 24"

**EXHIBIT A.4**  
**PRELIMINARY - NOT FOR CONSTRUCTION**

NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP
C	3/9/18	90% ISSUED FOR REVIEW / IFB / D&M	JAS	KMR	LPP	LPP
B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**

84493

date MARCH 9, 2018 detailed J. SCHATZ

designed K. RIEGEL checked L. PULS

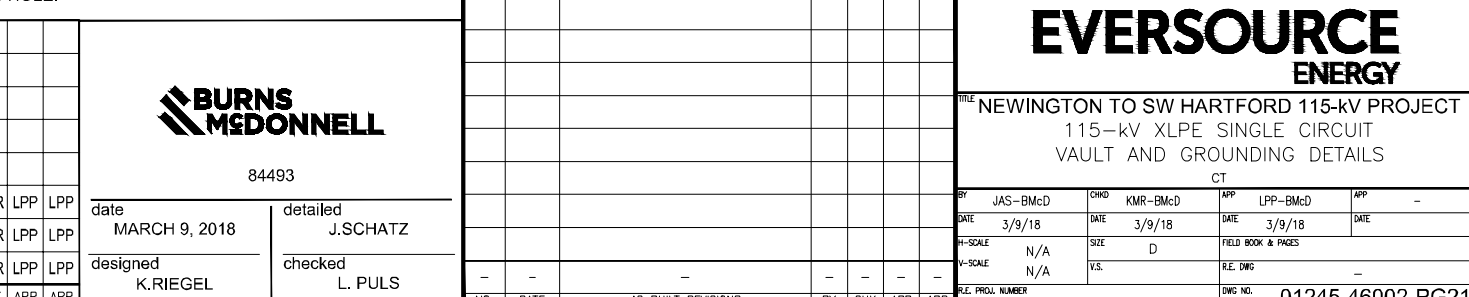
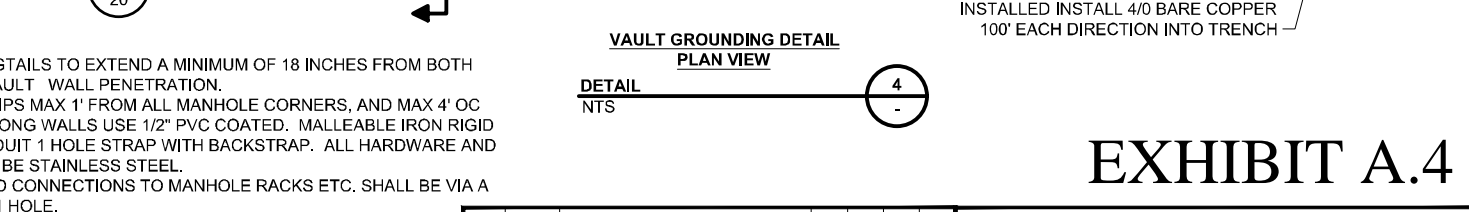
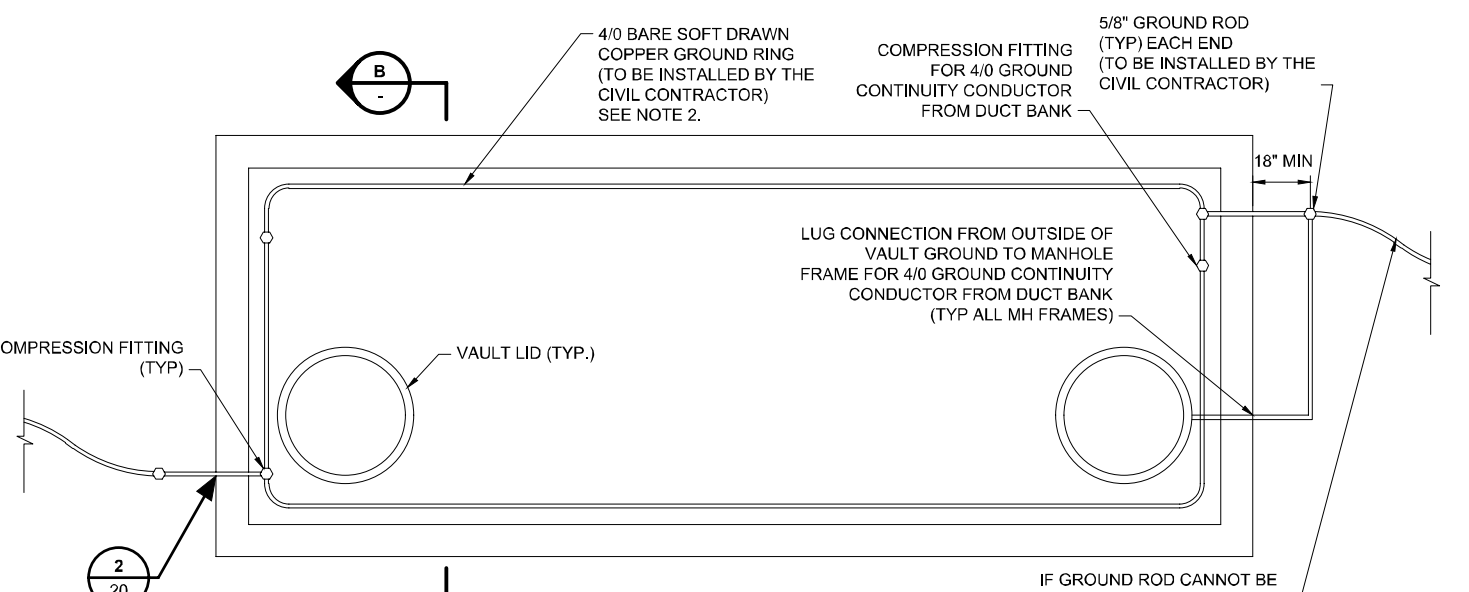
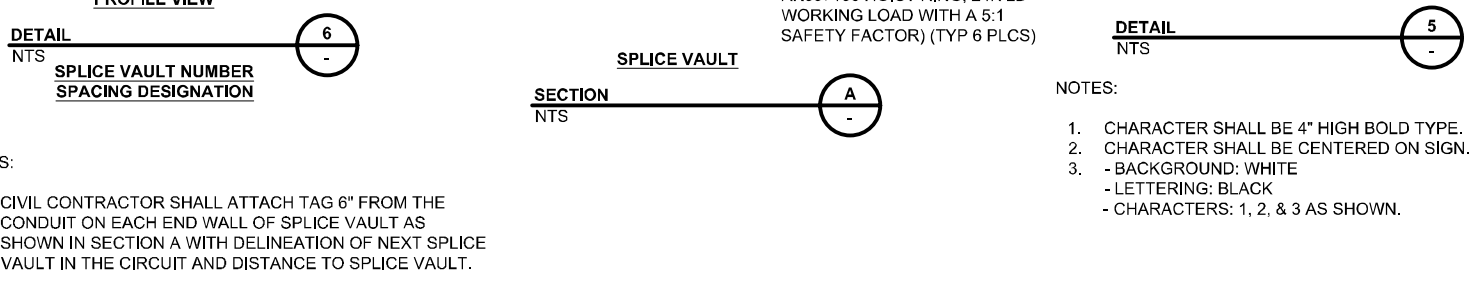
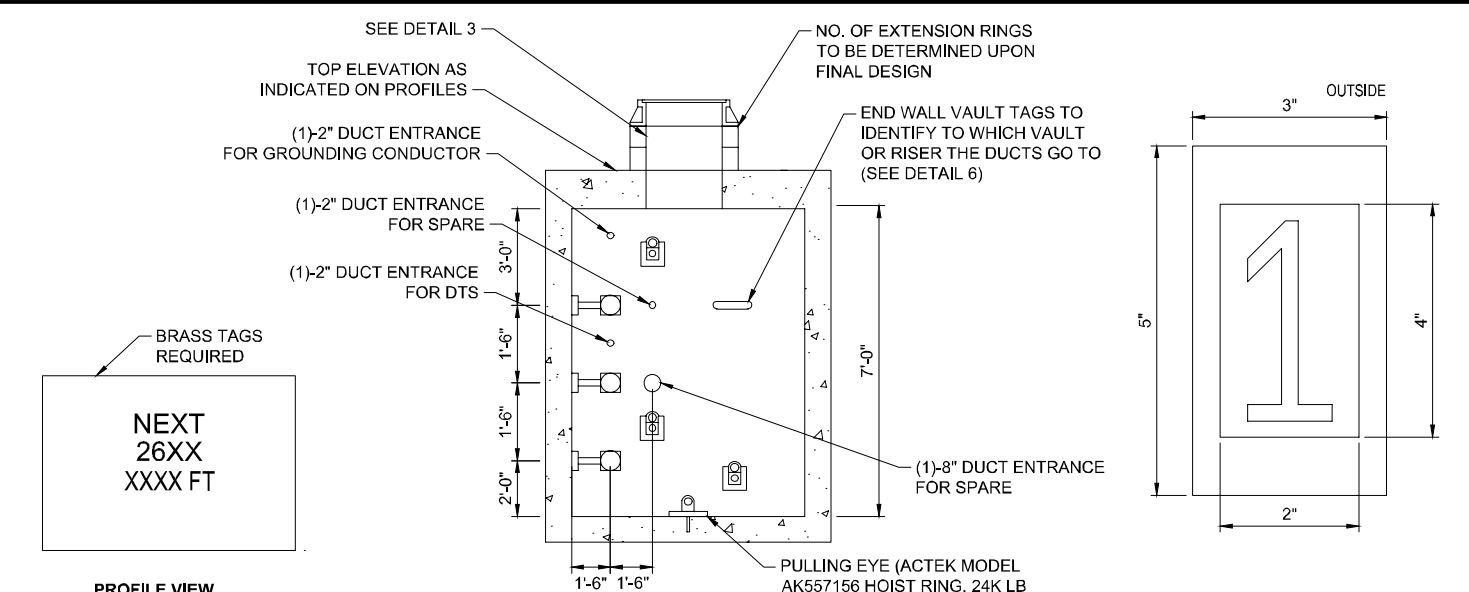
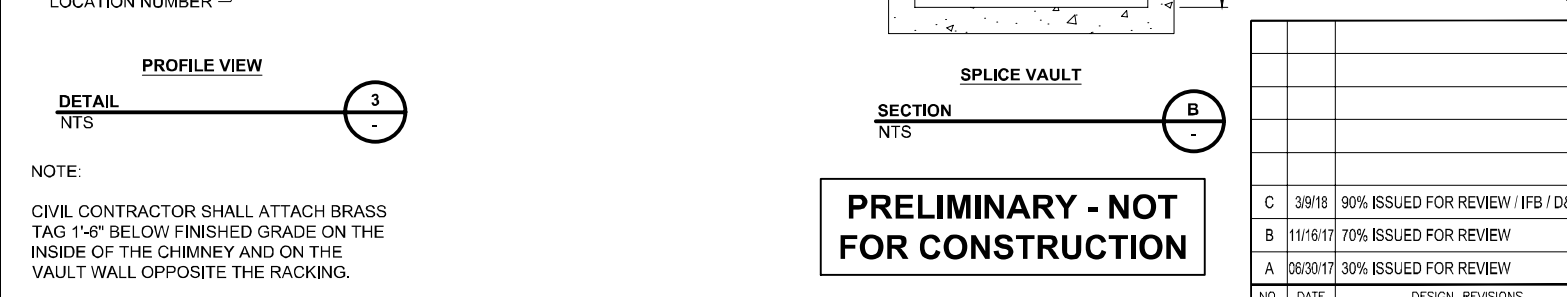
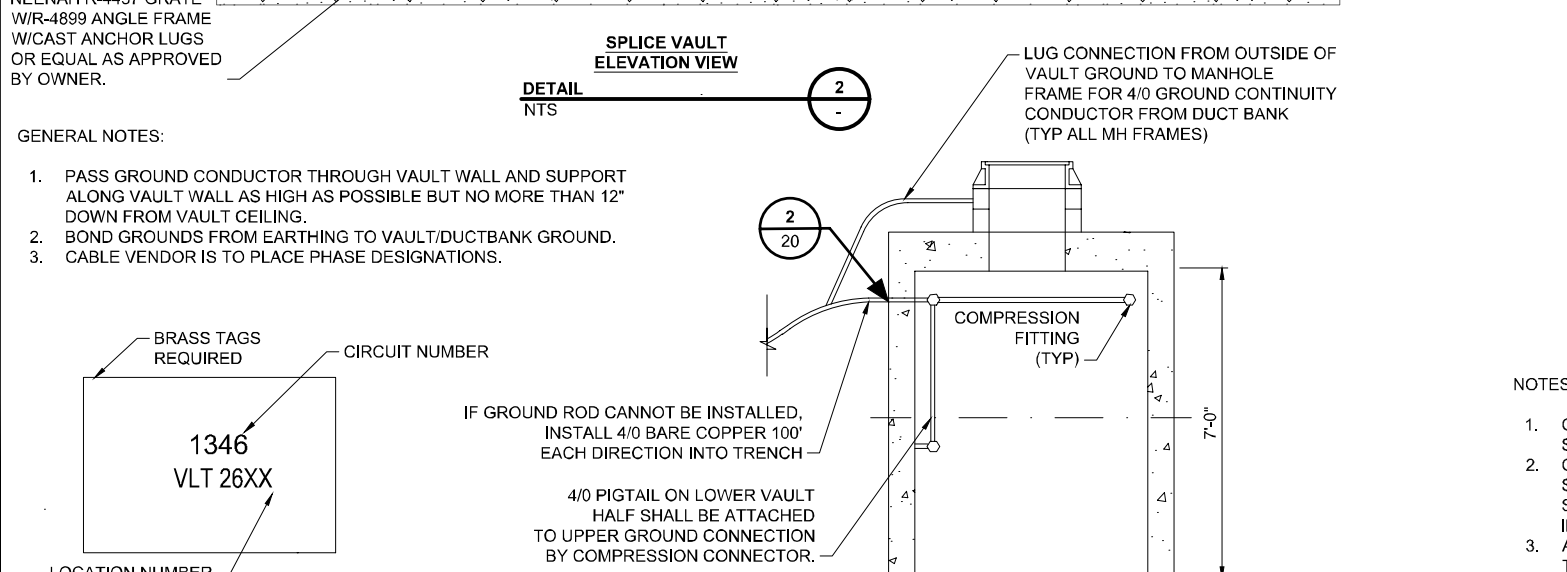
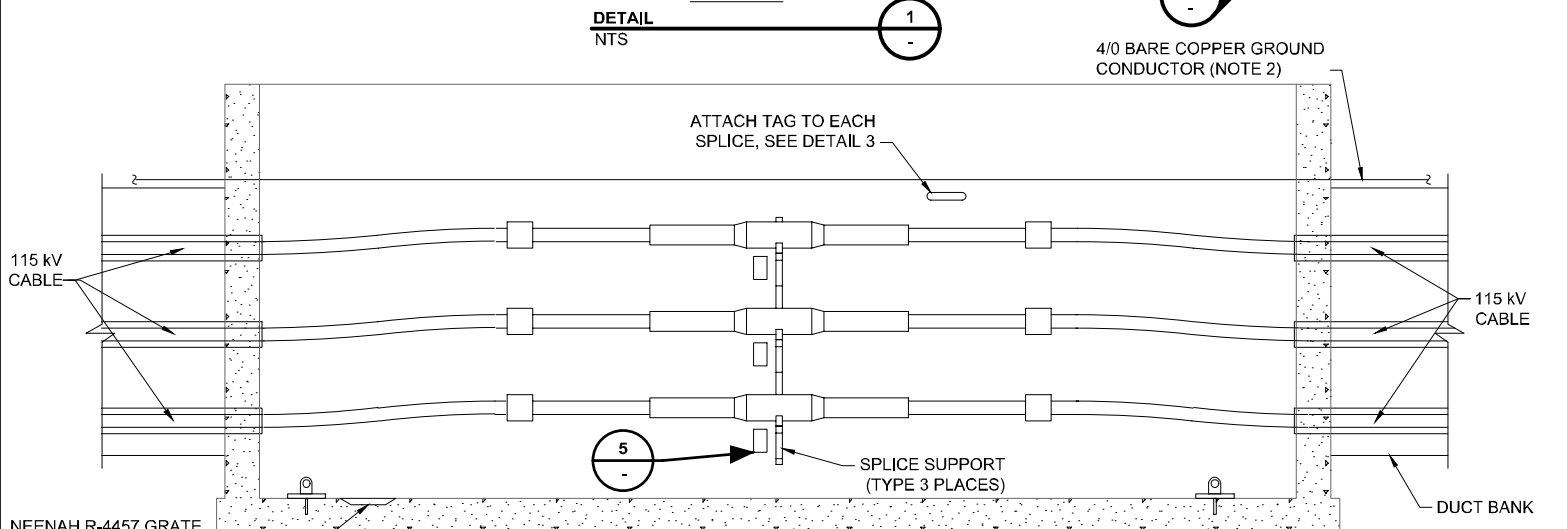
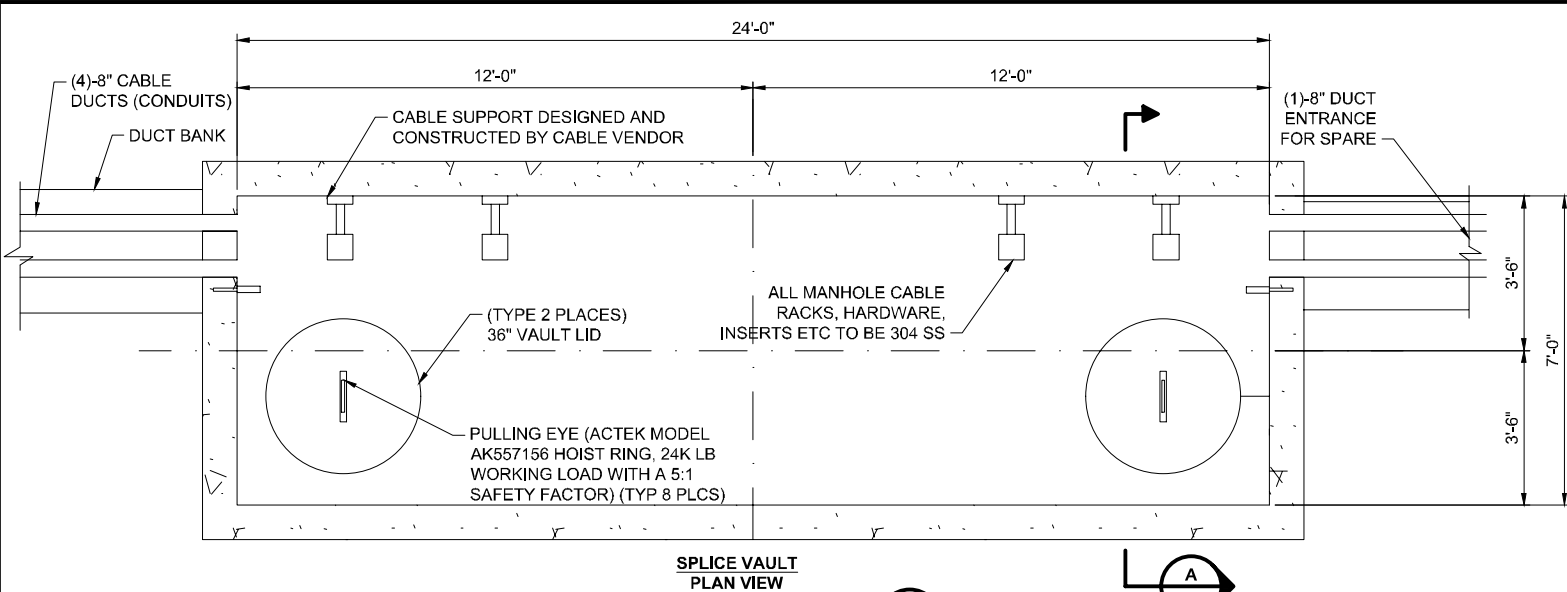
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**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT VAULT, GROUNDING AND HANDHOLE DETAILS

BY	JAS-EMcD	OWN	KMR-EMcD	APP	LPP-EMcD	APP
DATE	3/9/18	DATE	3/9/18	DATE	3/9/18	DATE
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- GENERAL NOTES:**
- PASS GROUND CONDUCTOR THROUGH VAULT WALL AND SUPPORT ALONG VAULT WALL AS HIGH AS POSSIBLE BUT NO MORE THAN 12" DOWN FROM VAULT CEILING.
  - BOND GROUNDS FROM EARTHING TO VAULT/DUCTBANK GROUND.
  - CABLE VENDOR IS TO PLACE PHASE DESIGNATIONS.

- NOTES:**
- CIVIL CONTRACTOR SHALL ATTACH TAG 6" FROM THE CONDUIT ON EACH END WALL OF SPLICE VAULT AS SHOWN IN SECTION A WITH DELINEATION OF NEXT SPLICE VAULT IN THE CIRCUIT AND DISTANCE TO SPLICE VAULT.

- NOTES:**
- CHARACTER SHALL BE 4" HIGH BOLD TYPE.
  - CHARACTER SHALL BE CENTERED ON SIGN.
  - BACKGROUND: WHITE  
- LETTERING: BLACK  
- CHARACTERS: 1, 2, & 3 AS SHOWN.

**PRELIMINARY - NOT FOR CONSTRUCTION**

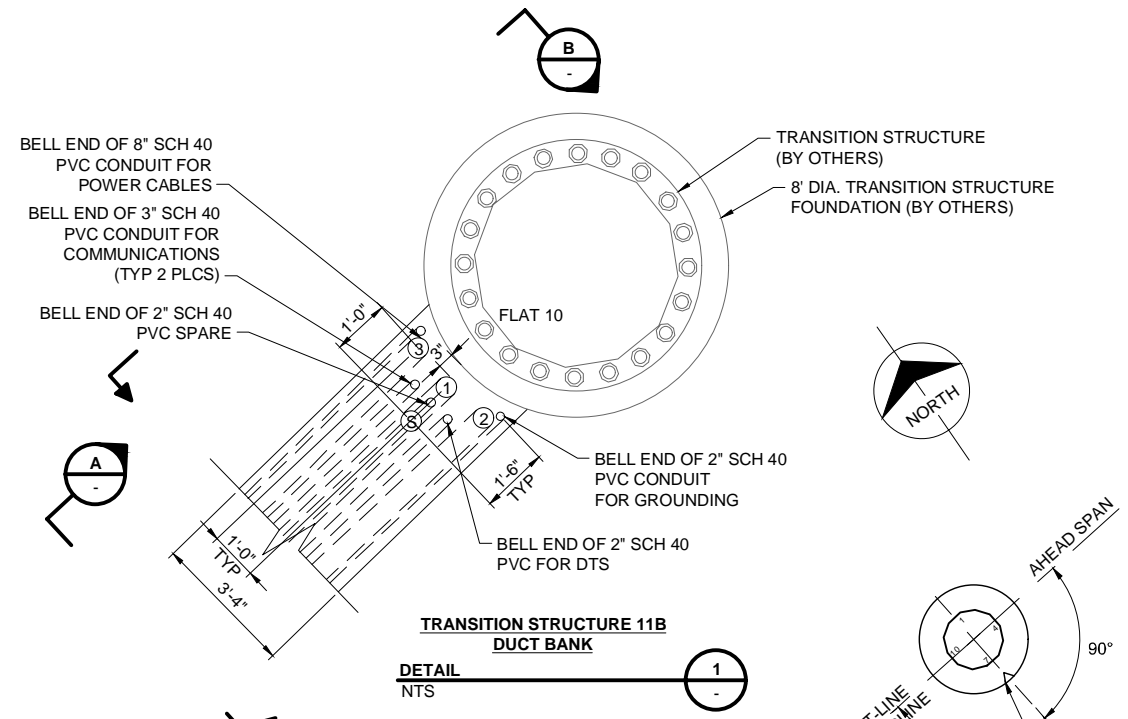
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				84493									
				date									
				MARCH 9, 2018									
				designed									
				K.RIEGEL									
				checked									
				L. PULS									
NO.	DATE	DESIGN REVISIONS	BY	CHK	APP	APP	NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP
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B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP							
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP							

<b>EVERSOURCE ENERGY</b>					
NEWINGTON TO SW HARTFORD 115-kV PROJECT					
115-kV XLPE SINGLE CIRCUIT VAULT AND GROUNDING DETAILS					
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BY	JAS-BMcD	CHKD	KMR-BMcD	APP	LPP-BMcD
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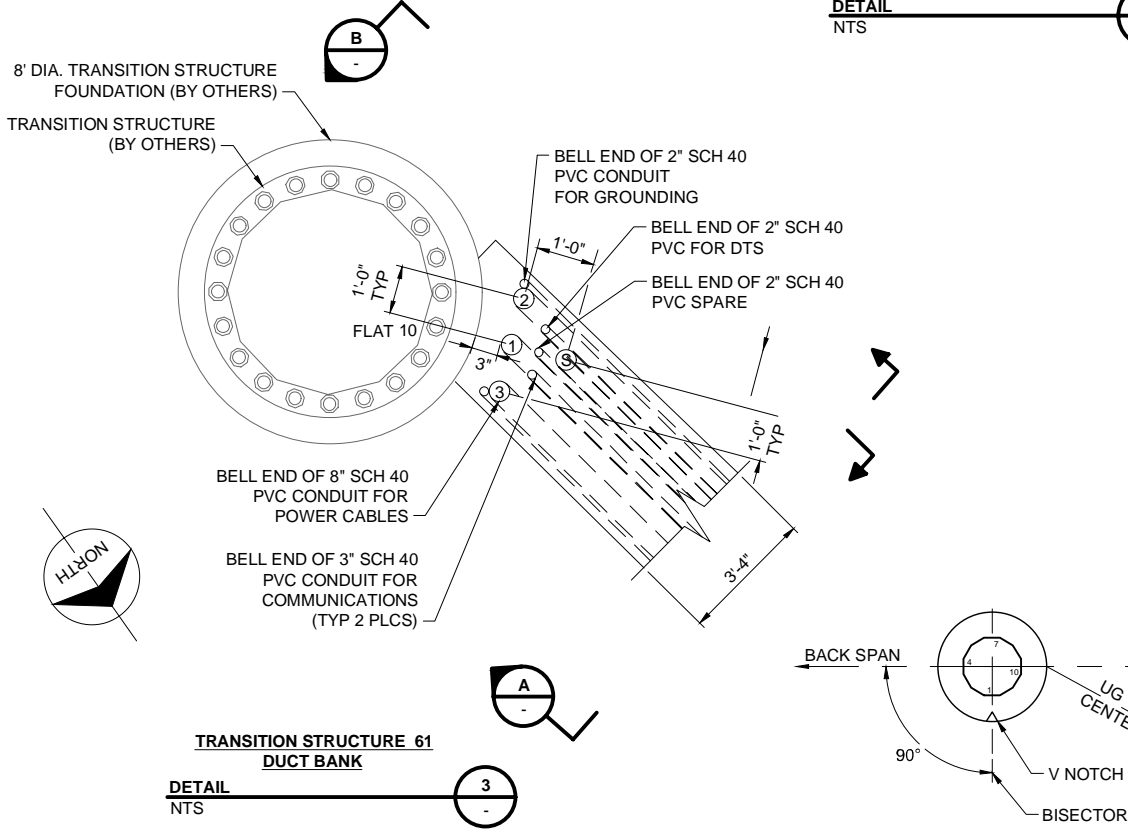


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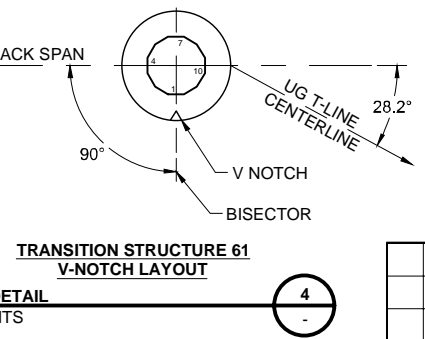
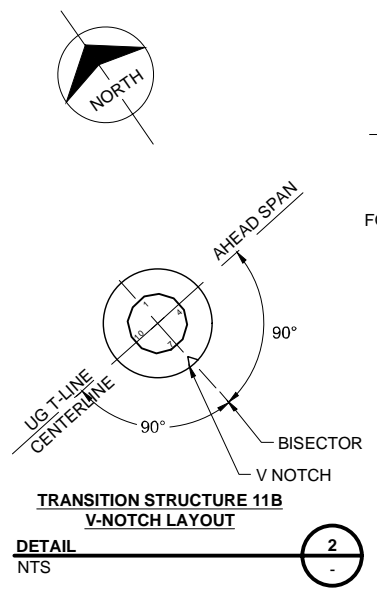
**GENERAL NOTES:**

- CONTRACTOR SHALL CONSTRUCT DUCT BANK TO OVERHEAD FOUNDATION AND NOTIFY OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO POURING DUCT BANK CONCRETE.

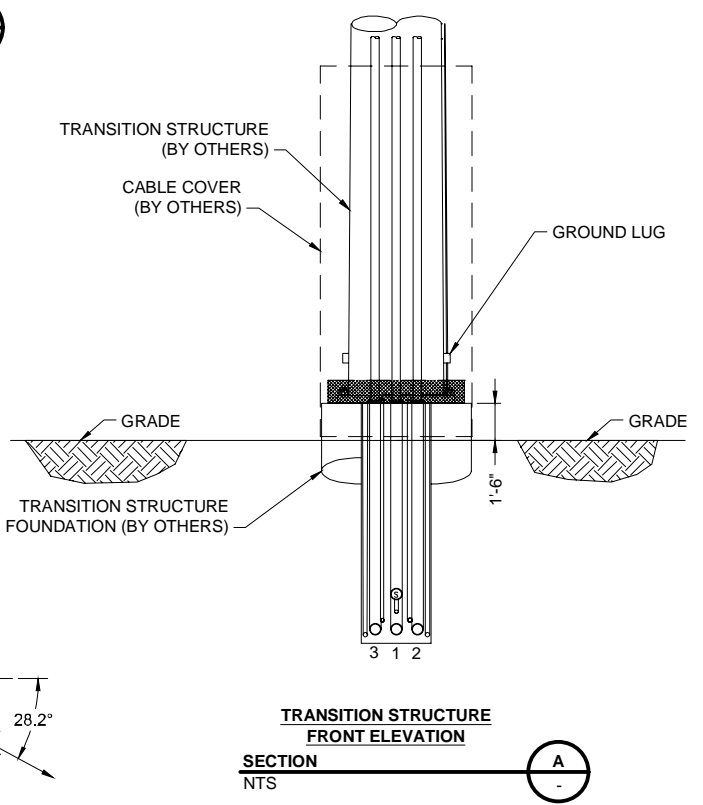
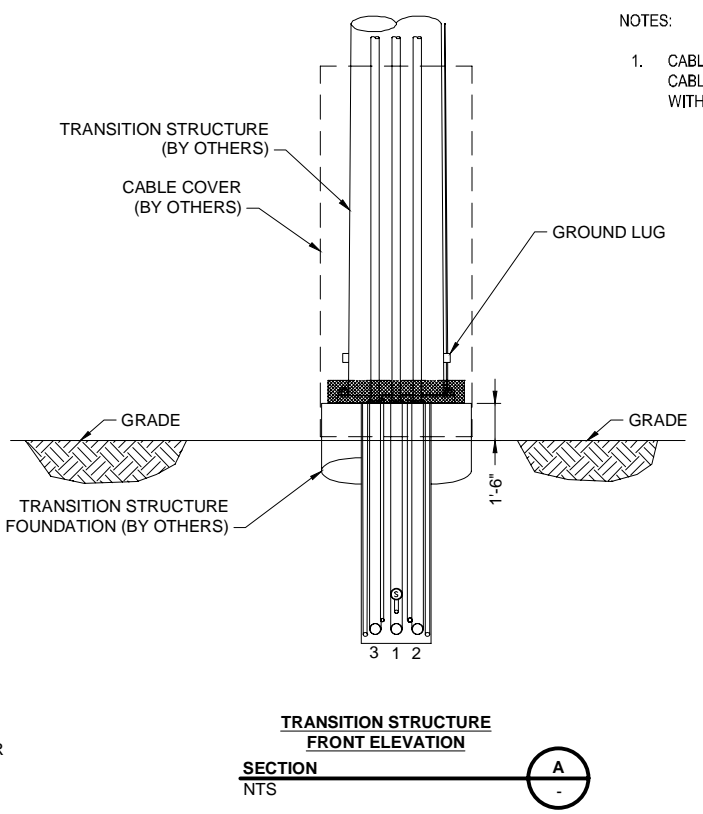


**GENERAL NOTES:**

- CONTRACTOR SHALL CONSTRUCT DUCT BANK TO OVERHEAD FOUNDATION AND NOTIFY OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO POURING DUCT BANK CONCRETE.

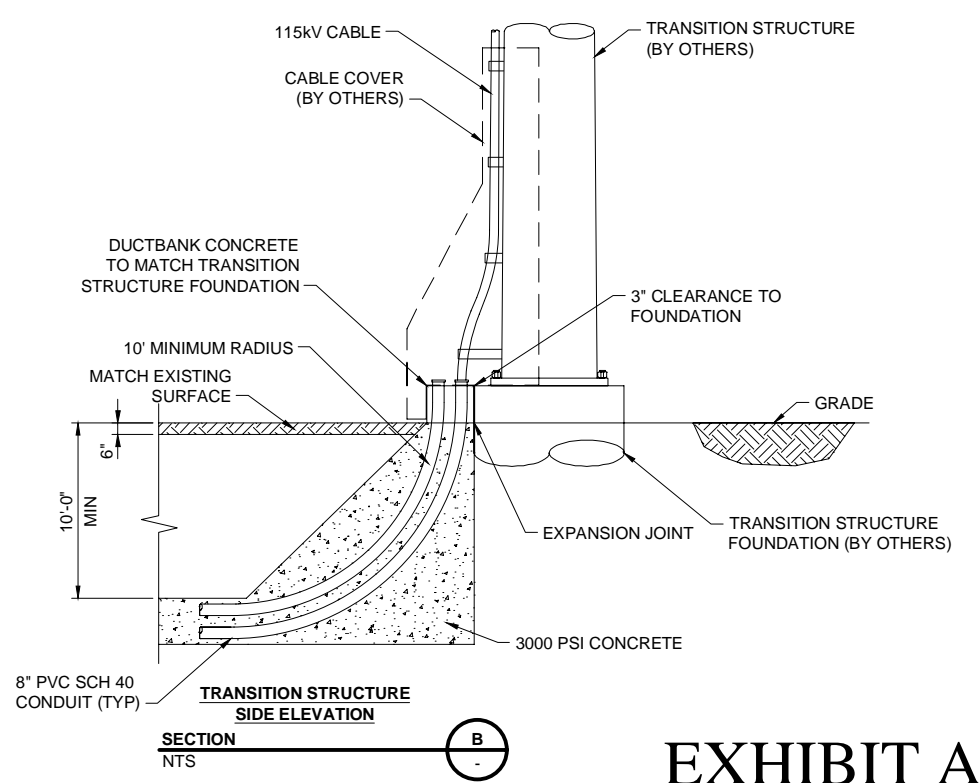
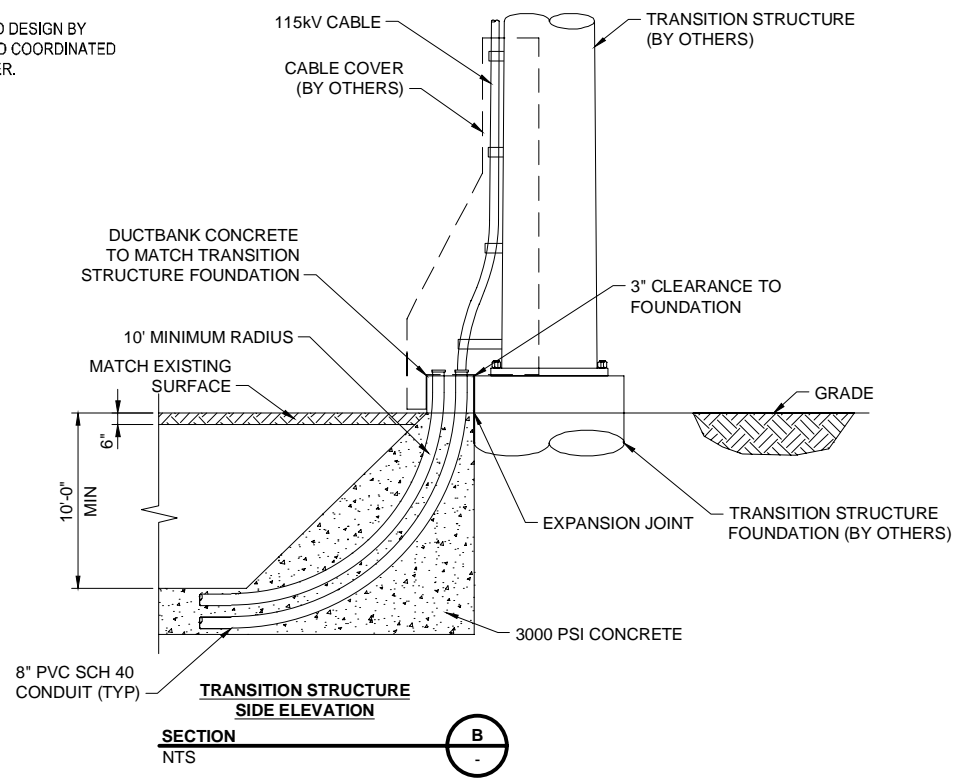


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**NOTES:**

- CABLE CLAMP SPACING AND DESIGN BY CABLE MANUFACTURER AND COORDINATED WITH STEEL MANUFACTURER.



**EXHIBIT A.4**



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date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

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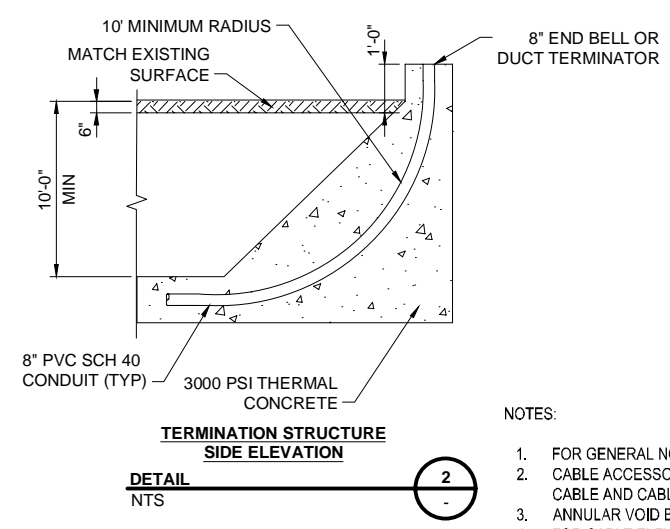
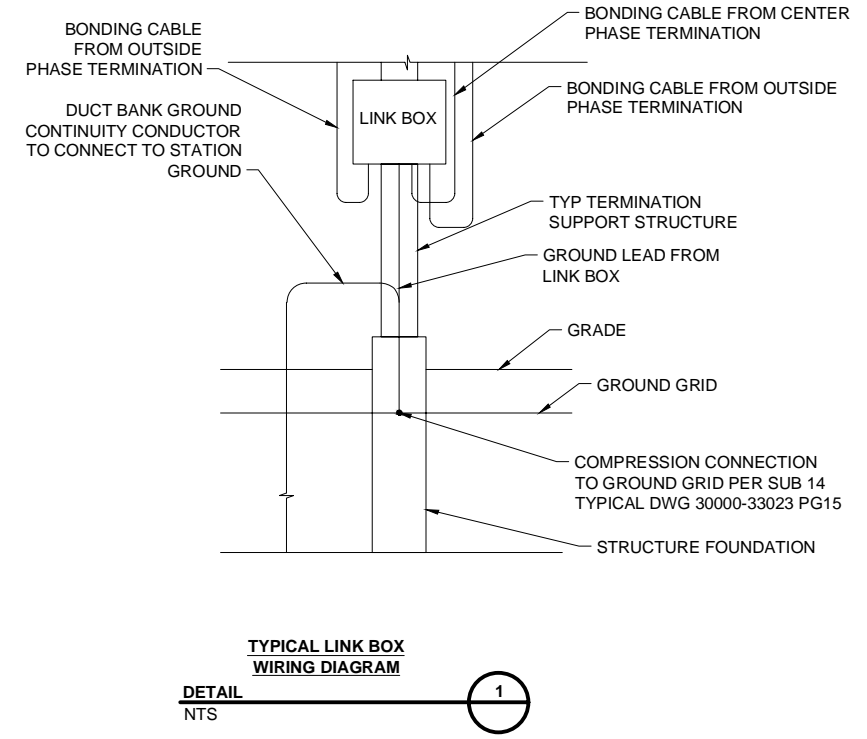
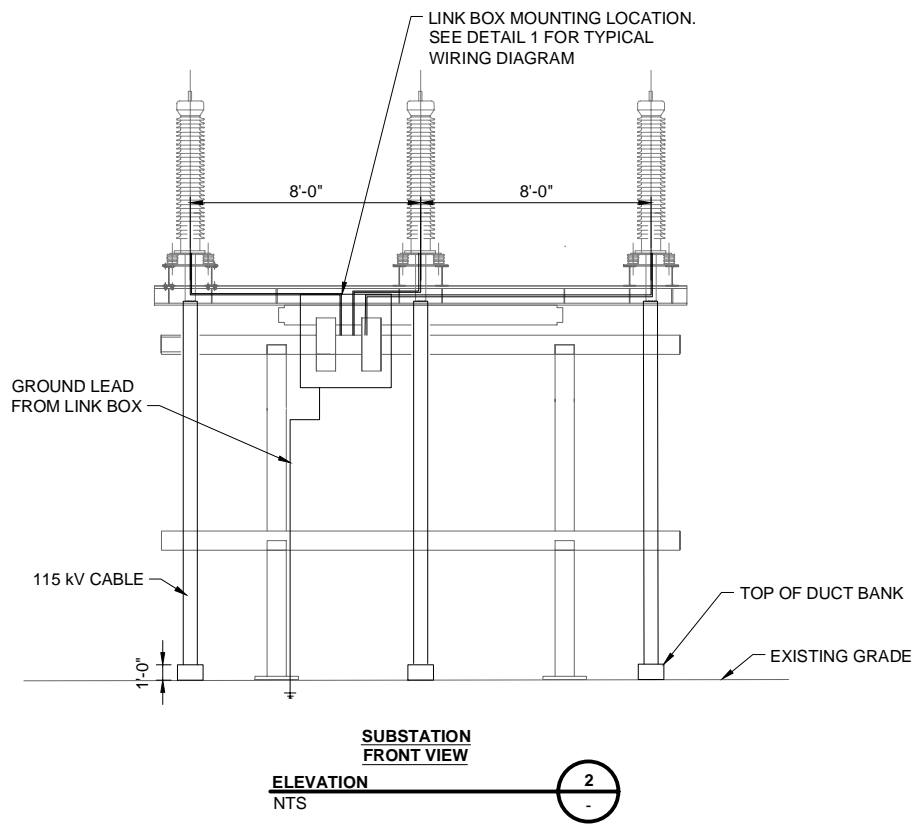
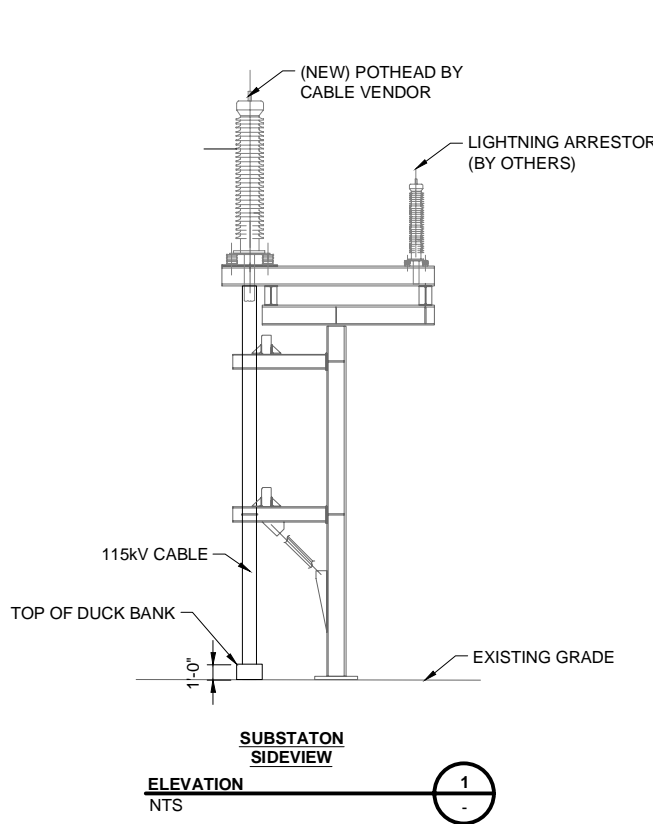
**EVERSOURCE ENERGY**

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
TRANSITION STRUCTURE DETAILS

BY	DATE	CHKD	DATE	APP	DATE	APP	DATE
JAS-EMcD	3/9/18	KMR-EMcD	3/9/18	LPP-EMcD	3/9/18	-	-

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B	11/16/17	70% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP
A	06/30/17	30% ISSUED FOR REVIEW	JAS	KMR	LPP	LPP

**BURNS & MCDONNELL**  
84493

date MARCH 9, 2018 detailed J. SCHATZ  
designed K. RIEGEL checked L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

**EVERSOURCE ENERGY**

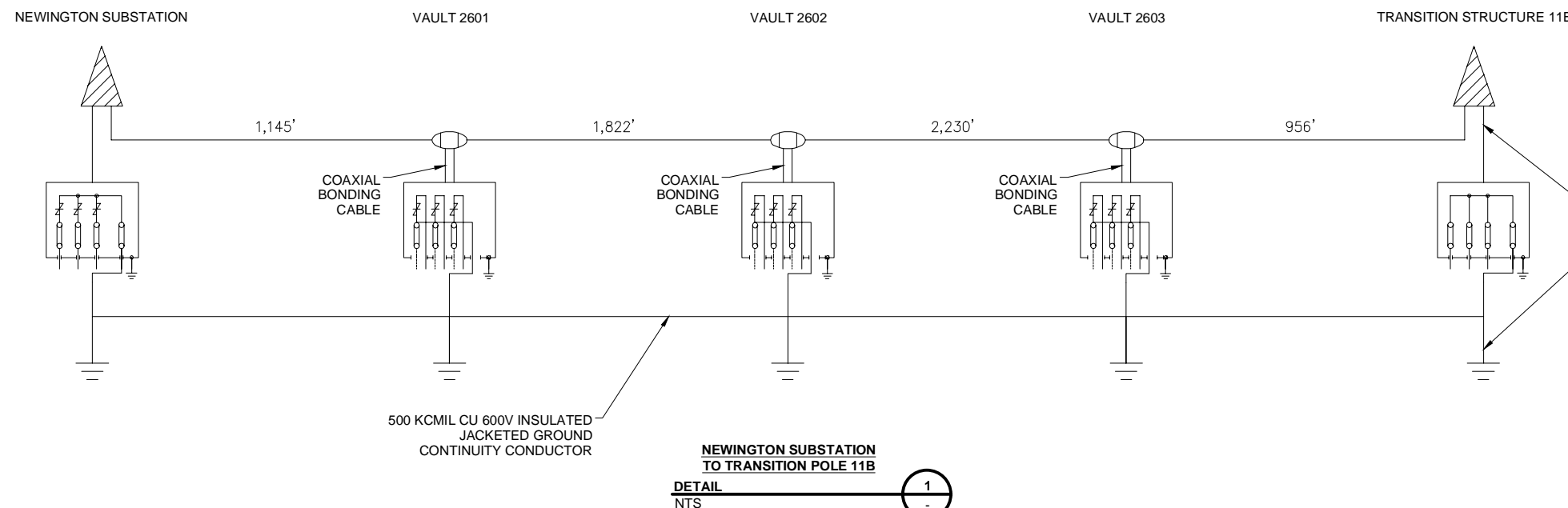
NEWINGTON TO SW HARTFORD 115-kV PROJECT  
115-kV XLPE SINGLE CIRCUIT  
SUBSTATION CABLE TERMINATION DETAILS

BY	DATE	CHKD	DATE	APP	DATE
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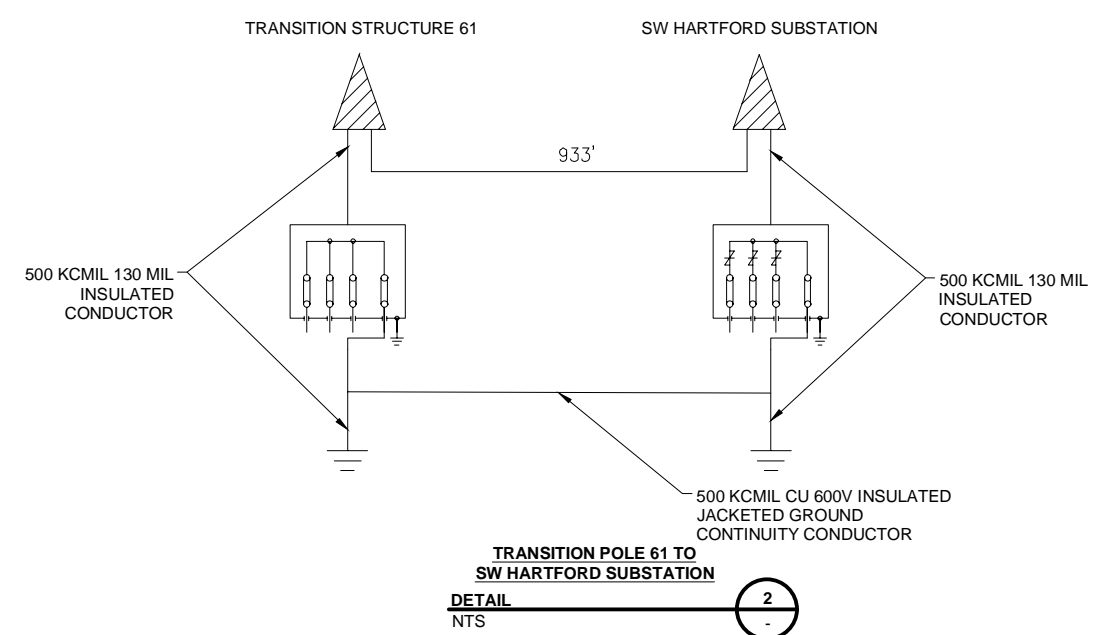
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**NEWINGTON SUBSTATION TO TRANSITION POLE 11B**  
**DETAIL 1**  
 NTS



**TRANSITION POLE 61 TO SW HARTFORD SUBSTATION**  
**DETAIL 2**  
 NTS

- LEGEND:**
- 3-PHASE SHEATH VOLTAGE LIMITER (SVL) WITH DISCONNECT LINK BOX
  - 3-PHASE SHEATH VOLTAGE LIMITER (SVL) LINK BOX
  - 3-PHASE DISCONNECT LINK BOX
  - PARALLEL GROUND CONTINUITY CONDUCTOR
  - COAXIAL BONDING CABLE
  - GROUND ROD
  - SHIELD BREAK SPLICE
  - OPEN AIR TERMINATOR

- NOTES:**
- ALL LNK BOXES IN VAULTS TO HAVE VIEWING WINDOWS.
  - USE 3/4" PVC COATED RIGID STEEL CONDUIT MALLABLE IRON 1 HOLE PIPE STRAP FOR SECURING THE BONDING CABLE FROM TH ELINK BOXES TO THE TERMINATORS WITH SS ANCHORS AND HARDWARE.

EXHIBIT A.4

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date	MARCH 9, 2018	detailed	J. SCHATZ
designed	K. RIEGEL	checked	L. PULS

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

NEWINGTON TO SW HARTFORD 115-kV PROJECT  
 115-kV XLPE SINGLE CIRCUIT  
 BONDING SCHEMATICS

BY	JAS-EMcD	CHKD	KMR-EMcD	APP	LPP-EMcD	APP	-	
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# **APPENDIX B**

## **DETAIL SHEETS**

- 1 WATER RESOURCE PROTOCOLS
- 2 WETLAND AND WATERCOURSE CROSSING TYPICAL DETAILS
- 3 RARE SPECIES AVOIDANCE AND MINIMIZATION MEASURES
- 4 EROSION AND SEDIMENT CONTROL PROTOCOLS
- 5 EROSION AND SEDIMENT CONTROL DETAILS
- 6 UNDERGROUND TRANSMISSION LINE DETAILS

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**I. WETLANDS AVOIDANCE AND MINIMIZATION MEASURES**

THE FOLLOWING MEASURES WILL BE TAKEN TO AVOID OR MINIMIZE IMPACTS TO WETLANDS DURING PROJECT ACTIVITIES. ALL WORK IN OR NEAR WETLANDS WILL BE IN ACCORDANCE WITH PROJECT MAPPING, EVERSOURCE'S BEST MANAGEMENT PRACTICES MANUAL FOR MASSACHUSETTS AND CONNECTICUT (9/2016; "BMP MANUAL"), AND THE 2002 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL (CONNECTICUT GUIDELINES), AS APPLICABLE. NOTE THAT WETLAND AVOIDANCE AND MINIMIZATION MEASURES DO NOT PRECLUDE THE NEED FOR ADDITIONAL MEASURES FOR OVERLAPPING SENSITIVE RESOURCE AREAS SUCH AS RARE SPECIES HABITAT.

- A. COMPLY WITH THE CONDITIONS OF THE COUNCIL'S CERTIFICATE AND FEDERAL AND STATE PERMITS RELATED TO WETLANDS, INCLUDING THE IMPLEMENTATION OF WETLAND INVASIVE SPECIES CONTROL MEASURES DURING CONSTRUCTION. REFER TO WETLAND INVASIVE SPECIES CONTROL BMPS ON THIS DETAIL SHEET.
- B. USE LOW-IMPACT EQUIPMENT OR INSTALL TEMPORARY TIMBER MATS (OR EQUIVALENT) TO MINIMIZE RUTTING DURING VEGETATION REMOVAL ACTIVITIES IN WETLANDS.
- C. MINIMIZE THE REMOVAL OF STUMPS WITHIN WETLANDS. STUMPS WILL ONLY BE REMOVED IF INTACT STUMPS POSE A SAFETY CONCERN FOR THE INSTALLATION OF ACCESS ROADS, WORK PADS, OR STRUCTURES, THE MOVEMENT OF EQUIPMENT, OR THE SAFETY OF PERSONNEL. ONLY REMOVE SCRUB-SHRUB VEGETATION AS NECESSARY TO ACCOMMODATE PROJECT ACCESS AND WORK AREAS. MATTING MAY BE PLACED DIRECTLY ATOP SHRUBS, WHERE FEASIBLE, TO REDUCE VEGETATION MANAGEMENT IMPACTS AND TO DECREASE COMPACTION FROM MATTING PLACEMENT.
- D. INSTALL EROSION AND SEDIMENTATION (E&S) CONTROLS AROUND WORK SITES IN OR NEAR WETLANDS TO DEFINE THE LIMITS OF CONSTRUCTION ACTIVITY AND TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION. WHERE SILT FENCING IS NOT INSTALLED AROUND TEMPORARY MATTING IN WETLANDS, THE FOOTPRINT OF THE MATTING DEFINES THE LIMIT OF DISTURBANCE. NO CONSTRUCTION ACTIVITIES WILL BE ALLOWED IN WETLANDS OUTSIDE OF THE WORK LIMITS DEFINED BY THE EROSION AND SEDIMENTATION CONTROLS OR MATTING.
- E. INSPECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS THROUGHOUT CONSTRUCTION. SEDIMENT THAT ACCUMULATES BEHIND THESE CONTROLS WILL PERIODICALLY BE REMOVED AND PLACED IN UPLAND AREAS, IN A MANNER THAT WILL PRECLUDE THE POTENTIAL FOR SUBSEQUENT DEPOSITION INTO WATERCOURSES OR OTHER WATERS OF THE U.S., OR WILL OTHERWISE BE DISPOSED OF OFF-SITE.
- F. INSTALL TEMPORARY CONSTRUCTION MATTING FOR ACCESS ROADS ACROSS WETLANDS OR TO ESTABLISH SAFE AND STABLE CONSTRUCTION WORK PADS WITHIN WETLANDS.
- G. DURING INITIAL EXCAVATION FOR THE DUCT BANK TRENCH, CONTRACTOR WILL STRIP, SEGREGATE, AND STOCKPILE THE EXISTING WETLAND TOPSOIL LAYER FROM THE TRENCH LINE (DOWN TO A MAXIMUM OF 12-INCHES) FOR LATER RE-USE DURING TRENCH BACKFILL, AT WHICH TIME THE TOPSOIL WILL BE REPLACED AT THE SURFACE TO MATCH PRE-EXISTING GRADES AND CONTOURS.
- H. PROHIBIT STOCKPILING OF EXCESS SOIL GENERATED AS A RESULT OF TRENCH EXCAVATION WITHIN WETLANDS. EXCESS SOIL WILL BE REMOVED FROM WETLAND WORK AREAS AND STOCKPILED AT DESIGNATED UPLAND AREAS OR REMOVED FROM THE SITE FOR DISPOSAL IN ACCORDANCE WITH THE REGULATORY REQUIREMENTS.
- I. CONTRACTOR SHALL SCHEDULE CONSTRUCTION ACTIVITIES IN WETLANDS TO MINIMIZE THE AMOUNT OF TIME THAT AN OPEN TRENCH EXISTS WITHIN WETLANDS FROM INITIAL TRENCHING TO DUCT BANK INSTALLATION AND FINAL BACKFILL AND RESTORATION.
- J. IMPLEMENT PROCEDURES TO AVOID OR MINIMIZE THE POTENTIAL FOR SPILLS INTO WETLANDS (REFER TO BMPS INCLUDED IN VOLUME 2 ATTACHMENT E AND TO THE MATERIALS SUBMITTED TO CT DEEP UNDER SEPARATE COVER: DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES). NO FUEL WILL BE STORED OR EQUIPMENT REFUELED WITHIN 25 FEET OF A WETLAND EXCEPT UNDER THE FOLLOWING CIRCUMSTANCES: ONLY EQUIPMENT THAT IS NOT READILY MOBILE OR MUST REMAIN ON-SITE FOR PROLONGED PERIODS TO SAFELY COMPLETE A CONSTRUCTION TASK MAY BE REFUELED IN WETLANDS, PROVIDING PROPER TEMPORARY SPILL PREVENTION, CONTROL, AND CONTAINMENT PROCEDURES ARE FOLLOWED.
- K. PROHIBIT VEHICLES OR EQUIPMENT FROM BEING PARKED OVERNIGHT ON ACCESS ROADS OR WORK PADS IN WETLANDS, EXCEPT FOR EQUIPMENT THAT CANNOT BE PRACTICALLY MOVED.
- L. FOLLOWING THE COMPLETION OF TRANSMISSION LINE WORK, REMOVE TIMBER MATS USED FOR WORK PADS AND TEMPORARY ACCESS ROADS IN WETLANDS.
- M. AFTER TRANSMISSION LINE WORK IS COMPLETE, RESTORE WETLANDS TO PRE-CONSTRUCTION CONFIGURATIONS AND CONTOURS TO THE EXTENT PRACTICABLE, REVEGETATE WITH APPROPRIATE WETLAND SEED MIX.
- N. INSPECT AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS UNTIL RESTORATION HAS BEEN DETERMINED TO BE EFFECTIVE.

**II. WATERBODIES AVOIDANCE AND MINIMIZATION MEASURES**

THE FOLLOWING MEASURES WILL BE TAKEN TO AVOID OR MINIMIZE IMPACTS TO WATERCOURSES AND WATERBODIES DURING PROJECT ACTIVITIES. ALL WORK IN OR NEAR WATERCOURSES AND WATERBODIES WILL BE IN ACCORDANCE WITH PROJECT MAPPING, EVERSOURCE'S BMP MANUAL (2016), AND THE CONNECTICUT GUIDELINES.

- A. COMPLY WITH RELEVANT PORTIONS OF EVERSOURCE'S BMP MANUAL FOR MASSACHUSETTS AND CONNECTICUT CONSTRUCTION AND MAINTENANCE ENVIRONMENTAL REQUIREMENTS (9/2016). MANUAL CAN BE FOUND IN VOLUME 2 ATTACHMENT E.
- B. INSTALL AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS ALONG THE RIGHT-OF-WAY WHERE CONSTRUCTION ACTIVITIES DISTURB SOILS NEAR WATERCOURSES TO PREVENT SEDIMENTATION INTO WATER RESOURCES. SEDIMENT THAT ACCUMULATES BEHIND THESE CONTROLS WILL BE PERIODICALLY REMOVED AND PLACED IN UPLAND AREAS, IN A MANNER THAT WILL PRECLUDE THE POTENTIAL FOR SUBSEQUENT DEPOSITION INTO WATERCOURSES OR WATERS OF THE U.S., OR WILL OTHERWISE BE DISPOSED OF OFF-SITE.
- C. NO UNCONFINED IN-STREAM ACTIVITIES ARE PROPOSED OR AUTHORIZED. IN-STREAM WORK WILL NOT BE CONSTRUCTED DURING CONDITIONS OF PEAK FLOWS OR BANK-FULL CONDITIONS. CONSTRUCTION EQUIPMENT WILL BE PROHIBITED FROM FORDING STREAMS.
- D. ACCESS ACROSS WATERCOURSES WILL BE INSTALLED, WHERE PRACTICABLE, SO AS TO AVOID OR MINIMIZE DIRECT ADVERSE IMPACTS TO STREAM BANKS AND STREAM BOTTOM SEDIMENTS, AND TO PROVIDE UNOBSTRUCTED AMBIENT FLOW IN PERENNIAL STREAMS (E.G., SPAN CROSSINGS WILL PROVIDE ADEQUATE CLEARANCE ABOVE WATERCOURSES TO CONVEY FLOWS).
- E. MAT SPANS OR EQUIVALENT ACCESS ACROSS WATERCOURSES WILL BE PERIODICALLY SWEEPED, AS APPROPRIATE TO MINIMIZE THE POTENTIAL FOR SOIL DEPOSITION INTO WATERCOURSES AS A RESULT OF VEHICLE/EQUIPMENT MOVEMENTS.
- F. CONTRACTOR WILL UTILIZE A CONVENTIONAL "DRY OPEN CUT" TRENCHING METHOD TO INSTALL THE UNDERGROUND CABLE AND DUCT BANK ACROSS THESE WATERCOURSES USING COFFER DAM AND STREAM BYPASS PUMPING METHOD ("DAM-AND-PUMP") OR A COFFER DAM AND STREAM BYPASS VIA GRAVITY METHOD ("DAM-AND-FLUME").
- G. EXCEPT FOR EQUIPMENT THAT IS NOT READILY MOBILE OR MUST REMAIN ON-SITE FOR PROLONGED PERIODS TO SAFELY COMPLETE A CONSTRUCTION TASK, CONSTRUCTION VEHICLES AND EQUIPMENT WILL NOT BE REFUELED WITHIN 25 FEET OF A WATERCOURSE. FOR REFUELING THAT MUST BE PERFORMED LESS THAN 25 FEET FROM A WATERCOURSE, APPROPRIATE SPILL PREVENTION MEASURES SHALL BE IMPLEMENTED. (REFER TO BMPS INCLUDED IN VOLUME 2 ATTACHMENT E AND TO THE MATERIALS SUBMITTED TO CT DEEP UNDER SEPARATE COVER: GERNERAL PERMIT FOR DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES).
- H. NO BULK PETROLEUM PRODUCTS WILL BE STORED WITHIN 25 FEET OF WATERCOURSE.
- I. TEMPORARY MAT SPANS WILL BE REMOVED AND WATERCOURSES WILL BE RESTORED AS DETAILED IN VOLUME 2 ATTACHMENT E AND THE WETLAND AND WATERCOURSE TYPICAL DETAIL SHEET. BANKS WILL BE RESEEDED WITH APPROPRIATE UPLAND (ANNUAL RYE) OR WETLAND SEED MIX. EXCEPT OVER THE TRENCH LINE, NO GRUBBING WILL BE PERFORMED ON STREAM BANKS SO THAT WOODY ROOT SYSTEMS MAY REMAIN IN PLACE AND NATURALLY REVEGETATE FOLLOWING COMPLETION OF CONSTRUCTION. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REMOVED UPON THE STABILIZATION OF EXPOSED SOILS NEAR WATERCOURSES.
- J. DURING INITIAL EXCAVATION FOR THE DUCT BANK TRENCH, IF SUITABLE GRAVEL/COBBLE STREAMBED SUBSTRATES ARE PRESENT OVER THE TRENCH LINE, CONTRACTOR WILL STRIP, SEGREGATE, AND STOCKPILE THE EXISTING STREAMBED SUBSTRATE FROM THE TRENCH LINE (DOWN TO A MAXIMUM OF 12-INCHES) FOR LATER RE-USE DURING TRENCH BACKFILL, AT WHICH TIME THE NATIVE STREAMBED SUBSTRATES WILL BE REPLACED AT THE SURFACE TO MATCH PRE-EXISTING STREAMBED GRADES AND CONTOURS.
- K. IF SUITABLE GRAVEL/COBBLE MATERIAL IS NOT PRESENT IN THE STREAMBED, CONTRACTOR WILL BACKFILL THE UPPER 12-INCHES OF TRENCH WITHIN THE STREAM WITH CLEAN GRAVEL/COBBLE MATERIAL TO MATCH PRE-EXISTING STREAMBED GRADES AND CONTOURS.

**III. WETLAND INVASIVE SPECIES BEST MANAGEMENT PRACTICES**


TO CONTROL THE SPREAD OF WETLAND INVASIVE PLANT SPECIES, EVERSOURCE WILL REQUIRE CONSTRUCTION CONTRACTORS TO IMPLEMENT THE PROCEDURES DESCRIBED BELOW, AS APPROPRIATE TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED.

- A. ALL CONSTRUCTION EQUIPMENT, VEHICLES, AND MATERIALS (E.G., TIMBER MATS, OR EQUIVALENT) MUST BE CLEAN AND FREE OF EXCESS SOIL, DEBRIS, AND VEGETATION BEFORE BEING MOBILIZED TO THE PROJECT RIGHTS-OF-WAY.
- B. TIMBER MATS OR EQUIVALENT WILL BE USED TO INSTALL ACCESS ROADS AND WORK PADS IN WETLANDS SO CONSTRUCTION VEHICLES THAT FREQUENTLY TRAVEL ALONG ACCESS ROADS, SUCH AS PICKUPS CARRYING PERSONNEL OR MATERIAL DELIVERY TRUCKS, CAN AVOID DIRECT WETLAND INTERACTION.
- C. TIMBER MATS OR EQUIVALENT WILL BE USED IN WETLANDS DURING CLEARING OPERATIONS TO MINIMIZE THE SPREAD OF INVASIVE SPECIES WITHIN A WETLAND BY THE CLEARING EQUIPMENT.
- D. TO MINIMIZE THE POTENTIAL FOR SPREADING INVASIVE PLANT SPECIES FROM WETLAND-TO-WETLAND ALONG THE ROW, ANY EQUIPMENT WORKING IN A WETLAND CONTAINING INVASIVE PLANT SPECIES WILL BE CLEANED PRIOR TO RELOCATING TO A WORK SITE IN ANOTHER WETLAND. CLEANING OF VEHICLES AND OTHER EQUIPMENT THAT COME INTO CONTACT WITH WETLAND VEGETATION (INCLUDING VEHICLE TRACKS AND TIRES) WILL INVOLVE REMOVAL OF VISIBLE DIRT, DEBRIS, AND VEGETATION USING BROOMS, SHOVELS, AND, IF NEEDED, COMPRESSED AIR.
- E. TIMBER MATS (OR EQUIVALENT) USED IN WETLANDS CONTAINING INVASIVE SPECIES WILL BE CLEANED PRIOR TO RELOCATION TO OTHER WORK AREAS OR WETLANDS. MAT CLEANING WILL INVOLVE DROPPING MATS ONE ON TOP OF ANOTHER TO SHAKE LOOSE ANY SEDIMENT AND DEBRIS. WHEN USING THIS METHOD OF CLEANING MATS (AS OPPOSED TO USING A BROOM, SHOVEL, AND/OR COMPRESSED AIR), AVOID IMPACTS TO SENSITIVE RESOURCE AREAS, INCLUDING STREAM BANKS.
- F. SOILS EXCAVATED FROM WETLANDS OR RIPARIAN AREAS CONTAINING A PREDOMINANCE OF TARGET INVASIVE PLANTS WILL BE STOCKPILED SEPARATELY AND CONTAINED WITHIN STAKED BALES, SILT FENCE OR OTHER APPROVED EROSION AND SEDIMENT CONTROL DEVICE TO MINIMIZE THE POTENTIAL OF SPREADING THESE SOILS ELSEWHERE ONTO THE ROW.
- G. FINAL RESTORATION OF THE RIGHT-OF-WAY WILL BE PERFORMED IN ACCORDANCE WITH EVERSOURCE'S 2016 BMP MANUAL. IN LIEU OF "HAY BALE" EROSION CONTROLS (HAY BALES MAY CONTAIN NOXIOUS OR INVASIVE SEED STOCK OR PLANT MATTER), THE CONTRACTOR WILL BE REQUIRED TO USE ALTERNATIVE MEASURES, TO THE EXTENT PRACTICABLE AND IF LOCAL SOURCES ARE AVAILABLE, SUCH AS STRAW BALES, WATTLES, COCONUT ROLLS, WOOD CHIP BAGS OR SILT FENCE.

**IV. WETLAND RESTORATION**

- A. IF NECESSARY, WETLAND AREAS AFFECTED BY CONSTRUCTION WILL BE STABILIZED WITH ANNUAL RYE GRASS, A WETLAND SEED MIX, OR AN EQUIVALENT MIX AT THE LABEL RECOMMENDED SEEDING RATE, WHICH WILL SERVE TO PROVIDE A TEMPORARY VEGETATIVE COVER UNTIL WETLAND SPECIES BECOME REESTABLISHED.
- B. TEMPORARY EROSION AND SEDIMENT CONTROLS WILL BE LEFT IN PLACE AND MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED. RESTORATION TYPICALLY WILL BE DEEMED SUCCESSFUL BASED ON THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. BASED ON THE RESULTS OF INSPECTIONS OF RIGHT-OF-WAY STABILIZATION, EVERSOURCE WILL DETERMINE THE APPROPRIATE TIMEFRAME FOR REMOVING TEMPORARY EROSION CONTROLS.

\*\*\*THE WATER RESOURCE PROTOCOLS DETAILED HERE ARE PROJECT-WIDE AND SHALL BE IMPLEMENTED AS APPLICABLE FOR THE AUTHORIZED WETLAND AND WATERCOURSE CROSSINGS AND DISTURBANCE AREAS DEPICTED ON THE AERIAL PHOTOGRAPH BASED MAPS INCLUDED IN EACH D&M PLAN.

				<b>EVERSOURCE</b>			
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RARE SPECIES AVOIDANCE AND MINIMIZATION MEASURES

FOR DETAILS OF PROTECTION REQUIREMENTS:  
CONTACT EVERSOURCE ENVIRONMENTAL LICENSING AND PERMITTING OR DESIGNEE.

GENERAL MITIGATION MEASURES TO BE IMPLEMENTED WITHIN PROTECTED SPECIES HABITAT:

- A. A CONTRACTOR AWARENESS PROGRAM WILL BE DEVELOPED AND IMPLEMENTED TO ENSURE THAT ALL CONSTRUCTION PERSONNEL WORKING IN THE LISTED SPECIES HABITAT ARE APPRISED OF: THE SPECIES DESCRIPTION; THE POSSIBLE PRESENCE OF LISTED SPECIES; AND INSTRUCTION ON THE PROPER RESPONSE IF A PROTECTED SPECIES IS OBSERVED IN A WORK AREA.
- B. NO HEAVY MACHINERY OR VEHICLES MAY BE PARKED OUTSIDE OF THE APPROVED WORK AREAS OR OFF OF IMPROVED SURFACES WITHOUT PRIOR NOTIFICATION TO AND APPROVAL FROM THE ON-SITE COMPLIANCE MONITOR.
- C. PRIOR TO VEGETATION CLEARING AND CONSTRUCTION OF ACCESS ROADS, LAYDOWN AREAS AND WORK PADS AND INSTALLATION OF EROSION CONTROL MEASURES, EVERSOURCE WILL PERFORM INSPECTIONS (SWEEPS) OF SUCH WORK AREAS; ANY PROTECTED SPECIES FOUND WILL BE DOCUMENTED AND REMOVED FROM WORK AREAS IN ACCORDANCE WITH PROTOCOLS APPROVED BY CT DEEP.
- D. DURING CONSTRUCTION, DAILY MORNING SWEEPS OF WORK AREAS WILL COMPLETED BY THE CONTRACTOR AND/OR THE ON-SITE COMPLIANCE MONITOR. IN TAILBOARD DISCUSSIONS PRIOR TO THE START OF THE WORK DAY, EVERSOURCE REPRESENTATIVES / CONTRACTOR SUPERVISORS WILL EMPHASIZE THE POTENTIAL FOR LISTED SPECIES TO BE PRESENT IN WORK AREAS. THROUGHOUT THE WORK DAY, THE CONTRACTOR AND COMPLIANCE MONITOR WILL REMAIN AWARE OF THE POTENTIAL FOR LOCATING PROTECTED SPECIES.
- E. IF A PROTECTED SPECIES IS FOUND, CT DEEP-APPROVED DOCUMENTATION AND PROTECTION PROTOCOLS WILL BE IMPLEMENTED. SUCH MEASURES WILL INCLUDE REMOVING THE SPECIES FROM THE WORK AREA.
- F. IF MOWING IS REQUIRED, VEGETATION SHALL BE MOWED TO NO LOWER THAN 7". FLAIL TYPE MOWERS SHALL NOT BE USED FOR MOWING IN THE ACTIVE SEASON.
- G. WHEN PERFORMING VEGETATION CLEARING ADJACENT TO STREAMS, TREES WILL BE CUT TO FALL AWAY FROM THE WATERWAY AND WILL NOT BE DRAGGED ACROSS THE WATERWAY. STUMPS WILL BE REMOVED FROM STREAM BANKS ONLY AS NEEDED FOR EXCAVATION OF THE DUCT BANK TRENCH.
- H. EXCLUSIONARY FENCING (AS NEEDED DEPENDING ON THE SEASON IN WHICH CONSTRUCTION IS PERFORMED IN HABITAT AREAS) WILL BE INSTALLED AND REGULARLY MAINTAINED (TYPICALLY, AT LEAST BI-WEEKLY AND AFTER MAJOR WEATHER EVENTS) TO SECURE ANY GAPS OR OPENINGS THAT MAY LET ANIMAL SPECIES PASS THROUGH.
- I. EXTRA FENCING SHALL BE READILY AVAILABLE FOR FENCE REPAIR OR REPLACEMENT AS NEEDED, OR IF ADDITIONAL FENCING IS REQUIRED.
- J. EXCLUSIONARY AND/OR SILT FENCING SHALL BE REMOVED AS SOON AS THE AREA IS STABLE.

THE PROTECTION MEASURES LISTED HEREIN ARE GENERAL AND EXCLUDE THE NAME OF THE LISTED SPECIES IN ORDER TO PROTECT THE INTEGRITY OF HABITAT LOCATIONS. DETAILED RARE SPECIES AVOIDANCE AND IMPACT MINIMIZATION MEASURES ARE PENDING THE APPROVAL OF CT DEEP. DURING CONSTRUCTION, EVERSOURCE WILL IMPLEMENT THE RARE SPECIES AVOIDANCE AND IMPACT MINIMIZATION MEASURES AS FINALIZED WITH AND APPROVED BY CT DEEP.

POTENTIAL HABITAT WHERE PROTECTION MEASURES APPLY:  
TOWN OF NEWINGTON: UNDEVELOPED UPLAND AND WETLAND AREAS ON EVERSOURCE FEE-OWNED PROPERTY AND ROW FROM QUINCY LANE TO WILLARD AVENUE. PROTECTION MEASURES WILL VARY, BASED ON THE TIMING OF CONSTRUCTION AND PROJECT AREA LOCATION.

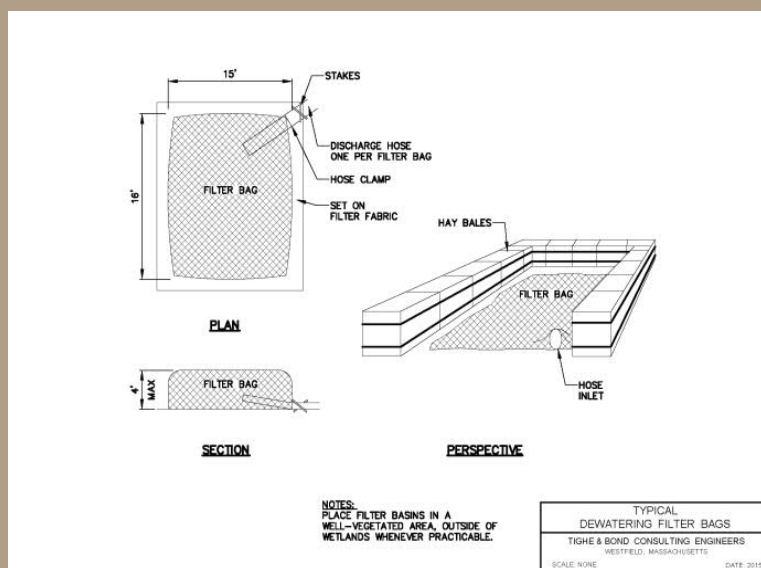
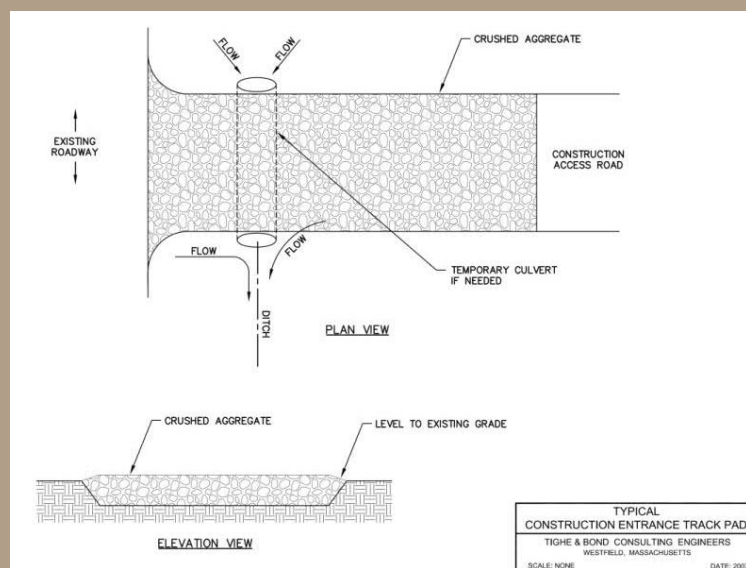
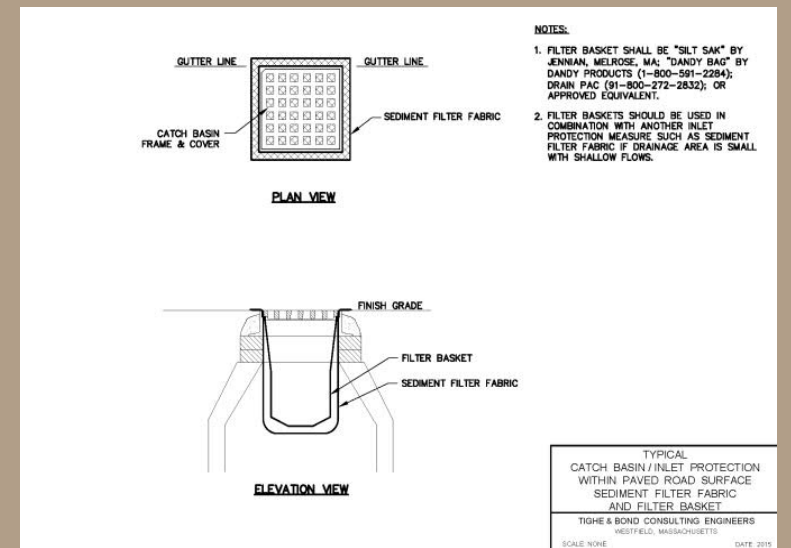
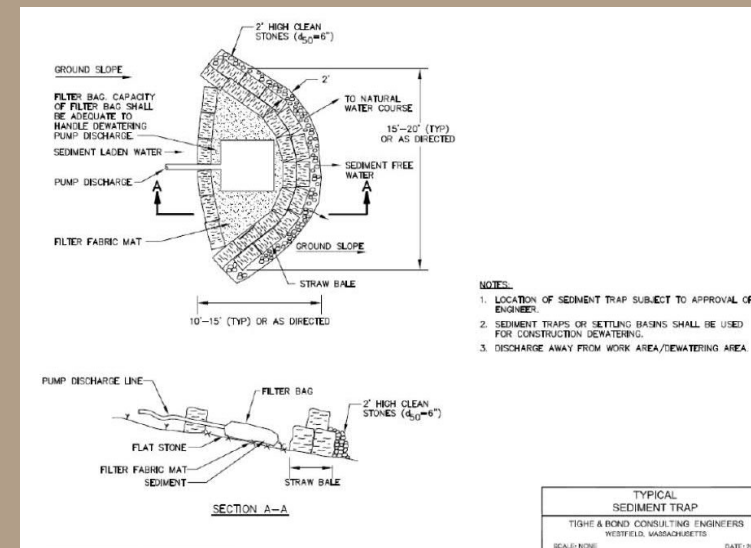
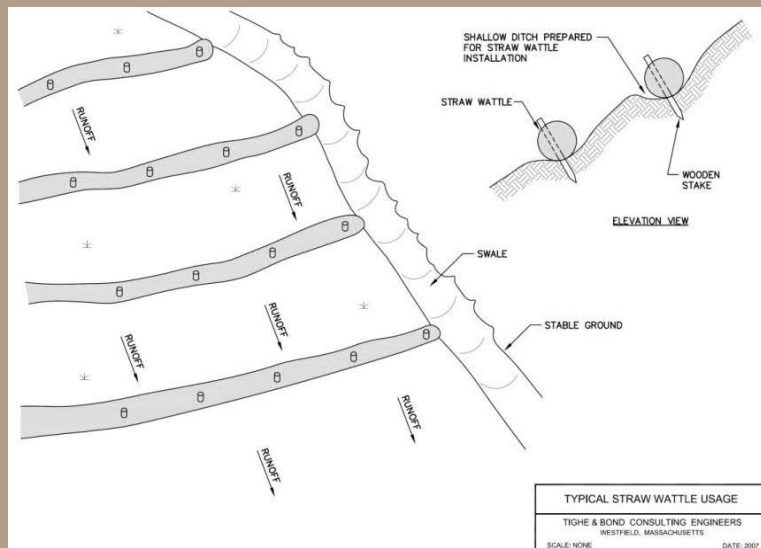
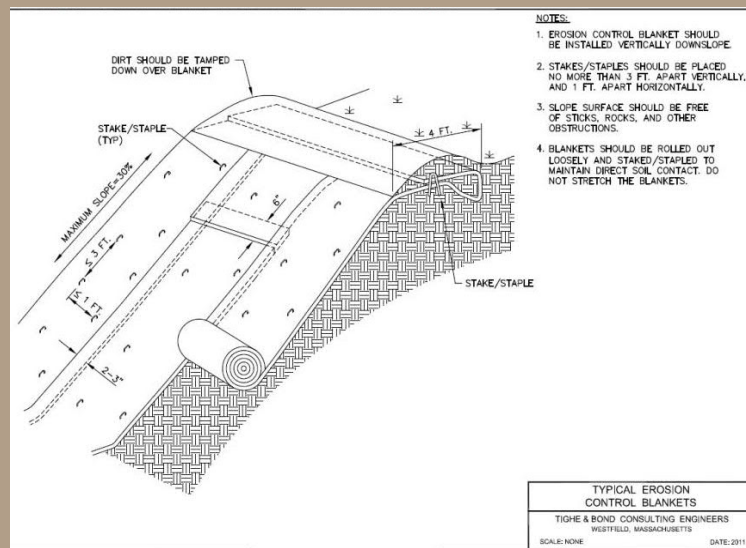
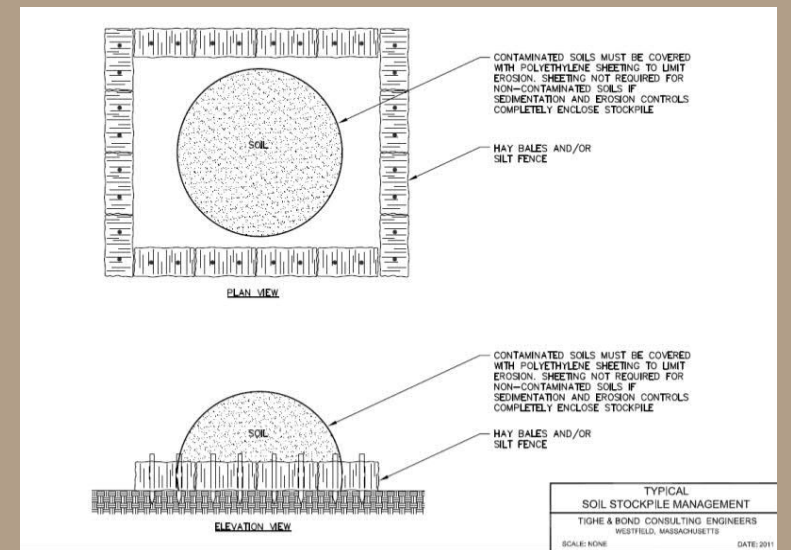
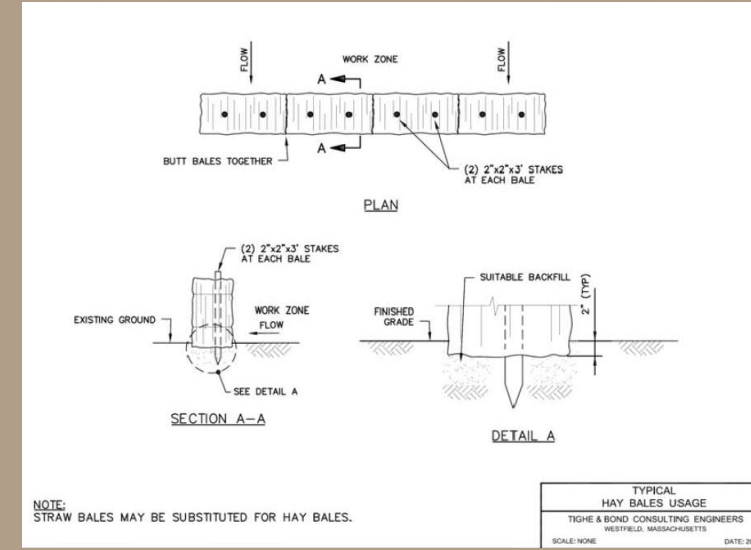
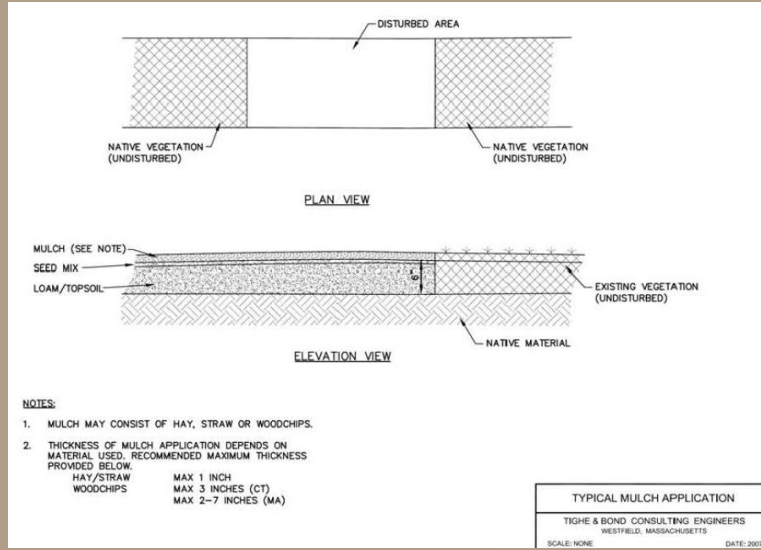
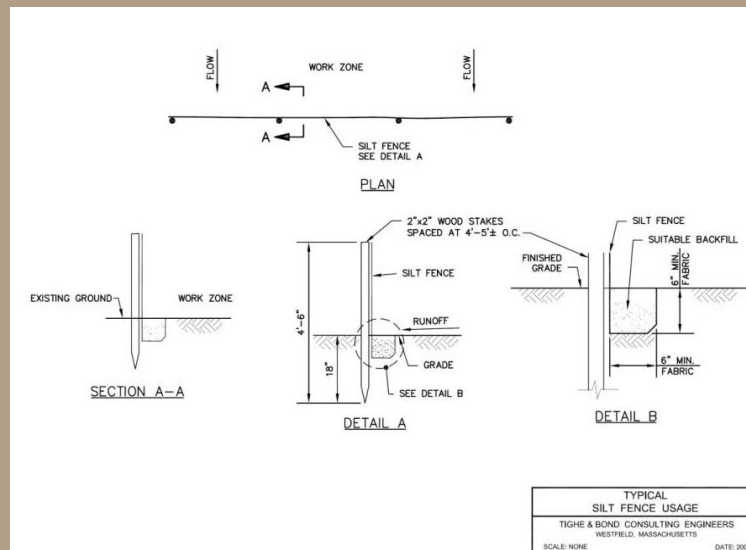
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				<b>EVERSOURCE</b>			
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				Rare Species Avoidance and Minimization Measures			
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<b>EVERSOURCE</b>			
Greater Hartford-Central Connecticut Reliability Project (GHCCRP) Underground Segment of the 115-kV Transmission Line Development And Management Plan			
Erosion and Sediment Control Details			
Detail Sheet 5 of 6			
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