

Site Plans

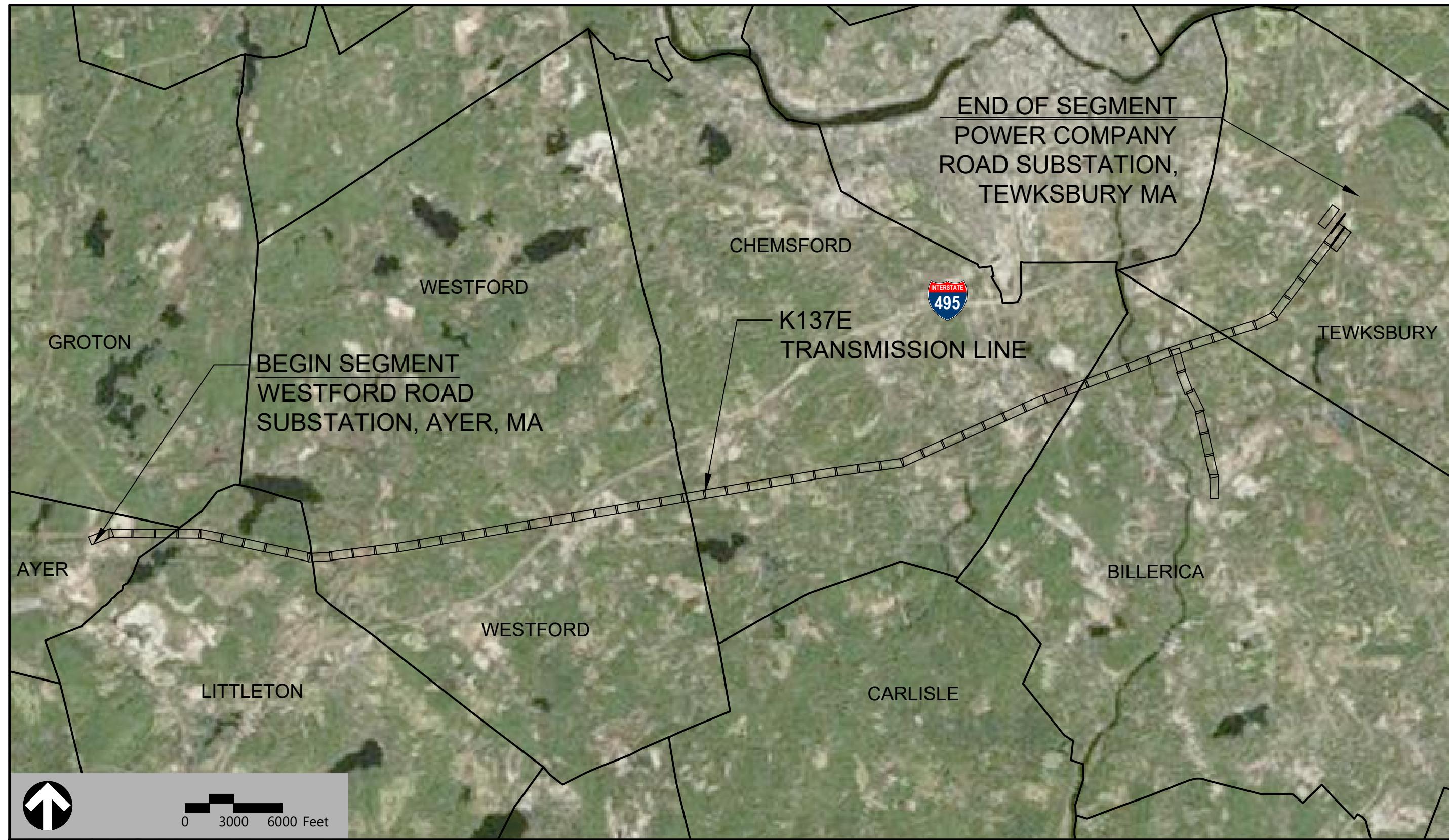
Issued for	Permit Set
Date Issued	July 15, 2025
Latest Issue	July 15, 2025

K137E/L138E ACR AND 337 REBUILD

AYER NO. 1 - TEWKSBURY NO. 150

IMPACTED TOWNS:

AYER, LITTLETON, WESTFORD,
CHEMSFORD, TEWKSBURY IN
MASSACHUSETTS



Owner

New England Power Company
55 Bearfoot Rd
Northborough, MA 01532

Sheet Index

No.	Drawing Title	Latest Issue
C-101	Legend and General Notes	July 15, 2025
C-102	Key Plan	July 15, 2025
C-103	Site Details	July 15, 2025
C-104, C-106 to 111	Utility Access Road Plan & Profile in Littleton, MA	July 15, 2025

Reference Drawings

No.	Drawing Title	Latest Issue
Sv-104, Sv-106 to 111	Existing Conditions Plan	July 15, 2025

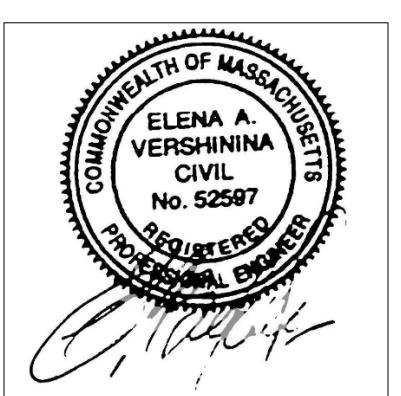
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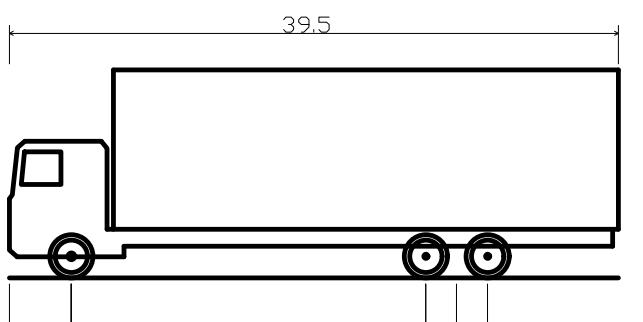
Legend

Exist.	Prop.	Exist.	Prop.
— — —	— — —	PROPERTY LINE	RIPRAP
— — —	— — —	PROJECT LIMIT LINE	PROPOSED PAD
— — —	— — —	RIGHT-OF-WAY/PROPERTY LINE	ENGINEERED TYPE 1-3 ROAD
— — —	— — —	EASEMENT	TYPE R ROAD (BY OTHERS)
— — —	— — —	BASELINE	NO MODIFICATIONS ROAD
— — —	— — —	TOWN LINE	
— — —	— — —	LIMIT OF DISTURBANCE	
— — —	— — —	WETLAND LINE WITH FLAG	
— — —	— — —	FLOODPLAIN	
— — —	— — —	BORDERING LAND SUBJECT TO FLOODING	
— — —	— — —	WETLAND BUFFER ZONE	
— — —	— — —	NO DISTURB ZONE	
— — —	— — —	200' RA	200' RIVERFRONT AREA
— — —	— — —	GRAVEL ROAD	
— — —	— — —	EOP	EDGE OF PAVEMENT
— — —	— — —	BB	BITUMINOUS BERM
— — —	— — —	BC	BITUMINOUS CURB
— — —	— — —	CC	CONCRETE CURB
— — —	— — —	CG	CURB AND GUTTER
— — —	— — —	ECC	EXTRUDED CONCRETE CURB
— — —	— — —	MCC	MONOLITHIC CONCRETE CURB
— — —	— — —	PCC	PRECAST CONC. CURB
— — —	— — —	SGE	SLOPED GRAN. EDGING
— — —	— — —	VGC	VERT. GRAN. CURB
— — —	— — —		STEEL GUARDRAIL
— — —	— — —		WOOD GUARDRAIL
— — —	— — —	PATH	
— — —	— — —	TREE LINE	
— — —	— — —	WIRE FENCE	
— — —	— — —	FENCE	
— — —	— — —	STOCKADE FENCE	
— — —	— — —	STONE WALL	
— — —	— — —	RETAINING WALL	
— — —	— — —	STREAM / POND / WATER COURSE	
— — —	— — —	DETENTION BASIN	
— — —	— — —	HAY BALES	
— — —	— — —	SILT FENCE	
— — —	— — —	SILT SOCK / STRAW WATTLE	
— — —	— — —	MINOR CONTOUR	
— — —	— — —	MAJOR CONTOUR	
— — —	— — —	OWH	OVERHEAD WIRE
— — —	— — —	E	ELECTRIC
— — —	— — —	FE	FLARED END SECTION
— — —	— — —	HEADWALL	
— — —	— — —	EMH	ELECTRIC MANHOLE
— — —	— — —	UP	UTILITY POLE
— — —	— — —	GUY POLE	
— — —	— — —	HW	GUY WIRE & ANCHOR
— — —	— — —	HH	HAND HOLE
— — —	— — —	PB	PULL BOX
— — —	— — —		MATCHLINE

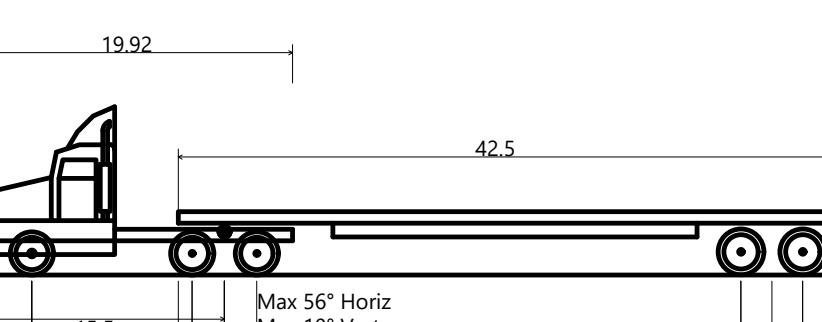
Non-Standard Design Vehicle Roads

Design Vehicle	Unit
WB-40	SEGMENT 1 SANDY POND STRUCTURES 1-3 (KL337), K137E_29_C, K137E_49_A, K137E_71_A
SU-40	K137E_36_A, K137E_47_A, K137E_50_A
SU-30	337E_37_A, K137E_54_C, K137E_58_B, PAD 106_ACCESS ROAD

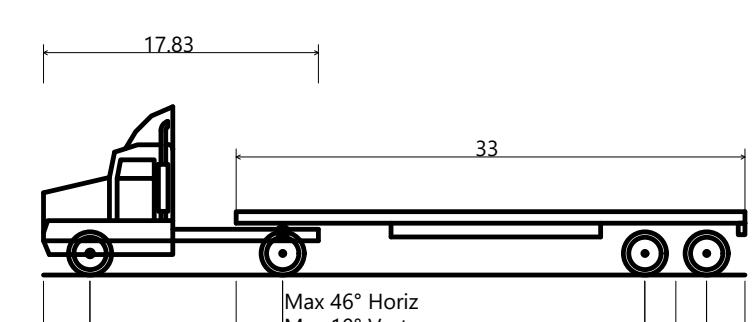
Match Line
See Sheet C1.01



SU-40 - Single Unit Truck
Overall Length 39.500ft
Overall Width 8.000ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.367ft
Track Width 8.000ft
Lock-to-lock time 0.00s
Max Steering Angle (Virtual) 31.80°



SU-40 - Single Unit Truck
Overall Length 39.500ft
Overall Width 8.000ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.367ft
Track Width 8.000ft
Lock-to-lock time 0.00s
Max Steering Angle (Virtual) 31.80°



WB-50 - Intermediate Semi-Trailer
Overall Length 55.000ft
Overall Width 8.500ft
Overall Body Height 12.052ft
Min Body Ground Clearance 1.334ft
Max Track Width 8.500ft
Lock-to-lock time 6.00s
Max Steering Angle (Virtual) 17.90°

Notes:

WHILE THE MAIN DESIGN VEHICLE CONSIDERED WAS WB-50, DUE TO CHALLENGING TERRAIN (INSTANCES NOTED IN TABLE ABOVE), WB-40, SU-40, AND SU-30 WAS USED TO DESIGN THE ROAD GEOMETRY. VEHICLE TRACKING SOFTWARE BUILT INTO AUTOCAD WAS EMPLOYED TO VERIFY ROAD ALIGNMENTS AND TURNS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACTUAL FIELD CONDITIONS. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR REVIEW.

Abbreviations

General	
APPROX	APPROXIMATE
CL	CENTERLINE
CONC	CONCRETE
EX	EXISTING
EG	EXISTING GRADE
EL	ELEVATION
ELEV	ELEVATION
FG	FINISHED GRADE
GTD	GRADE TO DRAIN
HORIZ	HORIZONTAL
VERT.	VERTICAL
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
PC	POINT OF INTERSECTION
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
PVC	POINT OF VERTICAL CURVATURE
PVT	POINT OF VERTICAL TANGENCY
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
ROW	RIGHT-OF WAY
STR.	STRUCTURE
TYP	TYPICAL

Notes

General

- CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 3 INCHES LOAM AND SEED.
- ALL GRADED ROADS AND PADS SHOWN ON THE PLANS ARE ACCESS POINTS TO SUPPORT CONSTRUCTION ACTIVITIES. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION. FOR RESTORATION METHODS, REFER TO ENVIRONMENTAL PLANS.
- GRAVEL ACCESS ROADS ARE CLASSIFIED BY NATIONAL GRID AS ROADS FOR USE ON STABLE SUBGRADES WITH AN AGGREGATE CAP FOR GRADES UP TO TWO PERCENT GRADE AND WITHOUT AN AGGREGATE CAP FOR GRADES OVER TWO PERCENT. MAXIMUM PERCENT GRADE SHALL BE LIMITED, TO THE GREATEST EXTENT PRACTICABLE TO 12%. GRADES EXCEEDING 12% SHALL REQUIRE THE APPROVAL OF THE DIRECTOR OF TRANSMISSION ENGINEERING AND TRANSMISSION LINE SERVICES TO ENSURE THE APPROPRIATE DESIGN AND SAFETY CONSIDERATIONS ARE INCORPORATED FOR THE SPECIFIC ACCESS LOCATION. THERE ARE THREE TYPES OF GRAVEL ROADS UTILIZED ON THIS PROJECT:

 - TYPE 1 ROADS ARE DEFINED AS CAP EXISTING STABLE SUB-BASE.
 - TYPE 2 ROADS ARE DEFINED AS NATIVE SOIL BASE - CROWNED.
 - TYPE 3 ROADS ARE DEFINED AS NATIVE SOIL BASE - SUPERELEVATED.

- TYPE R ROADS: REFER TO ENVIRONMENTAL PLANS FOR COMPLETE SCOPE OF TYPE R ROADS.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROVED PERMITS.
- UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE OWNER SHALL BE RESPONSIBLE FOR THE COST OF REMOVAL OF HAZARDOUS MATERIALS AND FOR THE COST OF ABATEMENT, REMOVAL, DISPOSAL, OR CLEAN-UP OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIALS, AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.
- IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
- CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
- DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
- THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO FILE A CGP NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.
- NO EXCAVATION OF THE LEDGE IS PLANNED DURING ACCESS WAY CONSTRUCTION. HOWEVER, IF A CONTRACTOR ENCOUNTERS A LEDGE DURING THE CUTTING OPERATION, THEY MUST IMMEDIATELY CONTACT THE PROJECT ENGINEER FOR FURTHER GUIDANCE.

UTILITIES

- THE LOCATIONS, SIZES, AND TYPES OF EXISTING OVERHEAD AND UNDERGROUND UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS-OF-WAY.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DAMAGE TO THE EXISTING UTILITY. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
- RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
 - A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
 - B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
 - C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.

- THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
- CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITework RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASING OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.

Cut and Fill Analysis

- REFER TO SECTION 1 - SUMMARY OF THE FINAL DESIGN DOCUMENT (GL.06.01.140.DP0) FOR CUT AND FILL ANALYSIS TOTALS BY TOWN, AS WELL AS THE OVERALL NET VOLUME.

Stormwater

- WHERE NOT DEFINED, CONTRACTOR TO DETERMINE SWALE OR INFILTRATION BASIN SIZES ON-SITE BASED ON GRAVEL AREA WITHIN TEMPORARY LIMIT OF DISTURBANCE:
 - SMALL SWALE/BASIN: LESS THAN 6,500 SF
 - MID-SIZED SWALE/BASIN: LESS THAN 15,000 SF
 - LARGE SWALE/BASIN: MORE THAN 15,000 SF
- WHERE NOT DEFINED, CONTRACTOR TO INSTALL SWALE OR INFILTRATION BASIN ON-SITE WITH THE FOLLOWING DIMENSIONS:
 - SWALE BOTTOM TO BE 2-FEET WIDE
 - SWALE HEIGHT: 1 FOOT
 - SWALE WALL SLOPE: 3:1
 - SWALE MINIMUM LENGTHS:
 - SMALL SWALE: 81 FEET
 - MID-SIZED SWALE: 171.5 FEET
 - LARGE SWALE: 473 FEET

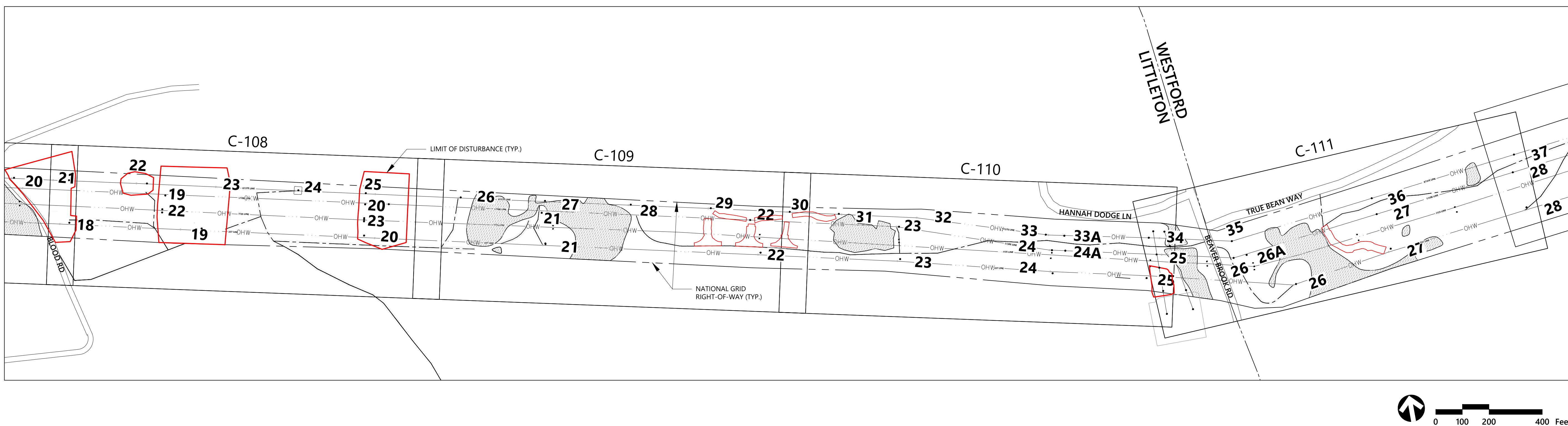
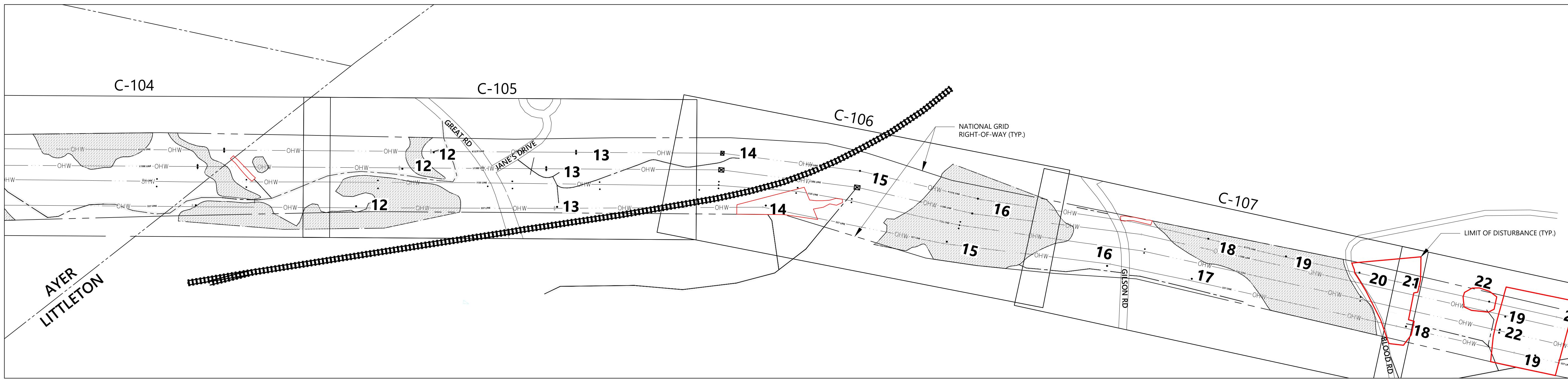
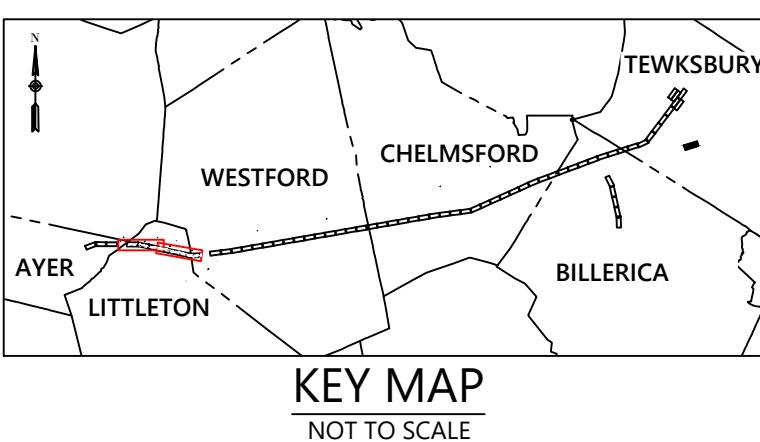
Erosion Control

- PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
- CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A STORM EVENT THAT PRODUCES 0.25 INCHES OR MORE OF RAIN WITHIN A 24-HOUR PERIOD, OR WITHIN 24 HOURS OF A SNOWMELT DISCHARGE FROM A STORM EVENT THAT PRODUCES 3.25 INCHES OR MORE OF SNOW WITHIN A 24-HOUR PERIOD. THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
- CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
- UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT



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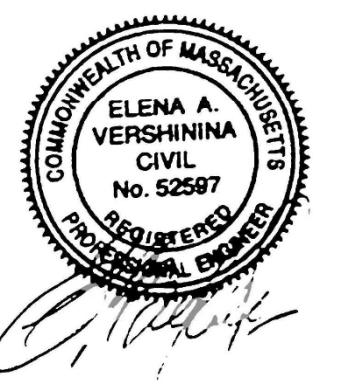
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Drawing title
Littleton Key Plan
Drawing Number
Sheet 3 of 12

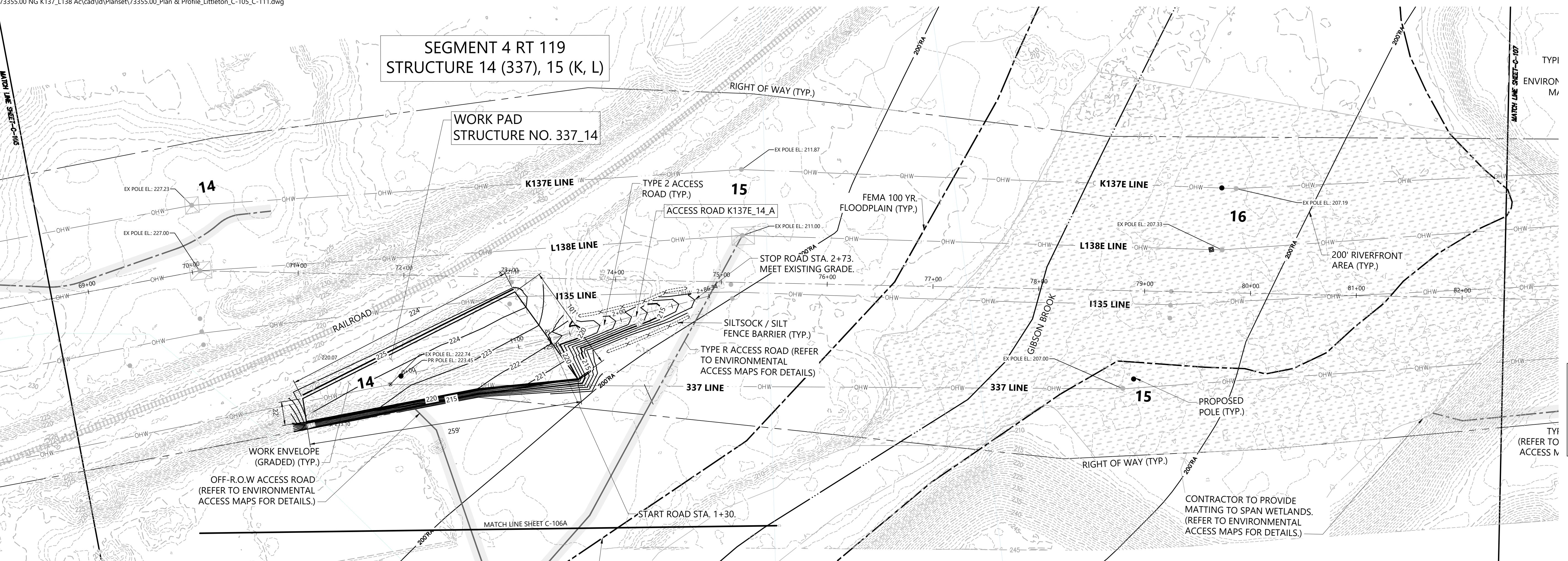


C-102

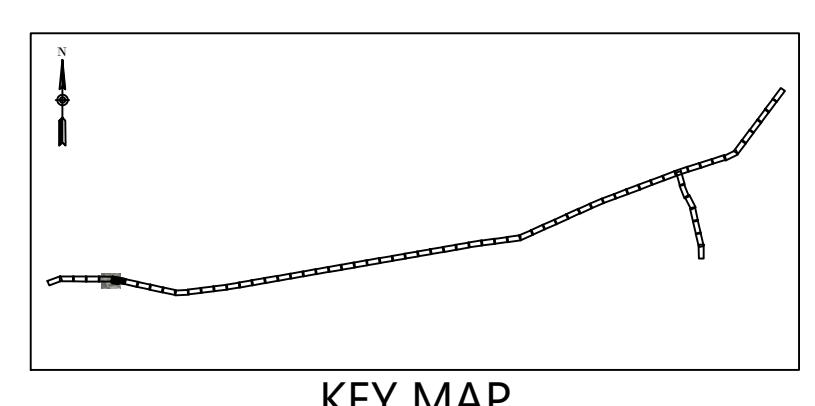
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Project Number
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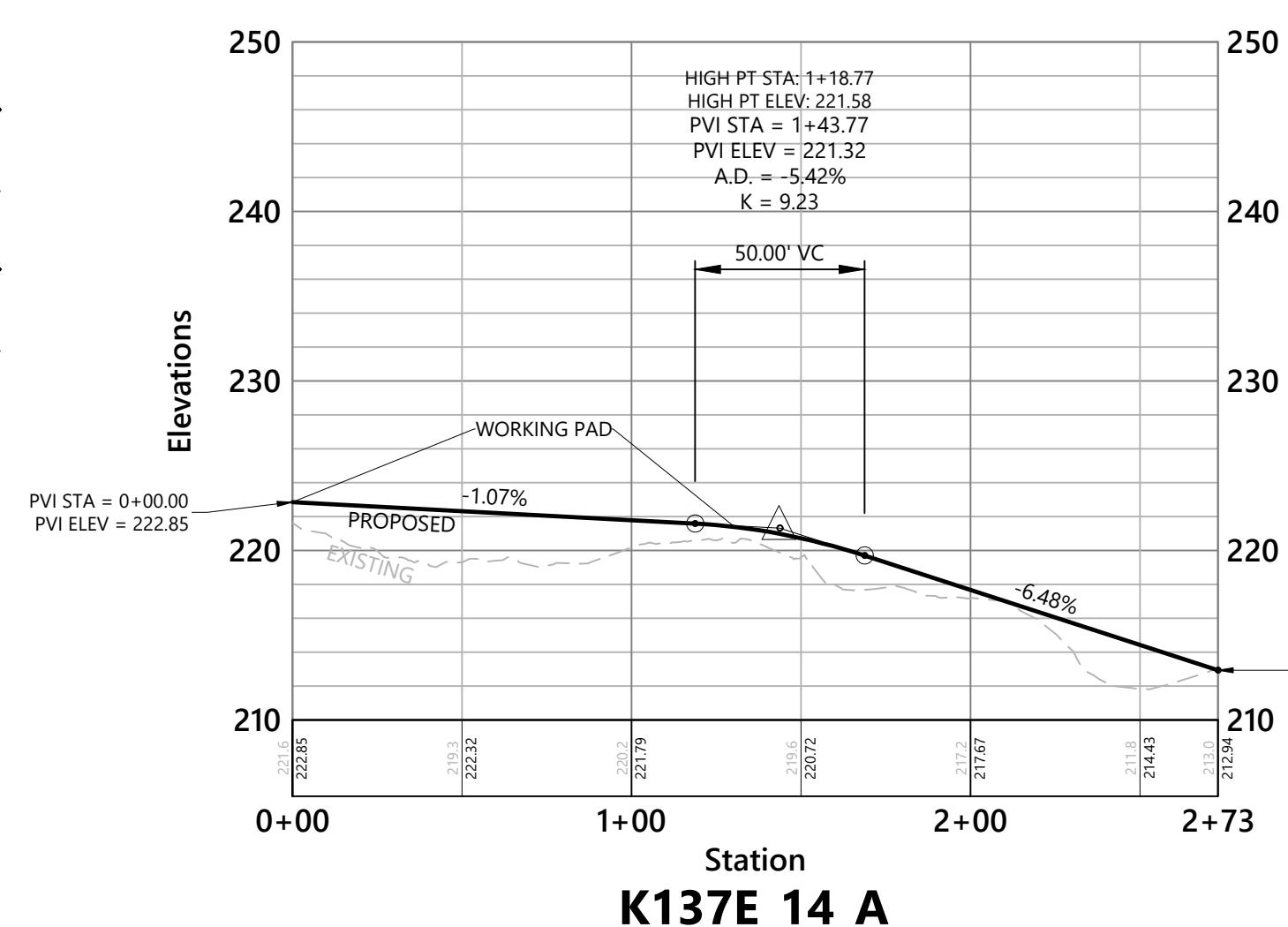
Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
TYPE R ROAD (BY OTHERS)	ENGINEERED TYPE 1-3 ROAD
NO. 200' ACCESS ROAD	TYPE R ROAD (BY OTHERS)
PROPERTY LINE	NO. 200' ACCESS ROAD
K137E/L138 INLAND BANK	PROPERTY LINE
EXISTING TRANSMISSION LINE STRUCTURE	K137E/L138 INLAND BANK
PROPOSED TRANSMISSION LINE STRUCTURE	EXISTING TRANSMISSION LINE STRUCTURE
100-YEAR FLOODPLAIN	PROPOSED TRANSMISSION LINE STRUCTURE
200' RIVERFRONT AREA	100-YEAR FLOODPLAIN
ARTICLE 97	200' RIVERFRONT AREA
DELINEATED INLAND BANK	ARTICLE 97
ESTABLISHED BANK	DELINEATED INLAND BANK
FENCE LINE	ESTABLISHED BANK
EXISTING TREELINE	FENCE LINE
GUARDRAIL	EXISTING TREELINE
MA DEP HYDROLOGIC CONNECTION	GUARDRAIL
NHD PERENNIAL STREAM	MA DEP HYDROLOGIC CONNECTION
NHESP PRIORITY AND ESTIMATED HABITAT	NHD PERENNIAL STREAM
NHESP RESTRICTED HABITAT	NHESP PRIORITY AND ESTIMATED HABITAT
Pipeline	NHESP RESTRICTED HABITAT
STONEWALL	Pipeline

Gravel Quantities

Road Segment	Linear Feet (ft)	Depth (in)	Volume (CY)
K137E_14_A	143.0	14	74.15

Work Pad	Area (sf)	Depth (in)	Volume (CY)
337_14	14,850	12	550.00



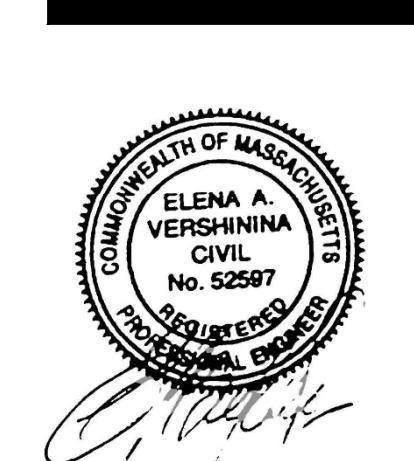
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Drawing Title Plan and Profile

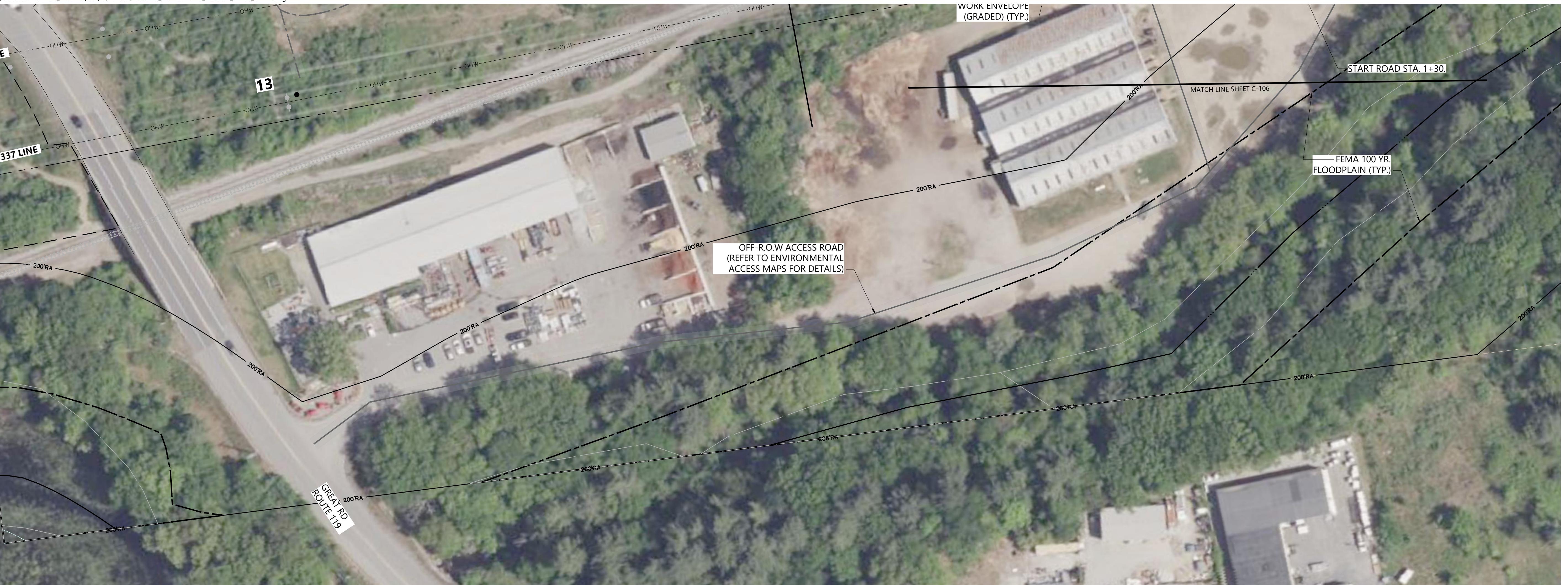


C-106

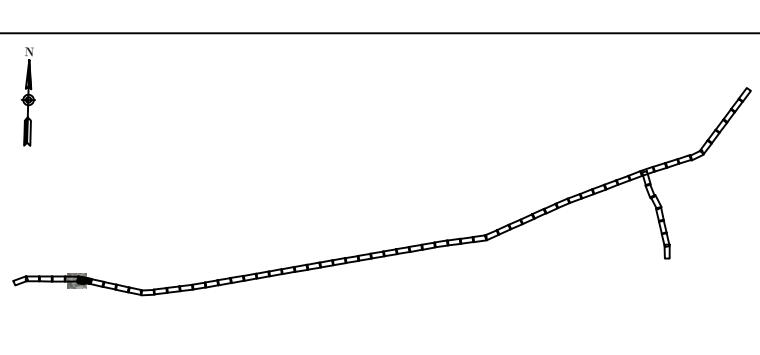
Vert. 0 2.5 5 10 Feet
Horiz. 0 25 50 100 Feet

6 12

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Legend

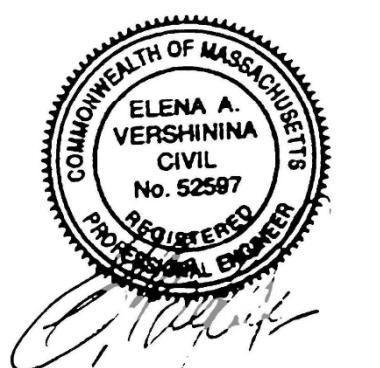
>>>	NATIONAL GRID RIGHT-OF-WAY
—	ENGINEERED TYPE I-3 ROAD
—	TYPE ROAD (BY OTHERS)
—	NON-REGULATIONS ROAD
—	PROPERTY LINE
●	K137E/L138 TRANSMISSION CONDUCTOR
□	EXISTING TRANSMISSION LINE STRUCTURE
—	PROPOSED TRANSMISSION LINE STRUCTURE
—	100-YEAR FLOODPLAIN
—	200' RIVERFRONT AREA
—	ARTICLE 97
—	DELINEATED INLAND BANK
—	ESTABLISHED BANK
—	WETLAND POLYGON
—	FENCE LINE
—	EXISTING TREELINE
—	GUARDRAIL
—	MA DEP HYDROLOGIC CONNECTION
—	NHD PERENNIAL STREAM
—	NHESP PRIORITY AND ESTIMATED HABITAT
—	NHESP RESTRICTED HABITAT
—	Pipeline
—	STONEWALL

K137E/L138E ACR and 337 Rebuild

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Drawing Title Off-ROW Plan
Drawing Number

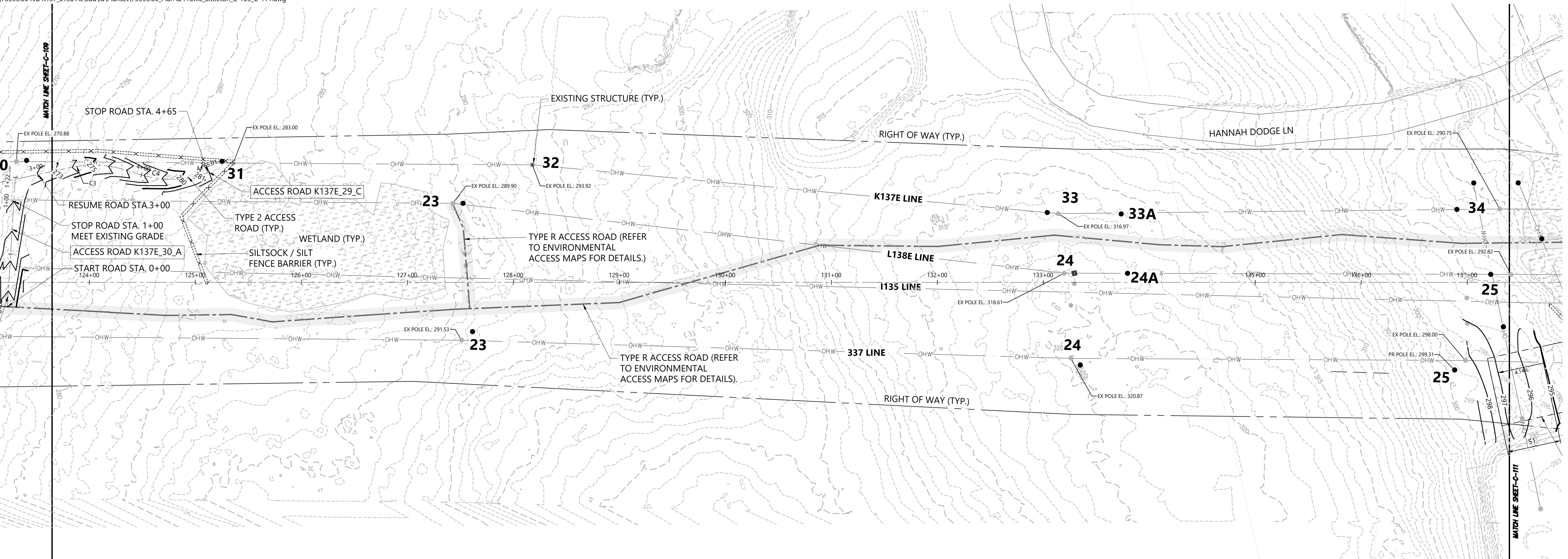


C-106A

Vert. 0 2.5 5 10 Feet
Horiz. 0 25 50 100 Feet

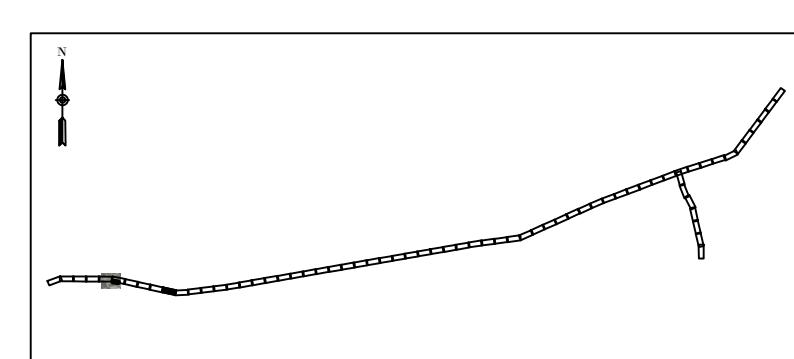
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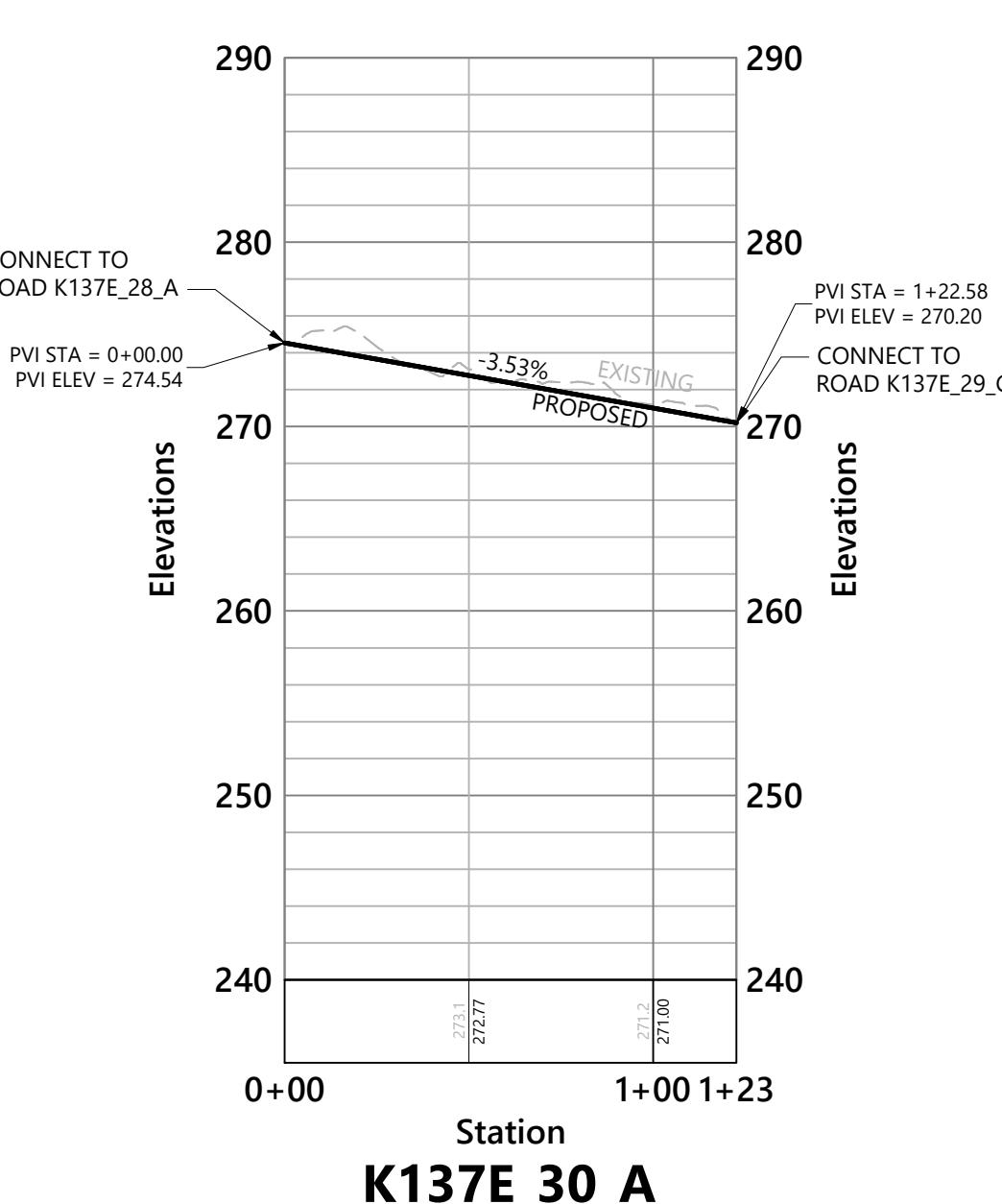


Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
TYPE 1 ROAD	ENGINEERED TYPE 1-3 ROAD
TYPE 2 ROAD	TYPE 2 ROAD (BY OTHERS)
TYPE 3 ROAD	NON-ENGINEERED ROAD
PROPERTY LINE	PROPERTY LINE
K137E/L138 TRANSMISSION CONDUCTOR	K137E/L138 TRANSMISSION CONDUCTOR
EXISTING TRANSMISSION LINE STRUCTURE	EXISTING TRANSMISSION LINE STRUCTURE
PROPOSED TRANSMISSION LINE STRUCTURE	PROPOSED TRANSMISSION LINE STRUCTURE
200' RIVERFRONT AREA	200' RIVERFRONT AREA
ARTICLE 97	ARTICLE 97
DELINEATED INLAND BANK	DELINEATED INLAND BANK
ESTABLISHED BANK	ESTABLISHED BANK
WETLAND POLYGON	WETLAND POLYGON
FENCE LINE	FENCE LINE
EXISTING TREELINE	EXISTING TREELINE
GUARDRAIL	GUARDRAIL
MA DEP HYDROLOGIC CONNECTION	MA DEP HYDROLOGIC CONNECTION
NHD PERENNIAL STREAM	NHD PERENNIAL STREAM
NHESP PRIORITY AND ESTIMATED HABITAT	NHESP PRIORITY AND ESTIMATED HABITAT
NHESP RESTRICTED HABITAT	NHESP RESTRICTED HABITAT
Pipeline	Pipeline
STONEWALL	STONEWALL

K137E/L138E ACR and 337 Rebuild

No.	Revision	Date	Appvd.
Designed by	OV/NS	Checked by	EV
Issued for		Date	
Permit Set		July 15, 2025	
Not Approved for Construction			
Drawing Title			
Plan and Profile			
Drawing Number			

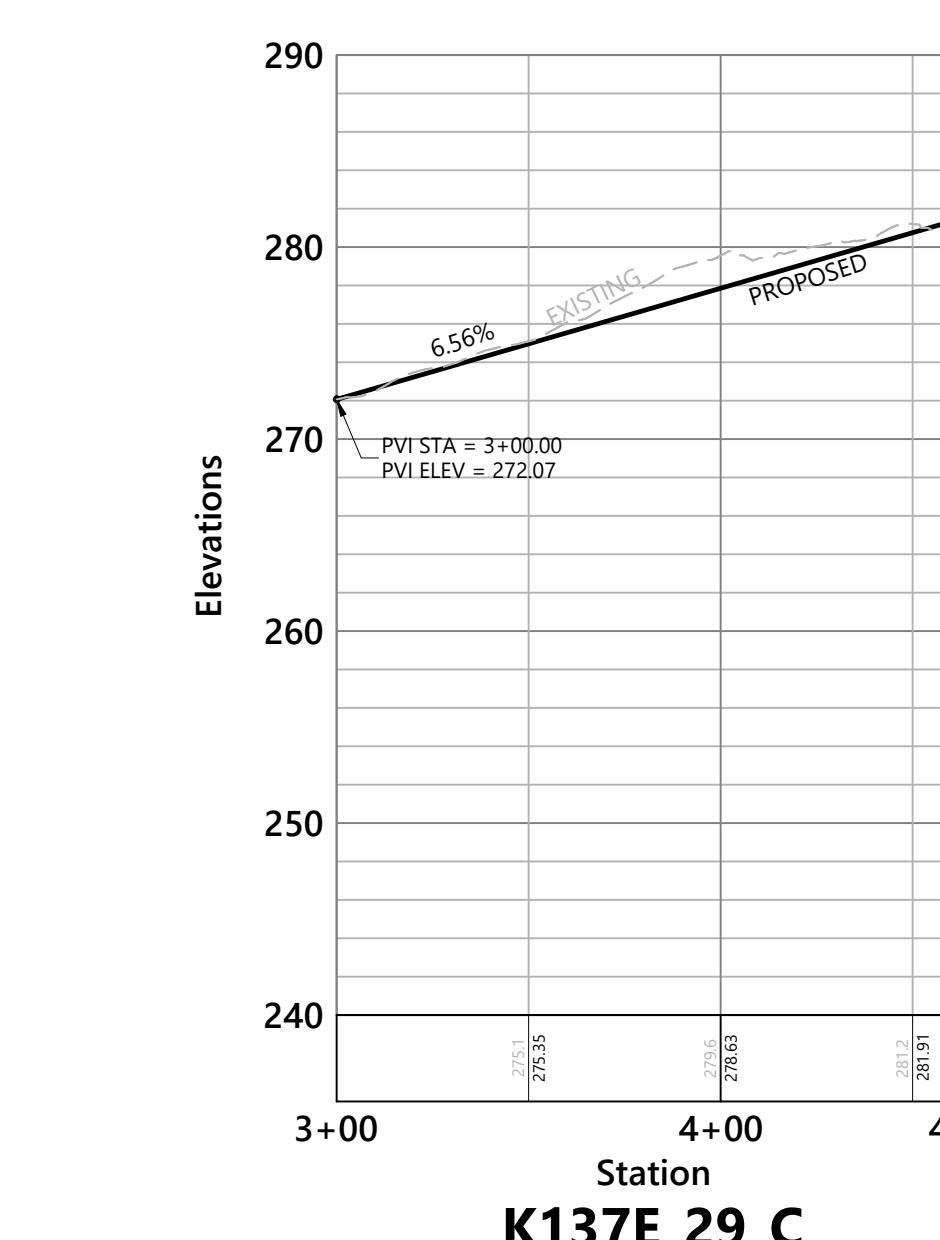


Gravel Quantities

Road Segment	Linear Feet (ft)	Depth (in)	Volume (CY)
K137E_29_C	396.0	14	205.33
K137E_30_A	100.0	14	51.85

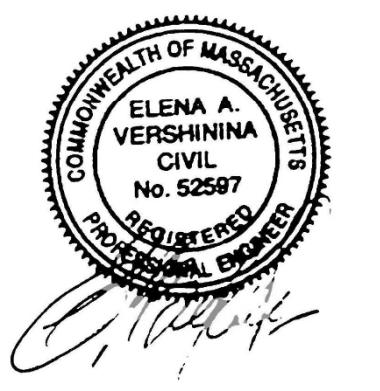
Alignment Line and Curve Data

No.	Δ (degrees)	Radius (ft)	Length (ft)	Tangent Length (ft)
C3	029°22'53"	100.00'	51.28'	26.217
C4	038°16'57"	100.00'	66.82'	34.709



K137E_29_C

Vert. 0 2.5 5 10 Feet
Horiz. 0 25 50 100 Feet

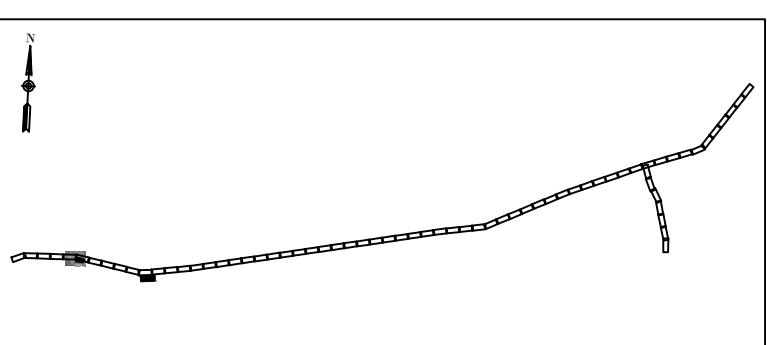


C-110
11 of 12
Project Number 73355.00



1 Cedar Street
Suite 400
Providence, RI 02903
401.272.8100

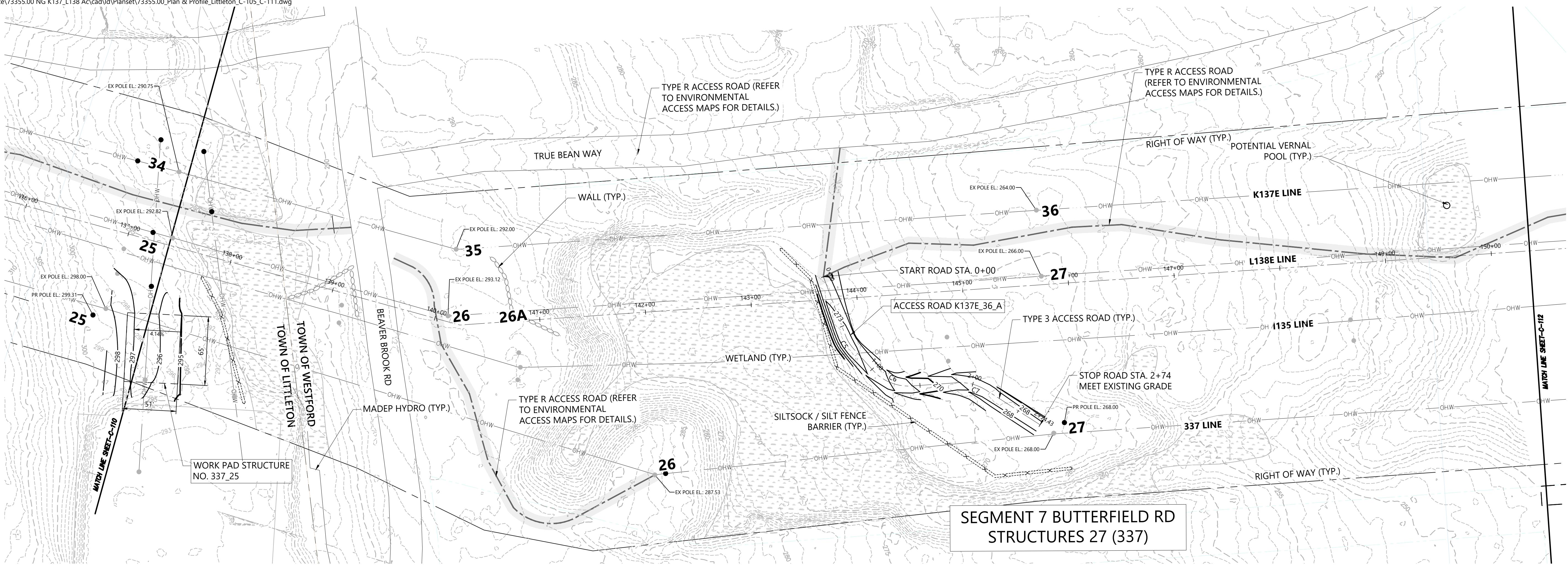
nationalgrid



KEY MAP
NOT TO SCALE

Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
—	ENGINEERED TYPE 1-3 ROAD
—	TYPE ROAD (BY OTHERS)
—	NON-TRANSMISSION ROAD
—	PROPERTY LINE
—	K137E/L138E TRANSMISSION CONDUCTOR
—	EXISTING TRANSMISSION LINE STRUCTURE
—	PROPOSED TRANSMISSION LINE STRUCTURE
—	100-YEAR FLOODPLAIN
—	200' RIVERFRONT AREA
—	ARTICLE 97
—	DELINEATED INLAND BANK
—	ESTABLISHED BANK
—	WETLAND POLYGON
—	FENCE LINE
—	EXISTING TREELINE
—	GUARDRAIL
—	MA DEP HYDROLOGIC CONNECTION
—	NHD PERENNIAL STREAM
—	NHESP PRIORITY AND ESTIMATED HABITAT
—	NHESP RESTRICTED HABITAT
—	Pipeline
—	STONEWALL



SEGMENT 7 BUTTERFIELD RD
STRUCTURES 27 (337)



0 25 50 100 Feet

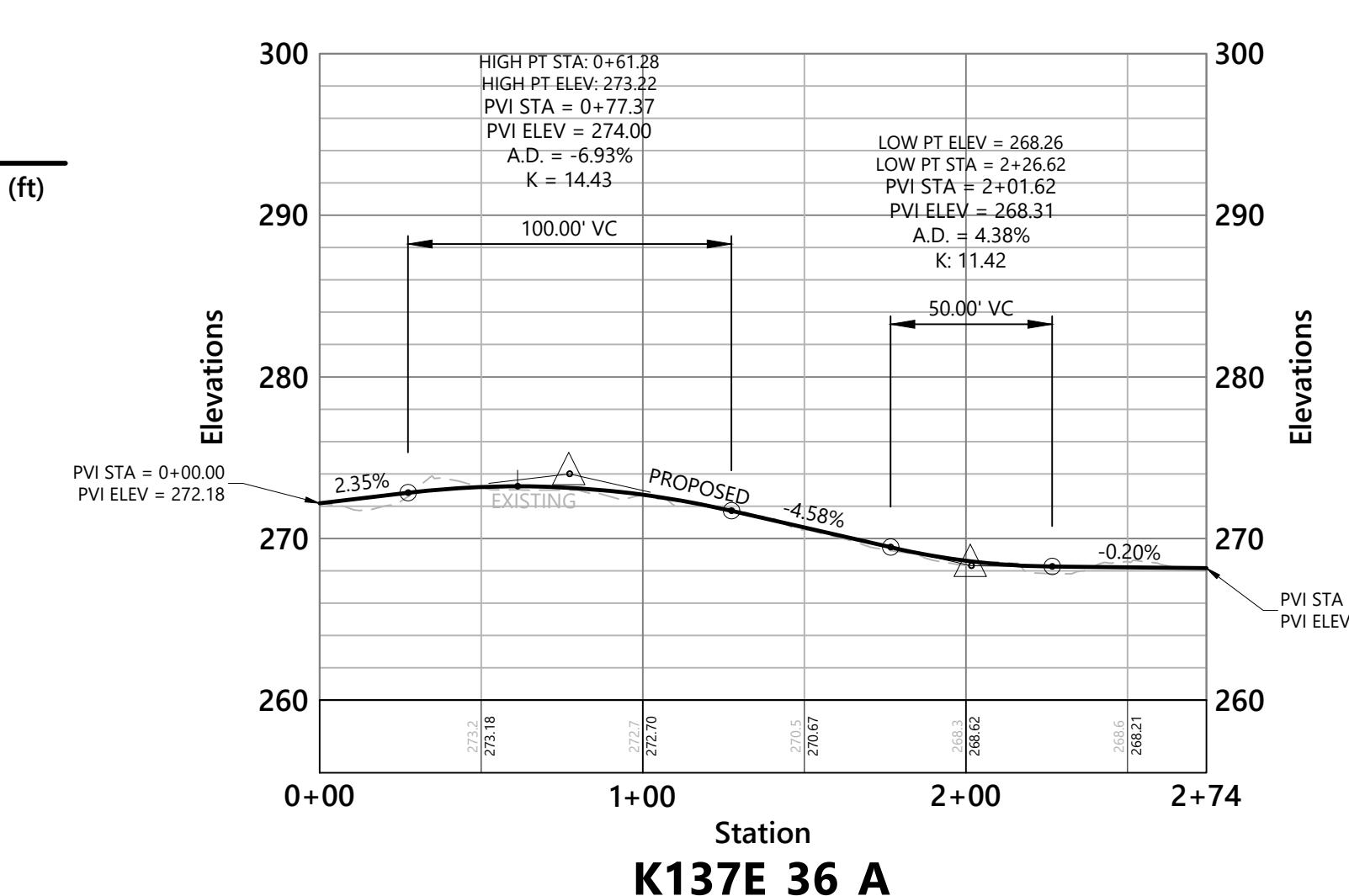
**K137E/L138E ACR and
337 Rebuild**

Gravel Quantities

Road Segment	Linear Feet (ft)	Depth (in)	Volume (CY)
K137E_36_A	274.0	12	121.78
Work Pad	Area (sf)	Depth (in)	Volume (CY)
337_25	3,305	12	122.41

Alignment Line and Curve Data

No.	Δ (degrees)	Radius (ft)	Length (ft)	Tangent Length (ft)
C5	021°27'58"	45.00'	16.86'	8.530
C6	052°07'58"	45.00'	40.95'	22.013
C7	036°54'54"	45.00'	28.99'	15.020



K137E_36_A

No.	Revision	Date	Appvd.
Designed by	OV/NS	Checked by	EV
Issued for		Date	
Permit Set			
July 15, 2025			

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Plan and Profile

Drawing Number



C-111

Vert. 0 2.5 5 10 Feet
Horiz. 0 25 50 100 Feet

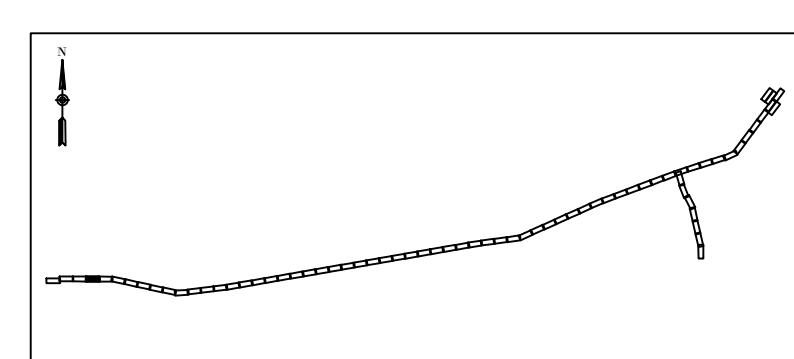
12 12

Project Number
73355.00



1 Cedar Street
Suite 400
Providence, RI 02903
401.272.8100

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Legend

- >>> NATIONAL GRID RIGHT-OF-WAY
- TYPE R ROAD (BY OTHERS)
- NO MODIFICATIONS ROAD
- PROPERTY LINE
- K137E/L138E TRANSMISSION CONDUCTOR
- EXISTING TRANSMISSION LINE STRUCTURE
- PROPOSED TRANSMISSION LINE STRUCTURE
- 100-YEAR FLOODPLAIN
- 200' RIVERFRONT AREA
- ARTICLE 97
- DELINEATED INLAND BANK
- ESTABLISHED BANK
- WETLAND POLYGON
- FENCE LINE
- EXISTING TREELINE
- GUARDRAIL
- MA DEP HYDROLOGIC CONNECTION
- NHD PERENNIAL STREAM
- NHESP PRIORITY AND ESTIMATED HABITAT
- NHESP RESTRICTED HABITAT
- Pipeline
- STONEWALL

K137E/L138E ACR and 337 Rebuild

No.	Revision	Date	Appvd.
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Designed by	OV/NS	Checked by	EV
Issued for		Date	

Permit Set

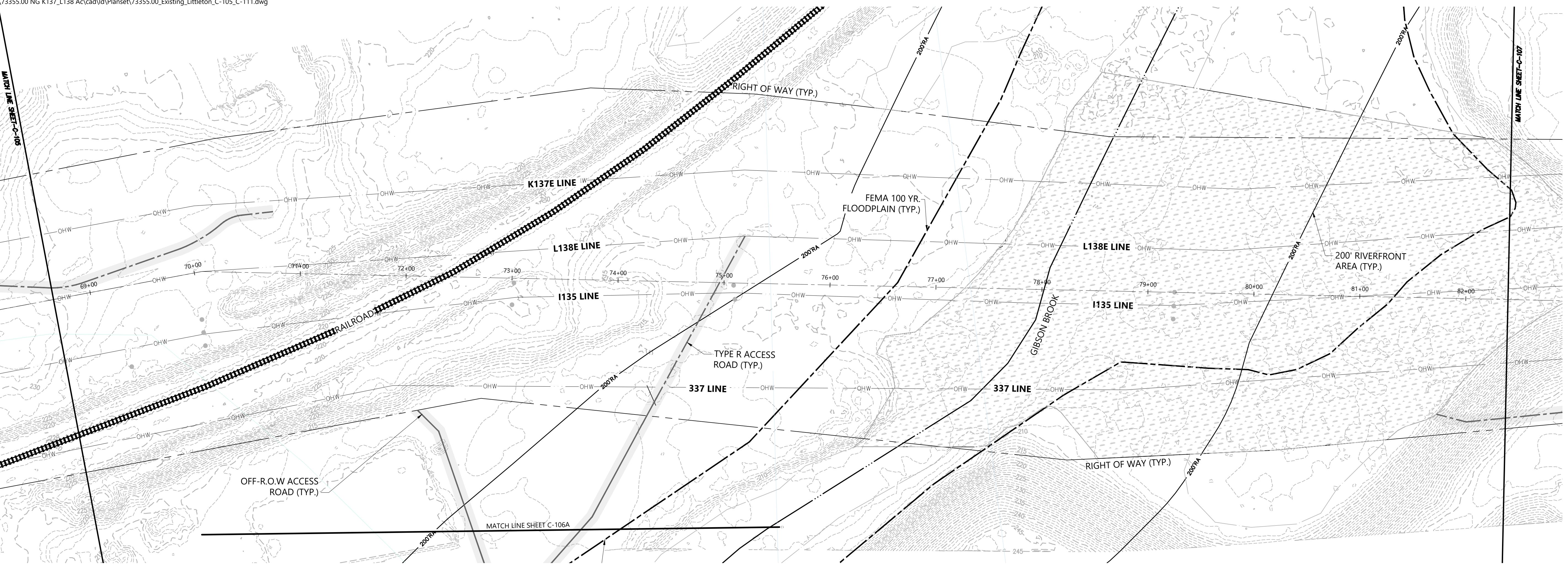
July 15, 2025

Not Approved for Construction

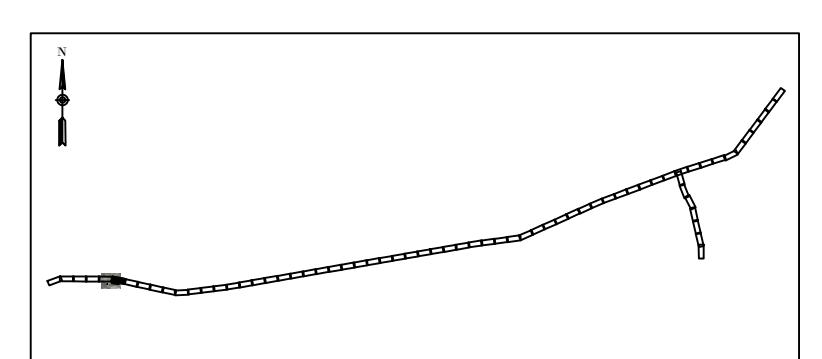
Drawing Title

Existing Conditions Plan

Sv-104



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KEY MAP
NOT TO SCALE

Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
—	ENGINEERED TYPE 1-3 ROAD
—	TYPE R ROAD (BY OTHERS)
—	NON-PUBLIC LOCATIONS ROAD
—	PROPERTY LINE
●	K137E/L138E TRANSMISSION CONDUCTOR
□	EXISTING TRANSMISSION LINE STRUCTURE
□	PROPOSED TRANSMISSION LINE STRUCTURE
—	100-YEAR FLOODPLAIN
—	200' RIVERFRONT AREA
—	ARTICLE 97
—	200' RA
—	DELINEATED INLAND BANK
—	ESTABLISHED INLAND BANK
—	WETLAND POLYGON
—	WETLAND BANK
—	FENCE LINE
—	EXISTING TREELINE
—	GUARDRAIL
—	MA DEP HYDROLOGIC CONNECTION
—	NHD PERENNIAL STREAM
—	NHESP PRIORITY AND ESTIMATED HABITAT
—	NHESP RESTRICTED HABITAT
—	Pipeline
—	STONEWALL

**K137E/L138E ACR and
337 Rebuild**

No. Revision Date Approved

Designed by OV/NS Checked by EV
Issued for Permit Set Date July 15, 2025

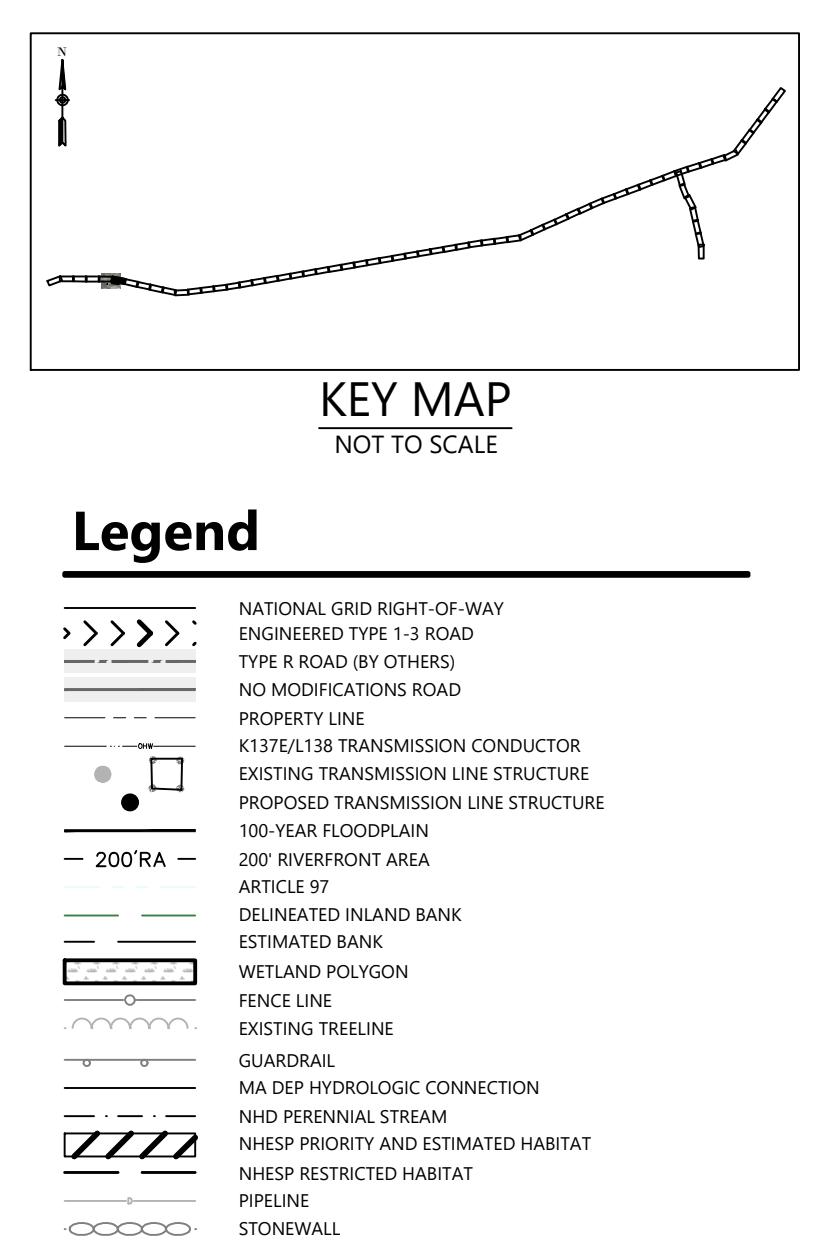
Drawing Title Existing Conditions Plan
Drawing Number

Sv-106

Sheet 2 of 8



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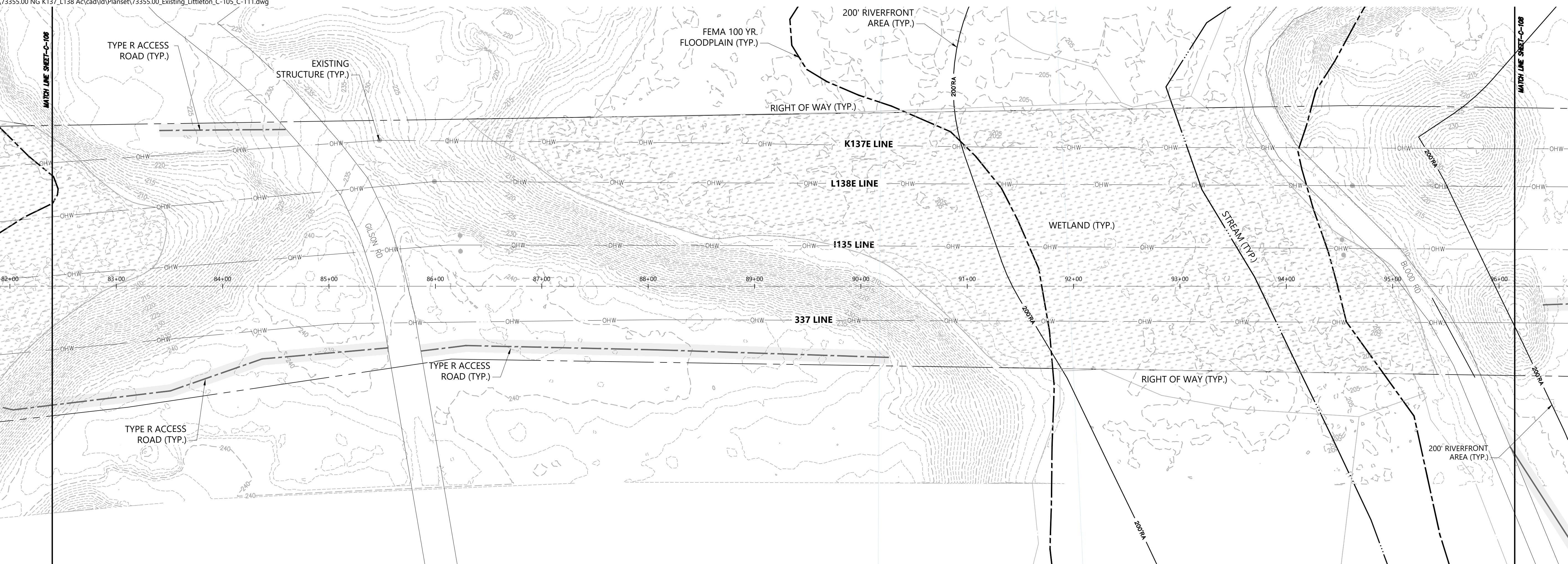
K137E/L138E ACR and 337 Rebuild

No.	Revision	Date	Appvd.

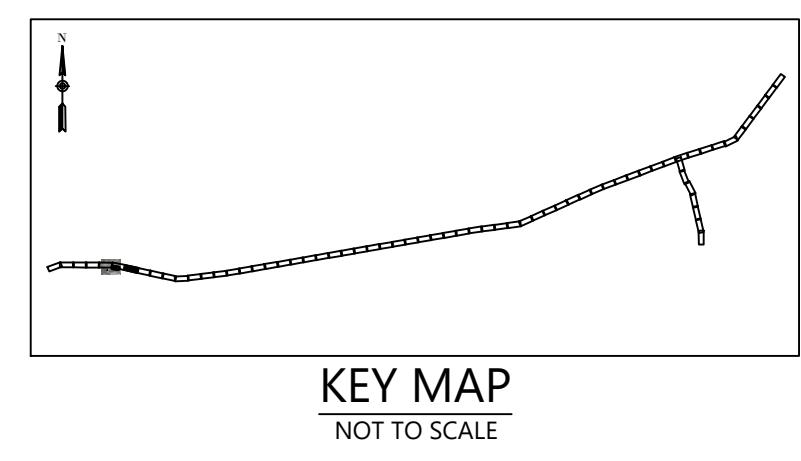
Designed by	OV/NS	Checked by	EV
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Permit Set July 15, 2025





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Legend

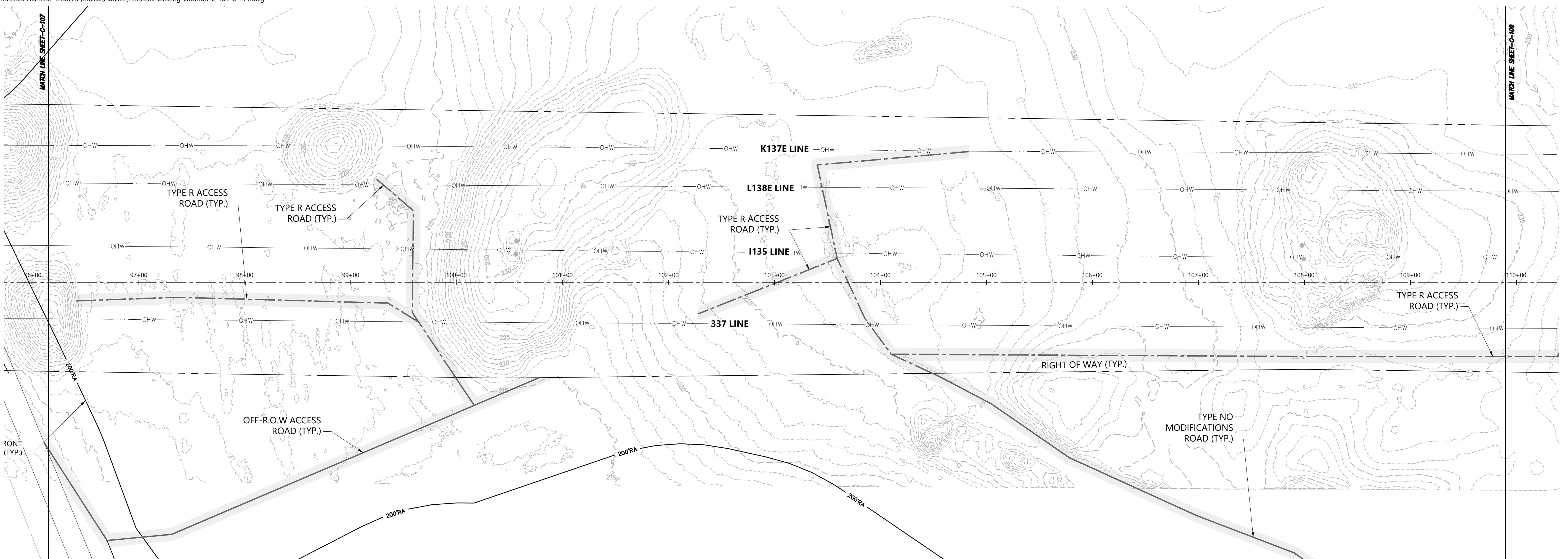
>>>	NATIONAL GRID RIGHT-OF-WAY
TYPE R ROAD (BY OTHERS)	ENGINEERED TYPE 1-3 ROAD
NO ENGINEERED ROADS	NO ENGINEERED ROADS
PROPERTY LINE	PROPERTY LINE
K137E/L138E TRANSMISSION CONDUCTOR	K137E/L138E TRANSMISSION CONDUCTOR
EXISTING TRANSMISSION LINE STRUCTURE	EXISTING TRANSMISSION LINE STRUCTURE
PROPOSED TRANSMISSION LINE STRUCTURE	PROPOSED TRANSMISSION LINE STRUCTURE
100-YEAR FLOODPLAIN	100-YEAR FLOODPLAIN
200' RIVERFRONT AREA	200' RIVERFRONT AREA
ARTICLE 97	ARTICLE 97
DELINEATED INLAND BANK	DELINEATED INLAND BANK
ESTABLISHED BANK	ESTABLISHED BANK
WETLAND POLYGON	WETLAND POLYGON
FENCE LINE	FENCE LINE
EXISTING TREELINE	EXISTING TREELINE
GUARDRAIL	GUARDRAIL
MA DEP HYDROLOGIC CONNECTION	MA DEP HYDROLOGIC CONNECTION
NHD PERENNIAL STREAM	NHD PERENNIAL STREAM
NHESP PRIORITY AND ESTIMATED HABITAT	NHESP PRIORITY AND ESTIMATED HABITAT
NHESP RESTRICTED HABITAT	NHESP RESTRICTED HABITAT
Pipeline	Pipeline
STONEWALL	STONEWALL

K137E/L138E ACR and 337 Rebuild

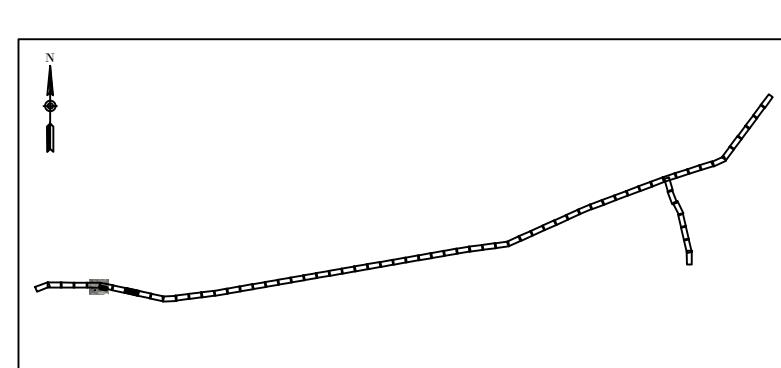
No. Revision Date Approved

Designed by OV/NS Checked by EV
Issued for Permit Set Date July 15, 2025

Drawing Title Existing Conditions Plan
Drawing Number
Sv-107



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Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
TYPE R ROAD (BY OTHERS)	ENGINEERED TYPE 1-3 ROAD
NO MODIFICATIONS ROAD	NO MODIFICATIONS ROAD
PROPERTY LINE	PROPERTY LINE
K137E/L138 TRANSMISSION CONDUCTOR	K137E/L138 TRANSMISSION CONDUCTOR
EXISTING TRANSMISSION LINE STRUCTURE	EXISTING TRANSMISSION LINE STRUCTURE
PROPOSED TRANSMISSION LINE STRUCTURE	PROPOSED TRANSMISSION LINE STRUCTURE
100-YEAR FLOODPLAIN	100-YEAR FLOODPLAIN
200' RIVERFRONT AREA	200' RIVERFRONT AREA
ARTICLE 97	ARTICLE 97
DELINEATED INLAND BANK	DELINEATED INLAND BANK
ESTABLISHED INLAND BANK	ESTABLISHED INLAND BANK
WETLAND POLYGON	WETLAND POLYGON
FENCE LINE	FENCE LINE
EXISTING TREELINE	EXISTING TREELINE
GUARDRAIL	GUARDRAIL
MA DEP HYDROLOGIC CONNECTION	MA DEP HYDROLOGIC CONNECTION
NHD PERENNIAL STREAM	NHD PERENNIAL STREAM
NHESP PRIORITY AND ESTIMATED HABITAT	NHESP PRIORITY AND ESTIMATED HABITAT
NHESP RESTRICTED HABITAT	NHESP RESTRICTED HABITAT
Pipeline	Pipeline
STONEWALL	STONEWALL

K137E/L138E ACR and 337 Rebuild

No.	Revision	Date	Appvd.

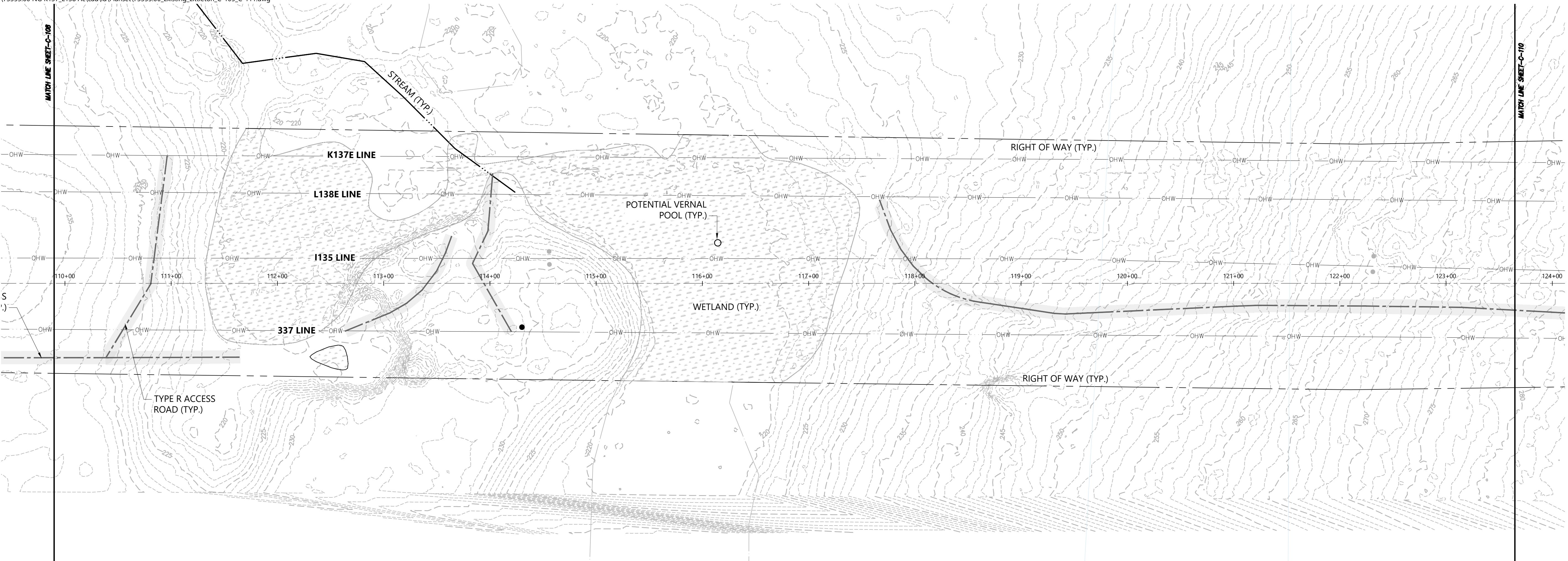
Designed by	OV/NS	Checked by	EV
Issued for		Date	

Permit Set July 15, 2025

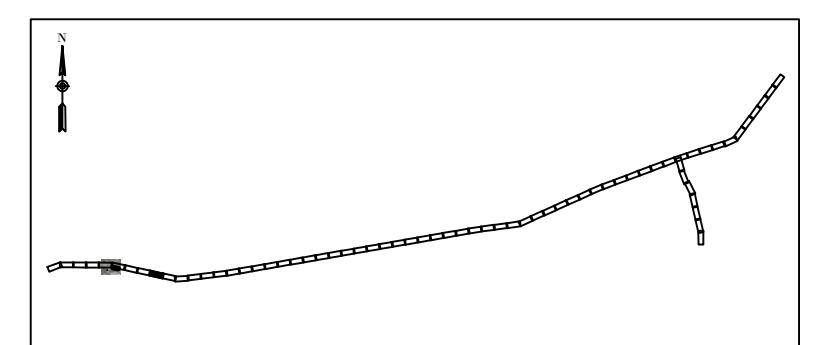
Drawing Title	
Existing Conditions Plan	
Drawing Number	

Sv-108

Sheet 5 of 8



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KEY MAP
NOT TO SCALE

Legend

>>>	NATIONAL GRID RIGHT-OF-WAY
—	ENGINEERED TYPE I-3 ROAD
—	TYPE R ROAD (BY OTHERS)
—	NON-REGULATIONS ROAD
—	PROPERTY LINE
—	K137E/L138 TRANSMISSION CONDUCTOR
—	EXISTING TRANSMISSION LINE STRUCTURE
—	PROPOSED TRANSMISSION LINE STRUCTURE
—	100-YEAR FLOODPLAIN
—	200' RIVERFRONT AREA
—	ARTICLE 97
—	200' RA
—	DELINEATED INLAND BANK
—	ESTIMATED INLAND BANK
—	WETLAND POLYGON
—	WETLAND TREELINE
—	FENCE LINE
—	EXISTING TREELINE
—	GUARDRAIL
—	MA DEP HYDROLOGIC CONNECTION
—	NHD PERENNIAL STREAM
—	NHESP PRIORITY AND ESTIMATED HABITAT
—	NHESP RESTRICTED HABITAT
—	Pipeline
—	STONEWALL

**K137E/L138E ACR and
337 Rebuild**

No. Revision Date Approved.

Designed by OV/NS Checked by EV
Issued for Permit Set Date July 15, 2025

Drawing Title Existing Conditions Plan
Drawing Number
Sheet 6 of 8

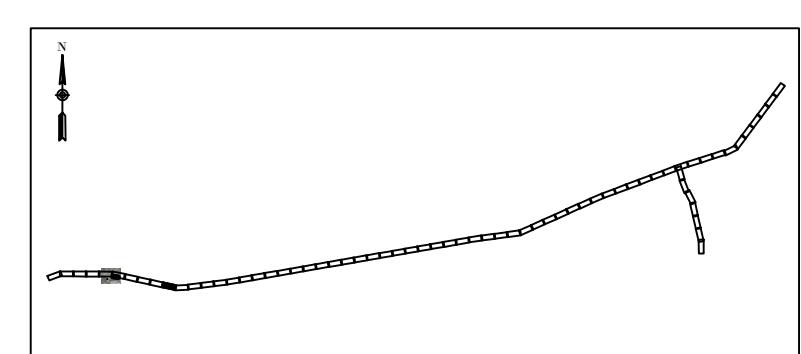
Sv-109

6 8



1 Cedar Street
Suite 400
Providence, RI 02903
401.272.8100

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KEY MAP

NOT TO SCALE

Legend

The legend consists of two columns of symbols and text. The left column contains 18 symbols, each with a short horizontal line above it, and the right column contains 18 corresponding text labels. The symbols are: 1. A series of five right-pointing chevrons. 2. A series of five horizontal lines of increasing length. 3. A series of five horizontal lines of decreasing length. 4. A horizontal line with a small circle at each end. 5. A horizontal line with a small square at each end. 6. A horizontal line with a small dash at each end. 7. A horizontal line with a small dot at each end. 8. A circle with a dot inside. 9. A square with a dot inside. 10. A horizontal line with a circle in the middle. 11. A horizontal line with a square in the middle. 12. A horizontal line with a dash in the middle. 13. A horizontal line with a dot in the middle. 14. A horizontal line with a wavy line above it. 15. A horizontal line with a wavy line below it. 16. A horizontal line with a dashed wavy line above it. 17. A horizontal line with a dashed wavy line below it. 18. A horizontal line with a dashed wavy line in the middle. The text labels are: 1. NATIONAL GRID RIGHT-OF-WAY 2. ENGINEERED TYPE 1-3 ROAD 3. TYPE R ROAD (BY OTHERS) 4. NO MODIFICATIONS ROAD 5. PROPERTY LINE 6. K137E/L138 TRANSMISSION CONDUCTOR 7. EXISTING TRANSMISSION LINE STRUCTURE 8. PROPOSED TRANSMISSION LINE STRUCTURE 9. 100-YEAR FLOODPLAIN 10. 200' RIVERFRONT AREA 11. ARTICLE 97 12. DELINEATED INLAND BANK 13. ESTIMATED BANK 14. WETLAND POLYGON 15. FENCE LINE 16. EXISTING TREELINE 17. GUARDRAIL 18. MA DEP HYDROLOGIC CONNECTION 19. NHD PERENNIAL STREAM 20. NHESP PRIORITY AND ESTIMATED HABITAT 21. NHESP RESTRICTED HABITAT 22. PIPELINE 23. STONEWALL

K137E/L138E ACR and 337 Rebuild

Drawing Title

Existing Conditions Plan

Drawing Number

2 112

Sheet _____ of _____

Project Number

