Benjamin C. Dunlap Jr.
Partner

COHEN SEGLIAS
PALLAS GREENHALL & FURMAN PC

240 North Third Street
7th Floor
Harrisburg, PA 17101
T: 717.234.5530 | D: (717) 480-5303
bdunlap@cohenseglias.com
www.cohenseglias.com

October 16, 2025

VIA ELECTRONIC FILING

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

Re: ***Application of Norfolk Southern Railway Company for approval of the alteration of the crossing where Stockton Mountain Road crosses at-grade Crossing No. 361 508 X a single track of Norfolk Southern Railway Company in Hazle Township, Luzerne County, Pennsylvania*** **Docket No. A-2025-**

Dear Secretary Homsher,

Enclosed please find the Application of Norfolk Southern Railway Company for filing in the above-referenced matter. A copy has been served upon all interested parties of record. Thank you.

Sincerely yours,

Benjamin C. Dunlap, Jr.

BCD:ino
Enclosures
cc: All parties of record

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Norfolk Southern Railway	**:**	**A-2025-**
Company for approval of the alteration of	**:**	
the crossing where Stockton Mountain Road	**:**	
crosses at-grade Crossing No. 361 508 X a	**:**	**Electronically Filed**
single track of Norfolk Southern Railway	**:**	
Company in Hazle Township, Luzerne	**:**	
County, Pennsylvania	**:**	

APPLICATION

Norfolk Southern Railway Company ("Norfolk Southern"), by and through its attorneys, COHEN SEGLIAS PALLAS GREENHALL & FURMAN PC, hereby files this Application to alter the crossing where Stockton Mountain Road crosses at-grade Crossing No. 361 508 X a single track of Norfolk Southern in Hazle Township, Luzerne County, Pennsylvania, pursuant to 66 Pa.C.S. § 2702 and 52 Pa. Code § 5.13, based upon the following:

1. The name and address of Applicant is Norfolk Southern Railway Company, Harold Penn, Manager Highway Crossing Engineer, having an address of 650 West Peachtree Street NW, Atlanta, GA, 30308.

2. The name and address of the attorney for Applicant is Benjamin C. Dunlap, Jr., Esquire, Cohen Seglias Pallas Greenhall & Furman PC, 240 North Third Street, 7th Floor, Harrisburg, PA 17101.

3. The Applicant is a Virginia corporation authorized to transact business in the Commonwealth of Pennsylvania. The Applicant is a freight railroad engaged in the business of the transportation of property and makes this application pursuant to 66 Pa.C.S. § 2702.

4. Norfolk Southern proposes to re-route a portion of its mainline track by cutting the existing rail into track panels and relocating them approximately 600 feet south of the current location crossing Stockton Mountain Road. This work will involve removing and replacing the present crossing with a new at-grade timber-and-asphalt crossing on Stockton Mountain Road, relocating the signal equipment and warning devices, and constructing a new access road.

5. The work area is located at Railroad Milepost JW-143.07 on the Keystone Division of Norfolk Southern's Hazleton RT Subdivision, along the southern border of the American Anthracite (formerly Atlantic Carbon Group) Stockton Mine ("Stockton Mine"). Maps indicating the location of the work are attached hereto as Exhibit "A".

6. The purpose of the project is to protect Norfolk Southern and its customers from any potential issues/impact from the future mining activities at Stockton Mine. The proactive relocation of the rail line will help to ensure that Norfolk Southern's rail operations and facilities in the area are not impacted by further development of the Stockton Mine.

7. A detailed description of all work to be performed is outlined in the Circuitry and 100% Plans attached hereto as Exhibit "B".

8. Norfolk Southern proposes to commence the construction described herein May 1, 2026, and anticipates that the project will be completed by July 31, 2026.

9. All work indicated in Paragraph 4 will be performed at the initial cost and expense of Norfolk Southern. The total costs for the material and construction work will be reimbursed to Norfolk Southern, in accordance with the Reimbursement Agreement between Norfolk Southern and American Anthracite's predecessor.

10. A list of all concerned municipal and governmental entities as well as public utilities which are or may be concerned by the project is attached hereto as Exhibit "C".

WHEREFORE, Norfolk Southern Railway Company respectfully requests that the Commission approve its Application, 100% Plans and Circuitry Plans to relocate one at-grade crossing located at Stockton Mountain Road, at DOT Crossing No. 361 508 X, in Hazle Township, Luzerne County, Pennsylvania.

Respectfully submitted,

COHEN SEGLIAS PALLAS GREENHALL & FURMAN PC

By: _____

Benjamin C. Dunlap, Jr., Esquire
Supreme Court I.D. No. 66283
240 North 3rd Street, 7th Floor
Harrisburg, PA 17101
Telephone: (717) 480-5303
Counsel for Norfolk Southern Railway Company

Date: October 16, 2025

VERIFICATION

I, Harold Penn, Manager Highway Crossing Engineer for Norfolk Southern Railway Company, do state that I am authorized to make this statement on behalf of Norfolk Southern Railway Company and verify that I have read the attached Application and that the within information is true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of 18 Pa.C.S. § 4904, relating to unsworn falsification to authorities.

Harold Penn,
Manager Highway Grade Crossing Engineering
Norfolk Southern Railway Company

Date: October 16, 2025

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Norfolk Southern Railway Company for approval of the alteration of the crossing where Stockton Mountain Road crosses at-grade Crossing No. 361 508 X a single track of Norfolk Southern Railway Company in Hazle Township, Luzerne County, Pennsylvania	**:**	**A-2025-**
	:	
	:	
	:	**Electronically Filed**
	:	
	:	
	:	
	:	

CERTIFICATE OF SERVICE

I hereby certify that I served a copy of the foregoing Application in the above-captioned action this day via electronic mail addressed to the following:

Karen Cummings, Esquire
Pennsylvania Department of Transportation
P.O. Box 8212
Harrisburg, PA 17105-8212
kcummings@pa.gov

William Sinick, Esquire
PA Public Utility Commission
Bureau of Investigation & Enforcement
400 North Street, 3rd Floor
Harrisburg, PA 17120
wilsinick@pa.gov

Mark Chappell, P.E., Chief
Bureau of Design Row & Utility Division
PennDOT
PO Box 3362
Harrisburg, PA 17105-3362
marchappel@pa.gov

Richard Roman, P.E.
PennDOT District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512
riroman@pa.gov

Luzerne County Solicitor
Harry W. Skene, Esquire
200 Old Train Station Road
Office of Law
Wilkes-Barre, PA 18702
Harry.Skene@LuzerneCounty.org

Hazleton City Authority Water Dept.
Attn.: Stefan Scalleat
400 East Arthur Gardner Pkwy.
Hazleton, PA 18201
Stefans@hcwater.org

Hazle Township Solicitor
Christopher B. Slusser, Esquire
Slusser Law Firm
1620 N Church St, Suite 1
Hazle Township, PA 18202
slusser@lawyer.com

Hazle Township Municipal Authority
Attn.: Joseph Smith
79 Harleigh Blvd.
PO Box 502
Harleigh, PA 18225
joesmithmaht@ptd.net

Hazle Township
Attn.: Joe Synoski
101 W 27th Street
Hazle Township, PA 18202
joesynoski@gmail.com

PPL Electric Utilities Corporation
Attn.: Doug Haupt
437 Blue Church Road
Paxinos, PA 17860
dlhaupt@pplweb.com

Service Electric Cablevision Inc.
Attn.: Robert Trently
380 Maplewood Drive
PO Box R
Hazle Twp., PA 18202
robert.trently@secv.com

American Anthracite,
formerly Atlantic Carbon Group
Attn.: Justin Emershaw
100 Hazlebrook Road
PO Box 39
Hazleton, PA 18201
jemershaw@americanantracite.com

/s/Ijeoma Okereke
Ijeoma Okereke, Paralegal to
Benjamin C. Dunlap, Jr., Esquire

Date: October 16, 2025

EXHIBIT “A”


Stockton Mountain Rd
Shaft Rd
Shaft Rd
Stockton Mountain Rd


Hazlebrook Rd
Stockton Rd
Hazlebrook Rd
T319
Atlantic Carbon Group
E Diamond Ave
Atlantic Carbon
Group: Stockton Mine
Stockton Mountain Rd
Atlantic Carbon
Group: Hazleton Shaft
CJ Home Improvement
& Remodeling
Club 40 Rd
Club 40 Rd
Club 40 Rd
Google Maps

EXHIBIT “B”

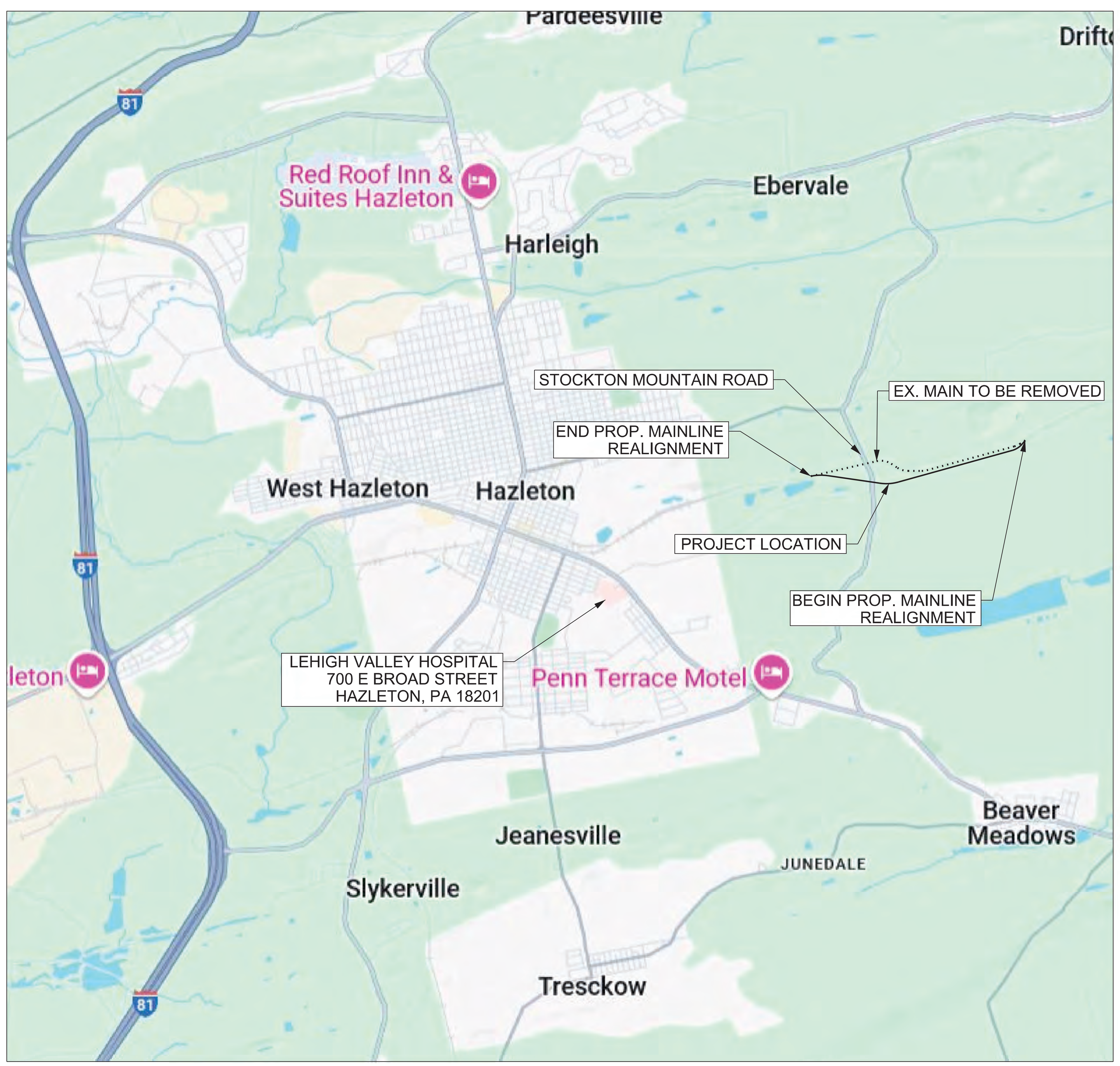
NORFOLK SOUTHERN

®

100% PLANS - FOR REVIEW

HAZLETON, PENNSYLVANIA
MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP MINING EXPANSION

CONSTRUCTION SITE LOCATION MAP



NOTES:

–THE WORK FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION DATED JULY 2025 AND ANY SPECIAL PROVISIONS PROVIDED HEREIN.

–NS WILL FURNISH A FLAGMAN AT NO COST TO THE CONTRACTOR. THE CONTRACTOR WILL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE NS FLAGMAN.

–THE CONTRACTOR SHALL SUBMIT TO NS A PROPOSED CONSTRUCTION SCHEDULE PRIOR TO BEGINNING WORK.

–THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT NS DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS WITH THE UTILITY COMPANIES NOT LESS THAN 48 HOURS BEFORE STARTING EXCAVATION ACTIVITIES.

–ALL CONSTRUCTION WORK WILL BE PERFORMED IN SUCH A MANNER AS TO CONTROL EROSION AND PREVENT SEDIMENTATION FROM LEAVING THE SITE. EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND–DISTURBING ACTIVITIES.

–RAILROAD RIGHT OF WAY LINES, IF SHOWN, WERE OBTAINED FROM VALUATION MAPS. ALL RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATION PURPOSES ONLY AS THEY HAVE NOT BEEN VERIFIED IN THE FIELD.

–NSR WILL PROVIDE THE INITIAL CONSTRUCTION STAKING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE STAKES AND WILL BE RESPONSIBLE FOR ANY SUBSEQUENT STAKING AFTER THE INITIAL STAKEOUT.

–NSR WILL OBTAIN THE LAND DISTURBING PERMITS FROM THE APPROPRIATE AGENCIES.

–ON SITE AND GENERATED CONSTRUCTION DEBRIS IS TO BE DISPOSED OF AS NON–REGULATED SOLID WASTE IN COMPLIANCE WITHIN LOCAL REGULATIONS. IF SUSPECTED ENVIRONMENTAL PROBLEMS ARE ENCOUNTERED, CONTACT THE NS ENVIRONMENTAL PROTECTION DEPARTMENT TO ASSIST IN THEIR PROPER HANDLING AND REMOVAL.

–THE CONTRACTOR'S BID PRICE FOR CROSS TIE REMOVAL, IF REQUIRED, SHALL INCLUDE TRANSPORTATION AND LEGAL DISPOSAL.

–RIGHT OF WAY AND EASEMENTS SHOWN ARE BASED OFF OF VALMAPS DATED 1917 AND THE LATEST LUZERNE COUNTY PARCEL DATA.

–PROPOSED MAINLINE STATIONING WAS ASSUMED AT STA. 239+27 AT MILEPOST 142 (SURVEYED). PHYSICAL FEATURES AND VALMAP STATIONING WERE UNAVAILABLE FOR THIS PROJECT.

TABLE OF CONTENTS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY CROUCH ENGINEER NO. 051803-E

R	By	Date	Revision Description

NORFOLK SOUTHERN ® | NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

TITLE SHEET

Drawing Number: TD-2025-49

Sheet Number: 1/81

Printed: $DATES $TIMES

HAZELTON, PA - MAINLINE RELOCATION
FOR ATLANTIC CARBON GROUP
SURVEY CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	DESC.
1	293904.7711	2467035.0318	1546.58	CPIPSCAP
2	293973.1438	2467531.3098	1541.62	CPIPSCAP
3	294007.7461	2467858.5477	1538.39	CPIPSCAP
4	294099.3379	2468346.7829	1537.47	CPIPSCAP
5	294241.3904	2468826.2556	1539.75	CPIPSCAP
6	294385.8731	2469306.7635	1539.69	CPIPSCAP
7	294546.4797	2469883.9297	1535.93	CPIPSCAP
8	294669.6246	2470290.8649	1536.16	CPPK
9	294672.1389	2470889.1127	1534.72	CPIPSCAP
10	294455.0546	2471342.4950	1537.34	CPIPSCAP
11	294328.1473	2471828.0553	1540.69	CPIPSCAP
12	294428.0380	2472319.2018	1542.59	CPIPSCAP
13	294560.0639	2472803.2303	1541.10	CPIPSCAP
14	294707.6914	2473282.2054	1539.20	CPIPSCAP
15	294852.8978	2473761.8388	1537.30	CPIPSCAP
16	294985.5020	2474247.0994	1536.07	CPIPSCAP
17	295102.3710	2474733.9778	1535.19	CPIPSCAP
18	295234.8435	2475217.5378	1533.94	CPIPSCAP
19	295499.4271	2475559.7976	1532.93	CPIPSCAP
20	295761.2164	2475920.7344	1532.86	CPIPSCAP
21	295638.6314	2475685.7181	1532.75	CPNAIL
22	294072.1153	2470483.5780	1570.05	CPIPSCAP

ABBREVIATIONS

ACG	ATLANTIC CARBON GROUP
APPROX.	APPROXIMATE
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BCCMP	BITUMINOUS COATED CORRUGATED METAL PIPE
CF	CUBIC FOOT
CFS	CUBIC FEET PER SECOND
C	CENTERLINE
CH	CHAPTER
CPIPSCAP	CONTROL POINT IRON PIN SET W/ RED CAP
CR	COUNTY ROAD
CS / PCS	POINT OF CURVE TO SPIRAL
CWR	CONTINUOUSLY WELDED RAIL
CY	CUBIC YARD
D	DIAMETER
Dc	DEGREE OF CURVATURE
EA	EACH
ELEV	ELEVATION
EX	EXISTING
EXT	EXTENSION
FT	FOOT
IE	INVERT ELEVATION
IN	INCH
L	LENGTH
LB	POUND
LF	LINEAR FOOT
LHTO	LEFT HAND TURNOUT
LS	LUMP SUM
LT	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
ML	MAINLINE
MPH	MILES PER HOUR
NAD	NORTH AMERICA DATUM
NO.	NUMBER
NAVD	NORTH AMERICA VERTICAL DATUM
PC	POINT OF CURVATURE
P.E.	PROFESSIONAL ENGINEER
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PROP.	PROPOSED
PS	POINT OF SWITCH
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
RBM	RAIL BOUND MANGANESE
RCP	REINFORCED CONCRETE PIPE
RE	REVISED
RHTO	RIGHT HAND TURNOUT
RR	RAILROAD
RT	RIGHT
ROW	RIGHT OF WAY
SC / PSC	POINT OF SPIRAL TO CURVE
ST / PST	POINT OF SPIRAL TO TANGENT
STA.	STATION
STD.	STANDARD
SY	SQUARE YARD
T	TANGENT
TF	TRACK FOOT
T/R	TOP OF RAIL
TS / PTS	POINT OF TANGENT TO SPIRAL
TYP.	TYPICAL
US	UNITED STATES
V	VELOCITY
VC	VERTICAL CURVE
W/	WITH

HAZELTON, PA - MAINLINE RELOCATION
FOR ATLANTIC CARBON GROUP
STAKING TABLE

STATION		NORTHING	EASTING	ELEVATION
239+44.09	TIE IN	295435.7896	2475507.7180	1534.98
240+00.00		295396.3215	2475468.1174	1535.02
240+51.59	PTS	295359.9018	2475431.5755	1535.06
241+00.00		295325.9188	2475397.1015	1535.10
241+13.59	PSC	295316.5338	2475387.2701	1535.11
241+50.00	PVC	295291.9561	2475360.3958	1535.14
242+00.00		295259.6195	2475322.2444	1535.23
242+50.00		295228.9779	2475282.7187	1535.42
243+00.00		295200.0894	2475241.8941	1535.71
243+50.00		295173.0093	2475199.8482	1536.10
244+00.00		295147.7889	2475156.6611	1536.60
244+50.00	PVT	295124.4763	2475112.4151	1537.20
245+00.00		295103.1159	2475067.1942	1537.85
245+50.00		295083.7484	2475021.0847	1538.50
246+00.00		295066.4105	2474974.1743	1539.15
246+28.06	PCS	295057.5807	2474947.5262	1539.52
246+50.00		295051.1136	2474926.5661	1539.80
246+90.06	PST	295039.8709	2474888.1115	1540.32
247+00.00		295037.1188	2474878.5649	1540.45
248+00.00		295009.4186	2474782.4779	1541.75
249+00.00		294981.7185	2474686.3910	1543.05
250+00.00		294954.0183	2474590.3040	1544.35
251+00.00		294926.3182	2474494.2171	1545.65
252+00.00		294898.6180	2474398.1301	1546.95
253+00.00		294870.9179	2474302.0432	1548.25
254+00.00		294843.2177	2474205.9562	1549.55
255+00.00		294815.5176	2474109.8693	1550.85
256+00.00		294787.8174	2474013.7823	1552.15
257+00.00		294760.1173	2473917.6954	1553.45
258+00.00		294732.4171	2473821.6084	1554.75
259+00.00		294704.7170	2473725.5215	1556.05
260+00.00		294677.0168	2473629.4345	1557.35
261+00.00		294649.3167	2473533.3476	1558.65
262+00.00		294621.6165	2473437.2606	1559.95
263+00.00		294593.9164	2473341.1737	1561.25
264+00.00		294566.2162	2473245.0867	1562.55
265+00.00		294538.5161	2473148.9998	1563.85
266+00.00		294510.8159	2473052.9128	1565.15
267+00.00		294483.1158	2472956.8259	1566.45
268+00.00		294455.4156	2472860.7390	1567.75
269+00.00		294427.7155	2472764.6520	1569.05
270+00.00		294400.0153	2472668.5651	1570.35
271+00.00		294372.3152	2472572.4781	1571.65
272+00.00		294344.6150	2472476.3912	1572.95
273+00.00		294316.9149	2472380.3042	1574.25
274+00.00		294289.2147	2472284.2173	1575.55
275+00.00		294261.5146	2472188.1303	1576.85
276+00.00		294233.8144	2472092.0434	1578.15
277+00.00		294206.1143	2471995.9564	1579.45
278+00.00		294178.4141	2471899.8695	1580.75
279+00.00		294150.7140	2471803.7825	1582.05
279+55.69	PVC	294135.2876	2471750.2712	1582.77
279+84.43	PTS	294127.3279	2471722.6602	1583.13
280+00.00		294123.0224	2471707.6932	1583.30
280+46.43	PSC	294110.6921	2471662.9359	1583.76
280+50.00		294109.8004	2471659.4736	1583.79
281+00.00		294098.4625	2471610.7639	1584.16
281+50.00		294089.2600	2471561.6059	1584.41
282+00.00		294082.2106	2471512.0933	1584.54
282+50.00		294077.3276	2471462.3204	1584.55
282+65.45	PCS	294076.2584	2471446.9016	1584.53
283+00.00		294074.5240	2471412.3969	1584.44
283+27.45	PST	294073.5026	2471384.9649	1584.34
284+00.00		294070.9314	2471312.4615	1583.88

HAZELTON, PA - MAINLINE RELOCATION
FOR ATLANTIC CARBON GROUP
STAKING TABLE - CONTINUED

STATION		NORTHING	EASTING	ELEVATION
285+00.00		294067.3873	2471212.5243	1582.84
285+55.69	PVT	294065.4136	2471156.8688	1582.05
286+00.00		294063.8432	2471112.5871	1581.37
287+00.00		294060.2991	2471012.6499	1579.83
288+00.00		294056.7549	2470912.7128	1578.29
289+00.00		294053.2108	2470812.7756	1576.75
290+00.00		294049.6667	2470712.8384	1575.21
291+00.00		294046.1226	2470612.9012	1573.66
292+00.00		294042.5784	2470512.9641	1572.12
293+00.00		294039.0343	2470413.0269	1570.58
294+00.00		294035.4902	2470313.0897	1569.04
295+00.00		294031.9461	2470213.1525	1567.50
296+00.00		294028.4019	2470113.2154	1565.96
297+00.00		294024.8578	2470013.2782	1564.42
298+00.00		294021.3137	2469913.3410	1562.88
299+00.00		294017.7696	2469813.4038	1561.34
300+00.00		294014.2255	2469713.4666	1559.80
301+00.00		294010.6813	2469613.5295	1558.25
301+42.40	PTS	294009.1788	2469571.1601	1557.60
301+50.00		294008.9106	2469563.5608	1557.48
302+00.00		294007.7196	2469513.5769	1556.71
302+04.40	PSC	294007.7076	2469509.1809	1556.65
302+50.00		294008.8740	2469463.5725	1555.94
303+00.00		294012.8613	2469413.7116	1555.17
303+50.00		294019.6689	2469364.1569	1554.40
304+00.00		294029.2750	2469315.0678	1553.63
304+50.00		294041.6486	2469266.6023	1552.86
304+61.68	PCS	294044.9343	2469255.3857	1552.68
305+00.00		294056.5805	2469218.8817	1552.09
305+23.68	PST	294064.1428	2469196.4399	1551.73
306+00.00		294088.6371	2469124.1591	1550.55
306+76.80	PTS	294113.2855	2469051.4235	1549.37
307+00.00		294120.6959	2469029.4373	1549.01
307+38.80	PSC	294132.4940	2468992.4777	1548.41
307+50.00		294135.6475	2468981.7231	1548.24
308+00.00		294148.0475	2468933.2643	1547.47
308+50.00		294157.6804	2468884.1805	1546.70
309+00.00		294164.5150	2468834.6295	1545.93
309+50.00		294168.5295	2468784.7708	1545.16
310+00.00		294169.7108	2468734.7646	1544.39
310+50.00		294168.0553	2468684.7719	1543.62
311+00.00		294163.5682	2468634.9534	1542.85
311+43.02	PVC	294157.4521	2468592.3514	1542.18
311+50.00		294156.2640	2468585.4695	1542.08
312+00.00		294146.1662	2468536.4792	1541.37
312+19.10	PCS	294141.5783	2468517.9300	1541.13
312+50.00		294133.3984	2468488.1315	1540.77
312+81.10	PST	294124.6399	2468458.2922	1540.44
313+00.00		294119.2676	2468440.1700	1540.26
314+00.00		294090.9727	2468344.2566	1539.56
314+43.02	PVT - TIE IN	294079.0987	2468302.9105	1539.38

LEGEND

- C/L EXISTING TRACK
- C/L EXISTING TRACK TO BE LINED
- C/L EXISTING TRACK TO BE REMOVED
- C/L PROPOSED TRACK
- EXISTING RAILROAD RIGHT-OF-WAY
- SURVEY CONTROL POINT
- PROPOSED LIMITS OF GRADING
- LOD — PROPOSED LIMITS OF DISTURBANCE
- PL PL PL — EXISTING PROPERTY LINE
- W W — EXISTING WATER LINE
- EXISTING CULVERT
- PROPOSED CULVERT
- SA SA — EXISTING SEWER LINE
- P P — EX. OH ELECTRIC LINE / POWER POLE
- X X — EXISTING FENCE
- x x — PROPOSED FENCE
- PROPOSED ACCESS ROAD

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 051003-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

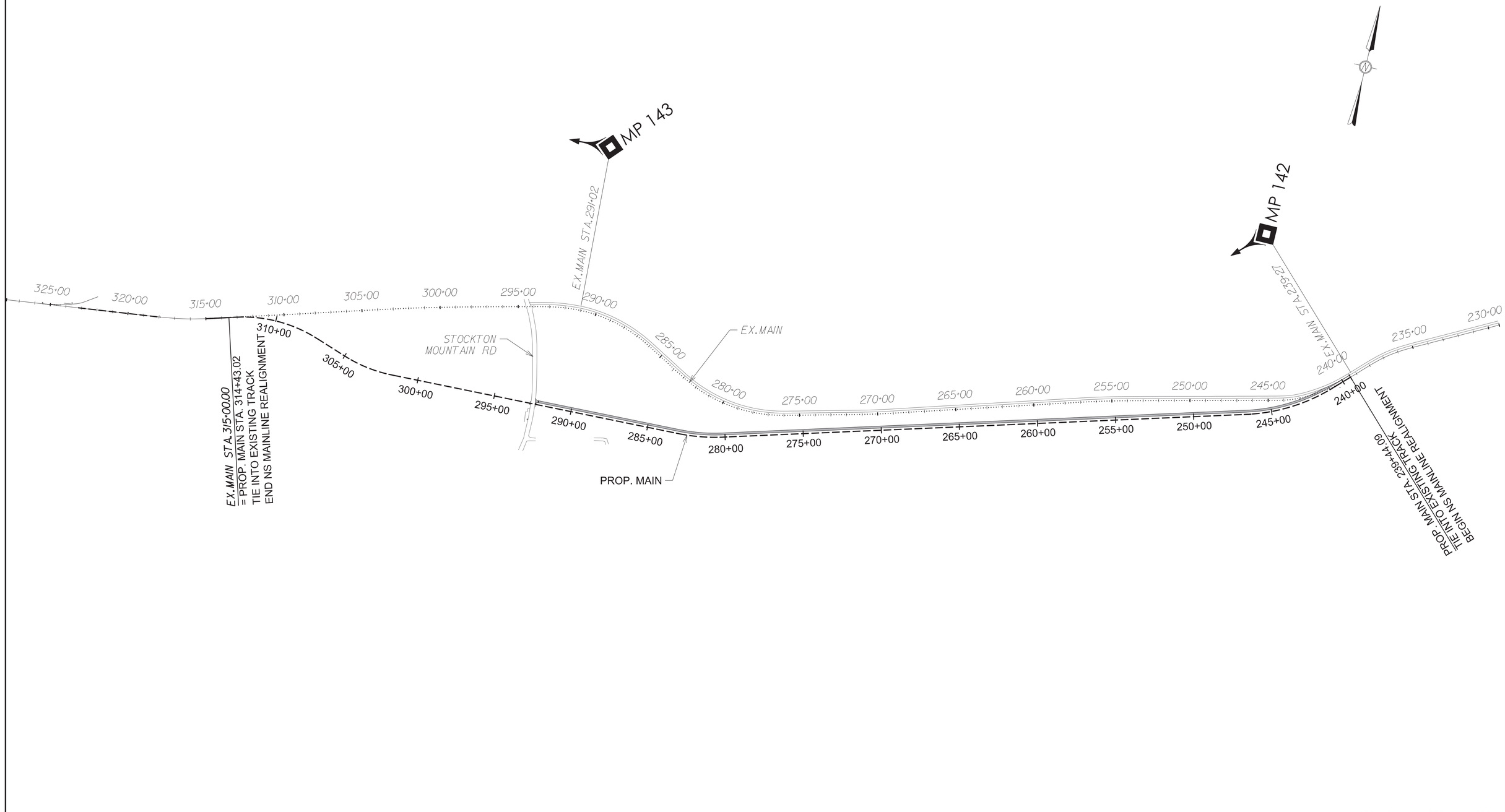
Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
PROJECT CONTROL POINTS AND STAKING TABLES

Drawing Number: TD-2025-49

Sheet Number: 2/81

Printed: $DATE$ $TIME$



H-Scale: 1"=300' 150 0 300 600

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY
Drawing Date:	08/04/25
Designed By:	SAS
Drawn By: SAS	Checked By: ESN
Operating Division:	KEYSTONE
Milepost:	JW 143
County:	LUZERNE
PID Number:	D3508
File Number:	TRK1115611
VRN:	0514004
City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP PROJECT OVERVIEW
Drawing Number:	TD-2025-49
Sheet Number:	3/81

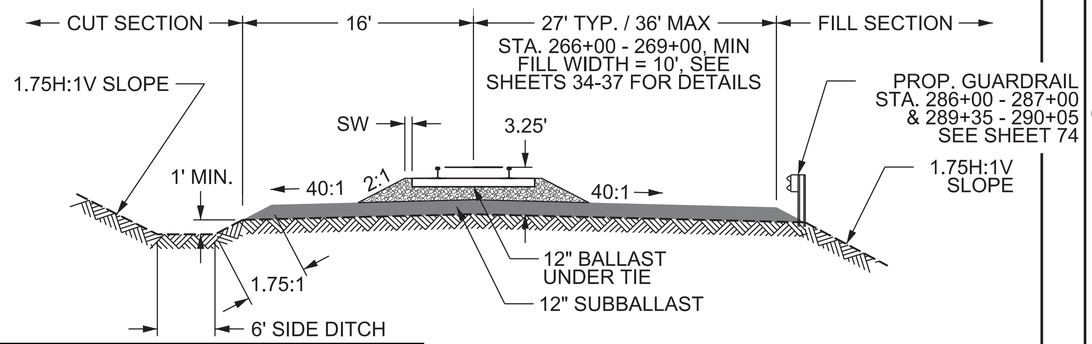
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

Printed: $DATE$ $TIME$

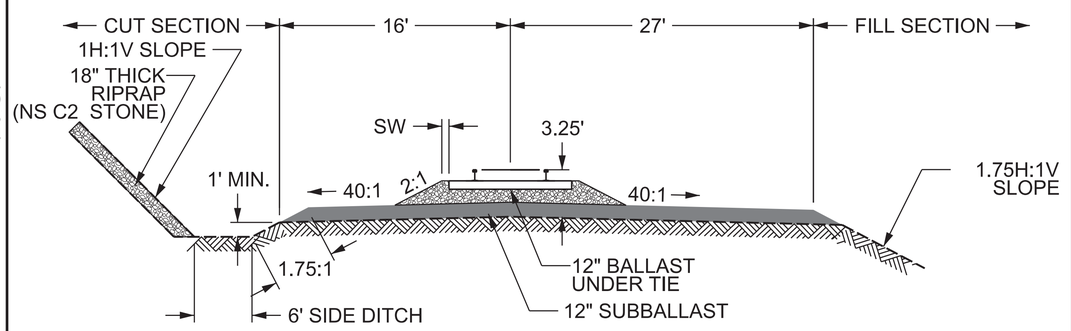
TYPICAL SECTION WITH ACCESS ROAD
STA. 239+27 - STA. 273+00, STA. 278+00 - STA. 292+35



SW Measurement:	Jointed Rail:	Welded Rail:
Inside of Curve:	0"	6"
Outside of Curve:	6"	12"
Tangent:	0"	6"

NOTE: STABILIZE SUBGRADE IN ACCORDANCE WITH NSR STANDARD SPECIFICATIONS.

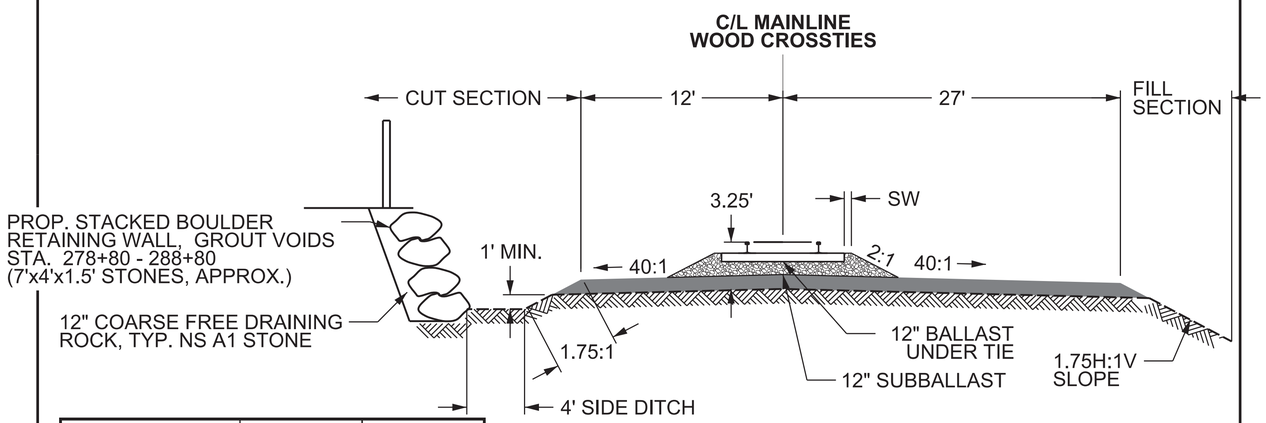
TYPICAL SECTION WITH RIPRAP BACKSLOPE
STA. 273+00 - STA. 278+00



SW Measurement:	Jointed Rail:	Welded Rail:
Inside of Curve:	0"	6"
Outside of Curve:	6"	12"
Tangent:	0"	6"

NOTE: STABILIZE SUBGRADE IN ACCORDANCE WITH NSR STANDARD SPECIFICATIONS.

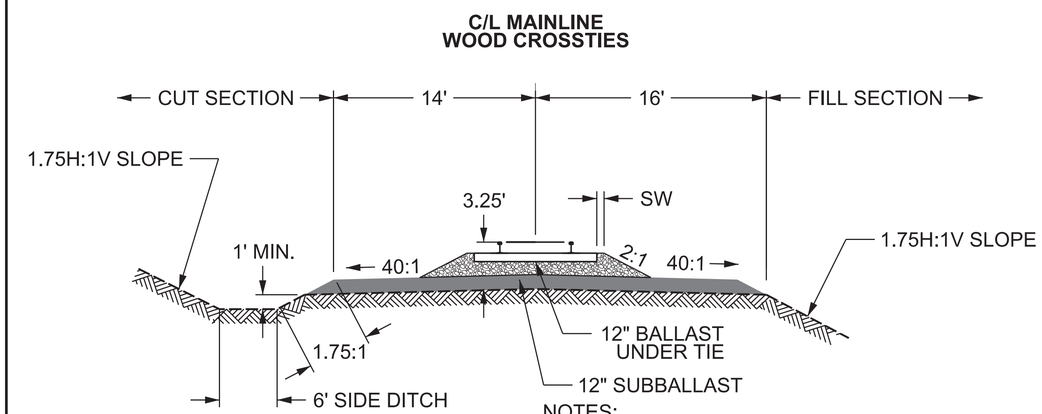
TYPICAL SECTION WITH RETAINING WALL
STA. 278+80 - STA. 288+80



SW Measurement:	Jointed Rail:	Welded Rail:
Inside of Curve:	0"	6"
Outside of Curve:	6"	12"
Tangent:	0"	6"

NOTE: STABILIZE SUBGRADE IN ACCORDANCE WITH NSR STANDARD SPECIFICATIONS.

TYPICAL SECTION
STA. 292+35 - STA. 314+43



SW Measurement:	Jointed Rail:	Welded Rail:
Inside of Curve:	0"	6"
Outside of Curve:	6"	12"
Tangent:	0"	6"

NOTES:
1) STABILIZE SUBGRADE IN ACCORDANCE WITH NSR STANDARD SPECIFICATIONS.
2) STA. 304+00 - 310+00 IN GORGE, SEE CROSS SECTION ON SHEET 72 FOR EMBANKMENT DETAILS WITHIN THE EXISTING COAL SEAM.

NOTE: FOR ALL TYPICAL SECTIONS - TOP 2' BELOW BALLAST NOT TO CONTAIN ANY ROCKS/STONES LARGER THAN 4".

H-Scale: N.T.S.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 057802-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/22/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP TYPICAL SECTIONS

Drawing Number: TD-2025-49

Sheet Number: 4/81

Printed: $DATE$ $TIME$

OWNER / DEVELOPER:
ALAN JOHNSON
NORFOLK SOUTHERN RAILWAY COMPANY
CHIEF ENGINEER - DESIGN AND CONSTRUCTION
650 WEST PEACHTREE ST NW, BOX 45
ATLANTA, GA 30308
TELEPHONE: (404) 213-5055

PROJECT MANAGER / 24 HOUR CONTACT:
RICH ZALUSKI
NORFOLK SOUTHERN RAILWAY COMPANY
DIRECTOR OF ENGINEERING - CONSTRUCTION
650 WEST PEACHTREE ST NW, BOX 45
ATLANTA, GA 30308
TELEPHONE: (404) 375-9473

DESIGN PROFESSIONAL / CIVIL ENGINEER:
HARVEY A. CROUCH, P.E.
CROUCH ENGINEERING, INC.
PROJECT MANAGER
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
TELEPHONE: (615) 791-0630

EROSION AND SEDIMENT CONTROL NOTES:

1. All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed and dated by the reviewing agency) must be available at the project site at all times. The reviewing agency shall be notified of any changes to the approved plan prior to implementation of those changes. The reviewing agency may require a written submittal of those changes for review and approval at its discretion.
2. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.
3. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
4. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the local conservation district or by the Department prior to implementation.
5. Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
6. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan.
7. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
8. Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan maps(s) in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation. Each stockpile shall be protected in the manner shown on the plan drawings. Stockpile heights shall not exceed 35 feet. Stockpile slopes shall be 2H:1V or flatter.
9. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the local conservation district and/or the regional office of the Department.
10. All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
11. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
12. The contractor is responsible for ensuring that any material brought on site is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.
13. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
14. Vehicles and equipment may neither enter directly nor exit directly from lots __(specify lot numbers)__ onto ____(specify road names)____.
15. Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
16. A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
17. Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
18. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
19. Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches — 6 to 12 inches on compacted soils — prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.
20. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
21. All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
22. Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
23. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
24. Fill shall not be placed on saturated or frozen surfaces.
25. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
26. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
27. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
28. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
29. E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the local conservation district or the Department.
30. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district for an inspection prior to removal/conversion of the E&S BMPs.
31. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.
32. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district to schedule a final inspection.
33. Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to $10,000 per day in civil penalties, up to $10,000 in summary criminal penalties, and up to $25,000 in misdemeanor criminal penalties for each violation.

ADDITIONAL EROSION AND SEDIMENT CONTROL NOTES:

2) ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL / WASTES.
4) CHANNELS HAVING RIPRAP, RENO MATTRESS, OR GABION LININGS MUST BE SUFFICIENTLY OVER-EXCAVATED SO THAT THE DESIGN DIMENSIONS WILL BE PROVIDED AFTER PLACEMENT OF THE PROTECTIVE LINING.
9) EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — HARVEY A. CROUCH — ENGINEER — NO. 061803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

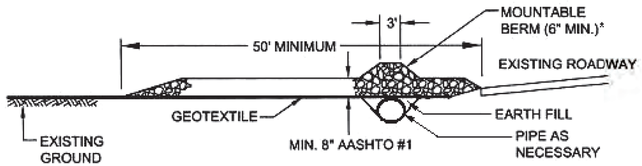
Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	EROSION CONTROL NOTES
Drawing Number:	TD-2025-49
Sheet Number:	5 / 81

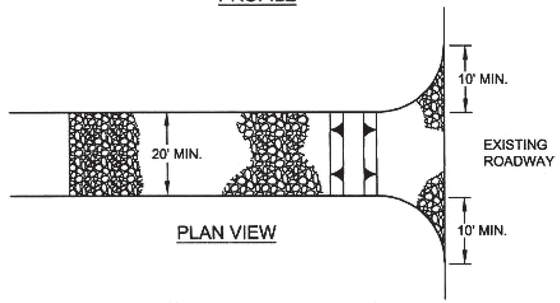
Printed: $DATE$ $TIME$

NOTE: EROSION CONTROL DETAILS TAKEN FROM THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MARCH 2012.

STANDARD CONSTRUCTION DETAIL # 3-1
Rock Construction Entrance



PROFILE



PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

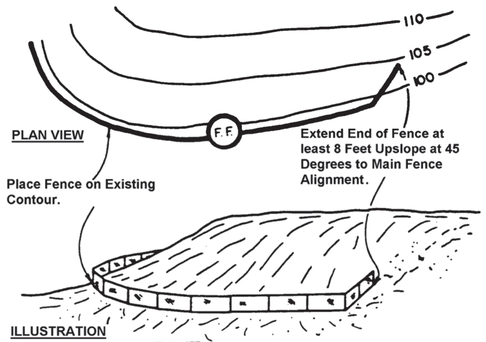
Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

FIGURE 4.1
Sediment Barrier Alignment



STANDARD CONSTRUCTION DETAIL # 4-7
Standard Silt Fence (18" High)

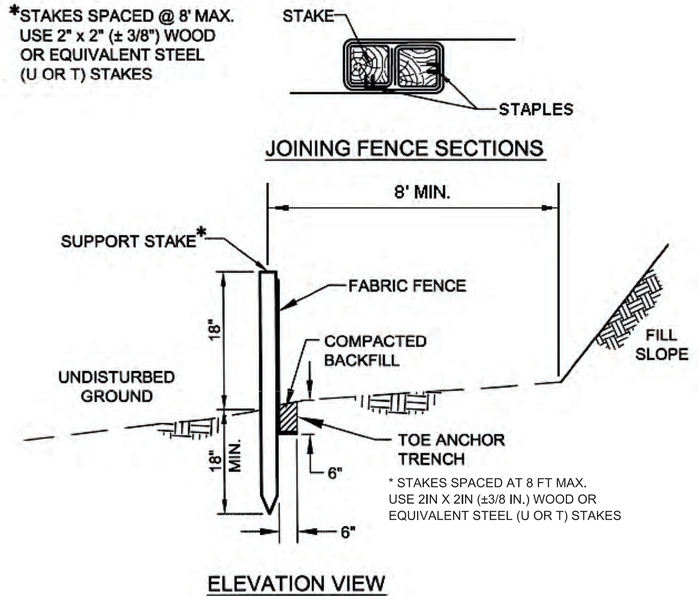


TABLE 4.3
Fabric Properties for Silt Fence

Fabric Property	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lb)	120	ASTM D1682
Elongation at Failure (%)	20% Max.	ASTM D1682
Mullen Burst Strength (psi)	200	ASTM D 3786
Trapezoidal Tear Strength (lb)	50	
Puncture Strength (lb)	40	ASTM D 751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	ASTM 5141
Equivalent Opening Size	30	US Std. Sieve CW-02215
Ultraviolet Radiation Stability (%)	80	ASTM G-26

Fabric shall have the minimum properties as shown in Table 4.3.

Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.

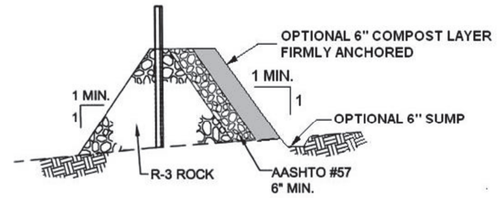
Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).

Sediment shall be removed when accumulations reach half the aboveground height of the fence.

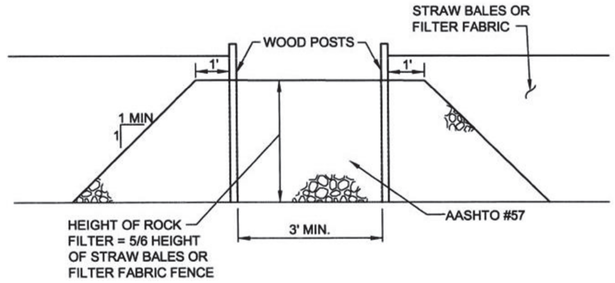
Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

STANDARD CONSTRUCTION DETAIL # 4-6
Rock Filter Outlet



OUTLET CROSS-SECTION



UP-SLOPE FACE

PA DEP

A rock filter outlet shall be installed where failure of a silt fence or straw bale barrier has occurred due to concentrated flow. Anchored compost layer shall be used on upslope face in HQ and EV watersheds.

Sediment shall be removed when accumulations reach 1/3 the height of the outlet.

H-Scale: N.T.S.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 061809-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

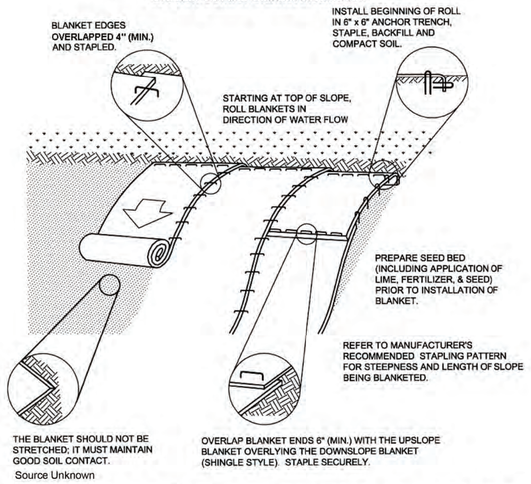
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	EROSION CONTROL DETAILS (1 OF 3)
Drawing Number:	TD-2025-49
Sheet Number:	6 / 81

Printed: $DATE$ $TIME$

NOTE: EROSION CONTROL DETAILS TAKEN FROM THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MARCH 2012.

STANDARD CONSTRUCTION DETAIL # 11-1
Erosion Control Blanket Installation



Source Unknown

Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

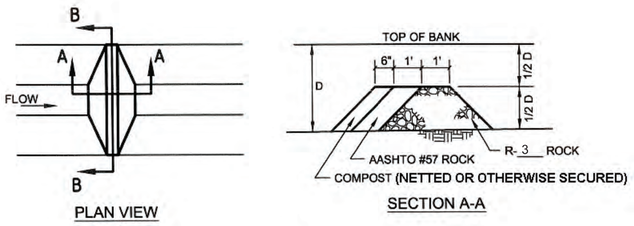
Slope surface shall be free of rocks, clods, sticks, and grass.

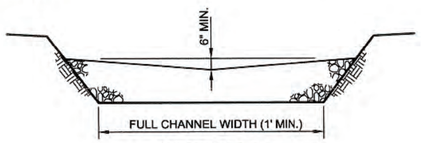
Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

STANDARD CONSTRUCTION DETAIL # 4-14
Rock Filter





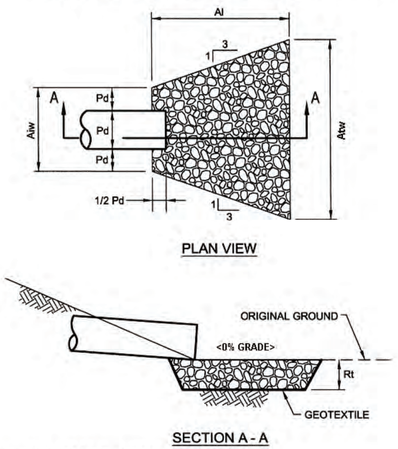
Sediment shall be removed when accumulations reach 1/2 the height of the filter.

Immediately upon stabilization of each channel, installer shall remove accumulated sediment, remove rock filter, and stabilize disturbed areas.

TABLE 6.6
Riprap Gradation, Filter Blanket Requirements, Maximum Velocities

Class, Size NO. / Rock Size (Inches)	R-8	R-7	R-6	R-5	R-4	R-3
	Percent Passing (Square Openings)					
42	100					
30		100				
24	15-50		100			
18		15-50		100		
15	0-15					
12		0-15	15-50		100	
9				15-50		
6			0-15		15-50	100
4				0-15		
3					0-15	15-50
2						0-15
Nominal Placement Thickness (inches)	63	45	36	27	18	9
Filter Stone[1]	AASHTO #1	AASHTO #1	AASHTO #1	AASHTO #3	AASHTO #3	AASHTO #57
V_{max} (ft/sec)	17.0	14.5	13.0	11.5	9.0	6.5

STANDARD CONSTRUCTION DETAIL # 9-2
Riprap Apron at Pipe Outlet without Flared Endwall



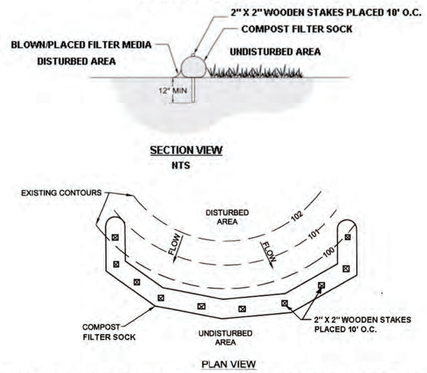
Adapted from USDOT, FHA HEC-14

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE ESC PLANS ON SHEETS 9 AND 10. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

All aprons shall be inspected at least weekly and after each runoff event. Displaced riprap within the apron shall be replaced immediately.

Extend riprap on back side of apron to at least ½ depth of pipe on both sides to prevent scour around the pipe.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK



Note: The flat dimension of the sock should be at least 1.5 times the nominal diameter. Also, some settlement of the tube typically occurs after installation.

TABLE 4.1
Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12"	12"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
Two-ply systems					
Inner Containment Netting	HDPE biaxial net; Continuously wound; Fusion-welded junctures; 3/4" X 3/4" Max. aperture size				
Outer Filtration Mesh	Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch); 3/16" Max. aperture size				
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.					

The physical parameters of the compost should comply with the standards in Table 4.2. The standards contained in the PennDOT Publication 408 are an acceptable alternative.

TABLE 4.2
Compost Standards

Organic Matter Content	25% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.5
Moisture Content	30% - 60%
Particle Size	30% - 50% pass through 3/8" sieve
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum

NOTE: COMPOST FILTER SOCKS TO BE INSTALLED ON ALL SLOPES GREATER THAN 20' IN VERTICAL HEIGHT MEASURED FROM DITCH BOTTOM TO TOP OF SLOPE. 12" COMPOST FILTER SOCK TO BE INSTALLED AT MID HEIGHT OF SLOPES GREATER THAN 20' AND ADJUSTED AS NECESSARY. FOR 20' HIGH SLOPES, SOCK TO BE INSTALLED AT 10' UP SLOPE VERTICALLY. FOR 50' HIGH SLOPES, SOCK TO BE INSTALLED AT 25' UP SLOPE VERTICALLY. UTILIZE 12" CURLEX SEDIMENT LOGS OR APPROVED EQUIVALENT.

H-Scale: N.T.S.

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

EROSION CONTROL DETAILS (2 OF 3)

Drawing Number: TD-2025-49

Sheet Number: 7/81

NOTE: EROSION CONTROL DETAILS TAKEN FROM THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MARCH 2012.

TABLE 11.4
Recommended Seed Mixtures

Mixture Number	Species	Seeding Rate - Pure Live Seed [1] Most Sites	Adverse Sites
1 [2]	Spring oats (spring), or	64	96
	Annual ryegrass (spring or fall), or	10	15
	Winter wheat (fall), or	90	120
	Winter rye (fall)	56	112
2 [3]	Tall fescue, or	60	75
	Fine fescue, or	35	40
	Kentucky bluegrass, plus	25	30
	Redtop[4], or	3	3
	Perennial ryegrass	15	20
3	Birdsfoot trefoil, plus	6	10
	Tall fescue	30	35
4	Birdsfoot trefoil, plus	6	10
	Reed canarygrass	10	15
5 [8]	Crownvetch, plus	10	15
	Tall fescue, or	20	25
	Perennial ryegrass	20	25

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. PLS is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag. Thus, if the PLS content of a given seed lot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.
2. If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushel per acre.
3. This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.
4. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very competitive. To seed small quantities of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc.
8. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels due to the invasive nature of this species.

TABLE 11.5
Recommended Seed Mixtures for Stabilizing Disturbed Areas

Site Condition	Nurse Crop	Seed Mixture (Select one mixture)
Slopes and Banks (not mowed)		
Well-drained	1 plus	3, 5,
Variable drainage	1 plus	3
Slopes and Banks (mowed)		
Well-drained	1 plus	2
Slopes and Banks (grazed/hay)		
Well-drained	1 plus	2, 3,
Gullies and Eroded Areas	1 plus	3, 5,
Erosion Control Facilities (BMPs)		
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4
Drainage ditches		
Shallow, less than 3 feet deep	1 plus	2, 3, or 4
Deep, not mowed	1 plus	5
Pond banks, dikes, levees, dams, diversion channels, And occasional water flow areas		
Mowed areas	1 plus	2 or 3
Non-mowed areas	1 plus	5
For hay or silage on diversion channels and occasional water flow areas	1 plus	3

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

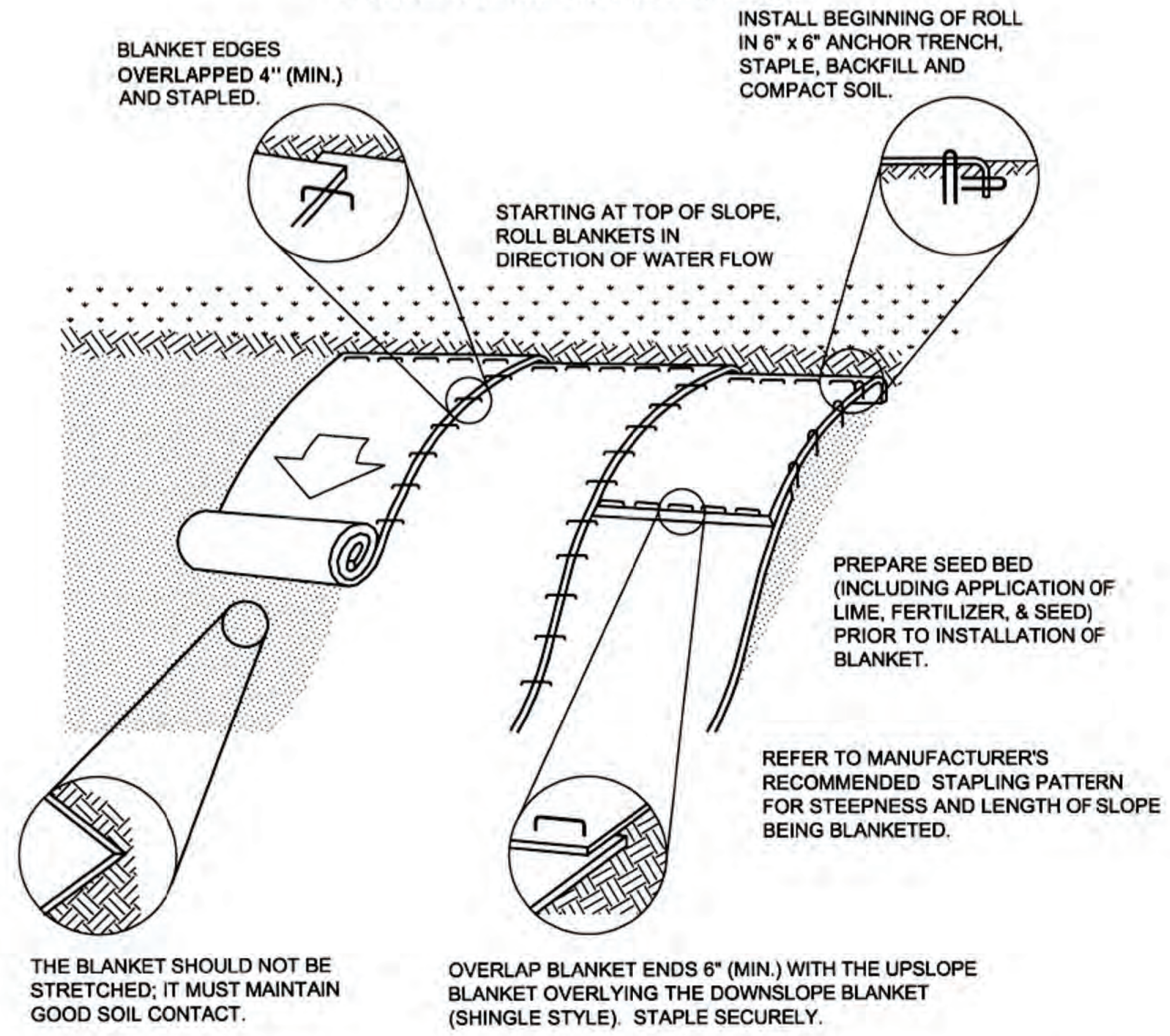
Seeding rates are stated as pounds per acre (lb/A) of pure live seed (PLS). PLS is the product of the percentage of pure seed times the percentage of germination divided by 100 (e.g. [85% pure seed × 72% germination] ÷ 100 = 61% PLS). Seed should not be used later than one year after the test date that appears on the label. Use of seed older than one year could result in less than satisfactory vegetative coverage and the need to re-seed the disturbed area.

Actual seeding rates may be determined by dividing the PLS seeding rate by the %PLS shown on the seed tag, or calculated as shown above (e.g. for a PLS seeding rate of 12 lb/A from a seed lot with a PLS of 35%, the actual seeding rate is equal to 12 ÷ 0.35 = 34.3 lb/A). If more than one species is used, indicate the application rate for each species. A nurse crop may be necessary if the selected species do not rapidly germinate. If a nurse crop is used in conjunction with permanent seeding, the nurse crop should not hinder the establishment of the permanent vegetation. A nurse crop should not be applied at a rate exceeding 50% of its temporary seeding rate.

Legumes should be inoculated in accordance with the supplier's recommendations. Inoculants should not be mixed with liquid fertilizer.

The Department also recommends that soil testing be done prior to seeding and mulching to determine the proper soil amendments and application rates for the proposed seed mixture(s). Soil test kits are inexpensive and may be obtained from the county Cooperative Extension Service offices. When done properly, soil tests can actually save money that would otherwise be lost on improper soil amendments, unsuccessful seeding, and damage caused by erosion of unstabilized areas. In the absence of a soil test, soil amendments should be added at the rates specified by the selected seeding reference.

STANDARD CONSTRUCTION DETAIL # 11-1
Erosion Control Blanket Installation



Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

Slope surface shall be free of rocks, clods, sticks, and grass.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

TABLE 11.7
Typical Polymer Stabilized Fiber Matrix Application Rates

Maximum Rainfall of ≤ 20"							
SLOPE	6:1	5:1	4:1	3:1	2:1	1.5:1	1:1
Soil Stabilizer (gals/acre)	4	5	6	7	8	9	10
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

Maximum Rainfall of > 20" and for Site Winterization			
SLOPE	≤5:1	4:1	≥3:1
Soil Stabilizer (gals/acre)	6	8	10
Fiber (lb/acre)	2,000	2,500	3,000

NOTE: FOR HYDROSEEDING, CONTRACTOR TO UTILIZE MULCH & GROW TERRAIN LOK BFM OR APPROVED EQUIVALENT. MANUFACTURERS INSTRUCTIONS FOR APPLICATION RATES OR TABLE 11.7 ABOVE TO BE FOLLOWED, WHICHEVER IS GREATER.

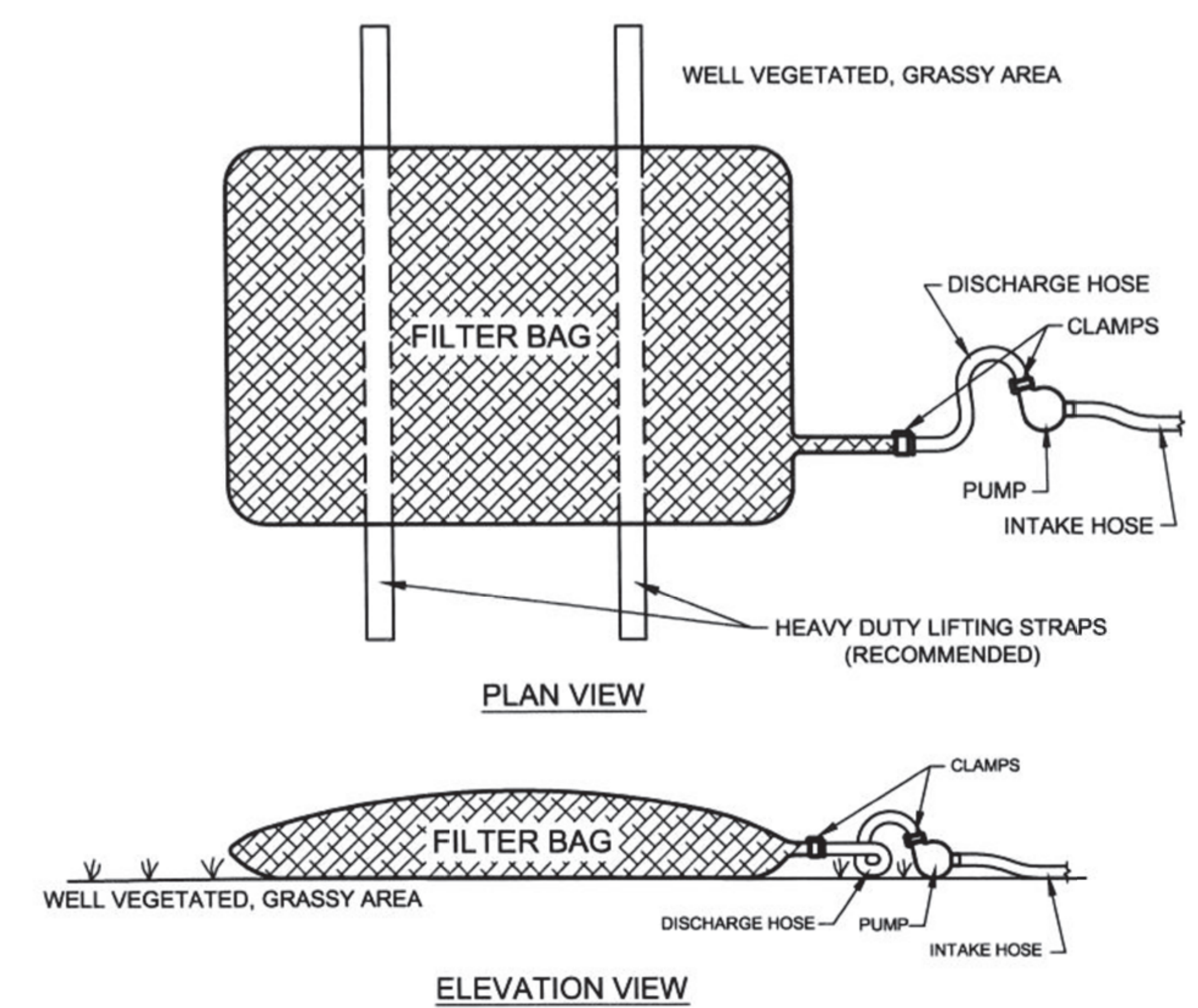
DEWATERING WORK AREAS - Wherever water is pumped from a disturbed area, it must be treated for sediment removal prior to discharging to a surface water unless it can be shown that the quality of the water being pumped already meets discharge standards. If a properly functioning sediment basin or sediment trap is available, the pump discharge may be routed through the trap or basin. While pumping, the maximum water level in the trap or basin should not exceed the cleanout elevation. Water pumped from disturbed areas may not be discharged directly to detention ponds, since they are not designed to be efficient sediment removal structures. Straw bale structures and filter fabric structures are not acceptable for filtering pumped water due to their history of ineffectiveness. Filter bags, as shown in Standard Construction Detail #3-16, and Sump Pits, as shown in Standard Construction Detail #3-17, may be used to filter pumped water as described in the following section. Other devices for filtering water pumped from excavations will be reviewed on a case-by-case basis.

The topography and conditions of the ground cover between the discharge point and the receiving surface water should be evaluated for potential erosion. Appropriate stabilization measures should be incorporated where needed to prevent erosion.

No filtering device is required for water pumped directly from a stream channel as part of a pump-around bypass system.

PUMPED WATER FILTER BAG - **Sediment Removal Efficiency: LOW. This device is not an ABACT for special protection watersheds unless surrounded by a compost sock ring or operated in conjunction with a sump pit.** Filter bags may be used to filter water pumped from disturbed areas prior to discharging to surface waters. They may also be used to filter water pumped from the sediment storage areas of sediment basins and sediment traps.

STANDARD CONSTRUCTION DETAIL # 3-16
Pumped Water Filter Bag



Low volume filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They shall be capable of trapping particles larger than 150 microns. High volume filter bags shall be made from woven geotextiles that meet the following standards:

Property	Test Method	Minimum Standard
Avg. Wide Width Strength	ASTM D-4884	60 lb/in
Grab Tensile	ASTM D-4632	205 lb
Puncture	ASTM D-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve

A suitable means of accessing the bag with machinery required for disposal purposes shall be provided. Filter bags shall be replaced when they become ½ full of sediment. Spare bags shall be kept available for replacement of those that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with lifting straps already attached.

Bags shall be located in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile underlayment and flow path shall be provided. Bags may be placed on filter stone to increase discharge capacity. Bags shall not be placed on slopes greater than 5%. For slopes exceeding 5%, clean rock or other non-erodible and non-polluting material may be placed under the bag to reduce slope steepness.

No downslope sediment barrier is required for most installations. Compost berm or compost filter sock shall be installed below bags located in HQ or EV watersheds, within 50 feet of any receiving surface water or where grassy area is not available.

H-Scale: N.T.S.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN ®

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

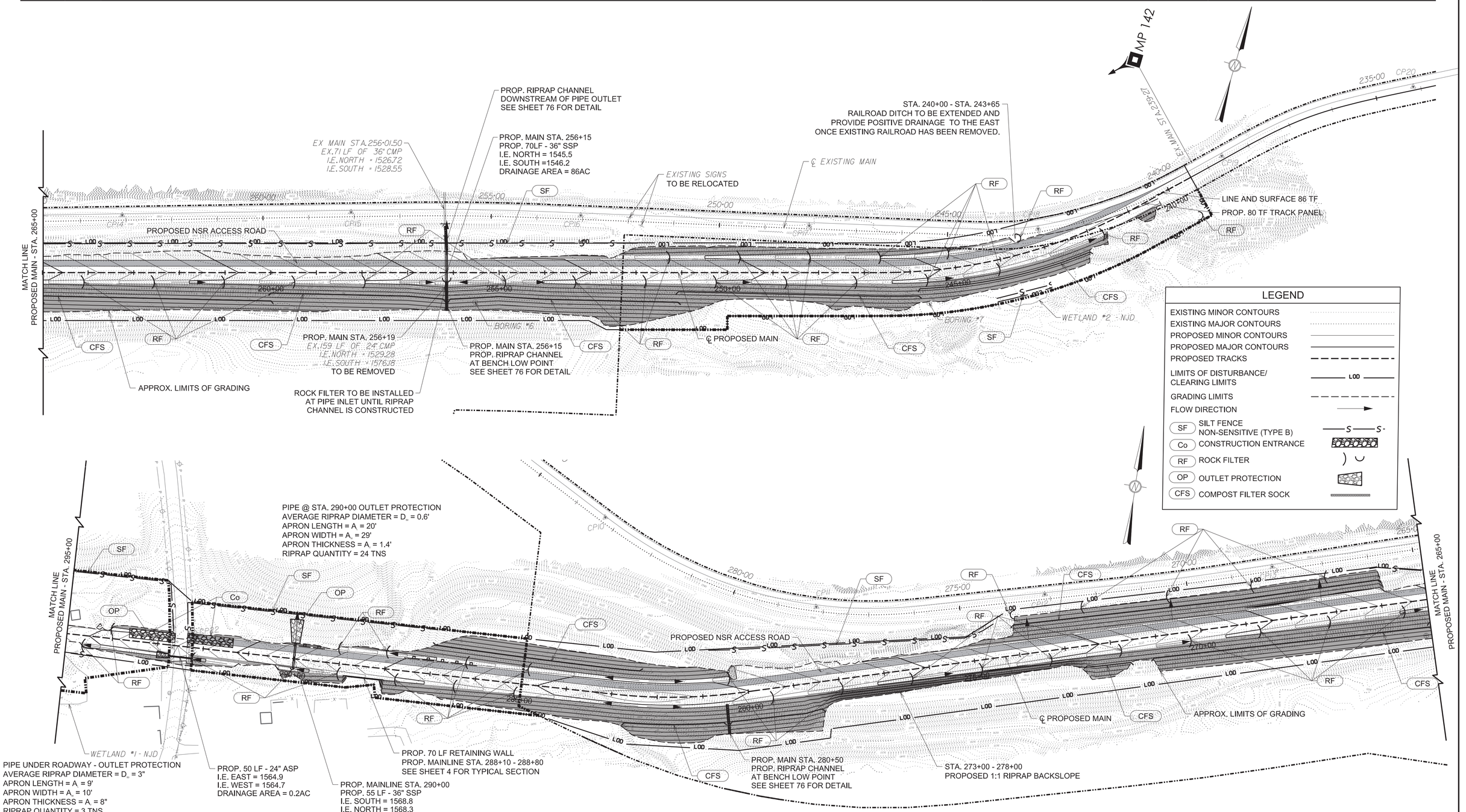
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP EROSION CONTROL DETAILS (3 OF 3)

Drawing Number: TD-2025-49

Sheet Number: 8/81

Printed: $DATES $TIMES

Plan



NOTES:
1) EROSION CONTROL BLANKETS TO BE APPLIED ON ALL SLOPES ABOVE 5' IN ELEVATION CHANGE. FOR AREAS TOO STEEP FOR STANDARD EC BLANKETS, HYDRAULICALLY APPLIED POLYMER STABILIZED FIBER MATRIX MAY BE USED.
2) ROCK FILTERS TO BE INSTALLED AT PIPE OUTFALLS UNTIL RIPRAP APRONS ARE IN PLACE.
3) SILT FENCE TO STOP AT OUTLETS OF CONCENTRATED FLOW. OTHER BMPS TO BE INSTALLED IN THESE LOCATIONS.

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

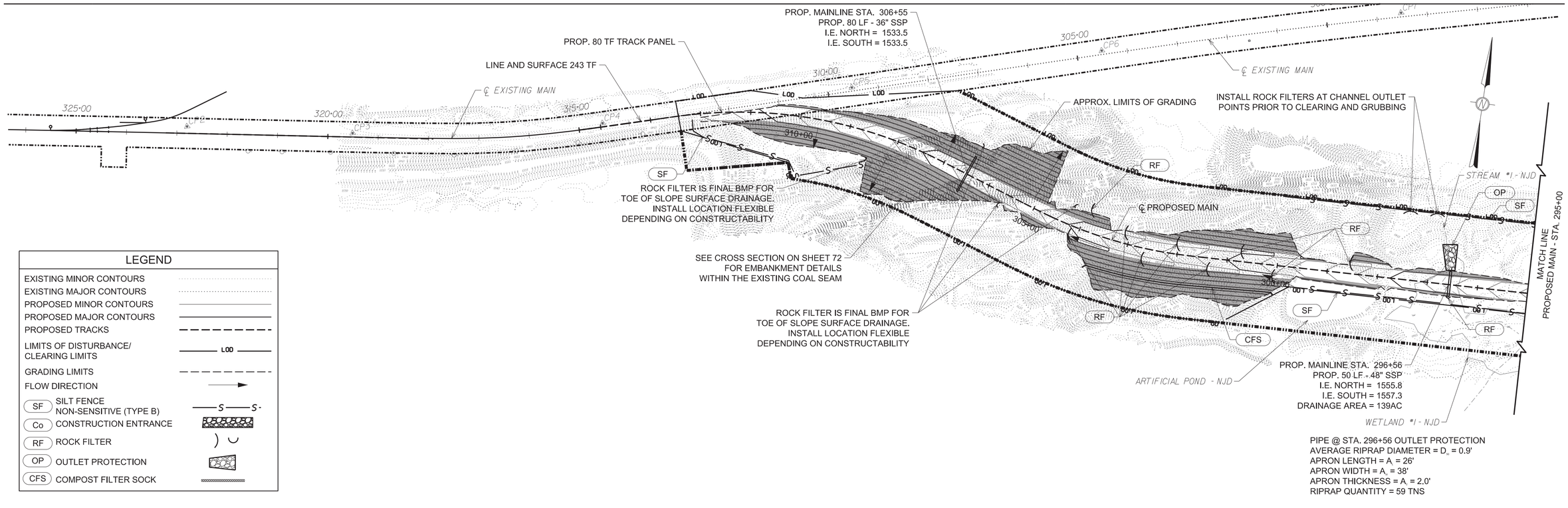
Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY		
Drawing Date:	08/04/25	Operating Division:	KEYSTONE
Designed By:	SAS	Milepost:	JW 143
Drawn By: SAS	Checked By: ESN	County:	LUZERNE

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

PID Number:	D3508
File Number:	TRK1115611
VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	EROSION CONTROL PLAN - STA. 239+44 TO 295+00
Drawing Number:	TD-2025-49
Sheet Number:	9/81

Plan



LEGEND	
EXISTING MINOR CONTOURS	
EXISTING MAJOR CONTOURS	
PROPOSED MINOR CONTOURS	
PROPOSED MAJOR CONTOURS	
PROPOSED TRACKS	
LIMITS OF DISTURBANCE/ CLEARING LIMITS	LOD
GRADING LIMITS	
FLOW DIRECTION	
SF SILT FENCE NON-SENSITIVE (TYPE B)	S
Co CONSTRUCTION ENTRANCE	
RF ROCK FILTER	
OP OUTLET PROTECTION	
CFS COMPOST FILTER SOCK	

NOTES:
1) EROSION CONTROL BLANKETS TO BE APPLIED ON ALL SLOPES ABOVE 5' IN ELEVATION CHANGE. FOR AREAS TOO STEEP FOR STANDARD EC BLANKETS, HYDRAULICALLY APPLIED POLYMER STABILIZED FIBER MATRIX MAY BE USED.
2) ROCK FILTERS TO BE INSTALLED AT PIPE OUTFALLS UNTIL RIPRAP APRONS ARE IN PLACE.
3) PIPE AT STA. 306+50 IS FOR EMERGENCY OVERFLOW DRAINAGE ONLY IN THE EVENT THAT WATER POOLS WITHIN THE COAL SEAM. NO CONCENTRATED FLOW IS DIRECTED TOWARD THIS PIPE.

H-Scale: 1"=100' 50 0 100 200

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508	City / State:	HAZLETON, PENNSYLVANIA
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611	Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004	Drawing Number:	EROSION CONTROL PLAN - STA. 295+00 TO 312+83
							TD-2025-49
						Sheet Number:	10/81

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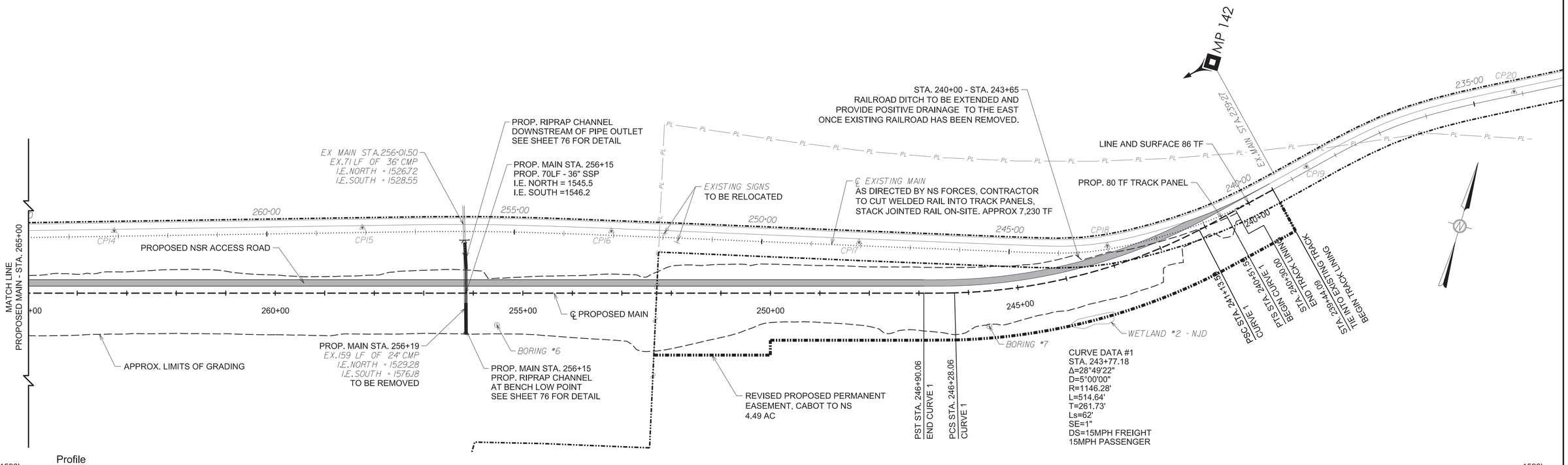
Plan



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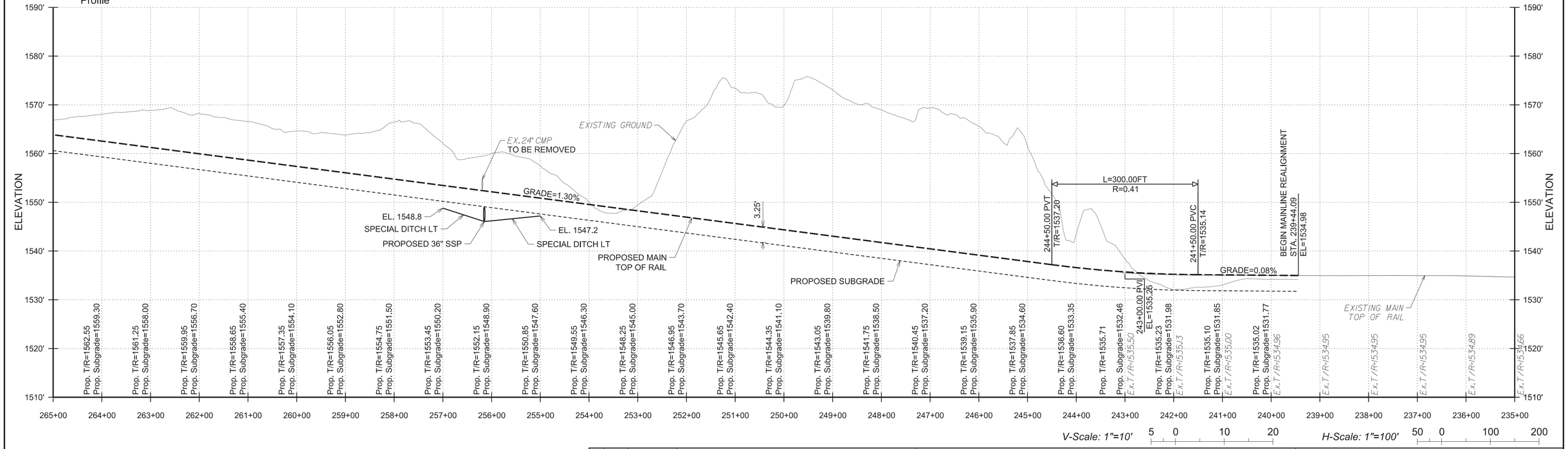

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H-Scale: 1"=100' 50 0 100 200

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

PLAN AND PROFILE - STA. 239+44 TO 265+00

Drawing Number: TD-2025-49

Sheet Number: 11/81

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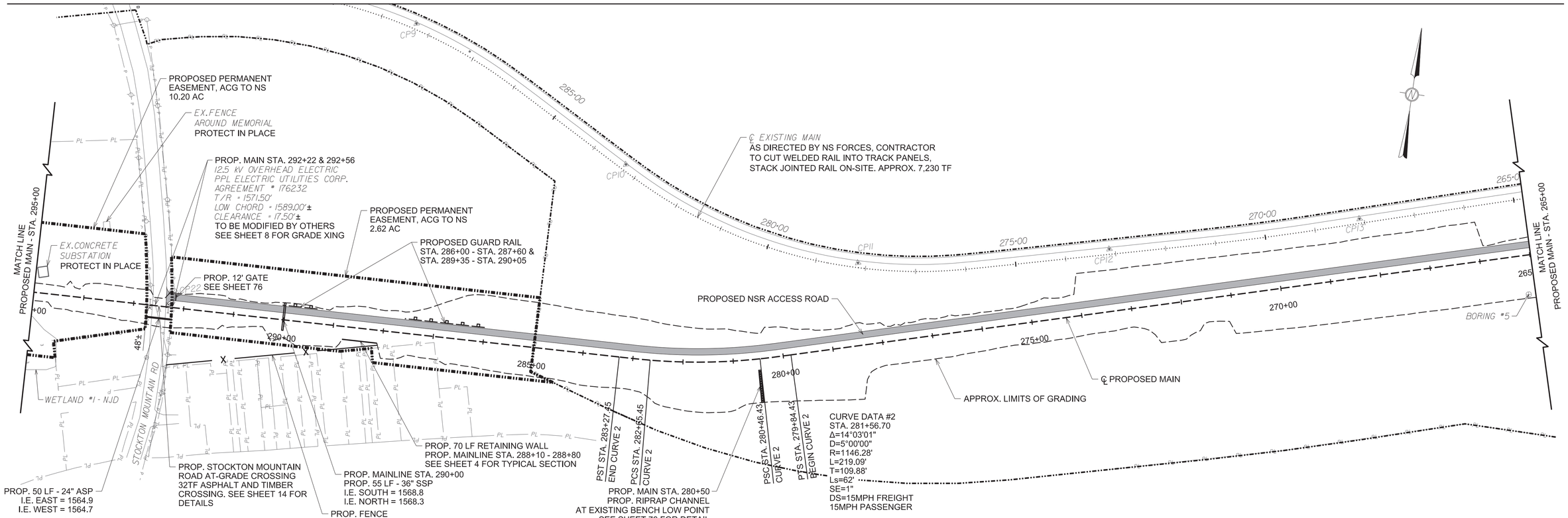
Plan



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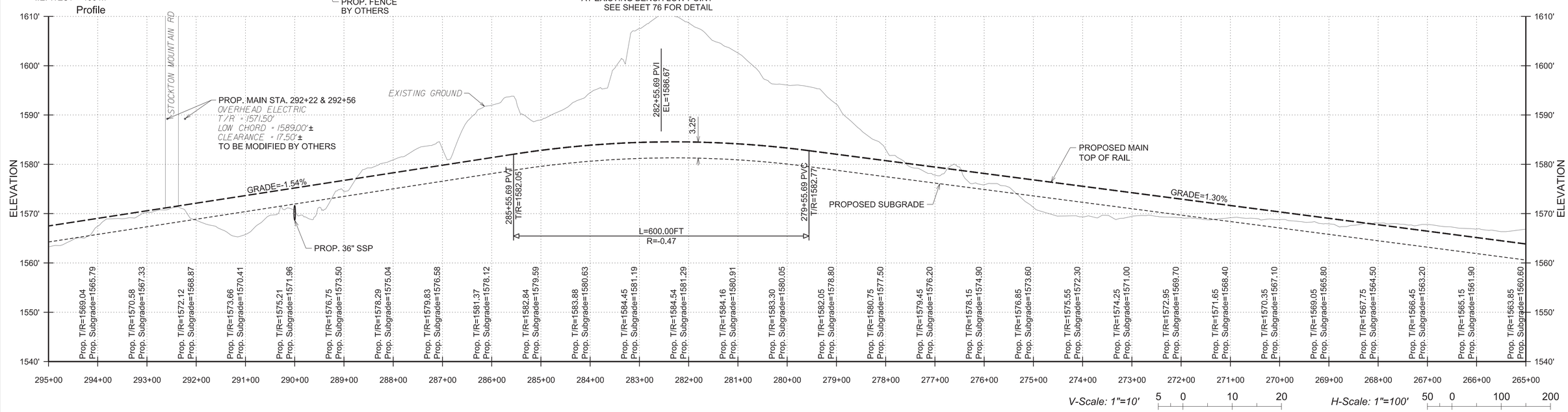

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 015806-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630
engineering inc.

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING — DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
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Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

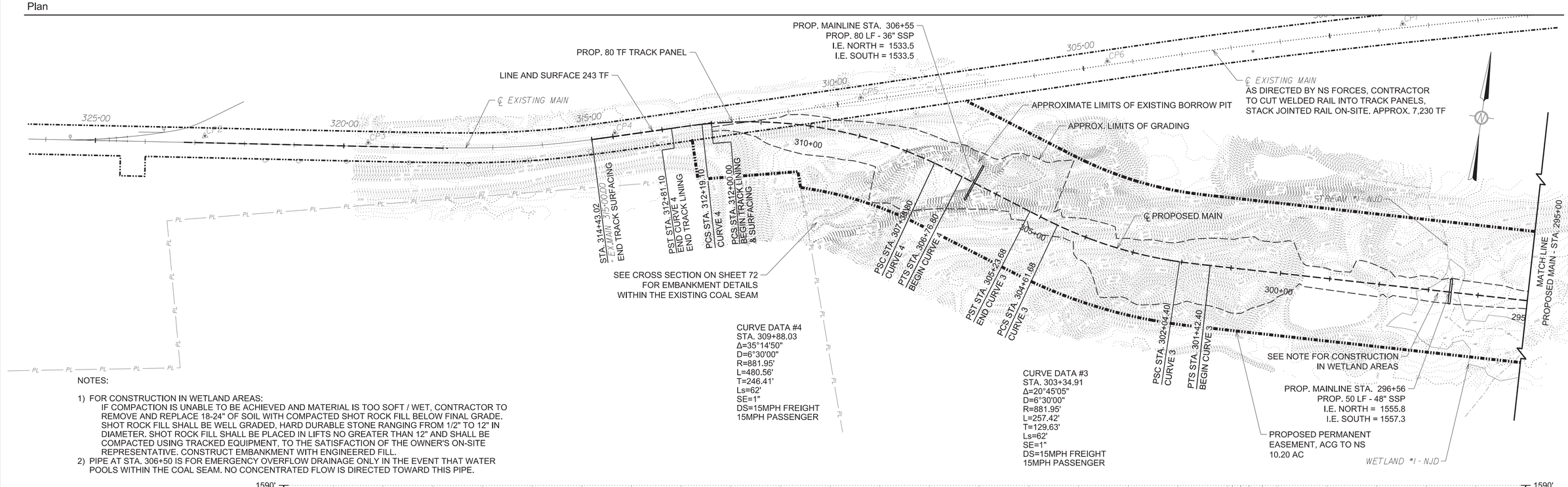
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

PLAN AND PROFILE - STA. 265+00 TO 295+00

Drawing Number: TD-2025-49

Sheet Number: 12/81

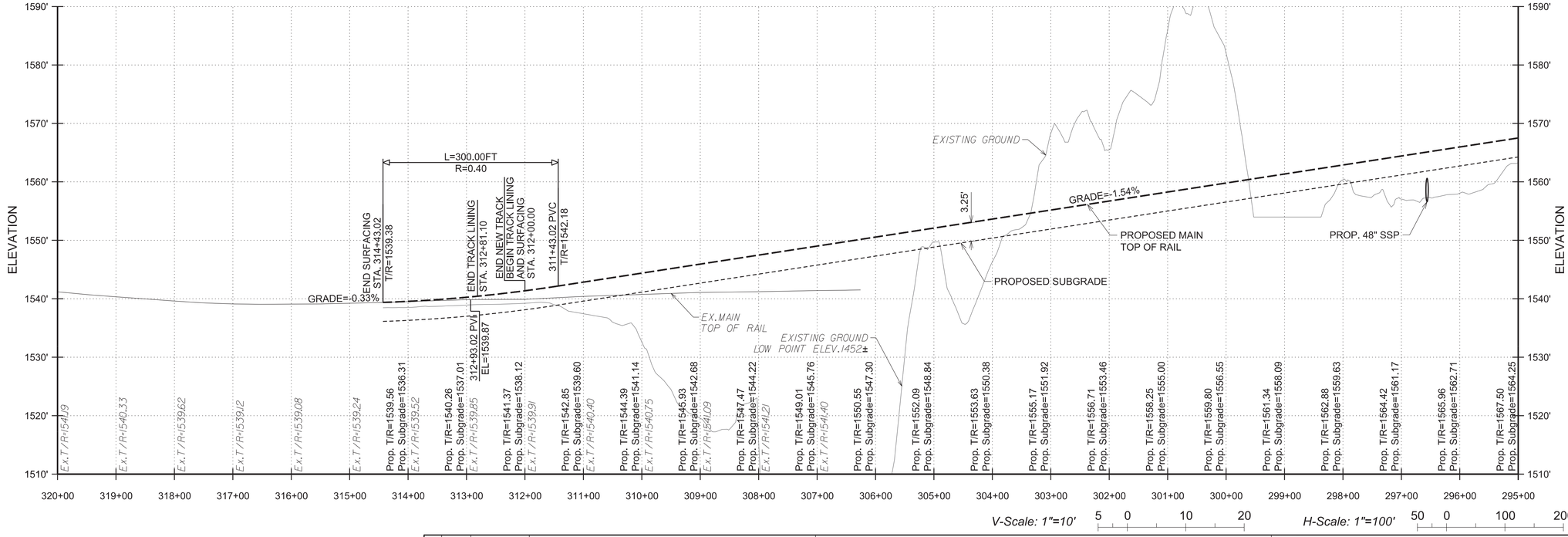
Plan



NOTES:

1) FOR CONSTRUCTION IN WETLAND AREAS:
   IF COMPACTION IS UNABLE TO BE ACHIEVED AND MATERIAL IS TOO SOFT / WET, CONTRACTOR TO REMOVE AND REPLACE 18-24" OF SOIL WITH COMPACTED SHOT ROCK FILL BELOW FINAL GRADE. SHOT ROCK FILL SHALL BE WELL GRADED, HARD DURABLE STONE RANGING FROM 1/2" TO 12" IN DIAMETER. SHOT ROCK FILL SHALL BE PLACED IN LIFTS NO GREATER THAN 12" AND SHALL BE COMPACTED USING TRACKED EQUIPMENT, TO THE SATISFACTION OF THE OWNER'S ON-SITE REPRESENTATIVE. CONSTRUCT EMBANKMENT WITH ENGINEERED FILL.
2) PIPE AT STA. 306+50 IS FOR EMERGENCY OVERFLOW DRAINAGE ONLY IN THE EVENT THAT WATER POOLS WITHIN THE COAL SEAM. NO CONCENTRATED FLOW IS DIRECTED TOWARD THIS PIPE.

Profile



R	By	Date	Revision Description

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — HARVEY A. CROUCH — ENGINEER — NO. 057803-E

PROJECT NO:	25004
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CHECKED BY:	HAC
REVISIONS:	

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630
engineering inc.

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

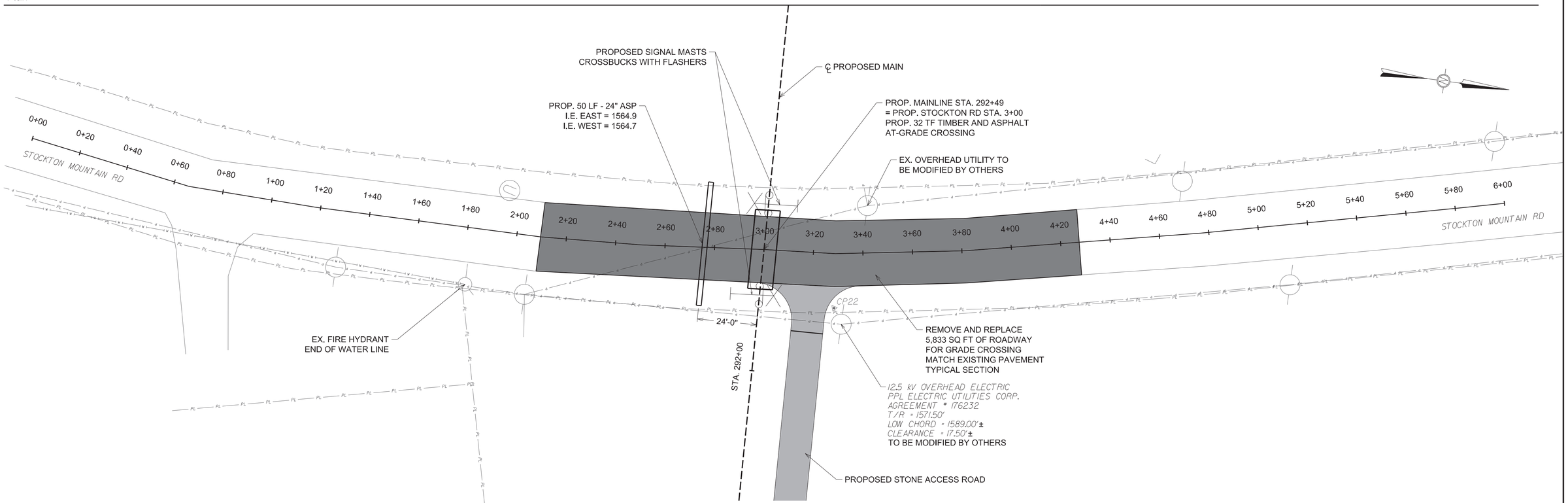
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
PLAN AND PROFILE - STA. 295+00 TO 312+83

Drawing Number: TD-2025-49

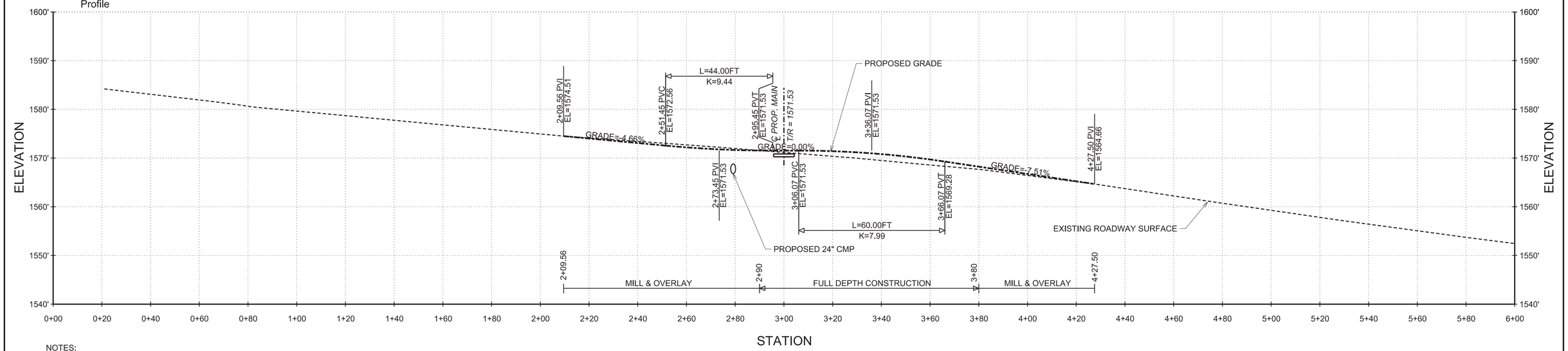
Sheet Number: 13/81

Printed: $DATE$ $TIME$

Plan



Profile



NOTES:
1) PROPOSED ROADWAY DESIGN SPEED = 15 MPH.
2) PROPOSED TOP OF RAIL AT ROADWAY CROSSING IS 2" HIGHER THAN CURRENT TRACK PROFILE DESIGN.
RAILROAD PROFILE TO BE REVISED UPON APPROVAL OF GRADE CROSSING PLAN.

V-Scale: 1"=10' 5 0 10 20 H-Scale: 1"=20' 10 0 20 40

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 057806-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

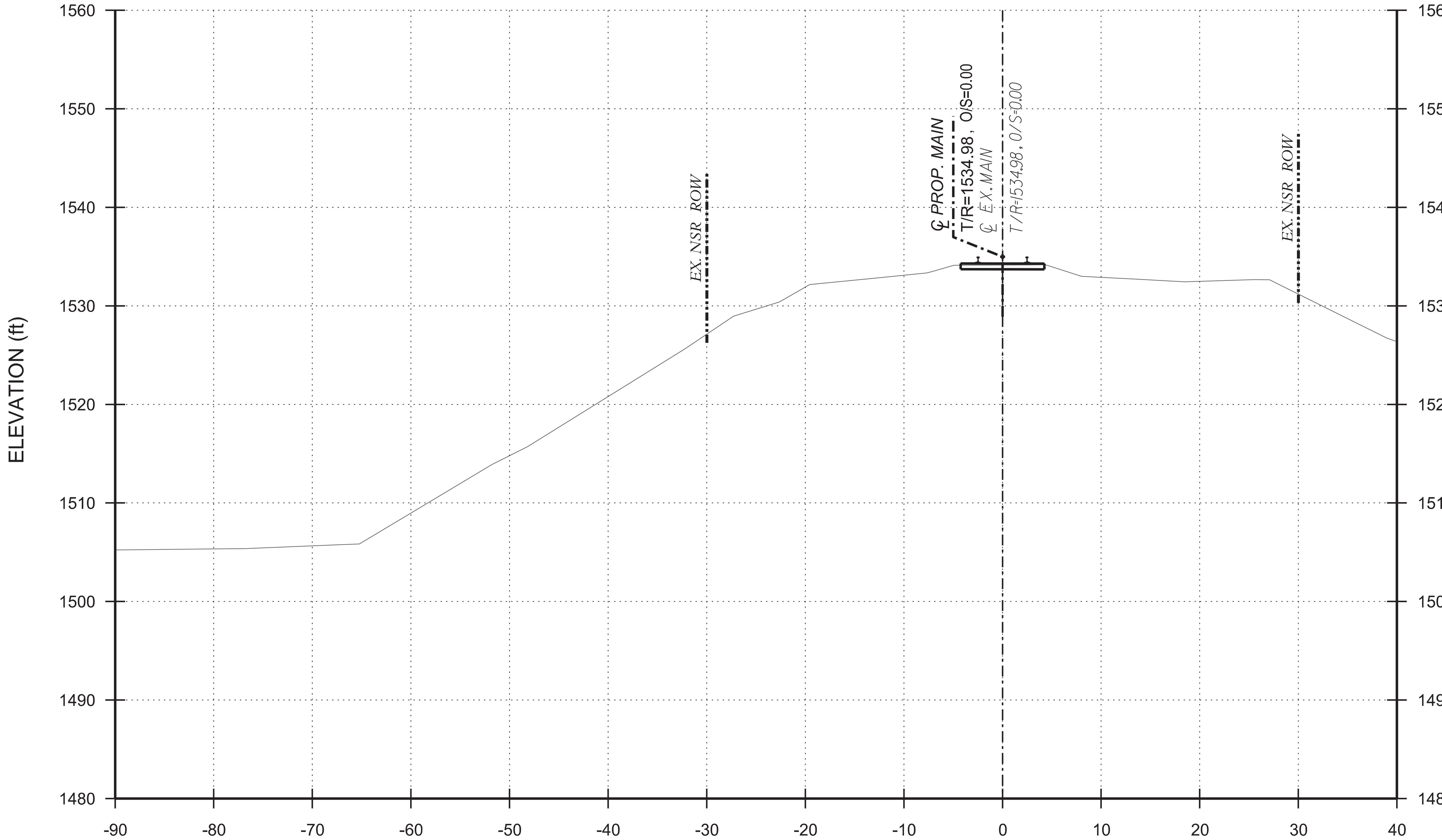
Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
STOCKTON MOUNTAIN ROAD - PLAN AND PROFILE

Drawing Number: TD-2025-49

Sheet Number: 14/81

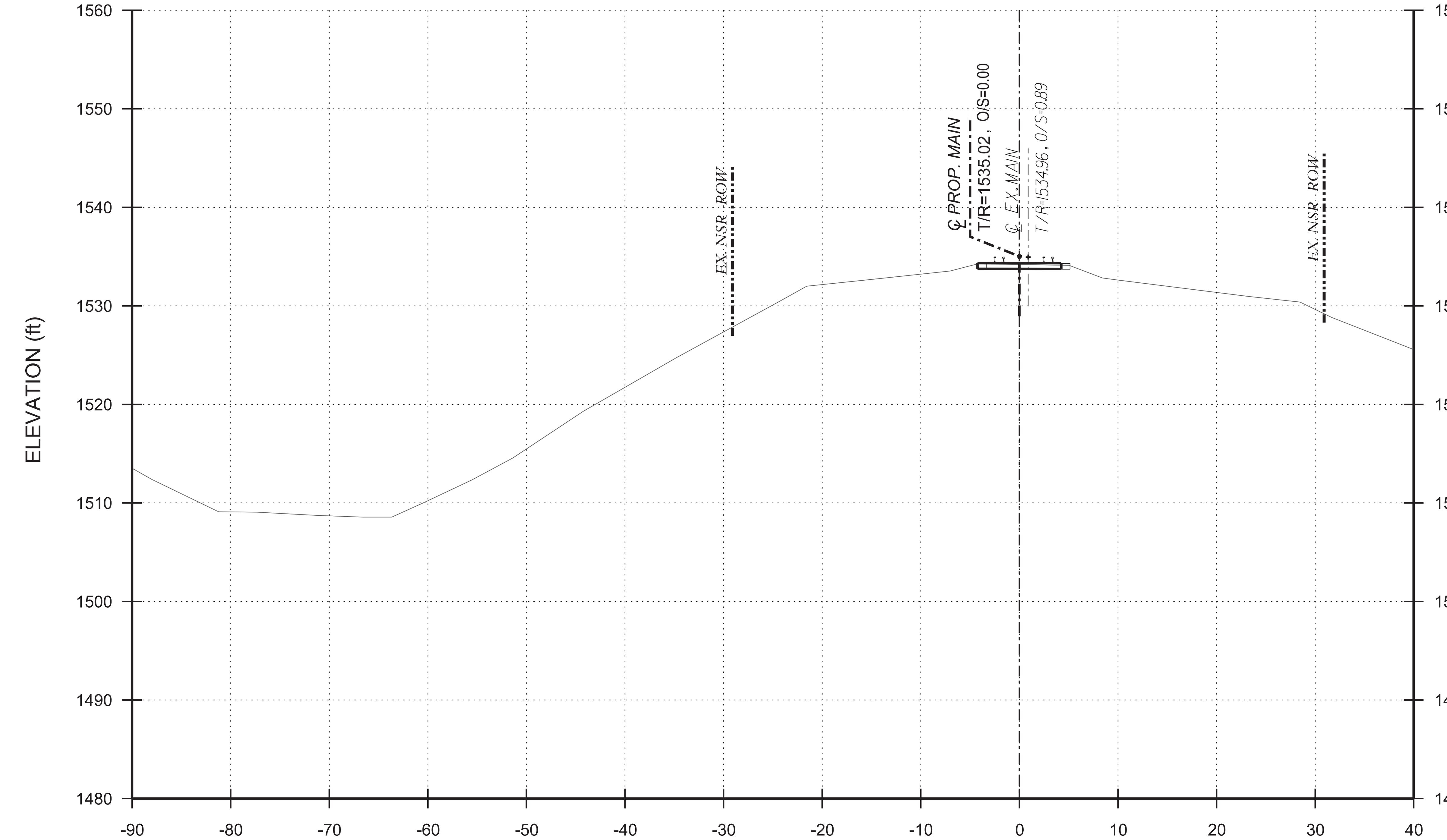
Printed: $DATE$ $TIME$



CUT AREA (SF) =0.00
FILL AREA (SF) =0.00

STA. 239+44

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 0.00



CUT AREA (SF) =0.00
FILL AREA (SF) =0.00

STA. 240+00

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 0.00

V-Scale: 1"=10'

H-Scale: 1"=100'

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

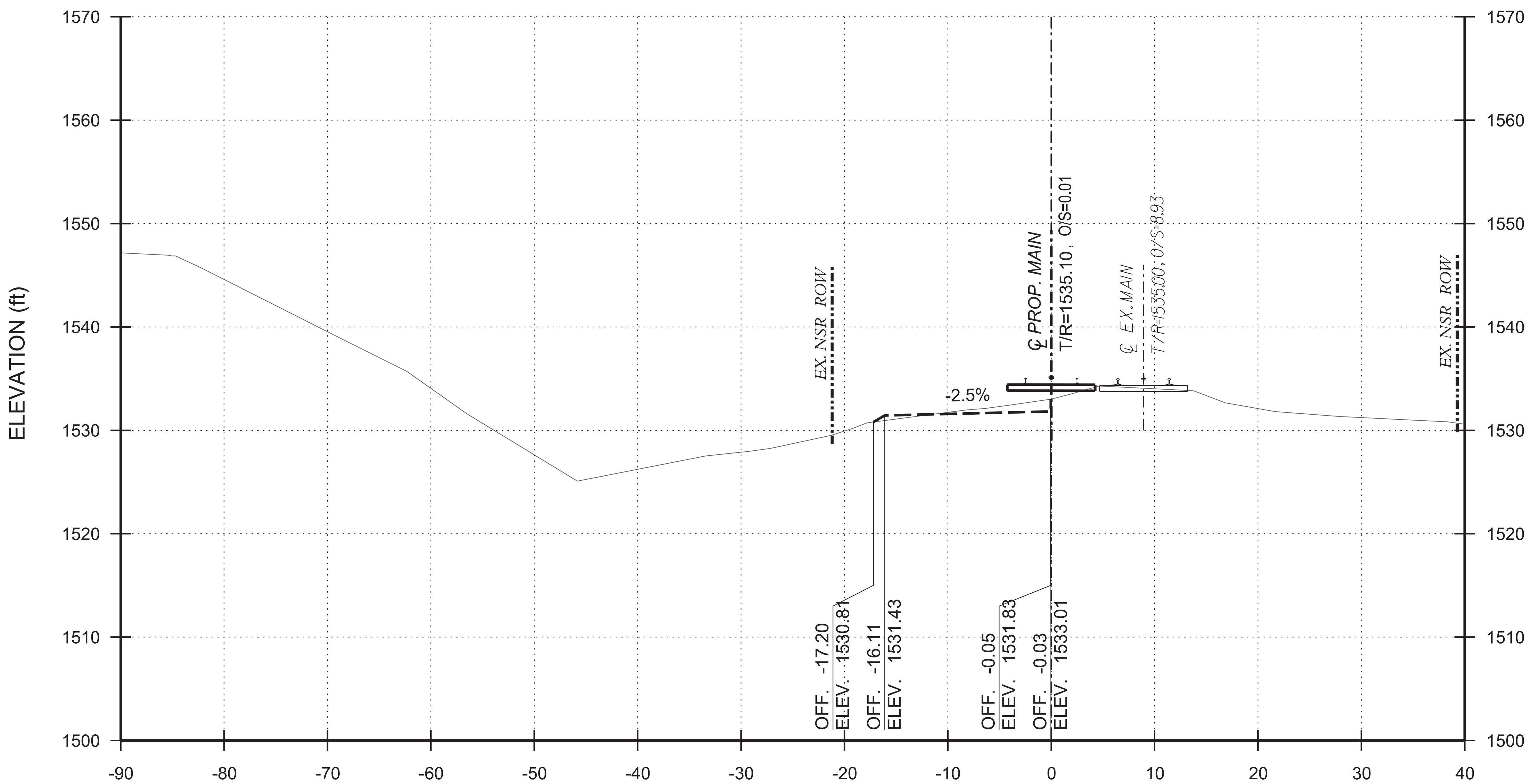
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY
Drawing Date:	08/04/25
Operating Division:	KEYSTONE
PID Number:	D3508
Designed By:	SAS
Milepost:	JW 143
File Number:	TRK1115611
Drawn By:	SAS
Checked By:	ESN
County:	LUZERNE
VRN:	0514004
City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 239+44 - 240+00
Drawing Number:	TD-2025-49
Sheet Number:	15/81

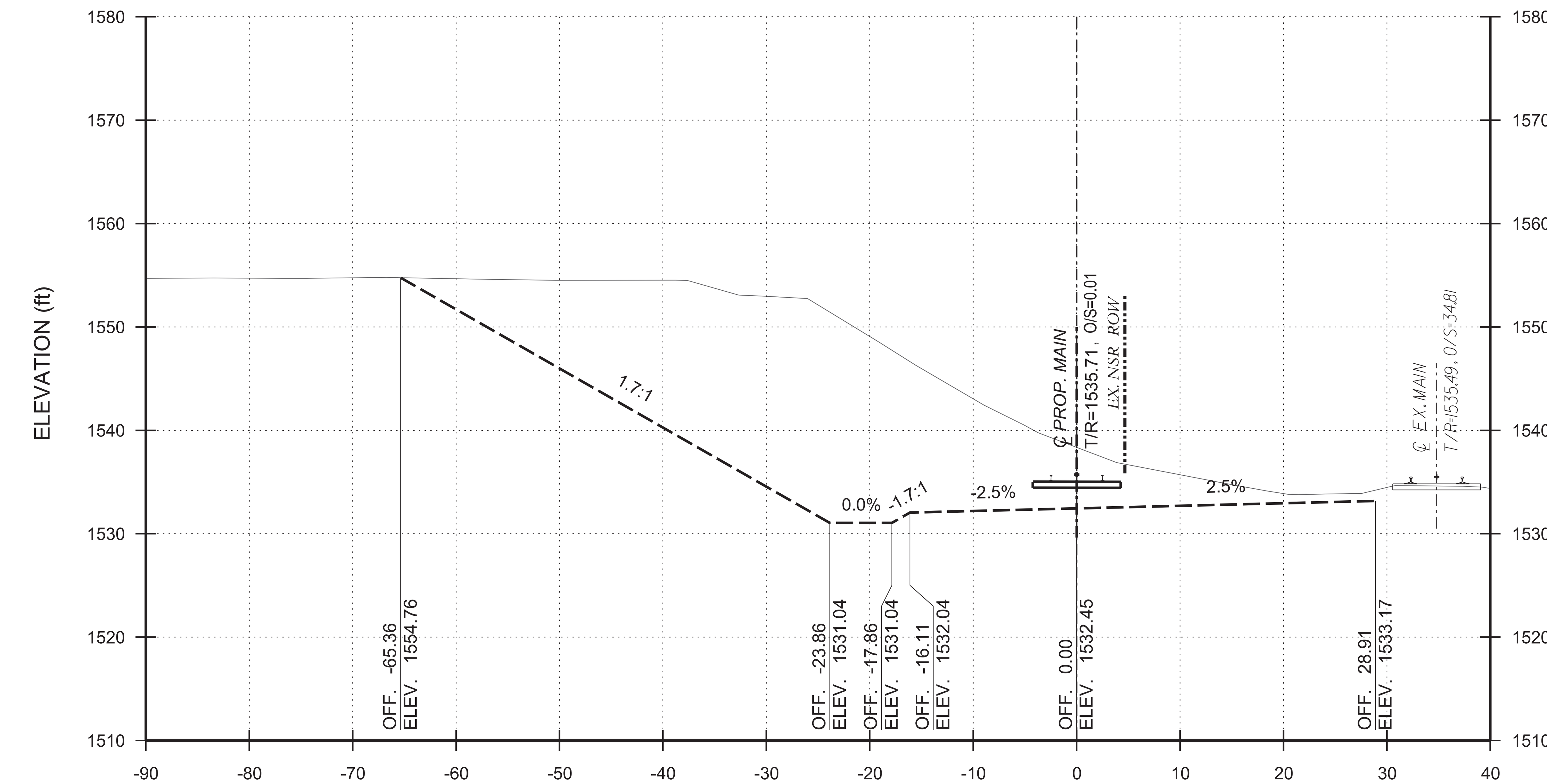
Printed: $DATES $TIMES



CUT AREA (SF) =6.38
FILL AREA (SF) =1.38

CUT VOLUME (CY) = 11.82
FILL VOLUME (CY) = 2.55

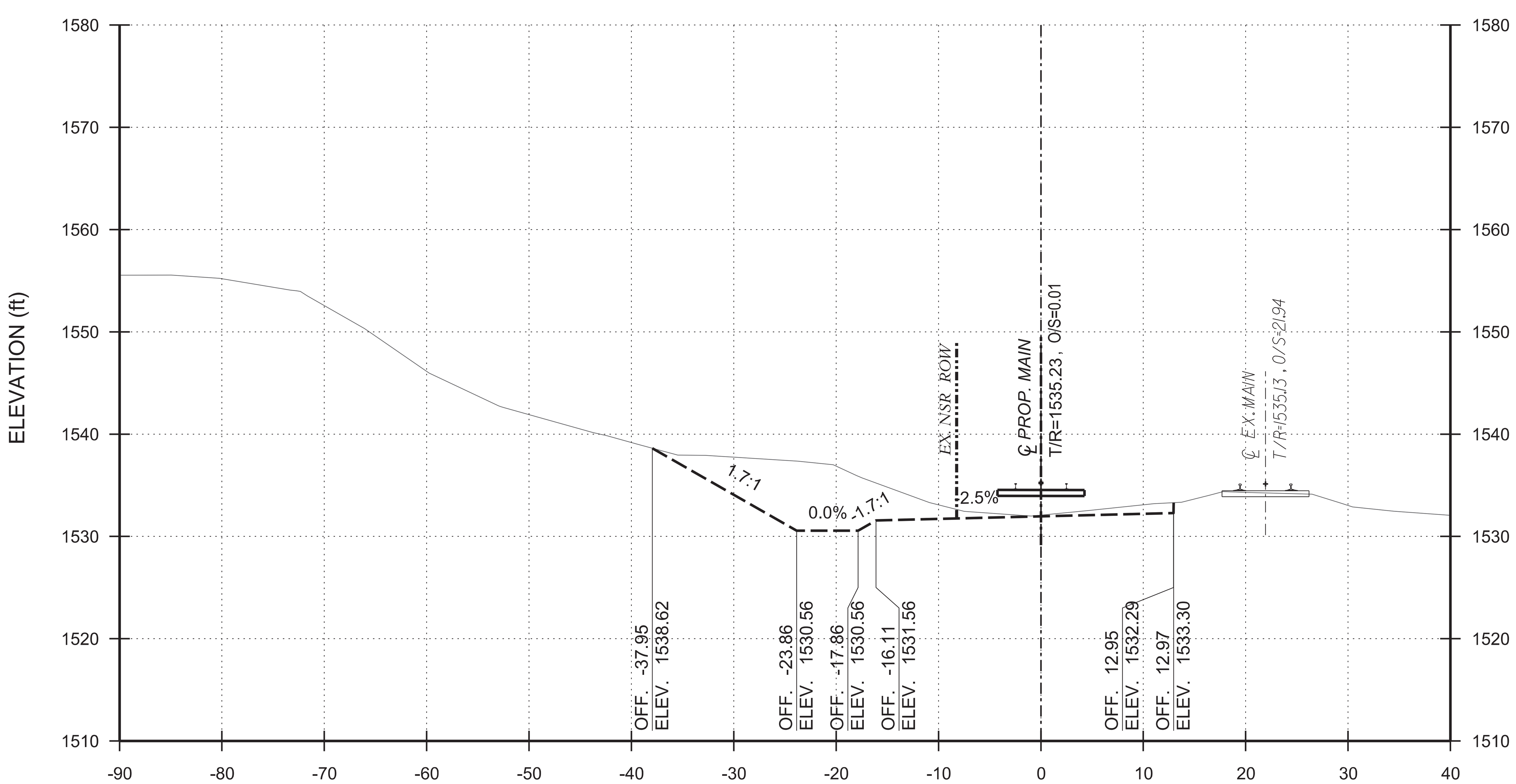
STA. 241+00



CUT AREA (SF) =831.88
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 1761.12
FILL VOLUME (CY) = 0.00

STA. 243+00



CUT AREA (SF) =119.12
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 232.41
FILL VOLUME (CY) = 2.55

STA. 242+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY E CROUCH NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NS NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

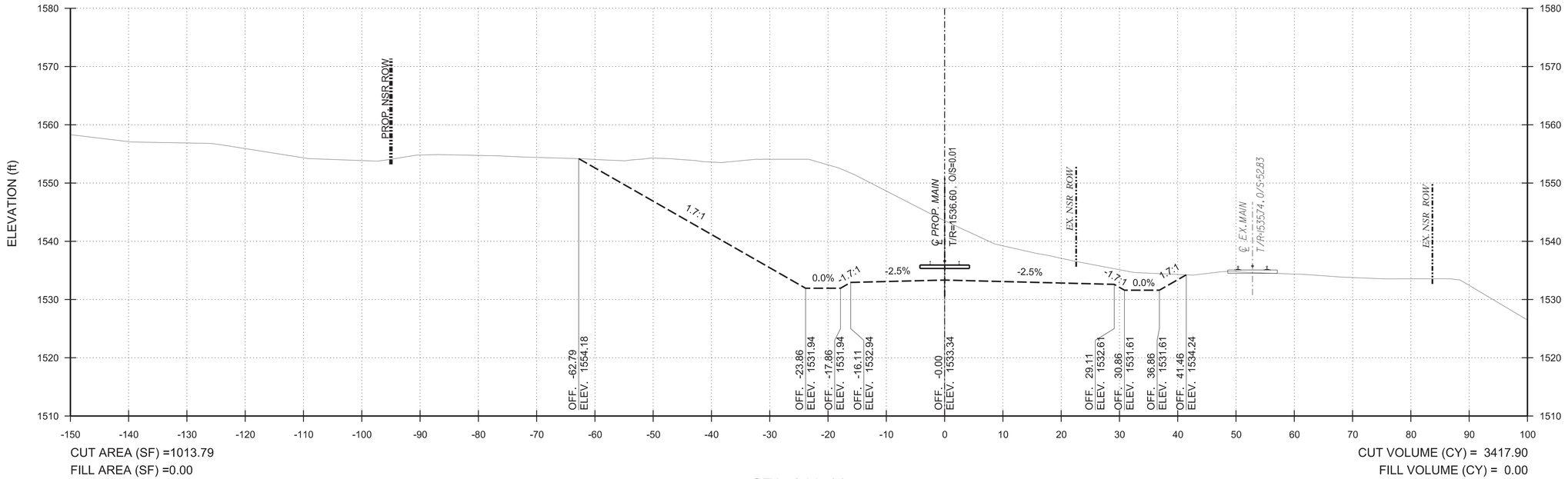
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 241+00 - 243+00

Drawing Number: TD-2025-49

Sheet Number: 16/81

Printed: $DATES $TIMES



CUT AREA (SF) =1013.79
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 3417.90
FILL VOLUME (CY) = 0.00

STA. 244+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 057809 E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

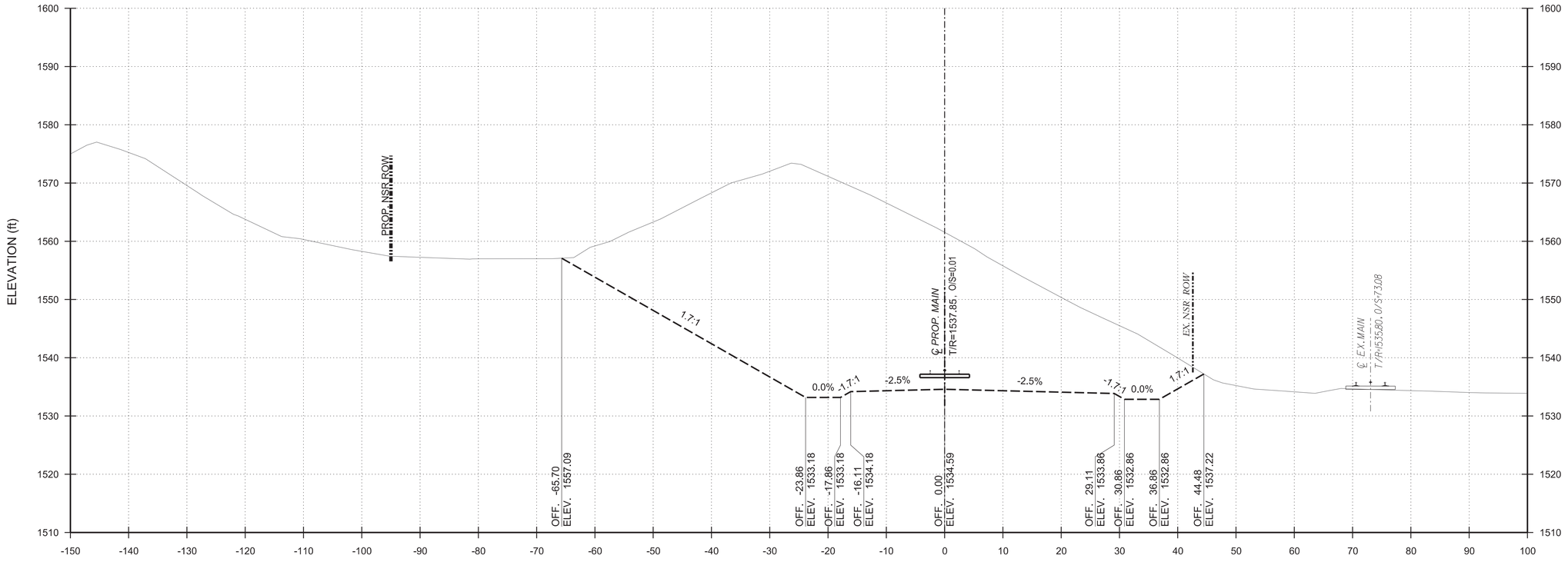
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 244+00

Drawing Number: TD-2025-49

Sheet Number: 17/81



CUT AREA (SF) =2336.72
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6204.64
FILL VOLUME (CY) = 0.00

STA. 245+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 057809 E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

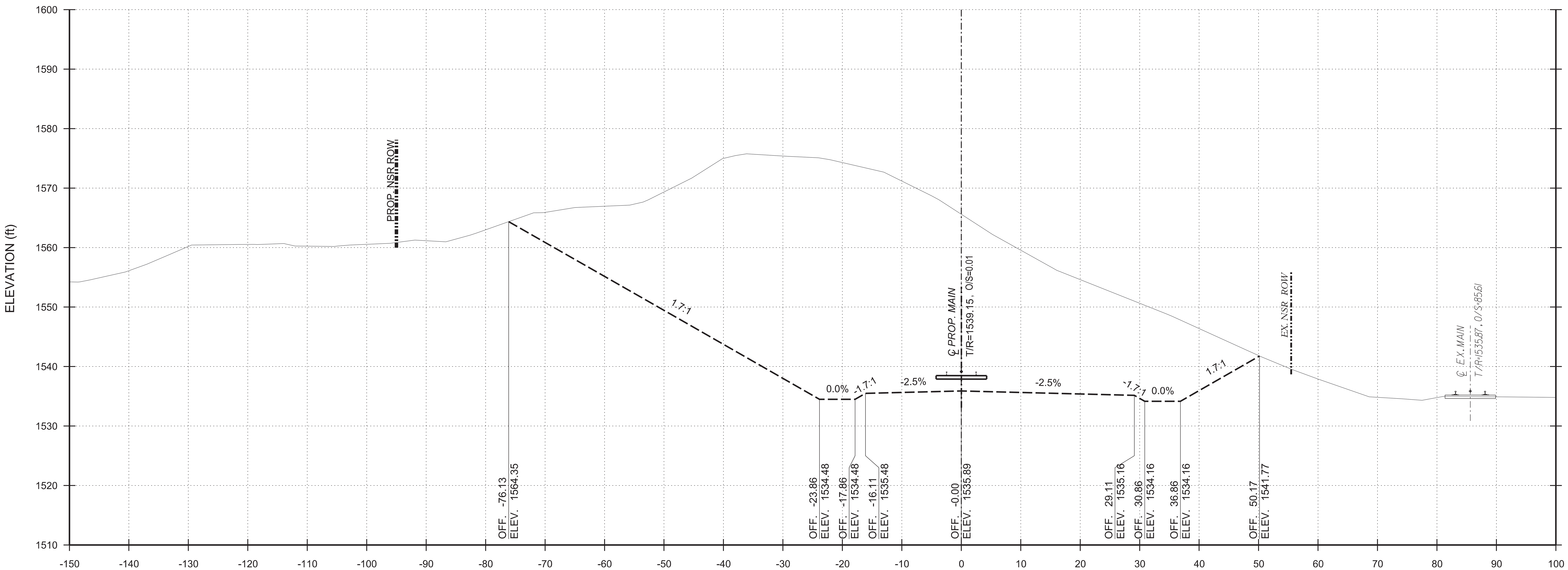
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 245+00

Drawing Number: TD-2025-49

Sheet Number: 18/81



CUT AREA (SF) =2806.24
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 9524.00
FILL VOLUME (CY) = 0.00

STA. 246+00

V-Scale: 1"=10' 5 0 10 20
H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

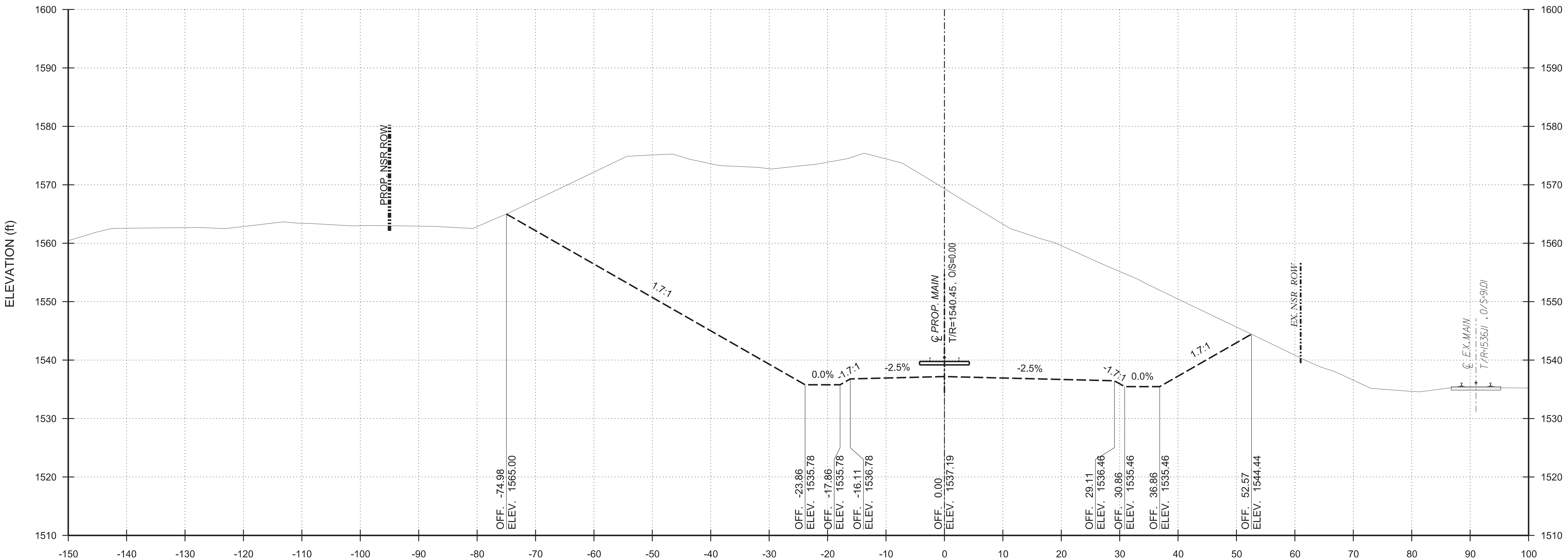
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 246+00
Drawing Number: TD-2025-49
Sheet Number: 19/81

Printed: $DATES $TIMES



CUT AREA (SF) =2996.39
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 10745.62
FILL VOLUME (CY) = 0.00

STA. 247+00

V-Scale: 1"=10'   H-Scale: 1"=100'

R	By	Date	Revision Description

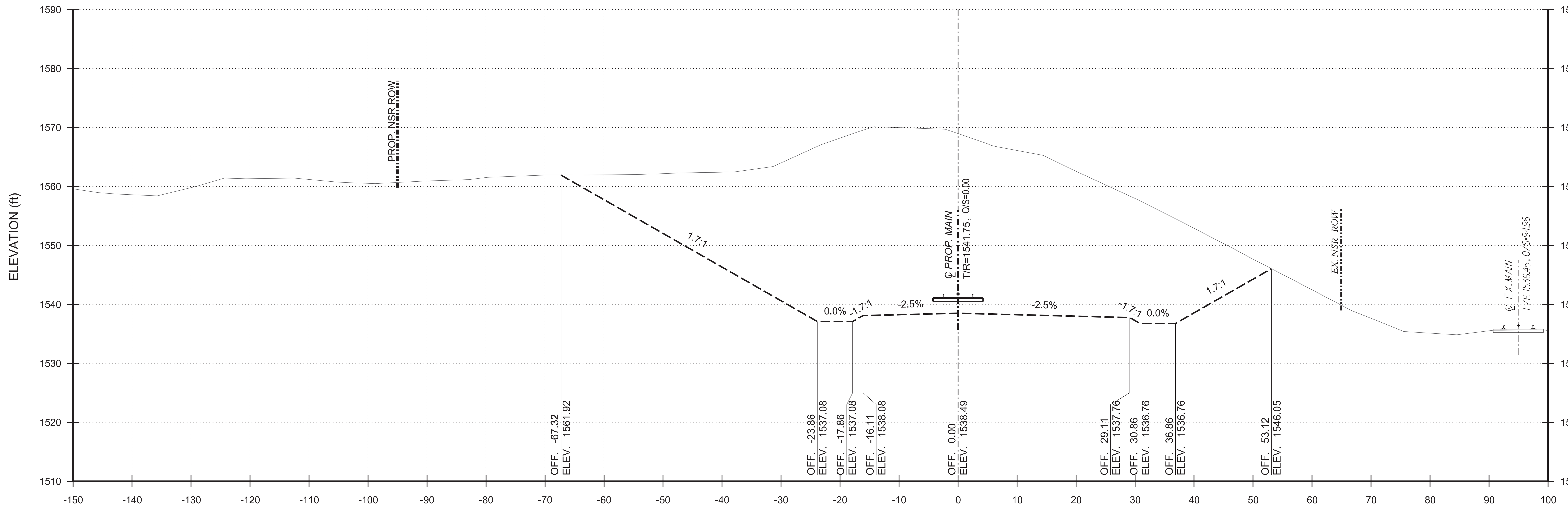
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	City / State: HAZLETON, PENNSYLVANIA
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 247+00
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	Drawing Number: TD-2025-49 Sheet Number: 20/81

Printed: $DATES $TIMES



CUT AREA (SF) =2382.27
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 9960.48
FILL VOLUME (CY) = 0.00

STA. 248+00

V-Scale: 1"=10' H-Scale: 1"=100'

R	By	Date	Revision Description

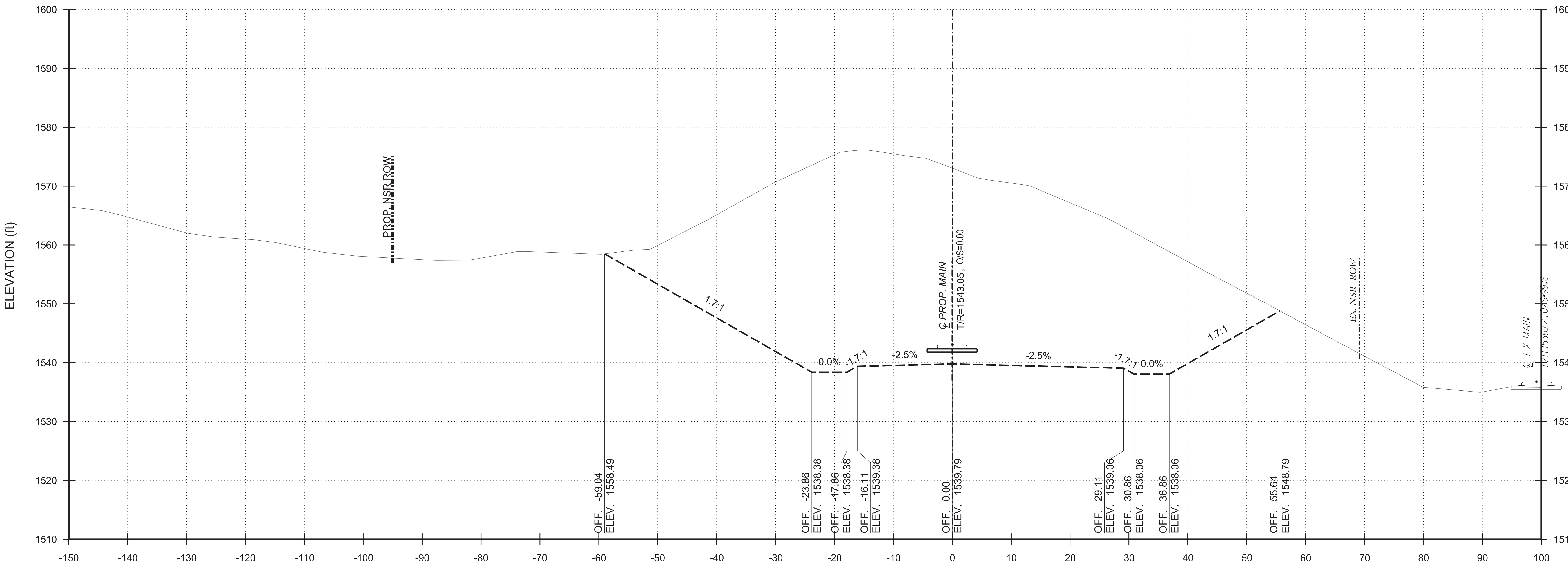
PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 248+00
Drawing Number: TD-2025-49
Sheet Number: 21/81



CUT AREA (SF) =2656.03
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 9330.18
FILL VOLUME (CY) = 0.00

STA. 249+00

V-Scale: 1"=10' 5 0 10 20
H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

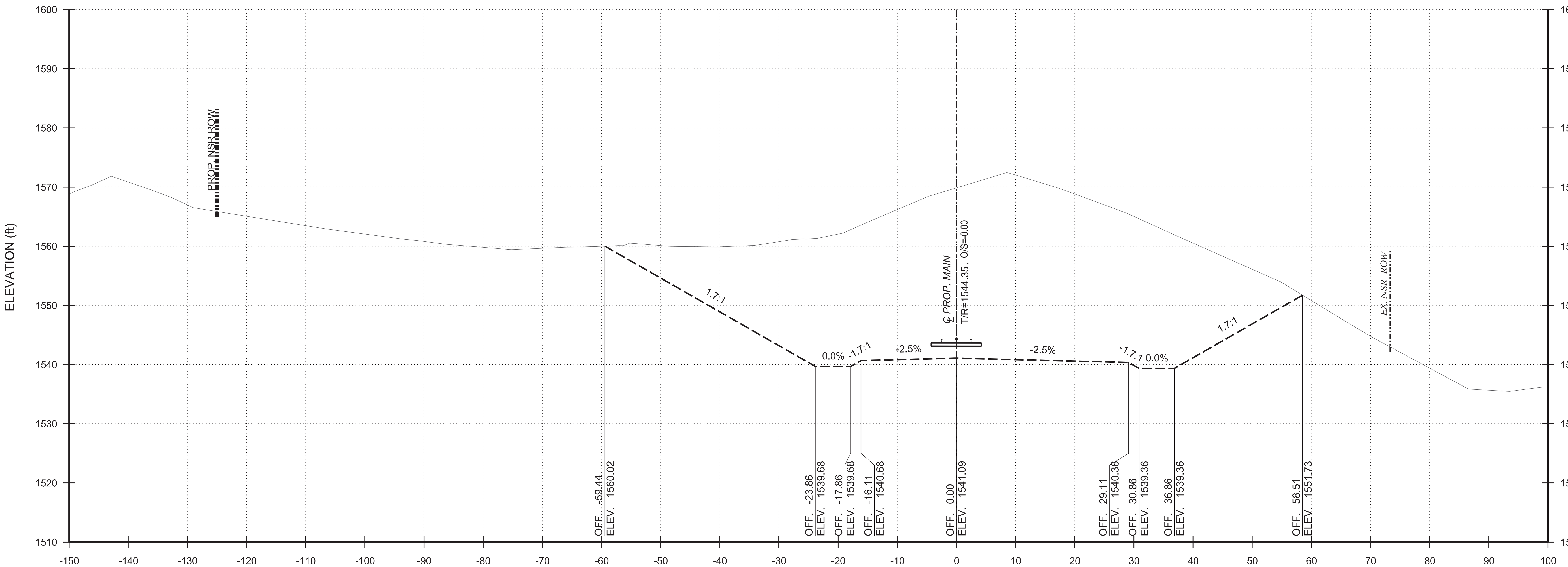
crouch engineering inc.

NORFOLK SOUTHERN
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 249+00
Drawing Number: TD-2025-49
Sheet Number: 22/81

Printed: $DATES $TIMES



CUT AREA (SF) =2247.15
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 9079.97
FILL VOLUME (CY) = 0.00

STA. 250+00

V-Scale: 1"=10' H-Scale: 1"=100'

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

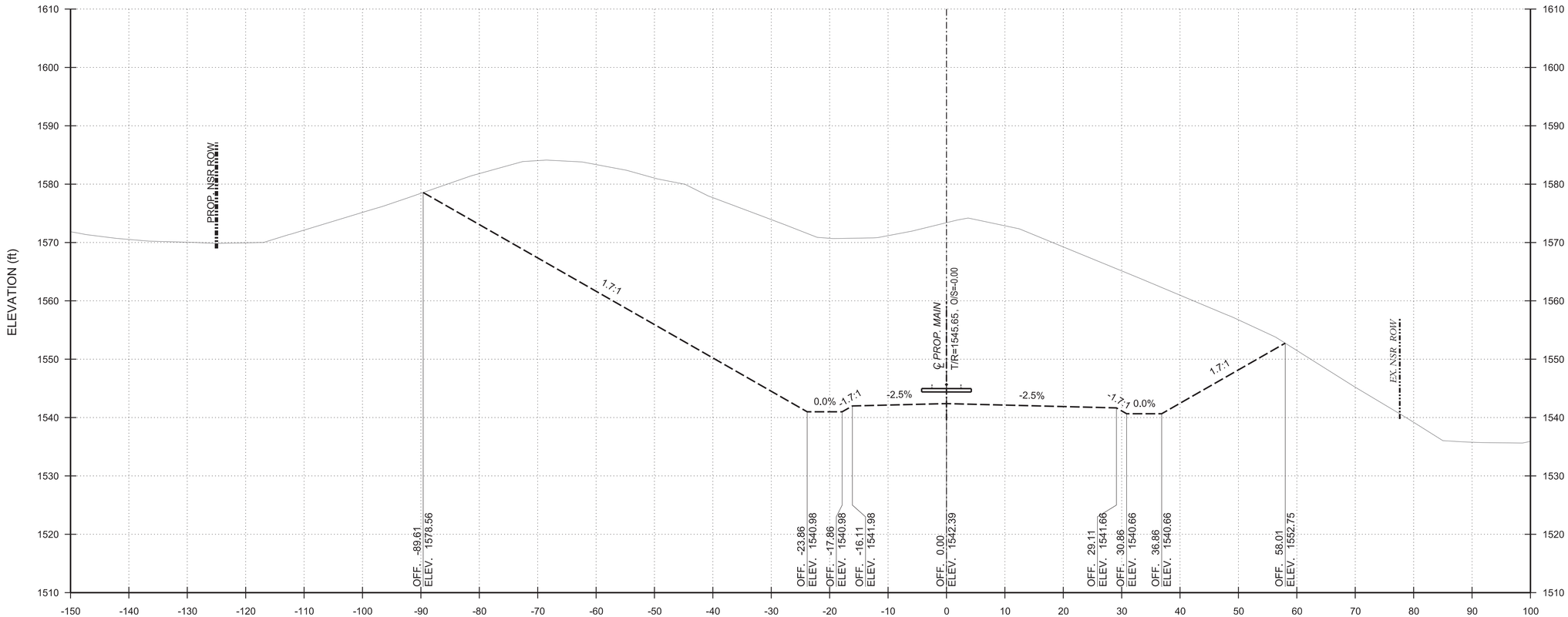
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 250+00
Drawing Number: TD-2025-49
Sheet Number: 23/81

Printed: $DATES $TIMES



CUT AREA (SF) =3293.54
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 10260.54
FILL VOLUME (CY) = 0.00

STA. 251+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

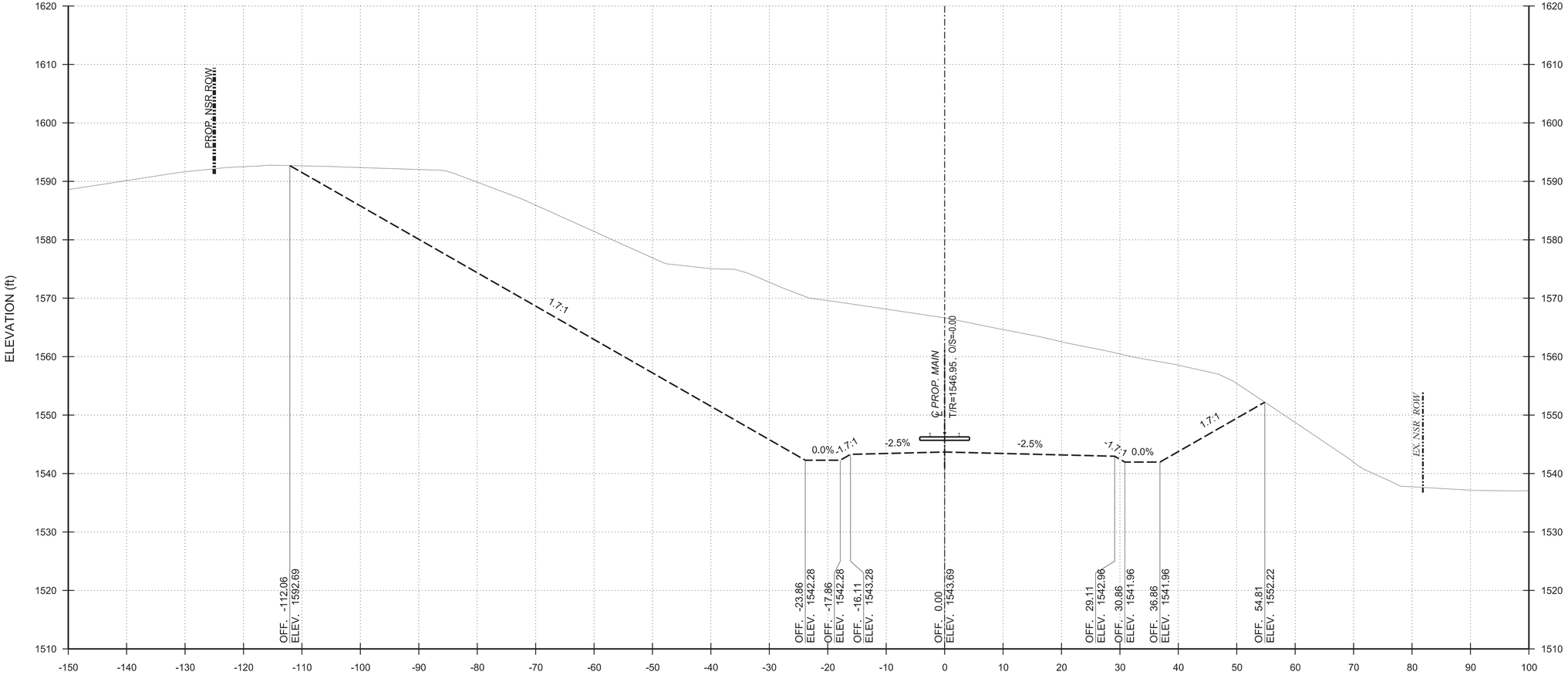
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	CROSS SECTIONS - STA. 251+00
Drawing Number:	TD-2025-49
Sheet Number:	24 / 81



CUT AREA (SF) =2951.57
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 11565.02
FILL VOLUME (CY) = 0.00

STA. 252+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

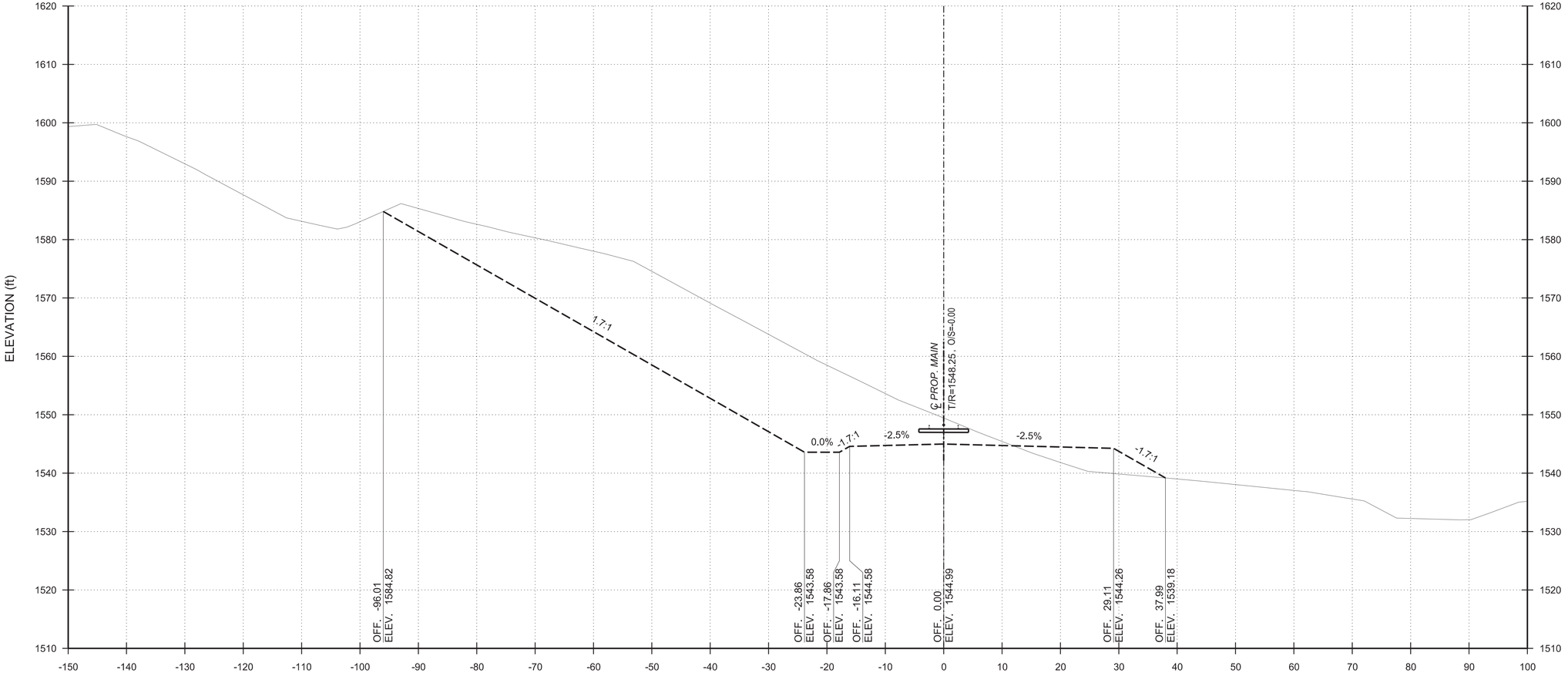
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 252+00

Drawing Number: TD-2025-49

Sheet Number: 25/81



CUT AREA (SF) =1128.93
FILL AREA (SF) =64.59

CUT VOLUME (CY) = 7556.49
FILL VOLUME (CY) = 119.61

STA. 253+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

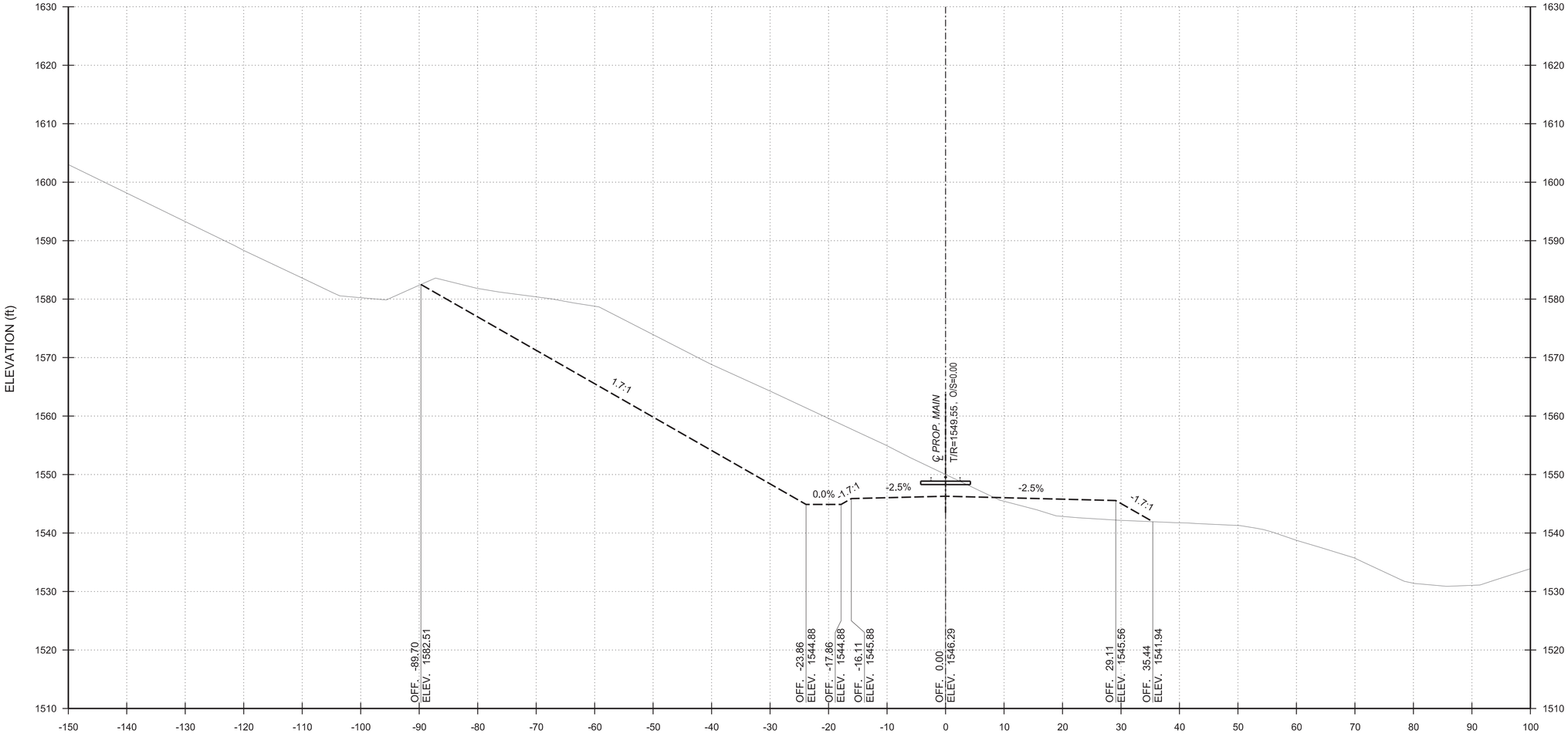
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 253+00

Drawing Number: TD-2025-49

Sheet Number: 26/81



CUT AREA (SF) =1000.39
FILL AREA (SF) =58.29

CUT VOLUME (CY) = 3943.19
FILL VOLUME (CY) = 227.54

STA. 254+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051903-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

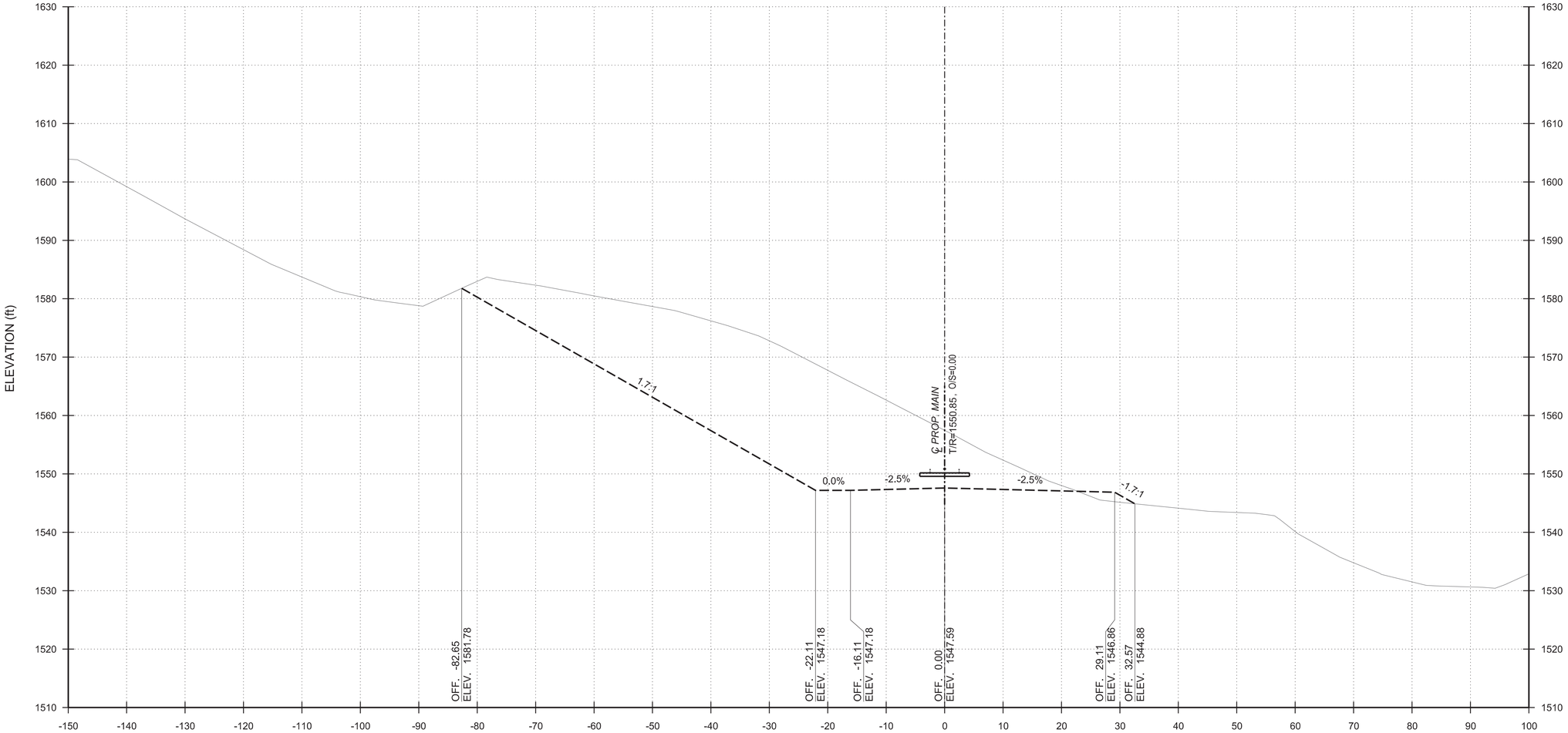
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 254+00

Drawing Number: TD-2025-49

Sheet Number: 27 / 81



CUT AREA (SF) =1416.92
FILL AREA (SF) =9.29

CUT VOLUME (CY) = 4476.49
FILL VOLUME (CY) = 125.13

STA. 255+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051808-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

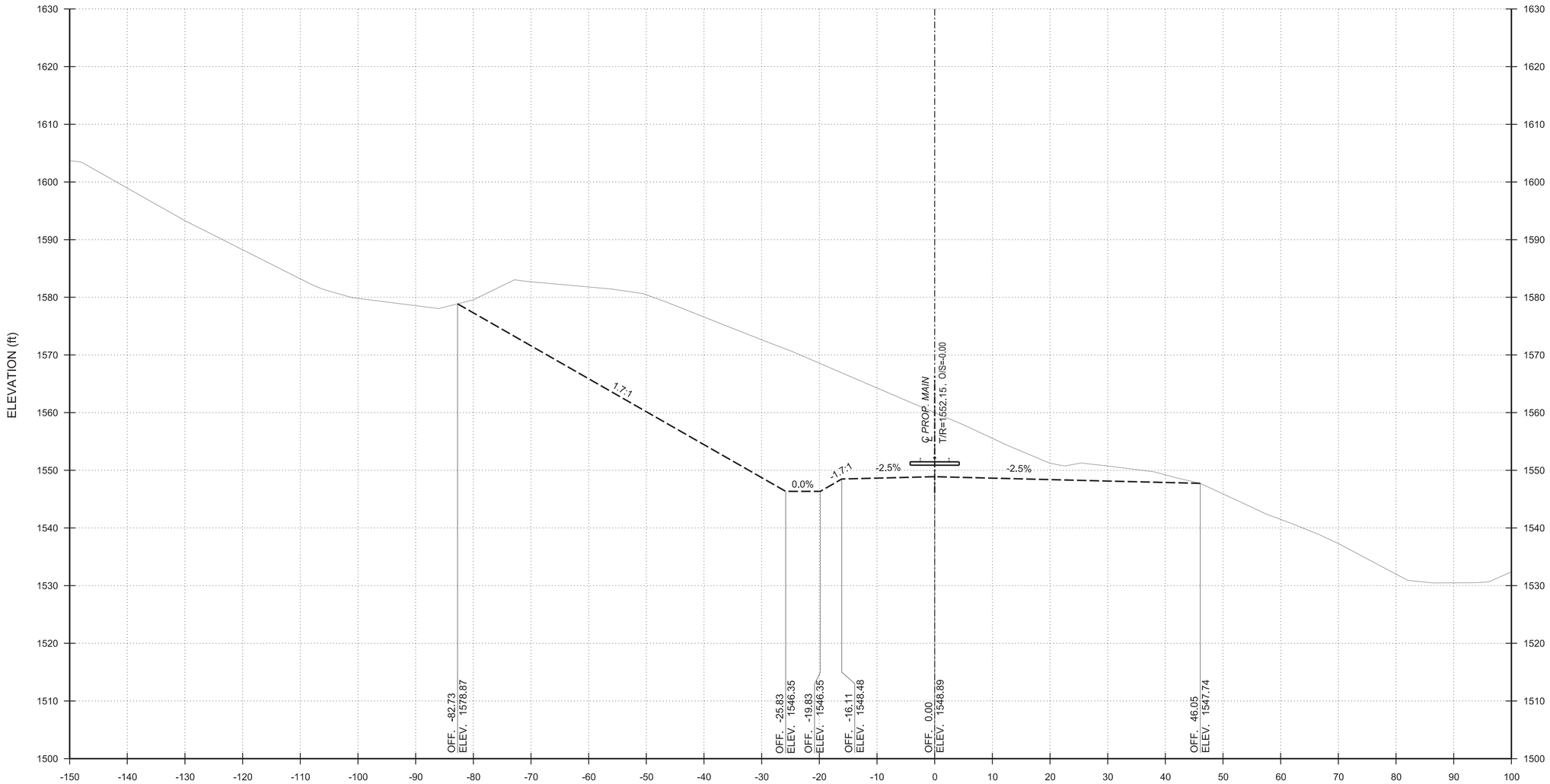
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 255+00
Drawing Number:	TD-2025-49
Sheet Number:	28 / 81



CUT AREA (SF) =1447.02
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5303.59
FILL VOLUME (CY) = 17.20

STA. 256+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051903-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

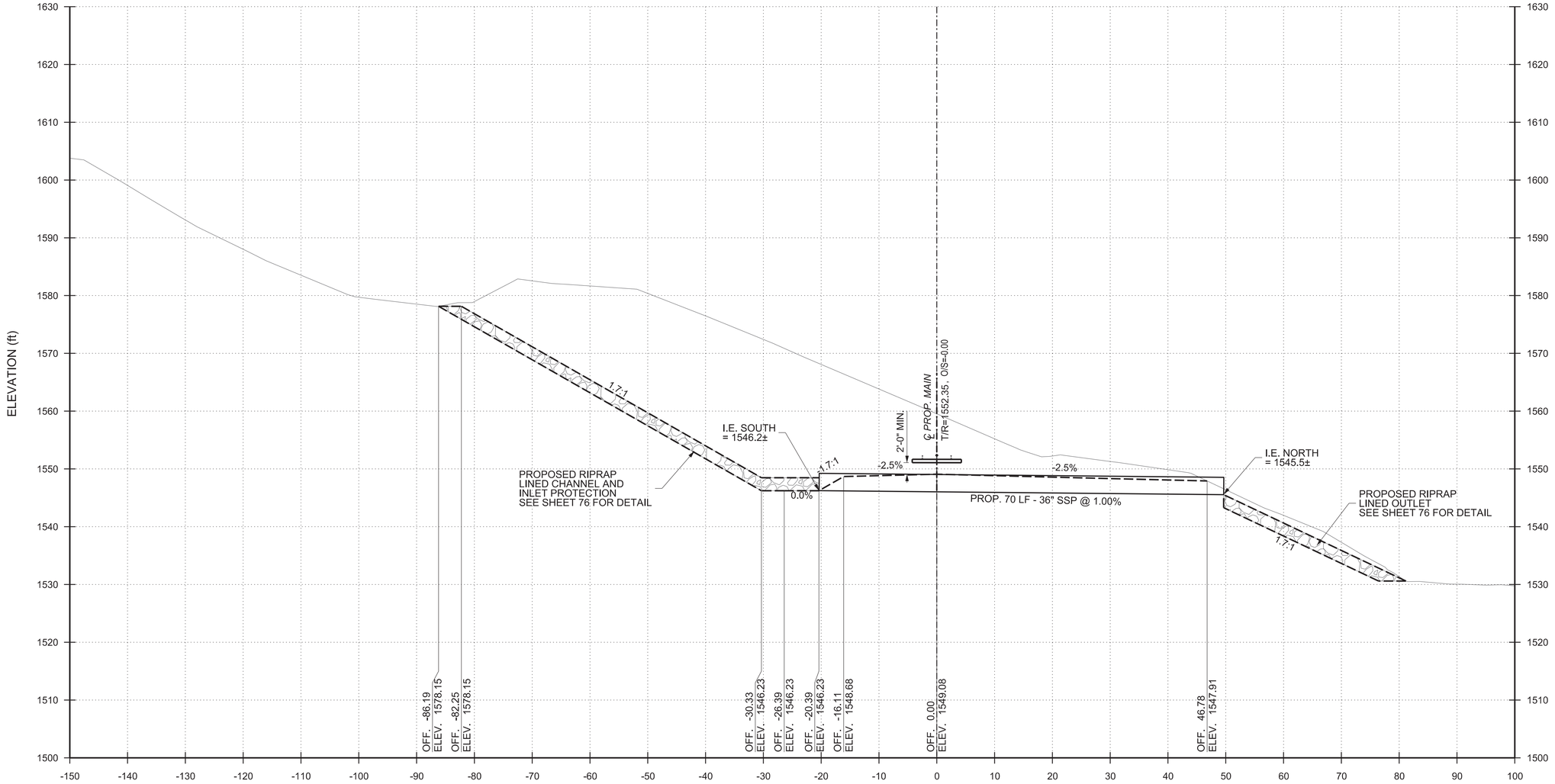
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 256+00

Drawing Number: TD-2025-49

Sheet Number: 29/81



STA. 256+15

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 051903-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

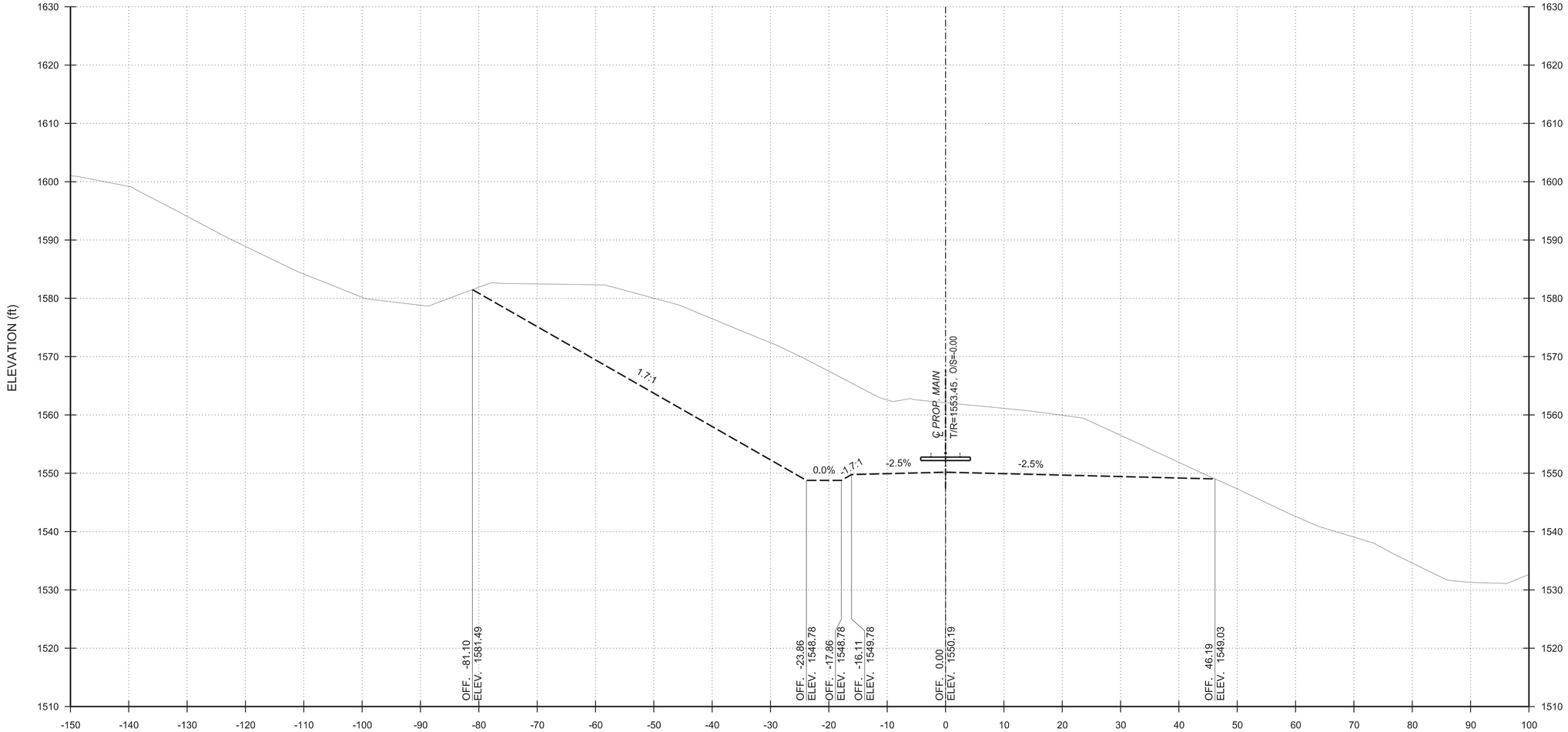
NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING — DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 256+15

Drawing Number: TD-2025-49

Sheet Number: 30/81



CUT AREA (SF) =1512.27
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5480.16
FILL VOLUME (CY) = 0.00

STA. 257+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051903-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

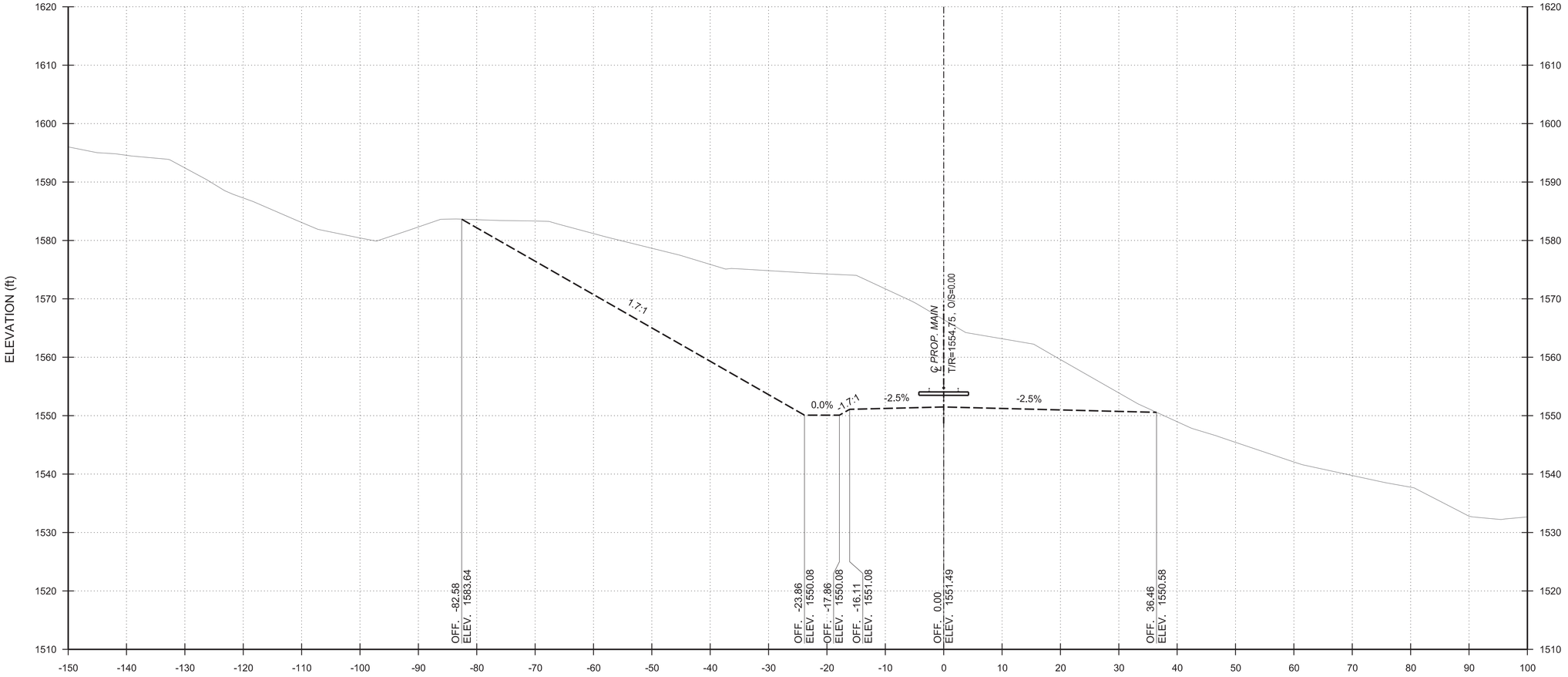
R	By	Date	Revision Description

NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	CROSS SECTIONS - STA. 257+00
Drawing Number:	TD-2025-49
Sheet Number:	31 / 81



CUT AREA (SF) =1535.60
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5644.19
FILL VOLUME (CY) = 0.00

STA. 258+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

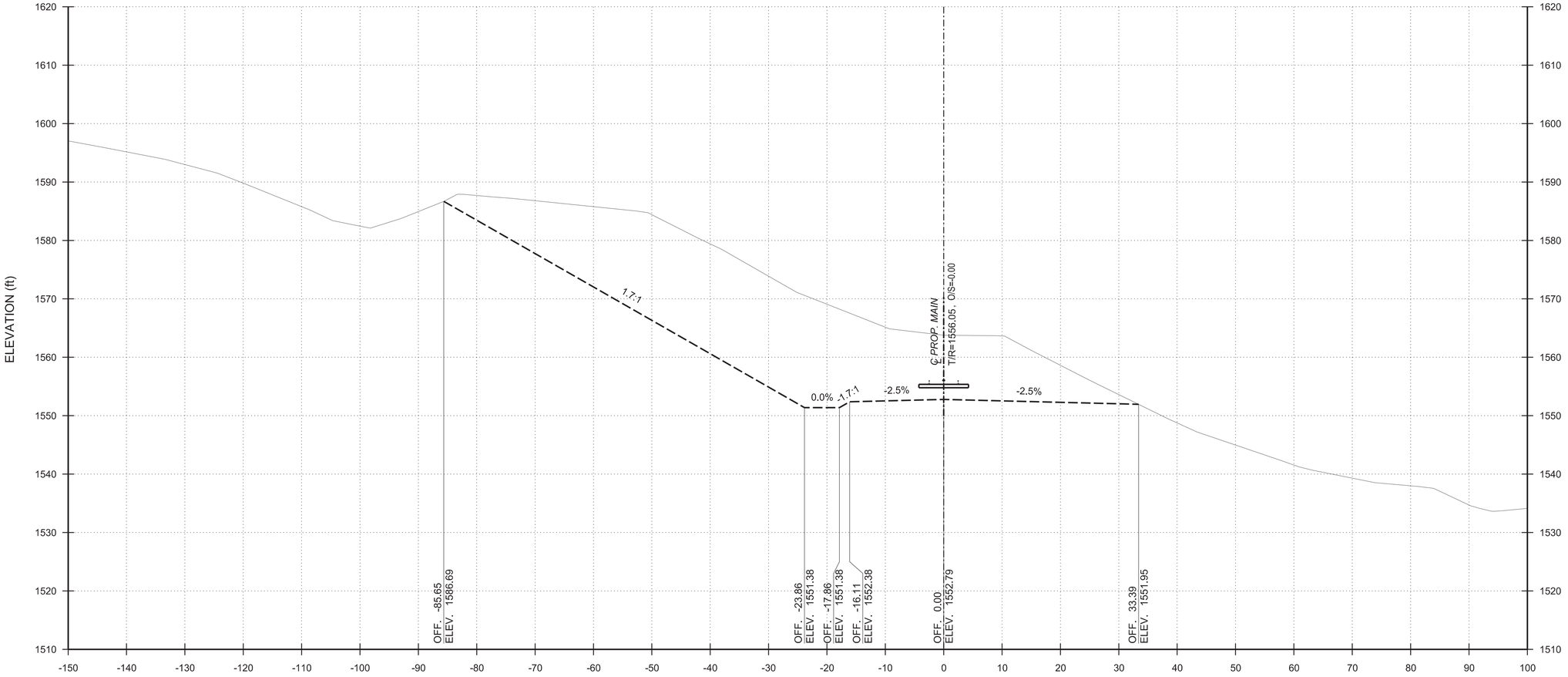
engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
				Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 258+00
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004
				Drawing Number:	TD-2025-49
				Sheet Number:	32/81



CUT AREA (SF) =1424.42
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5481.50
FILL VOLUME (CY) = 0.00

STA. 259+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

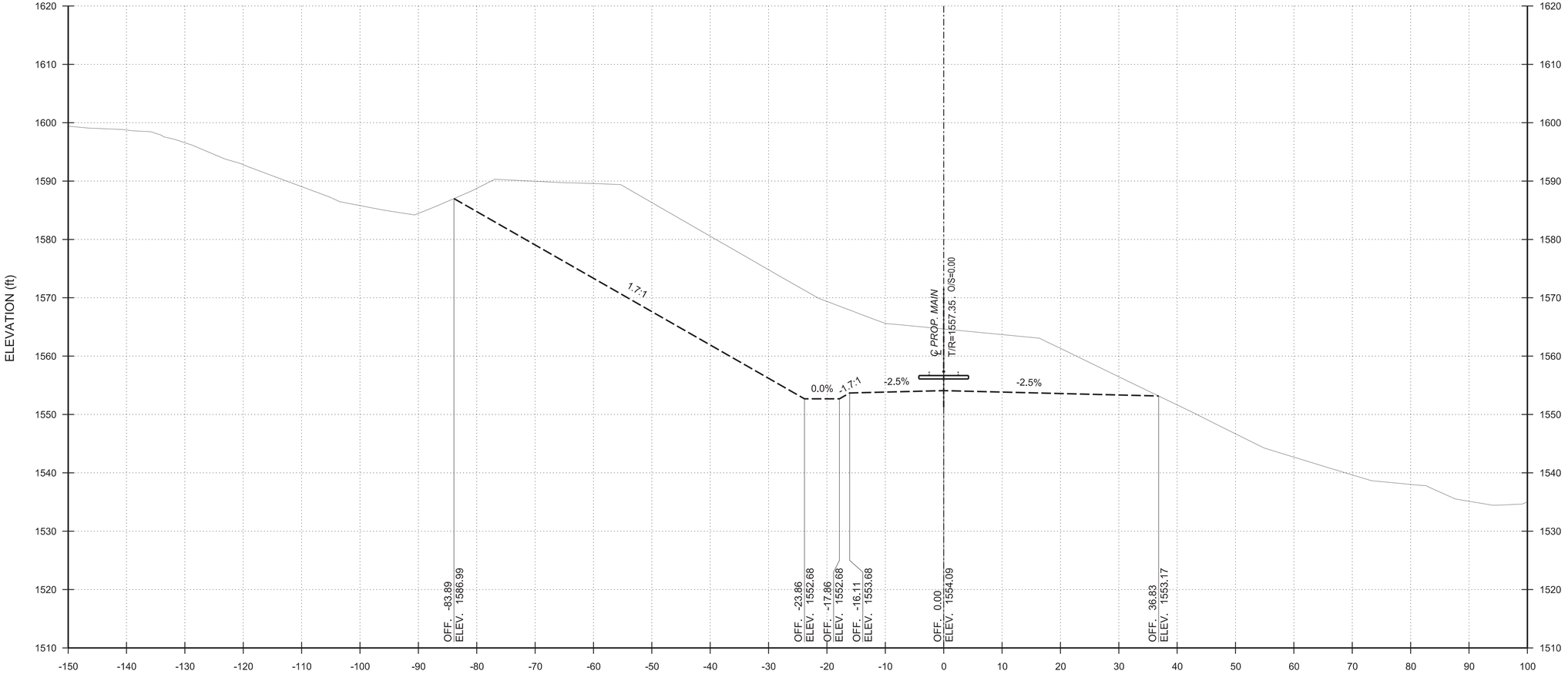
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004
				Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 259+00
				Drawing Number:	TD-2025-49
				Sheet Number:	33/81



CUT AREA (SF) =1471.49
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5362.79
FILL VOLUME (CY) = 0.00

STA. 260+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

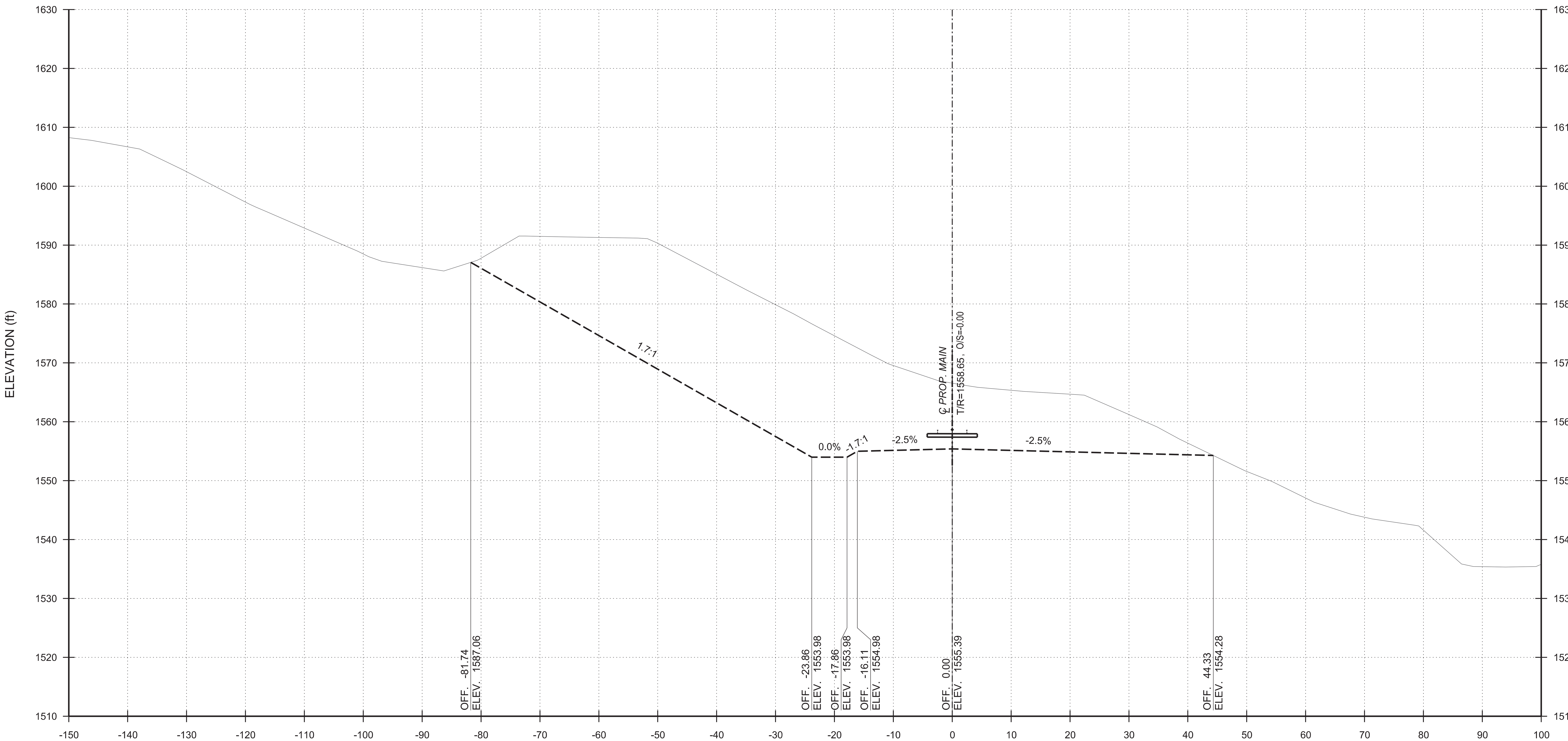
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 260+00
Drawing Number: TD-2025-49
Sheet Number: 34/81



CUT AREA (SF) =1702.25
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5877.29
FILL VOLUME (CY) = 0.00

STA. 261+00

V-Scale: 1"=10'   H-Scale: 1"=100'

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

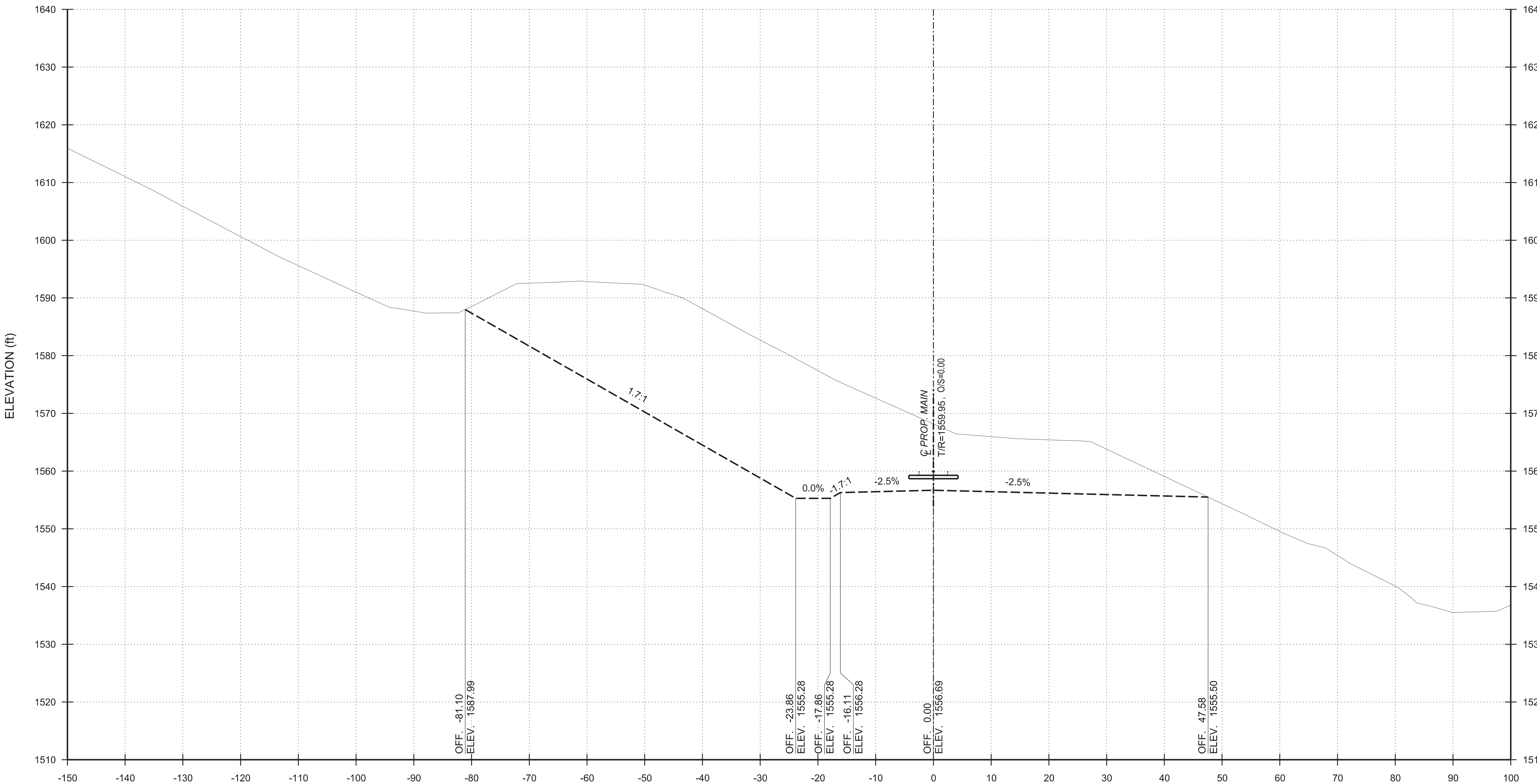
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN — ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 261+00
Drawing Number: TD-2025-49
Sheet Number: 35/81

Printed: $DATES $TIMES



CUT AREA (SF) =1785.00
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6457.86
FILL VOLUME (CY) = 0.00

STA. 262+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATES $TIMES

REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E COMMONWEALTH OF PENNSYLVANIA

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY		
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

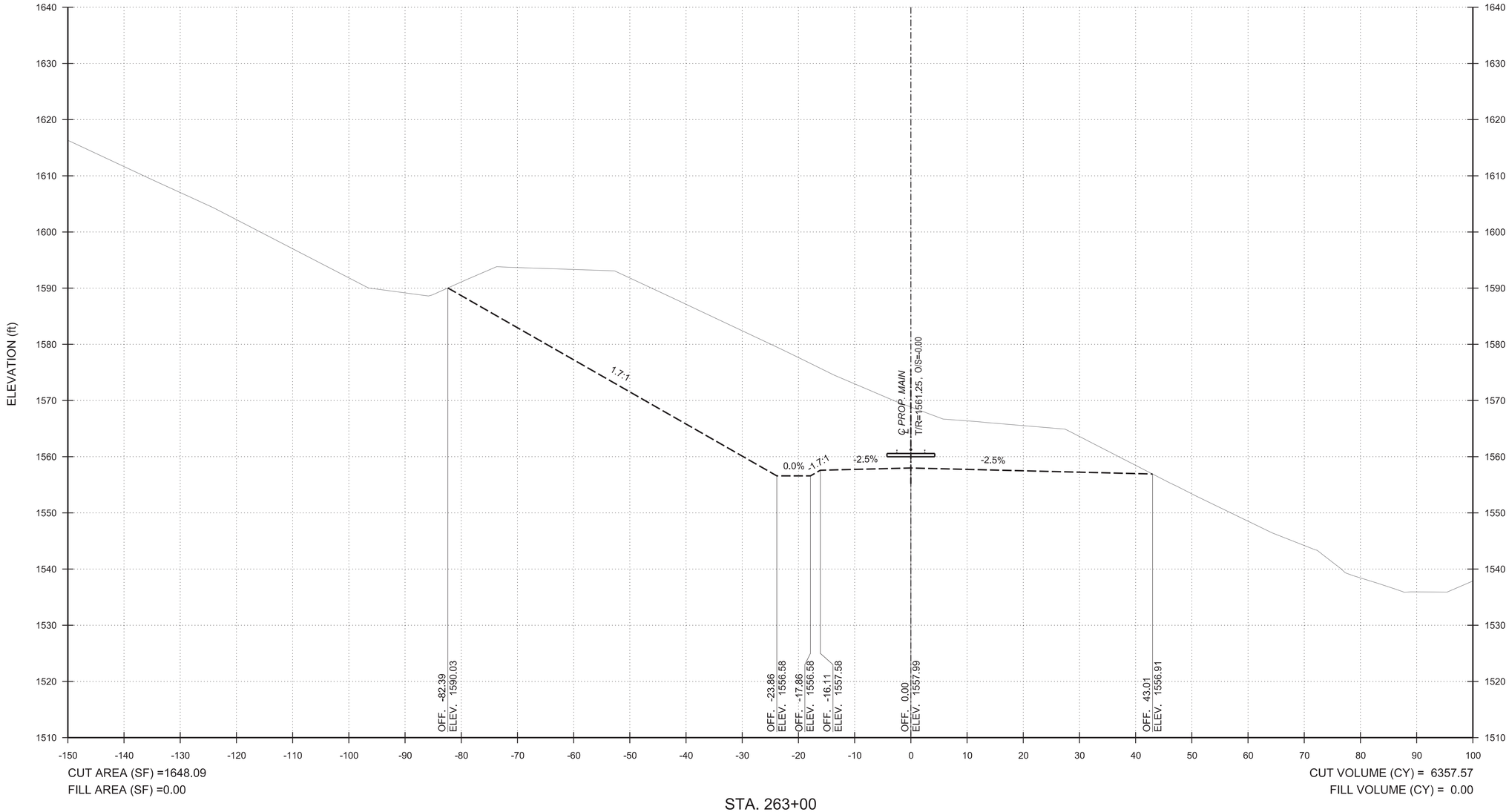
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 262+00

Drawing Number: TD-2025-49

Sheet Number: 36/81



CUT AREA (SF) =1648.09
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6357.57
FILL VOLUME (CY) = 0.00

STA. 263+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

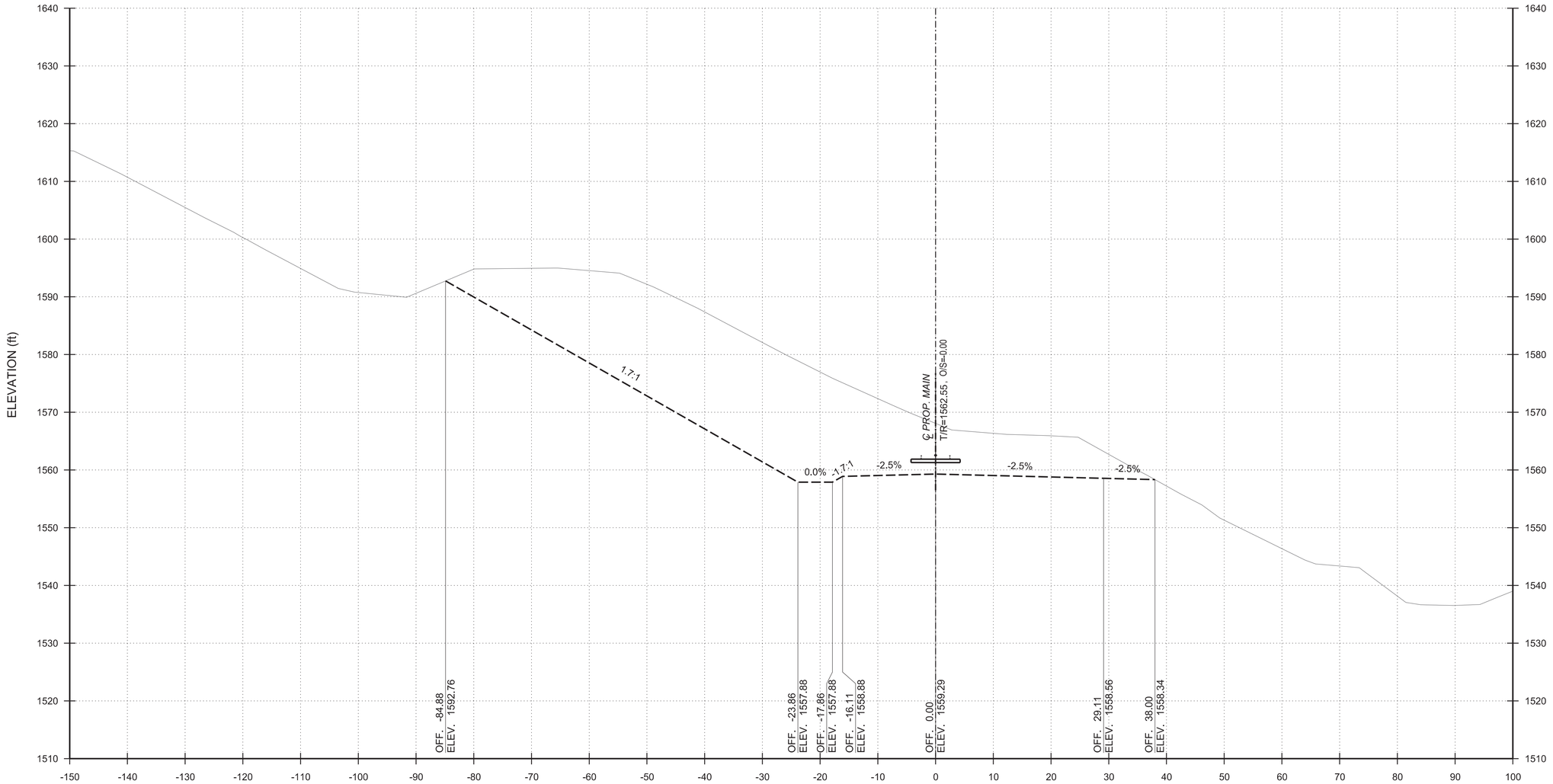
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 263+00

Drawing Number: TD-2025-49

Sheet Number: 37/81



CUT AREA (SF) =1512.24
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5852.46
FILL VOLUME (CY) = 0.00

STA. 264+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 057802-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

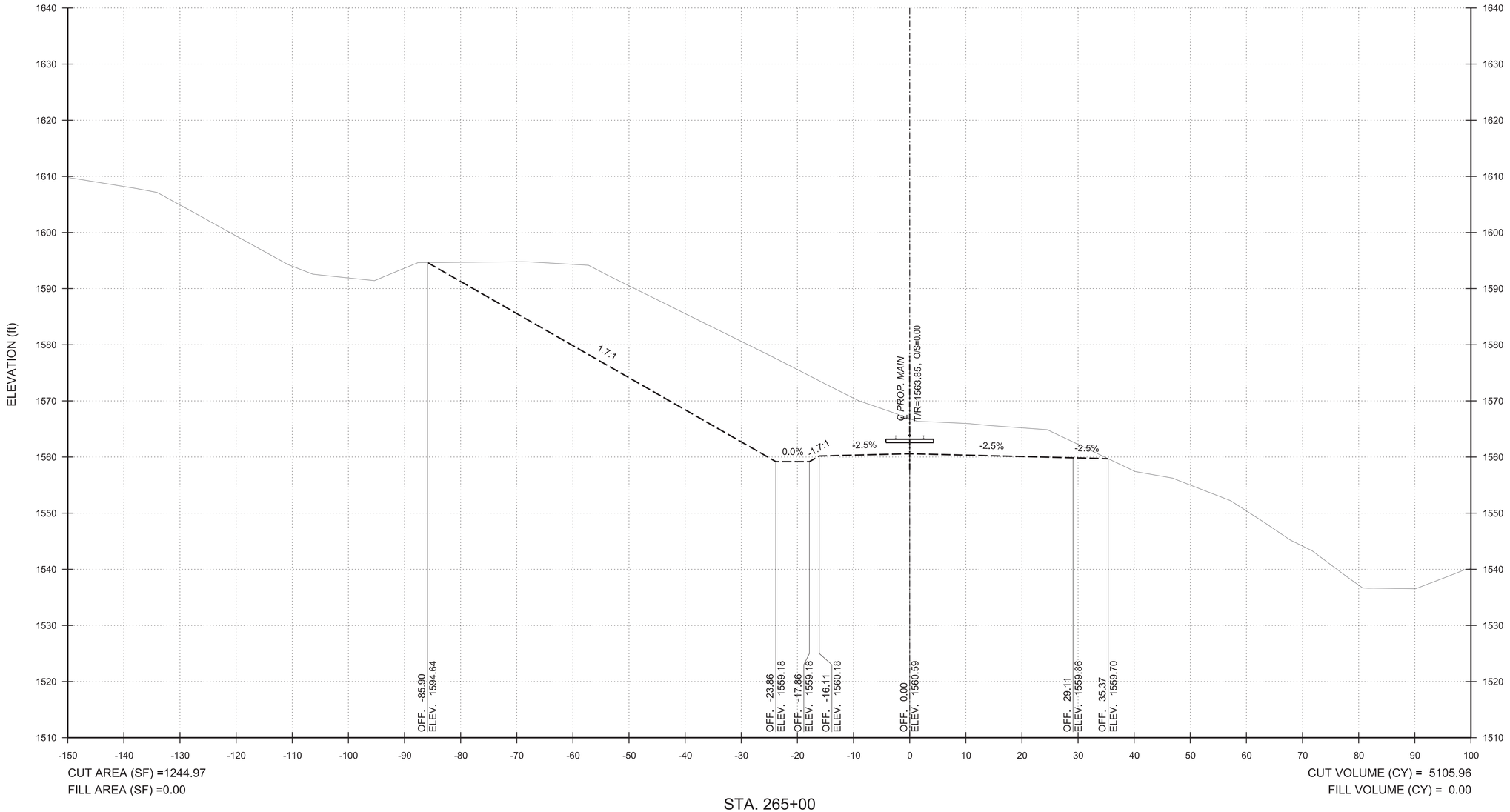
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 264+00

Drawing Number: TD-2025-49

Sheet Number: 38/81



CUT AREA (SF) =1244.97
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5105.96
FILL VOLUME (CY) = 0.00

STA. 265+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY E. CROUCH
ENGINEER
NO. 057802-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

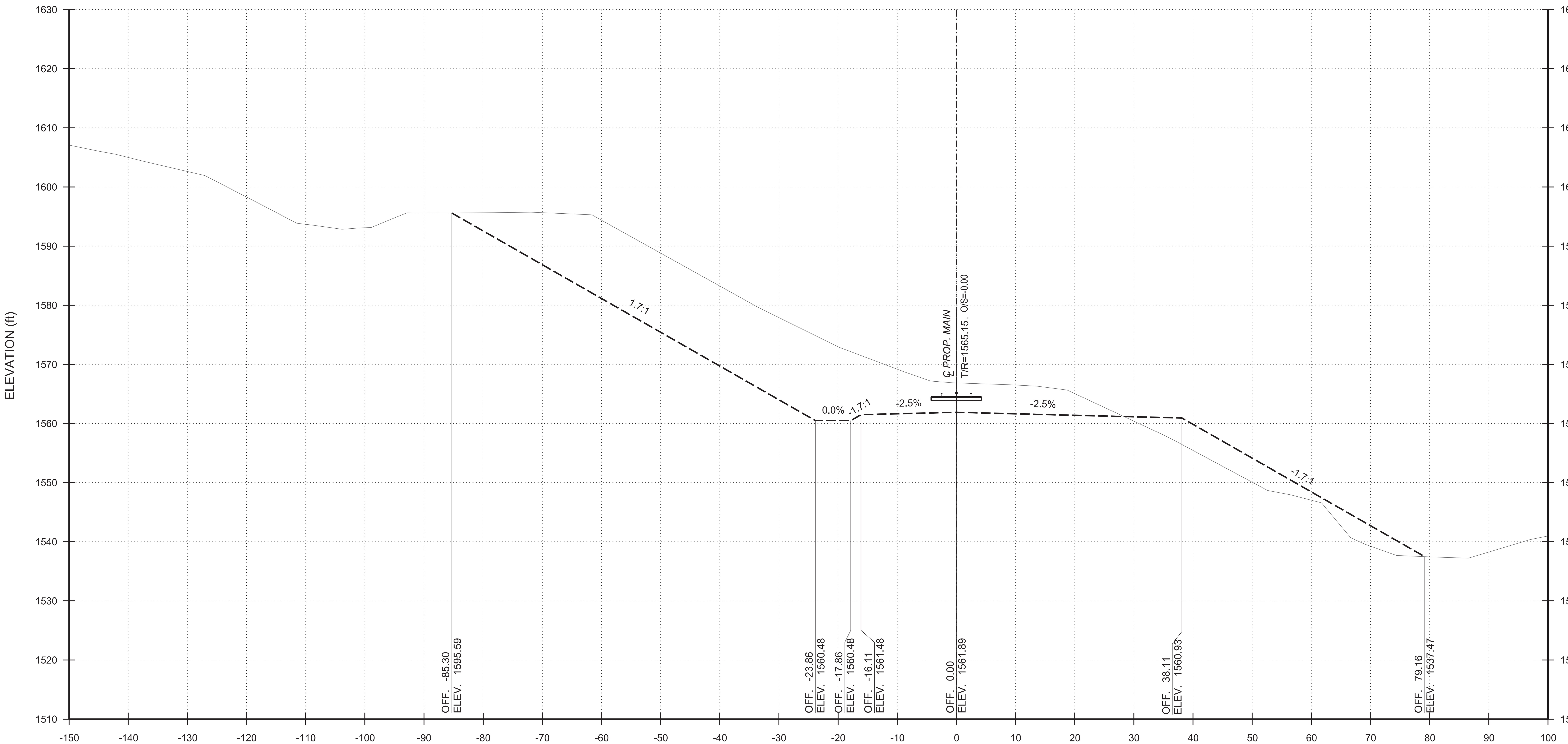
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 265+00
Drawing Number: TD-2025-49
Sheet Number: 39/81



CUT AREA (SF) =991.67
FILL AREA (SF) =147.63

CUT VOLUME (CY) = 4141.94
FILL VOLUME (CY) = 273.38

STA. 266+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 266+00

Drawing Number: TD-2025-49

Sheet Number: 40/81

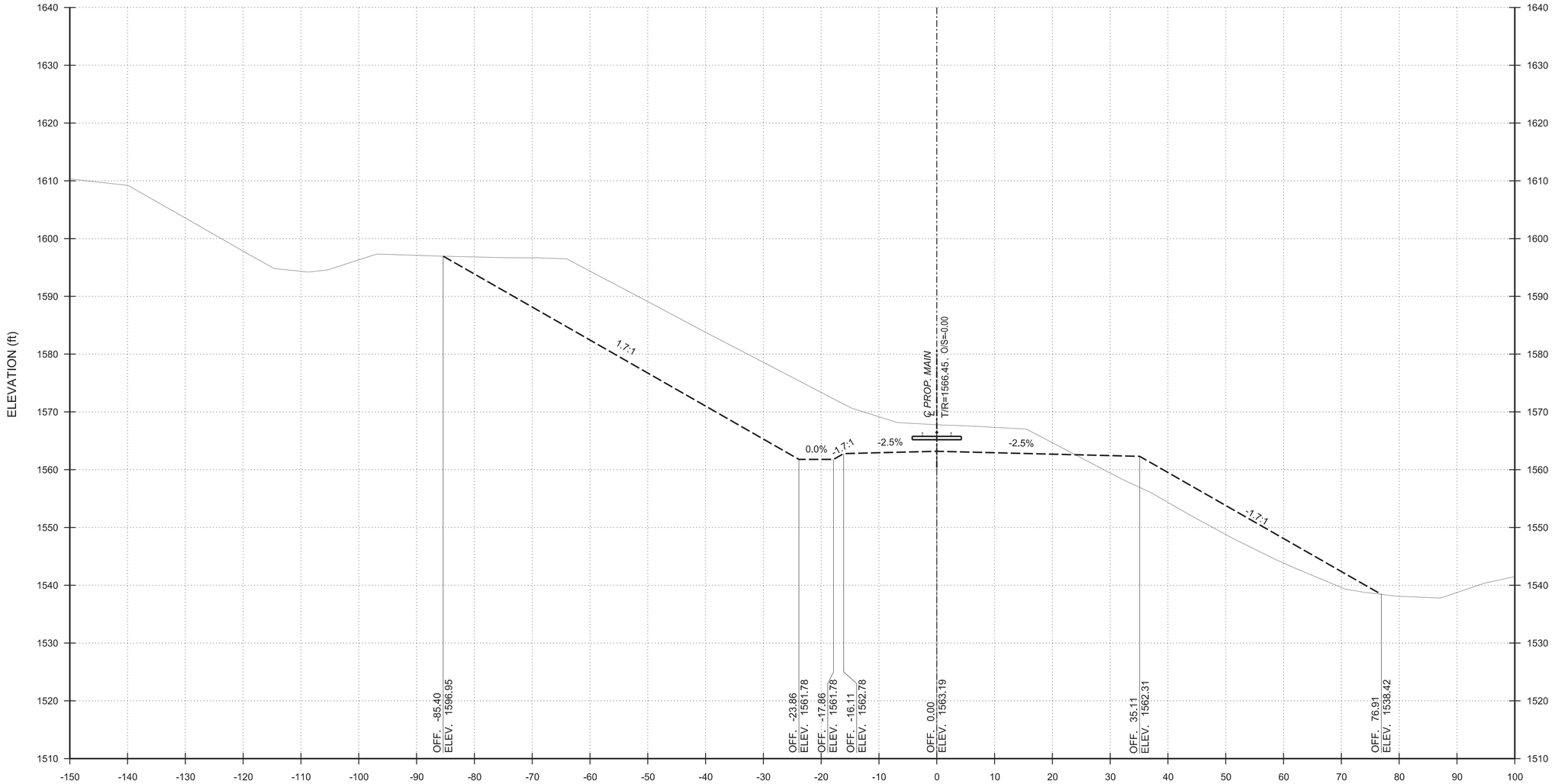
PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

engineering inc.

Printed: $DATES $TIMES



CUT AREA (SF) =904.55
FILL AREA (SF) =200.21

CUT VOLUME (CY) = 3511.51
FILL VOLUME (CY) = 644.15

STA. 267+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

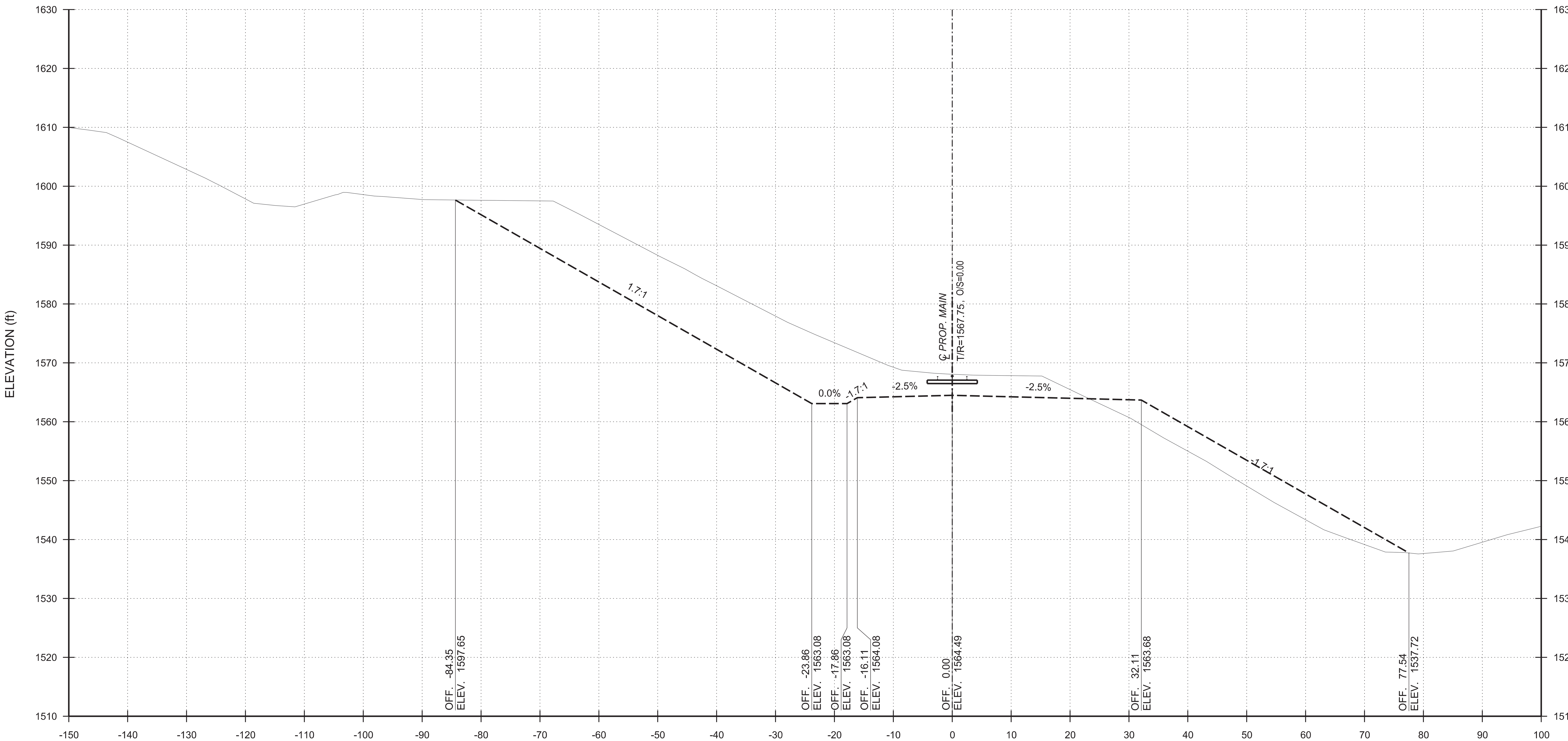
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 267+00

Drawing Number: TD-2025-49

Sheet Number: 41/81



CUT AREA (SF) =766.60
FILL AREA (SF) =189.03

CUT VOLUME (CY) = 3094.71
FILL VOLUME (CY) = 720.82

STA. 268+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATES $TIMES

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

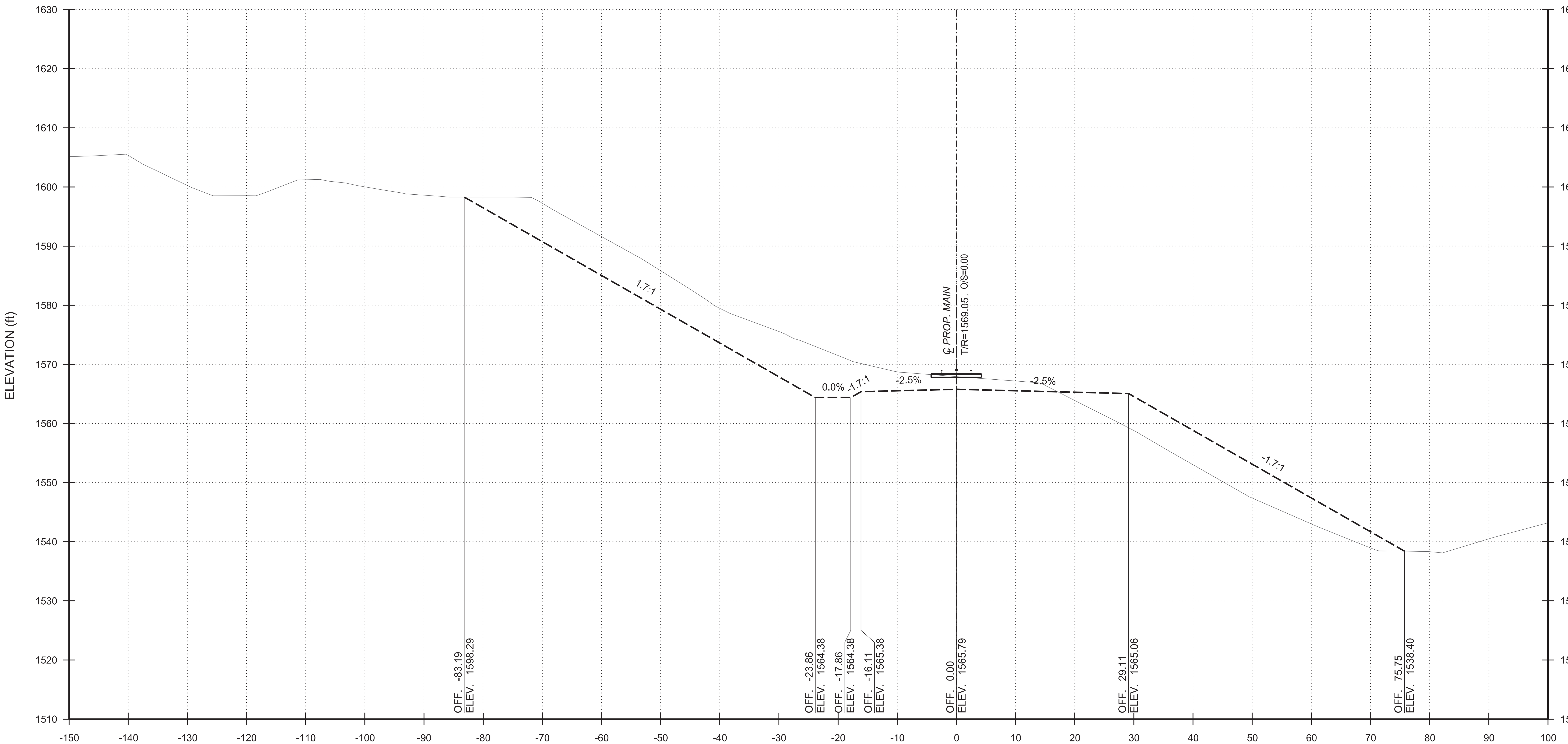
R	By	Date	Revision Description

NS NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 268+00
Drawing Number:	TD-2025-49
Sheet Number:	42/81



CUT AREA (SF) =490.48
FILL AREA (SF) =251.18

CUT VOLUME (CY) = 2327.93
FILL VOLUME (CY) = 815.21

STA. 269+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

engineering inc.

NORFOLK SOUTHERN

ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

City / State: HAZLETON, PENNSYLVANIA

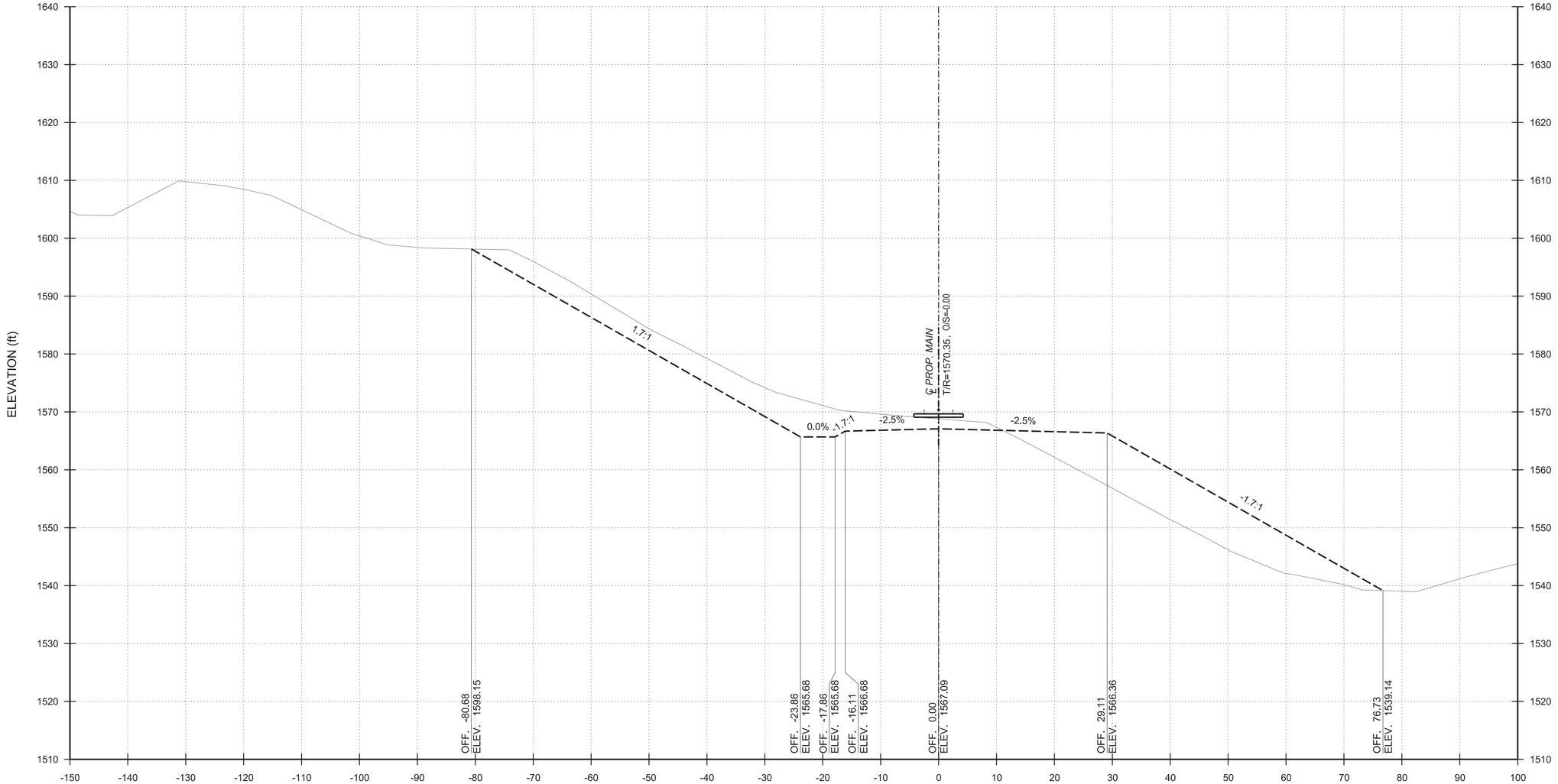
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 269+00

Drawing Number: TD-2025-49

Sheet Number: 43/81

Printed: SDATES $TIMES



CUT AREA (SF) =325.15
FILL AREA (SF) =395.08

CUT VOLUME (CY) = 1510.43
FILL VOLUME (CY) = 1196.77

STA. 270+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

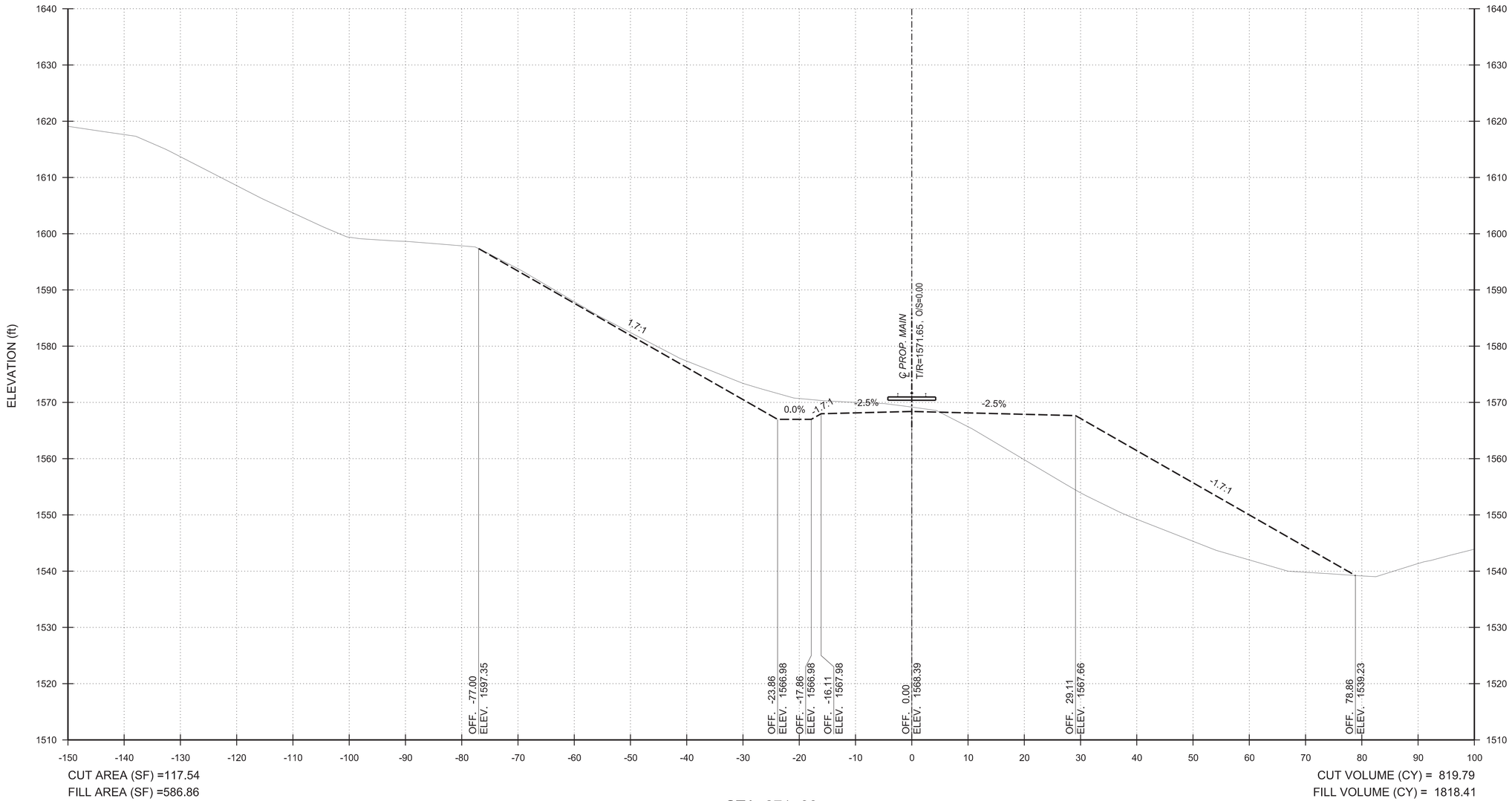
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 270+00

Drawing Number: TD-2025-49

Sheet Number: 44/81



CUT AREA (SF) =117.54
FILL AREA (SF) =586.86

CUT VOLUME (CY) = 819.79
FILL VOLUME (CY) = 1818.41

STA. 271+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

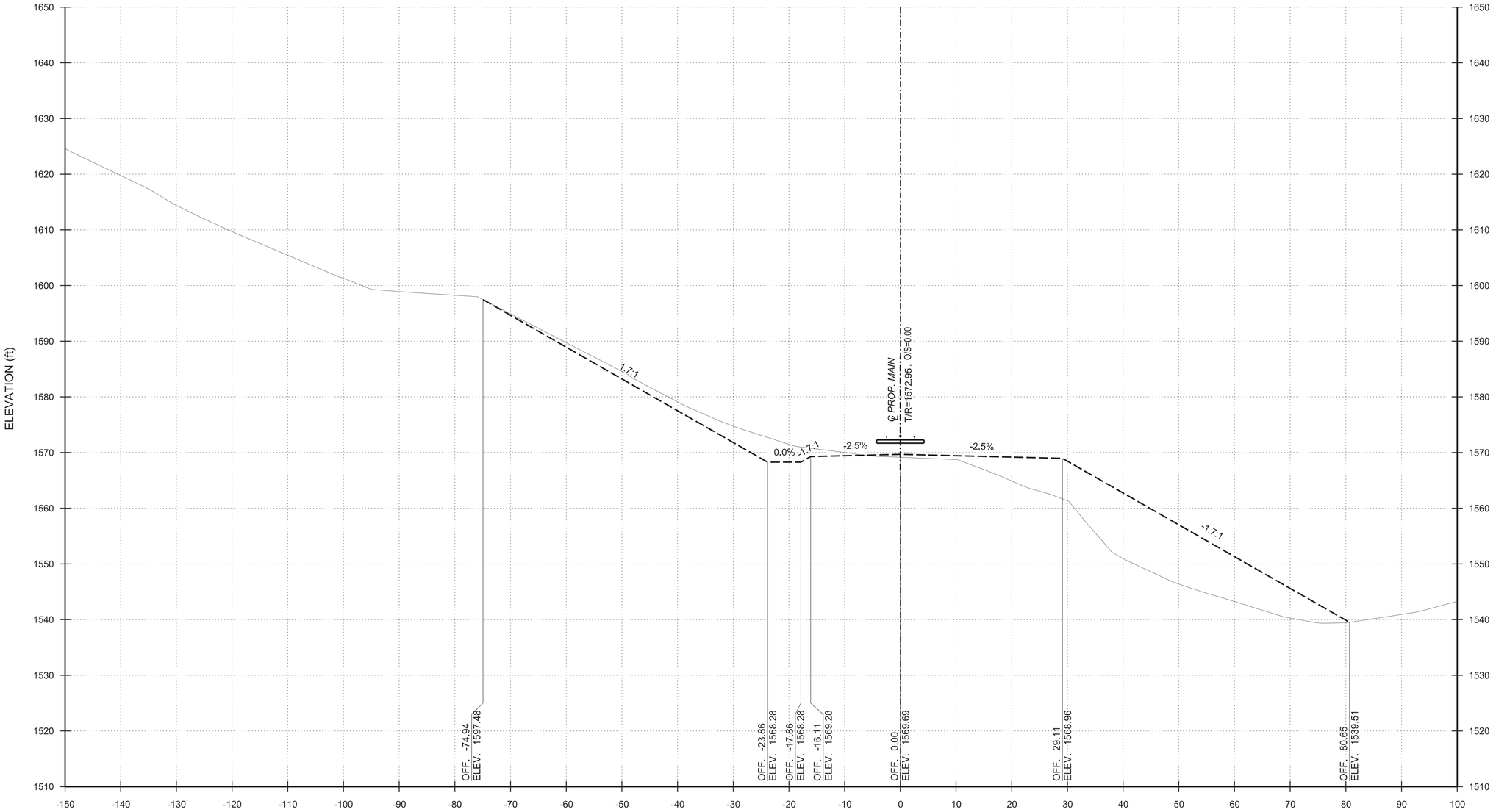
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 271+00
Drawing Number: TD-2025-49
Sheet Number: 45/81



CUT AREA (SF) =106.61
FILL AREA (SF) =496.46

CUT VOLUME (CY) = 415.10
FILL VOLUME (CY) = 2006.15

STA. 272+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

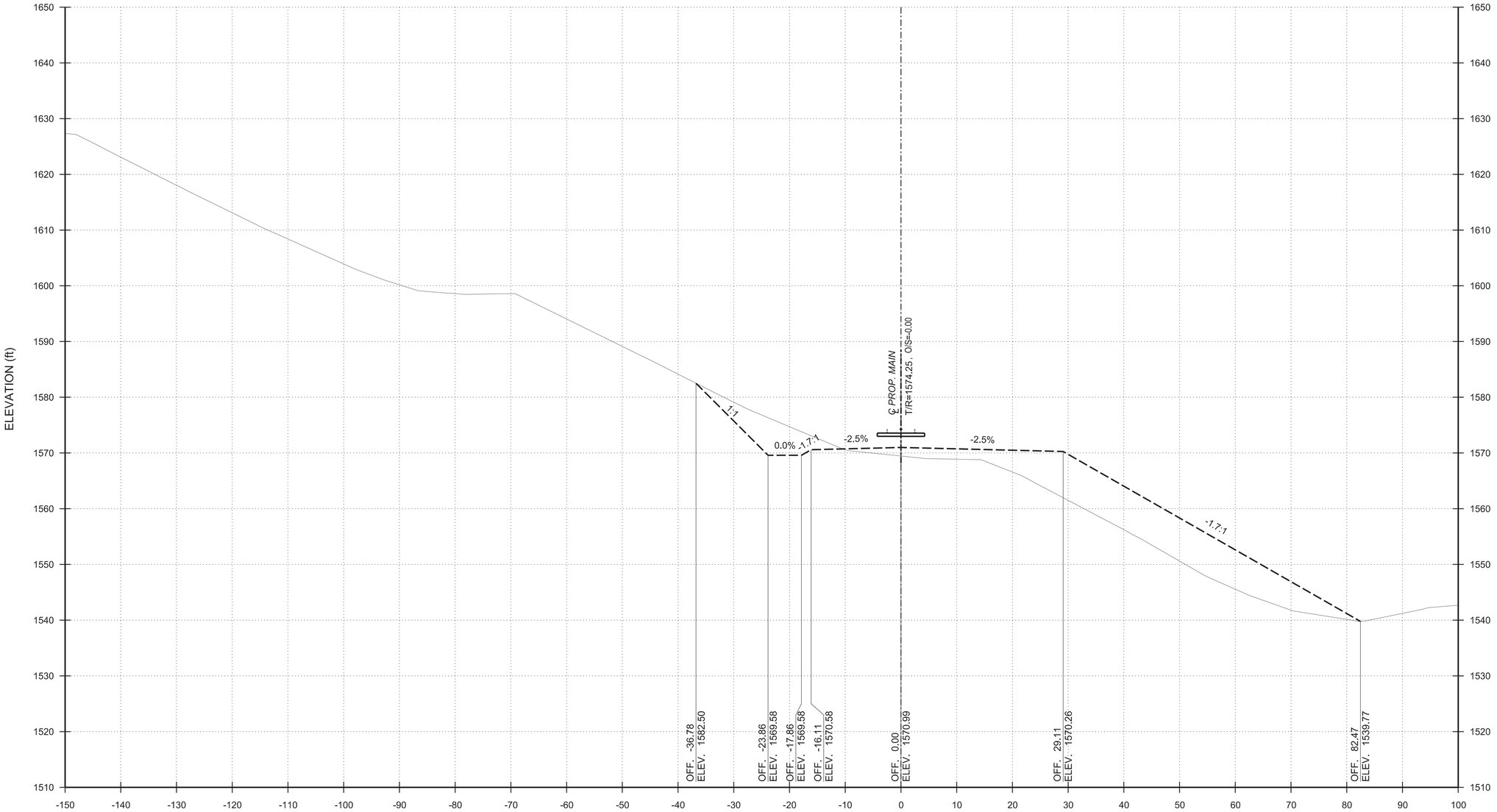
R	By	Date	Revision Description

NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY					City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508	Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 272+00
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611	Drawing Number:	TD-2025-49
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE	VRN:	0514004

Sheet Number: 46/81



CUT AREA (SF) =88.02
FILL AREA (SF) =440.41

CUT VOLUME (CY) = 360.43
FILL VOLUME (CY) = 1734.94

STA. 273+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

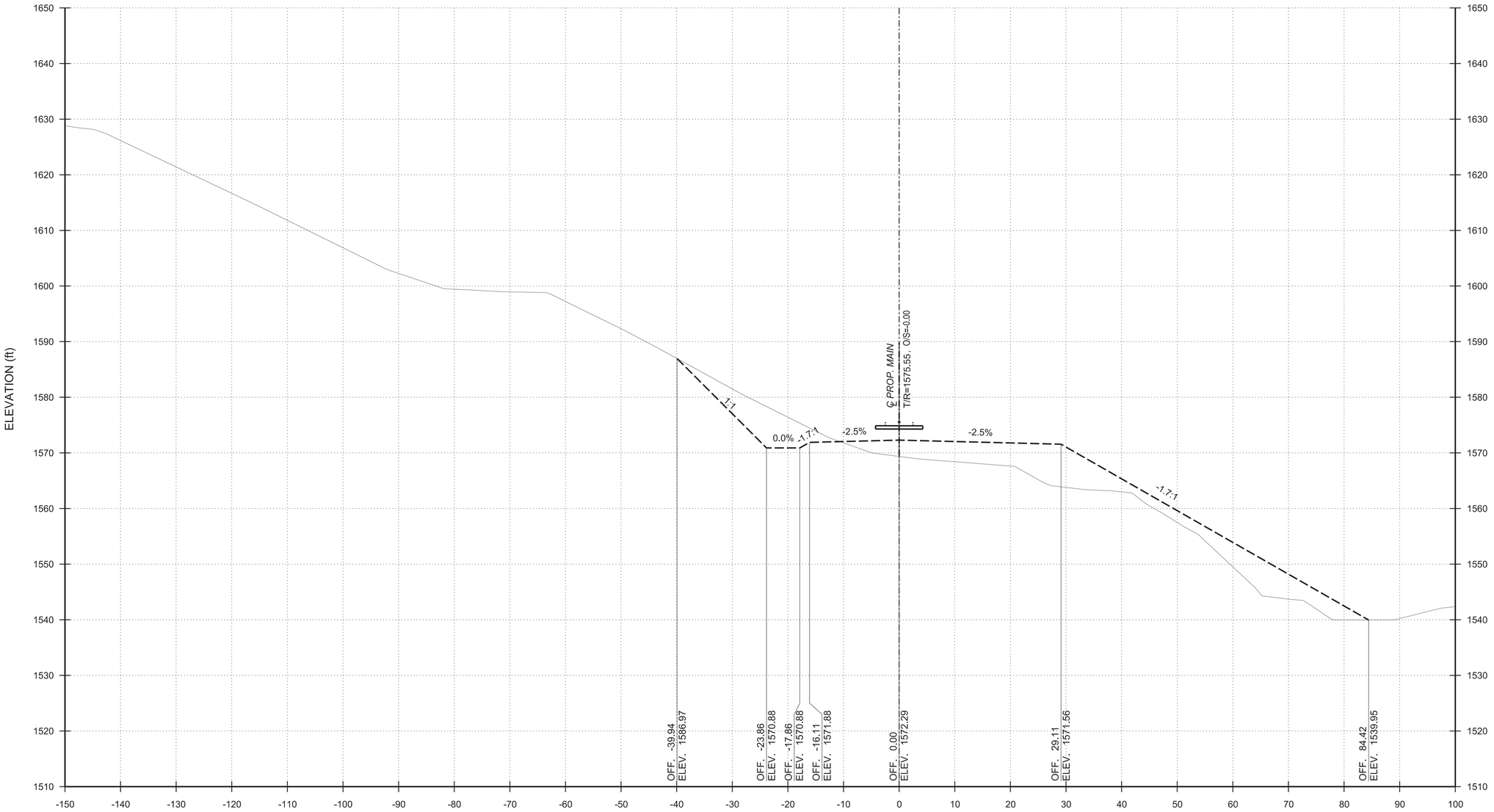
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 273+00

Drawing Number: TD-2025-49

Sheet Number: 47/81



CUT AREA (SF) =107.12
FILL AREA (SF) =344.52

CUT VOLUME (CY) = 361.37
FILL VOLUME (CY) = 1453.57

STA. 274+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

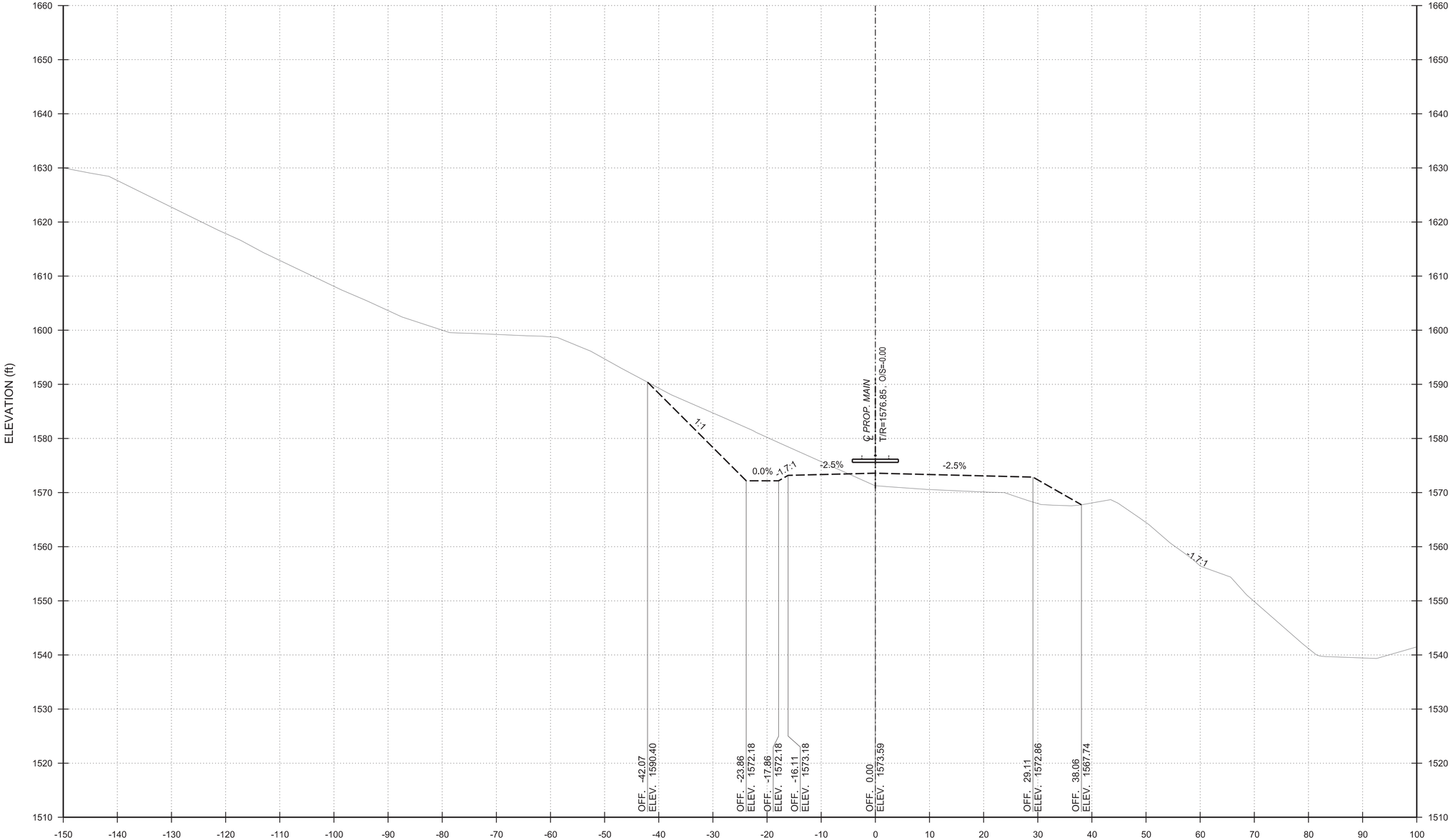
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS / Checked By: ESN		County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 274+00
Drawing Number:	TD-2025-49
Sheet Number:	48/81



CUT AREA (SF) =177.40
FILL AREA (SF) =115.00

CUT VOLUME (CY) = 526.89
FILL VOLUME (CY) = 850.95

STA. 275+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
HARVEY A. CROUCH
ENGINEER
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

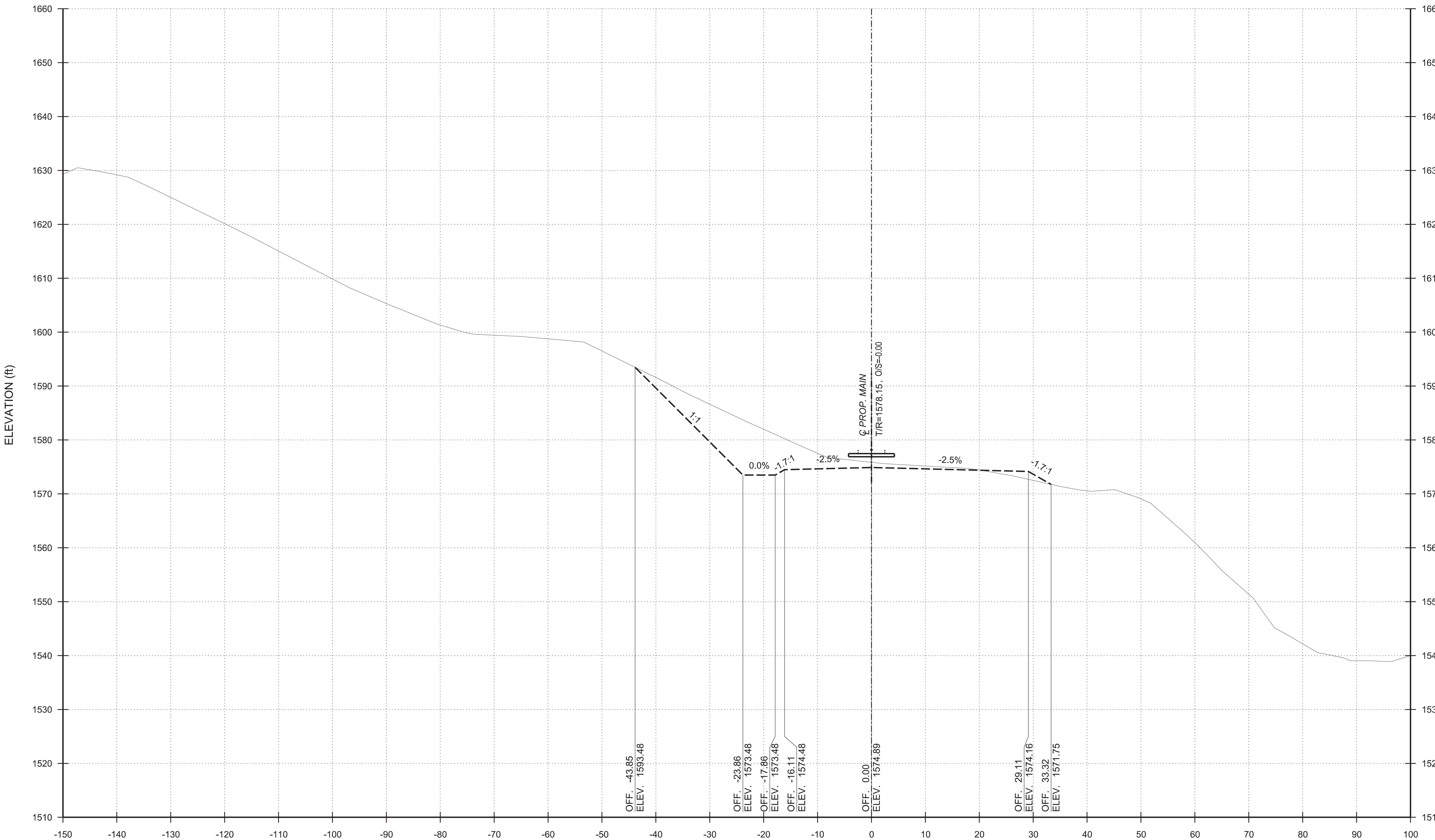
R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 275+00

Drawing Number: TD-2025-49

Sheet Number: 49/81



CUT AREA (SF) =219.79
FILL AREA (SF) =9.14

CUT VOLUME (CY) = 735.54
FILL VOLUME (CY) = 229.89

STA. 276+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 276+00

Drawing Number: TD-2025-49

Sheet Number: 50/81

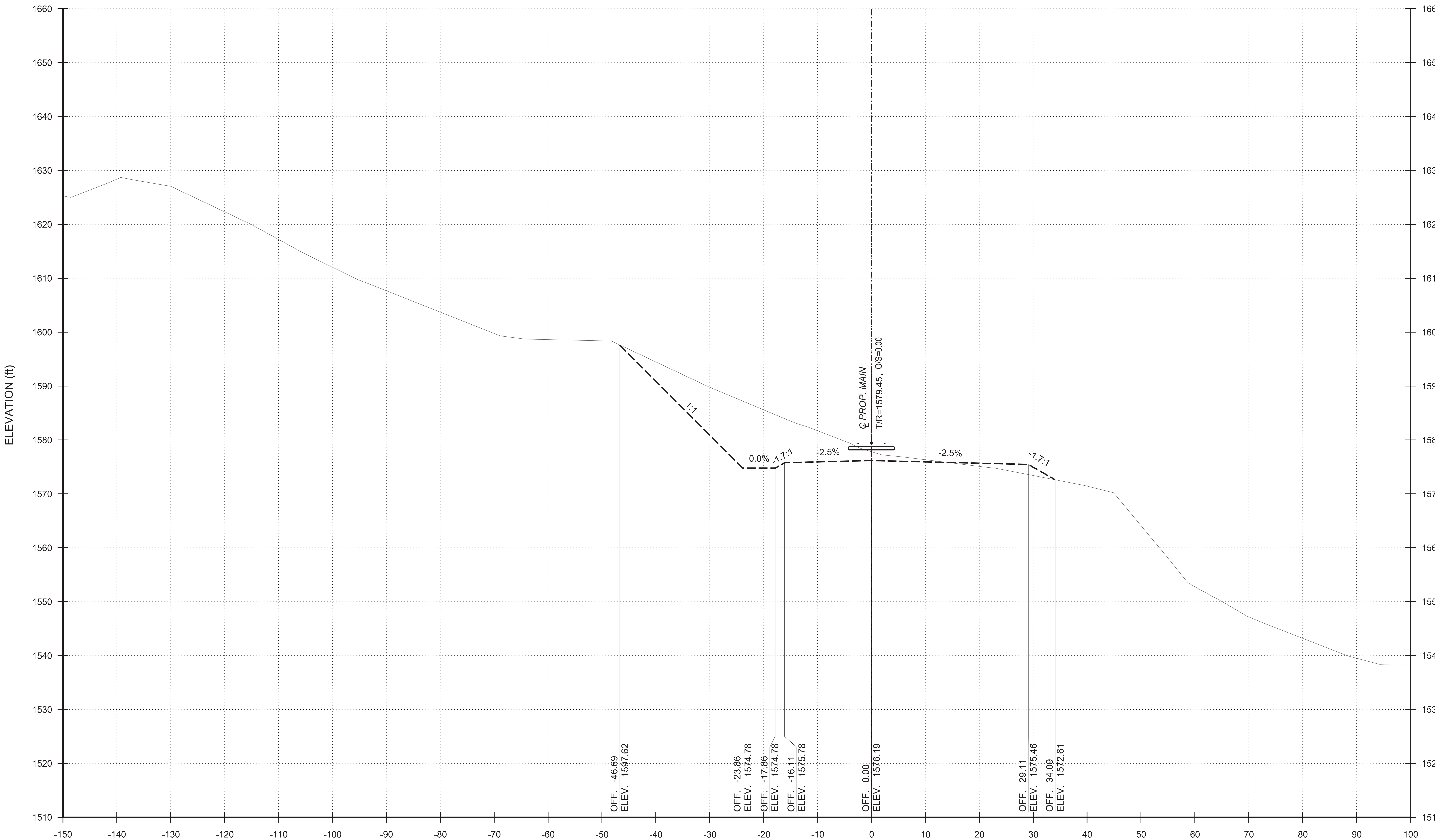
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

Printed: $DATES $TIMES



CUT AREA (SF) =310.67
FILL AREA (SF) =16.97

CUT VOLUME (CY) = 982.33
FILL VOLUME (CY) = 48.36

STA. 277+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E COMMONWEALTH OF PENNSYLVANIA

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NS NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

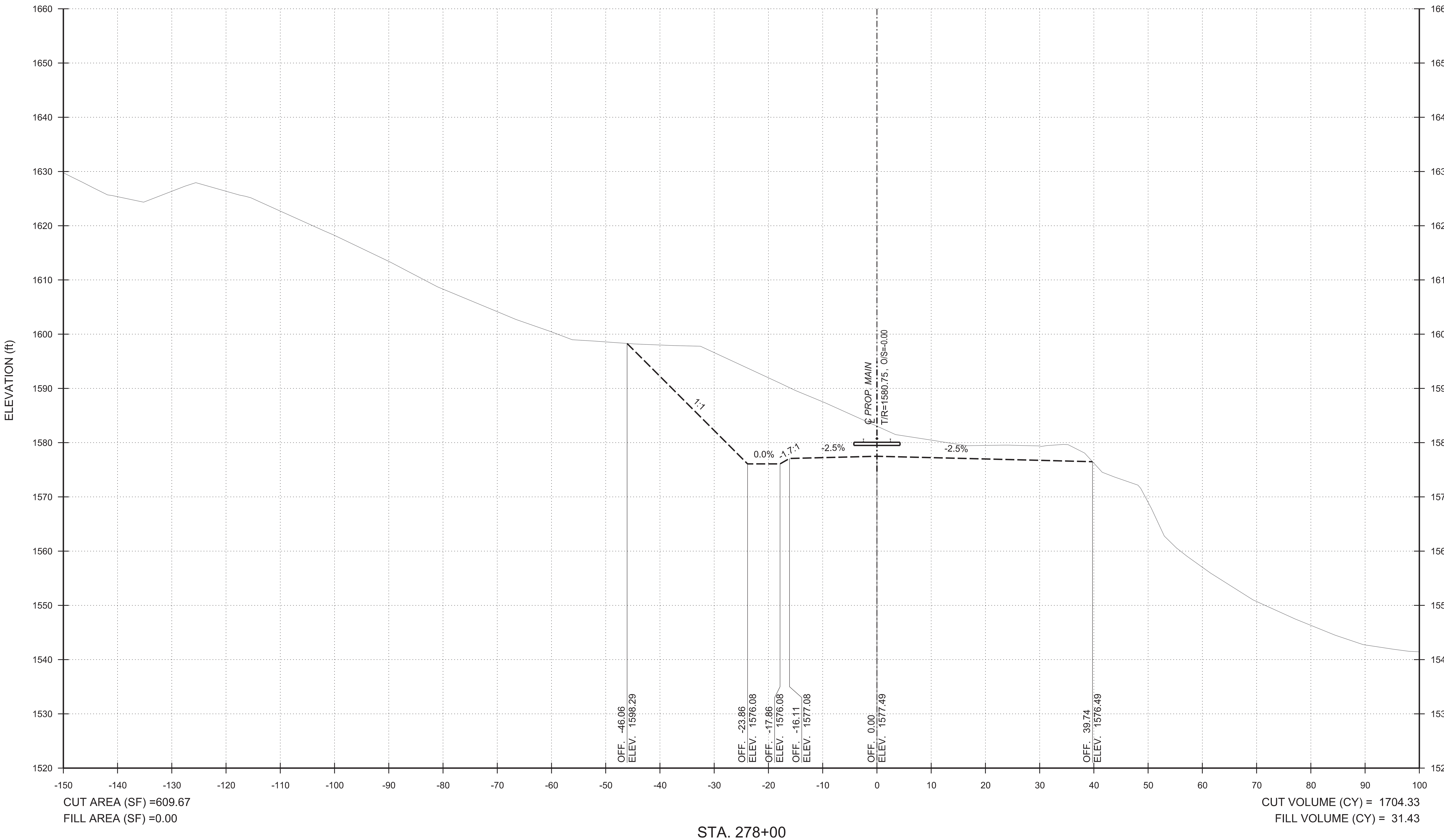
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 277+00

Drawing Number: TD-2025-49

Sheet Number: 51/81

Printed: $DATES $TIMES



V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 278+00

Drawing Number: TD-2025-49

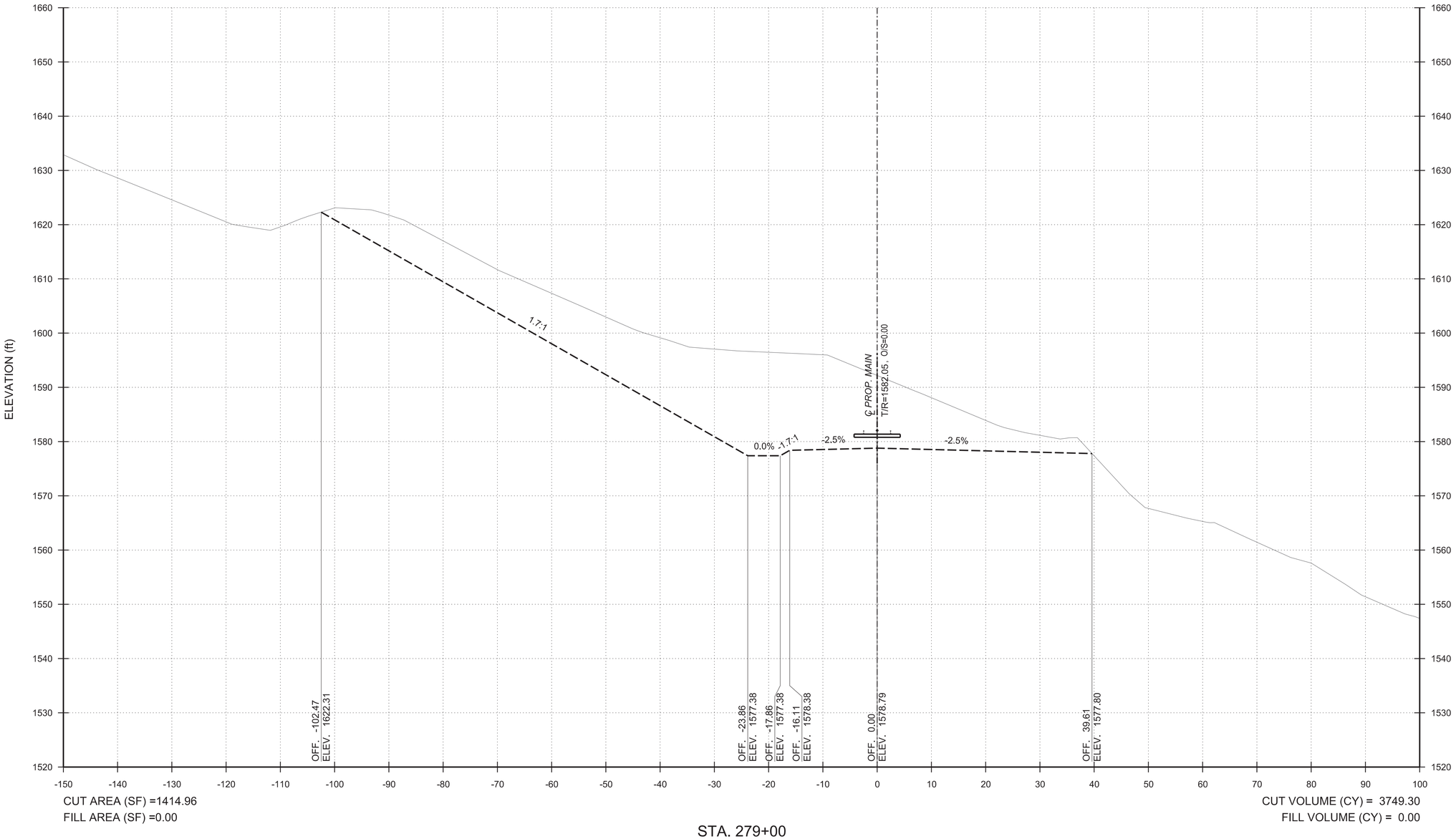
Sheet Number: 52/81

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630
engineering inc.

Printed: $DATE$ $TIME$



CUT AREA (SF) =1414.96
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 3749.30
FILL VOLUME (CY) = 0.00

STA. 279+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 161803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

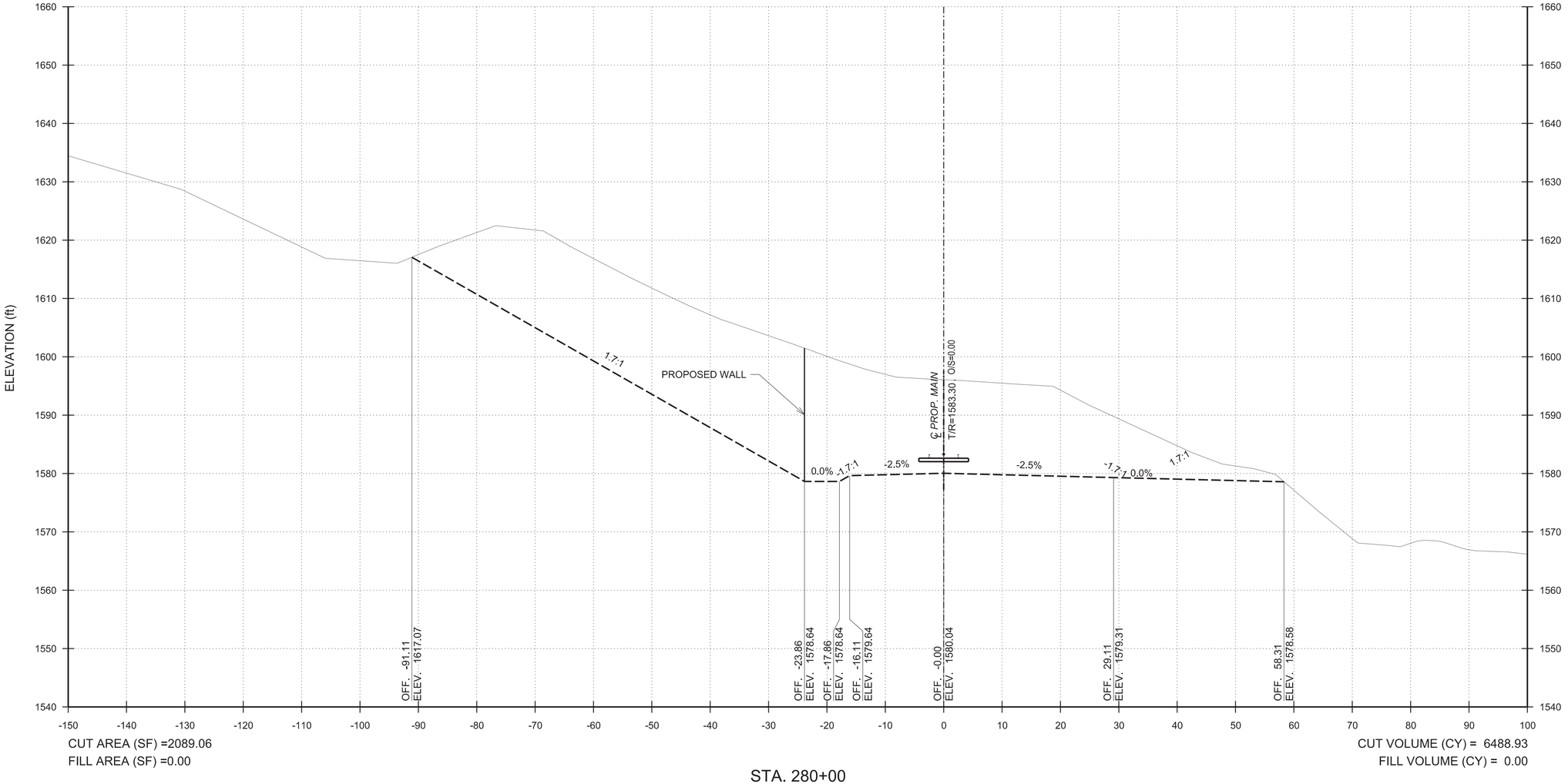
R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 279+00

Drawing Number: TD-2025-49

Sheet Number: 53/81



CUT AREA (SF) =2089.06
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6488.93
FILL VOLUME (CY) = 0.00

STA. 280+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057809 E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

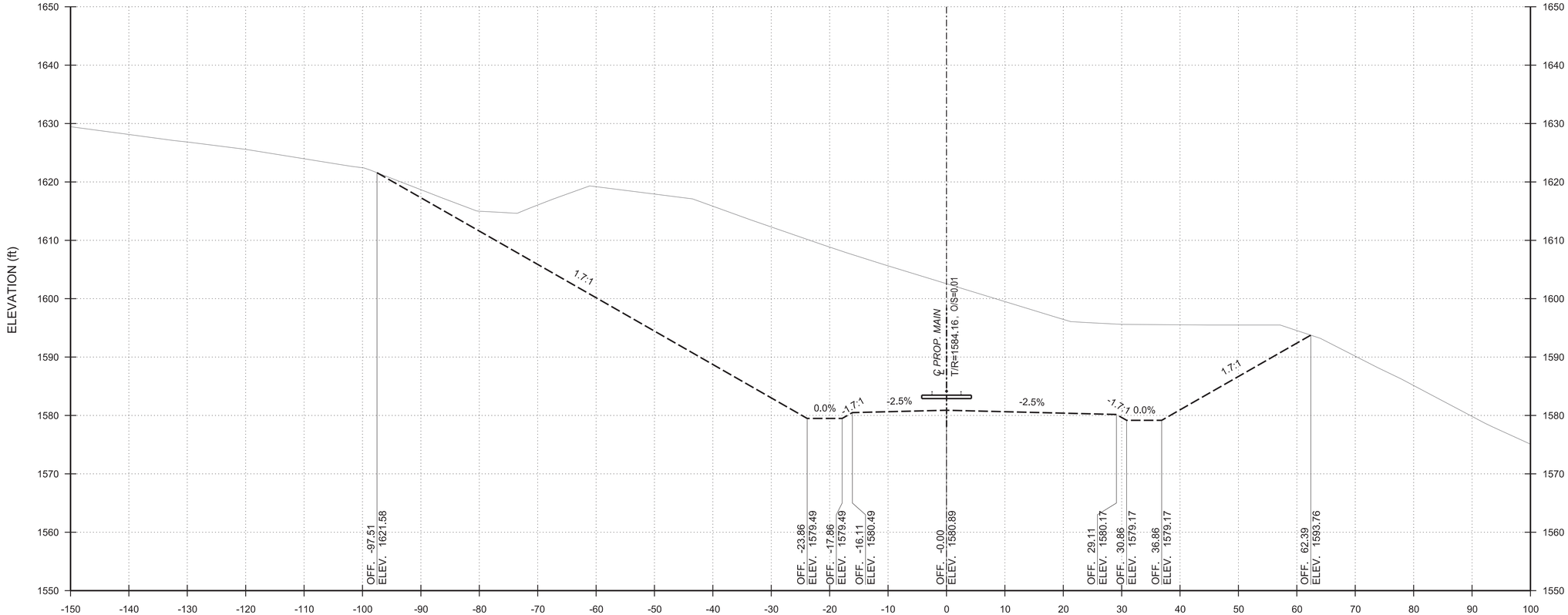
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 280+00

Drawing Number: TD-2025-49

Sheet Number: 54 / 81



CUT AREA (SF) =2664.44
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 8802.78
FILL VOLUME (CY) = 0.00

STA. 281+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

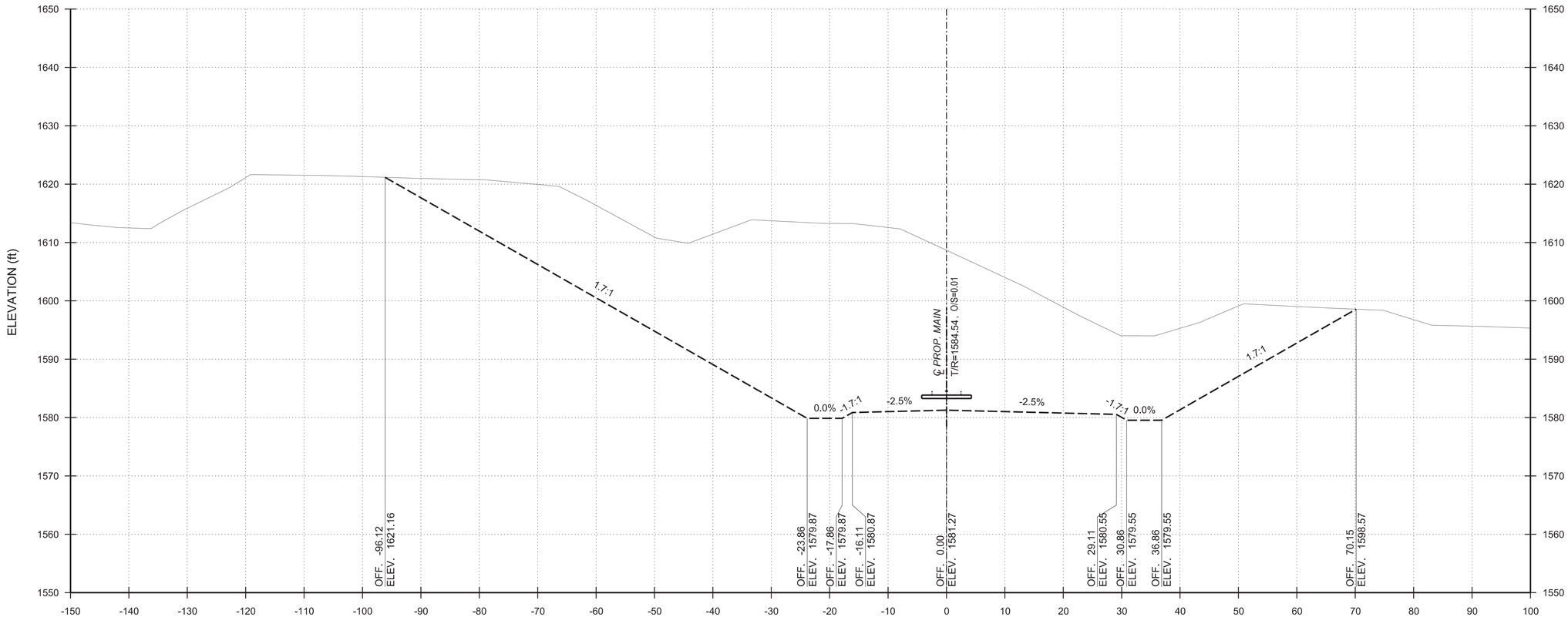
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 281+00

Drawing Number: TD-2025-49

Sheet Number: 55 / 81



CUT AREA (SF) =2910.75
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 10324.42
FILL VOLUME (CY) = 0.00

STA. 282+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

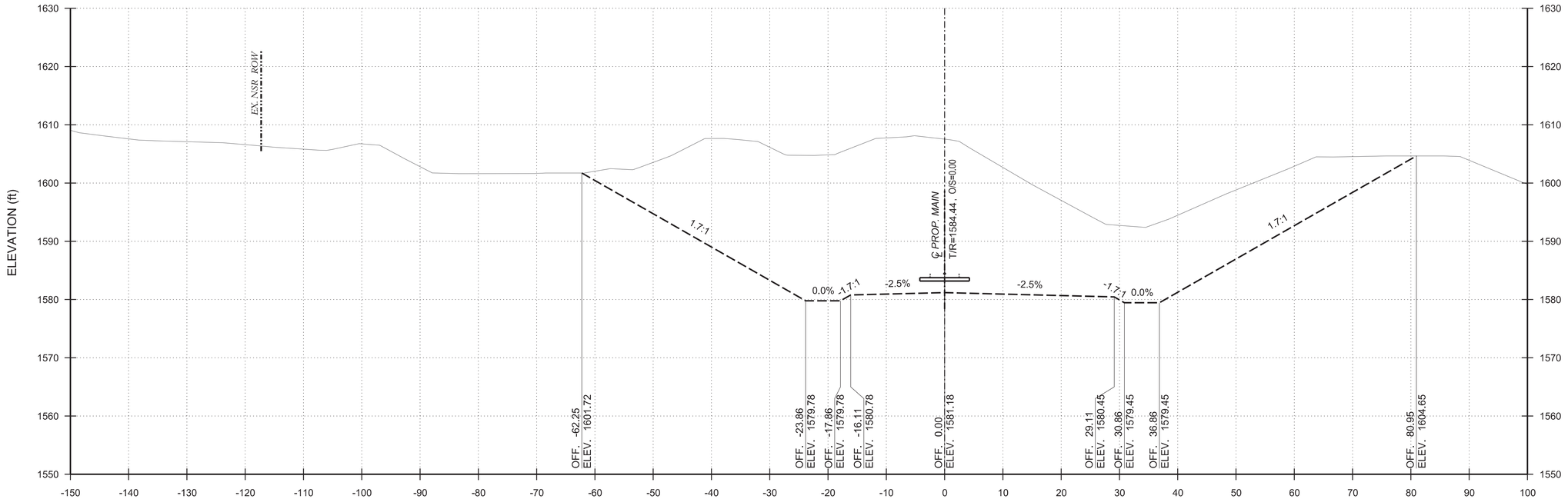
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	CROSS SECTIONS - STA. 282+00
Drawing Number:	TD-2025-49
Sheet Number:	56 / 81



CUT AREA (SF) =2231.00
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 9521.76
FILL VOLUME (CY) = 0.00

STA. 283+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 057802E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

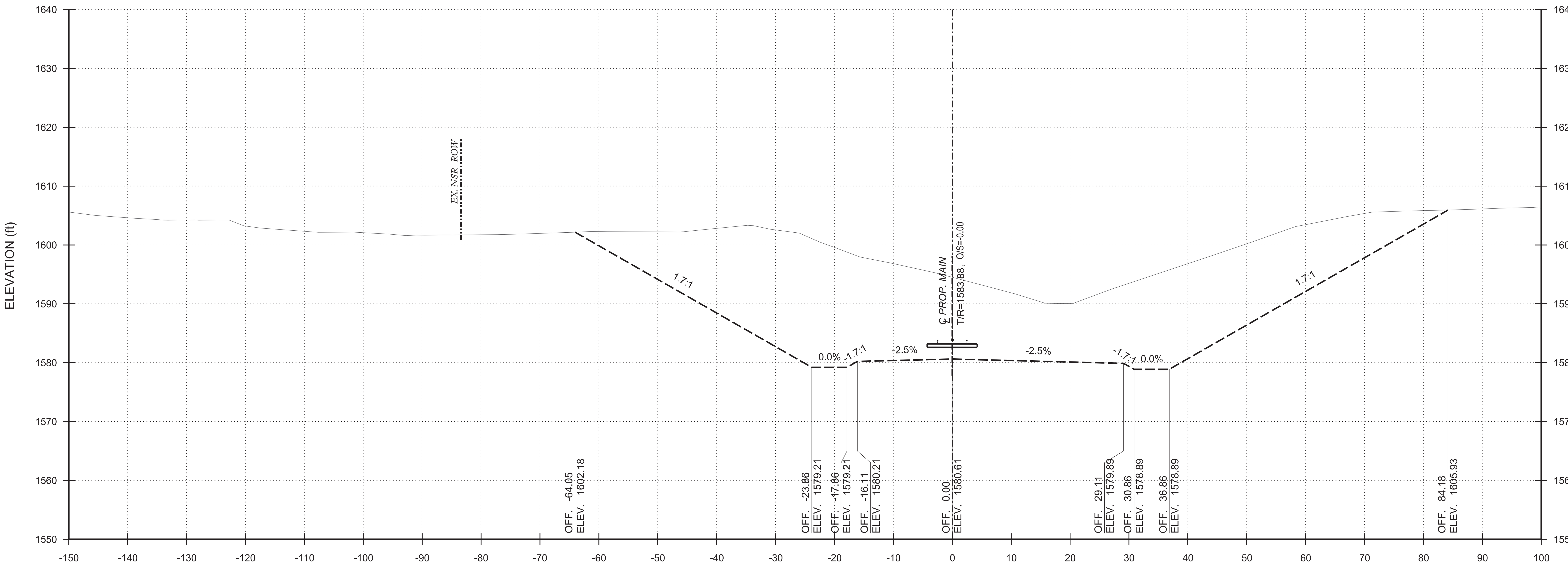
crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	CROSS SECTIONS - STA. 283+00
Drawing Number:	TD-2025-49
Sheet Number:	57 / 81



CUT AREA (SF) =1819.95
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 7501.77
FILL VOLUME (CY) = 0.00

STA. 284+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

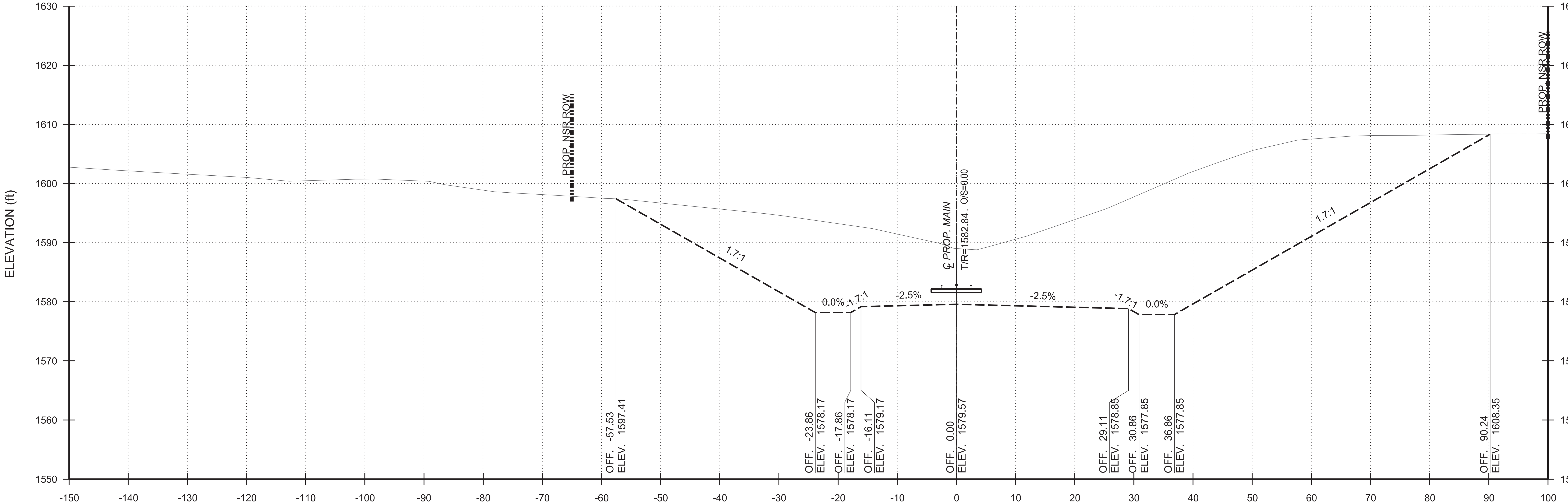
PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY
Drawing Date:	08/04/25
Operating Division:	KEYSTONE
PID Number:	D3508
Designed By:	SAS
Milepost:	JW 143
File Number:	TRK1115611
Drawn By:	SAS
Checked By:	ESN
County:	LUZERNE
VRN:	0514004
City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 284+00
Drawing Number:	TD-2025-49
Sheet Number:	58/81

Printed: $DATES $TIMES



CUT AREA (SF) =1836.36
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6770.95
FILL VOLUME (CY) = 0.00

STA. 285+00

V-Scale: 1"=10' 5 0 10 20
H-Scale: 1"=100' 50 0 100 200

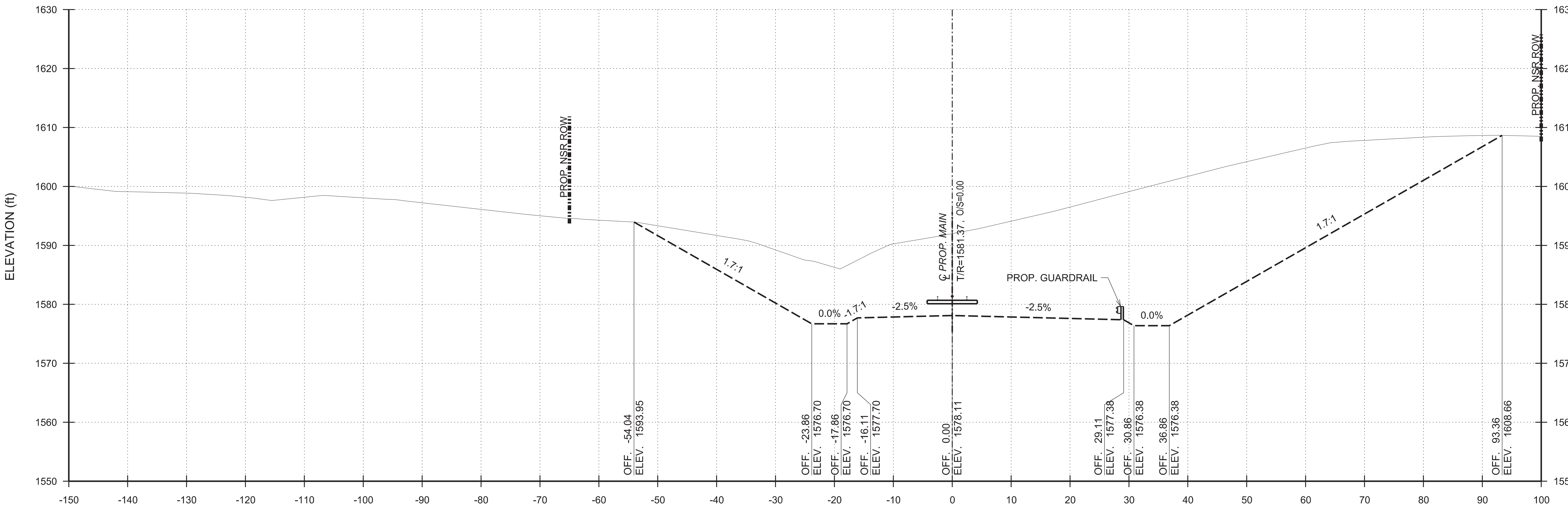
R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 285+00
Drawing Number: TD-2025-49
Sheet Number: 59/81



CUT AREA (SF) =1922.29
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 6960.46
FILL VOLUME (CY) = 0.00

STA. 286+00

V-Scale: 1"=10' 5 0 10 20
H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

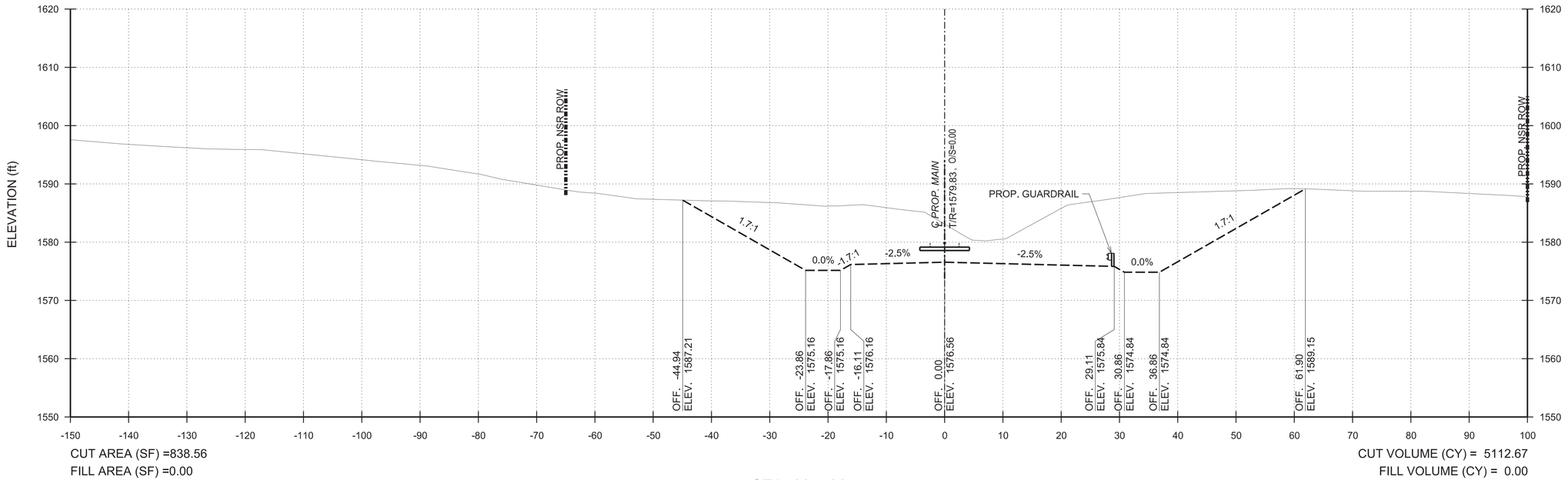
PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	

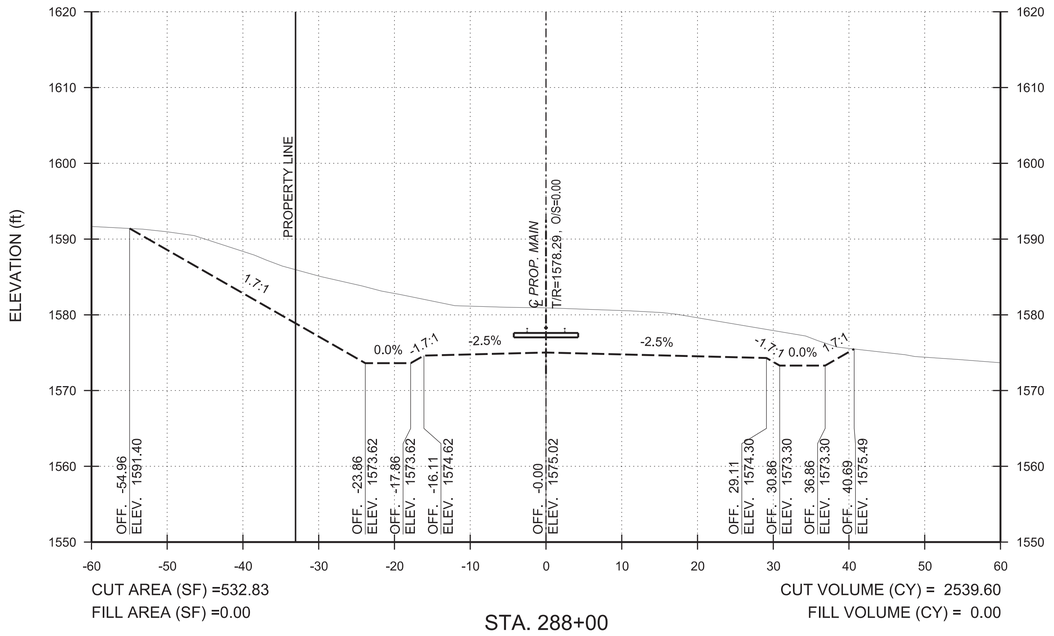
City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 286+00
Drawing Number: TD-2025-49
Sheet Number: 60/81



CUT AREA (SF) =838.56
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 5112.67
FILL VOLUME (CY) = 0.00

STA. 287+00



CUT AREA (SF) =532.83
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 2539.60
FILL VOLUME (CY) = 0.00

STA. 288+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

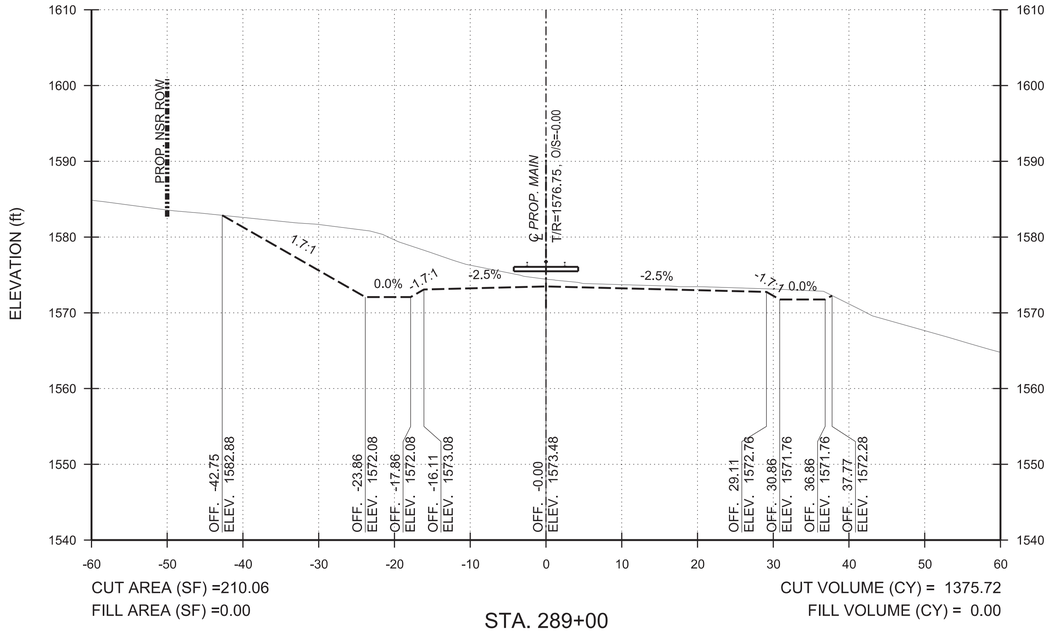
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 076006-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

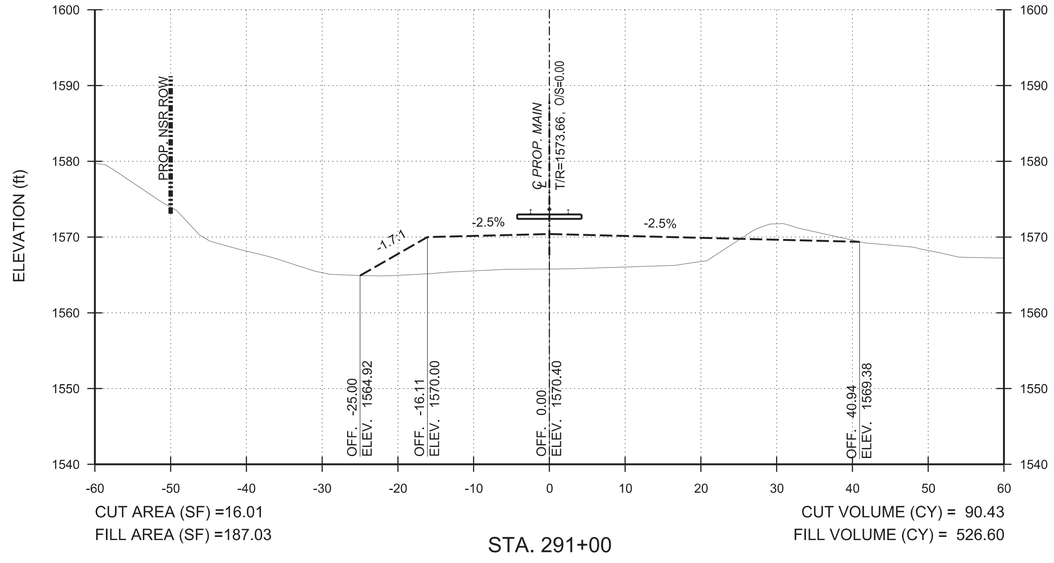
Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
				Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004
				Drawing Number:	CROSS SECTIONS - STA. 287+00 TO STA. 288+00
					TD-2025-49
				Sheet Number:	61/81



CUT AREA (SF) =210.06
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 1375.72
FILL VOLUME (CY) = 0.00

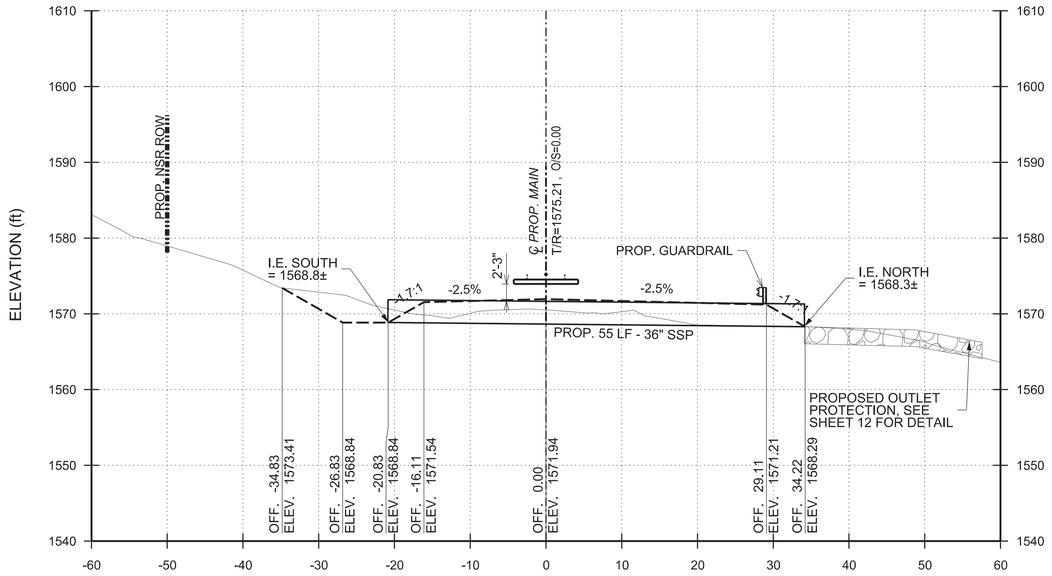
STA. 289+00



CUT AREA (SF) =16.01
FILL AREA (SF) =187.03

CUT VOLUME (CY) = 90.43
FILL VOLUME (CY) = 526.60

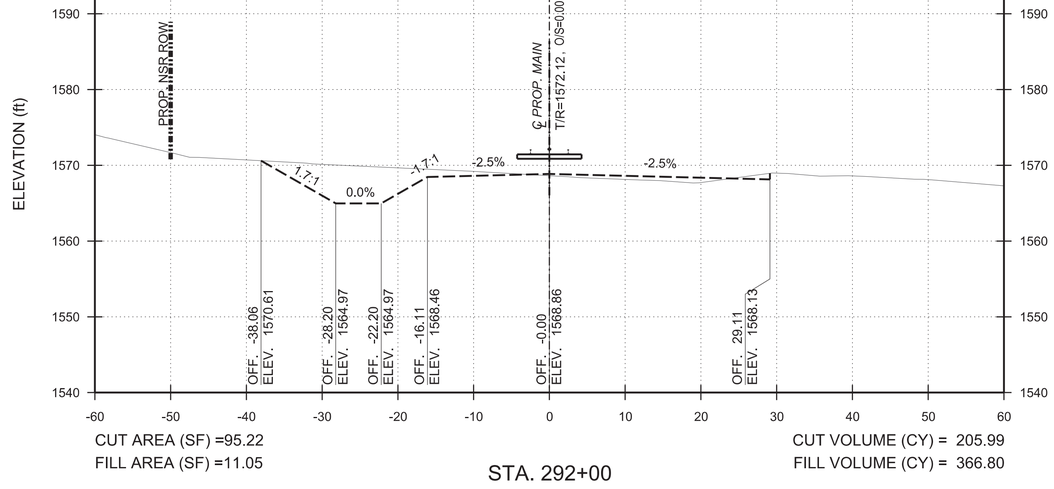
STA. 291+00



CUT AREA (SF) =32.82
FILL AREA (SF) =97.34

CUT VOLUME (CY) = 449.78
FILL VOLUME (CY) = 180.26

STA. 290+00



CUT AREA (SF) =95.22
FILL AREA (SF) =11.05

CUT VOLUME (CY) = 205.99
FILL VOLUME (CY) = 366.80

STA. 292+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

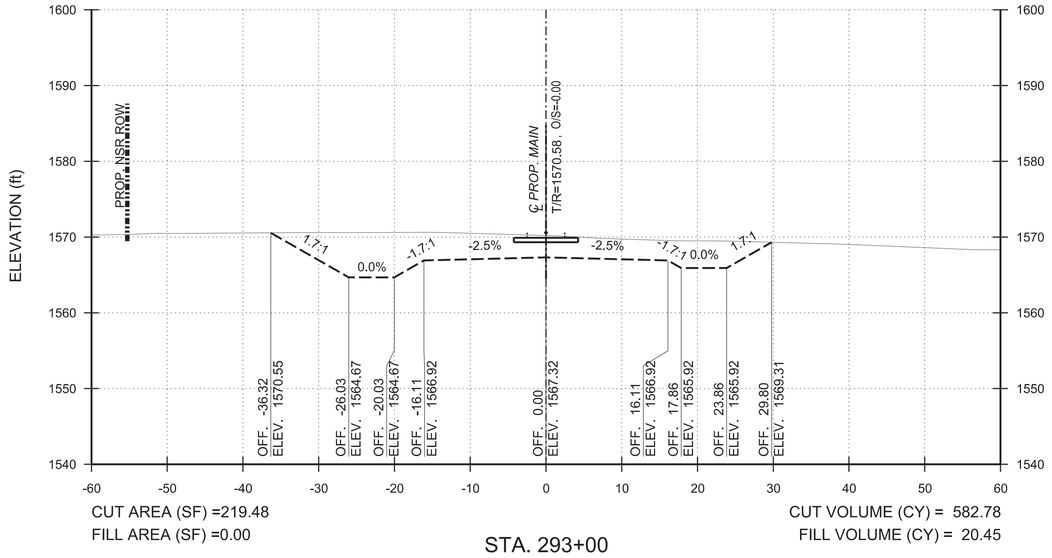
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 289+00 TO STA. 292+00

Drawing Number: TD-2025-49

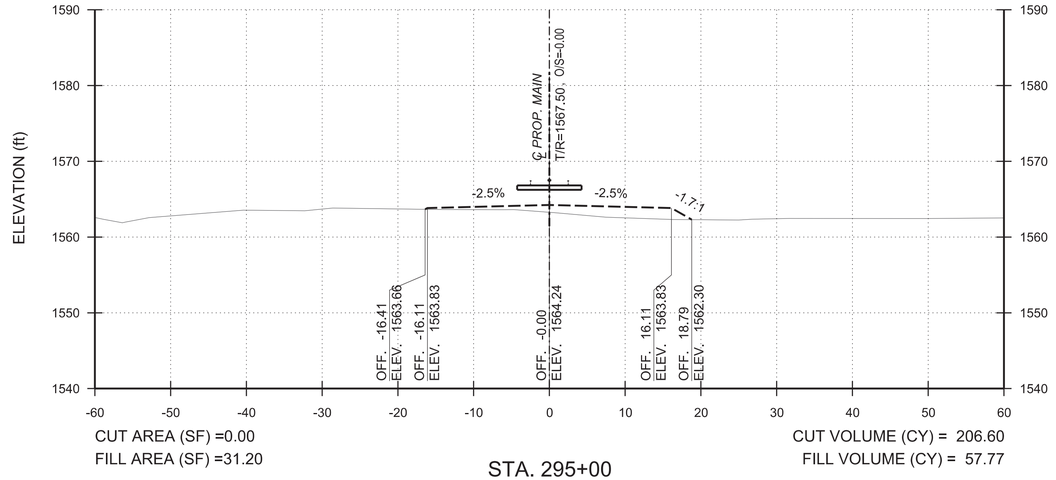
Sheet Number: 62/81



CUT AREA (SF) =219.48
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 582.78
FILL VOLUME (CY) = 20.45

STA. 293+00



CUT AREA (SF) =0.00
FILL AREA (SF) =31.20

CUT VOLUME (CY) = 206.60
FILL VOLUME (CY) = 57.77

STA. 295+00

CUT AREA (SF) =111.56
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 613.05
FILL VOLUME (CY) = 0.00

STA. 294+00

CUT AREA (SF) =0.00
FILL AREA (SF) =179.39

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 389.98

STA. 296+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING — DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

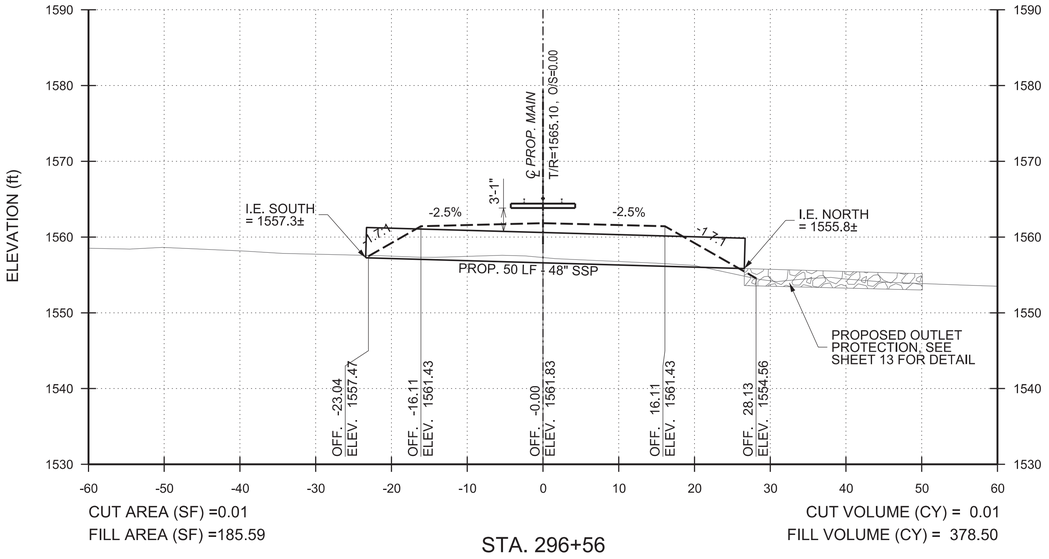
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 293+00 TO STA. 296+00

Drawing Number: TD-2025-49

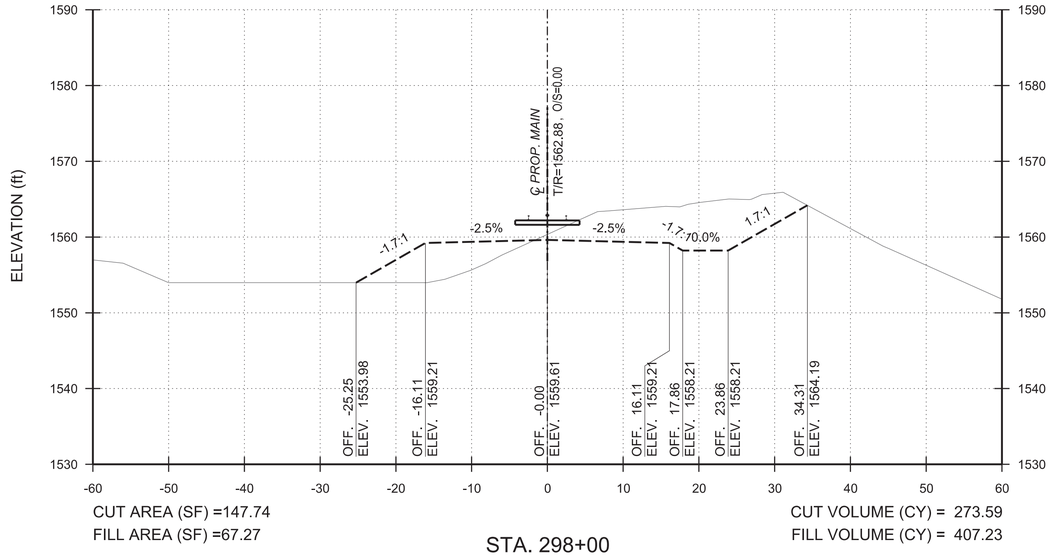
Sheet Number: 63/81



CUT AREA (SF) =0.01
FILL AREA (SF) =185.59

CUT VOLUME (CY) = 0.01
FILL VOLUME (CY) = 378.50

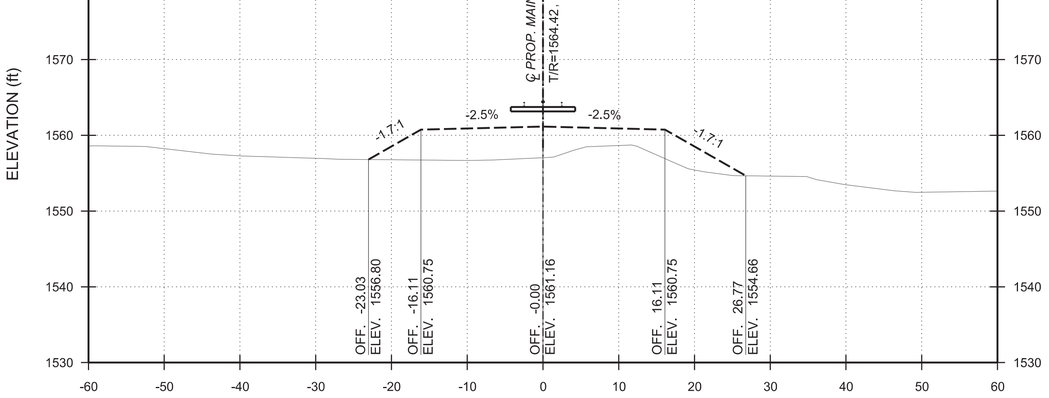
STA. 296+56



CUT AREA (SF) =147.74
FILL AREA (SF) =67.27

CUT VOLUME (CY) = 273.59
FILL VOLUME (CY) = 407.23

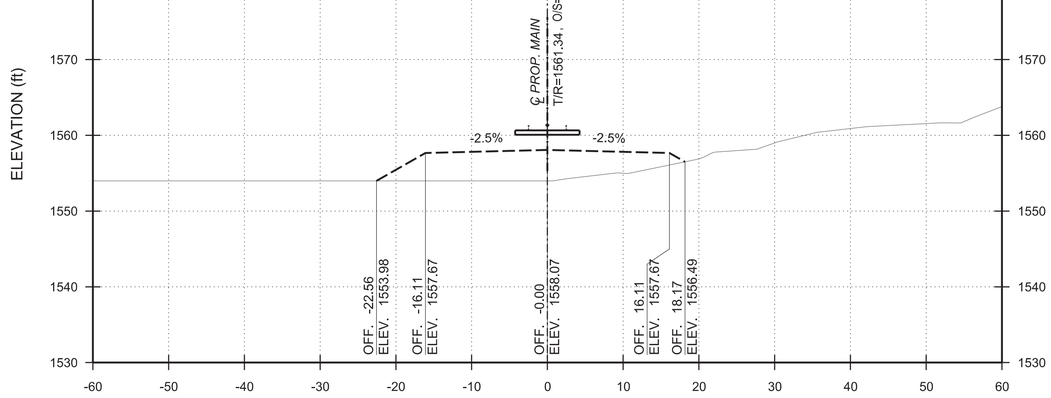
STA. 298+00



CUT AREA (SF) =0.00
FILL AREA (SF) =152.64

CUT VOLUME (CY) = 0.01
FILL VOLUME (CY) = 275.60

STA. 297+00



CUT AREA (SF) =0.00
FILL AREA (SF) =124.33

CUT VOLUME (CY) = 273.59
FILL VOLUME (CY) = 354.81

STA. 299+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051908-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

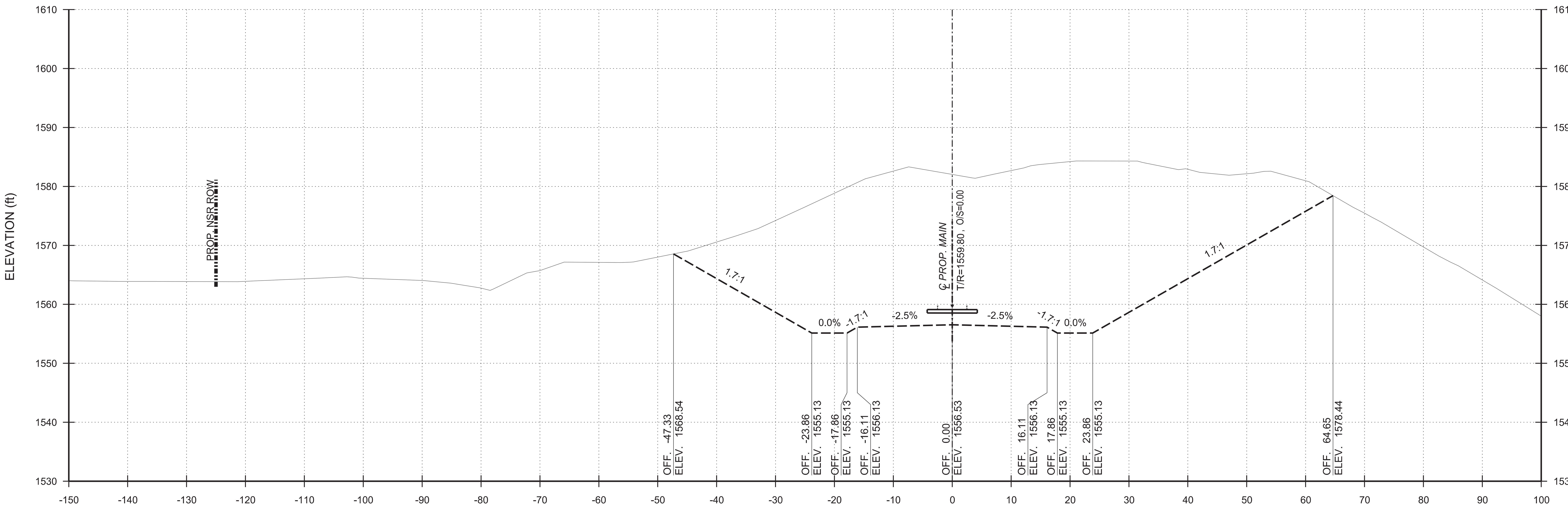
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 296+56 TO STA. 299+00

Drawing Number: TD-2025-49

Sheet Number: 64/81



CUT AREA (SF) =2134.08
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 3952.00
FILL VOLUME (CY) = 230.24

STA. 300+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

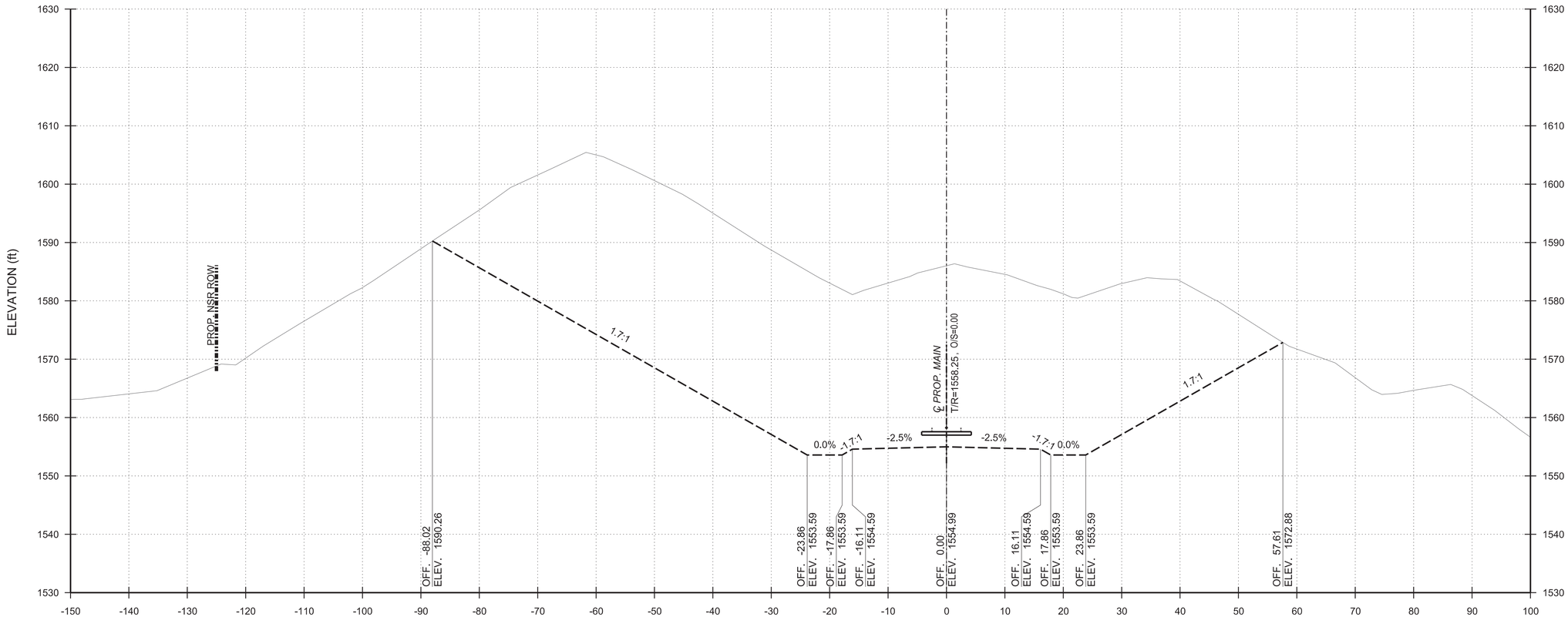
PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051603-E

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY
Drawing Date:	08/04/25
Operating Division:	KEYSTONE
PID Number:	D3508
Designed By:	SAS
Milepost:	JW 143
File Number:	TRK1115611
Drawn By:	SAS
Checked By:	ESN
County:	LUZERNE
VRN:	0514004
City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 300+00
Drawing Number:	TD-2025-49
Sheet Number:	65/81

Printed: $DATES $TIMES



CUT AREA (SF) =3592.96
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 10605.64
FILL VOLUME (CY) = 0.00

STA. 301+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

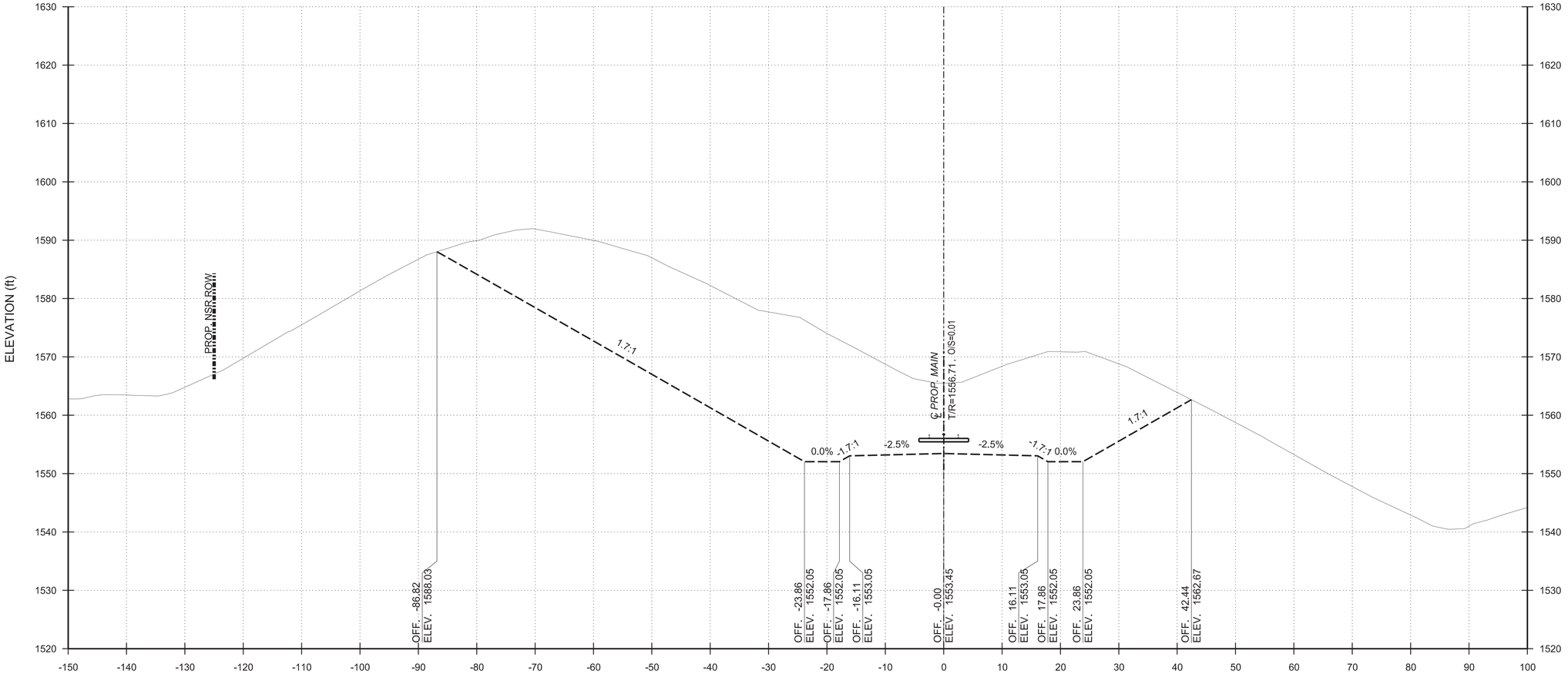
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 301+00

Drawing Number: TD-2025-49

Sheet Number: 66 / 81



CUT AREA (SF) =1987.50
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 10334.18
FILL VOLUME (CY) = 0.00

STA. 302+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 057802-E

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

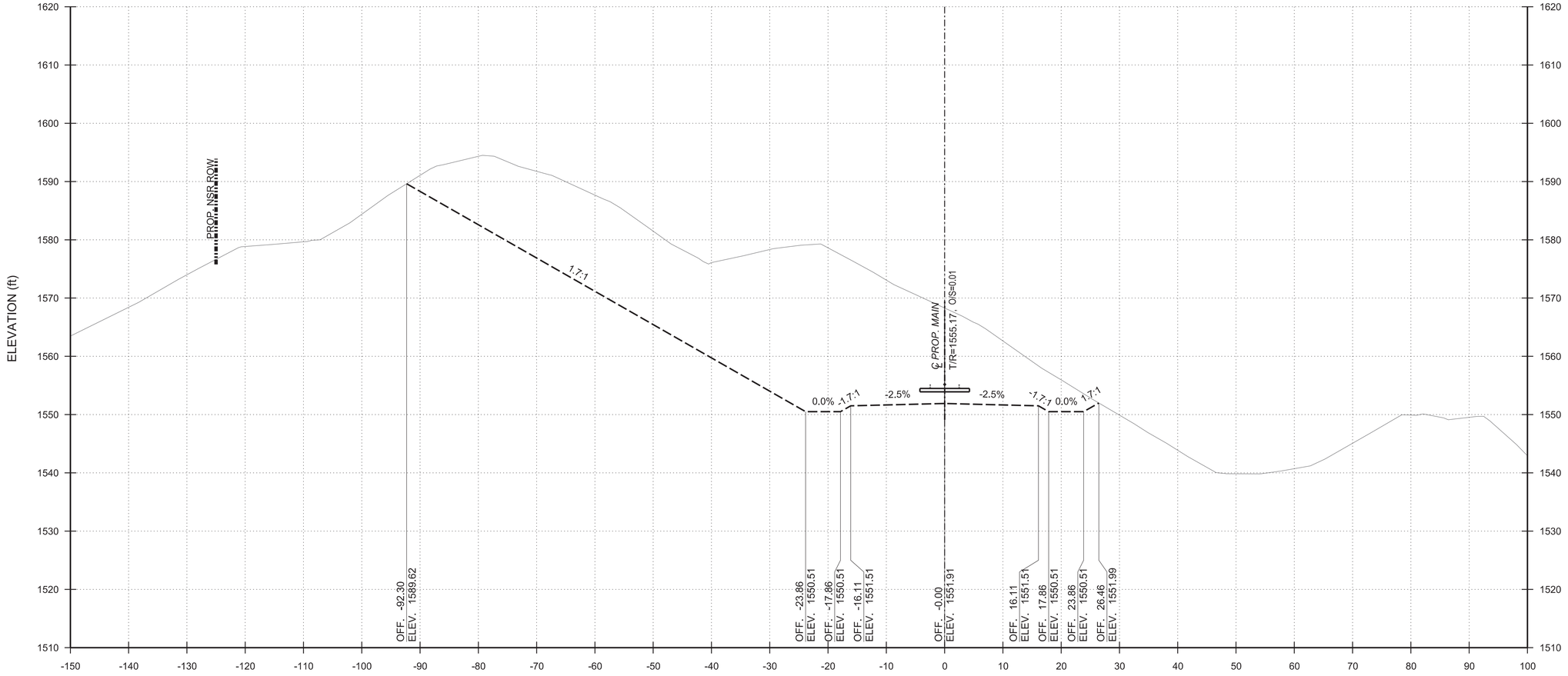
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 302+00

Drawing Number: TD-2025-49

Sheet Number: 67/81



CUT AREA (SF) =1847.54
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 7101.92
FILL VOLUME (CY) = 0.00

STA. 303+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

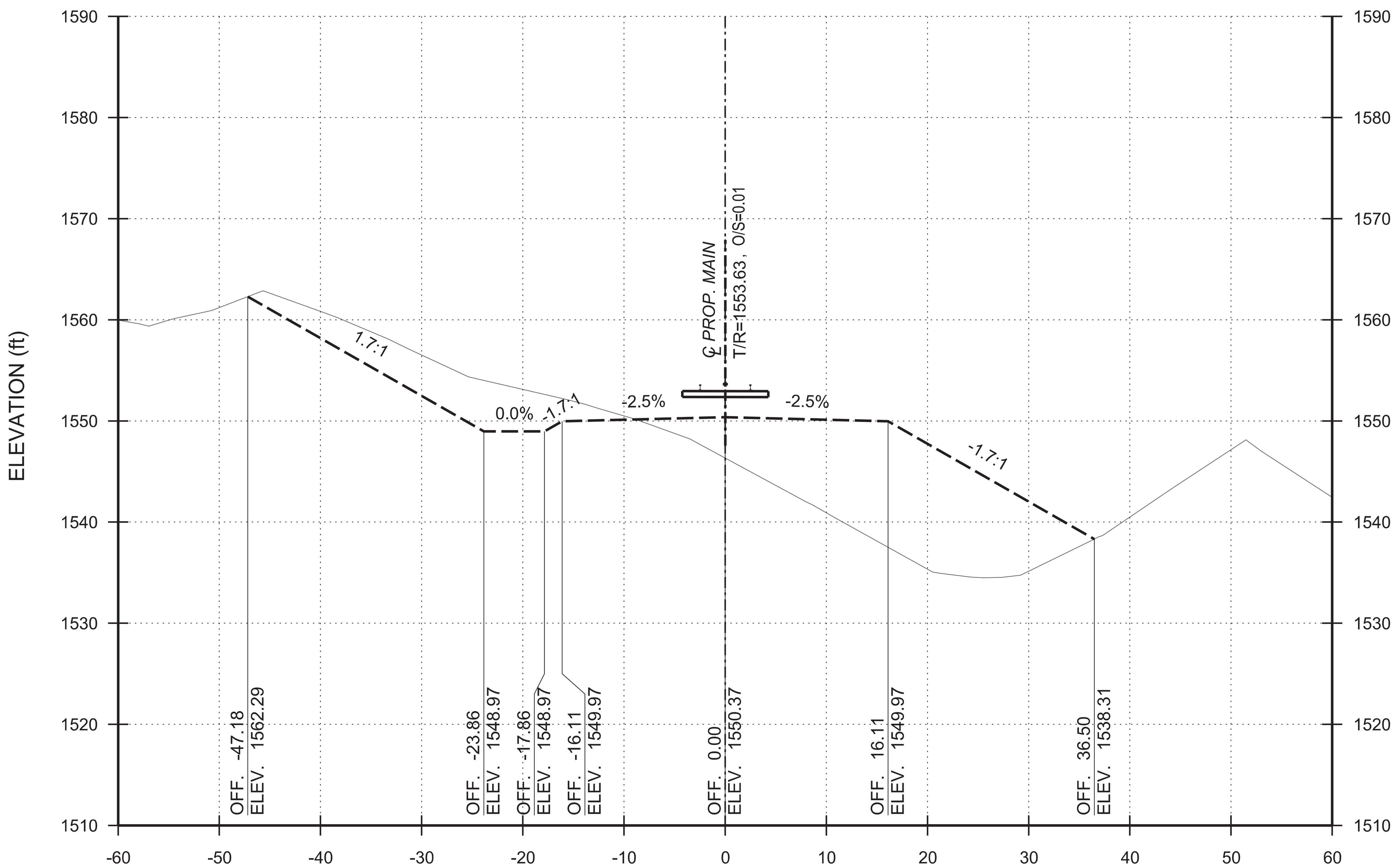
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 303+00
Drawing Number: TD-2025-49
Sheet Number: 68/81



CUT AREA (SF) =113.75
FILL AREA (SF) =320.94

CUT VOLUME (CY) = 3632.02
FILL VOLUME (CY) = 594.32

STA. 304+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN
ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

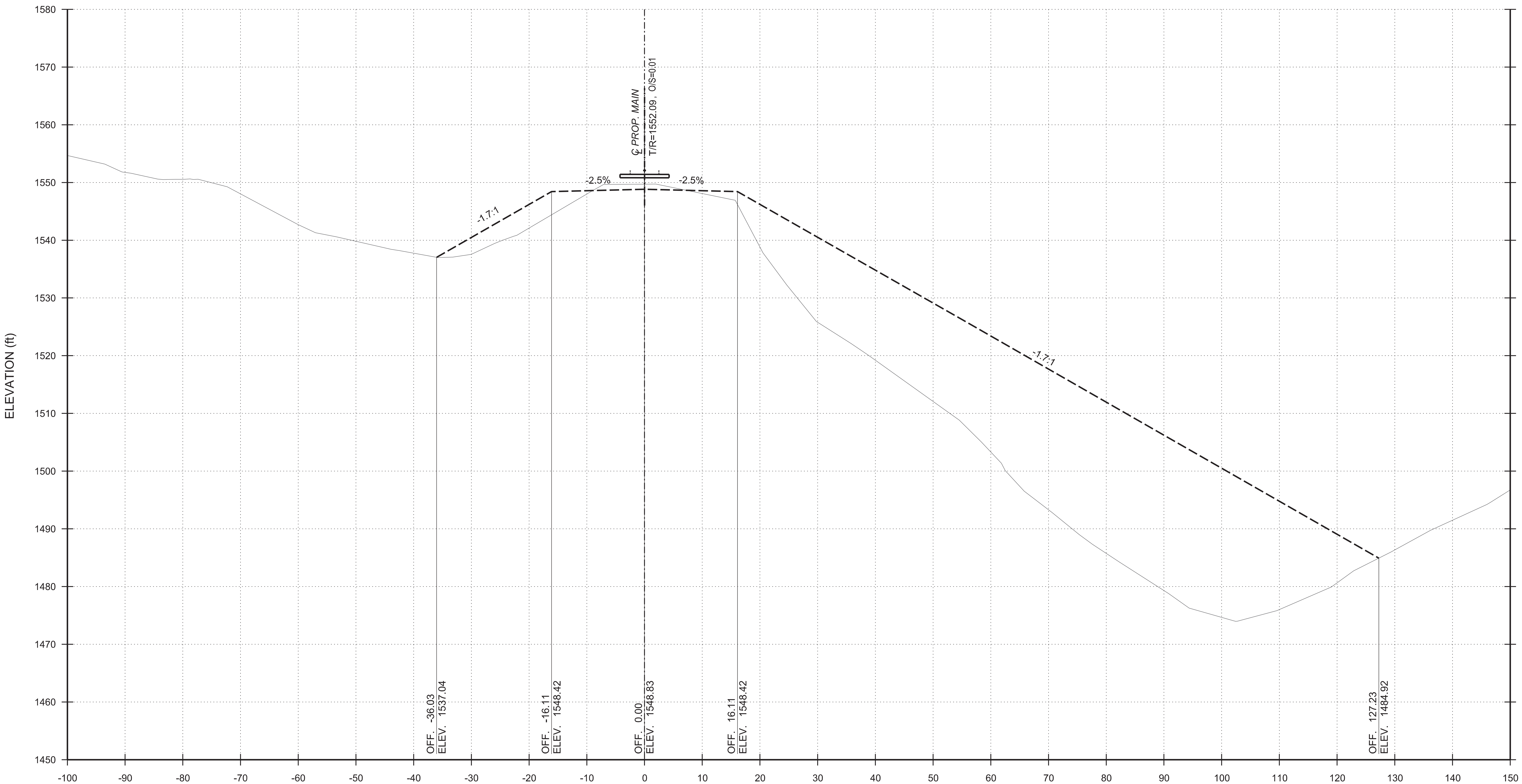
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 304+00

Drawing Number: TD-2025-49

Sheet Number: 69/81

Printed: $DATES $TIMES



CUT AREA (SF) =11.99
FILL AREA (SF) =2122.51

CUT VOLUME (CY) = 232.87
FILL VOLUME (CY) = 4524.89

STA. 305+00

V-Scale: 1"=10' 5 0 10 20
H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

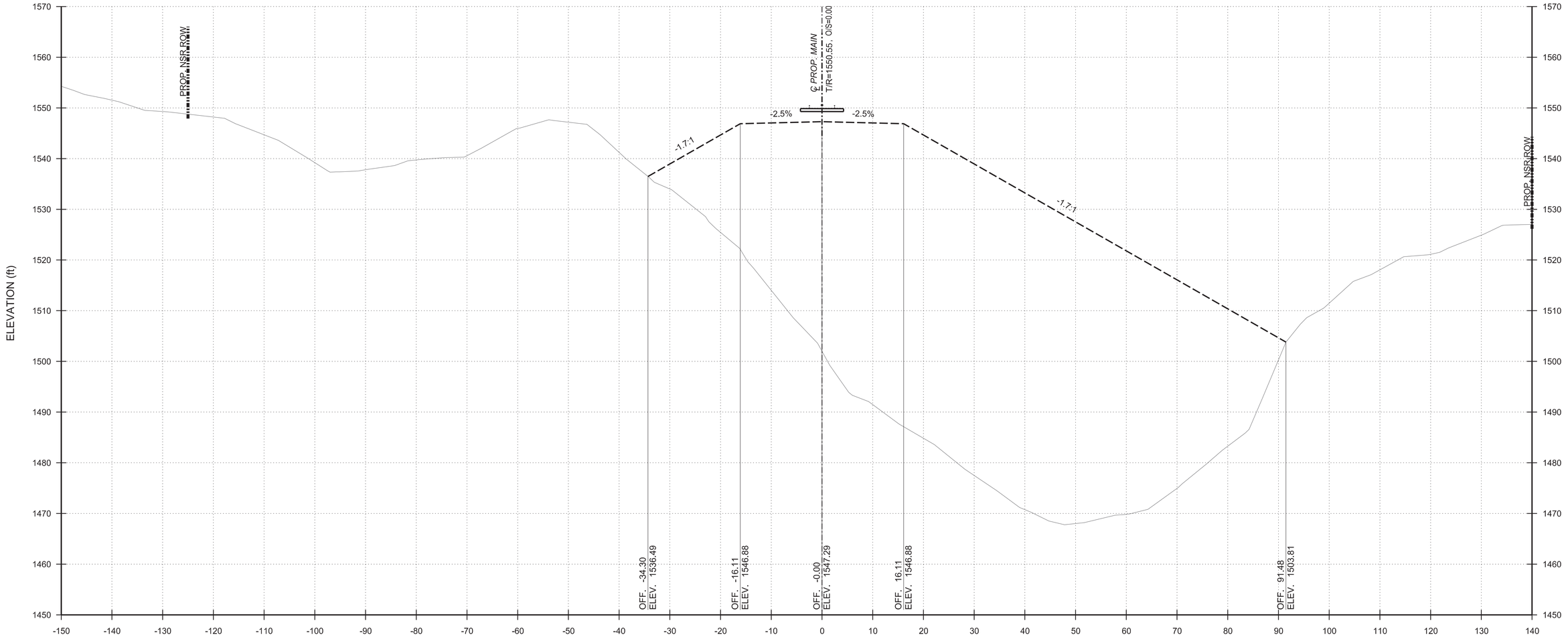
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date: 08/04/25		Operating Division: KEYSTONE		PID Number: D3508	
Designed By: SAS		Milepost: JW 143		File Number: TRK1115611	
Drawn By: SAS	Checked By: ESN	County: LUZERNE		VRN: 0514004	

City / State: HAZLETON, PENNSYLVANIA
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
CROSS SECTIONS - STA. 305+00

Drawing Number: TD-2025-49
Sheet Number: 70/81



CUT AREA (SF) =0.00
FILL AREA (SF) =5278.69

CUT VOLUME (CY) = 421.31
FILL VOLUME (CY) = 20739.35

STA. 306+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

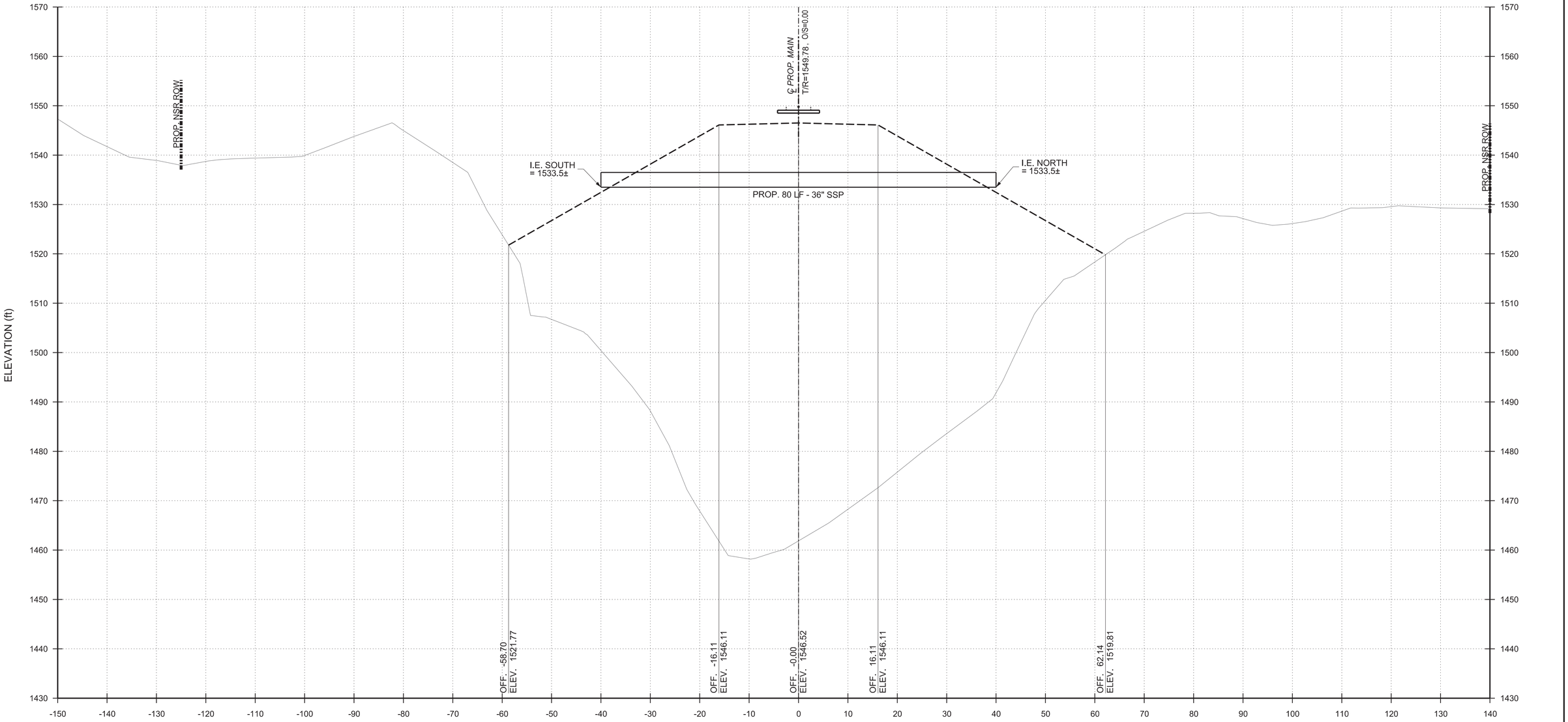
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 306+00

Drawing Number: TD-2025-49

Sheet Number: 71/81



STA. 306+50

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

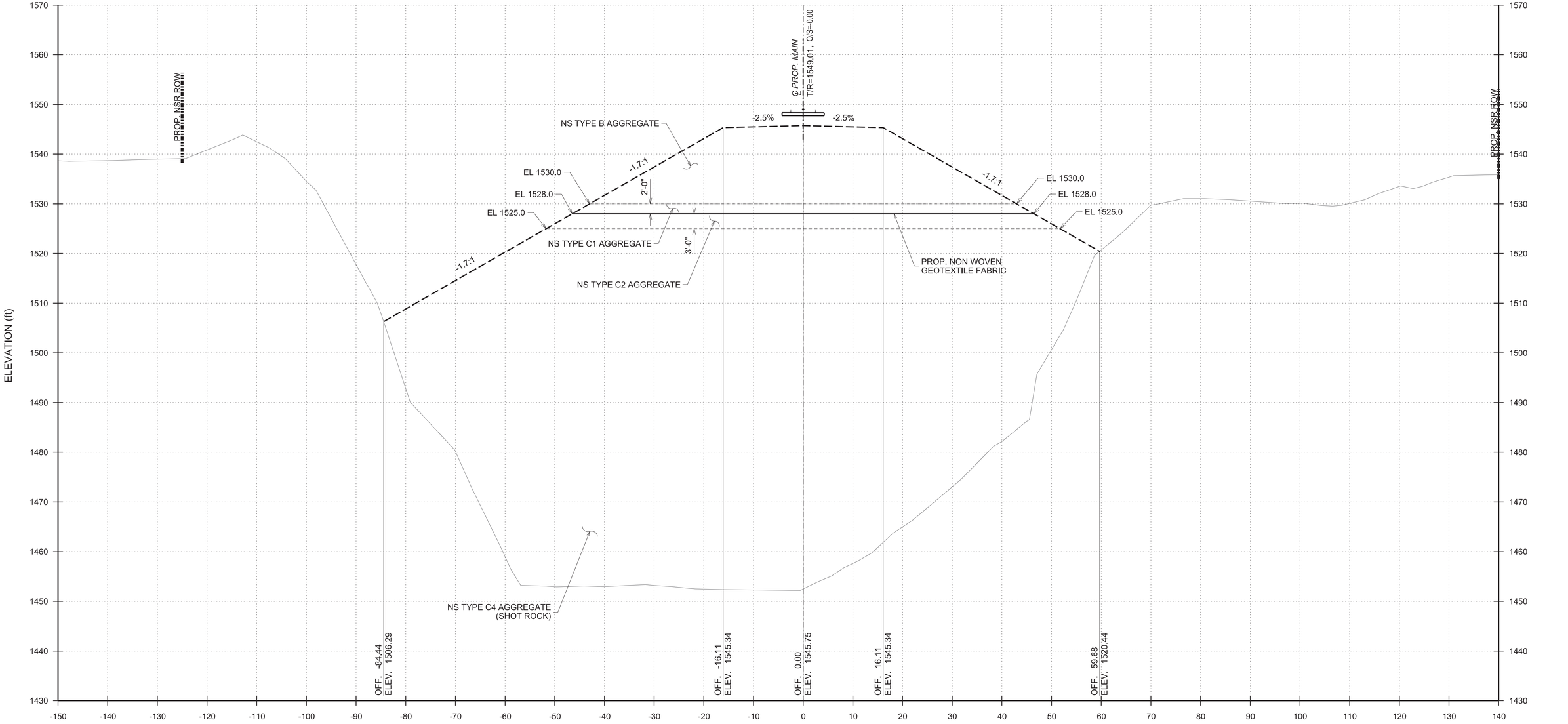
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
HARVEY A. CROUCH
NO. 15180-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.
CROUCH ENGINEERING INC.
5115 Maryland Way, STE 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004
				Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 307+00
				Drawing Number:	TD-2025-49
				Sheet Number:	72/81



CUT AREA (SF) =0.00
FILL AREA (SF) =9316.85

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 27028.78

STA. 307+00
COAL SEAM EMBANKMENT DETAIL

NOTES:
1) SEQUENCE OF AGGREGATE FILL SHALL FOLLOW THE LAYOUT AS SHOWN IN THE CROSS SECTION ABOVE.
2) FINAL ELEVATIONS OF EACH AGGREGATE LAYER MAY BE DIFFERENT THAN SHOWN AND DEPENDS ON FINAL AMOUNT OF NS TYPE 4 (SHOT ROCK) PLACED.
3) AGGREGATE LAYER NS TYPE C1 SHALL NOT BE PLACED HIGHER THAN EL. 1530.0 DUE TO PROPOSED DRAINAGE CULVERT.
4) ROCK LAYERS WITHIN THE COAL SEAM ARE TO BE PLACED TO ELEVATION SHOWN AND NOT MEASURED FROM TOP OF RAIL.

V-Scale: 1"=10' 5 0 10 20 H-Scale: 1"=100' 50 0 100 200

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 65803-E

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

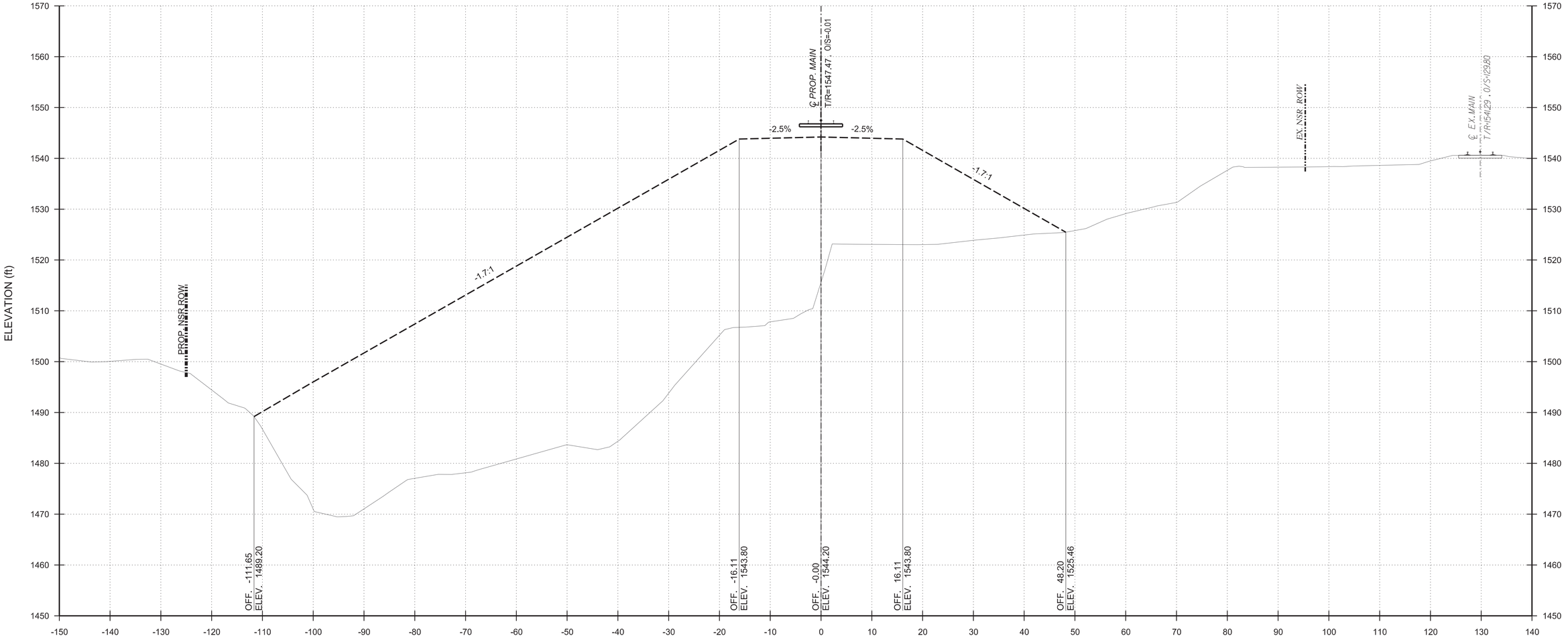
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN
NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004
				Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CROSS SECTIONS - STA. 307+00
				Drawing Number:	TD-2025-49
				Sheet Number:	73/81

Printed: $DATE$ $TIME$



CUT AREA (SF) =0.00
FILL AREA (SF) =4493.32

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 25574.40

STA. 308+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051908-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By:	SAS	Checked By:	ESN	County:	LUZERNE
				VRN:	0514004

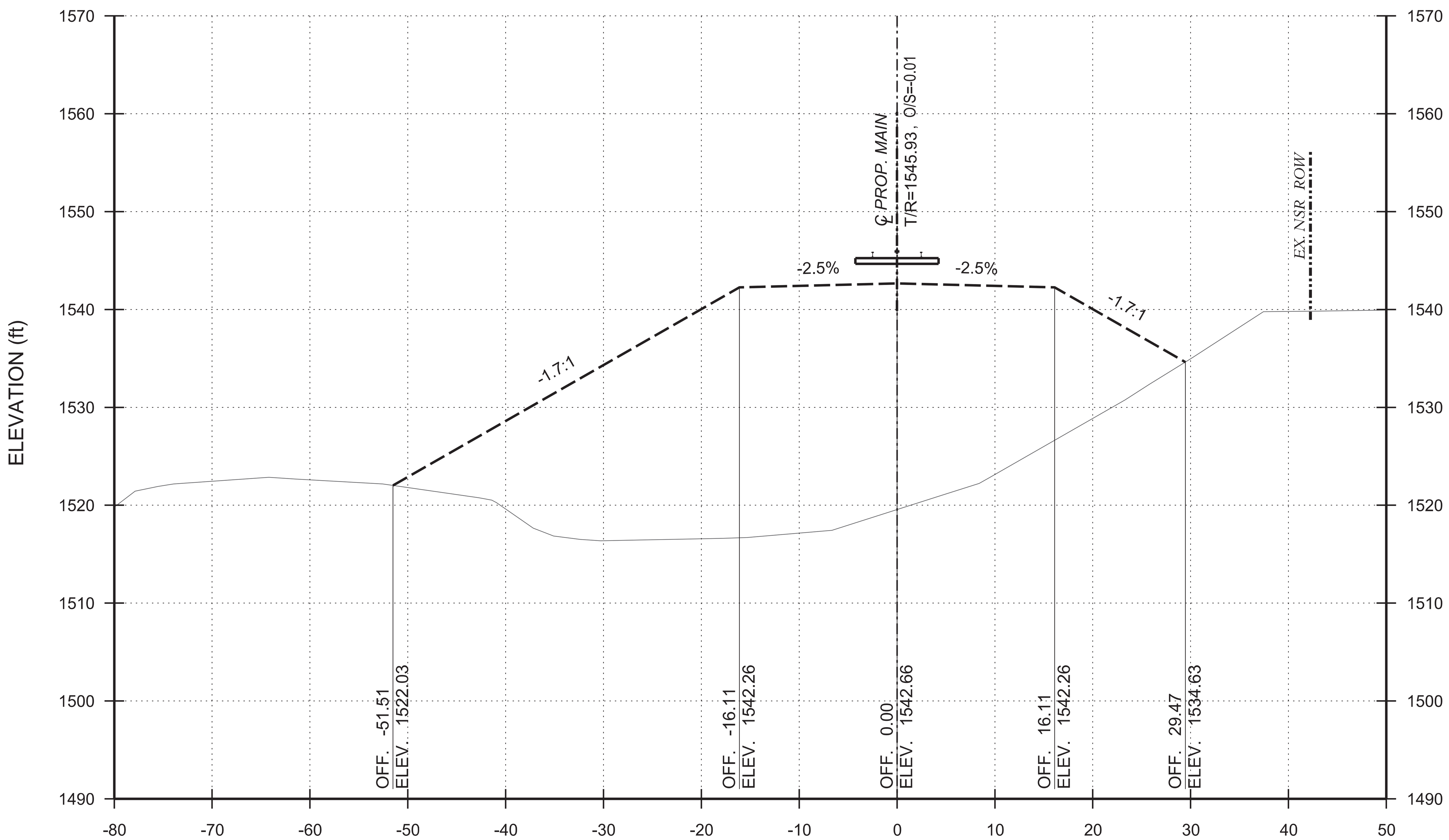
City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 308+00

Drawing Number: TD-2025-49

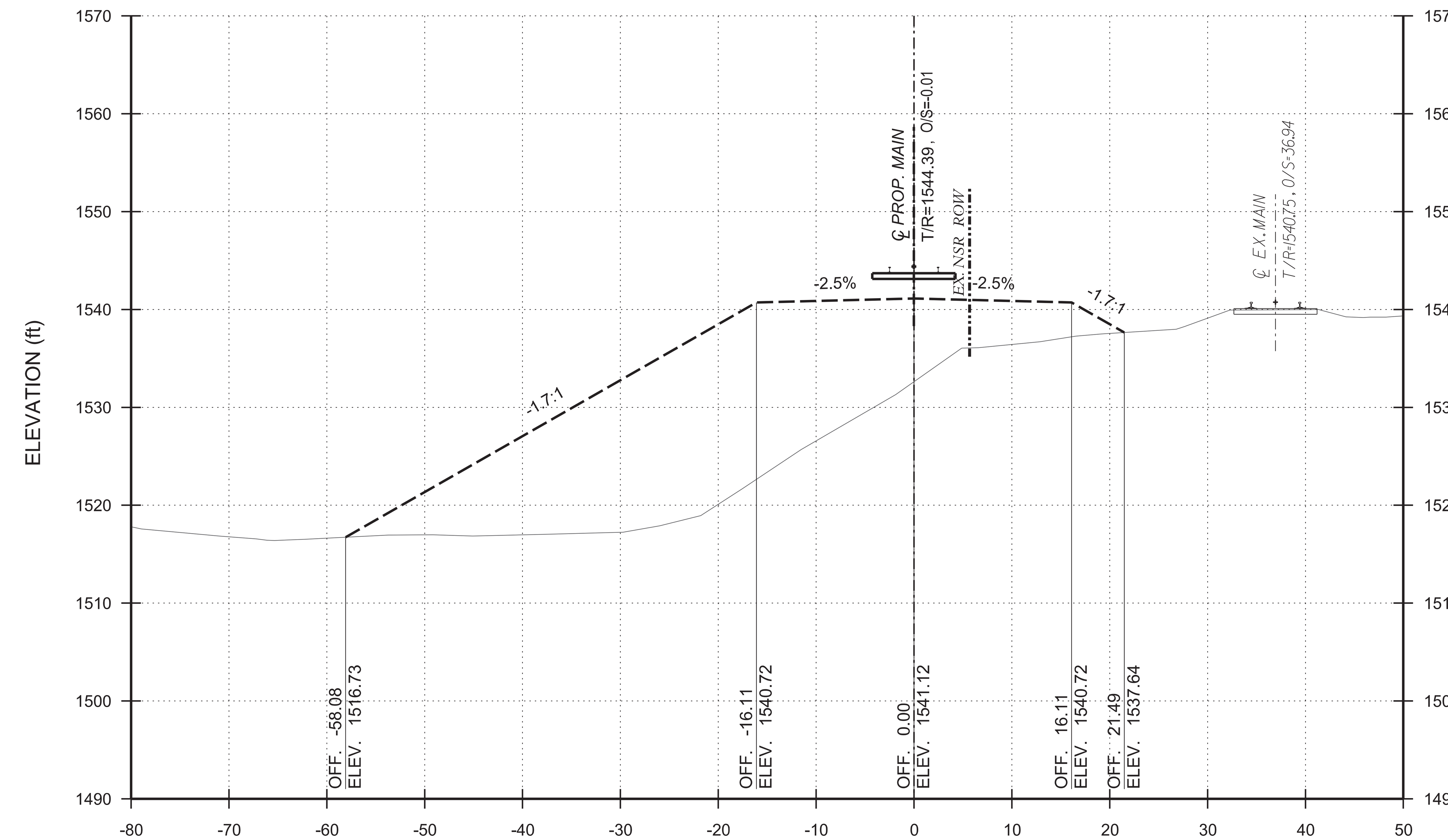
Sheet Number: 74/81



CUT AREA (SF) =0.00
FILL AREA (SF) =1317.59

STA. 309+00

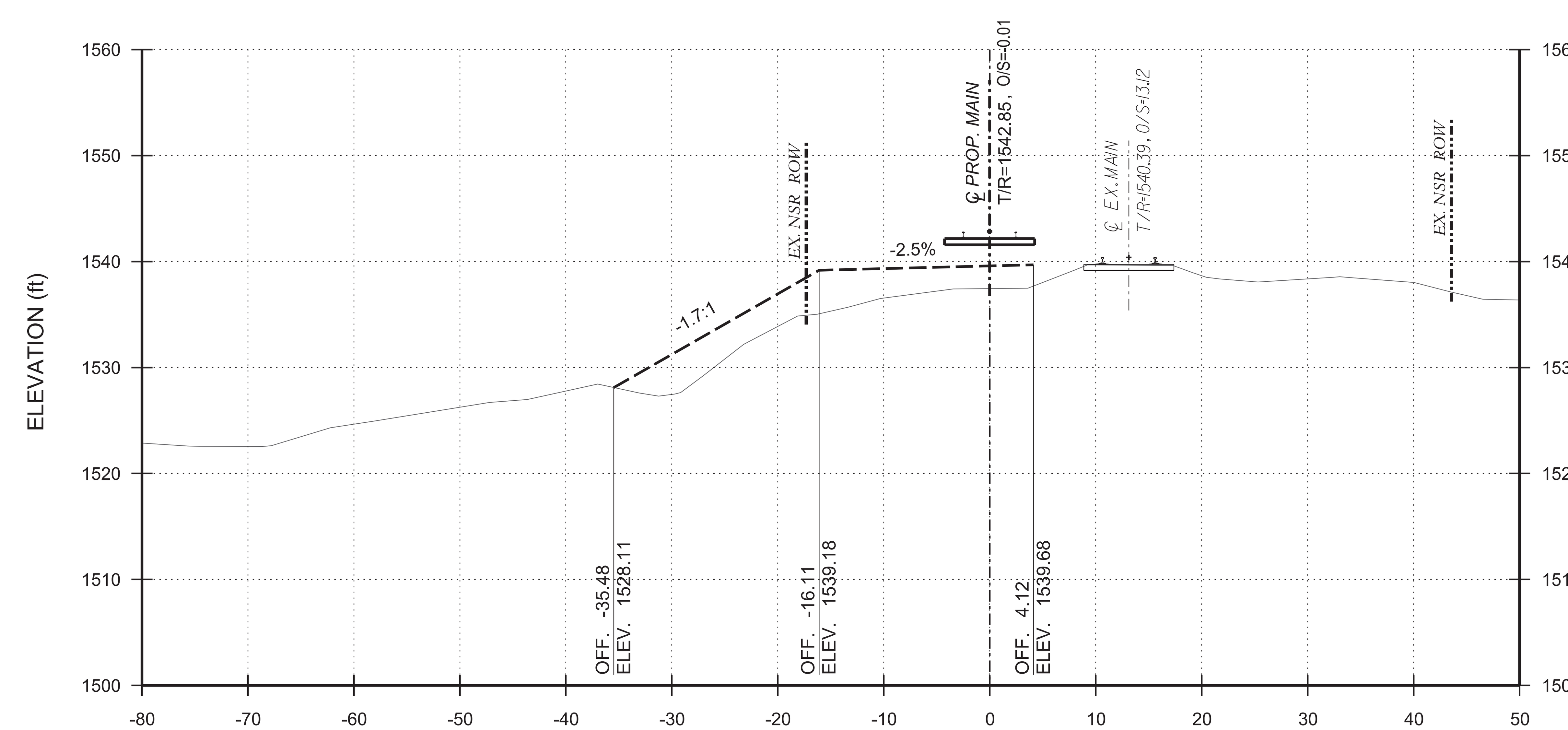
CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 10760.95



CUT AREA (SF) =0.00
FILL AREA (SF) =767.55

STA. 310+00

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 3861.38



CUT AREA (SF) =0.00
FILL AREA (SF) =111.61

STA. 311+00

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 1628.07

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

R	By	Date	Revision Description

PROJECT NO: 25004
DATE:
DRAWN BY: SAS
CHECKED BY: HAC
REVISIONS:

REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 051803-E COMMONWEALTH OF PENNSYLVANIA

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

NORFOLK SOUTHERN — ENGINEERING DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

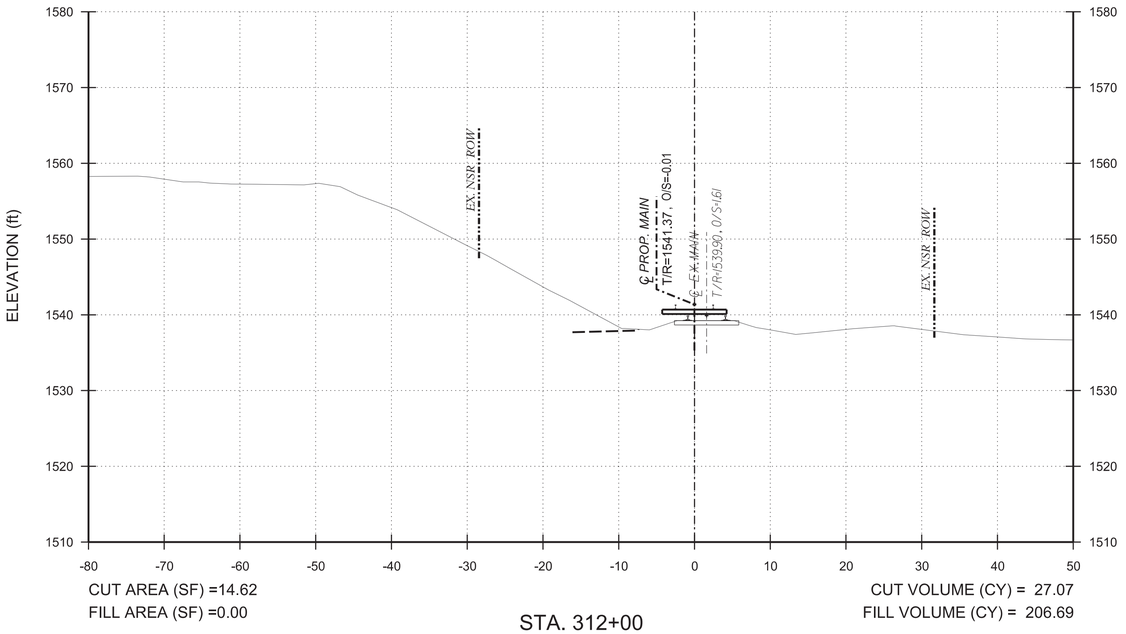
Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

CROSS SECTIONS - STA. 309+00 TO STA. 311+00

Drawing Number: TD-2025-49

Sheet Number: 75/81

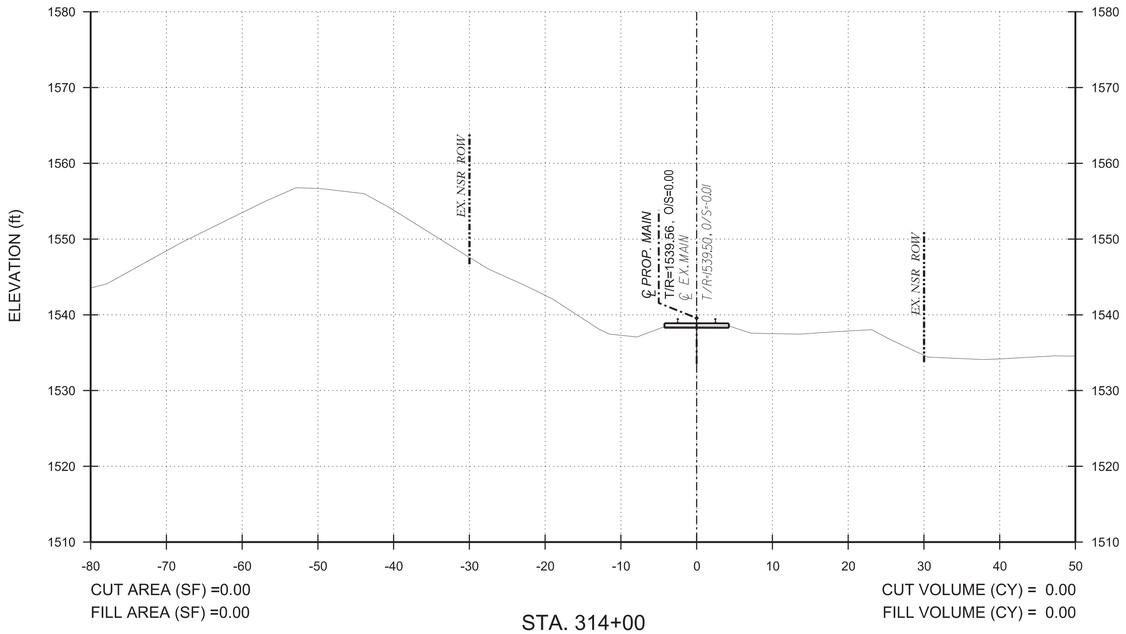
Printed: $DATES $TIMES



CUT AREA (SF) =14.62
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 27.07
FILL VOLUME (CY) = 206.69

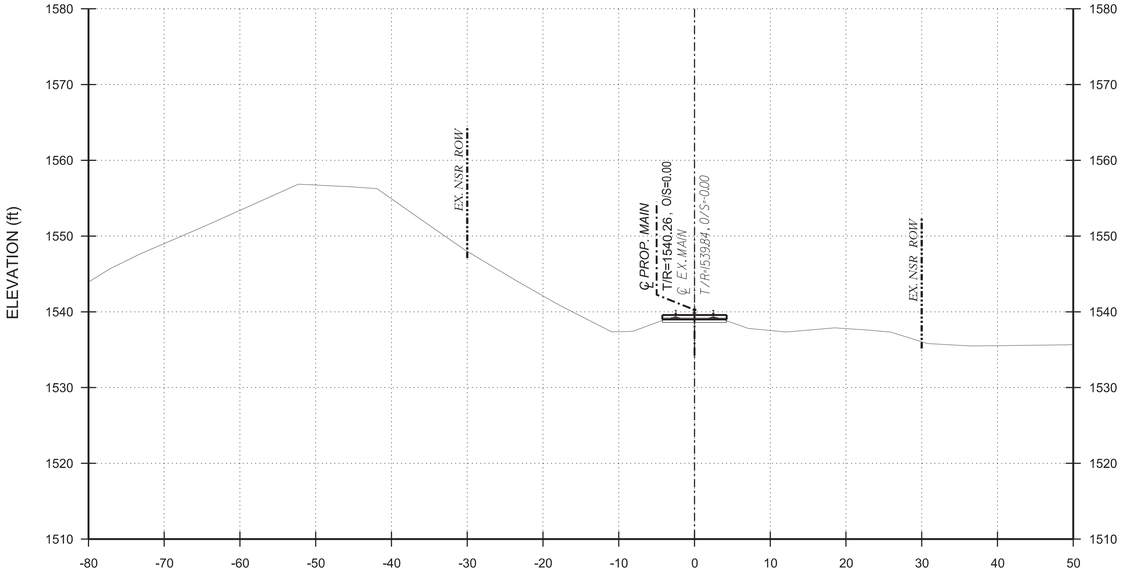
STA. 312+00



CUT AREA (SF) =0.00
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 0.00

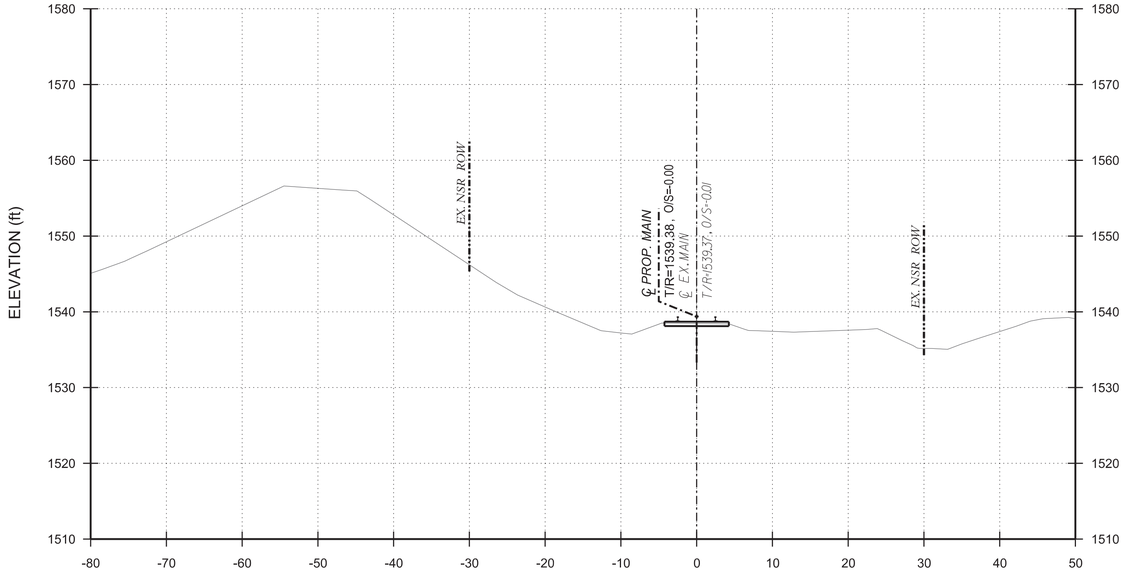
STA. 314+00



CUT AREA (SF) =0.00
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 27.07
FILL VOLUME (CY) = 0.00

STA. 313+00



CUT AREA (SF) =0.00
FILL AREA (SF) =0.00

CUT VOLUME (CY) = 0.00
FILL VOLUME (CY) = 0.00

STA. 314+43 =
EX. MAIN STA. 315+00

V-Scale: 1"=10' 5 0 10 20

H-Scale: 1"=100' 50 0 100 200

PROPOSED MAIN CORRIDOR GRADING QUANTITIES (END AREA VOLUME)
PROPOSED MAIN STA. 239+44 TO STA. 314+43

UNADJUSTED EXCAVATION = 283,416 CY
UNADJUSTED EMBANKMENT = 105,901 CY

EXCESS EXCAVATION = 177,515 CY

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER HARVEY A. CROUCH NO. 061804E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State: HAZLETON, PENNSYLVANIA

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP

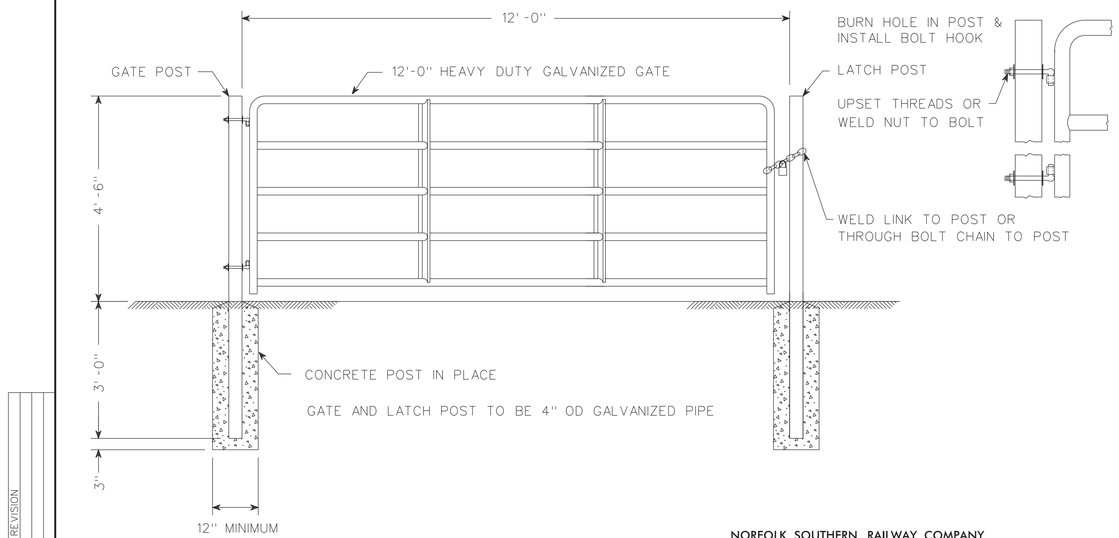
CROSS SECTIONS - STA. 312+00 TO STA. 314+43

Drawing Number: TD-2025-49

Sheet Number: 76/81

Printed: $DATE$ $TIME$

PLAN 7-10



NORFOLK SOUTHERN RAILWAY COMPANY

RIGHT OF WAY TUBULAR GATE

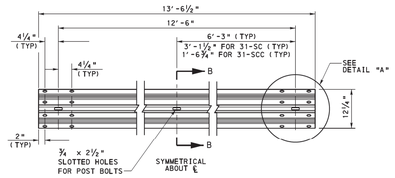
FOR URBAN LOCATIONS

OCTOBER 2007

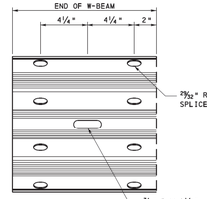
Atlanta, Georgia

REVISION

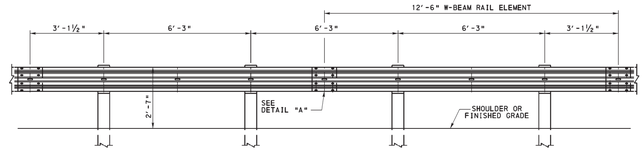
DATE



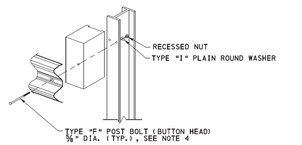
12'-6" W-BEAM RAIL ELEMENT



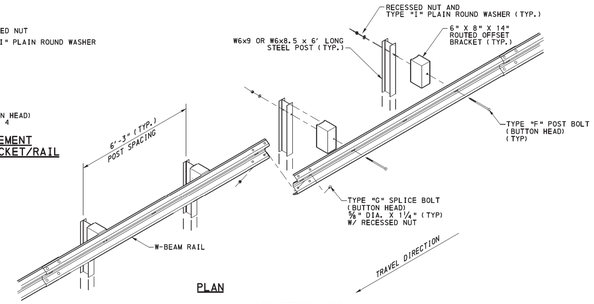
DETAIL "A"



ELEVATION

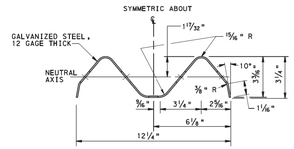


TYPICAL HARDWARE ARRANGEMENT WITH POST/ROUTED OFFSET BRACKET/RAIL



PLAN

ISOMETRIC VIEW



RAIL ELEMENT SECTION B-B

NOTES

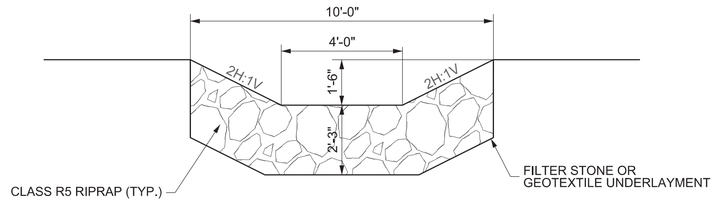
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 620.
2. PROVIDE STEEL I-BEAM POSTS (W6x9 OR W6x8.5) WITH ROUTED WOOD, PLASTIC, OR COMPOSITE OFFSET BRACKETS LISTED IN BULLETIN 15.
3. ATTACH W-BEAM RAIL ELEMENTS TO EACH POST. SPLICE RAIL ELEMENTS MID-SPAN ONLY AND LAP IN THE DIRECTION OF TRAFFIC.
4. PROVIDE TYPE "F" POST BOLTS (BUTTON HEAD) (ASTM A307) OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT (ASTM A563) AND TYPE "I" PLAIN ROUND WASHER AND NOT MORE THAN 1" BEYOND. TYPE "G" SPLICE BOLTS (BUTTON HEAD) (ASTM A307) ARE ⅝" X 1¼" (OR TYPE "H" SPLICE BOLTS (BUTTON HEAD) 2" LONG AT TRIPLE RAIL SPLICES); WITH A ⅝" DOUBLE RECESSED NUT (ASTM A563). PROVIDE THREE BEAM "CONNECTION" ⅞" DIA. (ASTM A325) HEX BOLTS OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE RAIL, WASHERS, AND NUTS.
5. INSTALL GUIDE RAIL DELINEATORS IN ACCORDANCE WITH TC-8604.
6. A SPECIAL LENGTH OF RAIL MAY BE MANUFACTURED TO ACCOMMODATE TERMINAL AND TRANSITION SECTIONS.
7. BURNING THROUGH POSTS OR RAIL ELEMENTS FOR HOLES IS NOT PERMITTED. USE A MECHANICAL PUNCH TO PRODUCE SPLICE HOLES IN RAIL ELEMENTS IF NEEDED FOR A TRANSITION SECTION. COAT ALL EXPOSED CUT EDGES WITH 2 COATS OF APPROVED GALVANIZING PAINT.
8. WHEN CONNECTING TO TYPE 2-S OR TYPE 2-W GUIDE RAIL, PROVIDE HEIGHT TRANSITION OVER A LENGTH OF 25'-0". REFER TO RC-53M FOR HEIGHT TRANSITION FROM TYPE 31-S GUIDE RAIL TO TYPE 2 WEAK POST GUIDE RAIL.
9. THE INSTALLATION TOLERANCE IN THE 31" HEIGHT FOR TYPE 31 STRONG POST GUIDE RAIL RANGES FROM 0" TO +1".
10. WHEN THE 2'-0" MINIMUM CLEARANCE FROM THE REAR FACE OF THE GUIDE RAIL POST TO THE FILL SLOPE BREAK CANNOT BE MAINTAINED, PROVIDE STRONG POSTS THAT ARE A MINIMUM OF 1'-0" LONGER.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PROJECT DELIVERY

TYPE 31 STRONG POST GUIDE RAIL

W-BEAM RAIL ELEMENT

RECOMMENDED AUG. 4, 2017	RECOMMENDED AUG. 4, 2017	SHT 1 OF 14
CHIEF, DWY. DELIVERY DIVISION	DIRECTOR, BUREAU OF PROJECT DELIVERY	RC-51M



RIPRAP LINED CHANNEL DETAIL

NOT TO SCALE

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL HARVEY A. CROUCH ENGINEER NO. 051803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN

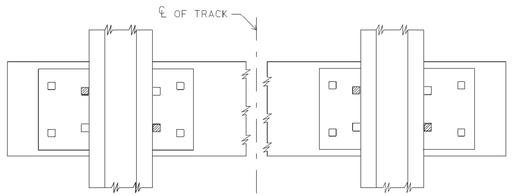
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY

NORFOLK SOUTHERN ENGINEERING DESIGN & CONSTRUCTION

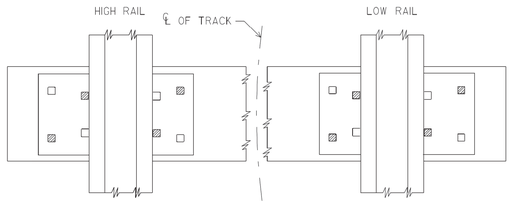
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP CIVIL DETAILS - GATE DETAIL
Drawing Number:	TD-2025-49
Sheet Number:	77/81

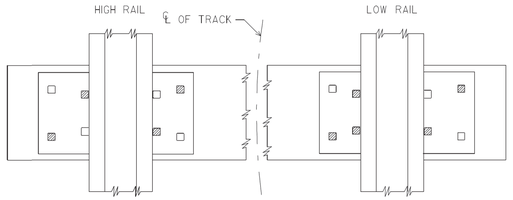
Printed: $DATE$ $TIME$



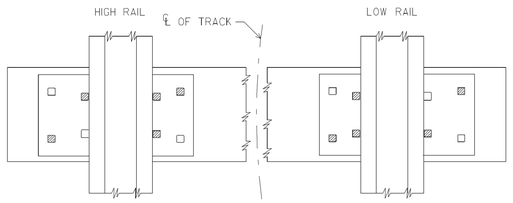
TANGENT



CURVES 2 DEGREES AND OVER



CURVES 5 DEGREES AND OVER



CURVES 6 DEGREES AND OVER

GENERAL NOTES

THE SPIKING PATTERN SHOWN APPLIES TO TRACKS CONSTRUCTED FOR MAIN LINE, BRANCHES AND PASSING SIDINGS; ALSO OTHER TRACKS WHERE THE SPEED IS IN EXCESS OF 25 MILES PER HOUR. THE SPIKING PATTERN ON CURVES TO BE UNIFORM THROUGHOUT TOTAL LENGTH OF CURVE, INCLUDING SPIRALS.

ALL TRACKS WITH TIMBER TIES ARE TO HAVE THE RAILS SPIKED WITH AT LEAST ONE RAIL HOLDING SPIKE ON THE GAGE SIDE AND ONE RAIL HOLDING SPIKE ON THE FIELD SIDE.

STANDARD TRACK SPIKES ARE 5/8"x6" CUT SPIKE SHOWN ON STANDARD PLAN I-3.

OTHER RAIL AND/OR PLATE HOLDING DEVICES MAY BE USED WHEN AUTHORIZED BY AVP MAINTENANCE.

WHEN ANY RE-SPIKING IS PERFORMED, OLD SPIKE HOLES MUST BE PLUGGED WITH WOOD.

SPIKES MAY BE DRIVEN WITH A STANDARD SPIKE MAUL OR WITH A MACHINE. SPIKES MUST BE STARTED AND DRIVEN VERTICALLY AND SQUARE TO THE TIE TO PROVIDE A FULL BEARING AT THE BASE OF RAIL.

RAIL HOLDING SPIKES AT EPOXY INSULATED JOINTS MUST BE REVERSED SO THAT THE TOE OF SPIKE WILL NOT CONTACT JOINT BAR. IF SPIKE IS UNDER THE BOLT, THE TIE MUST BE RE-SPACED.

ADDITIONAL SPIKES MAY BE USED WHERE NECESSARY TO MAINTAIN PROPER GAGE.

▨ = SPIKE

NORFOLK SOUTHERN RAILWAY COMPANY

TRACK SPIKING PATTERN

JUNE, 1995

Atlanta, Georgia

REVISION

DATE

MAINLINE SPIKING PATTERN

H-Scale: N.T.S.

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 051803-E

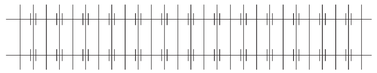
PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

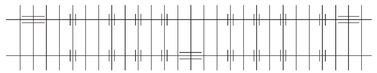
Owning Company: NORFOLK SOUTHERN RAILWAY COMPANY			
Drawing Date: 08/04/25	Operating Division: KEYSTONE	PID Number: D3508	City / State: HAZLETON, PENNSYLVANIA
Designed By: SAS	Milepost: JW 143	File Number: TRK1115611	Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
Drawn By: SAS / Checked By: ESN	County: LUZERNE	VRN: 0514004	TRACK DETAILS - MAINLINE SPIKING PATTERN
			Drawing Number: TD-2025-49 — Sheet Number: 78/81

CONTINUOUS WELDED RAIL TERRITORY

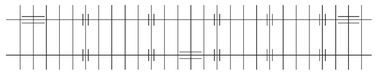


FULLY ANCHOR EVERY OTHER TIE EXCEPT AS INDICATED IN NOTES FOR ANCHORING WELDED RAIL

CONVENTIONAL BOLTED RAIL TERRITORY



OVER 4 MILLION GROSS TONS ANNUALLY
16 ANCHORS PER 39 FT. RAIL LENGTH



LESS THAN 4 MILLION GROSS TONS ANNUALLY
10 ANCHORS PER 39 FT. RAIL LENGTH

GENERAL NOTES

THE ANCHOR STANDARDS ON THIS PLAN SHOULD BE CONSIDERED AS MINIMUM REQUIREMENTS. ADDITIONAL ANCHORS MAY BE AUTHORIZED BY THE DIVISION ENGINEERS TO PREVENT RAIL MOVEMENT IN LOCATIONS SUCH AS HEAVY GRADES, DIPS, RAILROAD CROSSINGS OR SIMILAR LOCATIONS WHERE THE STANDARD ANCHOR PATTERN DOES NOT ADEQUATELY RESTRAIN RAIL MOVEMENT.

ANCHORS MUST BE APPLIED ON THE SAME SIDE OF THE TIE OF BOTH RAILS WITH A FULL BEARING AGAINST THE SIDE OF THE TIE.

ANCHORS INSTALLED SHOULD BE SPACED UNIFORMLY THROUGHOUT THE RAIL LENGTH AND NOT BE GROUPED IN ONE AREA OF THE RAIL.

ANCHORS THAT ARE APPLIED EITHER BY MACHINE OR BY HAND, MUST NOT BE OVERDRIVEN OR OVER APPLIED.

ANCHORS MUST NOT BE APPLIED WHERE THEY WILL INTERFERE WITH SIGNAL OR OTHER TRACK APPLIANCES, ON THE RAIL OPPOSITE A JOINT OR WHERE THEY ARE INACCESSIBLE FOR ADJUSTMENT OR INSPECTION.

ANCHORS THAT ARE REMOVED FROM THE RAIL MUST BE REAPPLIED IN THE REQUIRED PATTERN.

RELAY (FIT) ANCHORS MAY BE USED IN WELDED RAIL LOCATIONS AS DIRECTED BY THE CHIEF ENGINEER LINE MAINTENANCE OR CHIEF ENGINEER PROGRAM MAINTENANCE.

RAIL ACROSS BALLAST DECK BRIDGES IS TO BE ANCHORED IN THE SAME PATTERN AS THE ADJACENT GROUND TRACK.

RAIL ON OPEN DECK BRIDGES IS NOT TO BE ANCHORED UNLESS SPECIFICALLY AUTHORIZED BY THE CHIEF ENGINEER BRIDGES AND STRUCTURES.

ANCHORS FROM DIFFERENT MANUFACTURERS ARE NOT TO BE INTERMIXED IN TRACK.

ANY MAIN TRACK NOT ANCHORED AS REQUIRED BY THIS PLAN IS CONSIDERED DEFICIENT AND MUST BE SLOW ORDERED. (EXCEPTION: SEE PREFACE MW&S STANNDARD PROCEDURE 005.) WHEN RAIL HAS BEEN LAID OR REPLACED, SLOW ORDER MAY NOT BE REMOVED UNTIL RAIL IS PROPERLY ANCHORED AND TIE CRIB FILLED.

IF THE TYPE RAIL OR TONNAGE CHANGES, THEN THE ANCHORING PATTERN SHOULD BE CHANGED TO THE NEW REQUIRED PATTERN.

ANCHORING PROCEDURE

ANCHORING WELDED RAIL

TANGENT TRACK: BOX ANCHOR EVERY OTHER TIE.

CURVES LESS THAN 3 DEGREES: BOX ANCHOR EVERY OTHER TIE.

CURVES 3 DEGREES AND OVER: BOX ANCHOR EVERY TIE.

JOINTS: BOX ANCHOR EVERY TIE FOR SIX 39 FOOT RAIL LENGTHS (234 FEET) ON EACH SIDE OF JOINT.

WELDED TO JOINTED: WHEN WELDED RAIL CONNECTS TO JOINTED RAIL THE FIRST SIX 39 FOOT RAIL LENGTHS OF JOINTED RAIL ARE TO BE BOX ANCHORED FOR EVERY TIE EXCEPT AT AND OPPOSITE JOINTS. THE NEXT SIX RAIL LENGTHS OF JOINTED RAIL ARE TO BE ANCHORED WITH A TRANSITION PATTERN BETWEEN THE WELDED PATTERN AND THE JOINTED RAIL PATTERN.

OPEN DECK BRIDGES: GROUND TRACK IS TO BE BOX ANCHORED EVERY CROSSTIE FOR SIX 39 FOOT RAIL LENGTHS (234 FEET) FROM EACH BRIDGE END.

WHERE EXPANSION JOINTS ARE LOCATED ON THE GROUND, TRACK IS TO BE BOX ANCHORED EVERY CROSSTIE FOR SIX RAIL LENGTHS (234 FEET) FROM THE EXPANSION JOINT AWAY FROM THE BRIDGE. THERE ARE TO BE NO ANCHORS AND NO TRACK JOINTS BETWEEN THE EXPANSION JOINT AND THE BRIDGE.

ANCHORING JOINTED RAIL

LOCATIONS WHERE TONNAGE IS GREATER THAN 4 MILLION GROSS TONS ANNUALLY: BOX ANCHOR 8 TIES PER 39 FOOT RAIL.

SIDINGS WITH LESS THAN 25 M.P.H. TIMETABLE SPEED, YARDS, LEADS, BRANCH LINES AND LOCATIONS WITH LESS THAN 4 MILLION GROSS TONS ANNUALLY: BOX ANCHOR 5 TIES PER 39 FOOT RAIL.

ANCHORING TURNOUTS

MAIN TRACK TURNOUTS AND TURNOUTS IN WELDED RAIL TERRITORY: TURNOUTS ARE TO BE BOX ANCHORED EVERY CROSSTIE FOR THREE 39 FOOT RAIL LENGTHS (117 FEET) IN EACH DIRECTION FROM THE TURNOUT INCLUDING THE TURNOUT SIDE. ALL SWITCH TIES ARE TO BE BOX ANCHORED, WHERE POSSIBLE.

OTHER THAN MAIN TRACK TURNOUTS AND TURNOUTS IN JOINTED RAIL TERRITORY: TURNOUTS ARE TO BE BOX ANCHORED EVERY OTHER CROSSTIE FOR THREE 39 FOOT RAIL LENGTHS (117 FEET) IN EACH DIRECTION FROM THE TURNOUT INCLUDING THE TURNOUT SIDE. EVERY OTHER SWITCH TIE TO BE BOX ANCHORED, WHERE POSSIBLE.

IF THE TURNOUT IS IN WELDED RAIL TERRITORY WITH A JOINT, THEN THE PROCEDURE FOR ANCHORING JOINTS IN WELDED RAIL APPLIES.

NORFOLK SOUTHERN RAILWAY COMPANY

RAIL ANCHORING PATTERN

APRIL 1991

Atlanta, Georgia

REVISION	DATE

RAIL ANCHORING PATTERN

H-Scale: N.T.S.

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 057879-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

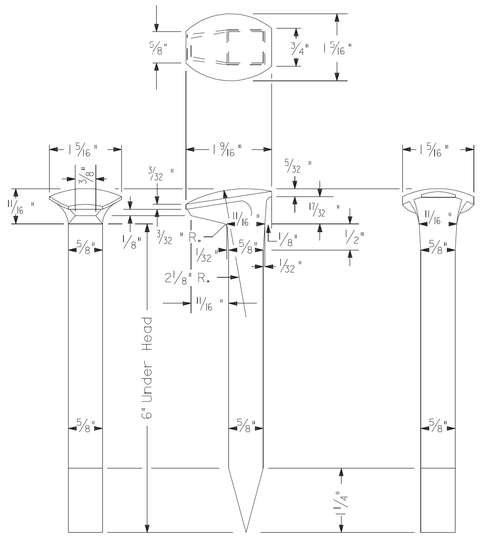
crouch engineering inc.
CROUCH ENGINEERING INC.
5115 MARYLAND WAY, STE 225
BRENTWOOD, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY				
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

City / State:	HAZLETON, PENNSYLVANIA
Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
	TRACK DETAILS - RAIL ANCHORING PATTERN
Drawing Number:	TD-2025-49
Sheet Number:	79/81

Printed: $DATE$ $TIME$



5/8" X 6" CUT TRACK SPIKE
AREMA STANDARD
640-903705

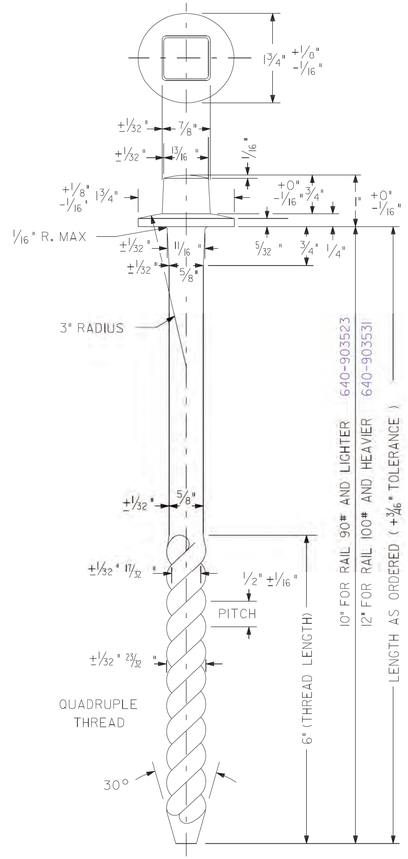
Material and workmanship to be in accordance with current AREMA manual requirements for soft steel track spikes.

Permissible shank straightness variation measured in either plane, shall not exceed 0.0313".

Manufacturer's I.D. shall be pressed on the head of each spike while being formed.

Weight = approximately 0.83-lbs each

241 Spikes per 200-lb keg



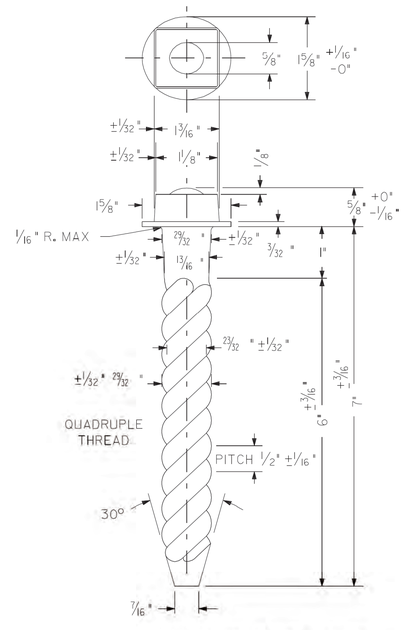
5/8" GALVANIZED DRIVE SCREW SPIKE
AREMA STANDARD
PLAN 2M-63

For fastening crossing timbers.

Drill 1/2" pilot hole in crossties.

10" Length for use in rail 90RA and lighter.
125 Spikes per 200-lb keg

12 Length for use in rail 100RE and heavier.
100 Spikes per 200-lb keg



7/8" X 7" GALVANIZED DRIVE SCREW SPIKE
AREMA STANDARD
640-903565

For use where specified in turnouts.

Drill 1/2" pilot hole.

150 Spikes per 200-lb keg

REVISION	DATE
TRACK SPIKE SPECIFICATIONS	12-5-05

NORFOLK SOUTHERN RAILWAY COMPANY

SPIKES

APRIL 1991

Atlanta, Georgia

SPIKE DETAIL

H-Scale: N.T.S.

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 057870-E

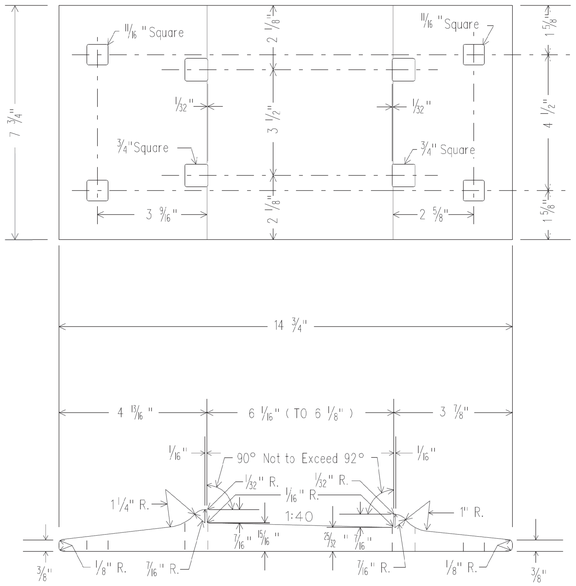
PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY					City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508	Project:	MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611		TRACK DETAILS - SPIKE DETAIL
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004	Drawing Number:	TD-2025-49
						Sheet Number:	80/81

PLAN 1–5



NOTES:

Plates are to be furnished plain, without ribs.
The rail seat is to be flat, without camber.
All spike holes are to have 1/16" fillets in the corners.
Plates are to be branded as required by Section 5 of the American Railway Engineering and Maintenance-of-Way Association Manual.
Material and process are to conform to AREMA standards,
with carbon and copper content to be as follows:
Carbon - 0.15% Min.
Copper - 0.20% Min.

AREMA PLAN NO. 13

FOR RAIL SECTIONS 130RE, 131RE, 132RE, 136RE, 140RE & 141AB

Estimated Weight - 23.32 lbs.

640 742145

NORFOLK SOUTHERN RAILWAY COMPANY

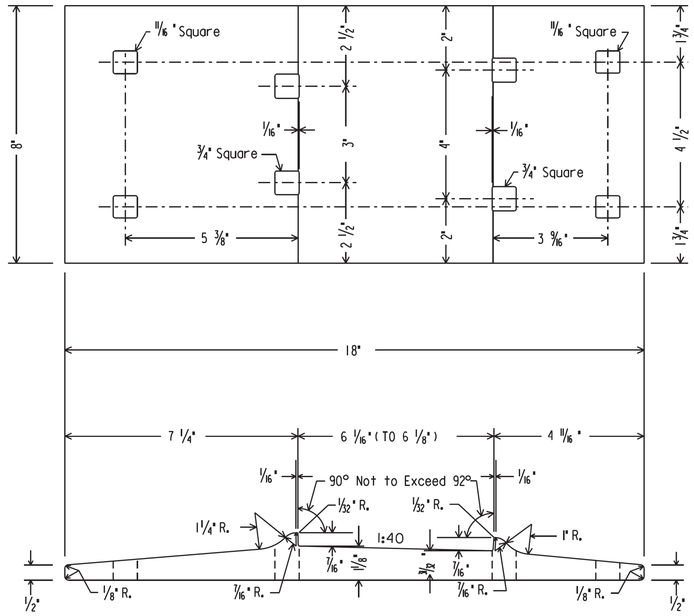
TIE PLATE
7 ¾ " X 14 ¾ " D.S.

OCTOBER 1988
Atlanta, Georgia

DATE	REVISION
8-29-03	FOR 141AB RAIL SECTION

7-3/4" x 14-3/4" TIE PLATE DETAIL

PLAN 1–6



NOTES:

Plates are to be furnished plain, without ribs.
The rail seat is to be flat, without camber.
All spike holes are to have 1/16" fillets in the corners.
Plates are to be branded as required by Section 5 of the American Railway Engineering and Maintenance-of-Way Association Manual.
Material and process are to conform to AREMA standards.

Carbon - 0.15% Min.
Copper - 0.20% Min.

FOR RAIL SECTIONS 130RE, 131RE, 132RE, 136RE, 140RE & 141AB

Estimated Weight - 34.92 lbs.

640 752409

NORFOLK SOUTHERN RAILWAY COMPANY

TIE PLATE
8" X 18" D.S.

OCTOBER 1988
Atlanta, Georgia

DATE	REVISION
8-29-03	FOR 141AB RAIL SECTION
11-14-05	ADJUSTED WEIGHT TO 34.92-LBS

8" x 18" TIE PLATE DETAIL

H-Scale: N.T.S.

Printed: $DATE$ $TIME$

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — HARVEY A. CROUCH — NO. 057803-E

PROJECT NO:	25004
DATE:	
DRAWN BY:	SAS
CHECKED BY:	HAC
REVISIONS:	

crouch engineering inc.

CROUCH ENGINEERING INC.
5115 Maryland Way, Ste 225
Brentwood, TN 37027
PHONE NO. (615) 791-0630

R	By	Date	Revision Description

NORFOLK SOUTHERN — NORFOLK SOUTHERN ENGINEERING — DESIGN & CONSTRUCTION

Owning Company:	NORFOLK SOUTHERN RAILWAY COMPANY			City / State:	HAZLETON, PENNSYLVANIA
Drawing Date:	08/04/25	Operating Division:	KEYSTONE	PID Number:	D3508
Designed By:	SAS	Milepost:	JW 143	File Number:	TRK1115611
Drawn By: SAS	Checked By: ESN	County:	LUZERNE	VRN:	0514004

Project: MAINLINE RELOCATION FOR ATLANTIC CARBON GROUP TRACK DETAILS - TIE PLATES

Drawing Number: TD-2025-49

Sheet Number: 81/81

SH. NO.	CONTENTS	REV. NO.
NX1	INDEX SHEET	1
1	LAYOUT	1
2	PROFILE	1
3	CABLE PLAN	1
4	LOAD CENTER	1
5	CHARGERS & BATTERIES	1
6	GCP4000 CHASSIS & MODULE LAYOUT	1
7	GCP4000 PROGRAMMING	1
8	GCP4000 PROGRAMMING	1
9	CONNECTORS FOR TRACK MODULES	1
10	CPU MODULE & SEAR IIi HOOK-UPS	1
11	SEAR IIi PROGRAMMING	1
12	BACKHAUL EQUIPMENT	1
13	DC ENHANCER PANEL	1
14	SSCC#1 MODULE HOOK-UP	1
15	SSCC#2 MODULE HOOK-UP	1
16	CANTILEVER FLASHER LIGHTS	1
17	SIGNAL "A" S-40 GATE & FLASHER CIRCUITS	1
18	SIGNAL "B" S-40 GATE & FLASHER CIRCUITS	1
19	BACKBOARD 1A	1
20	BACKBOARD 1B	1
21	SIDE A LAYOUT & RACK PLACEMENT	1
22	SIDE C LAYOUT	1
23	SIDE B LAYOUT & TOP VIEW	1

REVISIONS

1	08-15-25	TAH	RSD	RDL

NEW PLAN DRAWN ACCOUNT OF RAILROAD REALIGNMENT AND CROSSING UPGRADE.

PROJECT: #19.0142

IN SERVICE: - -

PER:

DESIGNED BY:	
TAH	08-15-25
DRAWN BY:	
RSD	08-15-25
CHECKED BY:	
RDL	08-15-25
IN SERVICE:	
	- -

PROPERTY
PENNSYLVANIA R.R.

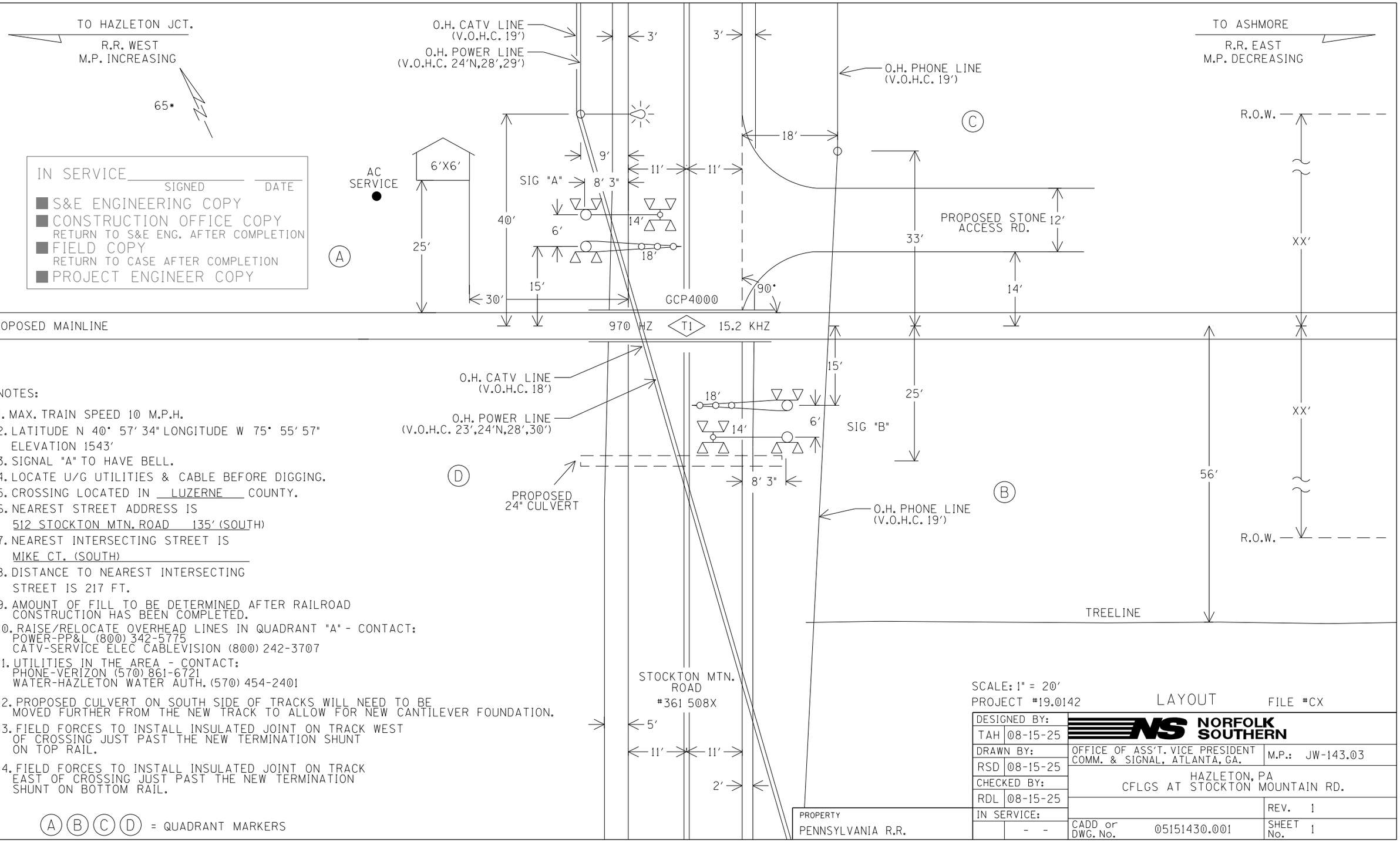
NORFOLK SOUTHERN

OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P.: JW-143.03

HAZLETON, PA
CFLGS AT STOCKTON MOUNTAIN RD.

REV. 1

CADD or DWG. No. 05151430.NX1 | SHEET No. INDEX 1



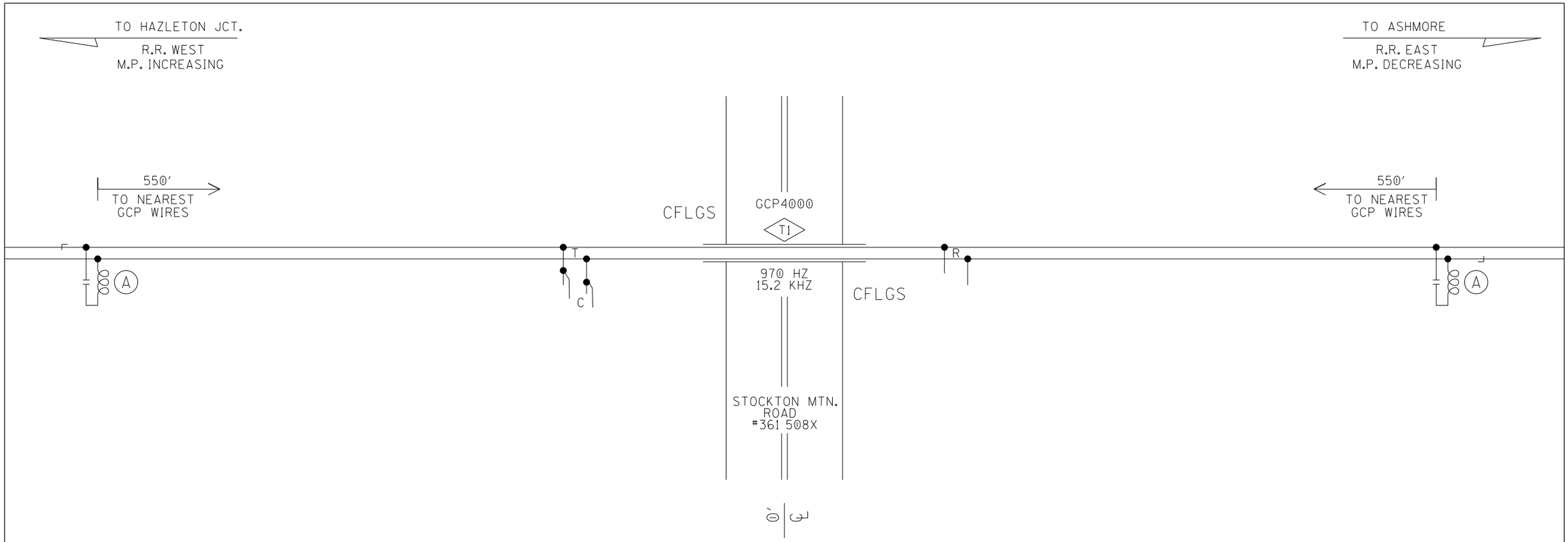
NOTES:

1. MAX. TRAIN SPEED 10 M.P.H.
2. LATITUDE N 40° 57' 34" LONGITUDE W 75° 55' 57" ELEVATION 1543'
3. SIGNAL "A" TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN LUZERNE COUNTY.
6. NEAREST STREET ADDRESS IS 512 STOCKTON MTN. ROAD 135' (SOUTH)
7. NEAREST INTERSECTING STREET IS MIKE CT. (SOUTH)
8. DISTANCE TO NEAREST INTERSECTING STREET IS 217 FT.
9. AMOUNT OF FILL TO BE DETERMINED AFTER RAILROAD CONSTRUCTION HAS BEEN COMPLETED.
10. RAISE/RELOCATE OVERHEAD LINES IN QUADRANT "A" - CONTACT:
    POWER-PP&L (800) 342-5775
    CATV-SERVICE ELEC CABLEVISION (800) 242-3707
11. UTILITIES IN THE AREA - CONTACT:
    PHONE-VERIZON (570) 861-6721
    WATER-HAZLETON WATER AUTH. (570) 454-2401
12. PROPOSED CULVERT ON SOUTH SIDE OF TRACKS WILL NEED TO BE MOVED FURTHER FROM THE NEW TRACK TO ALLOW FOR NEW CANTILEVER FOUNDATION.
13. FIELD FORCES TO INSTALL INSULATED JOINT ON TRACK WEST OF CROSSING JUST PAST THE NEW TERMINATION SHUNT ON TOP RAIL.
14. FIELD FORCES TO INSTALL INSULATED JOINT ON TRACK EAST OF CROSSING JUST PAST THE NEW TERMINATION SHUNT ON BOTTOM RAIL.

(A) (B) (C) (D) = QUADRANT MARKERS

SCALE: 1" = 20'
PROJECT #19.0142
LAYOUT
FILE #CX

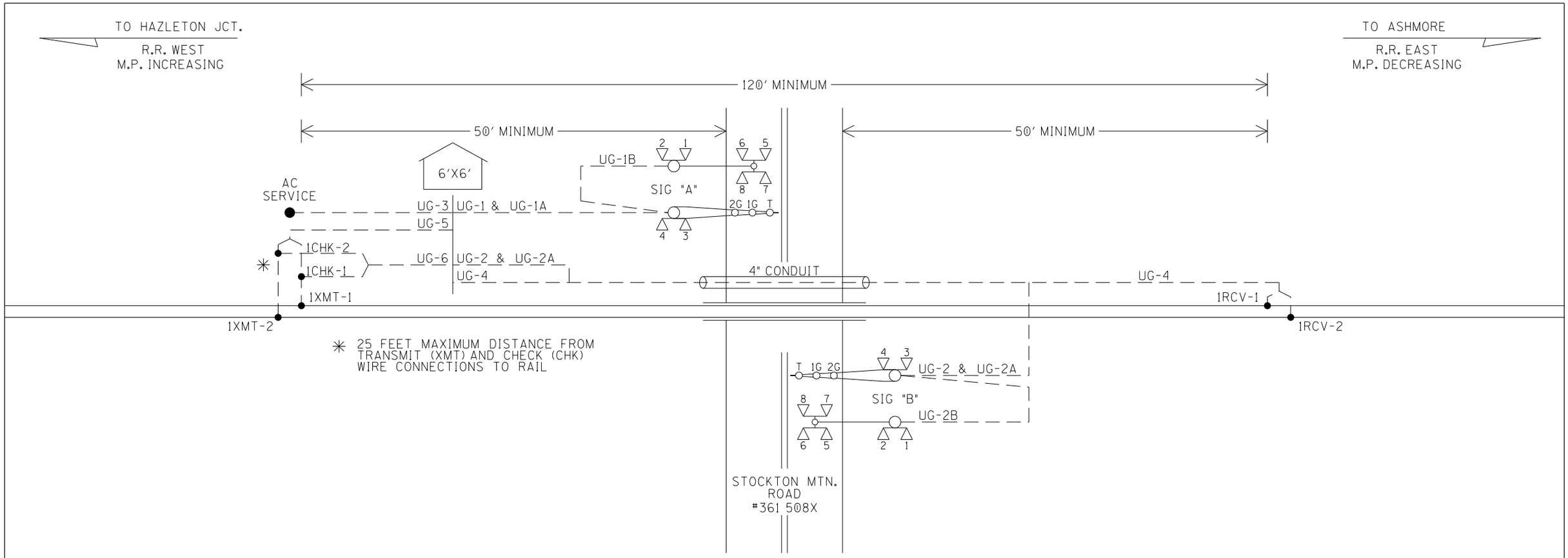
DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.001 — SHEET No. 1



(A)- MF-NBS FSS-1F 250849-005 (970HZ)

PROFILE

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY: PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.002 — SHEET No. 2



UG-1-5CUG #6
AEC
AEZ
AEB
B16-A
N16-A

UG-2-5CUG #6
BEC
BEZ
BEB
B16-B
N16-B

UG-1A-12CUG #14
AXG
NAXG
AXX
1AXX
AGD
XGP1
AGBX120
AGNX120
SPARE
SPARE
SPARE
SPARE

UG-2A-12CUG #14
BXG
NBXG
BXX
1BXX
BGD
XGP1
XGP
BGBX120
BGNX120
SPARE
SPARE
SPARE

UG-1B-5CUG #6
AEC
AEZ
AEB
BELL
NBELL

UG-2B-5CUG #6
BEC
BEZ
BEB
SPARE
SPARE

UG-3-3CUG #6 W/#8 GND
BX120-A
BX120-B
NX120
GND

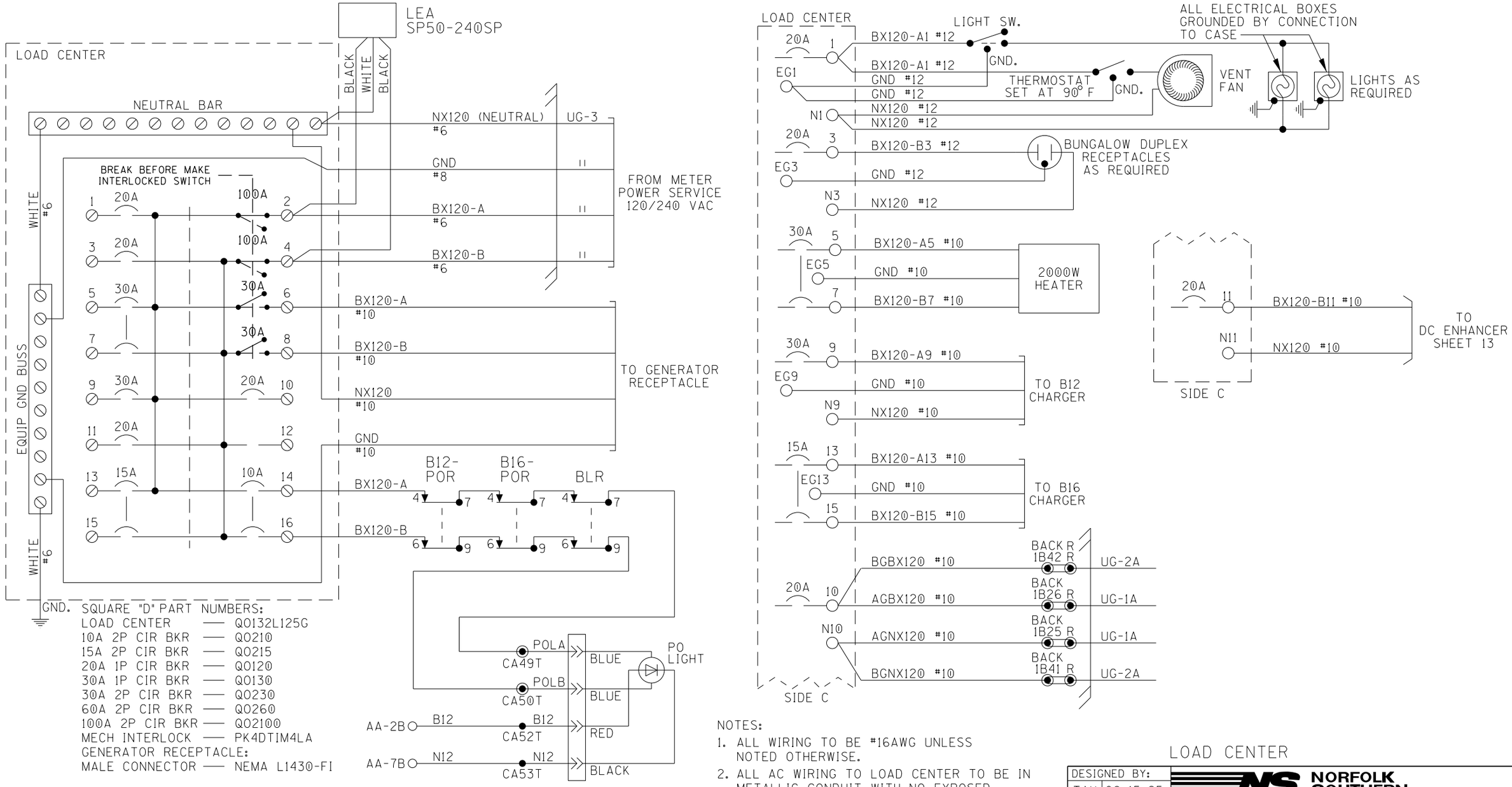
UG-4-TW. PR. #6
1RCV-1
1RCV-2

UG-5-TW. PR. #6
1XMT-1
1XMT-2

UG-6-TW. PR. #6
1CHK-1
1CHK-2

CABLE PLAN

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.003 — SHEET No. 3

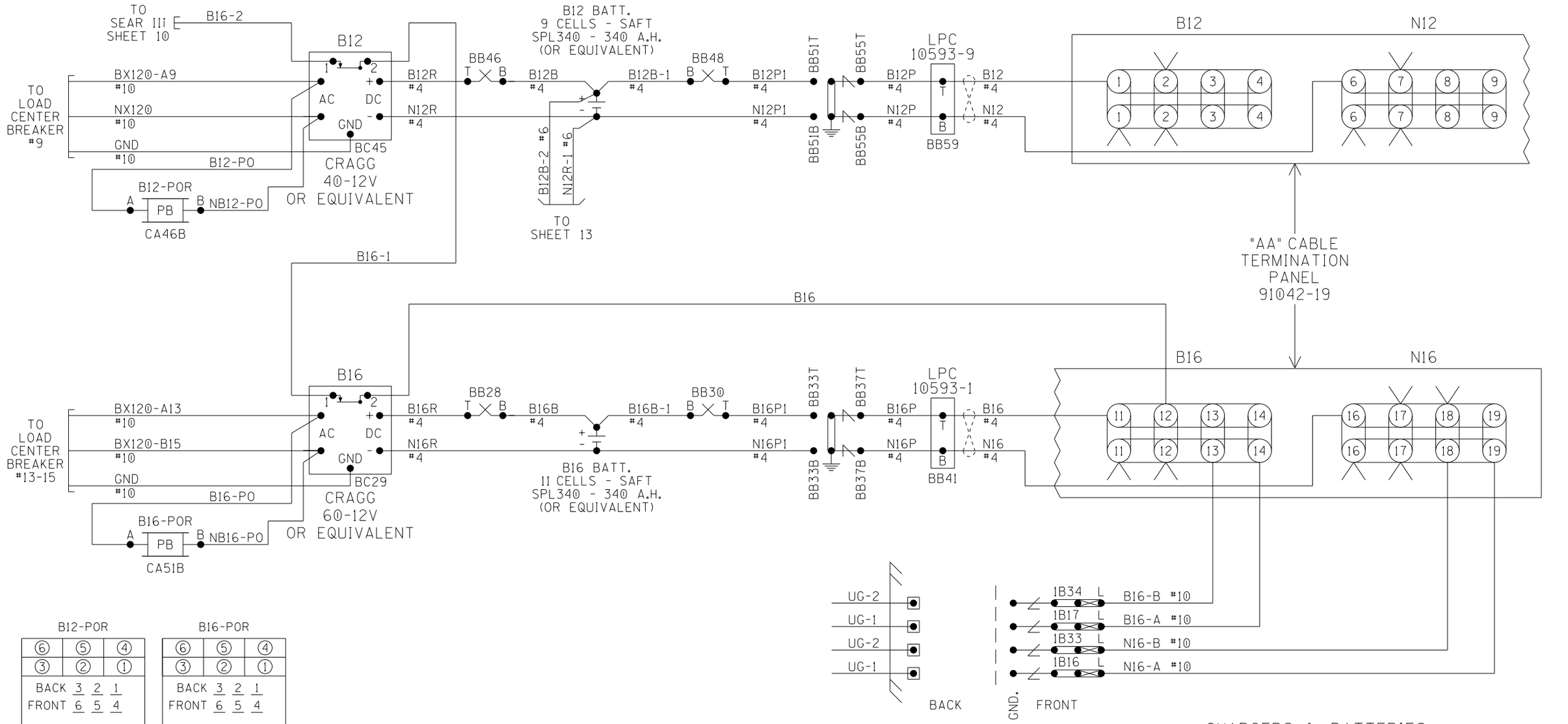


NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. ALL AC WIRING TO LOAD CENTER TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT TO BE PROPERLY GROUNDED.
3. ◉ = INSULATED NUTS TO BE USED ON ALL TERMINALS OF 120VAC AND ABOVE.

LOAD CENTER

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.004 — SHEET No. 4



B12-POR

⑥	⑤	④
③	②	①
BACK 3	2	1
FRONT 6	5	4
HEEL 9	8	7
B		A
⑨	⑧	⑦

POTTER BRUMFIELD RELAY (FRONT VIEW) KUMP-14A18-120

B16-POR

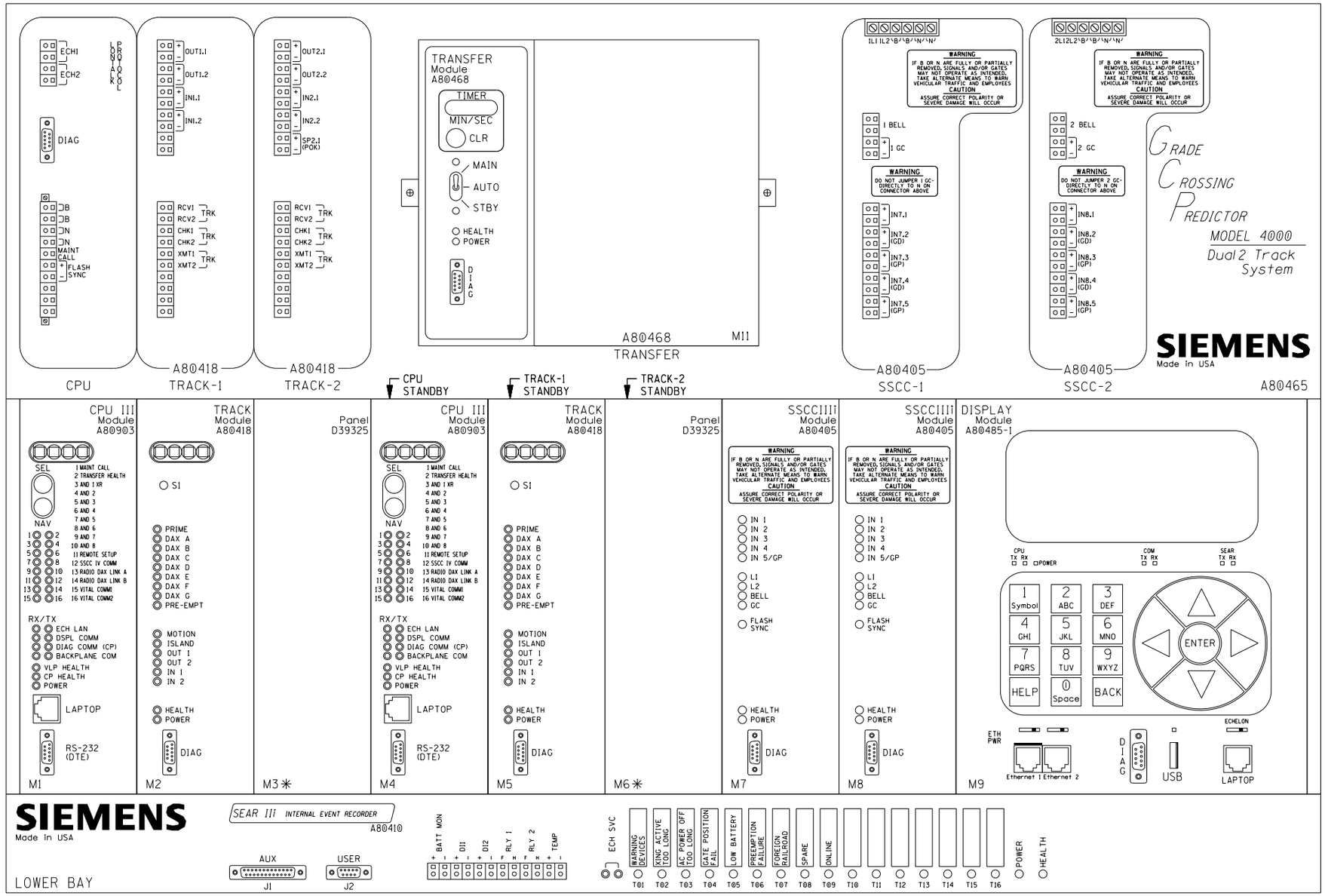
⑥	⑤	④
③	②	①
BACK 3	2	1
FRONT 6	5	4
HEEL 9	8	7
B		A
⑨	⑧	⑦

POTTER BRUMFIELD RELAY (FRONT VIEW) KUP-14A15-240

NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2.) (= TWIST

CHARGERS & BATTERIES

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.005 — SHEET No. 5



WARNING

REMOVAL OF THE SSCCIIIi MODULE
WILL CAUSE THE GATE(S) TO
DROP WITHOUT GATE DELAY AND
FLASHING LIGHTS WILL NOT ACTIVATE.

CAUTION

ENSURE CORRECT POLARITY OF B AND N FOR
SSCCIIIi MODULE OR SEVERE DAMAGE WILL OCCUR.

REFER TO DETAILED INSTRUCTIONS ON THE
SSCCIIIi BEFORE APPLYING POWER TO
THE POWER CONNECTOR(S).

* = MAIN & STANDBY MAY USE RIO
IN TRACK 2 SLOTS (M3 & M6)

GCP4000 CHASSIS & MODULE LAYOUT

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.006 — SHEET No. 6

Program Report

Location and SIN

DOT Number: 361508X
Milepost Number: JW-143.03
Site Name: STOCKTON MOUNTAIN RD

SIN: 755048804216

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf
MCF Revision: 021
MCFCRC: 6076E435

Template = 1A:6 Trk Bi

Check Numbers

Office Check No. (DT 4.6.0): 4E291EFF
Office Check Number: 4E291EFF
Config. Check Number: 1F9910B6
(Based on MCF Revision 021)

Comments

Program

BASIC: module configuration
Track 1 Slot = Track
Track 2/RIO 1 Slot = Not Used
Track 3 Slot = Not Used
Track 4 Slot = Not Used
Track 5/RIO 2 Slot = Not Used
Track 6/RIO 3 Slot = Not Used
SSCC-1 Slot = SSCC3i
SSCC-2 Slot = SSCC3i
SEAR Used = Yes

BASIC: MS/GCP operation
Track 1 : MS/GCP Operation = Yes

BASIC: island operation
Track 1 : Island Used = Internal

BASIC: preemption
Preempt Logic = No

BASIC: radio Dax links
Radio DAX link A Used = No
Radio DAX link B Used = No

BASIC: Vital Comms links
Vital Comms link 1 Used = No
Vital Comms link 2 Used = No

PREDICTORS: track 1
Track 1 : Prime Used = Yes
Track 1 : Dax A Used = No
Track 1 : Dax B Used = No
Track 1 : Dax C Used = No
Track 1 : Dax D Used = No
Track 1 : Dax E Used = No
Track 1 : Dax F Used = No
Track 1 : Dax G Used = No

GCP: track 1
Track 1 : GCP Freq Category = Standard
Track 1 : GCP Frequency = 970 Hz
Track 1 : Approach Distance = 550 ft
Track 1 : Uni/Bi/Sim-Bidirnl = Bidirnl
Track 1 : GCP Transmit Level = Medium
Track 1 : Island Connection = Isl1
Track 1 : Island Distance = 127 ft
Track 1 : Computed Distance = 9999 ft
Track 1 : Linearization Steps = 100

GCP: track 1 enhanced det
Track 1 : Inbound PS Sensitivity = Off
Track 1 : Speed Limiting Used = Yes
Track 1 : Outbound False Act Lvl = Normal
Track 1 : Outbound PS Timer = 20 sec
Track 1 : Trailing Switch Logic = On
Track 1 : Post Joint Detn Time = 15 sec
Track 1 : Adv Appr Predn = No
Track 1 : Cancel Pickup Delay = This Isl

GCP: track 1 prime
Track 1 : Prime Warning Time = 30 sec
Track 1 : Prime Offset Distance = 0 ft
Track 1 : Switch MS EZ Level = 10
Track 1 : Prime MS/GCP Mode = Pred
Track 1 : Prime Pickup Delay = 15 sec
Track 1 : Prime UAX = Not Used

GCP: track 1 pos start
Track 1 : Positive Start = Off
Track 1 : Sudden Shnt Det Used = No
Track 1 : Low EZ Detection Used = No

GCP: track 1 MS Control
Track 1 : MS/GCP Ctrl IP Used = No
Track 1 : MS Sensitivity Level = 0
Track 1 : Compensation Level = 1300
Track 1 : Warn Time-Ballast Comp = High
Track 1 : Low EX Adjustment = 39
Track 1 : Bidirn Dax Passthru = No
Track 1 : False Act on Train Stop = No
Track 1 : EX Limiting Used = Yes
Track 1 : EZ Correction Used = Yes

ISLAND: track 1
Track 1 : Isl Frequency = 15.2 kHz
Track 1 : Pickup Delay (2s +) = 0 sec
Track 1 : Isl Enable IP Used = No

AND: track Anding
AND 1 XR Used = Yes
AND 2 Used = No
AND 3 Used = No
AND 4 Used = No
AND 5 Used = No
AND 6 Used = No
AND 7 Used = No
AND 8 Used = No

AND: AND 1 XR
AND 1 XR Track 1 = Prime
AND 1 Enable Used = Yes
And 1 Enable Pickup = 5 sec
AND 1 Enable Drop = 0 sec
AND 1 Wrap Used = No

ADVANCED: MS restart
MS/GCP Restart Used = No

ADVANCED: out of service
OOS Control = Display+OOS IPs
OOS Timeout = Yes
OOS Timeout = 1 hrs

ADVANCED: out of service 2
T1 OOS Control = OOS Input 1

ADVANCED: track wrap circuits
Wrap LOS Timer = 5 sec
Track 1 Wrap Used = No

ADVANCED: trk 1 overrides
Track 1 : All Predictors Override Used = No

ADVANCED: OR logic
OR 1 Used = No
OR 2 Used = No
OR 3 Used = No
OR 4 Used = No

ADVANCED: internal I/O 1
Pass Thrus = No
Int.1 Sets = Not Used
Int.1 Set by = Not Used
Int.2 Sets = Not Used
Int.2 Set by = Not Used
Int.3 Sets = Not Used
Int.3 Set by = Not Used
Int.4 Sets = Not Used
Int.4 Set by = Not Used

ADVANCED: internal I/O 2
Int.5 Sets = Not Used
Int.5 Set by = Not Used
Int.6 Sets = Not Used
Int.6 Set by = Not Used
Int.7 Sets = Not Used
Int.7 Set by = Not Used
Int.8 Sets = Not Used
Int.8 Set by = Not Used

ADVANCED: internal I/O 3
Int.9 Sets = Not Used
Int.9 Set by = Not Used
Int.10 Sets = Not Used
Int.10 Set by = Not Used
Int.11 Sets = Not Used
Int.11 Set by = Not Used
Int.12 Sets = Not Used
Int.12 Set by = Not Used

ADVANCED: internal I/O 4
Int.13 Sets = Not Used
Int.13 Set by = Not Used
Int.14 Sets = Not Used
Int.14 Set by = Not Used
Int.15 Sets = Not Used
Int.15 Set by = Not Used
Int.16 Sets = Not Used
Int.16 Set by = Not Used

GCP4000 PROGRAMMING

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN		
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.:	JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.		
		REV.	1
PROPERTY: PENNSYLVANIA R.R.	IN SERVICE: - -	CADD or DWG. No. 05151430.007	SHEET No. 7

ADVANCED: site options
Daylight Savings = Off
Units = Standard
Maint Call Rpt IP Used = No
Emergency Activate IP = No
EZ/EX Logging = Change
EZ/EX Point Change = 3

SSCC
Gates Used = Yes
SSCC1+2 GPs Coupled = Yes
Min Activation = 0 sec
Rmt Activation Cancel = 2 min
Bell On Gate Rising = No
Mute Bell On Gate Down = No
SSCCIV Controller Used = No

SSCC: 1
SSCC-1 Activation = AND 1 XR
SSCC-1 Gate Delay = 6 sec
SSCC-1 Number of GPs = 1
SSCC-1 Number of GDs = 2
SSCC 1: Flash Rate = 40
SSCC 1: Low Battery Detection = No
SSCC 1: Flash Sync = master
SSCC 1: Invert Gate Output = No
SSCC 1: Lamp Neutral Test = Off
Aux-1 Xng Ctrl Used = No

SSCC: 2
SSCC-2 Activation = AND 1 XR
SSCC-2 Gate Delay = 6 sec
SSCC-2 Number of GPs = 0
SSCC-2 Number of GDs = 0
SSCC 2 : Flash Rate = 40
SSCC 2 : Low Battery Detection = No
SSCC 2 : Flash Sync = slave
SSCC 2 : Invert Gate Output = No
SSCC 2 : Lamp Neutral Test = Off
Aux-2 Xng Ctrl Used = No

OUTPUT: assignment page 1
OUT 1.1 = Not Used
OUT 1.2 = Not Used

INPUT: assignment page 1
IN 1.1 = AND 1 XR Enable
IN 1.2 = Not Used

IO: assignment SSCC
OUT GC 1 = Gate Output 1
OUT GC 2 = Gate Output 2
IN 7.1 = Not Used
IN 7.2 = GD 1.2
IN 7.3 = AND 1 XR Enable
IN 7.4 = GD 1.1
IN 7.5 = GP 1.1
IN 8.1 = Out Of Service IP 1
IN 8.2 = Not Used
IN 8.3 = Not Used
IN 8.4 = Not Used
IN 8.5 = Not Used

SEAR
SEAR Subnode = 3
DI 1 = Not Used
DI 2 = Not Used
Rly 1 = General
Rly 2 = Not Used

SEAR: inputs
SP 2.1 = POK 1
SP 3.1 = Not Used
SP 4.1 = Not Used
SP 5.1 = Not Used
SP 6.1 = Not Used

SEAR: slot 1-4 inputs
IN 1.2 = Not Used
IN 2.1 = Not Used
IN 2.2 = Not Used
IN 3.1 = Not Used
IN 3.2 = Not Used
IN 4.1 = Not Used
IN 4.2 = Not Used

SEAR: inputs slot 5
IN 5.1 = Not Used
IN 5.2 = Not Used

SEAR: inputs slot 6
IN 6.1 = Not Used
IN 6.2 = Not Used

SEAR: slot 7-8 inputs
IN 7.1 = Not Used
IN 8.2 = Not Used
IN 8.3 = Not Used
IN 8.4 = Not Used
IN 8.5 = Not Used

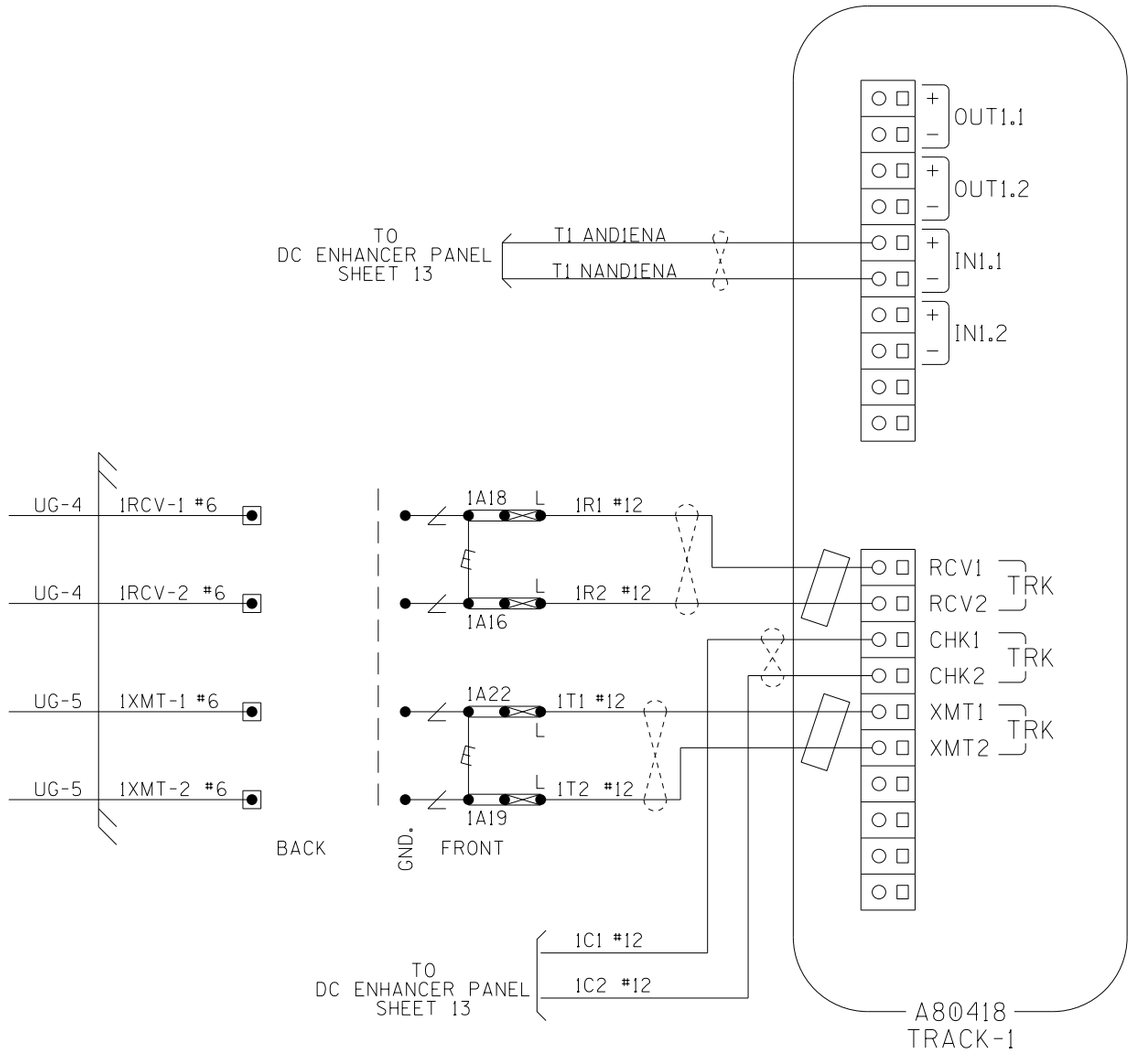
SITE: programming
Radio Subnode = 1
Field Password = Off
Low Battery Enabled = Off

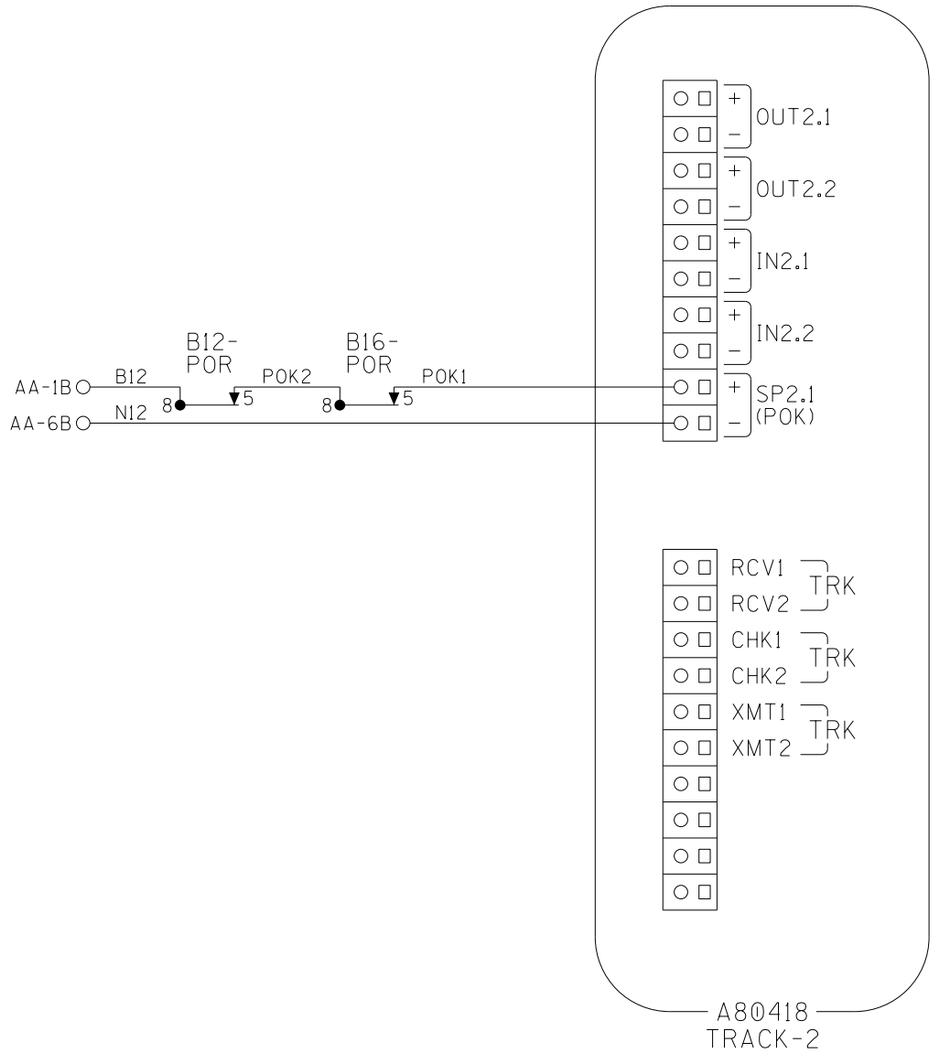
Configuration Package File

Filename: 05151430.pac

GCP4000 PROGRAMMING

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.008 — SHEET No. 8



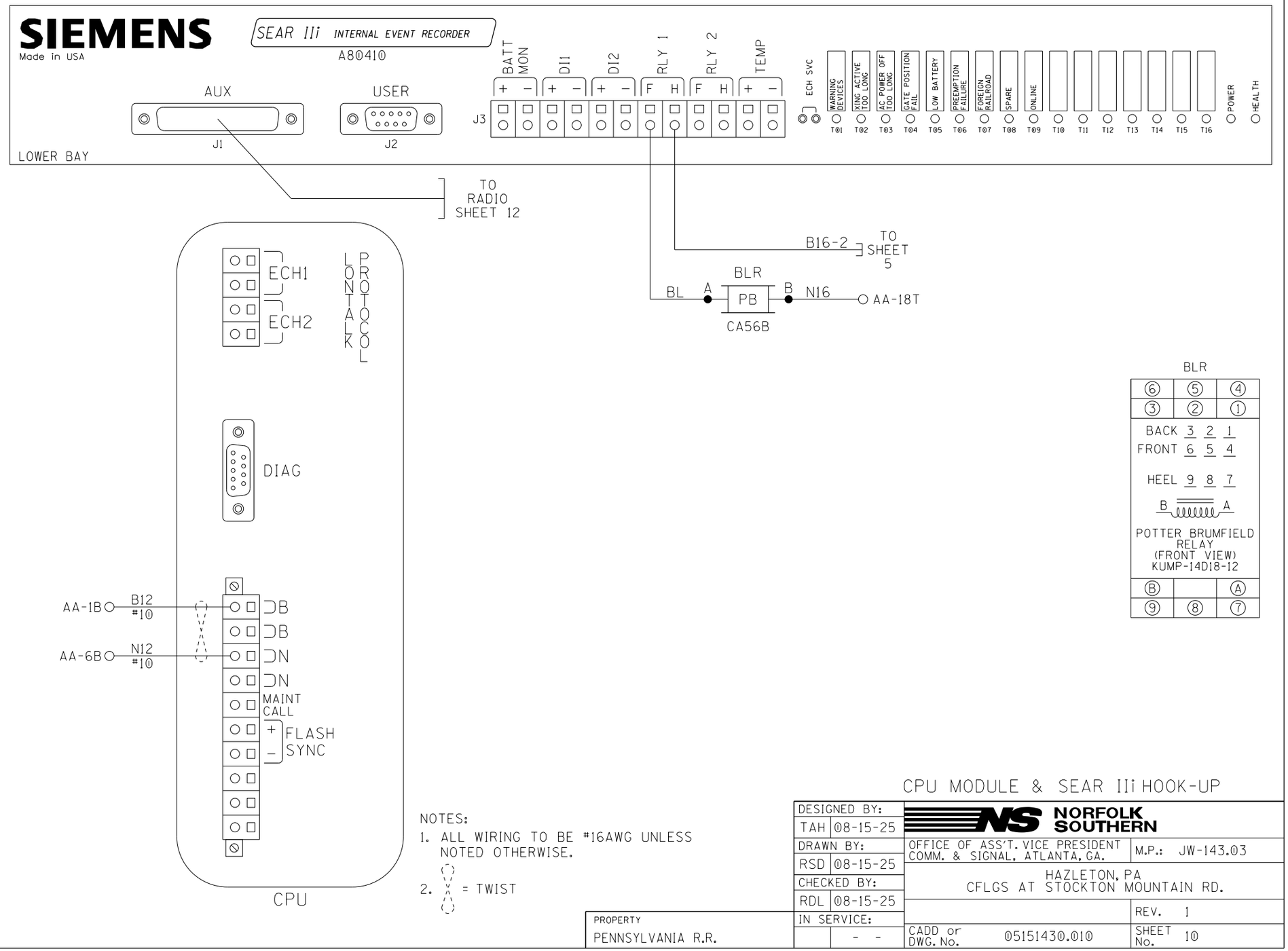


NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. = TWIST
3. = FERRITE BEAD

CONNECTORS FOR TRACK MODULES

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY PENNSYLVANIA R.R.	IN SERVICE: - -
	CADD or DWG. No. 05151430.009 — SHEET No. 9



NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. = TWIST

CPU MODULE & SEAR IIi HOOK-UP

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.010 — SHEET No. 10

SITE SET UP PROCEDURE		
	FUNCTION	LED DISPLAY
	DATE/TIME	
	AUTOMATIC DST ADJUSTMENT	NO
	TIMEZONE	OTHER (USER SET)
	GMT OFFSET	+00:00
	SITE NAME	STOCKTON MOUNTAIN RD.
	MILEPOST	JW-143.03
	DOT#	361 508X
	TESTER TYPE	CROSSING
	DATE FORMAT	MM-DD-YYYY
	TEMP. FORMAT	FARENHEIT
	INDICATE HOLD (SEC)	0
	INDICATE REFRESH (SEC)	60
	GEO CTL PERIOD (SEC)	0
	SITE ATCS ADDRESS	7.550.488.042.03.01
	SITE TYPE	COLLECTOR
#	OFFICE ATCS ADDRESS	2.550.01.3876
#	POLL ID	1
#	MODE	GEN/ATCS
#	WAMS XID	DISABLED
#	OFFICE COMM DEVICE	RAILLOGIC
#	RAILLOGIC PORT	AUX
#	OUR RADIO ID REMEDY STATES REMOTE RADIO ID	
#	DEST RADIO ID REMEDY STATES RADIO ID	
#	MAX RETRIES	3
#	RETRY WAIT	5
#	NXT PKT DELAY	3
#	MUTE TIMER	10
★	USER PORT BAUD	57600
★	USER PORT DATA BITS	8
★	USER PORT PARITY	NONE
★	USER PORT STOP BITS	1
★	USER PORT FLOW CONTROL	NONE
	AUX PORT BAUD	19200
★	AUX PORT DATA BITS	8
★	AUX PORT PARITY	NONE
★	AUX PORT STOP BITS	1
★	AUX PORT FLOW CONTROL	NONE

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS		
	THE QUESTION	SELECT FROM MENU OPTION
	RESET NAMES AND MODULES?	YES
	RAILROAD NUMBER?	550
	CROSSING CONFIGURATION?	NORMAL
	AND1 USED AS XR?	YES
	AND2 USED AS XR?	NO
	AND3 USED AS XR?	NO
	AND4 USED AS XR?	NO
	AND5 USED AS XR?	NO
	AND6 USED AS XR?	NO
	AND7 USED AS XR?	NO
	AND8 USED AS XR?	NO
*	XR CONTROLLED BY FOREIGN RR?	(AND1, AND2, AND3, AND4 AND5, AND6, AND7, AND8)
	ENTRANCE GATES?	2
	85% VOLTAGE RELAY OUT?	YES
	BATTERY BANKS?	2
	BATT MON USED?	NO
**	LOW BATTERY 1 PERCENTAGE?	85
**	LOW BATTERY 2 PERCENTAGE?	85
**	LOW BATTERY 3 PERCENTAGE?	(85-95)
	PREEMPTION?	NO
	INTERNAL CROSSING CONTROLLERS?	2
	EXTERNAL CROSSING CONTROLLERS?	0
	VHF COMMUNICATOR?	NO
***	DTMF ACTIVATION?	(NO, YES)
***	ACTIVATION CODE?	(1-999)
***	ACTIVATION TIMEOUT?(SECONDS)	(30-600)
	ILOD MODULES?	0
****	VHF VOICE CHANNEL?	(1-8)
****	VHF DATA CHANNEL?	(1-8)
	USE CELL MODEM NON-CRITICAL FEATURE?	NO
	CROSSING ACTIVE ALARM TIME?(MIN)	20
	POWER OFF ALARM TIME?(MIN)	20

PROGRAM MENU QUESTIONS	PROGRAM
EDIT DIGITAL INPUTS	NO
EDIT BATTERIES	NO
EDIT RELAYS	NO
EDIT TEST LEDS	NO
EDIT VHF SETTINGS	NO
GCP4K ATCS SUBNODE	16

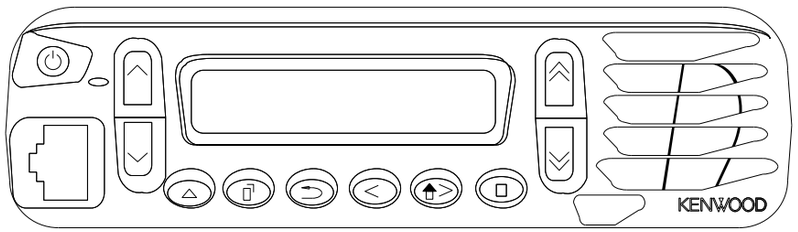
TO CONFIGURE SEARIII PRESS SITE SETUP KEY.
USE ARROW KEYS TO MAKE SELECTION,
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

NOTES:
1. # = NOT DISPLAYED IF SITE TYPE = NO COMMUNICATION
2. ★ = USE DEFAULT SETTINGS
3. * = ONLY DISPLAYED IF CROSSING CONFIGURATION = SPLIT GATE
4. ** = ONLY DISPLAYED IF BATTERY BANKS = 1,2 OR 3
5. *** = ONLY DISPLAYED IF VHF COMMUNICATOR = YES
6. **** = ONLY DISPLAYED IF DTMF ACTIVATION = YES

SEAR III PROGRAMMING

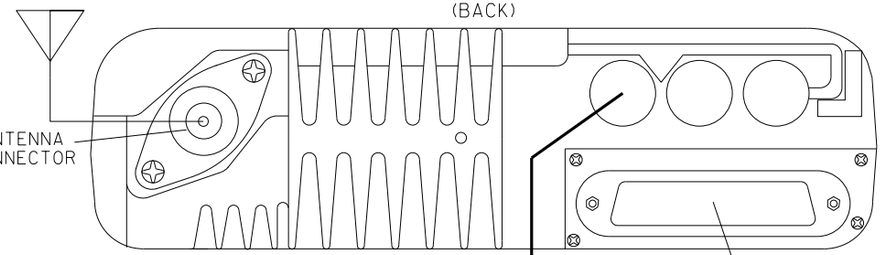
DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.011 — SHEET No. 11

(FRONT)



KENWOOD RADIO NX-700H
OR EQUIVALENT

(BACK)



ANTENNA
CONNECTOR

BA5

DB25M - DB25M
STRAIGHT THROUGH CABLE

TO
SEAR III
SHEET 10

CABLE - KENWOOD
P/N E30-7520-15

AA-2B — B12
AA-7B — N12
B12
N12

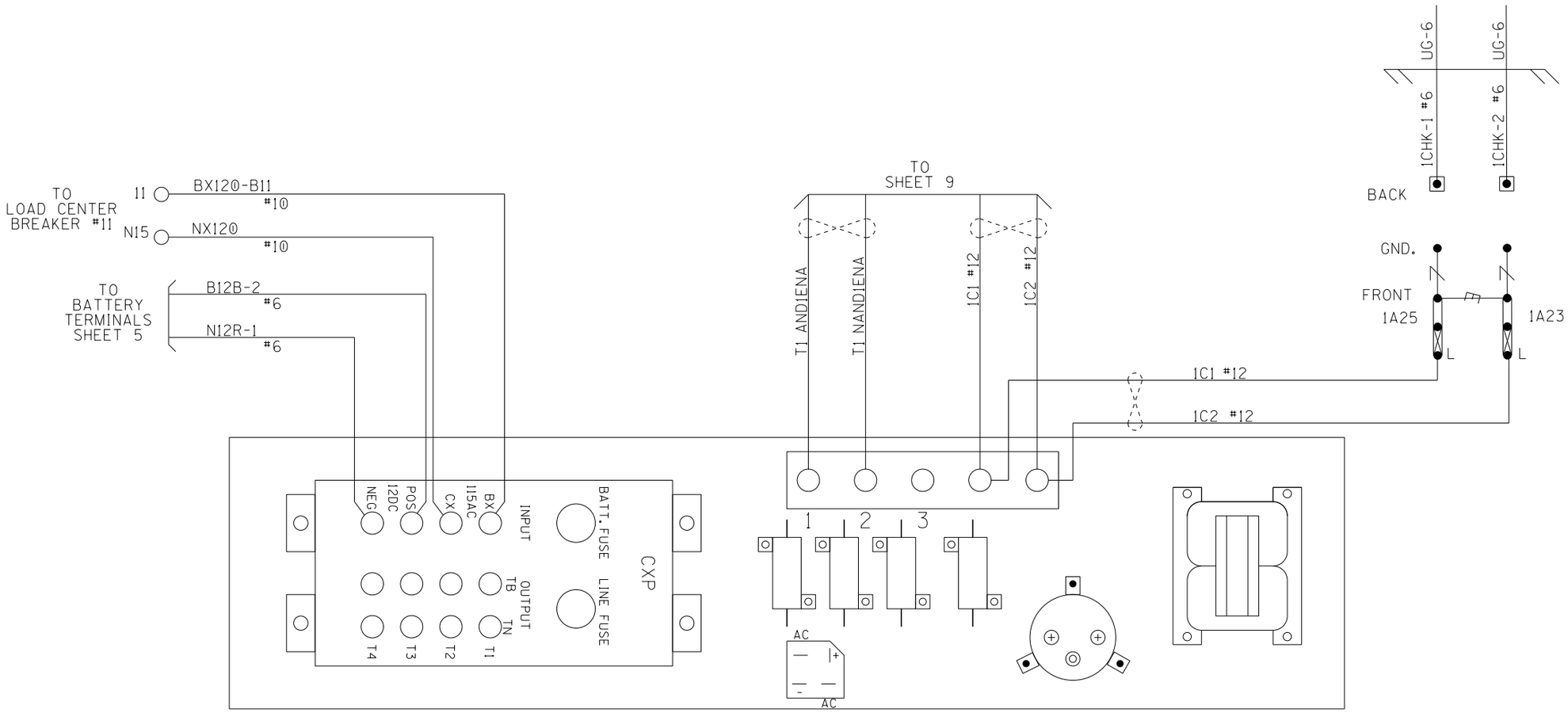
BB5

NOTE:
1. ALL WIRING TO BE #10AWG UNLESS NOTED OTHERWISE.

BACKHAUL EQUIPMENT

DESIGNED BY:		NORFOLK SOUTHERN	
TAH	08-15-25		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: JW-143.03
RSD	08-15-25		
CHECKED BY:		HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.	
RDL	08-15-25		
			REV. 1
IN SERVICE:		CADD or DWG. No. 05151430.012	SHEET No. 12
	- -		

PROPERTY
PENNSYLVANIA R.R.



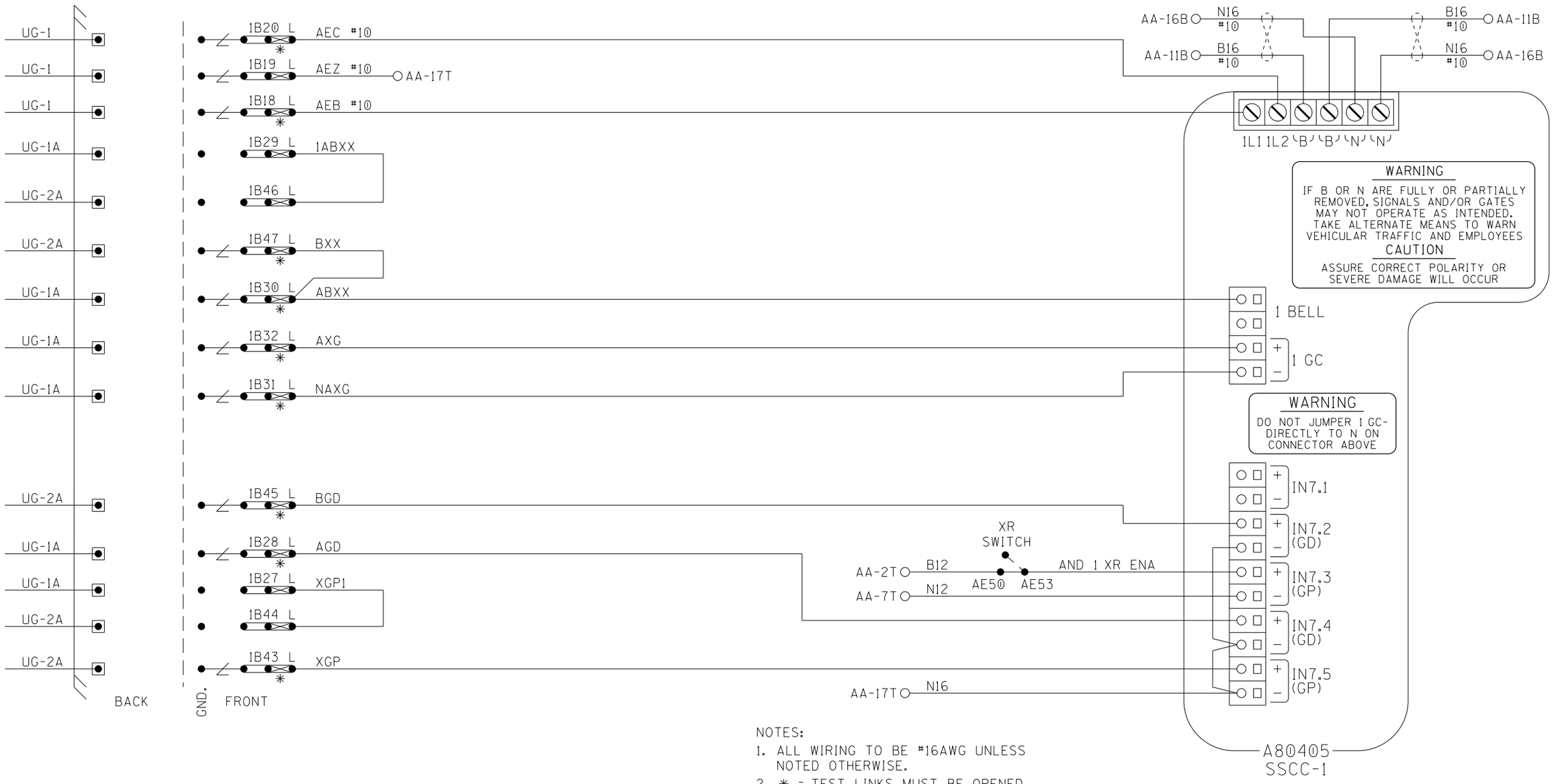
80049 DC SHUNTING ENHANCER PANEL

DC ENHANCER PANEL HOOK-UP

NOTES:
ALL WIRING TO BE #16AWG
UNLESS NOTED OTHERWISE.

= TWIST

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY PENNSYLVANIA R.R.	IN SERVICE: - -
	CADD or DWG. No. 05151430.013 — SHEET No. 13

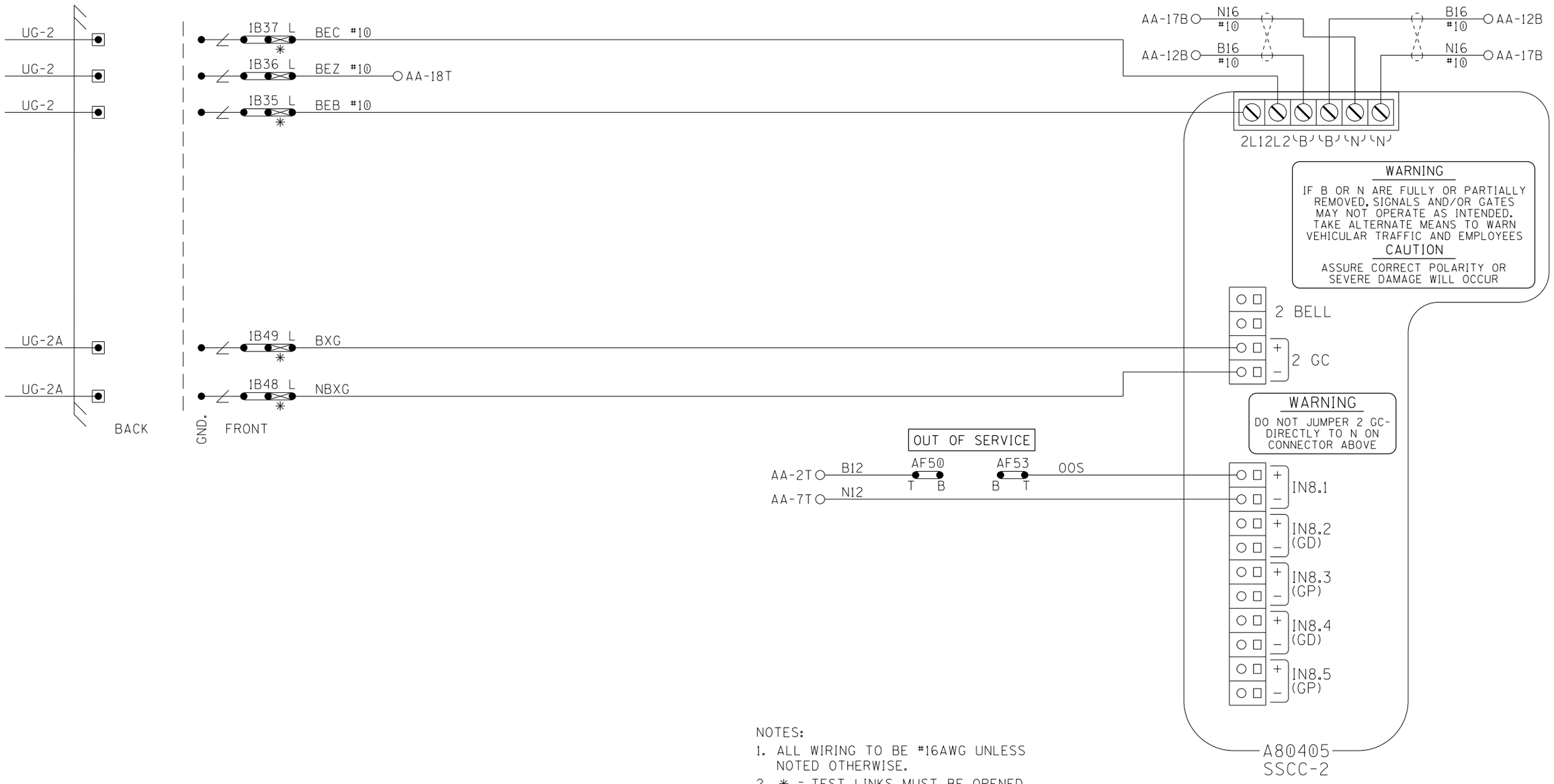


SSCC#1 MODULE HOOK-UP

NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. ✳ = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION: APPENDIX C OF GCP 4000 REFERENCE MANUAL.
3. ⟨ ⟩ = TWIST

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
PROPERTY: PENNSYLVANIA R.R.	IN SERVICE: - - — REV. 1
	CADD or DWG. No. 05151430.014 — SHEET No. 14

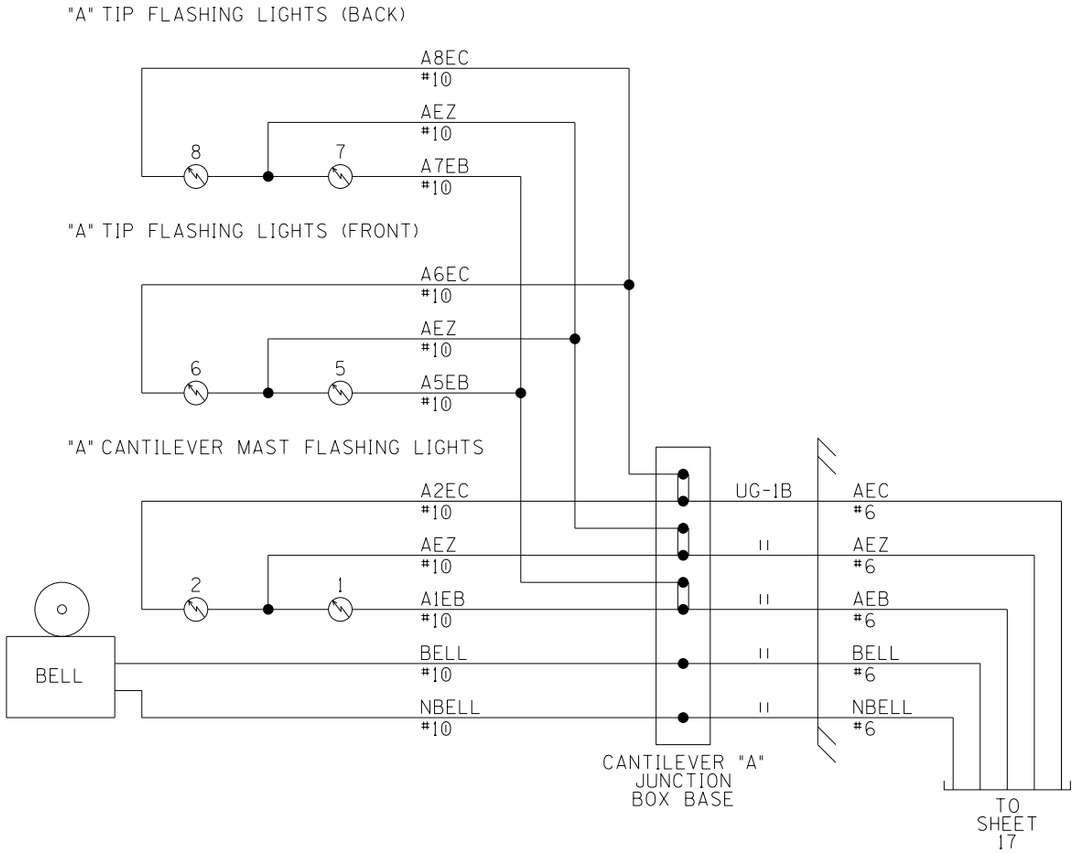


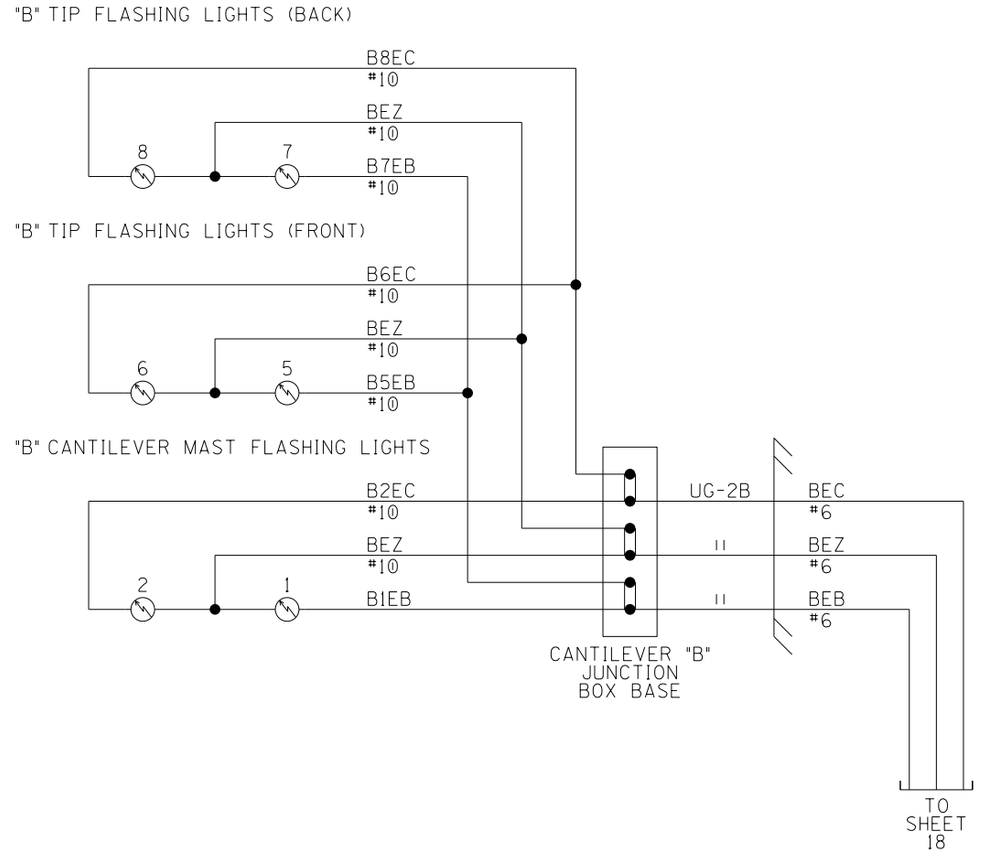
SSCC#2 MODULE HOOK-UP

NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. ✳ = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION: APPENDIX C OF GCP 4000 REFERENCE MANUAL.
3. ⟨V⟩ = TWIST

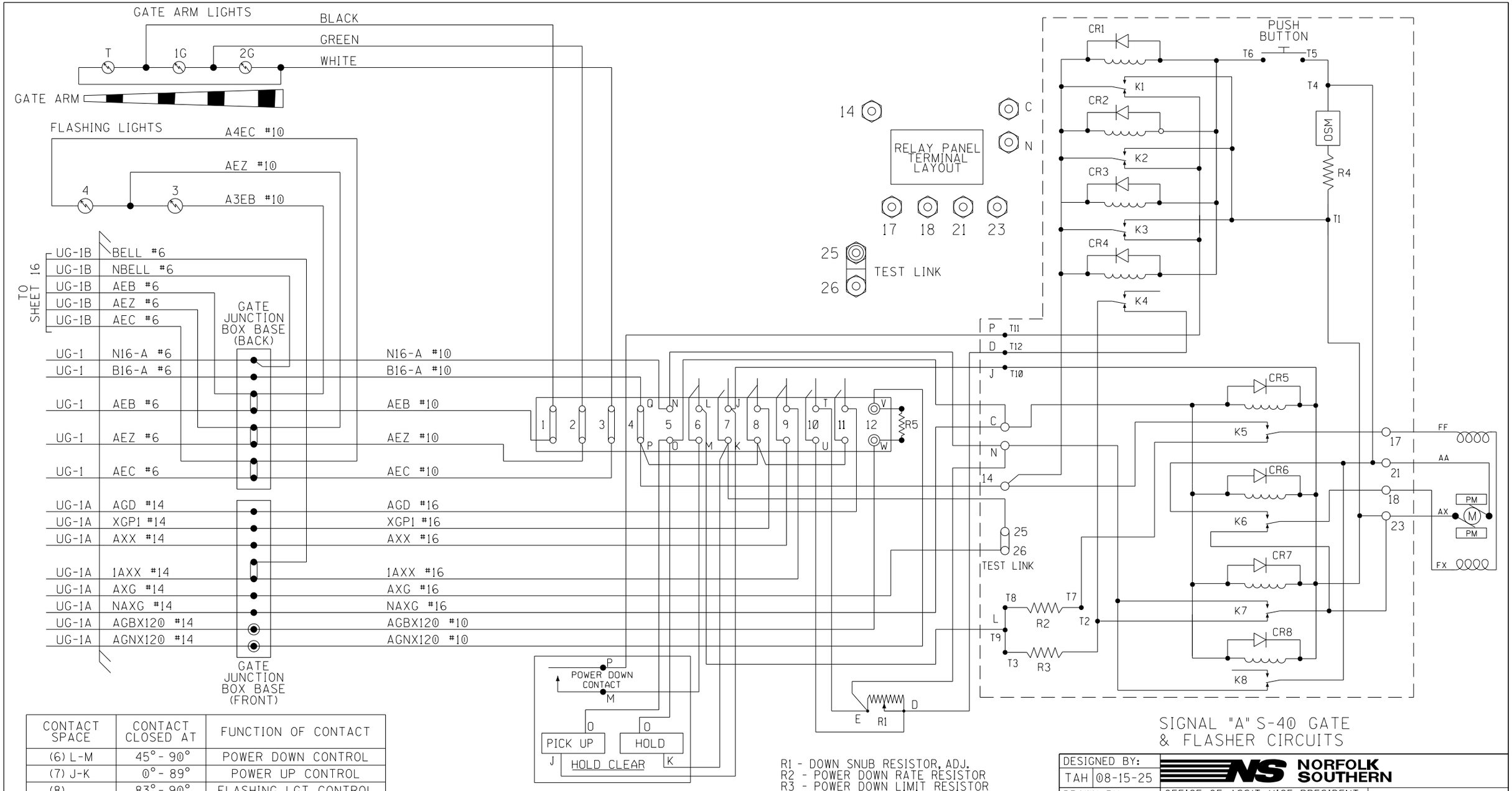
DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.015 — SHEET No. 15





CANTILEVER FLASHER LIGHTS

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.016 — SHEET No. 16

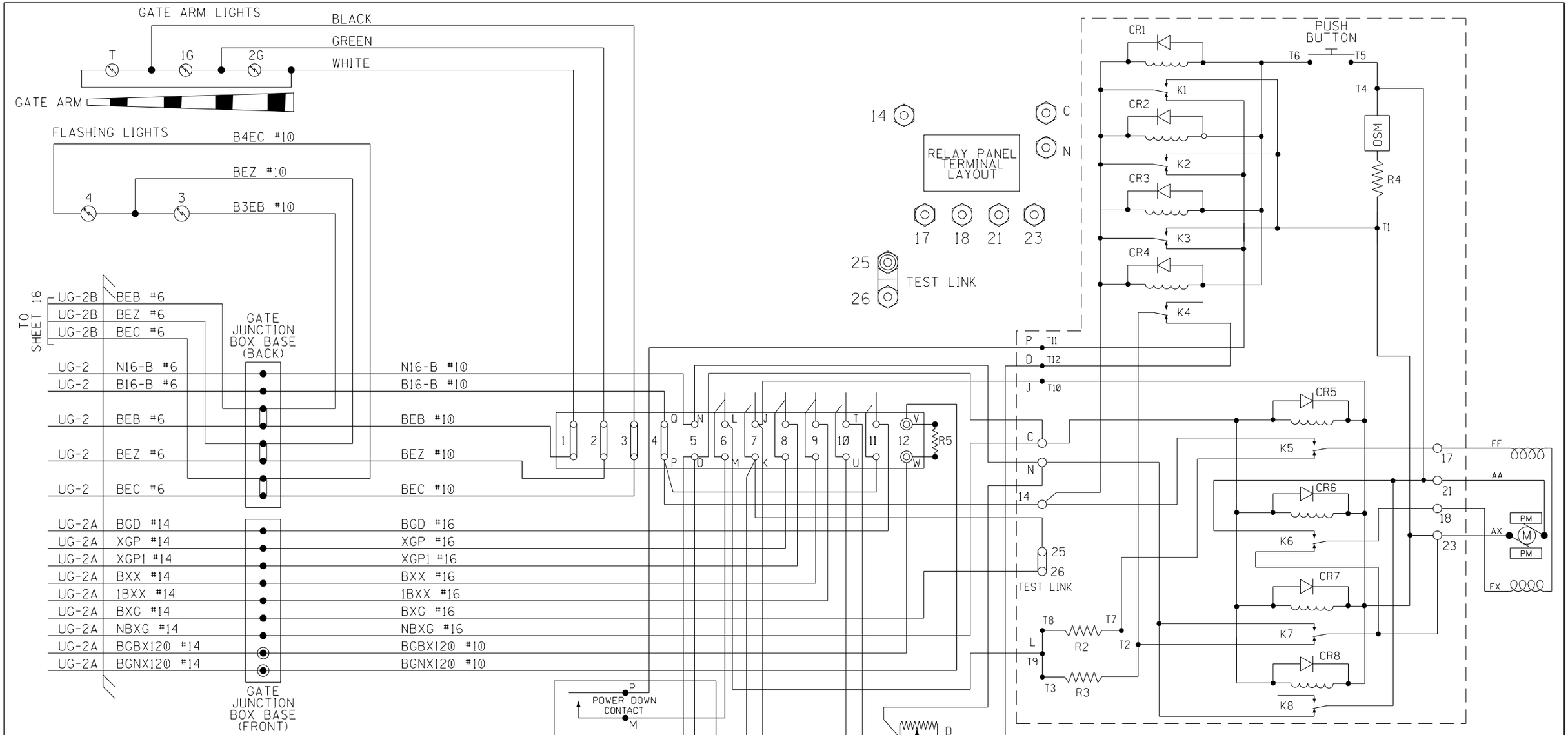


CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45°- 90°	POWER DOWN CONTROL
(7) J-K	0°- 89°	POWER UP CONTROL
(8)	83°- 90°	FLASHING LGT. CONTROL
(9)	5°- 90°	BELL CONTROL
(10) T-U	0°- 5°	HORIZONTAL SNUB
(11)	0°- 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.
R2 - POWER DOWN RATE RESISTOR
R3 - POWER DOWN LIMIT RESISTOR
R4 - OSM SNUB RESISTOR
R5 - DEFROSTER
K1-8 - GATE & MAINT. RELAYS
OSM - OVERSPEED MODULE

SIGNAL "A" S-40 GATE & FLASHER CIRCUITS

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.017 — SHEET No. 17



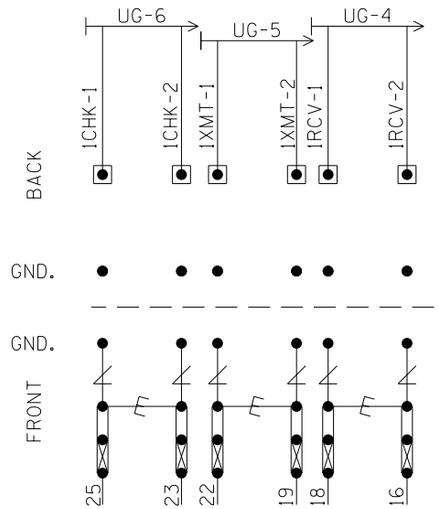
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45°- 90°	POWER DOWN CONTROL
(7) J-K	0°- 89°	POWER UP CONTROL
(8)	83°- 90°	FLASHING LGT. CONTROL
(9)	5°- 90°	BELL CONTROL
(10) T-U	0°- 5°	HORIZONTAL SNUB
(11)	0°- 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.
R2 - POWER DOWN RATE RESISTOR
R3 - POWER DOWN LIMIT RESISTOR
R4 - OSM SNUB RESISTOR
R5 - DEFROSTER
K1-8 - GATE & MAINT. RELAYS
OSM - OVERSPEED MODULE

SIGNAL "B" S-40 GATE & FLASHER CIRCUITS

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.018 — SHEET No. 18

"1A"



NOTES:

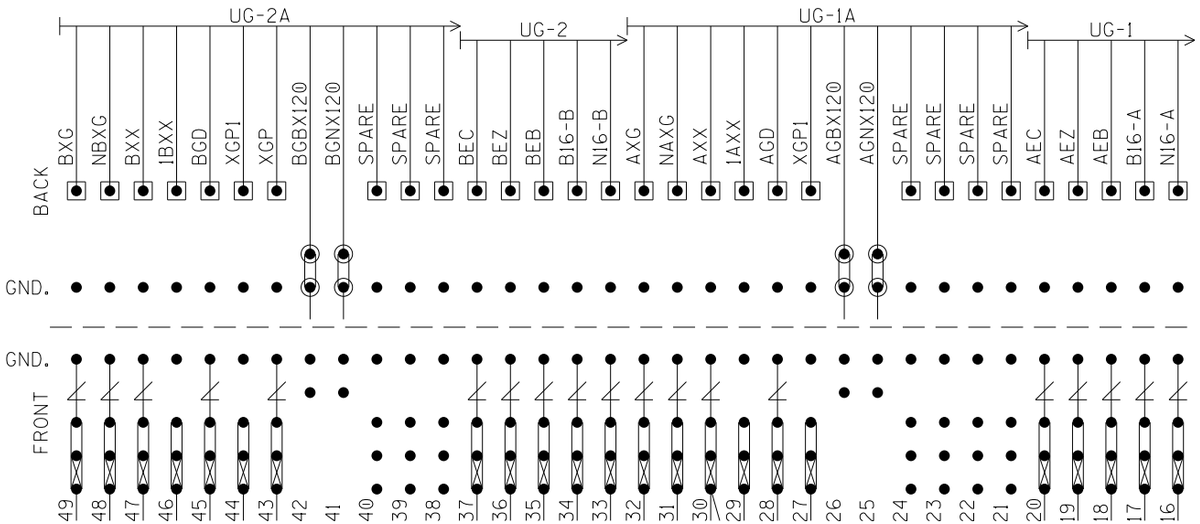
1. ⊣⊢ = HEAVY DUTY EQUALIZER (022700-1X) (OR EQUIVALENT)
2. ∠ = ERICO LIGHTNING ARRESTER (EPD2050F) (OR EQUIVALENT)
3. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4. ⊠ = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

BACKBOARD 1A

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY: PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.019 — SHEET No. 19

"1B"



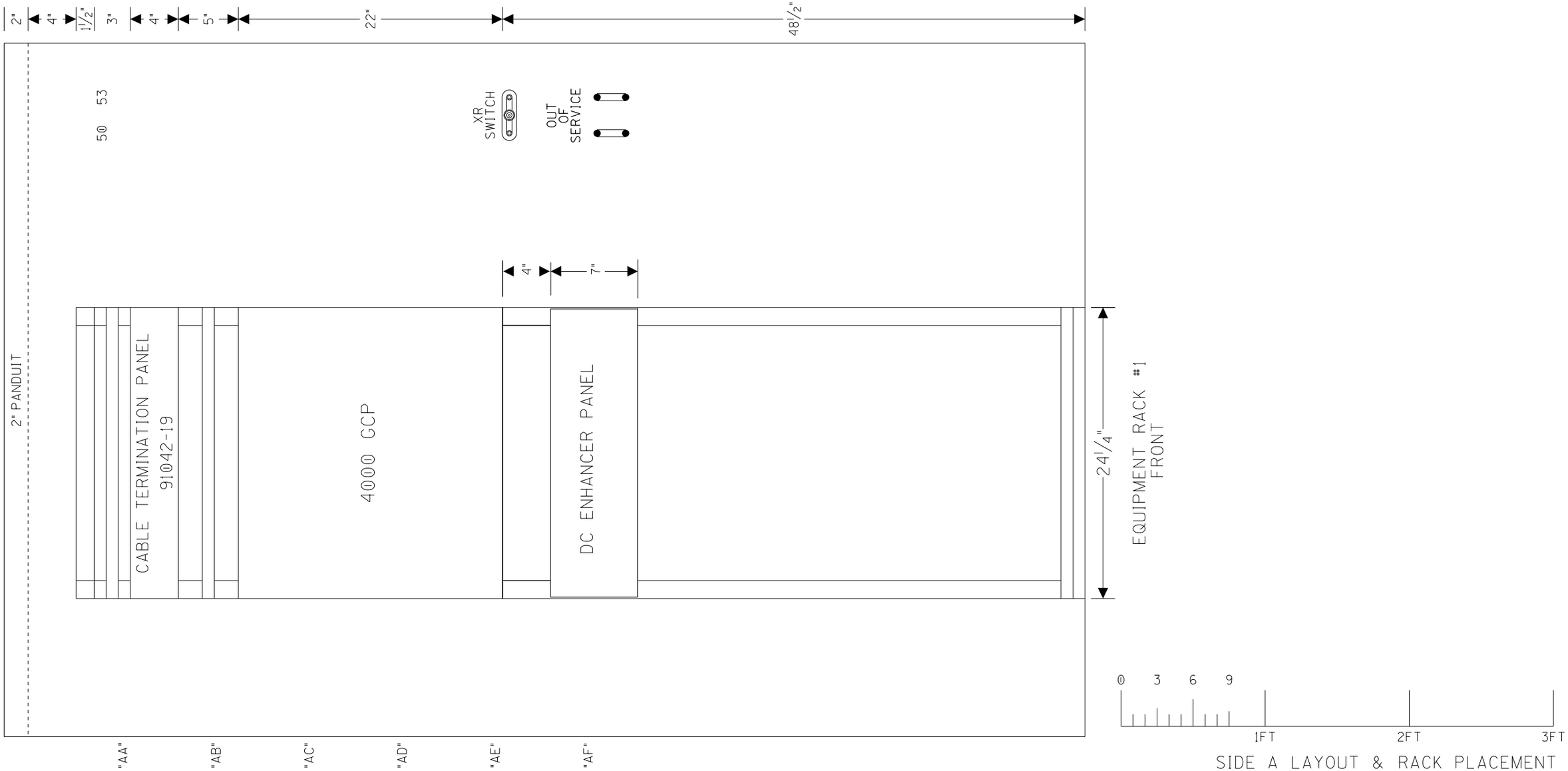
SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

NOTES:

1. GND.● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
2. ◉ = INSULATED NUTS TO BE USED ON ALL 120VAC AND ABOVE TERMINALS

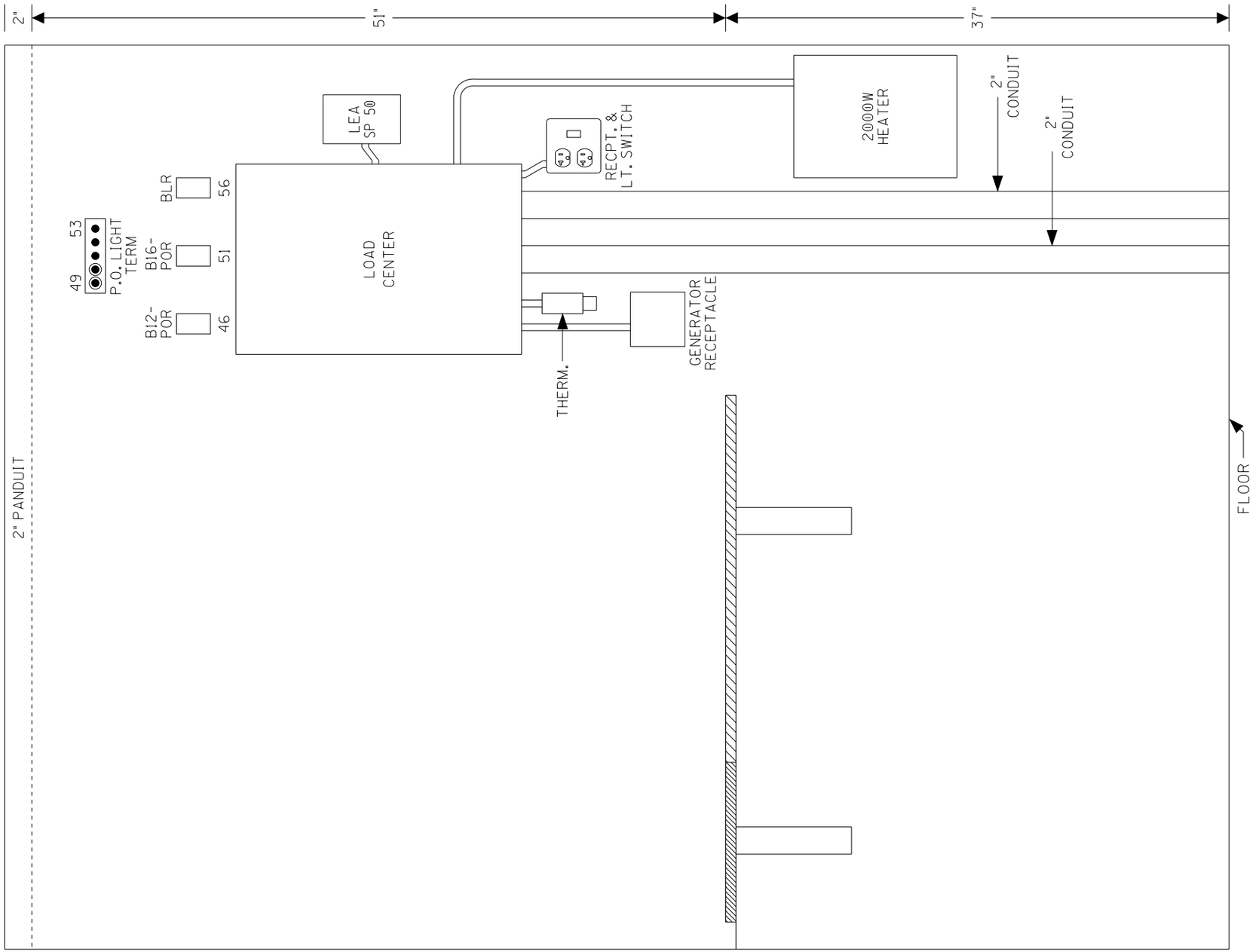
BACKBOARD 1B

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
IN SERVICE: - -	REV. 1
PROPERTY: PENNSYLVANIA R.R.	CADD or DWG. No. 05151430.020 — SHEET No. 20



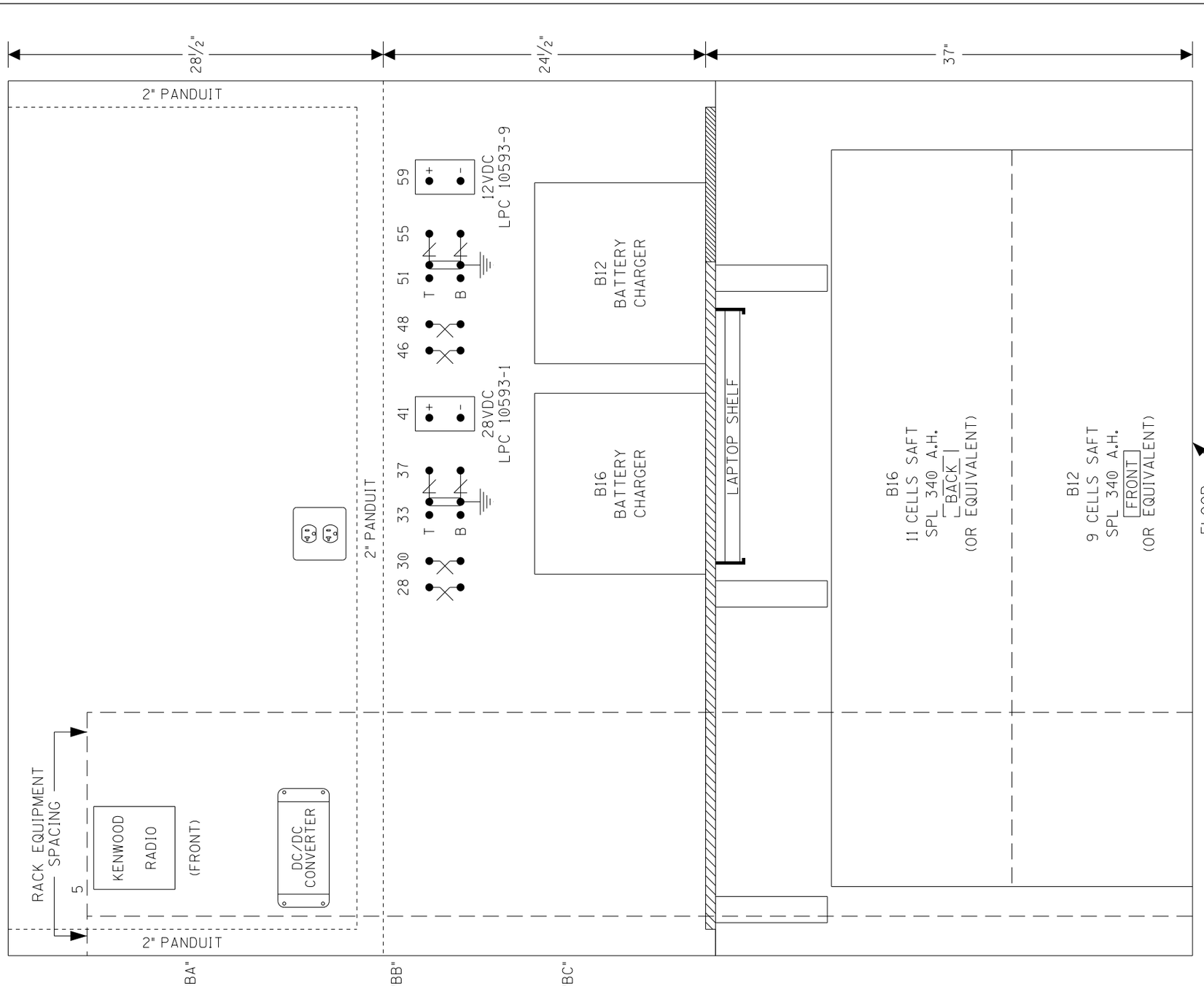
SIDE A LAYOUT & RACK PLACEMENT

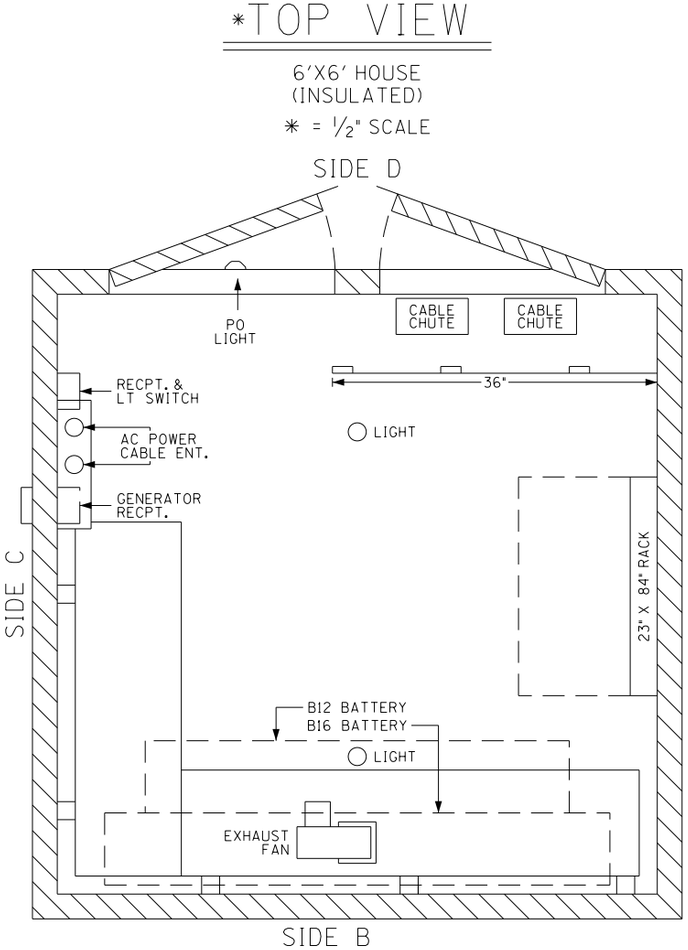
DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.021 — SHEET No. 21



SIDE C LAYOUT

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. — M.P.: JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.
	REV. 1
PROPERTY: PENNSYLVANIA R.R. — IN SERVICE: - -	CADD or DWG. No. 05151430.022 — SHEET No. 22





SIDE B LAYOUT & TOP VIEW

DESIGNED BY: TAH 08-15-25	NORFOLK SOUTHERN		
DRAWN BY: RSD 08-15-25	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.:	JW-143.03
CHECKED BY: RDL 08-15-25	HAZLETON, PA CFLGS AT STOCKTON MOUNTAIN RD.		
		REV.	1
PROPERTY: PENNSYLVANIA R.R.	IN SERVICE: - -	CADD or DWG. No.	05151430.023
		SHEET No.	23

EXHIBIT "C"

LIST OF ALL CONCERNED PERSONS, PARTIES AND ENTITIES

Karen Cummings, Esquire Pennsylvania Department of Transportation P.O. Box 8212 Harrisburg, PA 17105-8212 kcummings@pa.gov	William Sinick, Esquire PA Public Utility Commission Bureau of Investigation & Enforcement 400 North Street, 3rd Floor Harrisburg, PA 17120 wilsinick@pa.gov
Mark Chappell, P.E., Chief Bureau of Design Row & Utility Division PennDOT PO Box 3362 Harrisburg, PA 17105-3362 marchappel@pa.gov	Richard Roman, P.E. PennDOT District 4-0 55 Keystone Industrial Park Dunmore, PA 18512 riroman@pa.gov
Luzerne County Solicitor Harry W. Skene, Esquire 200 Old Train Station Road Office of Law Wilkes-Barre, PA 18702 Harry.Skene@LuzerneCounty.org	Hazleton City Authority Water Dept. Attn.: Stefan Scalleat 400 East Arthur Gardner Pkwy. Hazleton, PA 18201 Stefans@hcwater.org
Hazle Township Solicitor Christopher B. Slusser, Esquire Slusser Law Firm 1620 N Church St, Suite 1 Hazle Township, PA 18202 slusser@lawyer.com	Hazle Township Municipal Authority Attn.: Joseph Smith 79 Harleigh Blvd. PO Box 502 Harleigh, PA 18225 joesmithmaht@ptd.net
Hazle Township Attn.: Joe Synoski 101 W 27th Street Hazle Township, PA 18202 joesynoski@gmail.com	PPL Electric Utilities Corporation Attn.: Doug Haupt 437 Blue Church Road Paxinos, PA 17860 dlhaupt@pplweb.com
Service Electric Cablevision Inc. Attn.: Robert Trently 380 Maplewood Drive PO Box R Hazle Twp., PA 18202 robert.trently@secv.com	American Anthracite, formerly Atlantic Carbon Group Attn.: Justin Emershaw 100 Hazlebrook Road PO Box 39 Hazleton, PA 18201 jemershaw@americanantracite.com