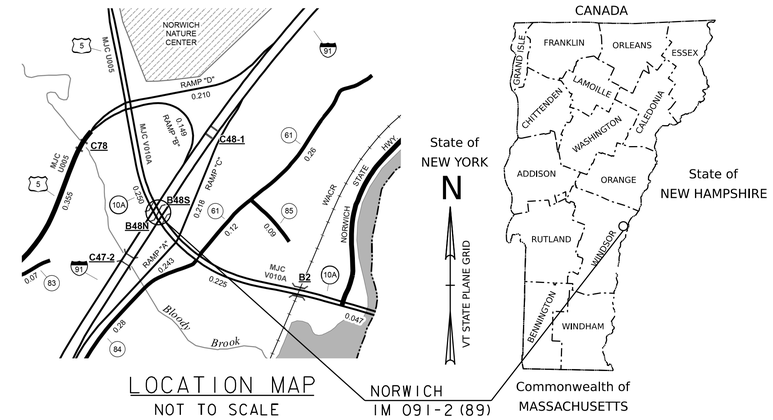
STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAP
NOT TO SCALE

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF NORWICH
COUNTY OF WINDSOR

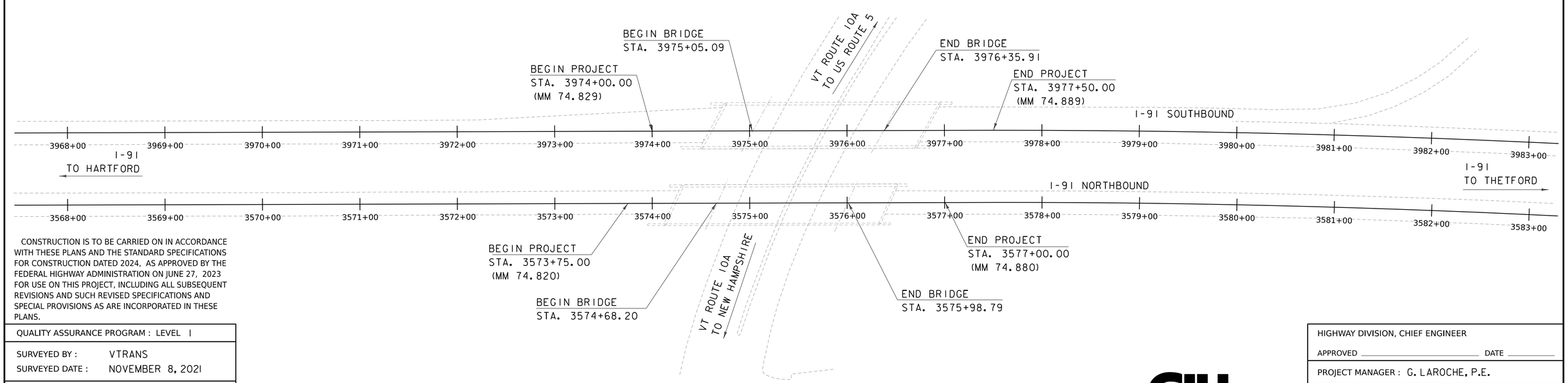
ROUTE NO: I-91, PRINCIPAL ARTERIAL-NHS, BRIDGES 48N AND 48S OVER VT ROUTE 10A

FINAL PLANS
6/20/2024

PROJECT LOCATION: BRIDGE 48 N&S ARE LOCATED ON I-91 AT THE INTERCHANGE OF EXIT 13 (M.M. 74.8) AND OVER VT ROUTE 10A IN THE TOWN OF NORWICH.

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BRIDGES 48 N&S WITH RELATED APPROACH WORK.

	I-91 NORTHBOUND	I-91 SOUTHBOUND	TOTAL
LENGTH OF STRUCTURE:	130.59 FEET	130.82 FEET	261.41 FEET
LENGTH OF ROADWAY:	194.41 FEET	219.18 FEET	413.59 FEET
LENGTH OF PROJECT:	325.00 FEET	350.00 FEET	675.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2024, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 27, 2023 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL I

SURVEYED BY : VTRANS
SURVEYED DATE : NOVEMBER 8, 2021

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83(2011)

GILL ENGINEERING

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____

PROJECT MANAGER : G. LAROCHE, P.E.

PROJECT NAME : NORWICH
PROJECT NUMBER : IM 091-2(89)

SHEET 1 OF 112 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

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STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
C-10	CURBING	02-17-2022
D-3	TREATED GUTTERS	06-01-1994
D-16	DRAINAGE DETAILS INCLUDING DROP INLETS, IRON GRATE TYPE B&C, CONC END	06-01-1994
E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-12	STABILIZED CONSTRUCTION ENTRANCE	04-07-2020
E-13	INLET PROTECTION DEVICE, TYPE I	04-07-2020
E-15	SILT FENCE	04-07-2020
F-2	CHAIN LINK FENCE, TYPE I DETAILS	06-01-1994
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL. ANCHOR, MEDIAN)	03-10-2017
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	10-02-2018
S-351C	GUARDRAIL APPROACH SECTION TO CONCRETE F-SHAPE TL-5	02-15-2023
S-363	THRIE BEAM TO STANDARD STEEL BEAM TRANSITION SECTION	02-15-2023
S-500	CONCRETE DETAILS AND NOTES	02-15-2023
S-501	CONCRETE DETAILS AND NOTES	02-15-2023
S-600	STRUCTURAL STEEL DETAILS AND NOTES	02-15-2023
S-601	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	02-15-2023
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-07-2020
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-11	CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED	08-06-2012
T-12	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	08-06-2012
T-13	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	08-06-2012
T-14	TRAFFIC CONTROL DIVIDED HIGHWAY ONE ROADWAY CLOSED	08-06-2012
T-15	TRAFFIC CONTROL DIVIDED HIGHWAY ONE ROADWAY CLOSED	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-43	FREEWAY - EXPRESSWAY DELINEATOR PLACEMENT	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-55	SIGN PLACEMENT EXPRESSWAY & FREEWAY	10-26-2015
T-133	LIGHT POLE FOUNDATION DETAILS	02-17-2022

DETAIL SHEETS

HSD-213.01	MILLED RUMBLE STRIP (SHOULDER) DETAILS	2/27/2017
HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.06	GUARDRAIL TERMINAL LABEL DETAIL	2/27/2017
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS)	1/4/2021
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR COMPONENTS	4/17/2019
HSD-621.07	MIDWEST GUARDRAIL SYSTEM (MGS) TRANSITION	1/4/2021

NO WATERWAYS ON THIS PROJECT

TRAFFIC MAINTENANCE NOTES

1. TRAFFIC MAINTAINED BY INTERSTATE CROSS OVER
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	2.5 INCH
3. DESIGN SPAN	L:	125.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS PSS	f'_c:	- - -
11. CONCRETE, CLASS C	f'_c:	- - -
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18. PILE RESISTANCE FACTOR	ϕ:	0.65
19. LATERAL PILE DEFLECTION	Δ:	0.35 INCH
20. BASIC WIND SPEED	V_{3s}:	100 MPH
21. MINIMUM GROUND SNOW LOAD	p_g:	0.04 K/FT²
22. SEISMIC DATA PGA: 9 %g	S_s:	18 %g
	S_1:	5 %g
23.		
24.		
25.		
26.		- - -

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	**20**	**36**	**36**	**66**	**30**	**34.5**	**38**
INVENTORY	2.02	1.37					
POSTING							
OPERATING	2.63	1.78	2.92	3.57	5.96	5.27	5.25
COMMENTS:	HL-93: NB G1 CONTROLS						

TRAFFIC DATA - NORTHBOUND

YEAR	ADT	DHV	%D	%T	ADTT	
2024	6000	750	100	9.8	800	20 year ESAL for flexible pavement from 2024 to 2044 : 4023000
2044	6600	810	100	17.1	1500	40 year ESAL for flexible pavement from 2024 to 2064 : 9691000
						Design Speed : 70 mph

TRAFFIC DATA - SOUTHBOUND

YEAR	ADT	DHV	% D	% T	ADTT	
2024	10000	1200	100	9.1	1300	20 year ESAL for flexible pavement from 2024 to 2044 : 6637000
2044	10900	1300	100	15.8	2400	40 year ESAL for flexible pavement from 2024 to 2064 : 15989000
						Design Speed : 70 mph

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

PROJECT NAME: **NORWICH**

PROJECT NUMBER: **IM 091-2(89)**

FILE NAME: **z12a568forms.dgn**
PROJECT LEADER: **P.HUCKABEE**
DESIGNED BY: **F.BERLUS**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 6/20/2024
DRAWN BY: **N.NELSON**
CHECKED BY: **A.SPERA**

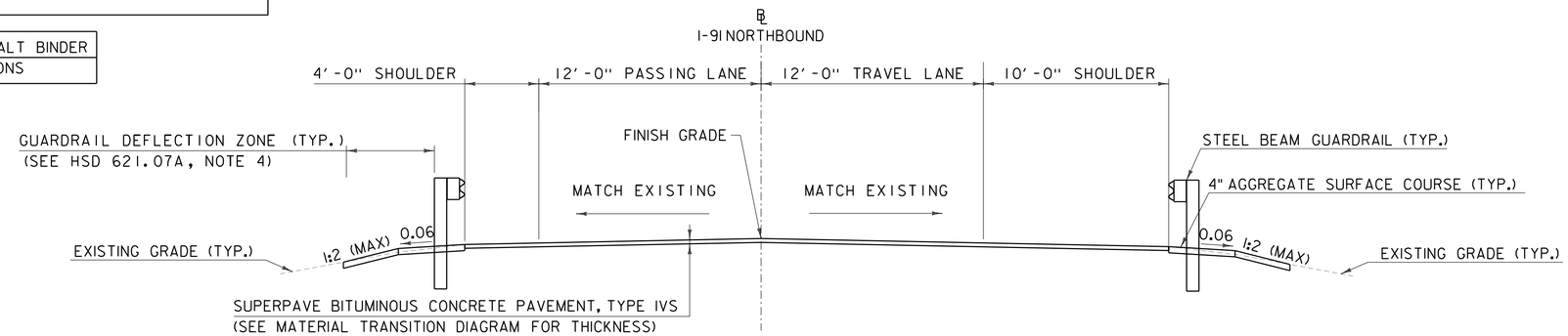
MATERIAL REQUIREMENTS

	THICKNESS	DESCRIPTION
WEARING COURSE	3"	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III
INTERMEDIATE COURSE	5"	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III
SURFACE COURSE	4"	AGGREGATE SURFACE COURSE
SUBBASE	24"	SUBBASE OF DENSE GRADED CRUSHED STONE
TOPSOIL	4"	TOPSOIL AND TURF ESTABLISHMENT, GENERAL SEED

BINDER	58E-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	80	DESIGN NUMBER OF GYRATIONS

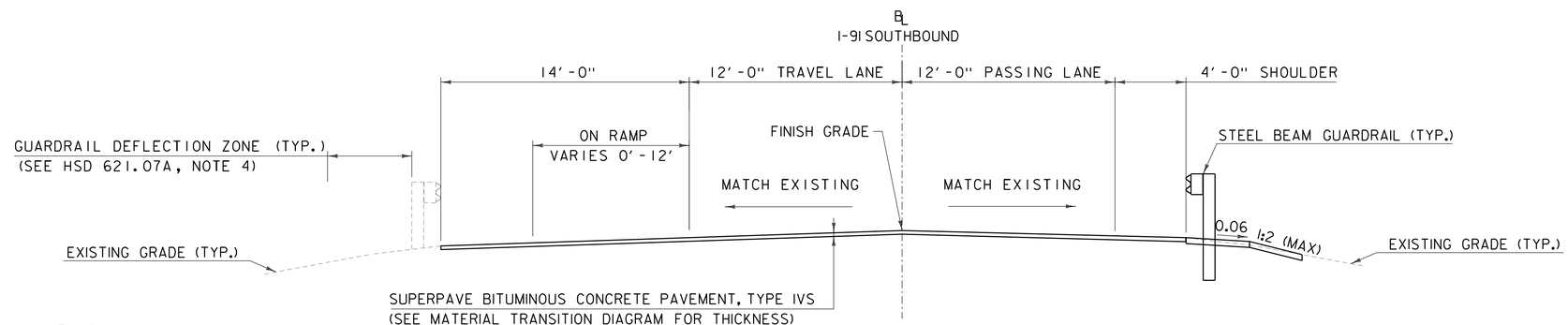
MATERIAL TOLERANCES

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- SUBBASE (TOTAL DEPTH)	+/- 1"



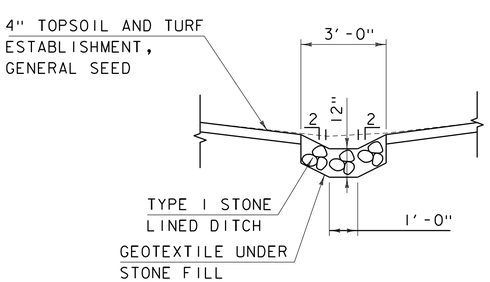
I-91 NORTHBOUND - MILL/OVERLAY

SCALE: 1/4"=1'-0"



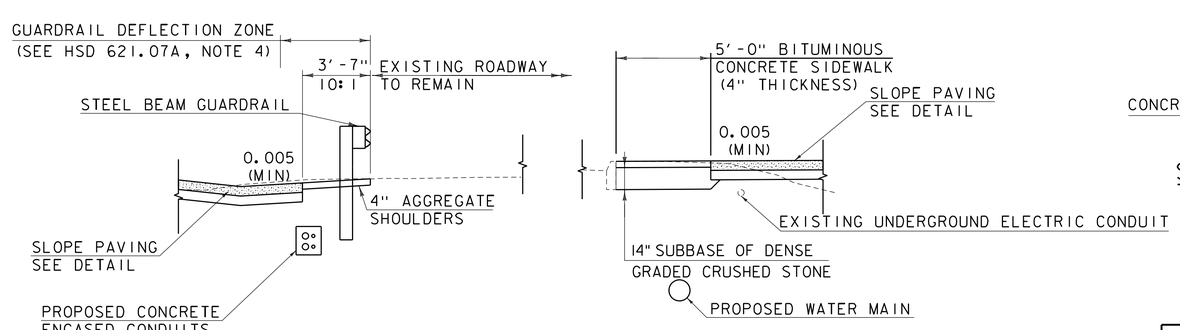
I-91 SOUTHBOUND - MILL/OVERLAY

SCALE: 1/4"=1'-0"



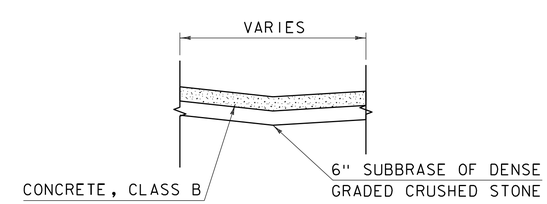
STONE DITCH TYPICAL SECTION

SCALE: 3/8"=1'-0"



TYPICAL SECTION ALONG 10A

SCALE: 1/4"=1'-0"

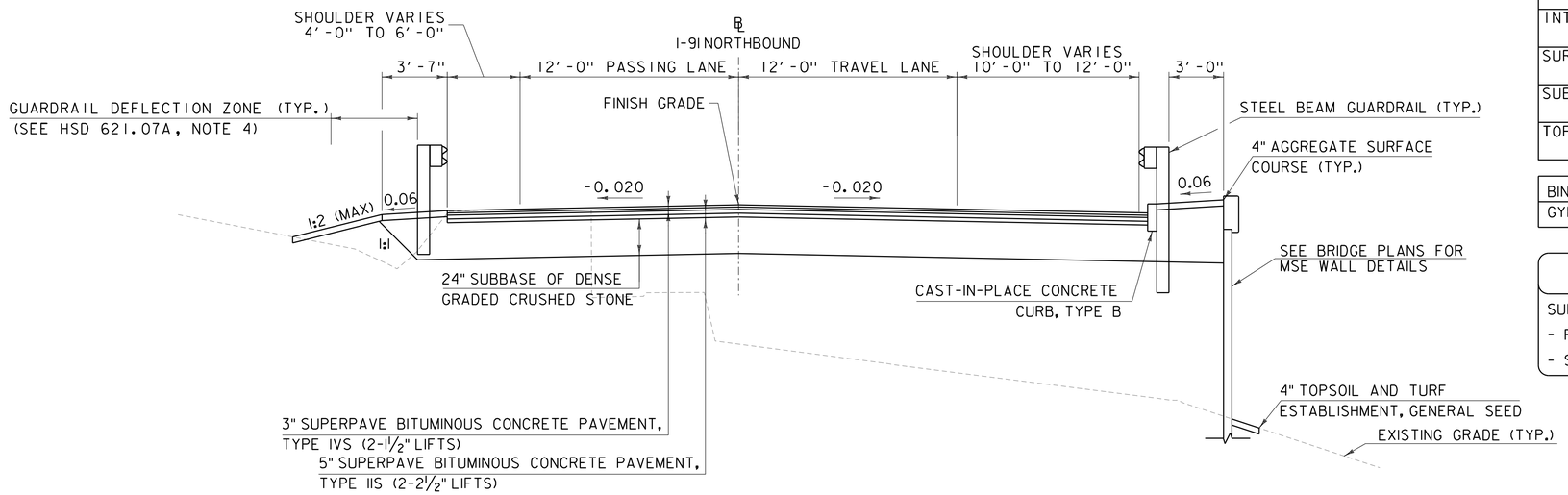


SLOPE PAVING TYPICAL SECTION

SCALE: 3/8"=1'-0"

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568typ.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TYPICAL ROADWAY SECTIONS	SHEET 3 OF 112



NORTHBOUND APPROACH SECTION

SCALE: ¼"=1'-0"

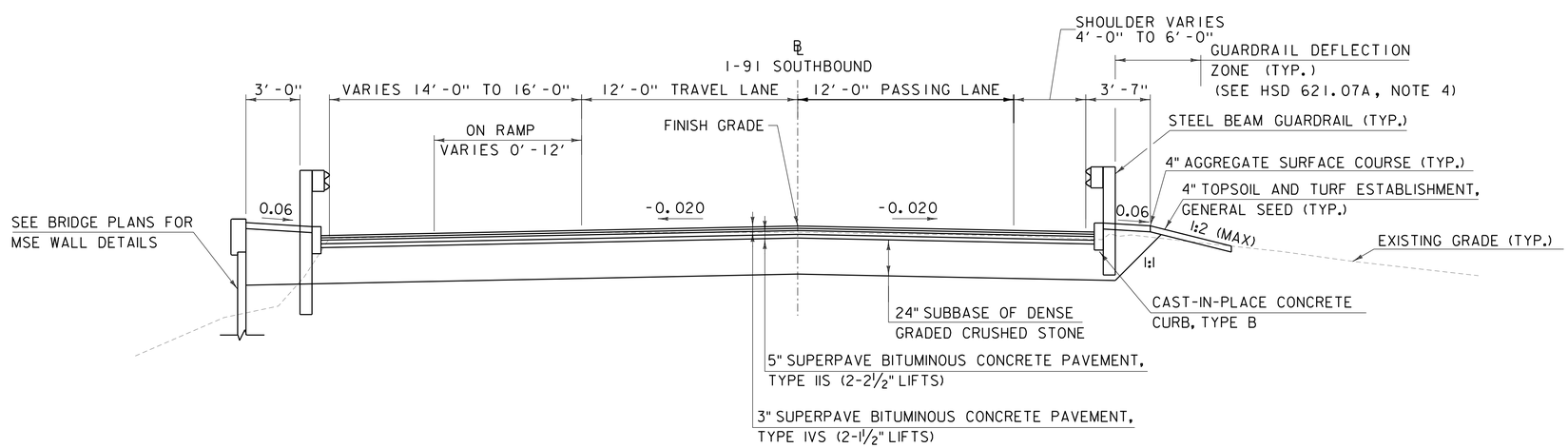
MATERIAL REQUIREMENTS

	THICKNESS	DESCRIPTION
WEARING COURSE	3"	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III
INTERMEDIATE COURSE	5"	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III
SURFACE COURSE	4"	AGGREGATE SURFACE COURSE
SUBBASE	24"	SUBBASE OF DENSE GRADED CRUSHED STONE
TOPSOIL	4"	TOPSOIL AND TURF ESTABLISHMENT, GENERAL SEED

BINDER	58E-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	80	DESIGN NUMBER OF GYRATIONS

MATERIAL TOLERANCES

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- SUBBASE (TOTAL DEPTH)	+/- 1"

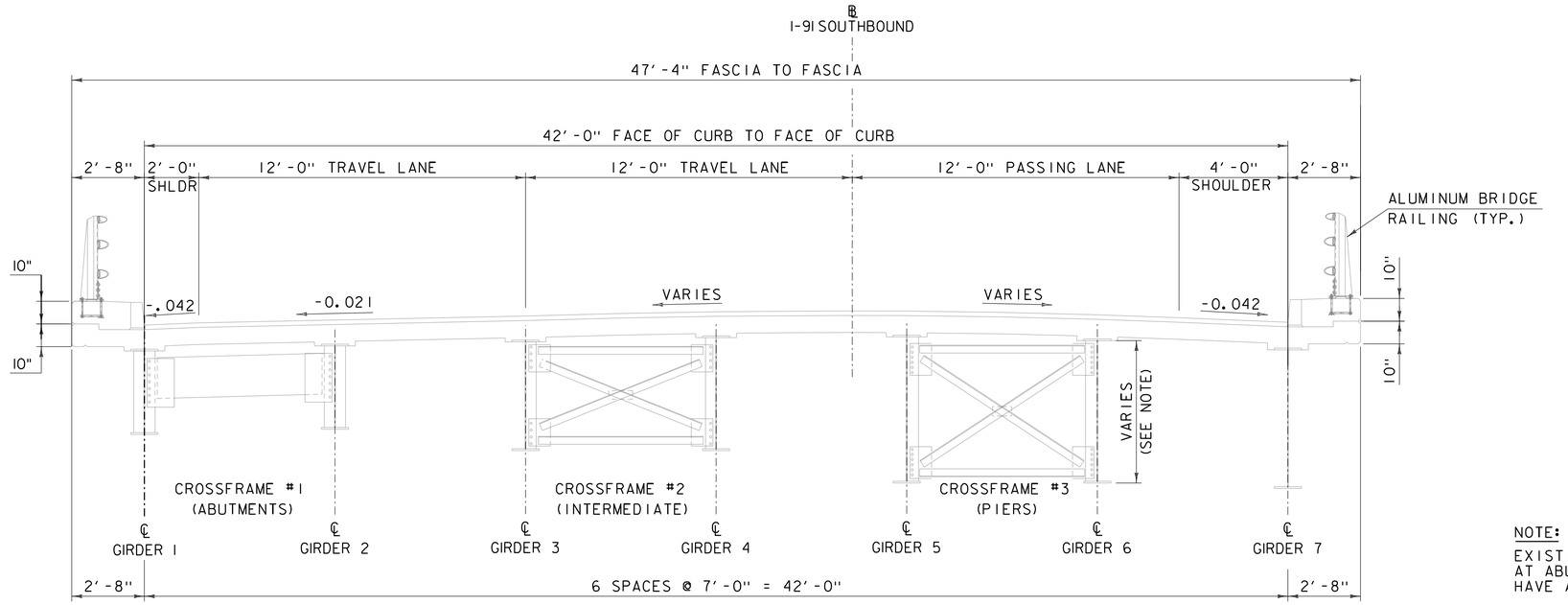


SOUTHBOUND APPROACH SECTION

SCALE: ¼"=1'-0"

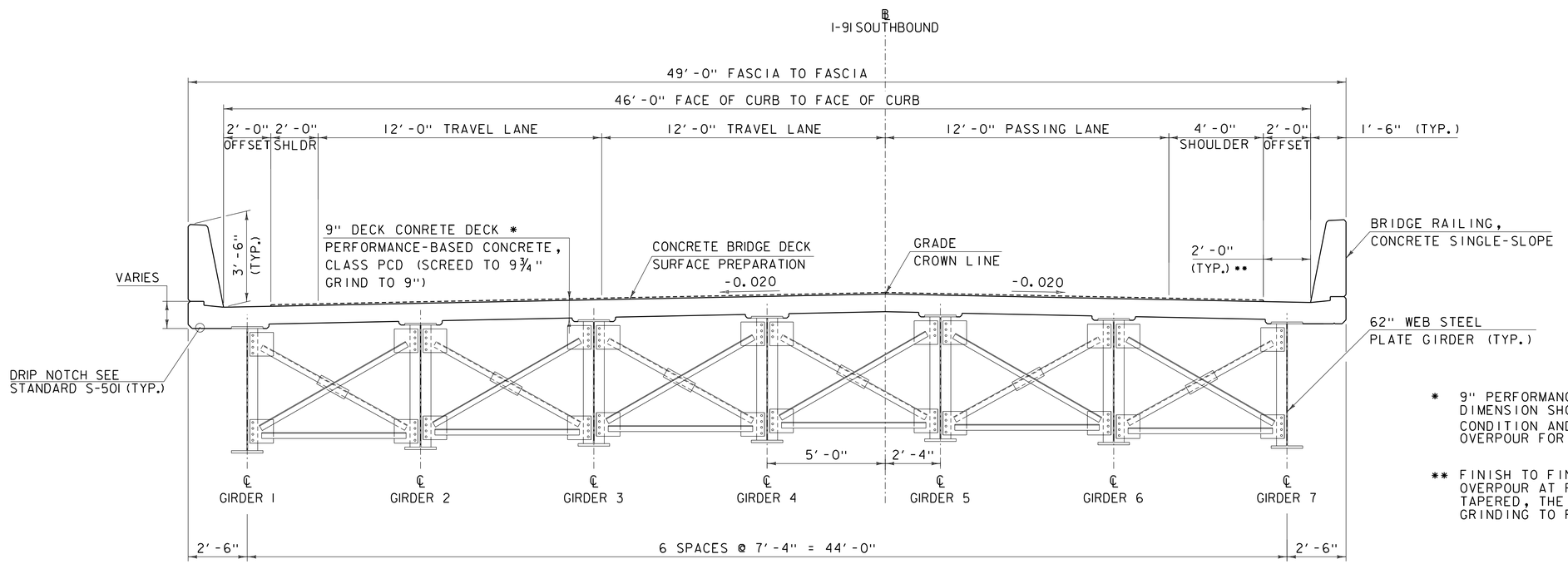
GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: zl2a568typ.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TYPICAL APPROACH SECTIONS	SHEET 4 OF 112



NOTE:
EXISTING GIRDER DEPTHS VARY FROM 3'-1½" AT ABUTMENTS TO 5'-4¼" AT PIERS THEN HAVE A CONSTANT WEB DEPTH BETWEEN PIERS

EXISTING



* 9" PERFORMANCE-BASED CONCRETE, CLASS PCD. DIMENSION SHOWN REPRESENTS THE FINISHED CONDITION AND DOES NOT INCLUDE THE ¾" OVERPOUR FOR DECK SURFACE TREATMENT.

** FINISH TO FINAL GRADE OR TAPER TO NO OVERPOUR AT FACE OF CURB. IF THE AREA IS TAPERED, THE TAPER SHALL BE REMOVED BY GRINDING TO FINAL GRADE.

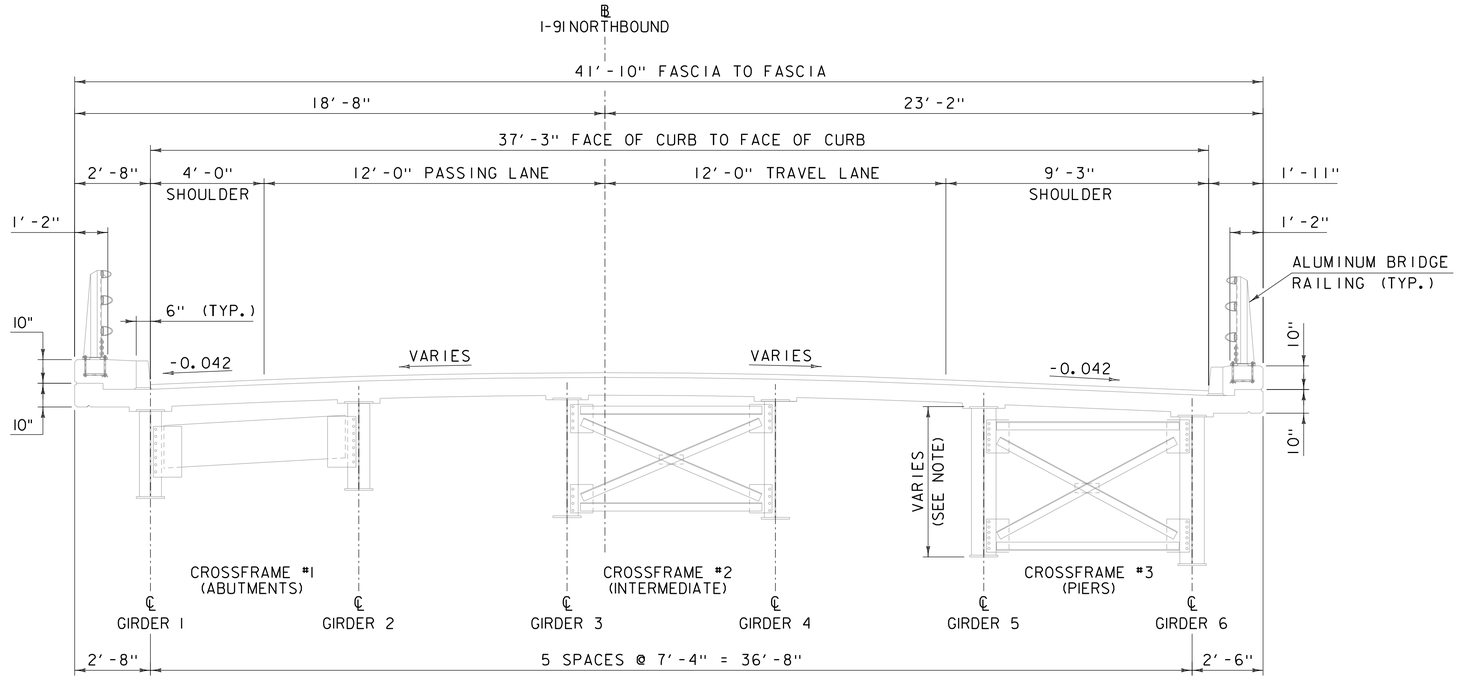
PROPOSED

SOUTHBOUND TYPICAL SECTION

SCALE ⅜" = 1'-0"

GILL ENGINEERING

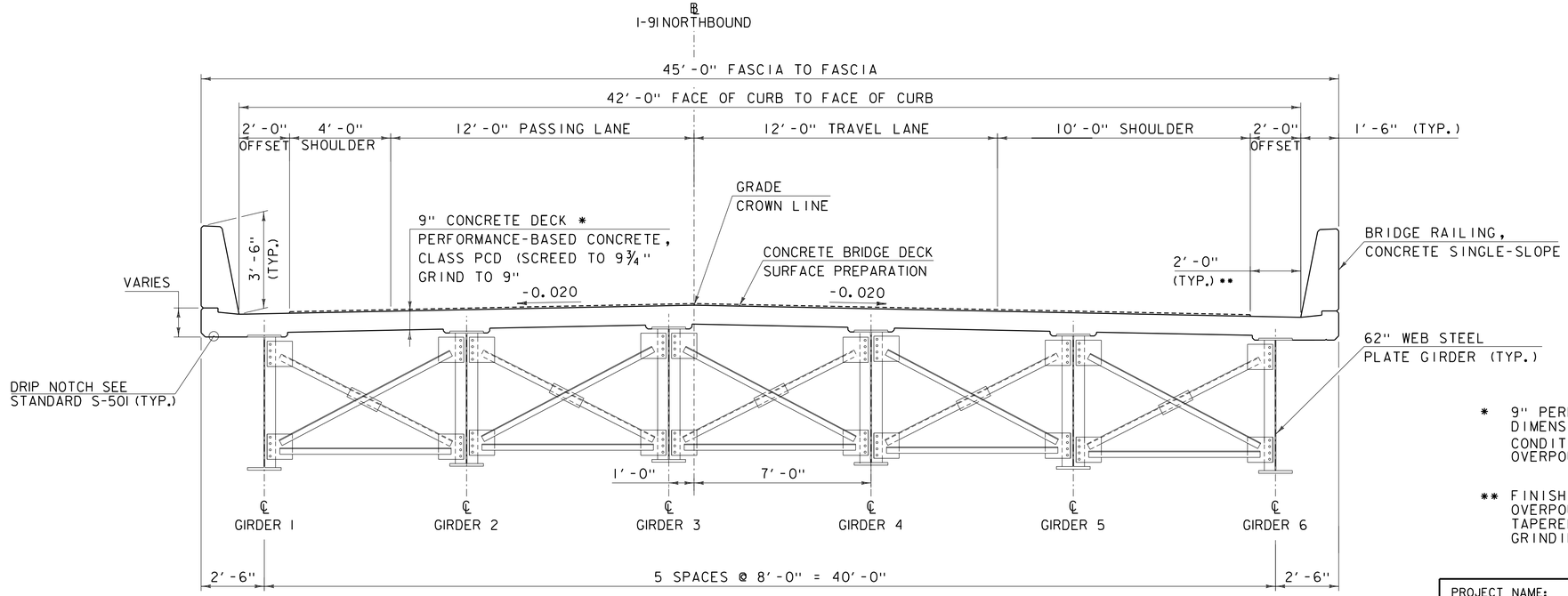
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568typ.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: K.COLEMAN
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
SOUTHBOUND TYPICAL SECTION	SHEET 5 OF 112



EXISTING

NOTE:

EXISTING GIRDER DEPTHS VARY FROM 3'-1½" AT ABUTMENTS TO 5'-4¼" AT PIERS THEN HAVE A CONSTANT WEB DEPTH BETWEEN PIERS



PROPOSED

* 9" PERFORMANCE-BASED CONCRETE, CLASS PCD. DIMENSION SHOWN REPRESENTS THE FINISHED CONDITION AND DOES NOT INCLUDE THE ¾" OVERPOUR FOR DECK SURFACE TREATMENT.

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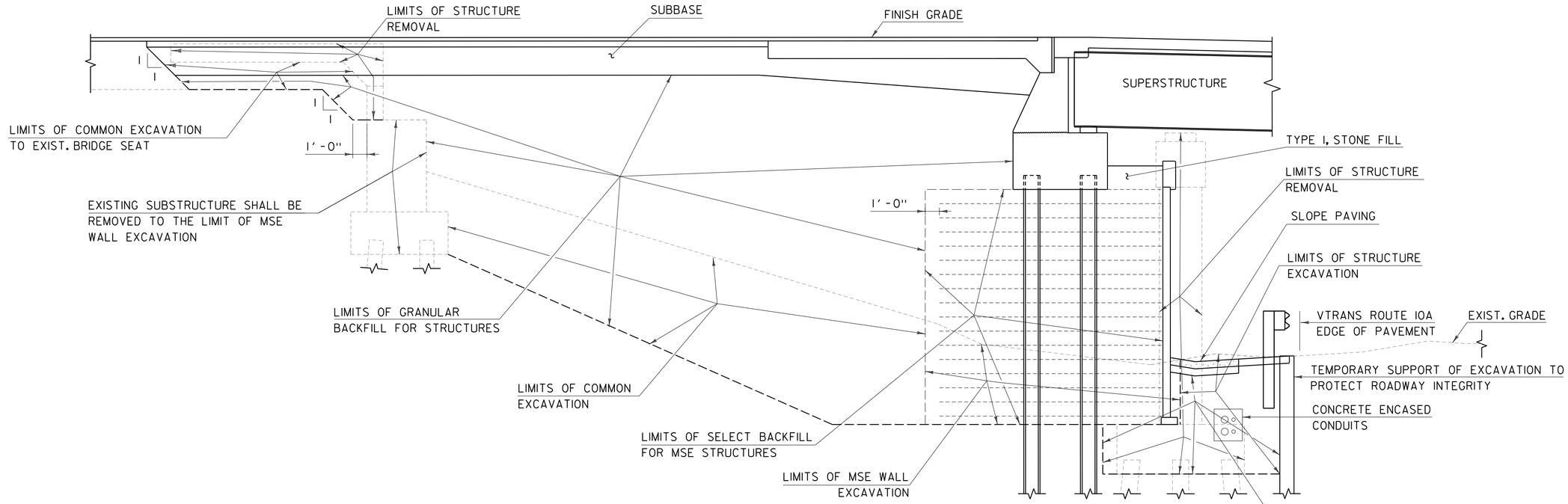
NORTHBOUND TYPICAL SECTION

SCALE ⅜" = 1'-0"

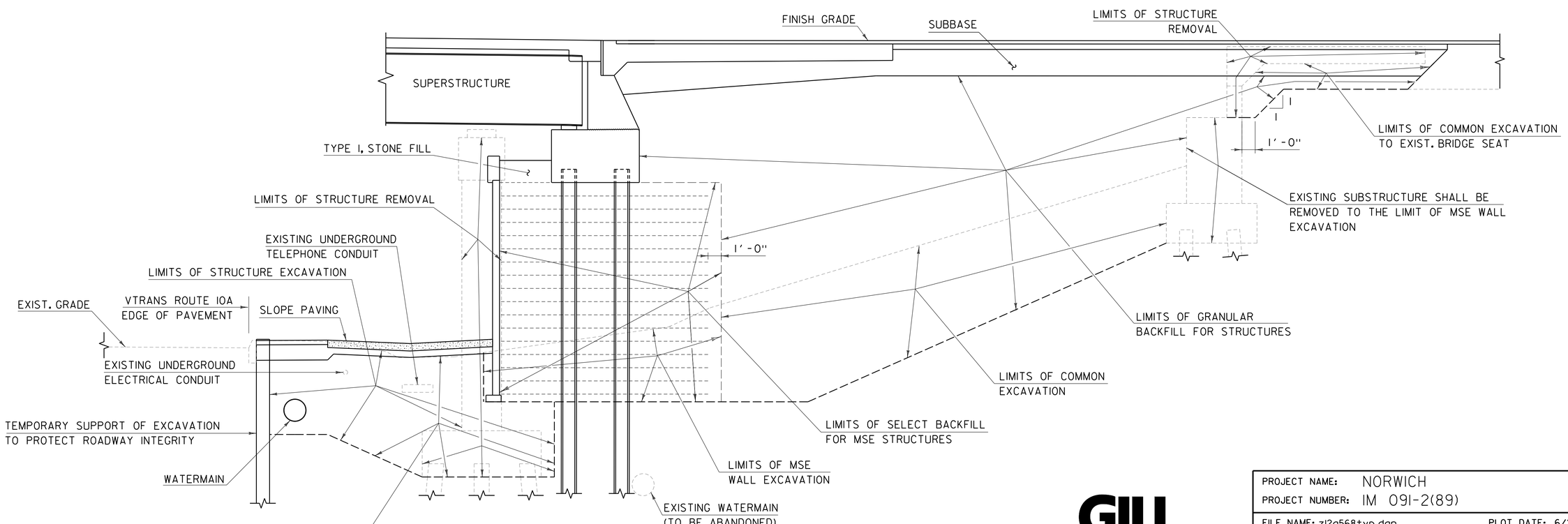
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568typ.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: K.COLEMAN
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
NORTHBOUND TYPICAL SECTION	SHEET 6 OF 112



SOUTHERN MSE AND ABUTMENTS - EARTHWORK SECTION

SCALE: ¼" = 1'-0"

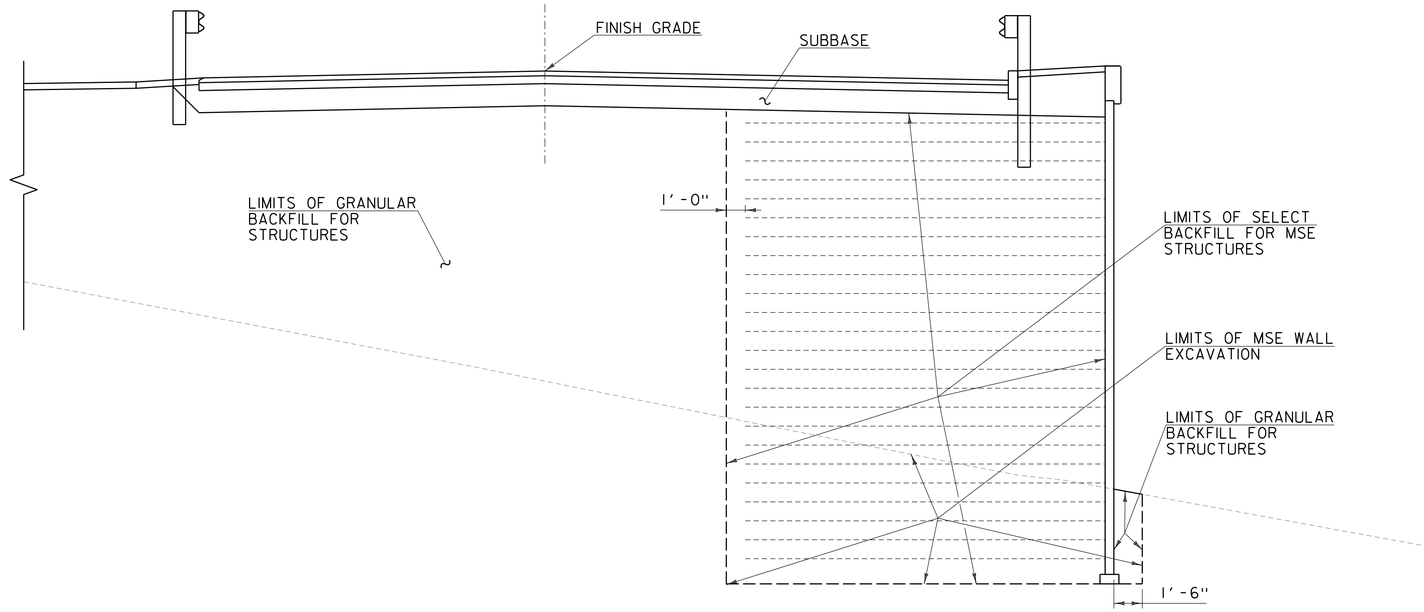


NORTHERN MSE AND ABUTMENTS - EARTHWORK SECTION

SCALE: ¼" = 1'-0"

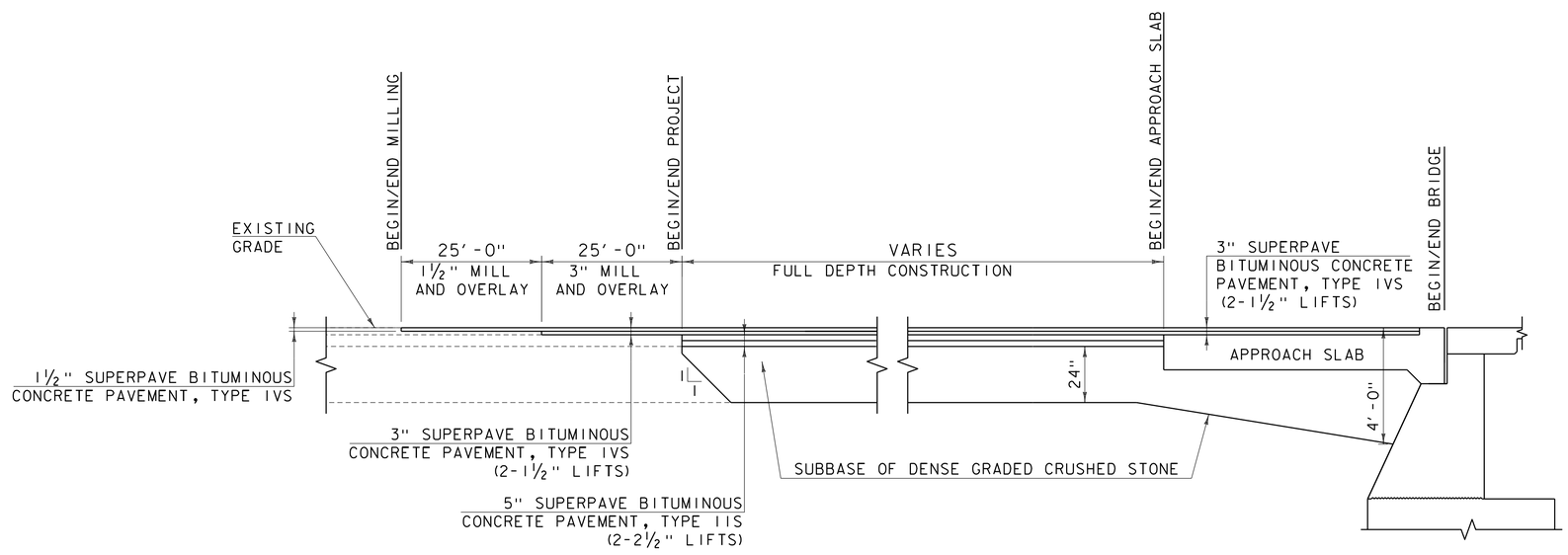
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568typ.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P. HUCKABEE	DRAWN BY: K. COLEMAN
DESIGNED BY: F. BERLUS	CHECKED BY: L. CECCHI
TYPICAL EARTHWORKS SECTION 1	SHEET 7 OF 112



MSE WINGWALL - EARTHWORK SECTION

SCALE: 1/4" = 1'-0"



	BEGIN/END MILLING	BEGIN/END PROJECT	BEGIN/END APPROACH SLAB	BEGIN/END BRIDGE
NORTHBOUND				
SOUTH APPROACH	3573+25.00	3573+75.00	3574+48.20	3574+68.20
NORTH APPROACH	3577+50.00	3577+00.00	3576+18.79	3575+98.79
SOUTHBOUND				
SOUTH APPROACH	3973+50.00	3974+00.00	3974+85.09	3975+05.09
NORTH APPROACH	3978+00.00	3977+50.00	3976+55.91	3976+35.91

MATERIAL TRANSITION DIAGRAM

(NOT TO SCALE)

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568typ.dgn
PROJECT LEADER: P. HUCKABEE
DESIGNED BY: F. BERLUS
TYPICAL EARTHWORKS SECTIONS 2

PLOT DATE: 6/20/2024
DRAWN BY: K. COLEMAN
CHECKED BY: L. CECCHI
SHEET 8 OF 112

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2024, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION DATED 2020, AND ITS LATEST REVISIONS.
2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
3. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD.THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL IDENTIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
4. REMOVAL OF THE EXISTING STRUCTURES WILL BE PAID UNDER ITEM 529.1500, REMOVAL OF STRUCTURE. THIS WORK SHALL INCLUDE THE FULL REMOVAL AND DISPOSAL OF THE EXISTING SUPERSTRUCTURES, APPROACH SLABS, ABUTMENT BACKWALLS, AND PIER CAPS, STEMS, AND FOOTINGS. ABUTMENTS AND WINGWALLS SHALL BE REMOVED TO THE LIMITS INDICATED IN THE PLANS, AS REQUIRED FOR THE CONSTRUCTION OF THE MSE WALLS.

TRAFFIC CONTROL NOTES

5. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MUTCD, AND ITS LATEST REVISIONS. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE THE E AND T SERIES OF THE STANDARD DRAWINGS. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN.
6. GLARE SCREEN SYSTEM WILL BE USED TO DELINEATE TEMPORARY TRAFFIC BARRIER AND BLOCK OUT HEADLIGHT GLARE MEETING ALL REQUIREMENTS OF PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION, SECTION 6F. GLARE SCREEN WILL BE INCIDENTAL TO TEMPORARY TRAFFIC BARRIER ITEM 621.2400.
   i. THE SYSTEM SHALL CONSIST OF VERTICAL BLADES PLACED AT UNIFORM SPACING ON A HORIZONTAL BASE RAIL WHICH IS IN TURN MOUNTED ON BARRIER.
   ii. THE BLADES AND BASE RAIL SHALL BE CONSTRUCTED OF DURABLE, LIGHTWEIGHT, NON-METALLIC NON-WARPING, FLEXIBLE, AND WEATHER AND IMPACT RESISTANT MATERIALS.
   iii. THE BLADES SHALL BE STANDARD GREEN COLOR, ONE PIECE CONSTRUCTION. THE WIDTH OF BLADES SHALL BE BETWEEN 6 INCHES AND 9 INCHES. THE LENGTH OF BLADES SHALL BE BETWEEN 24 INCHES AND 30 INCHES. THE BLADES SHALL BE ANGLED AND SPACED TO PROVIDE APPROXIMATELY A 22-DEGREE HEADLIGHT CUTOFF ANGLE.
   iv. THE BASE RAIL SHALL HAVE A NOMINAL WIDTH OF 6 INCHES. THE HORIZONTAL LENGTH OF THE BASE RAIL SHALL BE EQUAL TO THE LENGTH OF THE SECTION OF BARRIER ON WHICH THEY ARE BEING INSTALLED ON, SO THAT THE JOINT BETWEEN BARRIER SECTIONS SHALL NOT BE SPANNED BY THE BLADES.
   v. THE ASSEMBLY SHALL BE DESIGNED TO MINIMIZE THE POTENTIAL IMPACT AND DEBRIS HAZARD TO APPROACHING TRAFFIC AND TO SIMPLIFY REPAIRS. THE CONNECTION OF THE BLADE TO THE BASE RAIL OR THE BARRIER SHALL BE DESIGNED IN SUCH A MANNER AS TO PREVENT UNINTENTIONAL BLADE ROTATION OR DISLOCATION. THE SYSTEM SHALL BE PROPERLY SECURED TO PREVENT THE BASE RAIL AND/OR BLADE FROM BEING DISLODGED FROM THE BARRIER UPON IMPACT ON THE BARRIER.
   vi. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS IN ACCORDANCE WITH SECTION 105 TO THE ENGINEER FOR REVIEW AND APPROVAL.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

7. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FOR REVIEW AND WRITTEN APPROVAL BY THE RESIDENT ENGINEER AS PER STATE STANDARDS SUBSECTION 105.06. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.
8. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.
9. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
10. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE MUST BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE FIRM, STABLE AND SLIP-RESISTANT AND CONTINUOUS WITH A MINIMUM 80 INCHES OVERHEAD CLEARANCE FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
11. WHEN TEMPORARY CROSSWALKS ARE UTILIZED FOR THE TPAR, TEMPORARY DETECTABLE WARNINGS SHALL BE PLACED AT EACH END OF THE TEMPORARY CROSSWALKS. THE TEMPORARY CROSSWALK SHALL BE DELINEATED WITH TEMPORARY PAVEMENT MARKINGS OR TAPE. THE MARKINGS SHALL BE PARALLEL 12-INCH-WIDE WHITE LINES PLACED 7 FEET ON CENTER APART. IT SHOULD BE NOTED THAT CURB PARKING SHALL BE PROHIBITED FOR AT LEAST 20 FEET IN ADVANCE OF MIDBLOCK CROSSWALKS. TEMPORARY CROSSWALK SIGNS SHALL BE PROVIDED FOR THE CROSSWALK.
12. IF THERE IS WORK OCCURRING OVER AN OPEN SIDEWALK, PROTECTIVE OVERHEAD COVERING MUST BE PROVIDED AS NECESSARY TO ENSURE PROTECTION FROM FALLING OBJECTS AND DRIPPING FROM OVERHEAD STRUCTURES. COVERED WALKWAYS SHALL BE STURDILY CONSTRUCTED AND ADEQUATELY LIT FOR NIGHTTIME USE.
13. INDIVIDUAL CHANNELIZING DEVICES SUCH AS TAPE, OR ROPE USED TO CONNECT INDIVIDUAL DEVICES AND OTHER DISCONTINUOUS BARRIERS AND DEVICES, PAVEMENT MARKINGS ARE NOT DETECTABLE BY PERSONS WITH VISUAL DISABILITIES DO NOT PROVIDE ACCEPTABLE PATH GUIDANCE ON TEMPORARY OR RE-ALIGNED SIDEWALKS OR OTHER PEDESTRIAN FACILITIES. PEDESTRIAN CHANNELIZING DEVICES SHALL INCLUDE A CONTINUOUSLY DETECTABLE BOTTOM AND TOP RAILS THROUGHOUT THE LENGTH OF THE FACILITY SUCH THAT IT CAN BE FOLLOWED BY PEDESTRIANS USING LONG CANES FOR GUIDANCE. THE TOP EDGE OF THE TOP RAIL SHALL BE BETWEEN 32 INCHES AND 38 INCHES ABOVE THE GROUND LEVEL. THE BOTTOM RAIL SHALL BE AT LEAST 6 INCHES WIDE, WITH THE BOTTOM EDGE OF THE BOTTOM RAIL SURFACE NO HIGHER THAN 2 INCHES ABOVE THE GROUND.
14. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASHWORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MUTCD SHALL BE USED.
15. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
16. PROVISION OF THE TPAR AND ALL ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY CURB RAMPS, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL BE INCIDENTAL TO TRAFFIC CONTROL ITEM 641.1100 TRAFFIC CONTROL ALL-INCLUSIVE.

EARTHWORK

17. ANY TEMPORARY MEANS OF SUPPORTING EXCAVATION NECESSARY TO MAINTAIN TRAFFIC WILL BE INCLUDED IN THE PAYMENT OF ITEM 641.1000 “TRAFFIC CONTROL” AND ITEM 641.1100 “TRAFFIC CONTROL, ALL-INCLUSIVE”. CONSTRUCTION DRAWINGS SHALL BE REQUIRED AS PER SUBSECTION 105.03.

STRUCTURAL STEEL

18. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 50W, AND SHALL BE PAID UNDER ITEM 506.5500 "STUCTURAL STEEL, PLATE GIRDER".
19. ALL MEMBERS MARKED (CVN) MUST MEET THE CHARPY V-NOTCH TESTING REQUIREMENTS AS INDICATED IN SUBSECTION 714.01.
20. ALL BOLTED CONNECTIONS SHALL BE MADE WITH TYPE 3 7/8” DIAMETER HIGH-STRENGTH BOLTS IN 15/16” DIAMETER HOLES PER SUBSECTION 506.19.
21. CROSS FRAMES SHALL BE DETAILED AND FABRICATED TO FIT UNDER STEEL DEAD LOAD.
22. BEARING STIFFENERS SHALL BE PLUMB UNDER FULL DEAD LOAD OF THE STRUCTURE. INTERMEDIATE CONNECTION PLATES MAY BE EITHER ALL PLUMB OR NORMAL TO THE TOP FLANGE.
23. GIRDER ENDS, INCLUDING BEARING STIFFENERS AND CROSS FRAMES, SHALL BE PAINTED AND GREASE COATED TO THE LIMITS SHOWN ON THE GIRDER ELEVATION. PAINT SHALL BE SHOP APPLIED IN ACCORDANCE WITH SUBSECTION 506.22(E) AND BE BROWN AS SPECIFIED IN TABLE 708.03A. GREASE COATING SHALL BE APPLIED IN ACCORDANCE WTH SUBSECTION 506.22(G). PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 506.5500 "STRUCTURAL STEEL, PLATE GIRDER".
24. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINISHED GRADES.
25. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4 FEET. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FLEMING BRACKETS SHOULD EXTEND AS NEAR AS POSSIBLE TO THE BOTTOM FLANGE, BUT IN NO CASE SHALL THE FLEMING BRACKETS BE LESS THAN 3/4 OF THE WEB DEPTH.

REINFORCING STEEL

26. ALL REINFORCING STEEL IN THE SUPERSTRUCTURE AND ABUTMENTS SHALL MEET THE REQUIREMENTS FOR LEVEL III CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507.

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568notes.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
GENERAL NOTES 1 OF 2

PLOT DATE: 6/20/2024
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27. ALL REINFORCING STEEL IN THE APPROACH SLABS AND MSE WALL COPING SHALL MEET THE REQUIREMENTS FOR LEVEL I (EPOXY COATED) CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507.
28. REINFORCING COVER REQUIREMENTS ARE AS FOLLOWS:
    - i: ALONG SURFACES CAST AGAINST EARTH — 3 INCHES
    - ii: ALONG TOP SURFACE OF DECK SLAB — 3 INCHES
    - iii: ALONG BOTTOM SURFACE OF DECK SLAB — 1.5 INCHES
    - iv: ELSEWHERE UNLESS OTHERWISE INDICATED — 3 INCHES
29. BARRIER REINFORCING STEEL ABOVE THE DECK AND APPROACH SLABS WILL BE PAID FOR UNDER ITEM 525.5400 “BRIDGE RAILING, CONCRETE SINGLE SLOPE”.

CONCRETE

30. THE CONCRETE FOR THE BRIDGE DECKS AND RAILINGS SHALL MEET THE REQUIREMENTS OF “PERFORMANCE-BASED CONCRETE, CLASS PCD” IN ACCORDANCE WITH SECTION 501.
31. THE CONCRETE FOR THE ABUTMENTS AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF “PERFORMANCE-BASED CONCRETE, CLASS PCS” IN ACCORDANCE WITH SECTION 501.
32. SINGLE SLOPE CONCRETE BARRIER ON THE BRIDGE DECKS AND APPROACH SLABS WILL BE PAID FOR UNDER ITEM 525.5400 “BRIDGE RAILING, CONCRETE SINGLE SLOPE”.
33. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE, EXCEPT FOR THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THIS WORK WILL BE PAID FOR UNDER ITEM 514.1000, “WATER REPELLENT, SILANE”.
34. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 1” UNLESS OTHERWISE NOTED.
35. A BRIDGE PLAQUE, FURNISHED BY THE AGENCY, SHALL BE CAST INTO THE FRONT FACE OF ABUTMENT 1, SEE S-501 FOR DETAILS.
36. THE DECK SHALL BE CAST TO AN INITIAL THICKNESS OF 9.75 INCHES. AFTER THE DECK AND BRIDGE RAIL HAS CURED THE ENTIRE BRIDGE DECK SURFACE SHALL BE DIAMOND GROUND A NOMINAL O.75 INCH FOR A RESULTING DECK THICKNESS OF 9 INCHES. PAYMENT WILL BE MADE UNDER ITEM 509.1500 “CONCRETE BRIDGE DECK SURFACE PREPARATION”.
37. ALL DECK DIMENSIONS IN THESE PLANS, INCLUDING REINFORCING STEEL COVER, ARE IN REFERENCE TO THE FINAL CONDITION, UNLESS OTHERWISE NOTED.
38. THE CONTRACTOR IS HEREBY NOTIFIED THAT STAY-IN-PLACE CORRUGATED METAL FORMS WILL BE ALLOWED ON THE PROJECT IN ACCORDANCE WITH SUBSECTION 501.08(H).

H-PILES

39. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS ARE ASSUMED AS SHOWN BELOW AND ON THE BORING LOGS. THE ACTUAL LENGTHS MAY VARY.

LOCATION	ESTIMATED PILE TIP ELEVATION
ABUTMENT 1	449.42 +/-
ABUTMENT 2	441.53 +/-
ABUTMENT 3	432.36 +/-
ABUTMENT 4	424.92 +/-

40. THE PILES SHALL BE HP14x89 DRIVEN VERTICAL.
41. TO PREVENT DAMAGE TO THE PILES, PILE SHOES ARE REQUIRED FOR DRIVEN PILES AND SHALL CONFORM TO SUBSECTION 505.04(f).
42. THE FRONT ROW PILES SHALL BE DRIVEN TO BEDROCK. THE FACTORED STRUCTURAL RESISTANCE PER PILE IS 652.5 KIPS AND IS THE PRODUCT OF THE NOMINAL STRUCTURAL RESISTANCE 1305 KIPS AND A RESISTANCE FACTOR OF 0.50.
43. THE BACK ROW PILES SHALL BE DRIVEN TO BEDROCK AND PRACTICAL REFUSAL IN ACCORDANCE WITH SUBSECTION 505.04(d)
44. A MINIMUM OF ONE DYNAMIC PILE TEST PER ABUTMENT ON THE FRONT ROW OF PILES IS REQUIRED DURING PILE INSTALLATION. PAYMENT WIL BE MADE UNDER ITEM 505.45 "DYNAMIC PILE LOADING TEST".
45. PILES SHALL BE DRIVEN BEFORE BUILDING THE MSE WALLS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES											TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
	1011 - ROADWAY	1031 - TRAINING	1051 - EROSION CONTROL	1081 - UTILITIES - BID ITEMS	1083 - UTILITIES - BID ITEMS (NO	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	990					1250	1250		3490		CY	COMMON EXCAVATION	203.1500				
	35				100				135		CY	TRENCH EXCAVATION OF EARTH	204.2000				
	1								1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.2200				
						250	286		536		CY	STRUCTURE EXCAVATION	204.2500				
						3800	3790		7590		CY	GRANULAR BACKFILL FOR STRUCTURES	204.3000				
	1600								1600		SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.1000				
	2700								2700		LF	MILLED RUMBLE STRIPS, SHOULDER	213.2010				
	1								1		LS	RETAINING WALL, MECHANICALLY STABILIZED EARTH (MSE WALL 1)	227.0100				
	1								1		LS	RETAINING WALL, MECHANICALLY STABILIZED EARTH (MSE WALL 2)	227.0100				
	1300								1300		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.3500				
	140								140		CY	AGGREGATE SURFACE COURSE	401.1000				
	28								28		CWT	TACK COAT, EMULSIFIED ASPHALT	404.1100				
	430								430		TON	BITUMINOUS CONCRETE PAVEMENT, TYPE IIS, QA TIER III	406.0230				
	440								440		TON	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III	406.0430				
	1								1		DL	PAY ADJUSTMENT, BCP, MIXTURE PROPERTIES (N.A.B.I.)	406.9100				
	1								1		DL	PAY ADJUSTMENT, BCP, MAT DENSITY (N.A.B.I.)	406.9200				
						182	195		377		CY	PERFORMANCE-BASED CONCRETE, CLASS PCD	501.3700				
						248	284		532		CY	PERFORMANCE-BASED CONCRETE, CLASS PCS	501.3800				
							1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 48S)	504.1000				
						1			1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING (BRIDGE 48N)	504.1000				
						1400	1000		2400		LF	STEEL PILING, HP 14 × 89	505.1800				
						2	2		4		EACH	DYNAMIC PILE LOADING TEST	505.4500				
						205200	239700		444900		LB	STRUCTURAL STEEL, PLATE GIRDER	506.5500				
						11500	12700		24200		LB	REINFORCING STEEL, LEVEL I	507.1100				
						54200	57300		111500		LB	REINFORCING STEEL, LEVEL III	507.1300				
							1		1		LS	SHEAR CONNECTORS (3150 - 7/8 X 7)	508.1500				
						1			1		LS	SHEAR CONNECTORS (2700 - 7/8 X 7)	508.1500				
						5474	6005		11479		SF	CONCRETE BRIDGE DECK SURFACE PREPARATION	509.1500				
						63	66		129		GAL	WATER REPELLENT, SILANE	514.1000				
						99	113		212		LF	BRIDGE EXPANSION JOINT, PRE-COMPRESSED	516.1000001				
						320	320		640		LF	BRIDGE RAILING, CONCRETE SINGLE SLOPE	525.5400				
							1		1		EACH	REMOVAL OF STRUCTURE (10500 SF - EST.)	529.1500				
						1			1		EACH	REMOVAL OF STRUCTURE (9300 SF - EST.)	529.1500				
						12	14		26		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.1700				
	40								40		CY	CONCRETE, CLASS B	541.2200				
							1		1		LS	PUBLIC PROTECTION FOR BRIDGE PROJECTS (BRIDGE 48S)	551.1000				
						1			1		LS	PUBLIC PROTECTION FOR BRIDGE PROJECTS (BRIDGE 48N)	551.1000				
	47								47		LF	15 INCH RCP CLASS III	601.0810				
	1								1		EACH	PRECAST REINFORCED CONCRETE DI WITH CAST IRON GRATE	604.1800				
	4								4		EACH	CHANGING ELEVATION OF DIS, CATCH BASINS, OR MANHOLES	604.4000				

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568forms.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
QUANTITY SHEET 1

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY:
SHEET 11 OF 112

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
	1011 - ROADWAY	1031 - TRAINING	1051 - EROSION CONTROL	1081 - UTILITIES - BID ITEMS	1083 - UTILITIES - BID ITEMS (NO	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	1								1		EACH	REHABILITATING DIS, CATCH BASINS, OR MANHOLES, CLASS II	604.4102				
	280								280		MGAL	DUST CONTROL WITH WATER	609.1000				
	5								5		TON	DUST CONTROL WITH CALCIUM CHLORIDE	609.1500				
	10								10		CY	STONE FILL, TYPE I	613.1001				
	280								280		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.2702				
	30								30		TON	BITUMINOUS CONCRETE SIDEWALK	618.1500				
	110								110		LF	CHAIN-LINK FENCE, 6 FOOT	620.1006				
	275								275		LF	REMOVAL OF EXISTING FENCE	620.5500				
	1830								1830		LF	REMOVAL OF GUARDRAIL	621.0100				
	1675								1675		LF	STEEL BEAM GUARDRAIL	621.1060				
	150								150		LF	STEEL BEAM GUARDRAIL WITH 8 FOOT POSTS	621.1080				
	3								3		EACH	ANCHOR FOR STEEL BEAM GUARDRAIL, MGS	621.1530				
	2850								2850		LF	TEMPORARY TRAFFIC BARRIER	621.2400				
	3								3		EACH	MTS, MGS, TANGENT, TL-3	621.3030				
	8								8		EACH	GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAIL, TL-3	621.8330				
					270				270		LF	CONCRETE ENCASED CONDUIT, 1 TO 4 CONDUITS	625.4004				
				300					300		LF	DUCTILE IRON SEWER PIPE, CEMENT-LINED, ALL-INCLUSIVE, 8 IN.	628.1732				
				2					2		EACH	GATE VALVE WITH VALVE BOX, ALL-INCLUSIVE, 8 INCH	629.2532				
	1200								1200		HR	UNIFORMED TRAFFIC OFFICERS	630.1000				
	640								640		HR	FLAGGERS	630.1500				
								1	1		LS	FIELD OFFICE, ENGINEER'S	631.1000				
								1	1		LS	TESTING EQUIPMENT, CONCRETE	631.1600				
								1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.1700				
								6000	6000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.2600				
		1040							1040		HR	EMPLOYEE TRAINEESHIP	634.1000				
	1								1		LS	MOBILIZATION/DEMOBILIZATION	635.1100				
	1								1		LS	TRAFFIC CONTROL (BRIDGES 48N AND 48S)	641.1000				
	1								1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE (VT-10A)	641.1100				
	5								5		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.1500				
	2								2		EACH	PORTABLE ARROW BOARD	641.1600				
	1225								1225		LF	DURABLE 6 INCH WHITE LINE, EPOXY PAINT	646.4230				
	2775								2775		LF	DURABLE 6 INCH YELLOW LINE, EPOXY PAINT	646.4330				
	8375								8375		LF	TEMPORARY 6 INCH WHITE LINE	646.6200				
	12000								12000		LF	TEMPORARY 6 INCH YELLOW LINE	646.6300				
	3890								3890		SF	PAVEMENT MARKING MASK	646.8600				
	35								35		SY	GEOTEXTILE UNDER STONE FILL	649.3100				
			1200						1200		SY	TURF ESTABLISHMENT, GENERAL SEED	651.1500				
			130						130		CY	TOPSOIL	651.3500				
			1						1		LS	EPSC PLAN	653.0100				
			200						200		HR	MONITORING EPSC PLAN	653.0200				

GILL ENGINEERING

PROJECT NAME: NORWICH
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QUANTITY SHEET 2

PLOT DATE: 6/20/2024
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SHEET 12 OF 112

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
	1011 - ROADWAY	1031 - TRAINING	1051 - EROSION CONTROL	1081 - UTILITIES - BID ITEMS	1083 - UTILITIES - BID ITEMS (NO	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
			1						1		DL	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.0300				
			1						1		TON	HAY MULCH	653.1000				
			250						250		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.2001				
			60						60		CY	STABILIZED CONSTRUCTION ENTRANCE	653.3500				
			8						8		EACH	INLET PROTECTION DEVICE, TYPE I	653.4001				
			4						4		EACH	INLET PROTECTION DEVICE, TYPE II	653.4002				
			2125						2125		LF	SILT FENCE, TYPE I	653.4701				
			1150						1150		LF	PROJECT DEMARCATION FENCE	653.5500				
	4								4		EACH	RESETTING SIGNS	675.6000				
	3								3		EACH	DELINEATOR WITH STEEL POST	676.1000				
	3								3		EACH	REMOVE AND RESET LIGHT POLE	679.2500				
	1								1		DL	PRICE ADJUSTMENT, ASPHALT (N.A.B.I.)	690.0300				
	1								1		LS	SS-PLACEHOLDER-LS (DIVIDED HIGHWAY CROSSOVER (NORTHBOUND))	SS013				
	1								1		LS	SS-PLACEHOLDER-LS (DIVIDED HIGHWAY CROSSOVER (SOUTHBOUND))	SS013				

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568forms.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
QUANTITY SHEET 3

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY:
SHEET 13 OF 112

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	BF	BARRIER FENCE
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T.& I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⊡	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALVE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

— UGU — · · — · · · -	UTILITY (GENERIC-UNKNOWN)
— UT — · · — · · · -	TELEPHONE
— UE — · · — · · · -	ELECTRIC
— UC — · · — · · · -	CABLE (TV)
— UEC — · · — · · · -	ELECTRIC+CABLE
— UET — · · — · · · -	ELECTRIC+TELEPHONE
— UCT — · · — · · · -	CABLE+TELEPHONE
— UECT — · · — · · · -	ELECTRIC+CABLE+TELEPHONE
— G — · · — · · · -	GAS LINE
— W — · · — · · · -	WATER LINE
— S — · · — · · · -	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU — · · — · · · -	UTILITY (GENERIC-UNKNOWN)
— T — · · — · · · -	TELEPHONE
— E — · · — · · · -	ELECTRIC
— C — · · — · · · -	CABLE (TV)
— EC — · · — · · · -	ELECTRIC+CABLE
— ET — · · — · · · -	ELECTRIC+TELEPHONE
— AER E&T — · · — ·	ELECTRIC+TELEPHONE
— CT — · · — · · · -	CABLE+TELEPHONE
— ECT — · · — · · · -	ELECTRIC+CABLE+TELEPHONE
— · · —— · · —— · · ——	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

— - - — CZ — - - —	CLEAR ZONE
————————	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

	TOP OF CUT SLOPE
	TOE OF FILL SLOPE
	STONE FILL
	BOTTOM OF DITCH ℄
	CULVERT PROPOSED
	STRUCTURE SUBSURFACE
PDF ——— PDF ———	PROJECT DEMARCATION FENCE
BF — × — × — BF — × —	BARRIER FENCE
	TREE PROTECTION ZONE (TPZ)
	STRIPING LINE REMOVAL
	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

TOWN LINE	TOWN BOUNDARY LINE
COUNTY LINE	COUNTY BOUNDARY LINE
STATE LINE	STATE BOUNDARY LINE
	PROPOSED STATE R.O.W. (LIMITED ACCESS)
	PROPOSED STATE R.O.W.
	STATE ROW (LIMITED ACCESS)
	STATE ROW
	TOWN ROW
	PERMANENT EASEMENT LINE (P)
	TEMPORARY EASEMENT LINE (T)
	SURVEY LINE
P/L ——— P/L	PROPERTY LINE (P/L)
SR SR SR	SLOPE RIGHTS
6f ——— 6f	6F PROPERTY BOUNDARY
4f ——— 4f	4F PROPERTY BOUNDARY
HAZ ——— HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

ONNOONNOONNO	FILTER CURTAIN
	SILT FENCE
	SILT FENCE WOVEN WIRE
	CHECK DAM
	DISTURBED AREAS REQUIRING RE-VEGETATION
	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

	WETLAND BOUNDARY
	RIPARIAN BUFFER ZONE
	WETLAND BUFFER ZONE
	SOIL TYPE BOUNDARY
T&E	THREATENED & ENDANGERED SPECIES
HAZ ——— HAZ	HAZARDOUS WASTE AREA
AG	AGRICULTURAL LAND
HABITAT	FISH & WILDLIFE HABITAT
FLOOD PLAIN	FLOOD PLAIN
OHW	ORDINARY HIGH WATER (OHW)
	STORM WATER
	USDA FOREST SERVICE LANDS
	WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

ARCH	ARCHEOLOGICAL BOUNDARY
HISTORIC DIST	HISTORIC DISTRICT BOUNDARY
HISTORIC	HISTORIC AREA
H	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

	ROAD EDGE PAVEMENT
	ROAD EDGE GRAVEL
	DRIVEWAY EDGE
	DITCH
	FOUNDATION
	FENCE (EXISTING)
	FENCE WOOD POST
	FENCE STEEL POST
	GARDEN
	ROAD GUARDRAIL
	RAILROAD TRACKS
	CULVERT (EXISTING)
	STONE WALL
	WALL
	WOOD LINE
	BRUSH LINE
	HEDGE
	BODY OF WATER EDGE
	LEDGE EXPOSED

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568legend.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: VTRANS
LEGEND SHEET

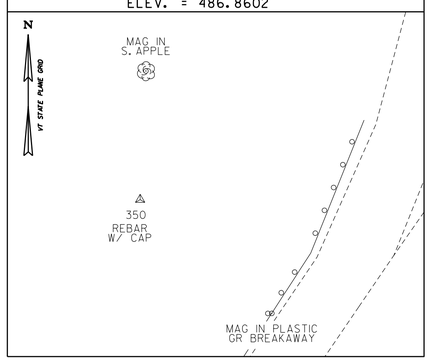
PLOT DATE: 6/20/2024
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 14 OF 112

GPS CONTROL

TRAVERSE TIES

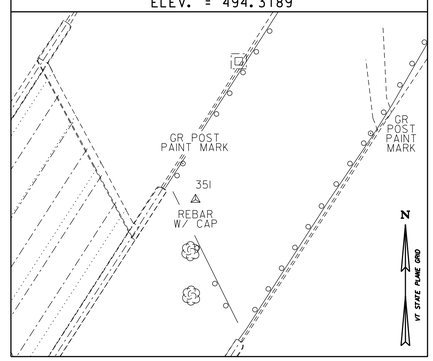
HVCTRL#350

NORTH = 440029.7866
EAST = 1691825.6422
ELEV. = 486.8602



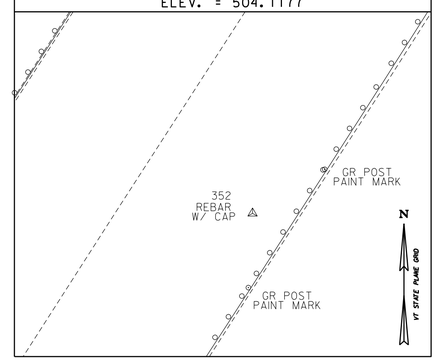
HVCTRL#351

NORTH = 439654.7682
EAST = 1691698.3652
ELEV. = 494.3189



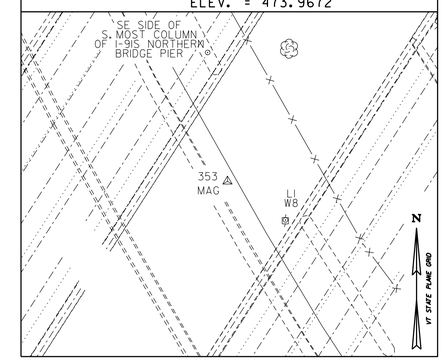
HVCTRL#352

NORTH = 439210.8726
EAST = 1691436.7506
ELEV. = 504.1177



HVCTRL#353

NORTH = 439571.4719
EAST = 1691654.8303
ELEV. = 473.9672



TRAVERSE TIES

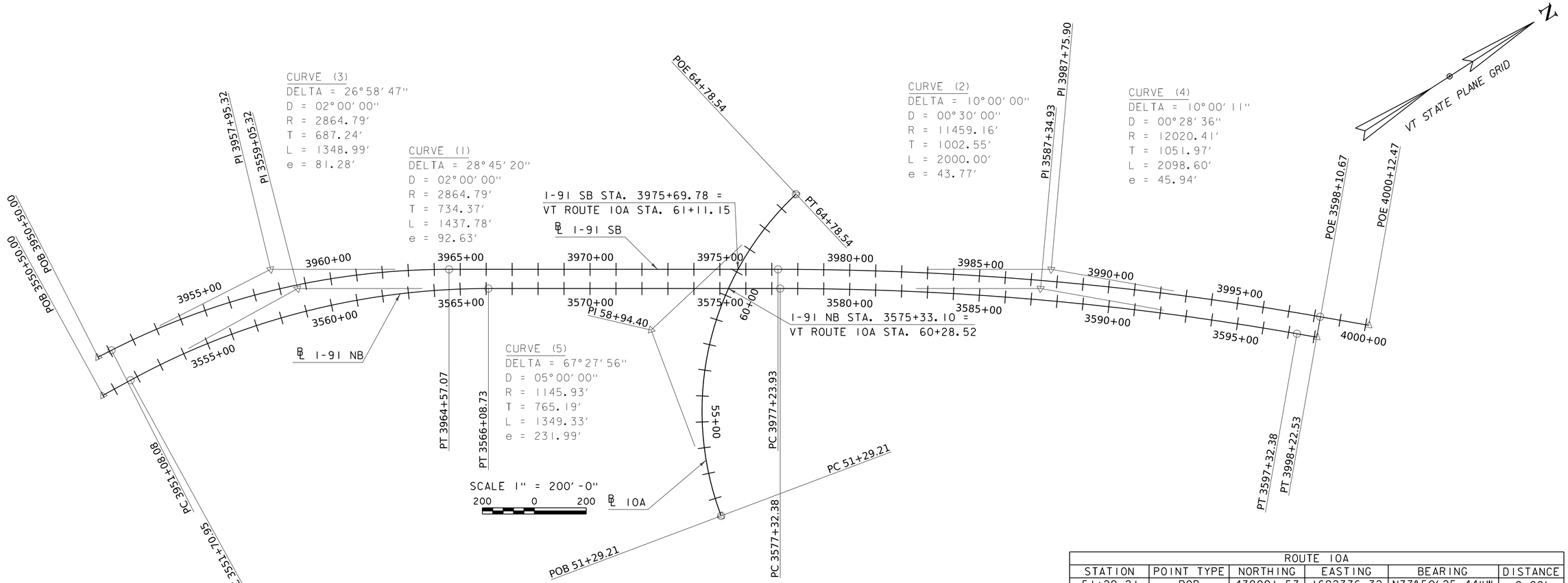
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)
ADJUSTMENT	L.SQUARES

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: x13a250ti.dgn
PROJECT LEADER: J.WANTUCH
DESIGNED BY: VHB
SURVEY TIE SHEET

PLOT DATE: 6/20/2024
DRAWN BY: J.WANTUCH
CHECKED BY: R.CLOUTIER
SHEET 15 OF 112

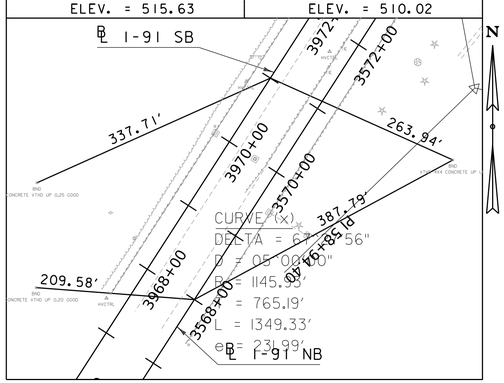


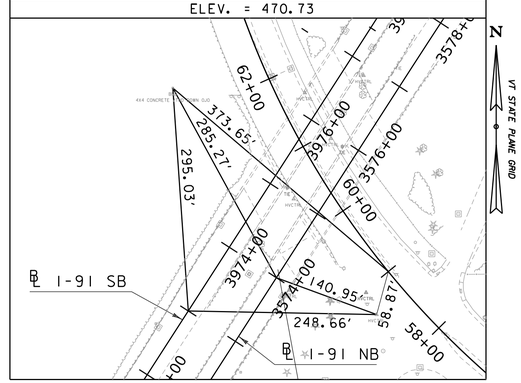
ALIGNMENT TIES

NB - 3574+00	SB - 3973+00
NORTH = 439343.94	NORTH = 439387.88
EAST = 1691466.84	EAST = 1691583.18
ELEV. = 500.15	ELEV. = 504.97

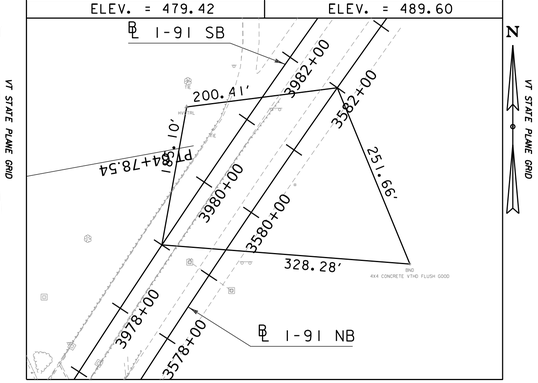
10A - 59+00
NORTH = 439395.9580
EAST = 1691730.9417
ELEV. = 470.73

NB - 3568+00	SB - 3971+00
NORTH = 438883.52	NORTH = 439175.82
EAST = 1691258.20	EAST = 1691358.51
ELEV. = 515.63	ELEV. = 510.02





NB - 3582+00	SB - 3979+00
NORTH = 440095.28	NORTH = 439807.52
EAST = 1691962.18	EAST = 1691855.03
ELEV. = 479.42	ELEV. = 489.60



SCALE 1" = 100'-0"
100 0 100

ROUTE 10A					
STATION	POINT TYPE	NORTHING	EASTING	BEARING	DISTANCE
51+29.21	POB	439001.57	1692376.32	N77°50'25.44"W	0.00'
51+29.21	PC	439001.57	1692376.32	-	1349.33'
58+94.40	PI	439162.74	1691628.30	-	1349.33'
64+78.54	POE	439915.42	1691490.50	N10°22'29.09"W	0.00'

I-91 SB					
STATION	POINT TYPE	NORTHING	EASTING	BEARING	DISTANCE
3950+50.00	POB	437316.18	1690562.51	N05°48'56.75"E	58.08'
3951+08.08	PC	437373.96	1690568.40	-	1348.99'
3957+95.32	PI	438057.67	1690638.03	-	1348.99'
3964+57.07	PT	438635.37	1691010.27	N32°47'44.00"E	1266.86'
3977+23.93	PC	439700.30	1691696.46	-	2098.60'
3987+75.90	PI	440584.60	1692266.25	-	2098.60'
3998+22.53	PT	441356.48	1692980.99	N42°47'55.03"E	189.94'
4000+12.47	POE	441495.85	1693110.04	-	-

I-91 NB					
STATION	POINT TYPE	NORTHING	EASTING	BEARING	DISTANCE
3550+50.00	POB	437252.22	1690696.57	N04°02'23.88"E	120.95'
3551+70.95	PC	437372.87	1690705.09	-	1437.78'
3559+05.32	PI	438105.41	1690756.83	-	1437.78'
3566+08.73	PT	438722.73	1691154.60	N32°47'44.00"E	1123.65'
3577+32.38	PC	439667.28	1691763.21	-	2000.00'
3587+34.93	PI	440510.03	1692306.24	-	2000.00'
3597+32.38	PT	441245.68	1692987.35	N42°47'44.00"E	78.29'
3598+10.67	POE	441303.13	1693040.54	-	-

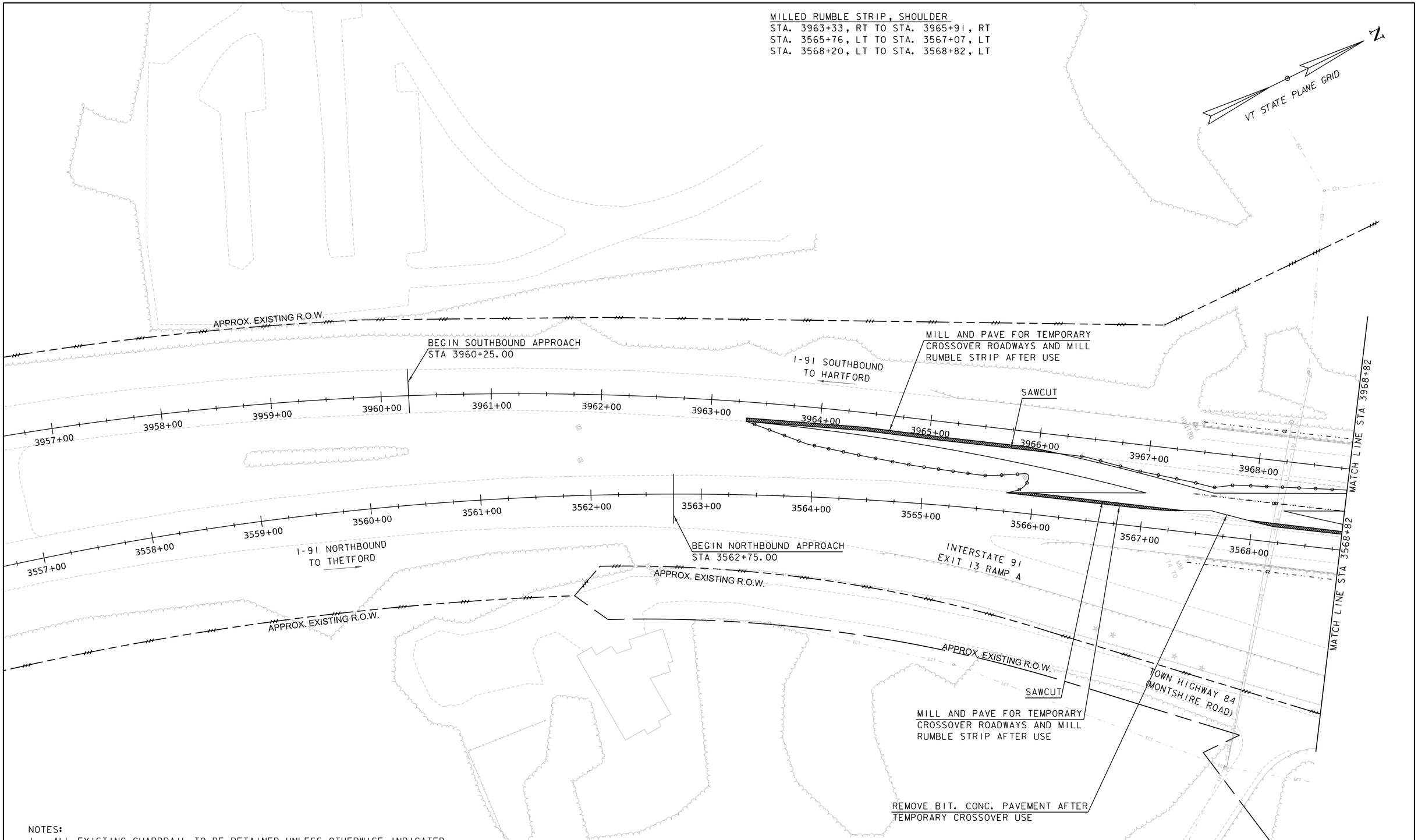
GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zi2a568alignmenttie.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
ALIGNMENT DATA

PLOT DATE: 6/20/2024
DRAWN BY: A.LEENHOUTS
CHECKED BY: L.CECCHI
SHEET 16 OF 112

MILLED RUMBLE STRIP, SHOULDER
STA. 3963+33, RT TO STA. 3965+91, RT
STA. 3565+76, LT TO STA. 3567+07, LT
STA. 3568+20, LT TO STA. 3568+82, LT



NOTES:
1. ALL EXISTING GUARDRAIL TO BE RETAINED UNLESS OTHERWISE INDICATED.
2. ALL SIGNS ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.
3. DELINEATORS WITHIN CONSTRUCTION LIMITS SHALL BE REPLACED PER VTRANS STANDARD DRAWINGS T-40 AND T-43. DELINEATORS MAY BE SALVAGED AT THE DISCRETION OF THE RESIDENT ENGINEER.

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568bdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
LAYOUT SHEETS 1	SHEET 17 OF 112

REMOVAL OF EXISTING FENCE
STA. 3974+61 TO STA. 3974+62, LT
STA.59+59 TO STA. 62+19, RT

CHAIN LINK FENCE
STA. 3974+61 TO STA. 3974+62, LT
STA. 59+59 TO STA. 60+23, RT
STA. 61+87 TO STA. 62+19, RT

CAST-IN-PLACE CONCRETE CURB, TYPE B
STA. 3974+92, LT TO STA. 3975+07, LT
STA. 3974+65, RT TO STA. 3974+80, RT
STA. 3976+66, LT TO STA. 3977+28, LT
STA. 3976+40, RT TO STA. 3977+33, RT
STA. 3574+47, LT TO STA. 3574+62, LT
STA. 3574+28, RT TO STA. 3574+43, RT
STA. 3576+22, LT TO STA. 3576+37, LT
STA. 3576+02, RT TO STA. 3576+51, RT

AGGREGATE SURFACE COURSE
STA. 3973+85 TO STA. 3975+22, LT
STA. 3973+32 TO STA. 3974+80, RT
STA. 3976+52 TO STA. 3978+26, LT
STA. 3976+40 TO STA. 3980+83, RT
STA. 59+19 TO STA. 61+37, LT
STA. 3569+54 TO STA. 3574+62, LT
STA. 3572+12 TO STA. 3574+57, RT
STA. 3576+22 TO STA. 3577+39, LT
STA. 3575+87 TO STA. 3577+97, RT

STEEL BEAM GUARDRAIL
STA. 3973+85 TO STA. 3974+10 (TRANSITION HSD-621.07F), LT
STA. 3974+10 TO STA. 3974+51 (HSD-621.07A), LT
STA. 3974+51 TO STA. 3974+89 (HSD-621.07A) 8 FOOT POSTS, LT
STA. 3974+89 TO STA. 3975+07 (STANDARD S-351C), LT
STA. 3973+64 TO STA. 3974+63 (HSD-621.07A), RT
STA. 3974+63 TO STA. 3974+81 (STANDARD S-351C), RT
STA. 3976+65 TO STA. 3976+83 (STANDARD S-351C), LT
STA. 3976+83 TO STA. 3977+16 (HSD-621.07A) 8 FOOT POSTS, LT
STA. 3977+16 TO STA. 3978+00 (HSD-621.07A), LT
STA. 3978+00 TO STA. 3978+25 (TRANSITION HSD-621.07F), LT
STA. 3976+40 TO STA. 3976+58 (STANDARD S-351C), RT
STA. 3976+58 TO STA. 3980+83 (HSD-621.07A), RT
STA. 59+47 TO STA. 61+12 (HSD-621.07A), LT
STA. 61+12 TO STA. 61+37 (TRANSITION HSD-621.07F), LT

ANCHOR FOR STEEL BEAM GUARDRAIL, MGS
STA. 59+47, LT
STA. 3577+56, RT
STA. 3973+64, RT

MTS, MGS, TANGENT, TL-3
STA. 3569+54 TO STA. 3570+04, LT
STA. 3576+39 TO STA. 3576+89, LT

SLOPE PAVING
STA. 59+75 TO STA. 61+25, LT
STA. 60+13 TO STA. 61+80, RT

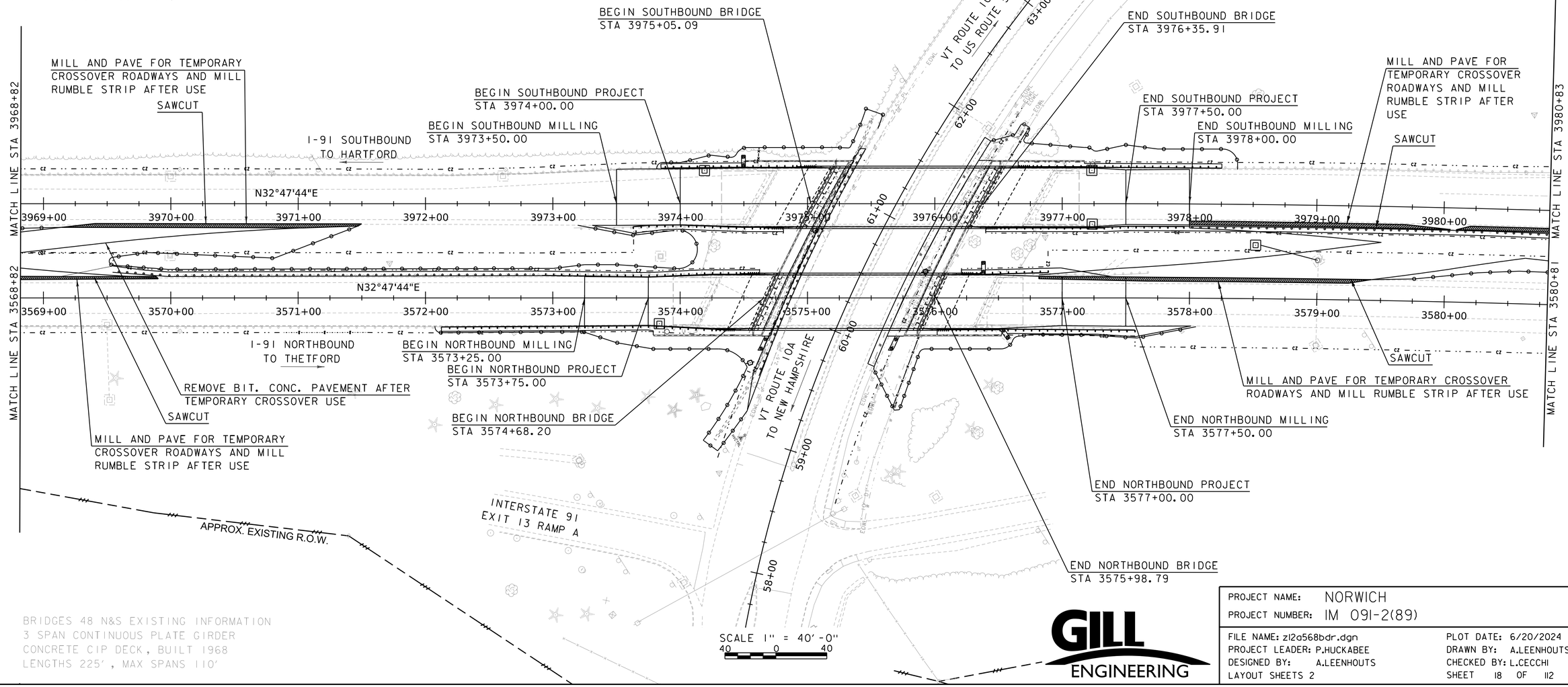
STEEL BEAM GUARDRAIL (CONTINUED)
STA. 3570+04 TO STA. 3574+44 (HSD-621.07A), LT
STA. 3574+44 TO STA. 3574+62 (STANDARD S-351C), LT
STA. 3572+12 TO STA. 3572+37 (TRANSITION HSD-621.07F), RT
STA. 3572+37 TO STA. 3573+79 (HSD-621.07A), RT
STA. 3573+79 TO STA. 3574+25 (HSD-621.07A) 8 FOOT POSTS, RT
STA. 3574+25 TO STA. 3574+43 (STANDARD S-351C), RT
STA. 3576+21 TO STA. 3576+39 (STANDARD S-351C), LT
STA. 3576+02 TO STA. 3576+20 (STANDARD S-351C), RT
STA. 3576+20 TO STA. 3576+53 (HSD-621.07A) 8 FOOT POSTS, RT
STA. 3576+53 TO STA. 3577+56 (HSD-621.07A), RT

REMOVAL OF GUARDRAIL
STA. 3973+85 TO STA. 3974+60, LT
STA. 3977+08 TO STA. 3978+25, LT
STA. 3973+16 TO STA. 3974+28, RT
STA. 3976+85 TO STA. 3981+48, RT
STA. 3569+54 TO STA. 3574+18, LT
STA. 3572+12 TO STA. 3573+94, RT
STA. 3576+61 TO STA. 3577+70, LT
STA. 3576+45 TO STA. 3577+56, RT
STA. 59+47 TO STA. 61+37, LT

MILLED RUMBLE STRIP, SHOULDER
STA. 3568+82, LT TO STA. 3569+90, LT
STA. 3969+30, RT TO STA. 3971+50, RT
STA. 3973+50, RT TO STA. 3979+70, RT
STA. 3573+25, LT TO STA. 3579+27, LT
STA. 3980+24, RT TO STA. 3980+83, RT

REMOVE AND RESET LIGHT POLE
STA. 60+74, RT
STA. 60+64, LT
STA. 59+39, LT TO 59+53, LT

BITUMINOUS CONCRETE SIDEWALK
STA. 59+86 TO STA. 61+93, RT



BRIDGES 48 N&S EXISTING INFORMATION
3 SPAN CONTINUOUS PLATE GIRDER
CONCRETE CIP DECK, BUILT 1968
LENGTHS 225', MAX SPANS 110'

GILL ENGINEERING

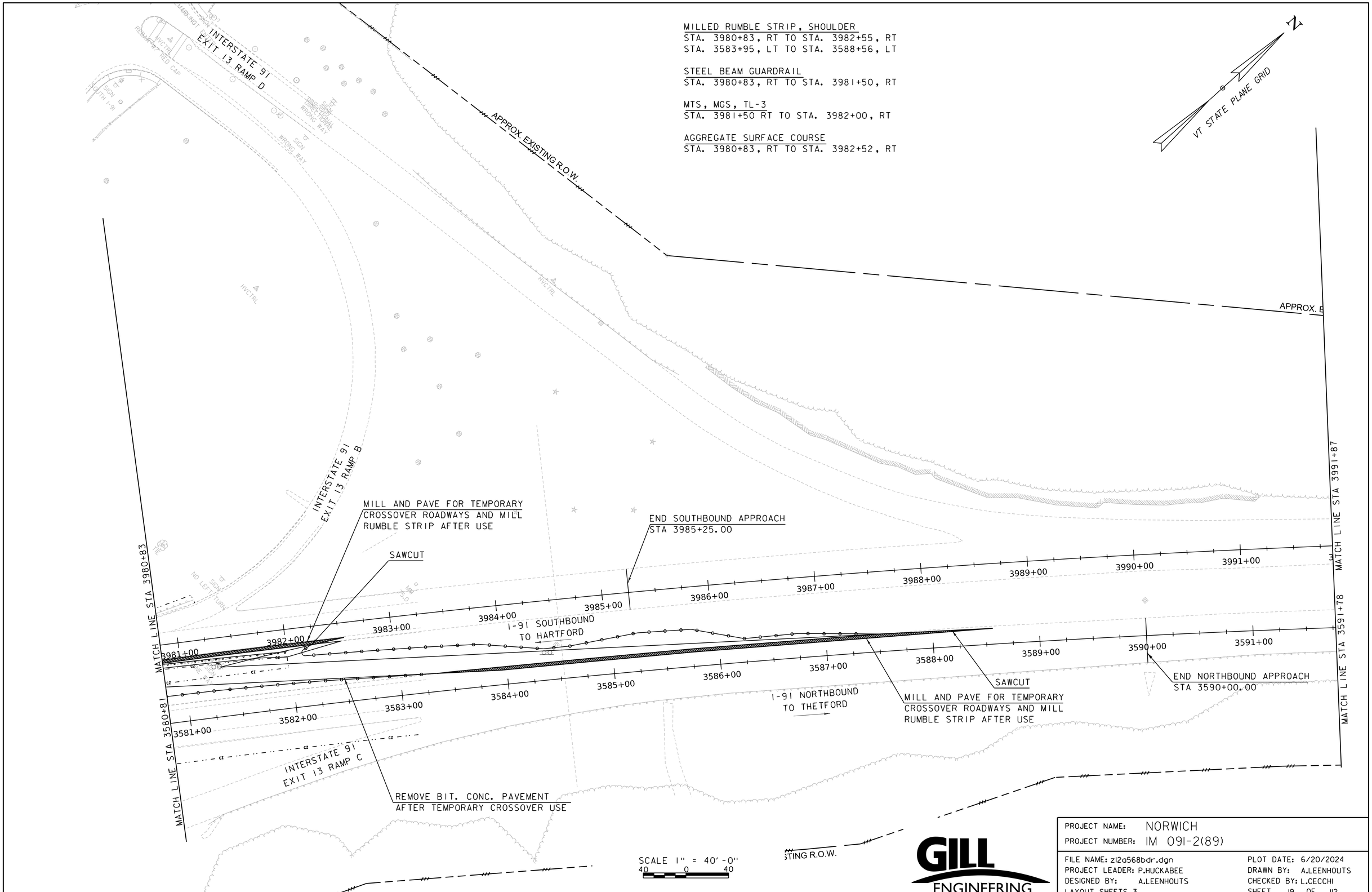
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568bdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
LAYOUT SHEETS 2	SHEET 18 OF 112

MILLED RUMBLE STRIP, SHOULDER
STA. 3980+83, RT TO STA. 3982+55, RT
STA. 3583+95, LT TO STA. 3588+56, LT

STEEL BEAM GUARDRAIL
STA. 3980+83, RT TO STA. 3981+50, RT

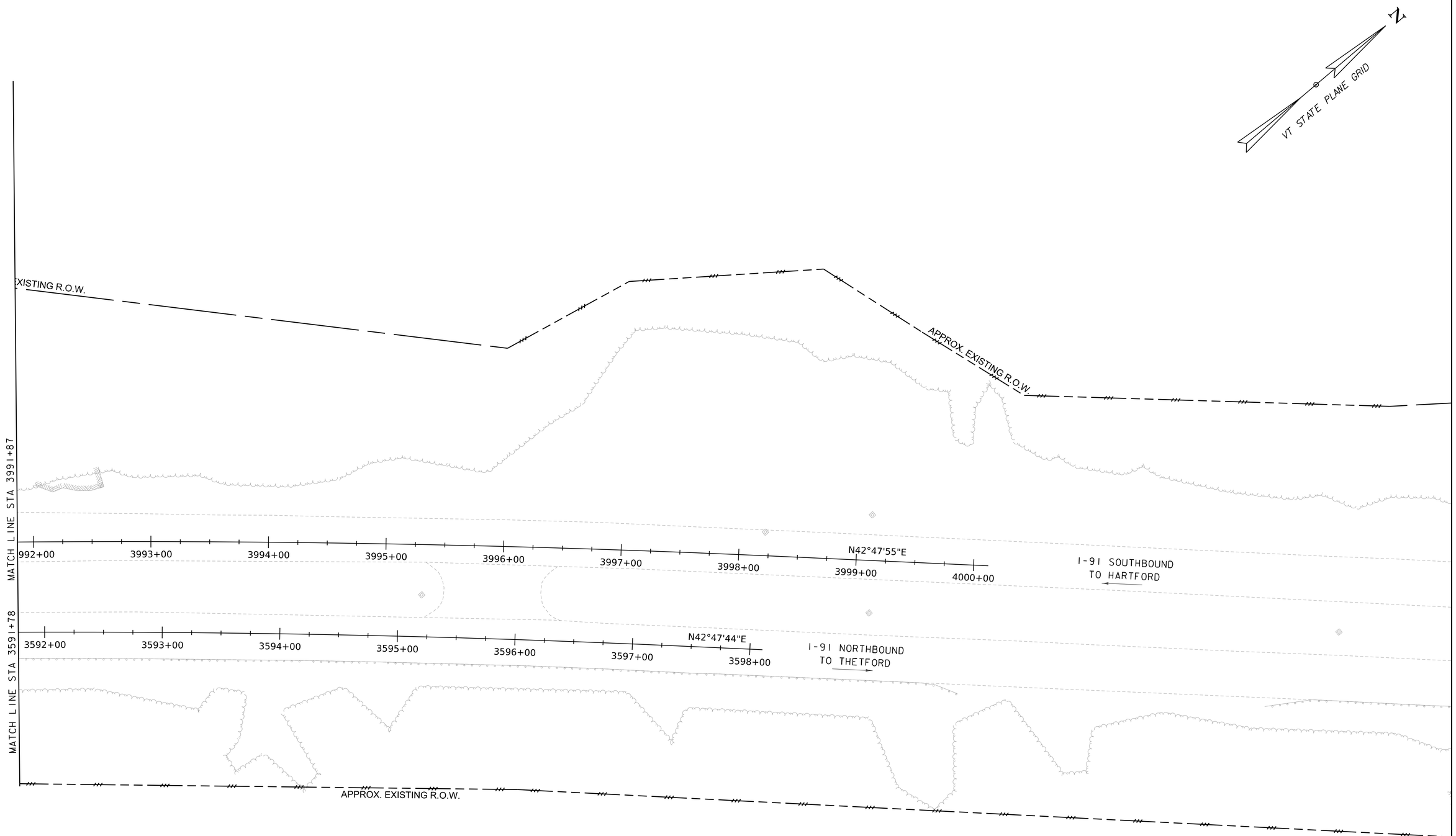
MTS, MGS, TL-3
STA. 3981+50 RT TO STA. 3982+00, RT

AGGREGATE SURFACE COURSE
STA. 3980+83, RT TO STA. 3982+52, RT



GILL ENGINEERING

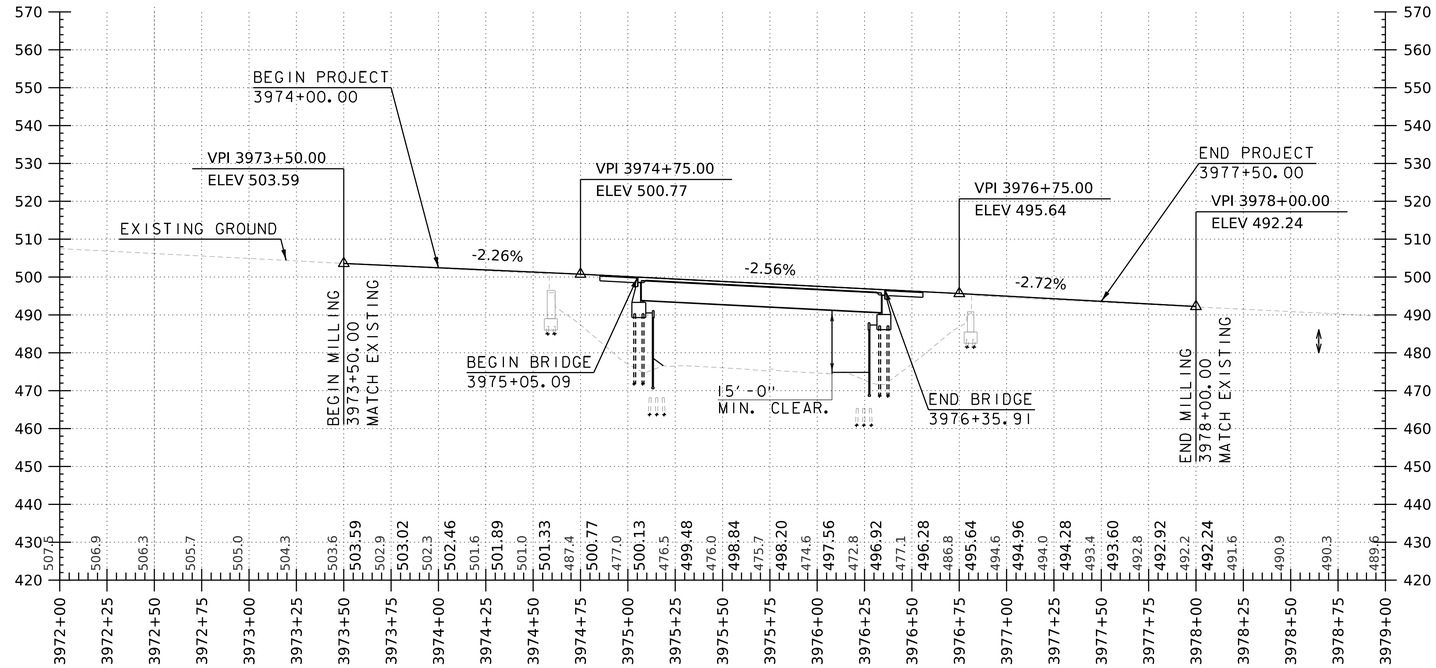
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568bdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
LAYOUT SHEETS 3	SHEET 19 OF 112



SCALE 1" = 40'-0"
40 0 40

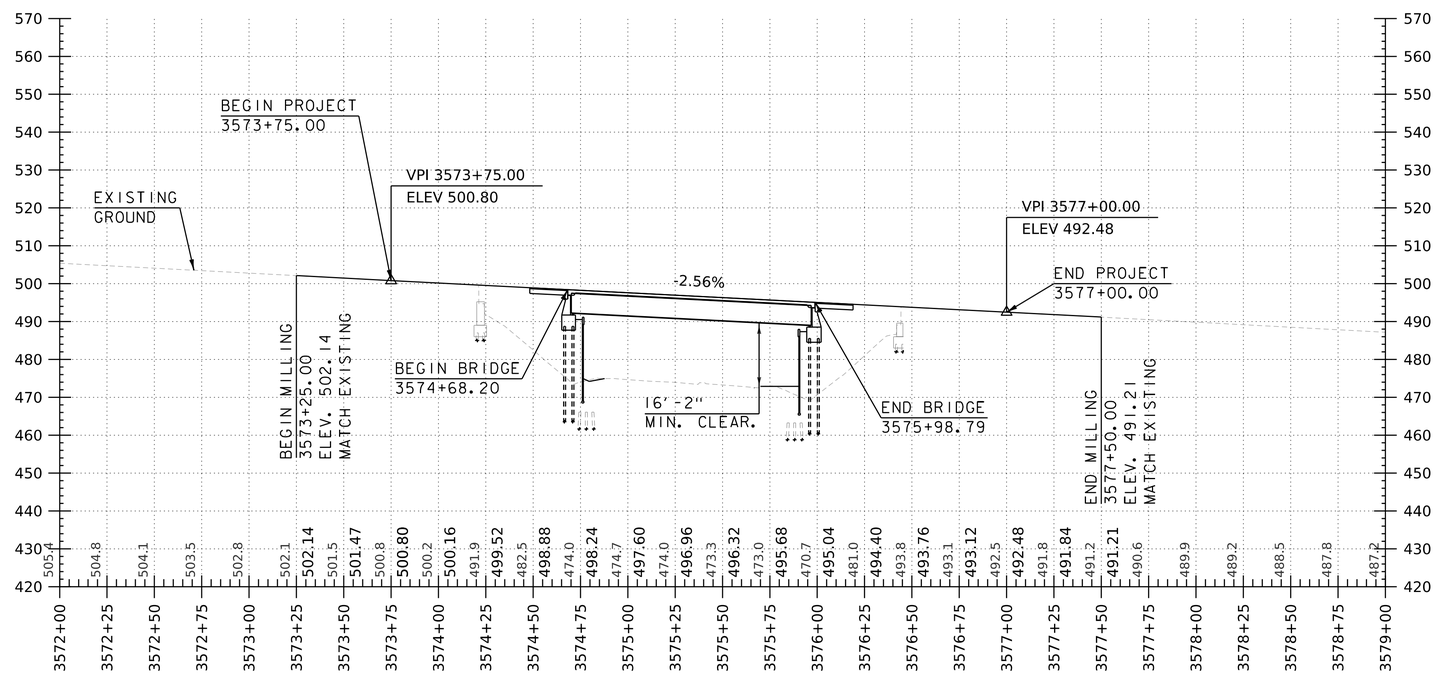
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568bdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
LAYOUT SHEETS 4	SHEET 20 OF 112



I-91 SOUTHBOUND PROFILE

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'



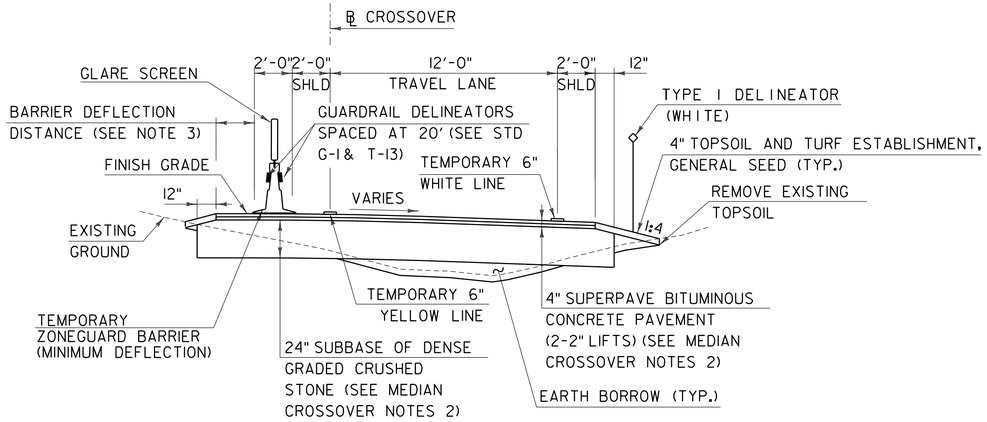
I-91 NORTHBOUND PROFILE

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'

NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

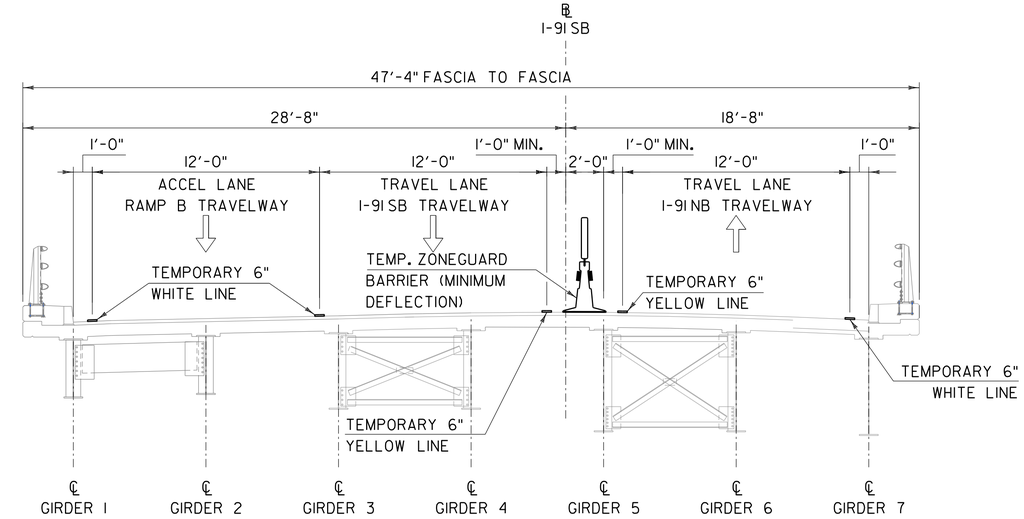
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568profile.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
PROFILE SHEET	SHEET 21 OF 112



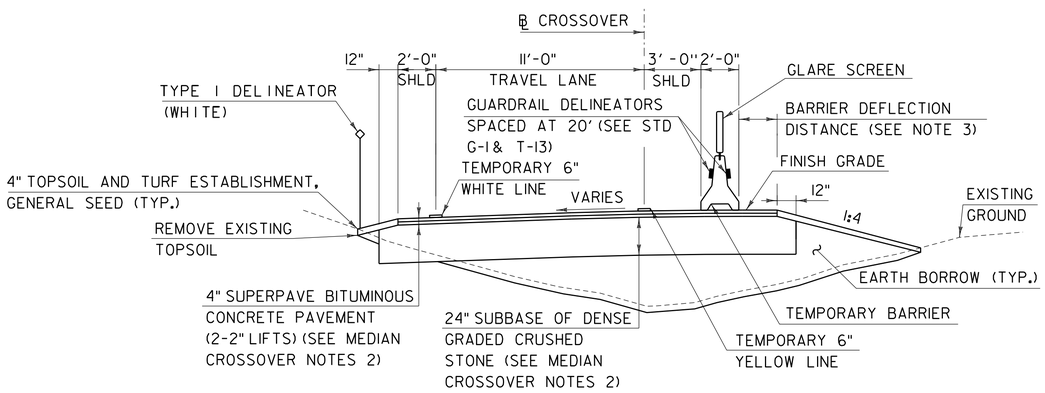
NORTHBOUND MEDIAN CROSSOVER TYPICAL

NOT TO SCALE



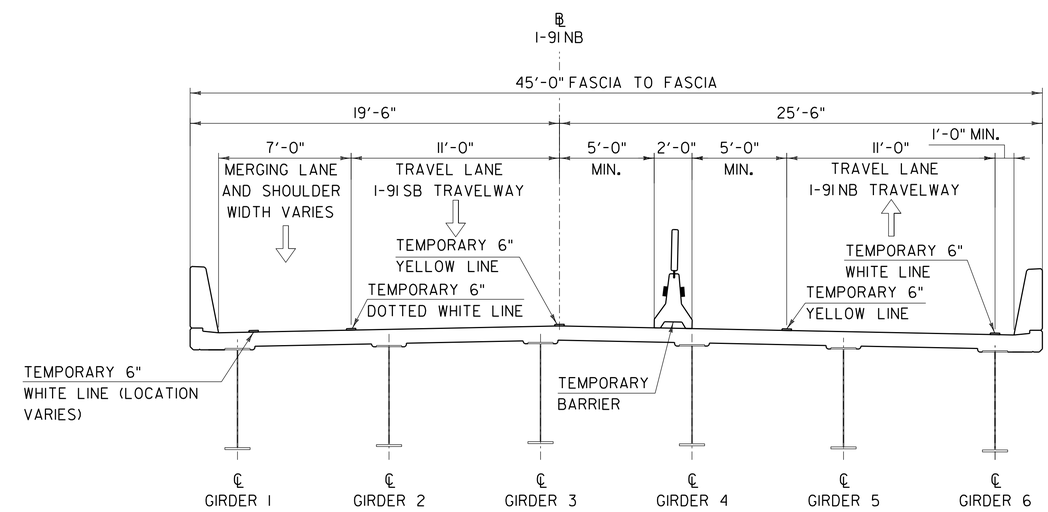
NORTHBOUND CROSSOVER TYPICAL - SB BRIDGE

SCALE: 1/4" = 1'-0"



SOUTHBOUND MEDIAN CROSSOVER TYPICAL

NOT TO SCALE



SOUTHBOUND CROSSOVER TYPICAL - NB BRIDGE

SCALE: 1/4" = 1'-0"

MEDIAN CROSSOVER NOTES

1. REFLECTORS SHALL BE YELLOW FOR THE LEFT-HAND SIDE AND WHITE FOR THE RIGHT-HAND SIDE OF THE CROSSOVERS. REFLECTORS SHALL BE INCIDENTAL TO ITEM 621.90 TEMPORARY TRAFFIC BARRIER. REFLECTORS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC, WITH YELLOW ON THE DRIVER'S LEFT AND WHITE ON THE DRIVER'S RIGHT.

2. BITUMINOUS CONCRETE PAVEMENT, EXCAVATION, FILL MATERIALS AND SUBBASE MATERIALS REQUIRED TO CONSTRUCT TEMPORARY MEDIAN CROSSOVER SHALL BE PAID FOR AS ITEM 641.0002 TEMPORARY ROADWAY (NORTHBOUND CROSSOVER) OR ITEM 641.0002 TEMPORARY ROADWAY (SOUTHBOUND CROSSOVER).

3. LEVEL AREA BEHIND BARRIER MUST BE AT LEAST THE DEFLECTION DISTANCE OF THE BARRIER SYSTEM BASED ON NCHRP 350 OR MASH TESTING. DEFLECTION OF THE TEMPORARY BARRIER MUST NOT ENCROACH INTO ONCOMING LANE, ANCHORING MAY BE NECESSARY.

4. TEMPORARY BARRIER SHALL BE ADEQUATELY ANCHORED TO LIMIT DEFLECTION TO THE AVAILABLE SHOULDER WIDTH. ANCHORS IN THE BRIDGE DECKS SHALL BE LOCATED TO AVOID DECK REINFORCEMENT. FILL ANCHORAGE HOLES WITH AN APPROVED GROUT AFTER THE BARRIER IS REMOVED.

5. THE RUMBLE STRIPS SHALL BE MILLED A DEPTH OF 1½", PAVED IN WITH TYPE IV SUPERPAVE AND THEN NEW RUMBLE STRIPS INSTALLED AFTER THE BRIDGE WORK IS COMPLETE.

6. WHEN TRAFFIC IS REQUIRED TO TRAVEL "AGAINST" THE OVERLAP OF THE EXISTING GUARDRAIL, THE CONTRACTOR SHALL REMOVE AND REASSEMBLE THE RAIL WITH THE LAP CHANGE TO GO "WITH" THE FLOW OF TRAFFIC. IT SHALL BE RETURNED TO ITS ORIGINAL LAP WHEN THE LANE IS AGAIN OPENED TO THE ORIGINAL DIRECTION OF TRAVEL.

LEFT	PLEASE
LANE	MERGE
CLOSED	EARLY

PCMS - MESSAGES

PCMS NOTE:
PORTABLE CHANGEABLE MESSAGE BOARDS TO BE LOCATED 1.5 MILES PRIOR TO MERGING TAPERS.

PORTABLE SIGN NOTE:
PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE 5' ABOVE THE ROADWAY.

GENERAL TRAFFIC CONTROL NOTES

1. THE EXISTING SPEED LIMIT ON I-91 IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 55 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED. ALL OTHER EXISTING SIGNS IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL CONDITIONS SHALL BE REMOVED OR COMPLETELY COVERED. A RESUME SPEED LIMIT SIGN SHALL BE POSTED AT THE END OF THE WORK ZONE.

SIGN COVERING SHALL NOT DAMAGE THE RETRO-REFLECTIVITY OF THE SIGN FACE. ALSO THE SIGN COVER SHALL NOT DETERIORATE FOR THE DURATION THAT THE SIGN IS COVERED.

CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD, OR ANY OTHER MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANELS SHALL BE DONE IN SUCH AS WAY AS TO NOT DAMAGE THE SIGN FACE MATERIAL.

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568tsnotes.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
TRAFFIC CONTROL NOTES AND SECTIONS

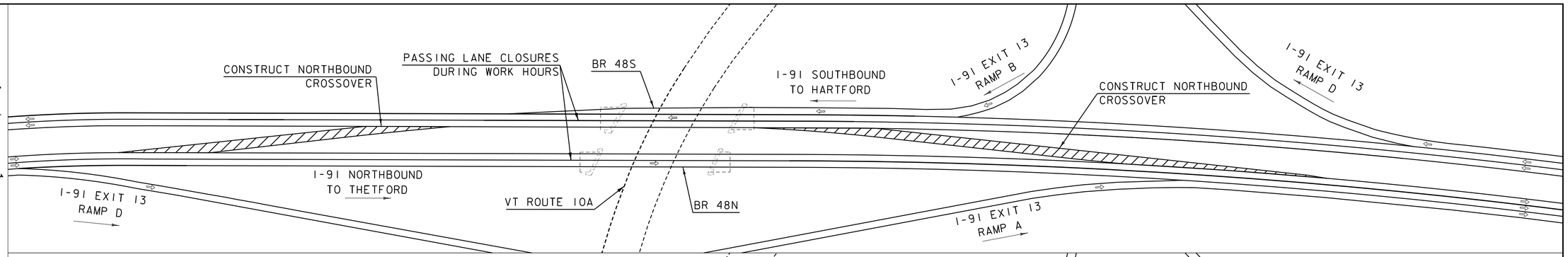
PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L.CECCHI
SHEET 22 OF 112

PHASE 1

NORTHBOUND CROSSOVERS

- WITH PASSING LANE CLOSURES DURING WORK HOURS CONSTRUCT NORTHBOUND CROSSOVERS.

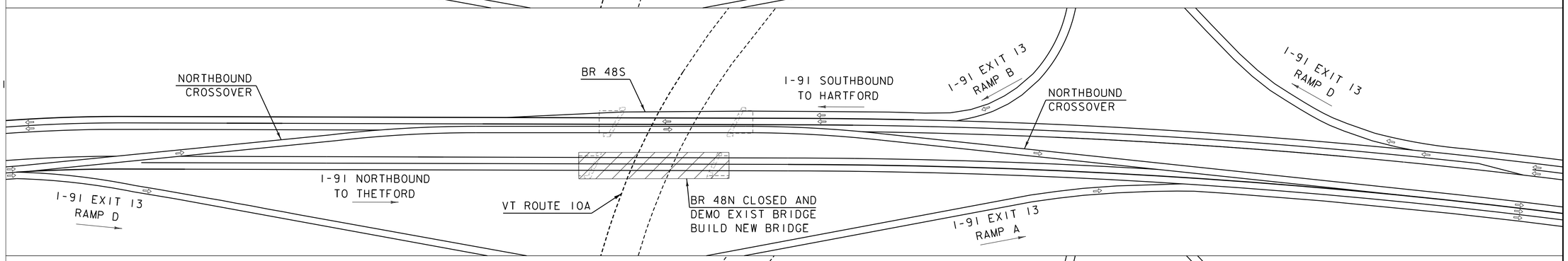
NOTE: FILL SECTIONS TO REMAIN IN PLACE AT COMPLETION OF WORK. RECOMMEND COMPLETING FILL FOR PHASE 1 AND PHASE 3 IN ONE OPERATION.



PHASE 2

BRIDGE 48N DEMOLITION & CONSTRUCTION

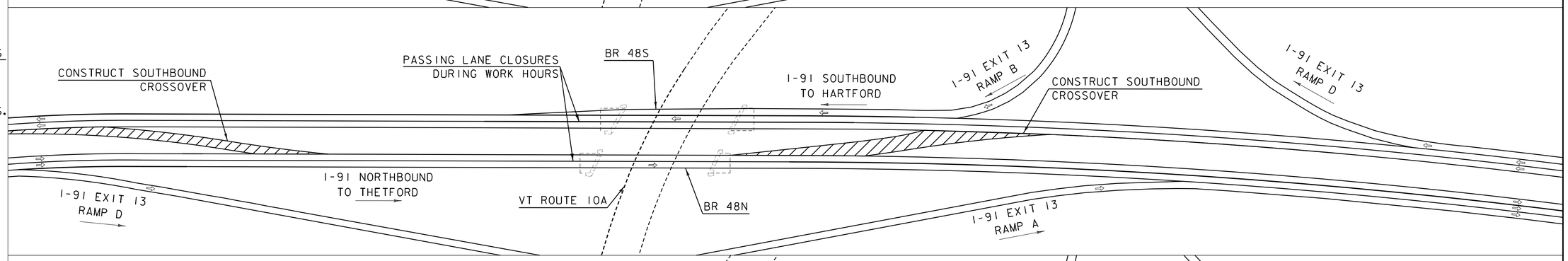
- WITH TRAFFIC ON I-91 NORTHBOUND MEDIAN CROSSOVERS CONSTRUCT NEW BRIDGE 48N.



PHASE 3

SOUTHBOUND CROSSOVERS

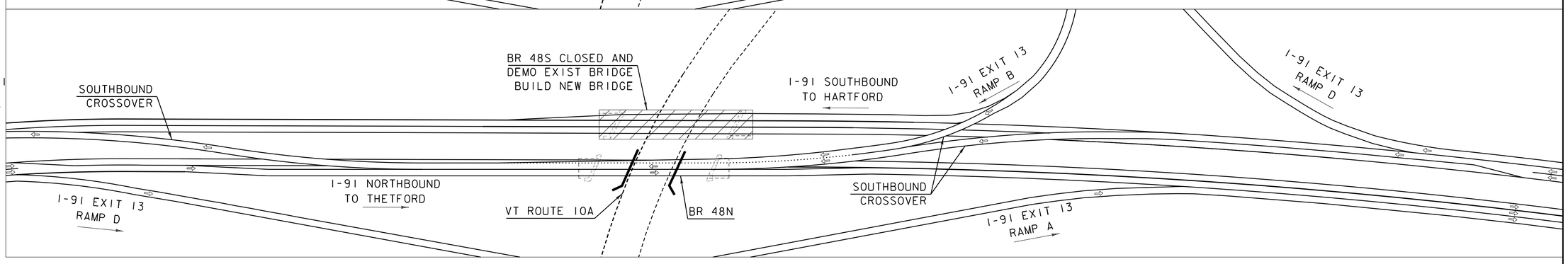
- WITH PASSING LANE CLOSURES DURING WORK HOURS CONSTRUCT SOUTHBOUND CROSSOVERS.



PHASE 4

BRIDGE 48S DEMOLITION & CONSTRUCTION

- WITH TRAFFIC ON I-91 SOUTHBOUND MEDIAN CROSSOVERS CONSTRUCT NEW BRIDGE 48S.



PHASE 5

CROSSOVER REMOVAL AND PAVEMENT MARKINGS

- WITH PASSING LANE CLOSURES DURING WORK HOURS REMOVE SOUTHBOUND CROSSOVER PAVEMENT, INSTALL MEDIAN GUARDRAIL, RUMBLE STRIPS, REINSTALL DELINEATORS, TURF ESTABLISHMENT, AND PAVEMENT MARKINGS.

GENERAL PHASING NOTES

- THIS PHASING PLAN IS SCHEMATIC ONLY AND SHOULD BE USED AS A REFERNCE. SCHEMATIC NOT DRAWN TO SCALE. SEE TRAFFIC CONTROL PLANS FOR MORE DETAILS.

LEGEND

AREA OF CONSTRUCTION ACTIVITY

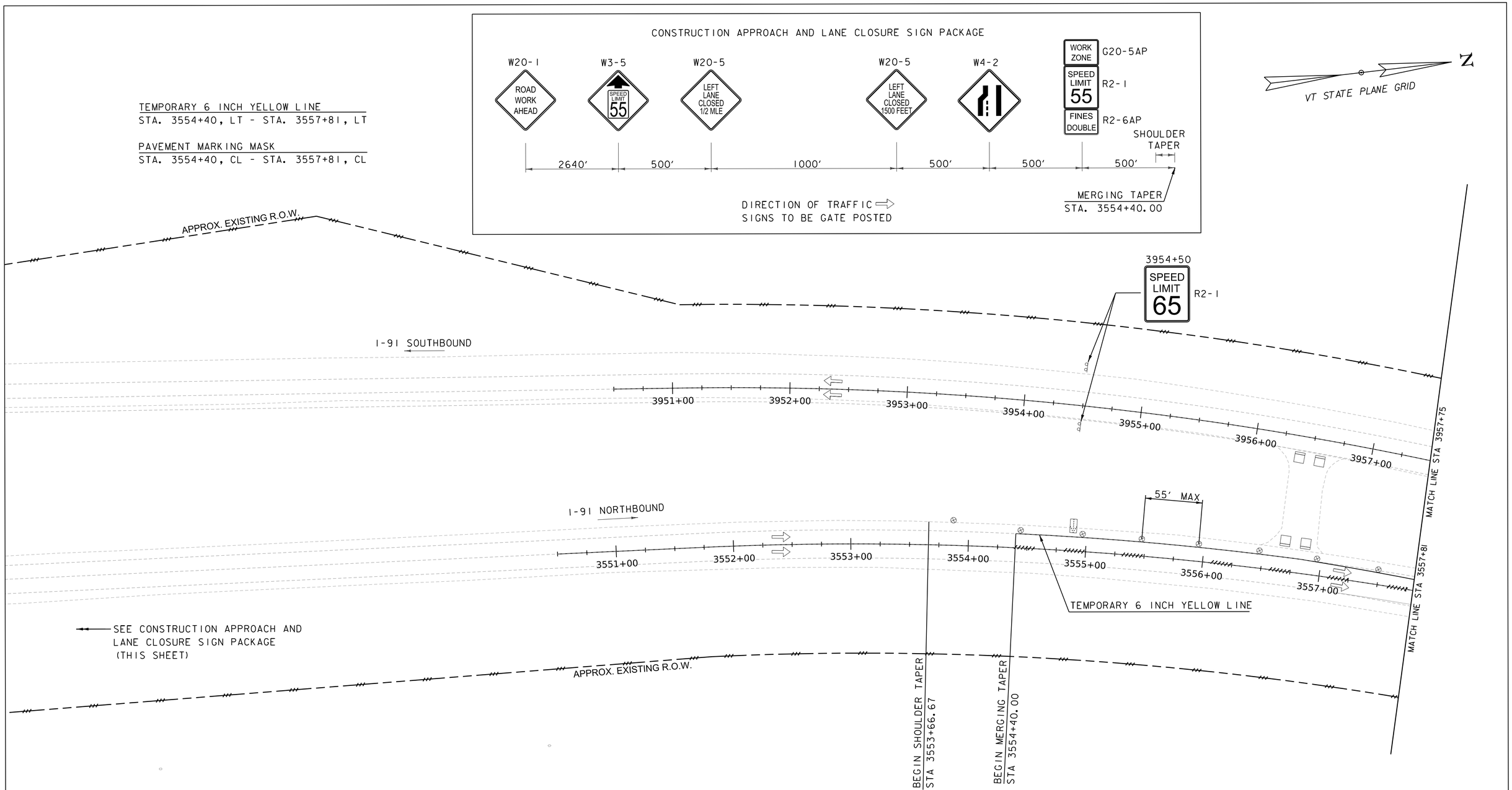
DIRECTION OF TRAVEL

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568tsphasing.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASING PLAN	SHEET 23 OF 112

TEMPORARY 6 INCH YELLOW LINE
STA. 3554+40, LT - STA. 3557+81, LT

PAVEMENT MARKING MASK
STA. 3554+40, CL - STA. 3557+81, CL



LEGEND:

- TEMPORARY TRAFFIC BARRIER
- PORTABLE ARROW BOARD
- RETROREFLECTIVE PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC
- TYPE I DELINEATOR (YELLOW)
- TYPE I DELINEATOR (WHITE)

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568NBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 1	SHEET 24 OF 112

*TEMPORARY TRAFFIC BARRIER SHALL BE
ZONE GUARD (MINIMUM DEFLECTION)

*TEMPORARY TRAFFIC BARRIER
STA. 3968+50, RT - STA. 3968+82, RT

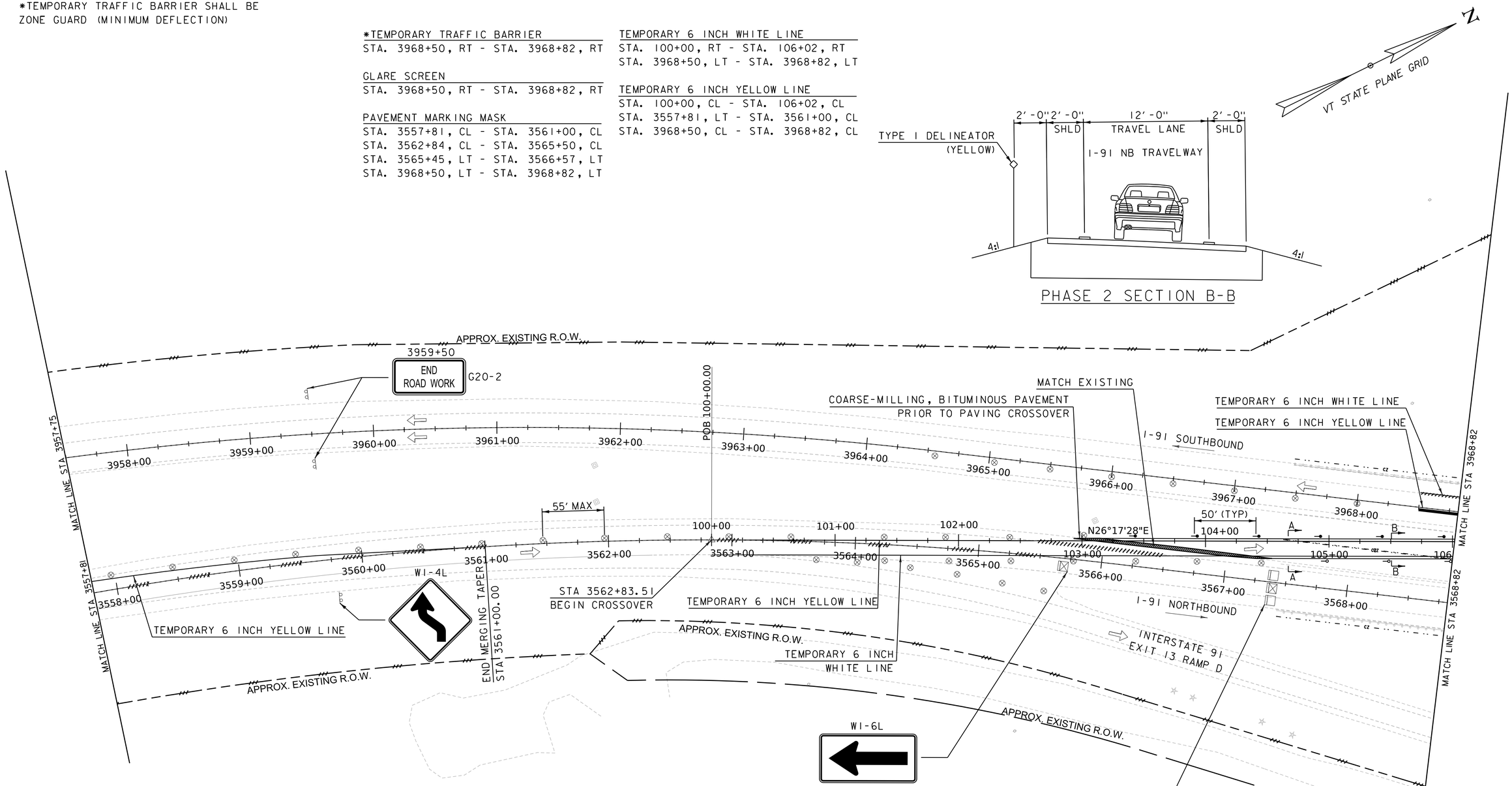
GLARE SCREEN
STA. 3968+50, RT - STA. 3968+82, RT

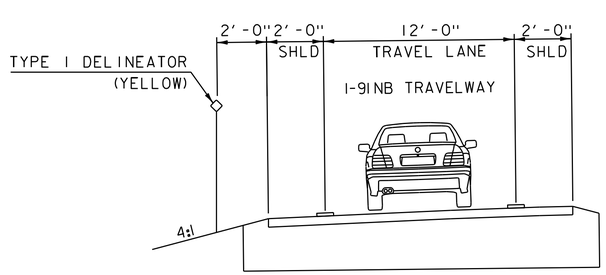
PAVEMENT MARKING MASK
STA. 3557+81, CL - STA. 3561+00, CL
STA. 3562+84, CL - STA. 3565+50, CL
STA. 3565+45, LT - STA. 3566+57, LT
STA. 3968+50, LT - STA. 3968+82, LT

TEMPORARY 6 INCH WHITE LINE
STA. 100+00, RT - STA. 106+02, RT
STA. 3968+50, LT - STA. 3968+82, LT

TEMPORARY 6 INCH YELLOW LINE
STA. 100+00, CL - STA. 106+02, CL
STA. 3557+81, LT - STA. 3561+00, CL
STA. 3968+50, CL - STA. 3968+82, CL

PHASE 2 SECTION B-B





PHASE 2 SECTION A-A

TRAFFIC CONTROL NOTES:
THE TEMPORARY BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568NBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 2	SHEET 25 OF 112

TEMPORARY 6 INCH WHITE LINE
STA. 106+02, RT - STA. 118+04, RT
STA. 3968+82, LT - STA. 3980+50, LT
STA. 3972+19, LT - STA. 3978+79, LT (DOTTED)
STA. 3978+79, LT - STA. 3980+50, LT

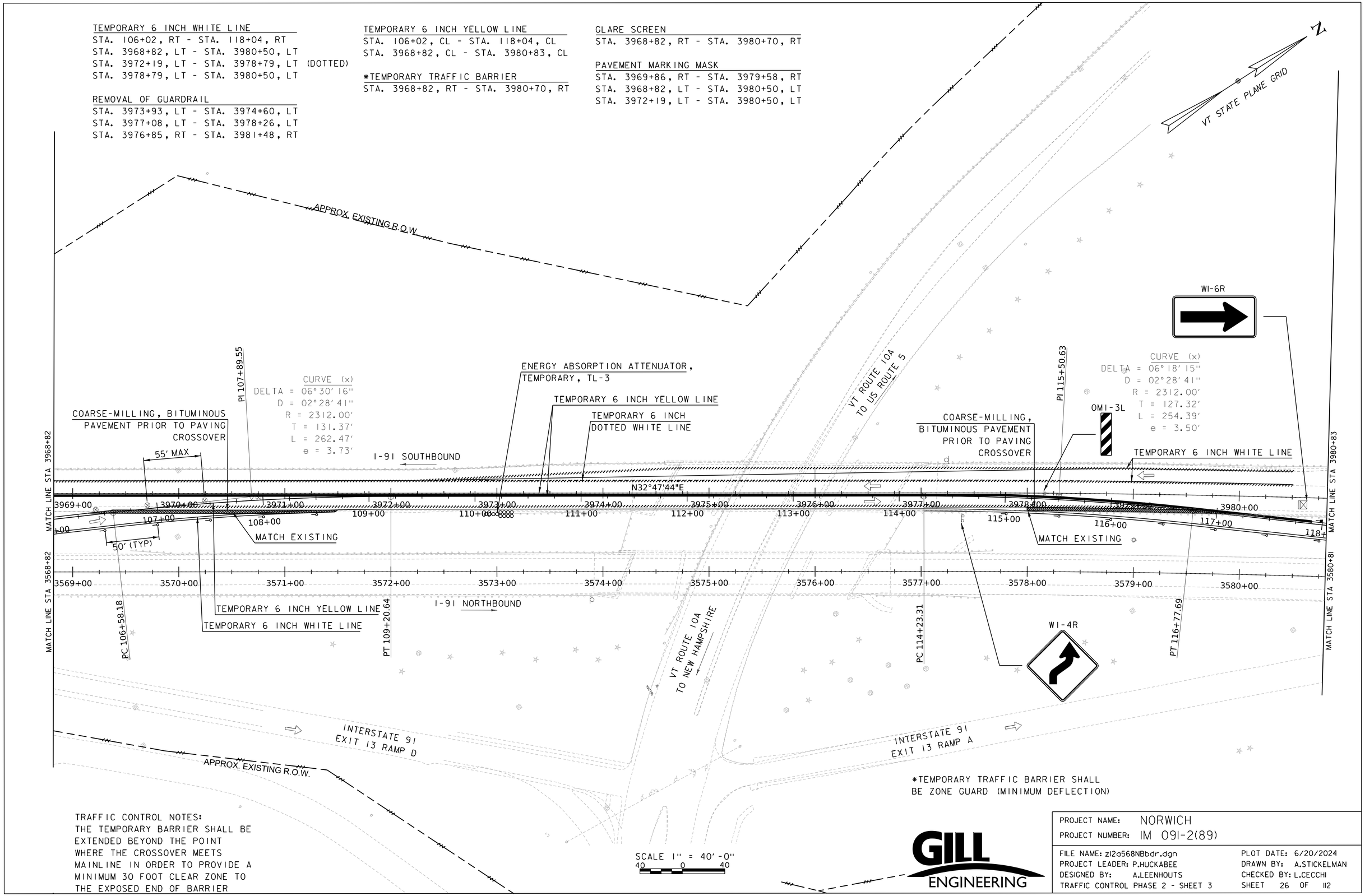
REMOVAL OF GUARDRAIL
STA. 3973+93, LT - STA. 3974+60, LT
STA. 3977+08, LT - STA. 3978+26, LT
STA. 3976+85, RT - STA. 3981+48, RT

TEMPORARY 6 INCH YELLOW LINE
STA. 106+02, CL - STA. 118+04, CL
STA. 3968+82, CL - STA. 3980+83, CL

*TEMPORARY TRAFFIC BARRIER
STA. 3968+82, RT - STA. 3980+70, RT

GLARE SCREEN
STA. 3968+82, RT - STA. 3980+70, RT

PAVEMENT MARKING MASK
STA. 3969+86, RT - STA. 3979+58, RT
STA. 3968+82, LT - STA. 3980+50, LT
STA. 3972+19, LT - STA. 3980+50, LT



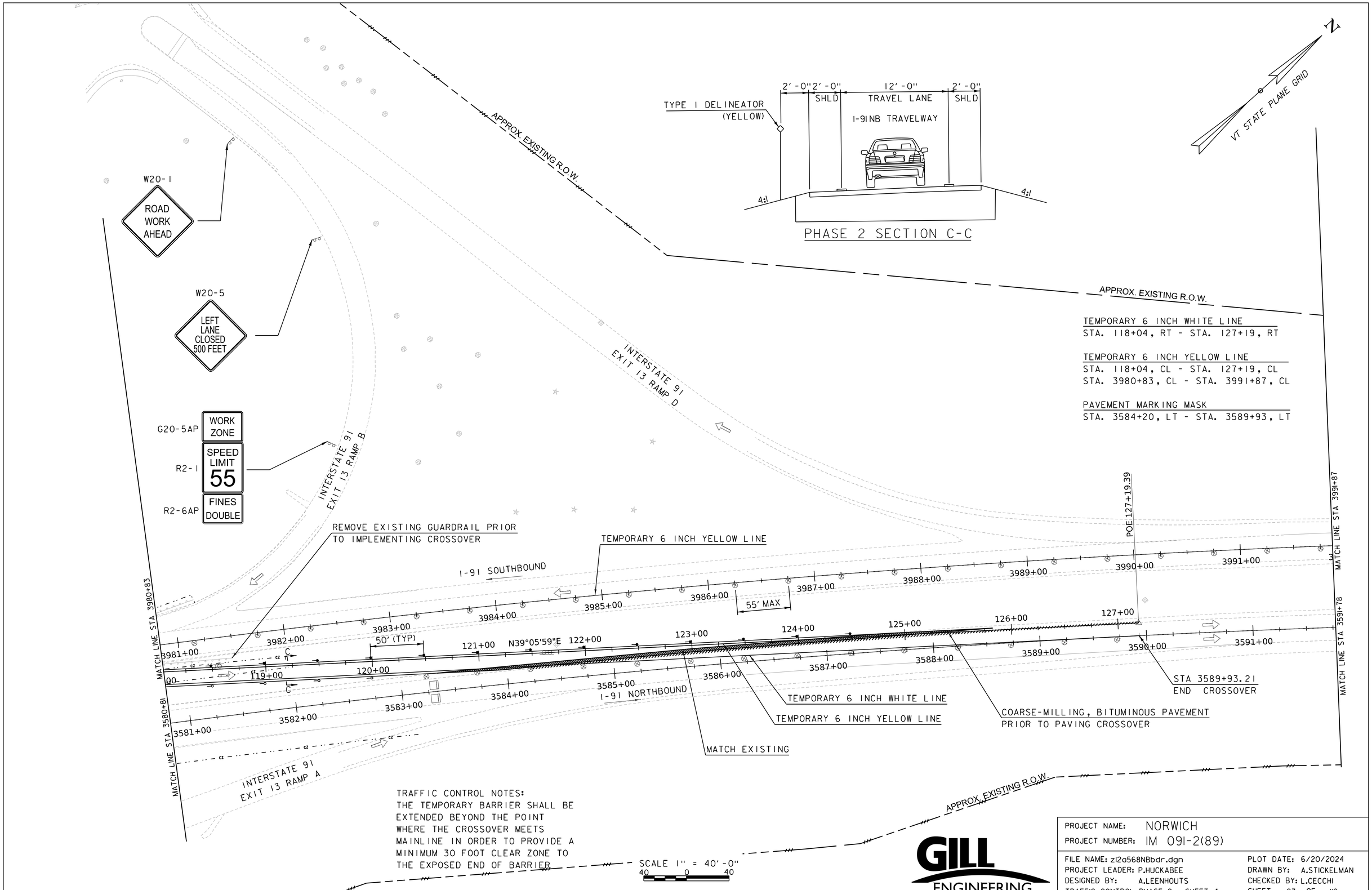
*TEMPORARY TRAFFIC BARRIER SHALL BE ZONE GUARD (MINIMUM DEFLECTION)

TRAFFIC CONTROL NOTES:
THE TEMPORARY BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568NBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 3	SHEET 26 OF 112



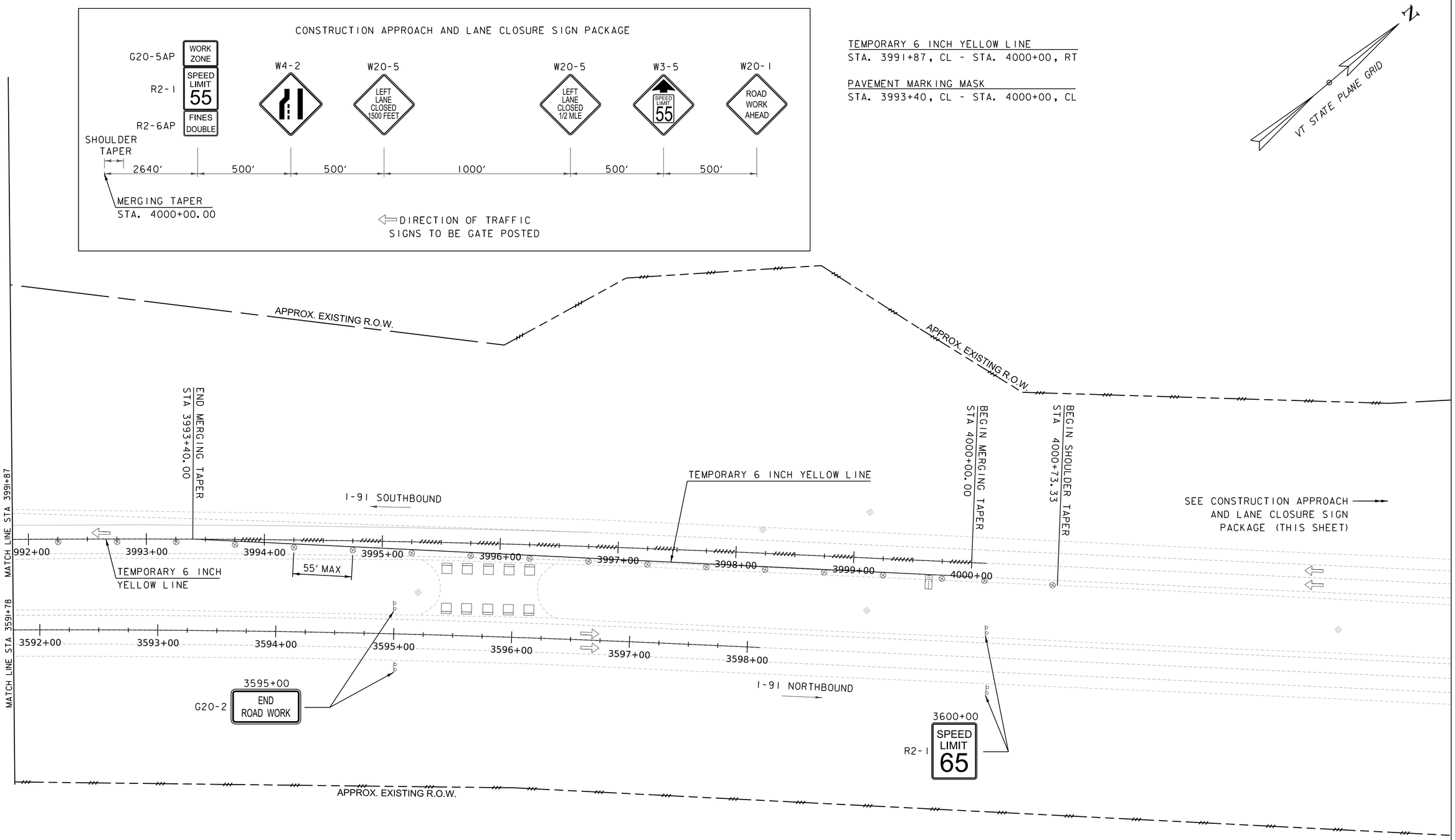
TRAFFIC CONTROL NOTES:
THE TEMPORARY BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568NBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 4	SHEET 27 OF 112

TEMPORARY 6 INCH YELLOW LINE
STA. 3991+87, CL - STA. 4000+00, RT

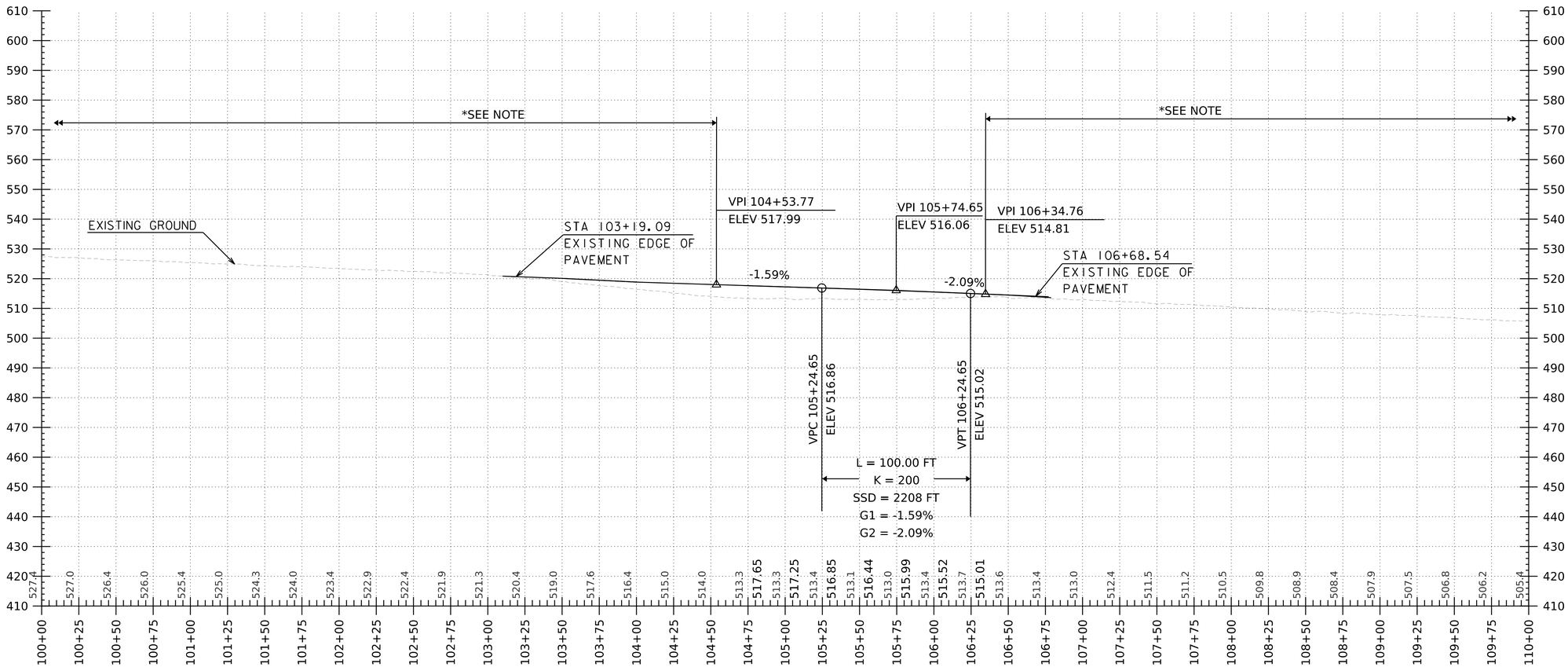
PAVEMENT MARKING MASK
STA. 3993+40, CL - STA. 4000+00, CL



SCALE 1" = 40'-0"
40 0 40

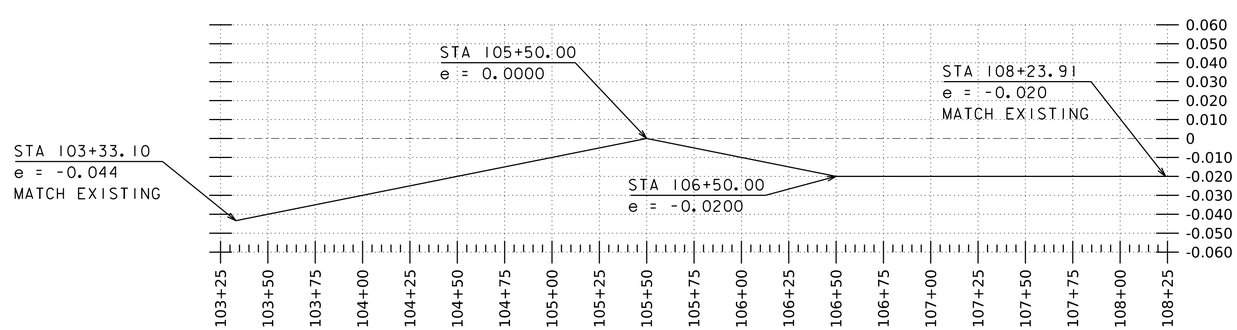
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568NBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 5	SHEET 28 OF 112



I-91 NORTHBOUND CROSSOVER PROFILE (SOUTH)

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'



I-91 NORTHBOUND CROSSOVER BANKING DIAGRAM (SOUTH)

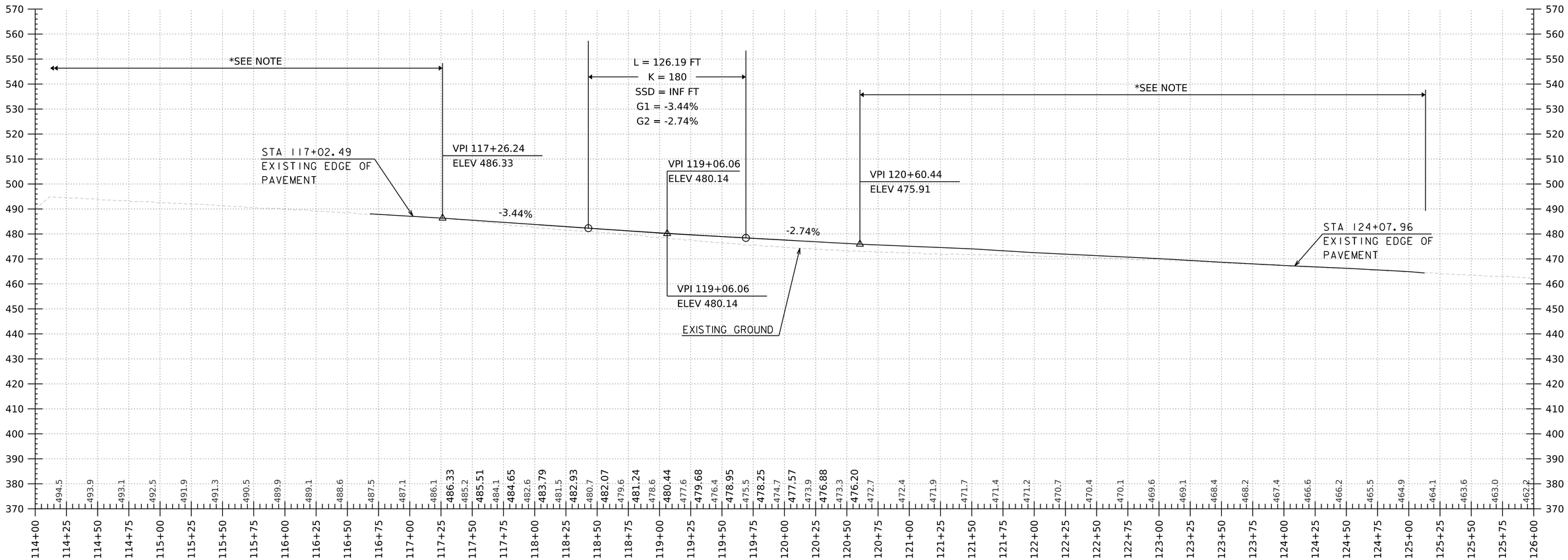
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'

NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

* PROFILE IS SHOWN FOR GRAPHICAL PURPOSES. TEMPORARY ROADWAY SHALL MEET EXISTING PAVEMENT. ℄ ESTABLISHED BY CROSS SLOPE FROM EXISTING ELEVATION.

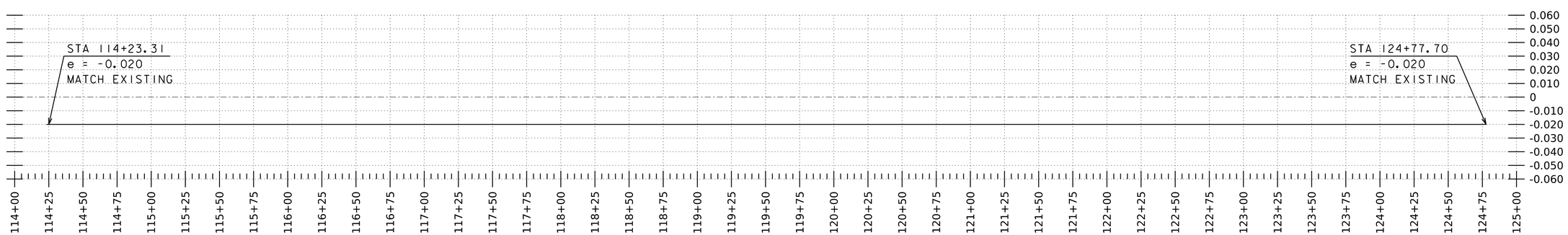
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568CrossoverProfile.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
TRAFFIC CONTROL PHASE 2 - SHEET 6	SHEET 29 OF 112



I-91 NORTHBOUND CROSSOVER PROFILE (NORTH)

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'



I-91 NORTHBOUND CROSSOVER BANKING DIAGRAM (NORTH)

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"= 0.040(4.00%)

NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

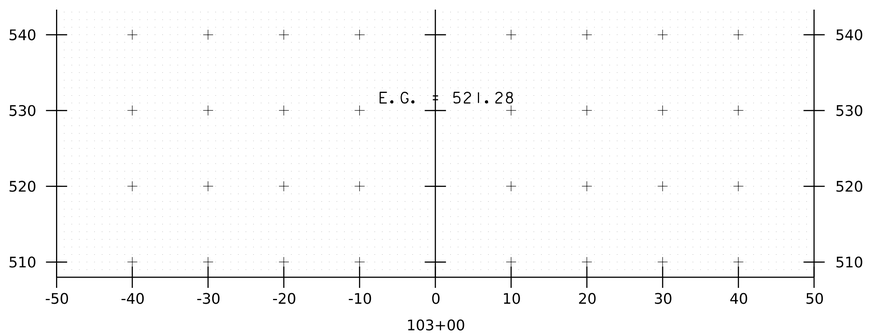
* PROFILE IS SHOWN FOR GRAPHICAL PURPOSES. TEMPORARY ROADWAY SHALL MEET EXISTING PAVEMENT. ℄ ESTABLISHED BY CROSS SLOPE FROM EXISTING ELEVATION.

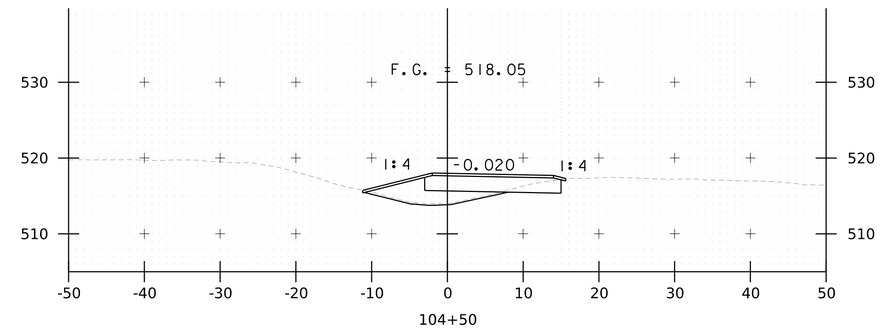
GILL ENGINEERING

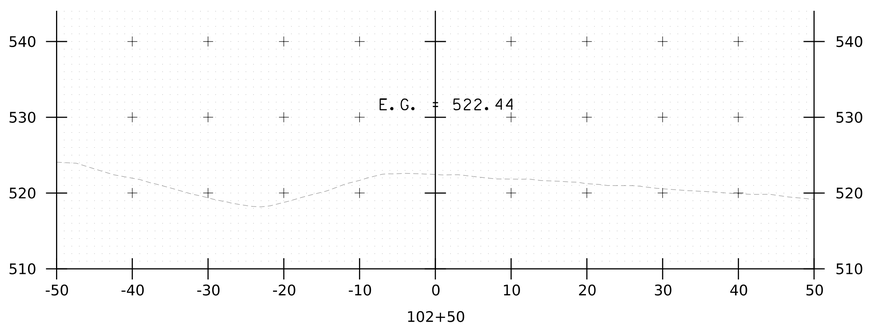
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

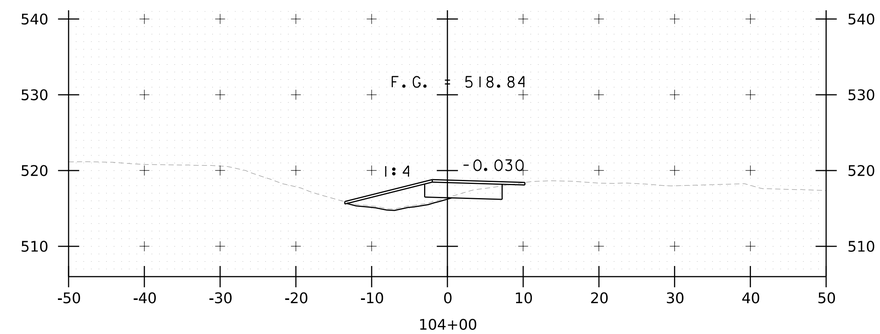
FILE NAME: z12a568CrossoverProfile.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
TRAFFIC CONTROL PHASE 2 - SHEET 7

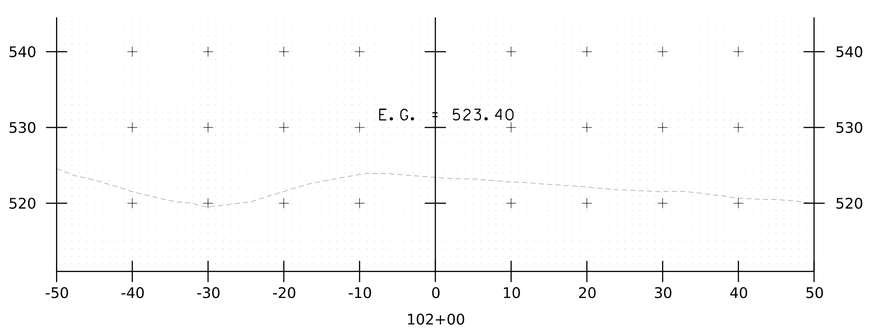
PLOT DATE: 6/20/2024
DRAWN BY: A.LEENHOUTS
CHECKED BY: L.CECCHI
SHEET 30 OF 112

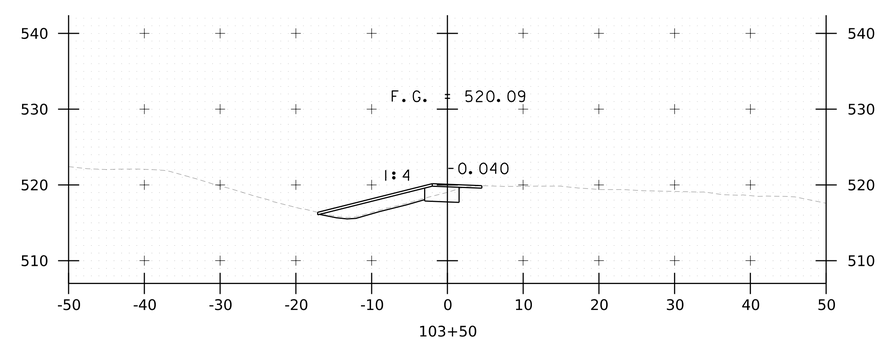








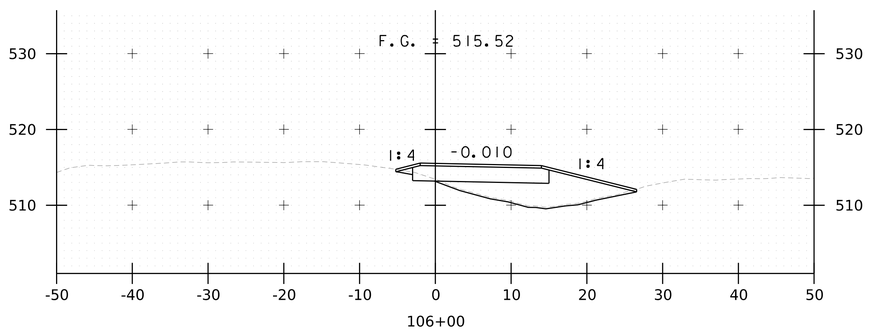


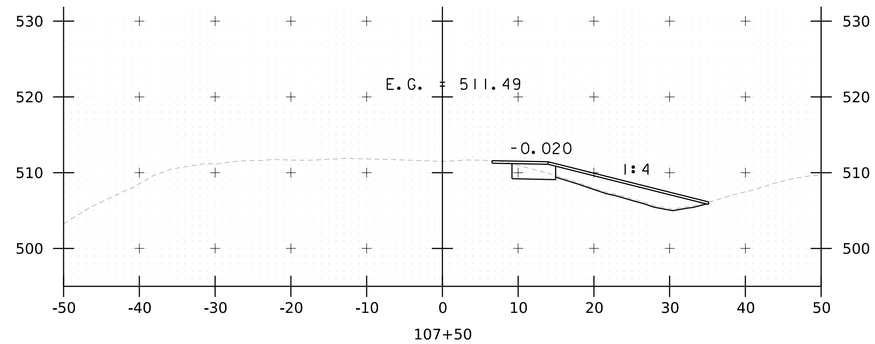


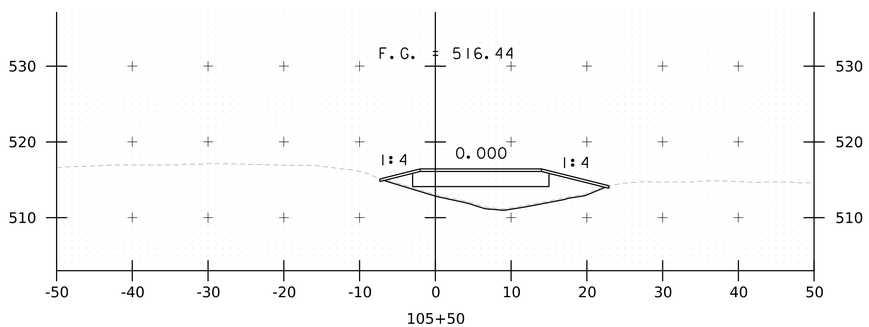
STA. 102+00 TO STA. 104+50

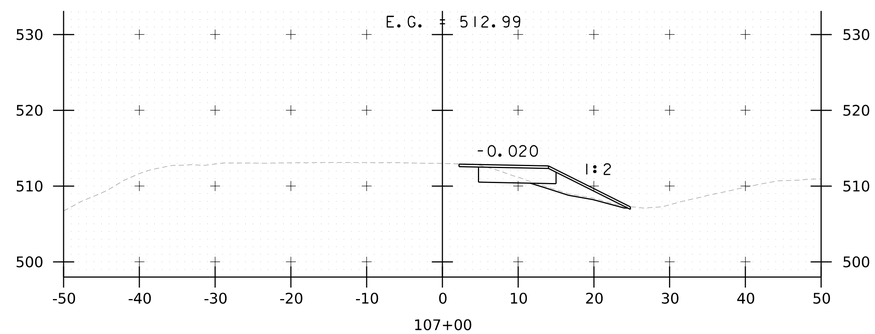
GILL ENGINEERING

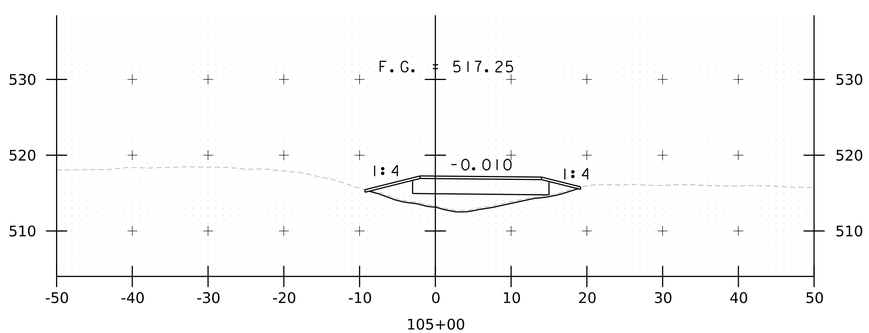
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 1	SHEET 31 OF 112

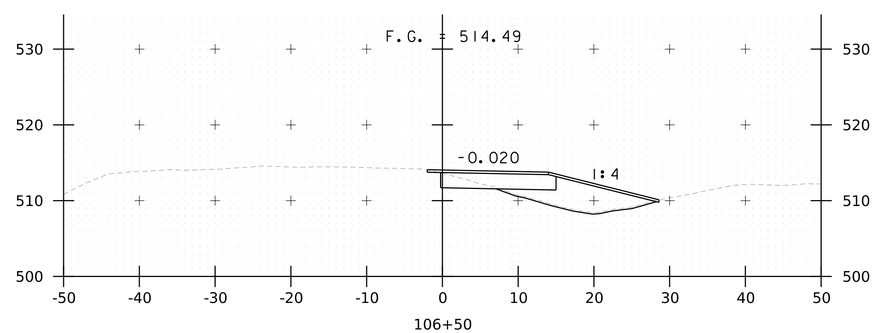








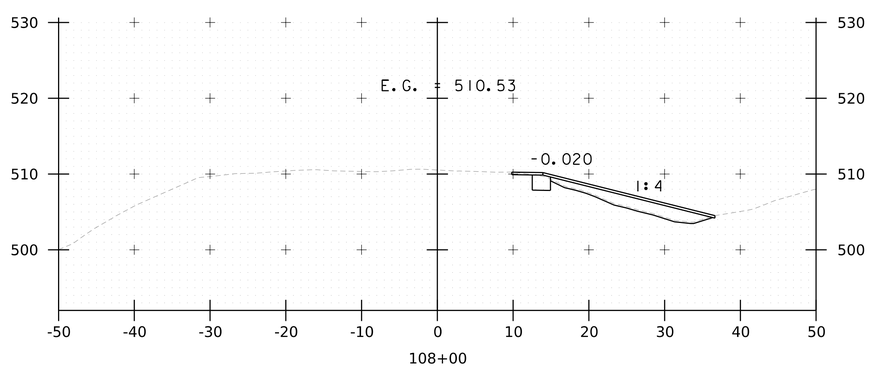




STA. 105+00 TO STA. 107+50

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 2	SHEET 32 OF 112



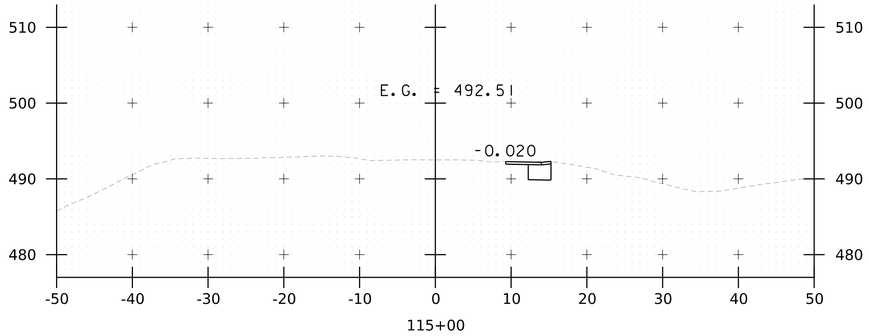
STA. 108+00 TO STA. 108+00

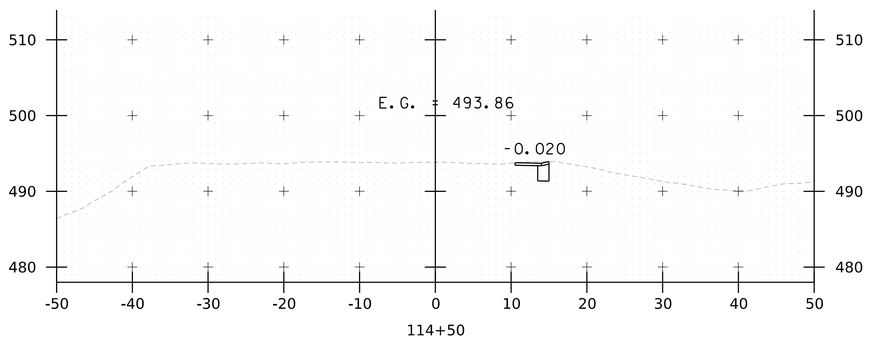
GILL ENGINEERING

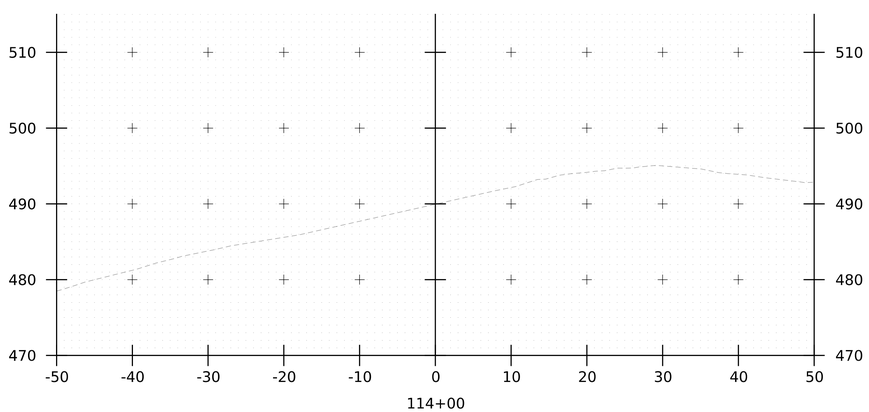
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

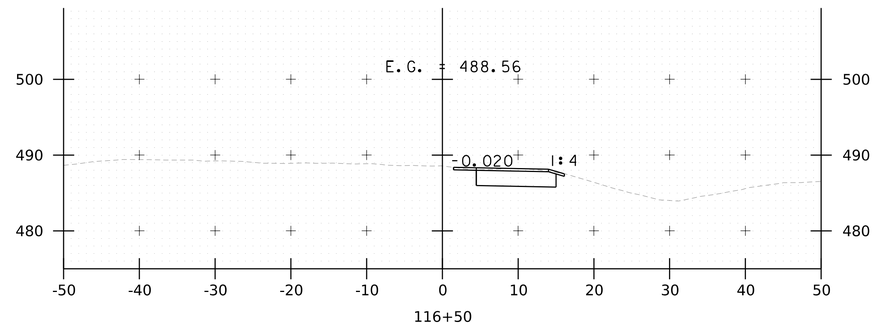
FILE NAME: z12a568xs-NBxover.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
NORTHBOUND CROSSOVER CROSS SECTIONS 3

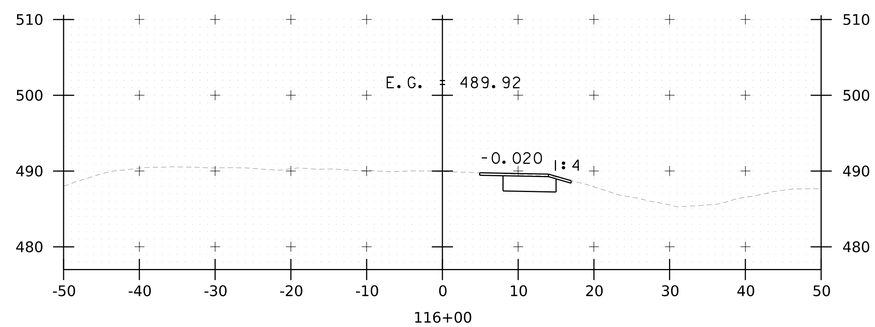
PLOT DATE: 6/20/2024
DRAWN BY: A.LEENHOUTS
CHECKED BY: L.CECCHI
SHEET 33 OF 112

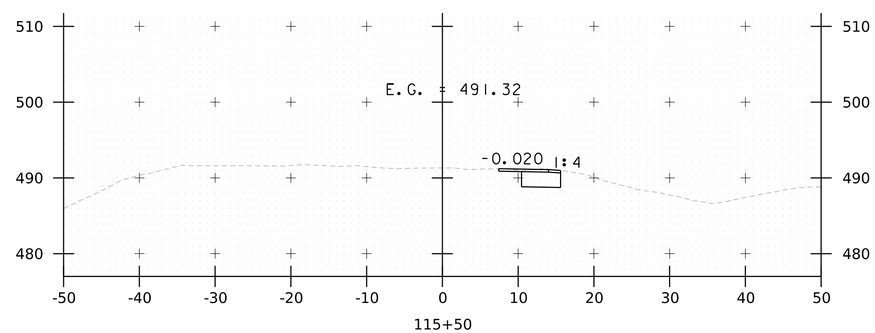








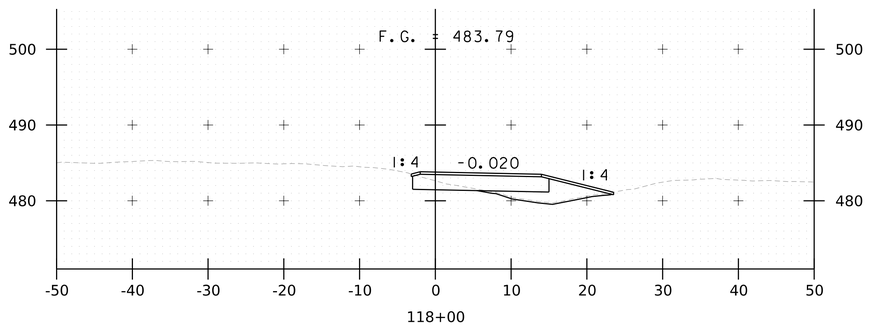


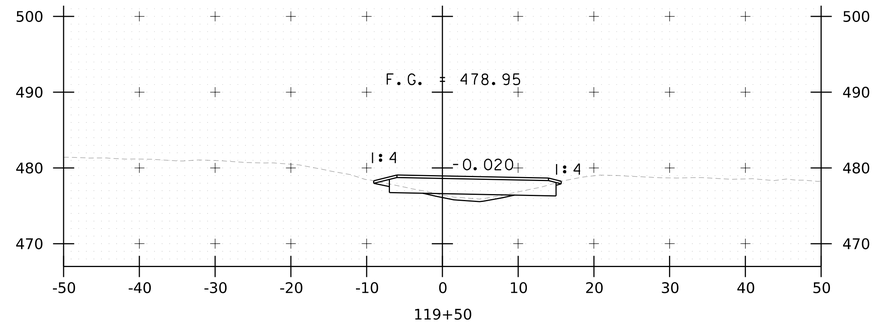


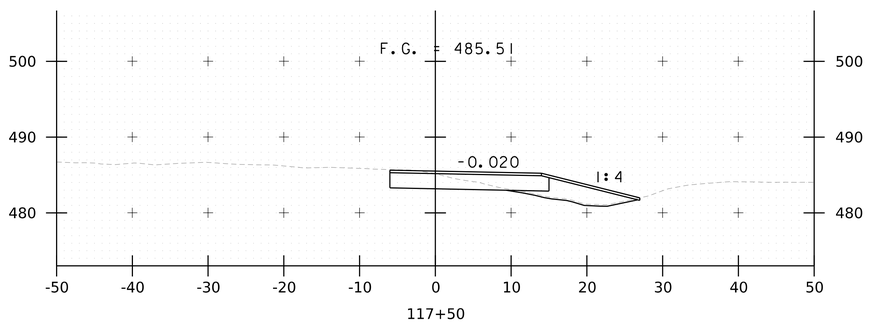
STA. 114+00 TO STA. 116+50

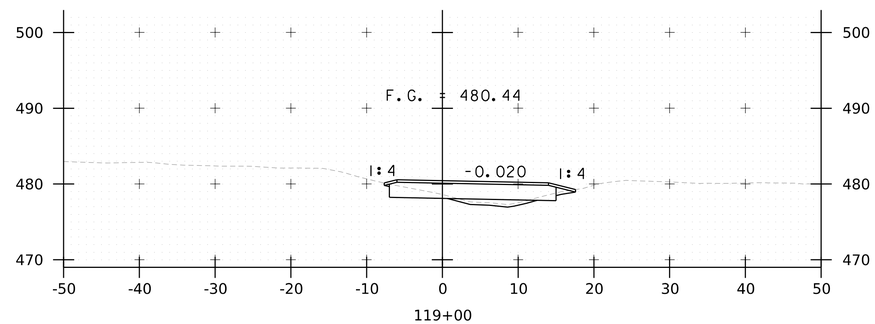
GILL ENGINEERING

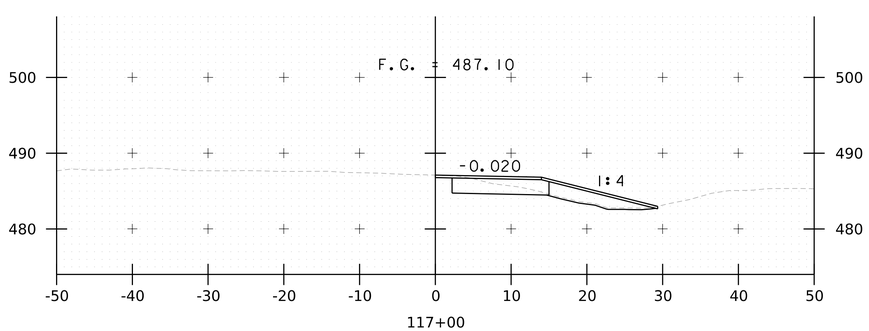
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 4	SHEET 34 OF 112

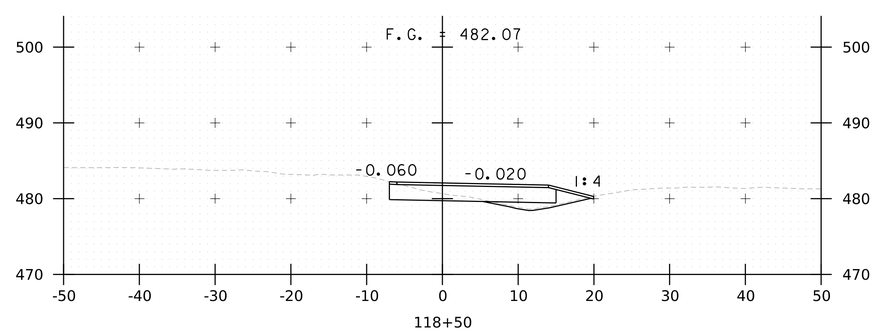








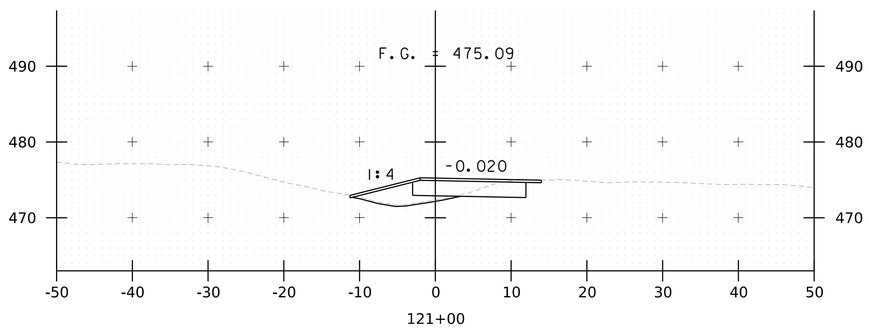


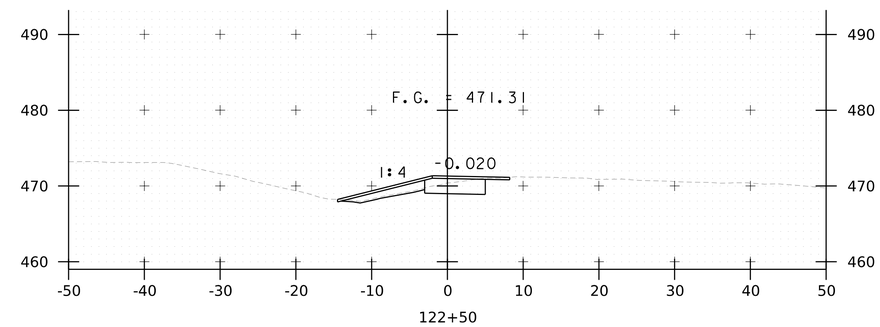


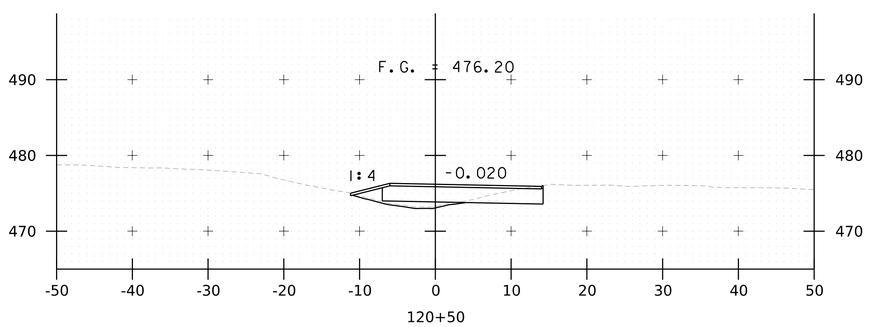
STA. 117+00 TO STA. 119+50

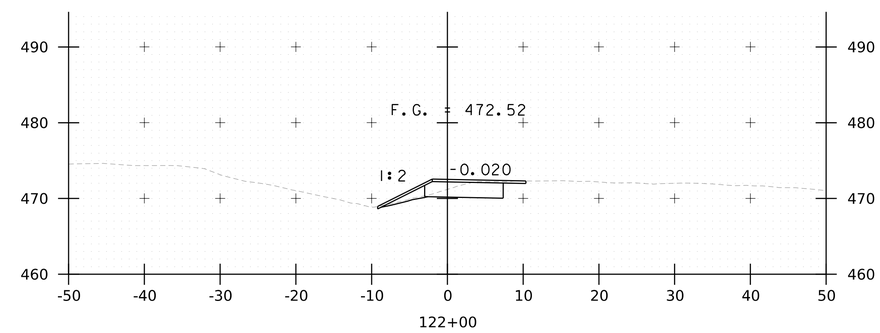
GILL ENGINEERING

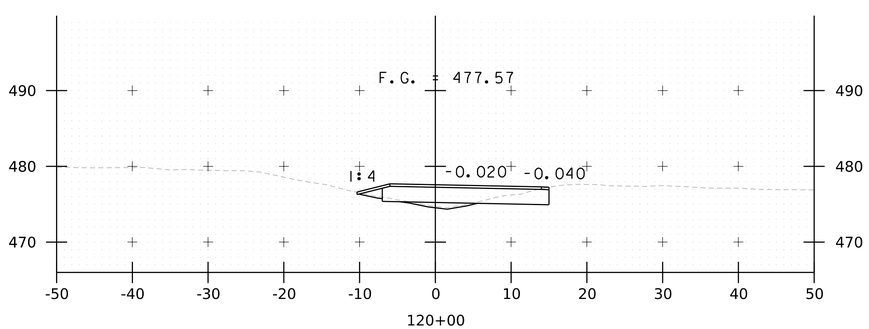
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 5	SHEET 35 OF 112

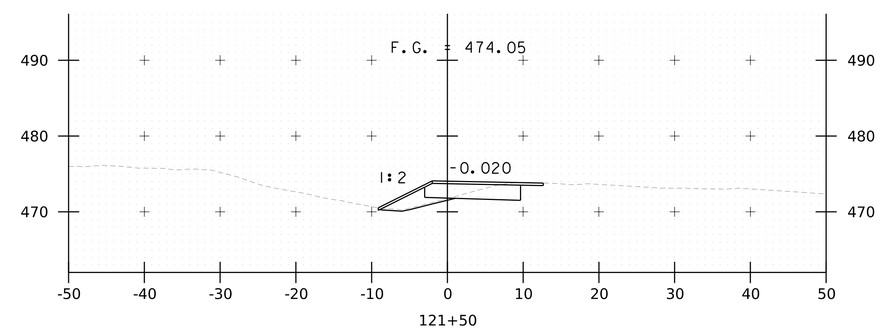








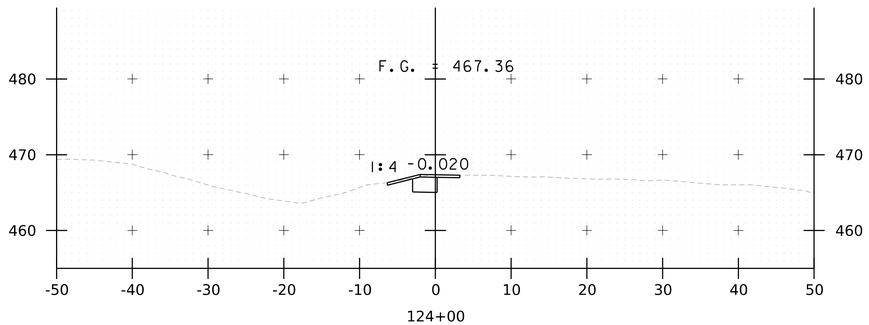


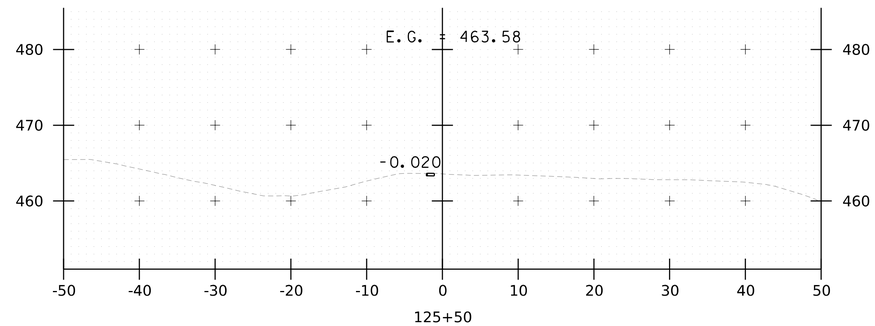


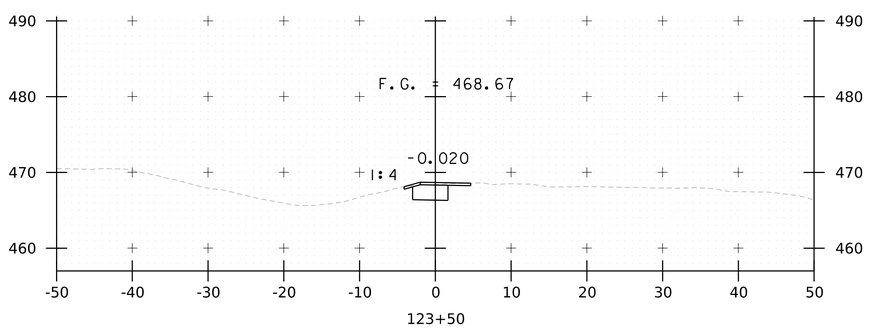
STA. 120+00 TO STA. 122+50

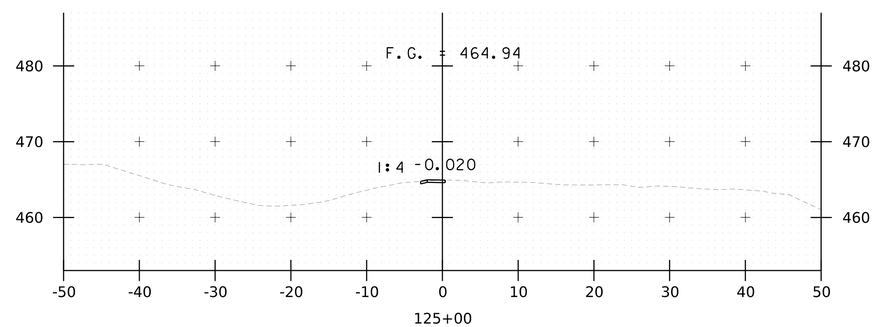
GILL ENGINEERING

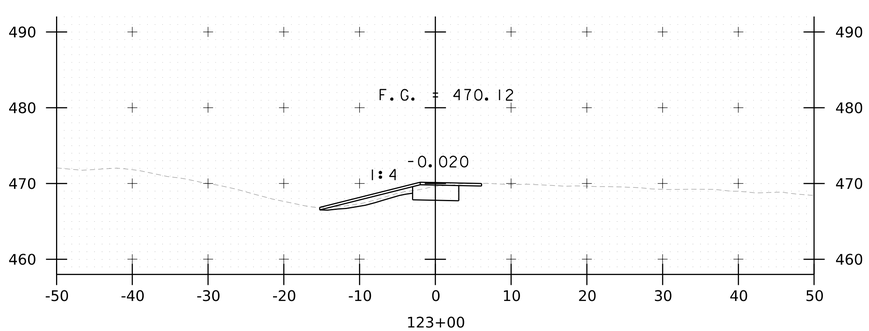
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 6	SHEET 36 OF 112

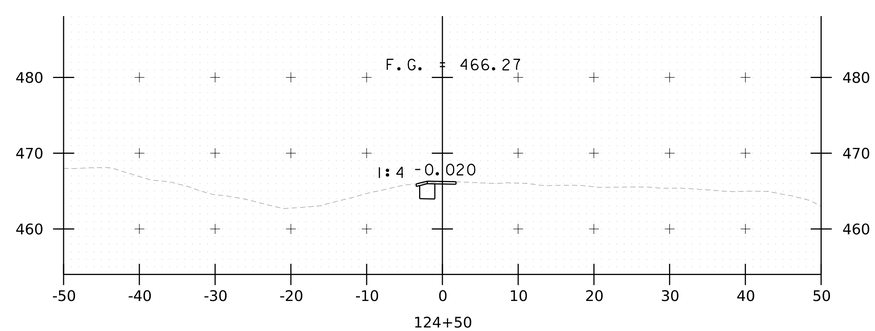








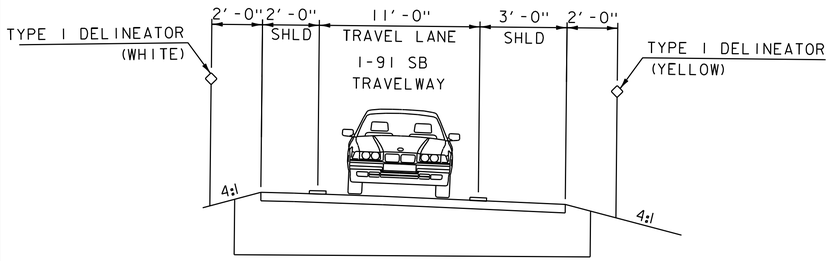




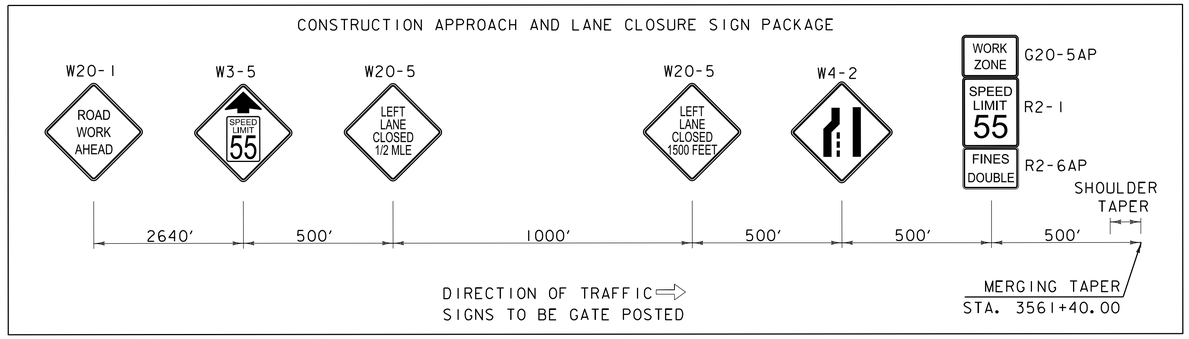
STA. 123+00 TO STA. 125+50

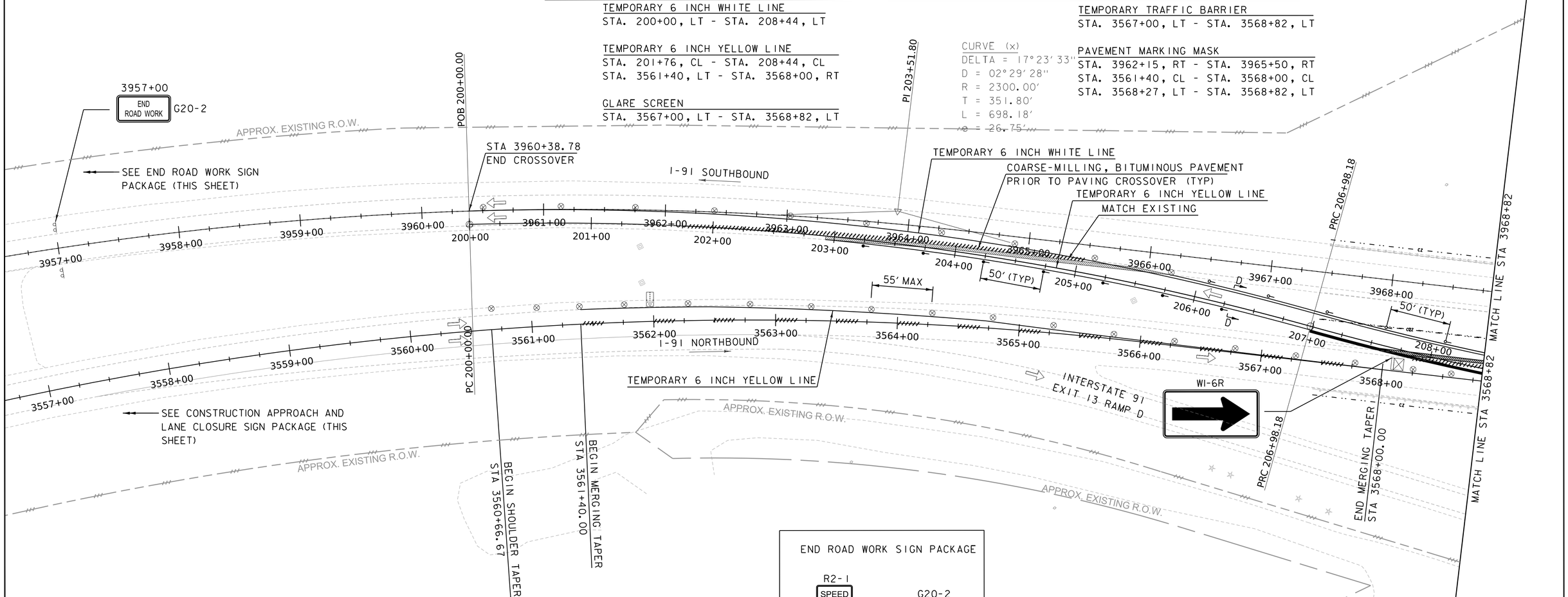
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-NBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSSOVER CROSS SECTIONS 7	SHEET 37 OF 112

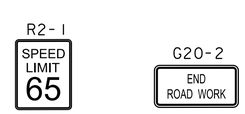


PHASE 4 SECTION D-D





END ROAD WORK SIGN PACKAGE



THE TEMPORARY TRAFFIC BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

LEGEND:

- TEMPORARY TRAFFIC BARRIER
- PORTABLE ARROW BOARD
- RETROREFLECTIVE PLASTIC DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- DIRECTION OF TRAFFIC
- TYPE I DELINEATOR (YELLOW)
- TYPE I DELINEATOR (WHITE)

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568SBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 1	SHEET 38 OF 112

TEMPORARY 6 INCH WHITE LINE
STA. 208+44, LT - STA. 220+46, LT
STA. 212+21, LT - STA. 218+87, LT (DOTTED)
STA. 218+87, LT - STA. 220+46, LT
STA. 319+31, CL - STA. 320+51, CL
STA. 3569+25, RT - STA. 3579+30, RT

TEMPORARY 6 INCH YELLOW LINE
STA. 208+44, CL - STA. 220+46, CL
STA. 3569+25, RT - STA. 3579+30, RT

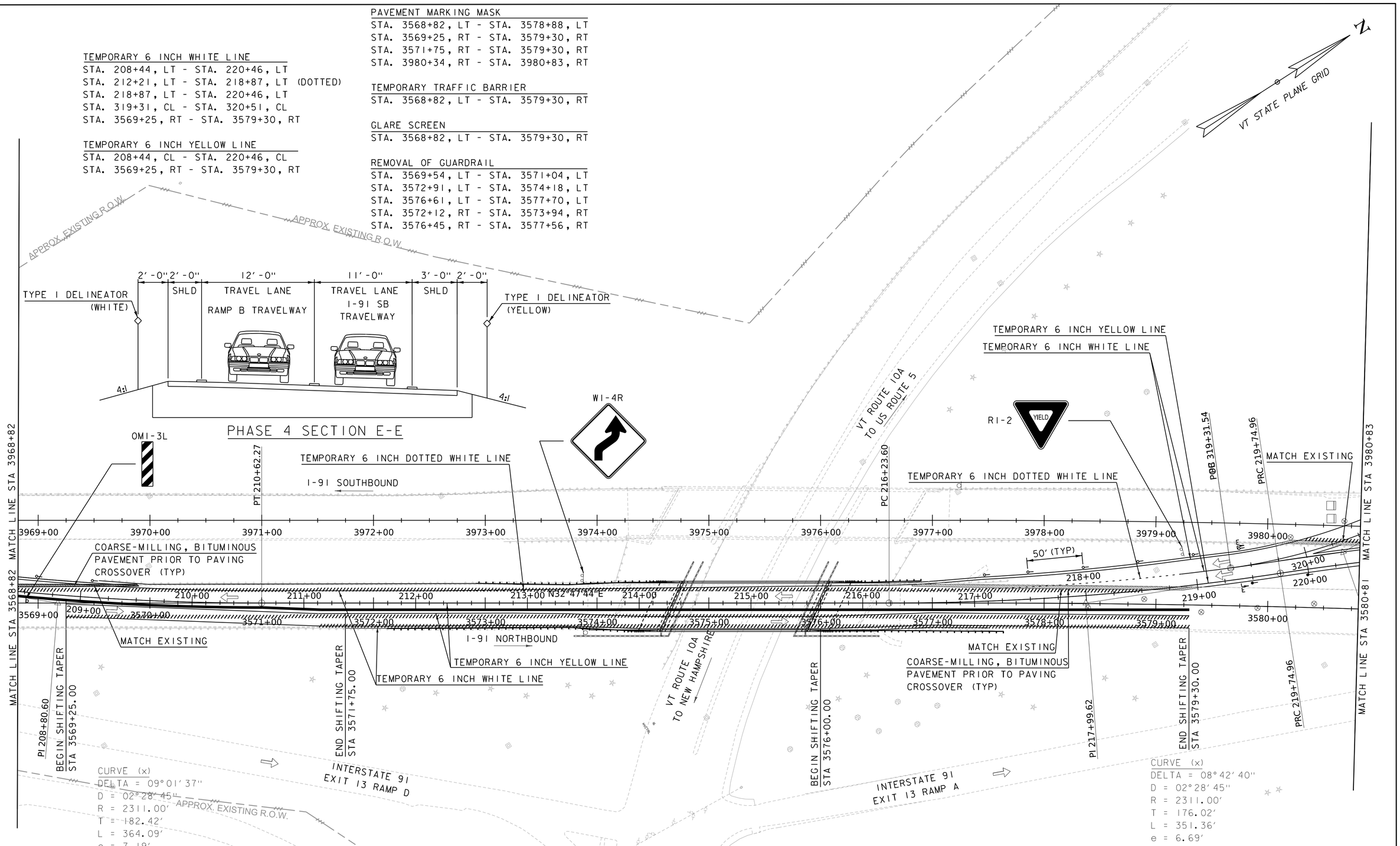
PAVEMENT MARKING MASK
STA. 3568+82, LT - STA. 3578+88, LT
STA. 3569+25, RT - STA. 3579+30, RT
STA. 3571+75, RT - STA. 3579+30, RT
STA. 3980+34, RT - STA. 3980+83, RT

TEMPORARY TRAFFIC BARRIER
STA. 3568+82, LT - STA. 3579+30, RT

GLARE SCREEN
STA. 3568+82, LT - STA. 3579+30, RT

REMOVAL OF GUARDRAIL
STA. 3569+54, LT - STA. 3571+04, LT
STA. 3572+91, LT - STA. 3574+18, LT
STA. 3576+61, LT - STA. 3577+70, LT
STA. 3572+12, RT - STA. 3573+94, RT
STA. 3576+45, RT - STA. 3577+56, RT

PHASE 4 SECTION E-E



THE TEMPORARY BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

SCALE 1" = 40'-0"
40 0 40

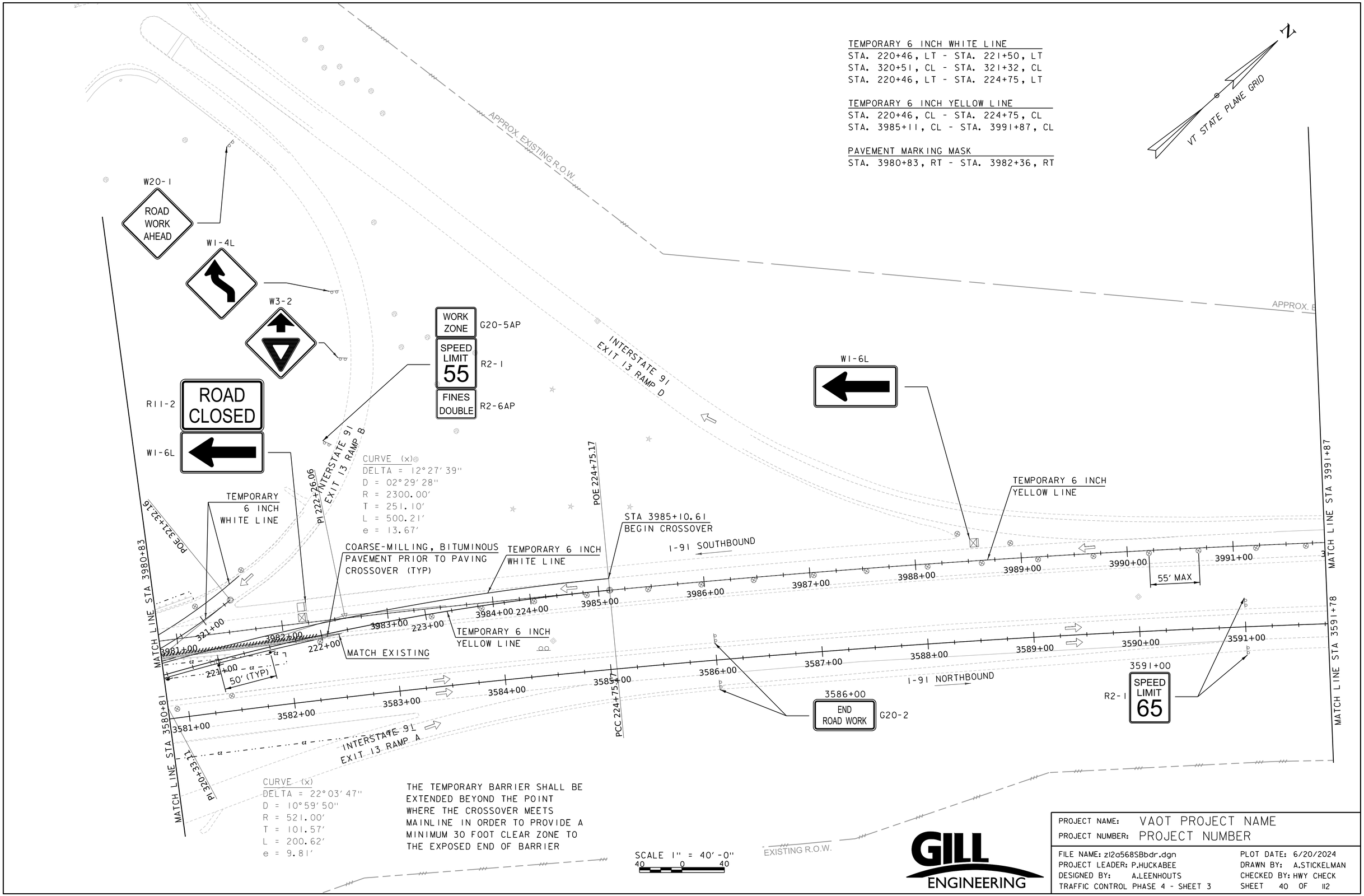
GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: zl2a568SBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 2	SHEET 39 OF 112

TEMPORARY 6 INCH WHITE LINE
STA. 220+46, LT - STA. 221+50, LT
STA. 320+51, CL - STA. 321+32, CL
STA. 220+46, LT - STA. 224+75, LT

TEMPORARY 6 INCH YELLOW LINE
STA. 220+46, CL - STA. 224+75, CL
STA. 3985+11, CL - STA. 3991+87, CL

PAVEMENT MARKING MASK
STA. 3980+83, RT - STA. 3982+36, RT

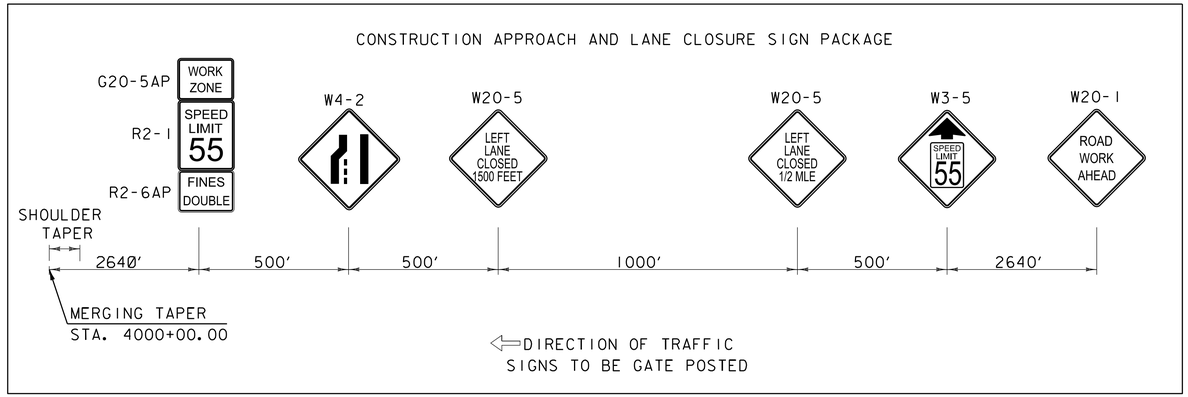


THE TEMPORARY BARRIER SHALL BE EXTENDED BEYOND THE POINT WHERE THE CROSSOVER MEETS MAINLINE IN ORDER TO PROVIDE A MINIMUM 30 FOOT CLEAR ZONE TO THE EXPOSED END OF BARRIER

SCALE 1" = 40'-0"
40 0 40

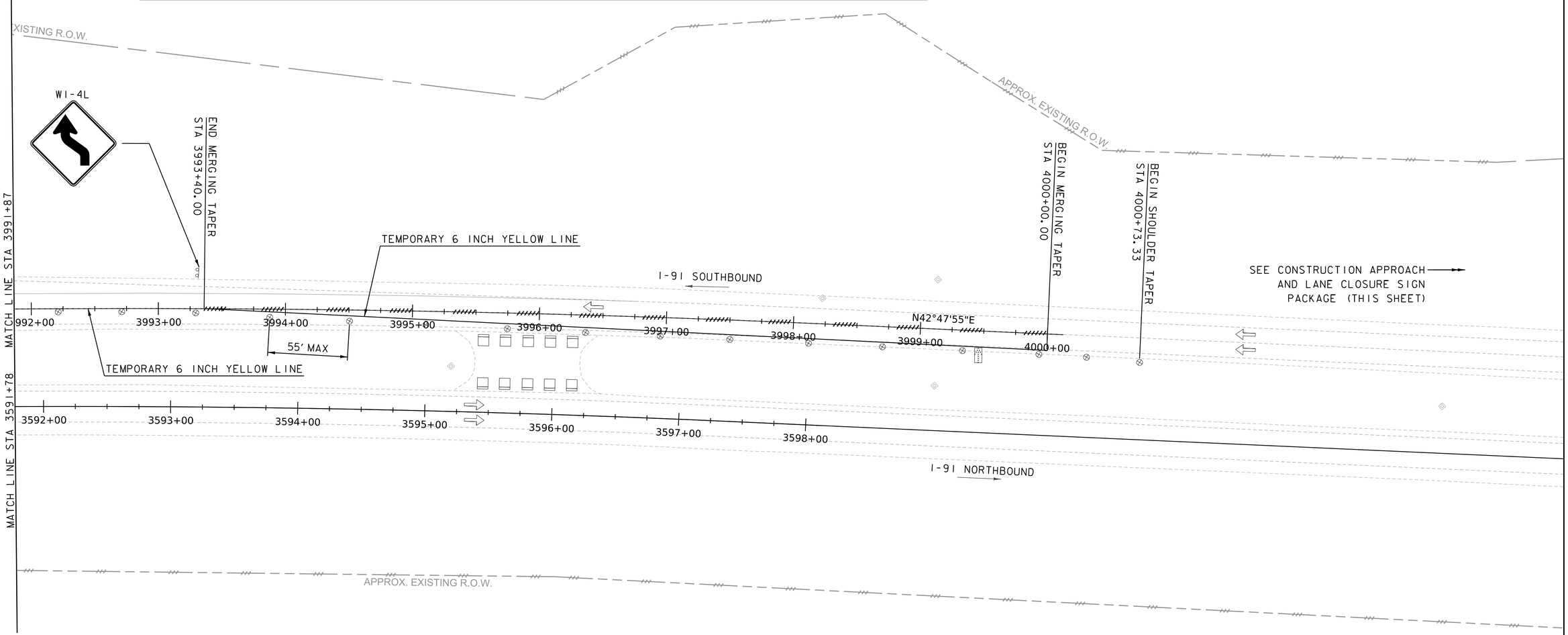
GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568SBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 3	SHEET 40 OF 112



TEMPORARY 6 INCH YELLOW LINE
STA. 3991+87, CL - STA. 4000+00, RT

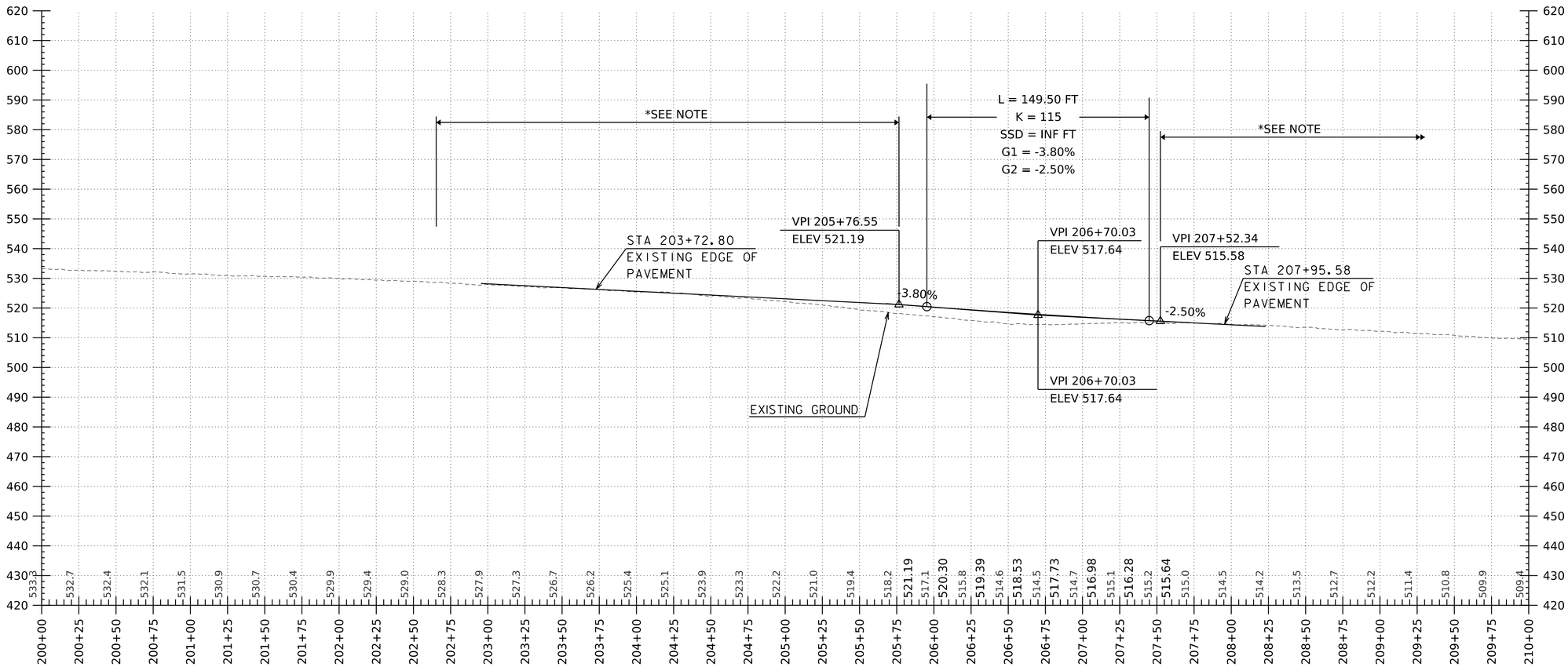
PAVEMENT MARKING MASK
STA. 3993+40, CL - STA. 4000+00, CL



SCALE 1" = 40'-0"
40 0 40

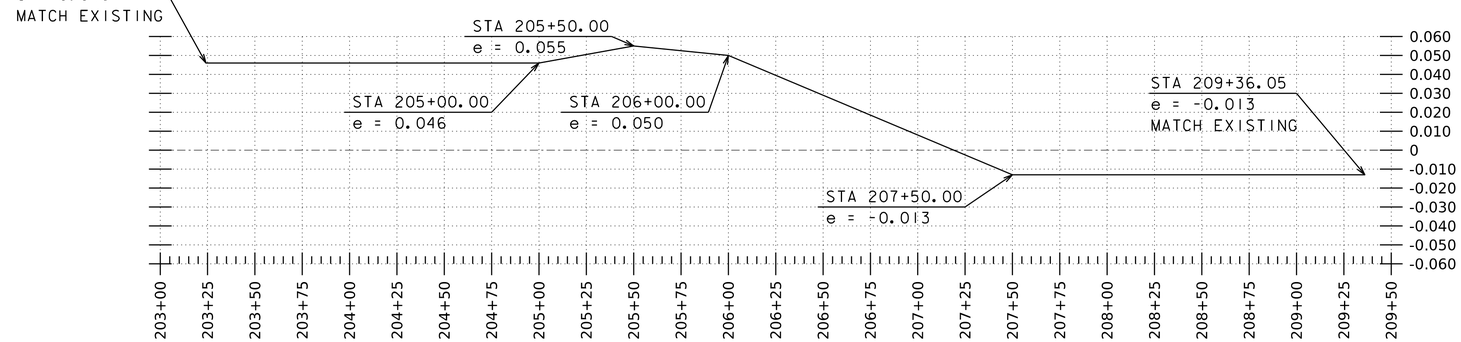
GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568SBbdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 4	SHEET 41 OF 112



I-91 SOUTHBOUND CROSSOVER PROFILE (SOUTH)

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'



I-91 SOUTHBOUND CROSSOVER BANKING DIAGRAM (SOUTH)

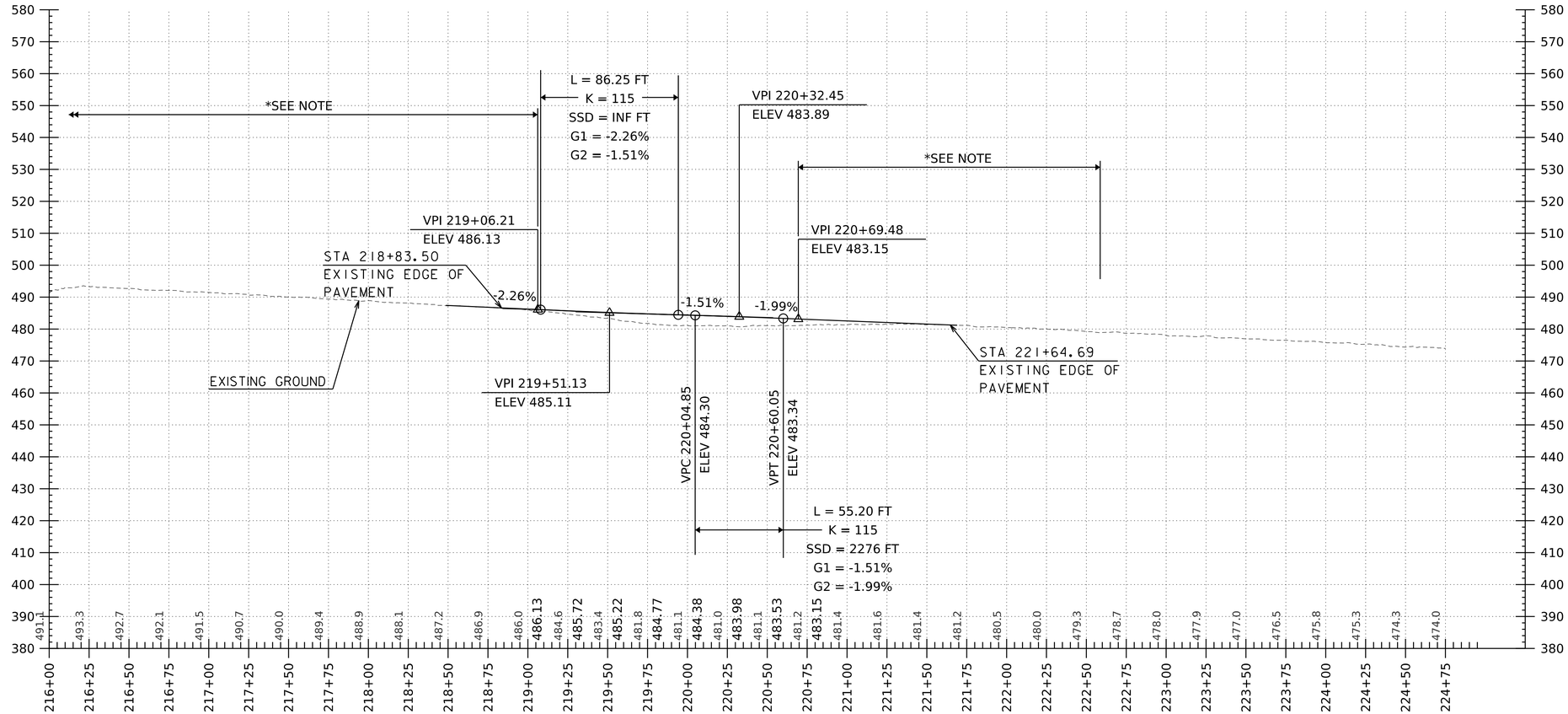
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"= 0.040 (4.00%)

NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

* PROFILE IS SHOWN FOR GRAPHICAL PURPOSES. TEMPORARY ROADWAY SHALL MEET EXISTING PAVEMENT. ℄ ESTABLISHED BY CROSS SLOPE FROM EXISTING ELEVATION.

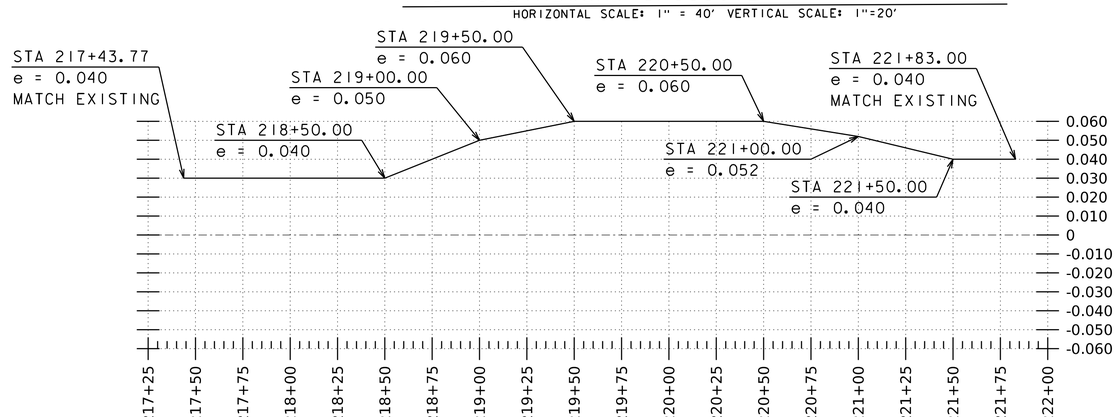
GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568CrossoverProfile.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 5	SHEET 42 OF 112



I-91 SOUTHBOUND CROSSOVER PROFILE (NORTH)

HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'



I-91 SOUTHBOUND CROSSOVER BANKING DIAGRAM (NORTH)

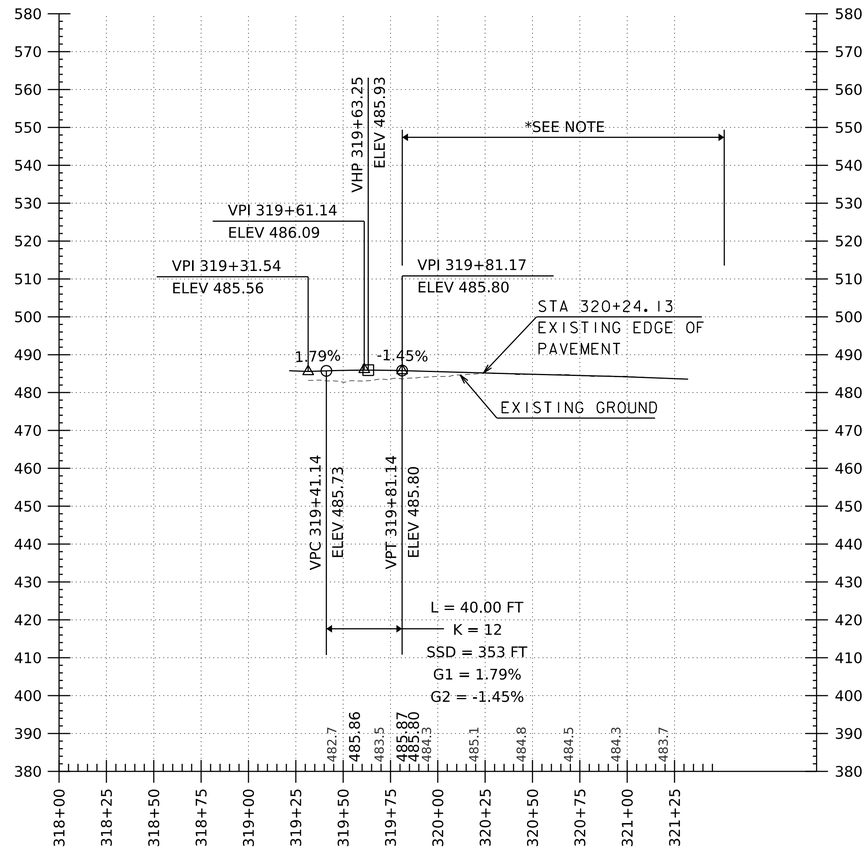
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"= 0.040 (4.00%)

NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

* PROFILE IS SHOWN FOR GRAPHICAL PURPOSES. TEMPORARY ROADWAY SHALL MEET EXISTING PAVEMENT. ℄ ESTABLISHED BY CROSS SLOPE FROM EXISTING ELEVATION.

GILL ENGINEERING

PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568CrossoverProfile.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 6	SHEET 43 OF 112



I-91 SOUTHBOUND CROSSOVER ON RAMP PROFILE (NORTH)

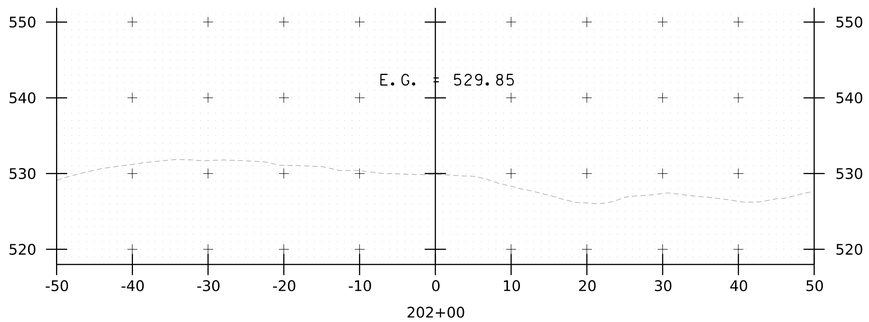
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1"=20'

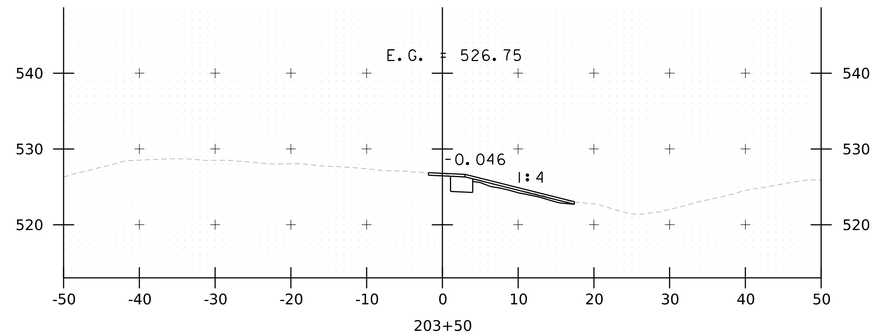
NOTES:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG ℄

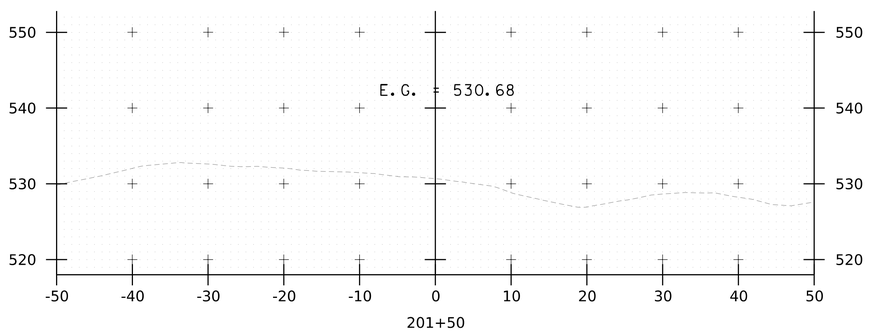
* PROFILE IS SHOWN FOR GRAPHICAL PURPOSES. TEMPORARY ROADWAY SHALL MEET EXISTING PAVEMENT. ℄ ESTABLISHED BY CROSS SLOPE FROM EXISTING ELEVATION.

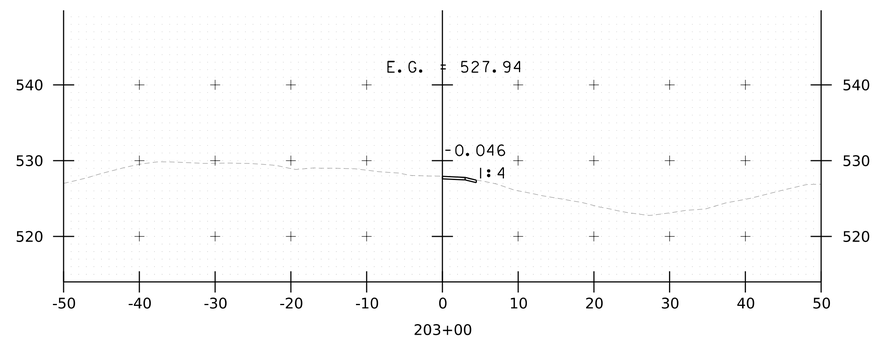
GILL ENGINEERING

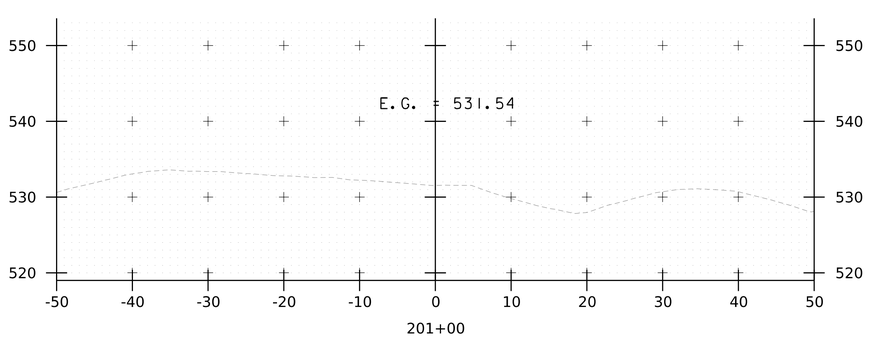
PROJECT NAME: VAOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z12a568CrossoverProfile.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: HWY CHECK
TRAFFIC CONTROL PHASE 4 - SHEET 7	SHEET 44 OF 112

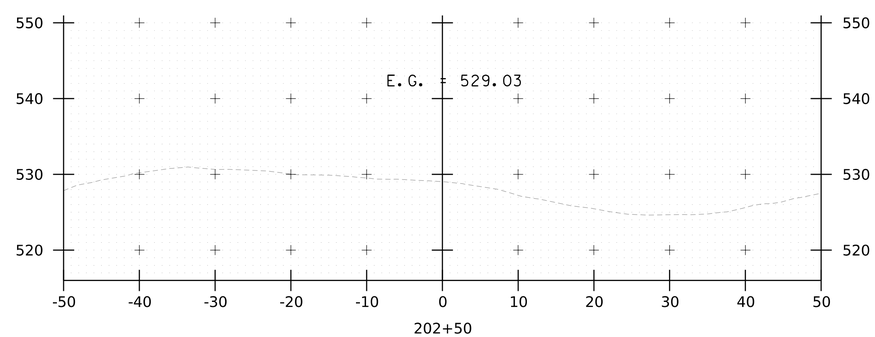








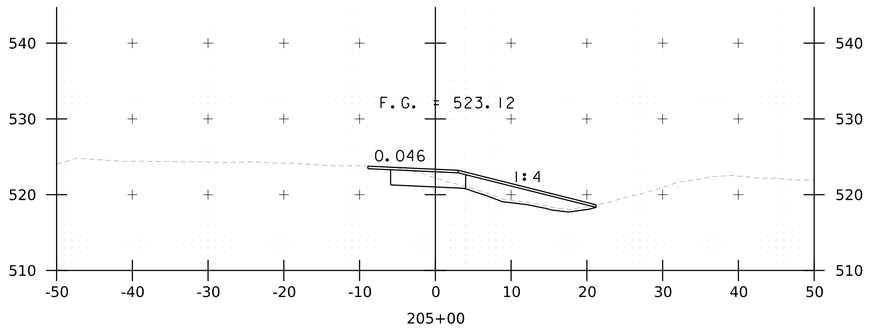


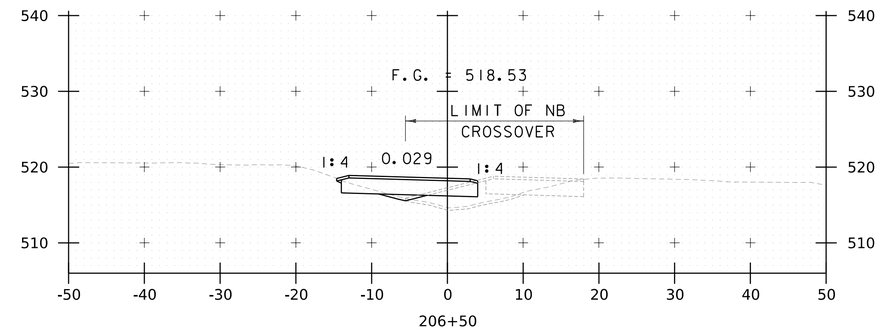


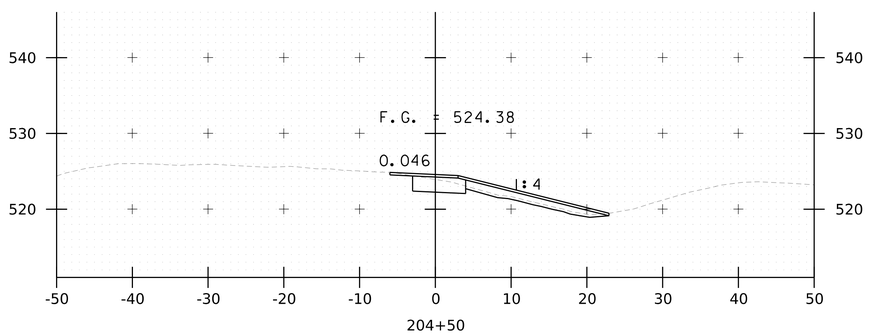
STA. 201+00 TO STA. 203+50

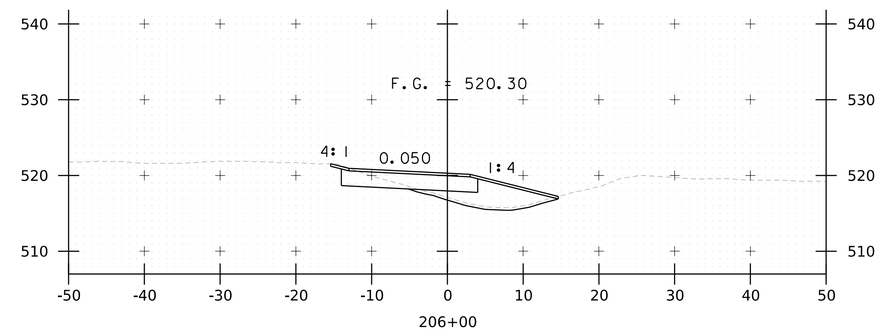
GILL ENGINEERING

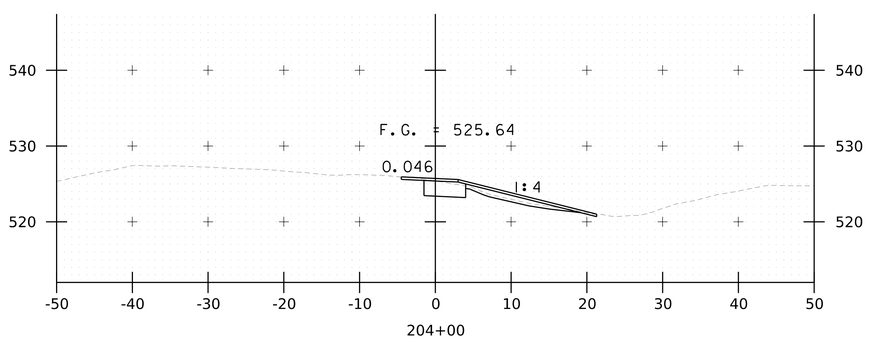
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 1	SHEET 45 OF 112

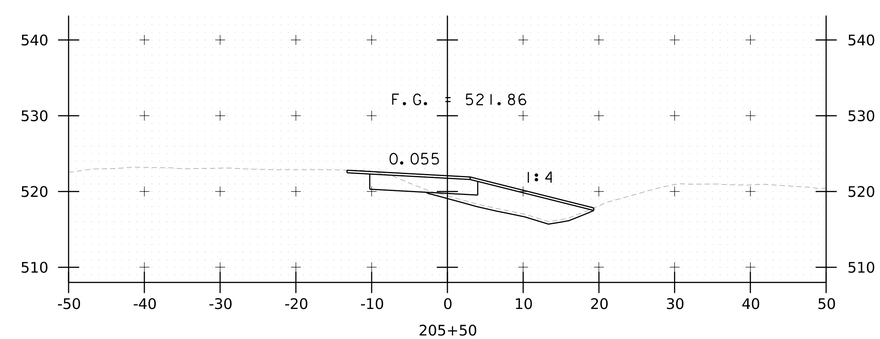








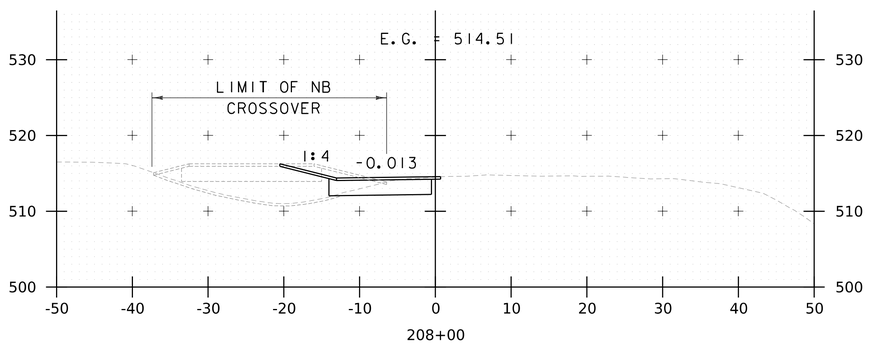


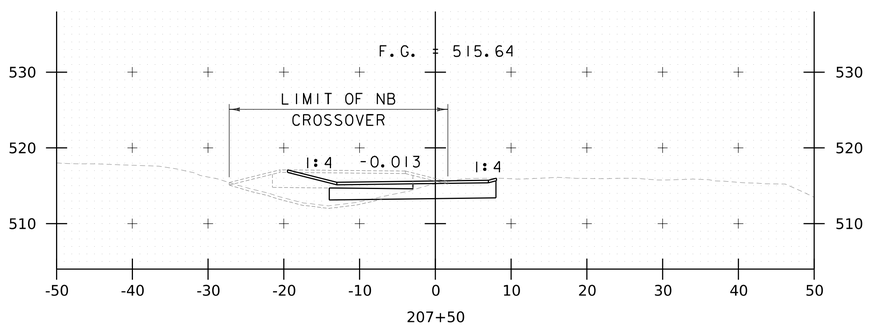


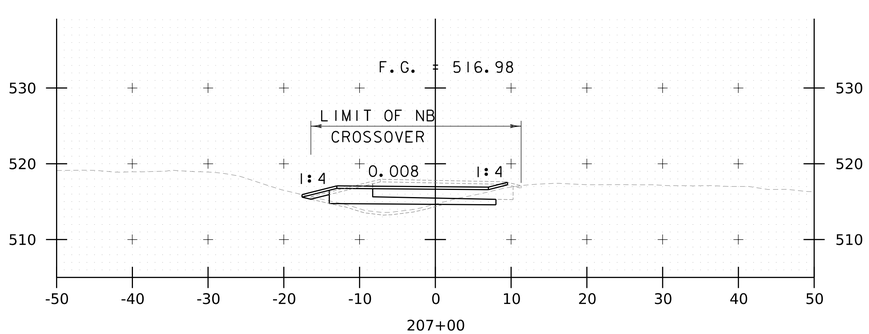
STA. 204+00 TO STA. 206+50

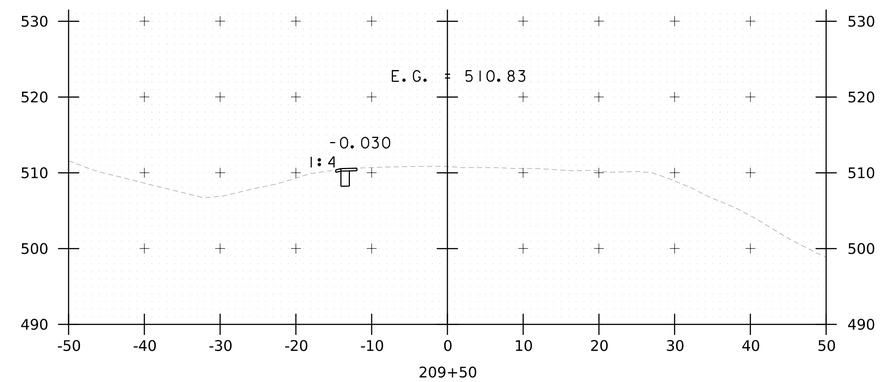
GILL ENGINEERING

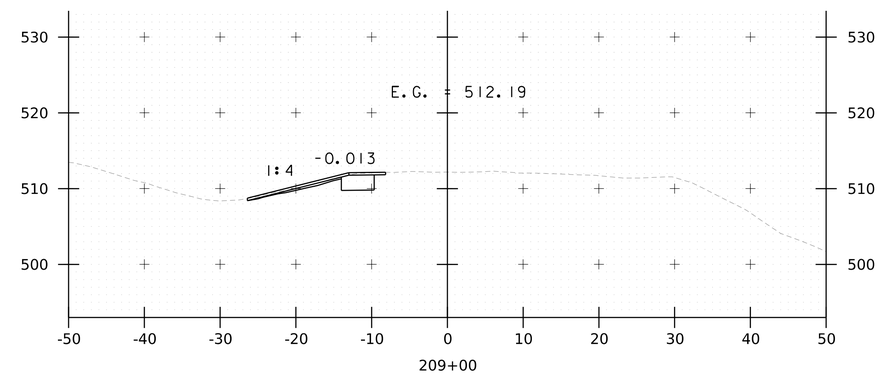
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 2	SHEET 46 OF 112

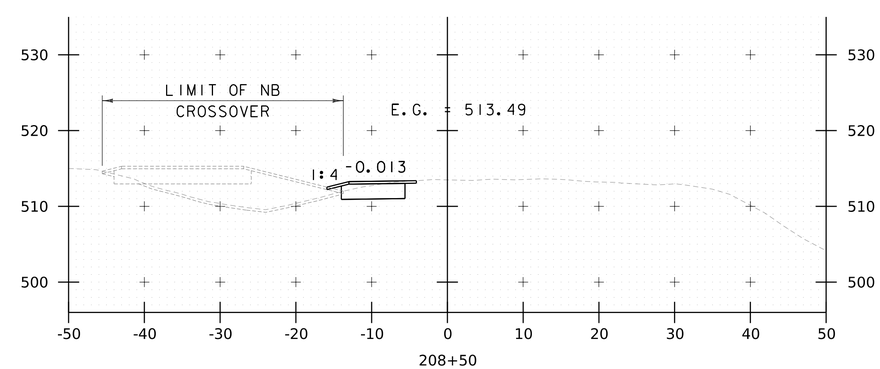








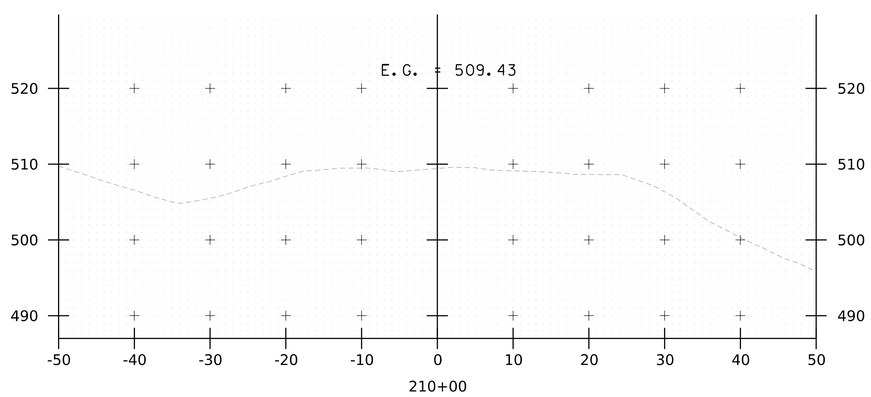




STA. 207+00 TO STA. 209+50

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zi2a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 3	SHEET 47 OF 112



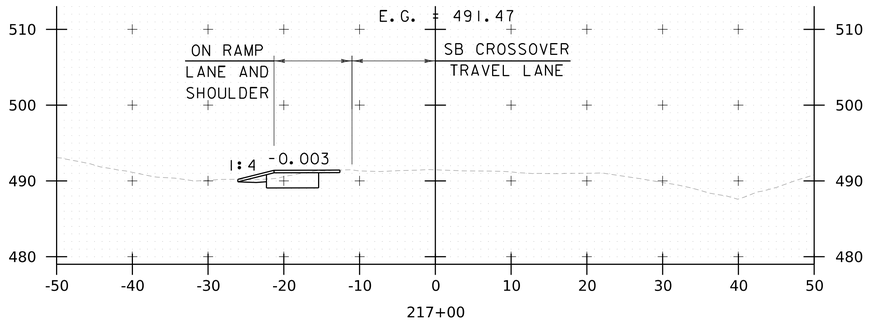
STA. 210+00 TO STA. 210+00

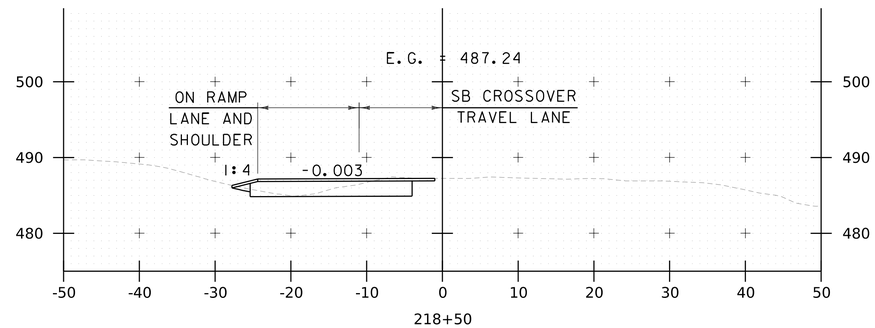
GILL ENGINEERING

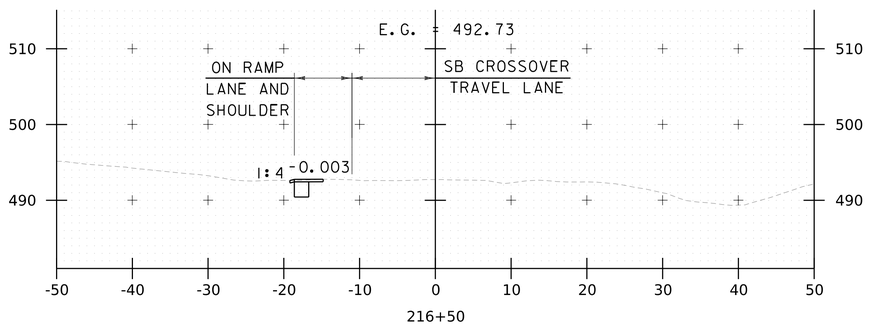
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

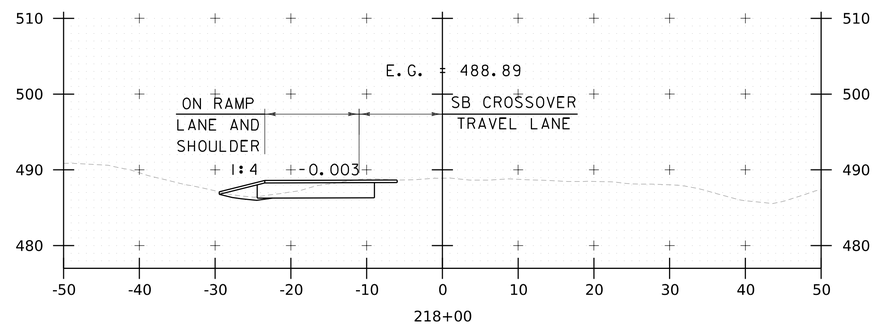
FILE NAME: z12a568xs-SBxover.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
SOUTHBOUND CROSSOVER CROSS SECTIONS 4

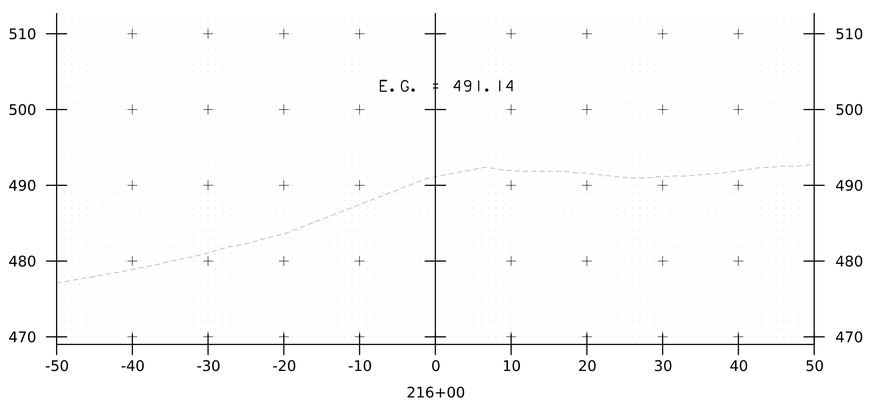
PLOT DATE: 6/20/2024
DRAWN BY: A.LEENHOUTS
CHECKED BY: L.CECCHI
SHEET 48 OF 112

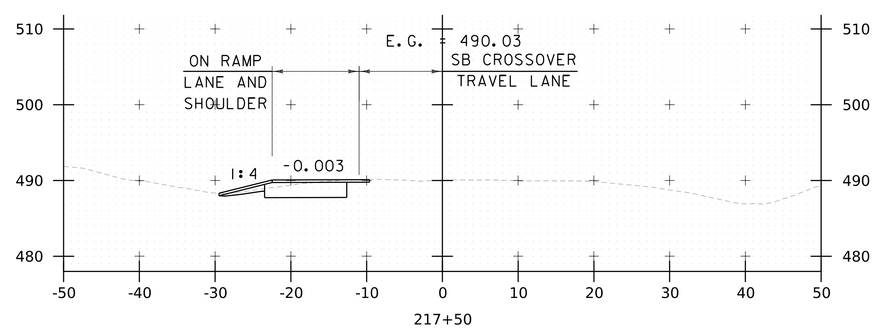








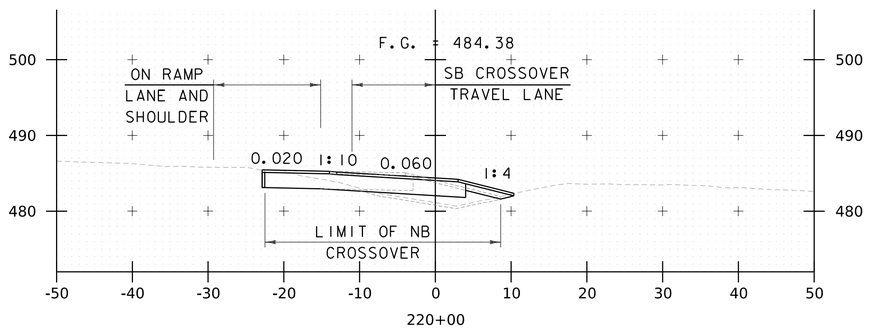


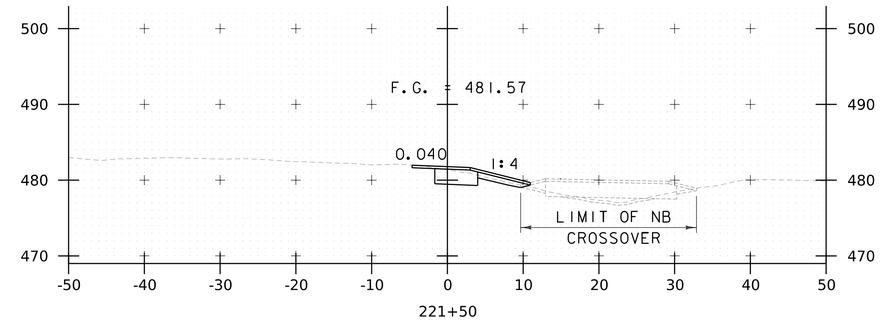


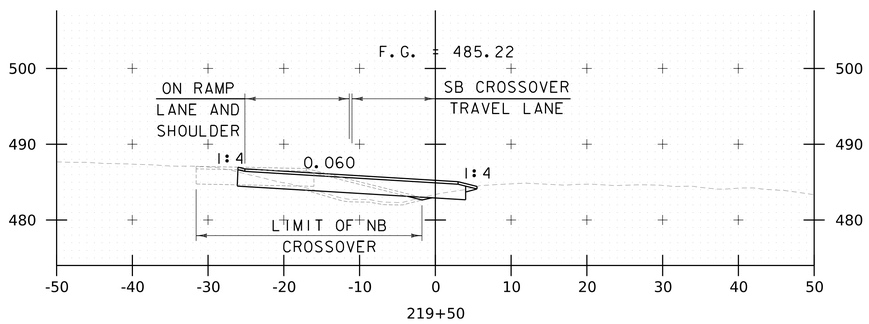
STA. 216+00 TO STA. 218+50

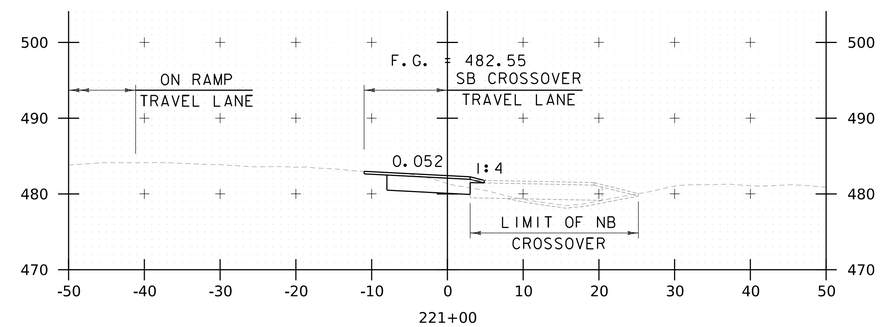
GILL ENGINEERING

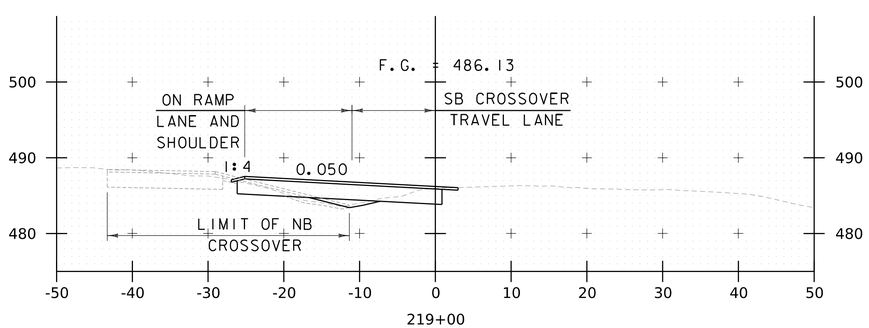
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 5	SHEET 49 OF 112

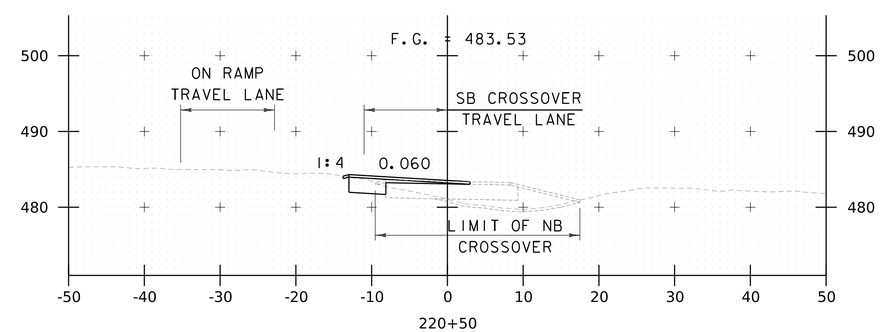








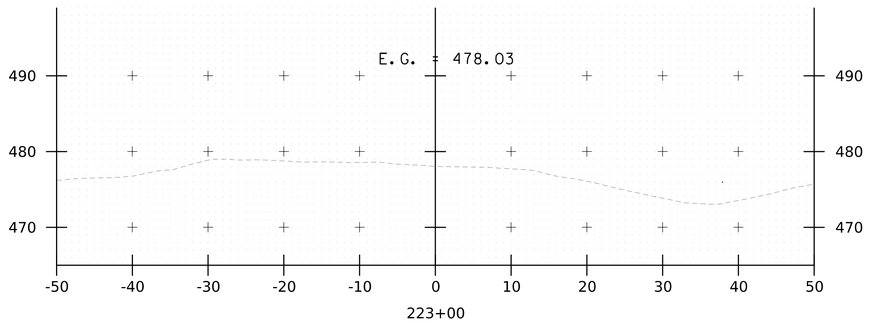


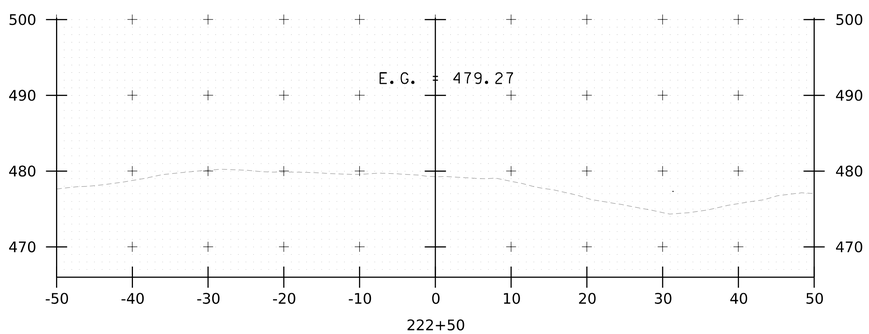


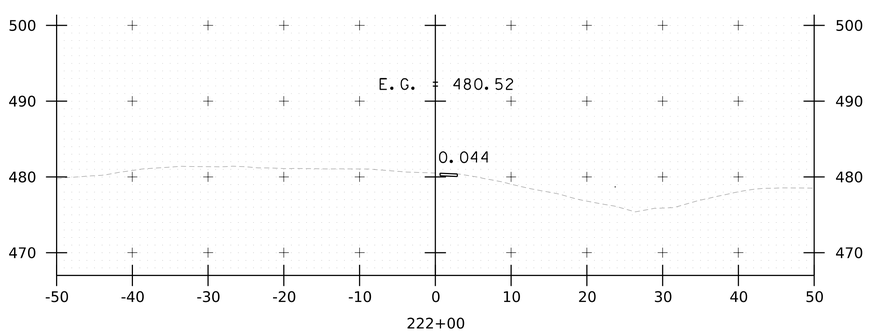
STA. 219+00 TO STA. 221+50

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 6	SHEET 50 OF 112







STA. 222+00 TO STA. 223+00

GILL ENGINEERING

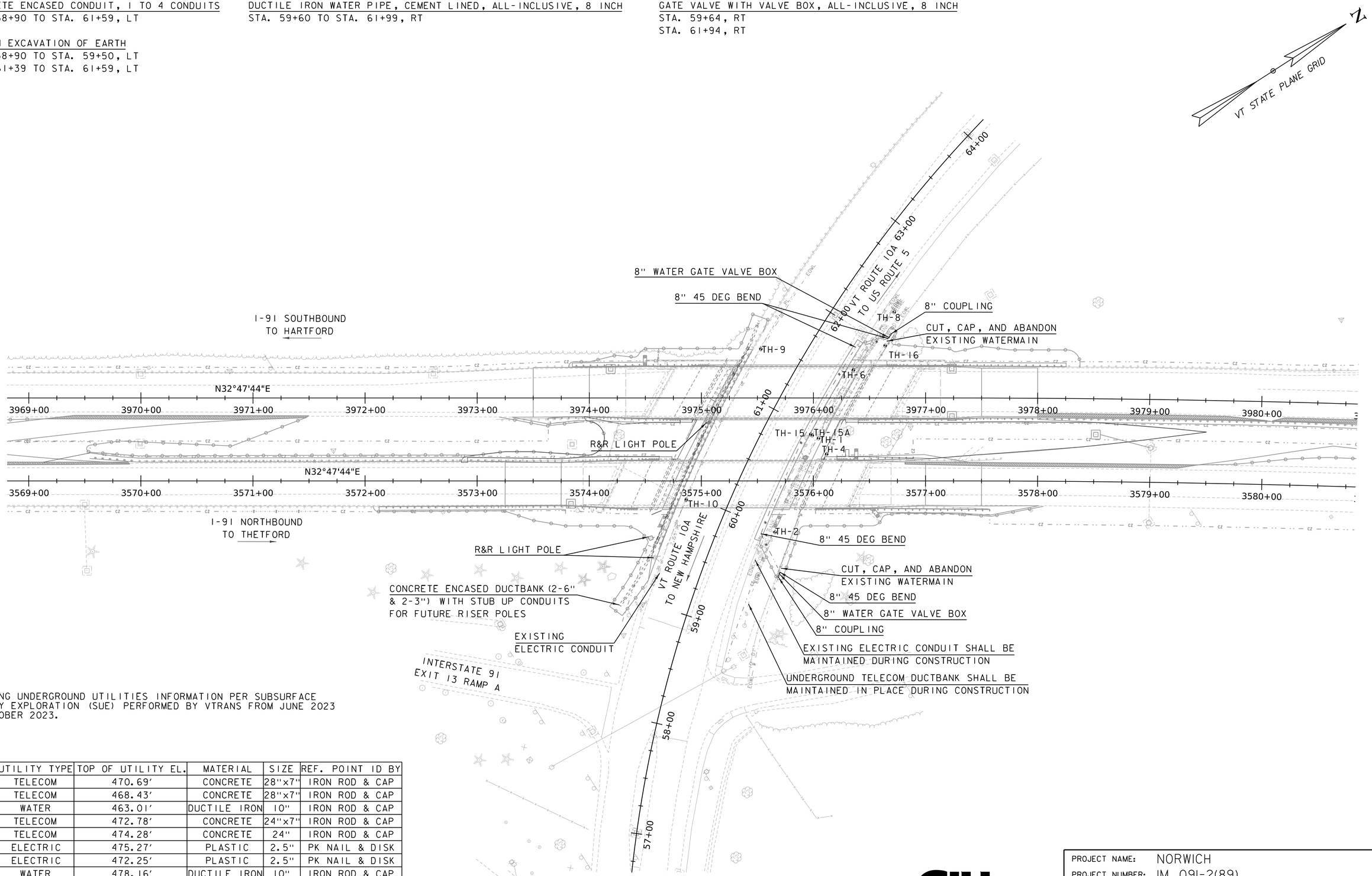
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568xs-SBxover.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSSOVER CROSS SECTIONS 7	SHEET 51 OF 112

CONCRETE ENCASED CONDUIT, 1 TO 4 CONDUITS
STA. 58+90 TO STA. 61+59, LT

TRENCH EXCAVATION OF EARTH
STA. 58+90 TO STA. 59+50, LT
STA. 61+39 TO STA. 61+59, LT

DUCTILE IRON WATER PIPE, CEMENT LINED, ALL-INCLUSIVE, 8 INCH
STA. 59+60 TO STA. 61+99, RT

GATE VALVE WITH VALVE BOX, ALL-INCLUSIVE, 8 INCH
STA. 59+64, RT
STA. 61+94, RT



NOTE:
EXISTING UNDERGROUND UTILITIES INFORMATION PER SUBSURFACE UTILITY EXPLORATION (SUE) PERFORMED BY VTRANS FROM JUNE 2023 TO OCTOBER 2023.

NAME	UTILITY TYPE	TOP OF UTILITY EL.	MATERIAL	SIZE	REF. POINT ID BY
TH-1	TELECOM	470.69'	CONCRETE	28"x7"	IRON ROD & CAP
TH-2	TELECOM	468.43'	CONCRETE	28"x7"	IRON ROD & CAP
TH-4	WATER	463.01'	DUCTILE IRON	10"	IRON ROD & CAP
TH-6	TELECOM	472.78'	CONCRETE	24"x7"	IRON ROD & CAP
TH-8	TELECOM	474.28'	CONCRETE	24"	IRON ROD & CAP
TH-9	ELECTRIC	475.27'	PLASTIC	2.5"	PK NAIL & DISK
TH-10	ELECTRIC	472.25'	PLASTIC	2.5"	PK NAIL & DISK
TH-13	WATER	478.16'	DUCTILE IRON	10"	IRON ROD & CAP
TH-14	WATER	476.72'	DUCTILE IRON	10"	IRON ROD & CAP
TH-15	ELECTRIC	471.50'	PLASTIC	2.5"	IRON ROD & CAP
TH-15A	ELECTRIC	471.77'	PLASTIC	2"	IRON ROD & CAP
TH-16	WATER	463.42'	DUCTILE IRON	10"	IRON ROD & CAP

UTILITY LAYOUT

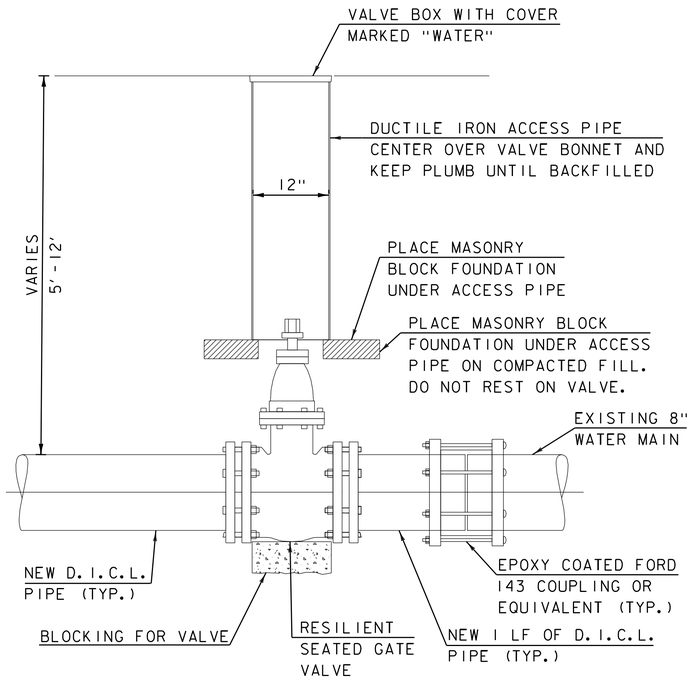
SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

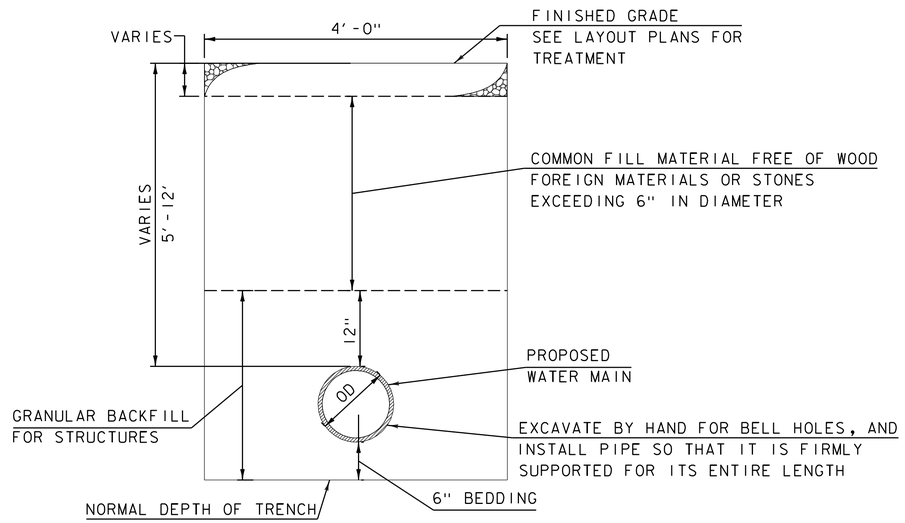
FILE NAME: zl2a568bdrutility.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
UTILITY LAYOUT

PLOT DATE: 6/20/2024
DRAWN BY: A.STICKELMAN
CHECKED BY: A.SPERA
SHEET 52 OF 112



TYPICAL GATE VALVE INSTALLATION

NOT TO SCALE



PLAN DOES NOT DEPICT REQUIRED SHORING DETAILS. ALL TRENCHES GREATER THAN 5 FOOT DEPTH MUST BE SHORED PER OSHA REQUIREMENTS.

TRENCH DETAIL FOR WATER MAIN

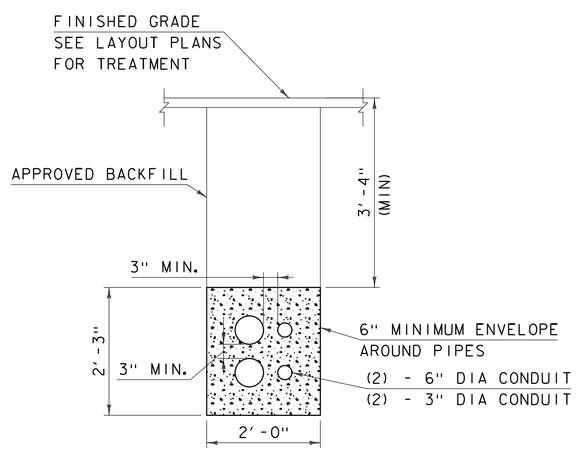
NOT TO SCALE

DUCT BANK NOTES:

1. THE CONTRACTOR SHALL SUPPLY AND INSTALL ONE PULL ROPE FOR EACH CONDUIT THAT MEETS THE SPECIFICATIONS OF GREEN MOUNTAIN POWER.
2. THE INSTALLED CONDUITS SHALL MEET THE SPECIFICATIONS OF GREEN MOUNTAIN POWER.
3. PAYMENT UNDER ITEM 625.4004 CONCRETE ENCASED CONDUIT, 1 TO 4 CONDUITS

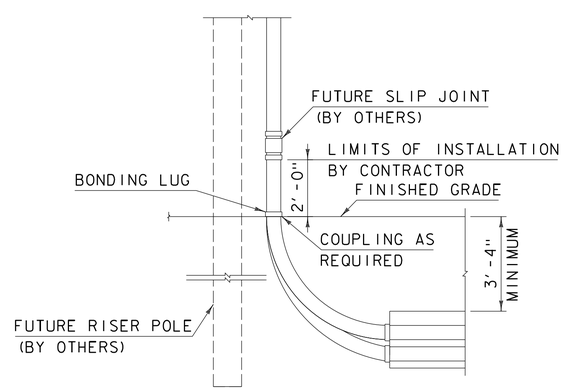
CONNECTION OF UNDERGROUND UTILITIES NOTES:

1. CONTRACTOR SHALL SUPPLY ALL CONDUIT NECESSARY TO INSTALL UNDERGROUND UTILITIES AS SHOWN IN THE PLANS. THIS WORK SHALL BE PAID FOR UNDER ITEM 625.4004 CONCRETE ENCASED CONDUIT, 1 TO 4 CONDUITS.
2. THE LIMITS OF INSTALLATION BY THE CONTRACTOR SHALL EXTEND TO THE LOCATION OF THE SLIP JOINT AT 2'-0" ABOVE GRADE. CONDUIT SHALL BE CAPPED TO ALLOW FOR COMPLETION OF THE SLIP JOINT BY THE UTILITY COMPANY IN THE FUTURE.



DUCT BANK TYPICAL SECTION

NOT TO SCALE

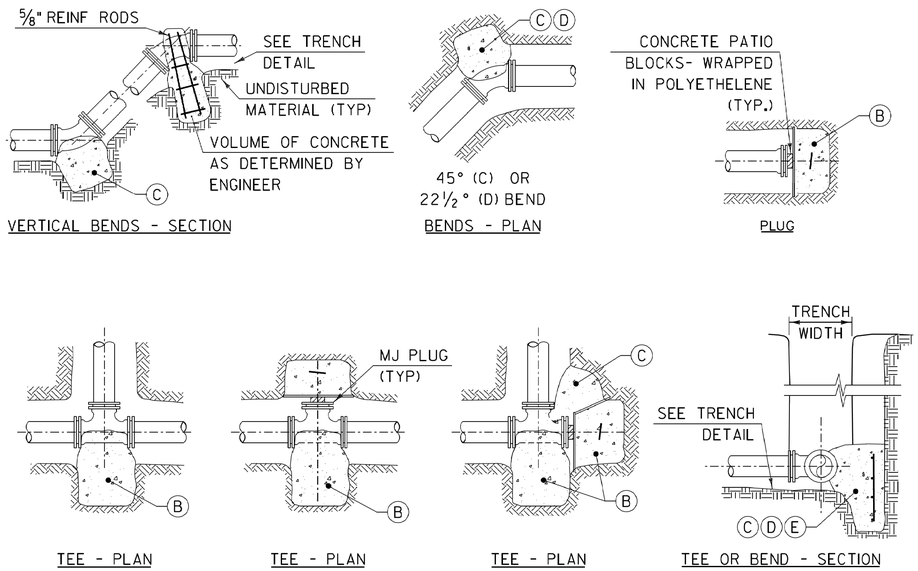


CONNECTION OF UNDERGROUND UTILITIES

NOT TO SCALE

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568bdrutility.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: A.SPERA
UTILITY DETAILS 1	SHEET 53 OF 112



THRUST BLOCK DETAILS

NOT TO SCALE

THRUST BLOCK NOTES:

1. THRUST BLOCKS SHALL BE CONSTRUCTED WITH CLASS B CONCRETE. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF ONE TON PER SQUARE FOOT=13.9 psi, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUR PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS,PLUGS, OR CROSSES. ALL BENDS LESS THAN 22.5 DEGREES SHALL BE RESTRAINED BY USE OF RETAINER GLANDS AT EACH BEND, AND AT ALL JOINTS WITHIN THREE(3) PIPE LENGTHS ON EACH SIDE OF THE BEND WITH DUCTILE IRON PIPE JOINT RESTRAINT HARNESSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
10. PAYMENT FOR THRUST RESTRAINT INCLUDING CONCRETE, RETAINER GLANDS, JOINT RESTRAINT HARNESSES, AND REINFORCED THREADED RODS SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.640 SPECIAL PROVISION (DUCTILE IRON PIPE, CEMENT-LINED, ALL-INCLUSIVE)

THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE
THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL

REACTION TYPE		PIPE SIZE											
		4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
TEST PRESSURE = 100 PSIG	A	0.89	2.19	3.92	5.57	8.62	10.91	15.41	18.02	24.06	34.64	53.83	77.39
	B	0.65	1.55	2.76	4.19	6.09	8.37	10.89	13.87	17.01	24.49	38.06	54.72
	C	0.48	1.19	2.12	3.01	4.66	5.91	8.34	9.71	13.02	18.75	29.13	41.88
	D	0.25	0.60	1.08	1.54	2.37	3.01	4.25	4.97	6.64	9.56	14.85	21.35
	E	0.13	0.30	0.54	0.77	1.19	1.52	2.12	2.51	3.33	4.79	7.45	10.71
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS	TEST PRESSURE TO BE 150 PSI MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.												

GILL ENGINEERING

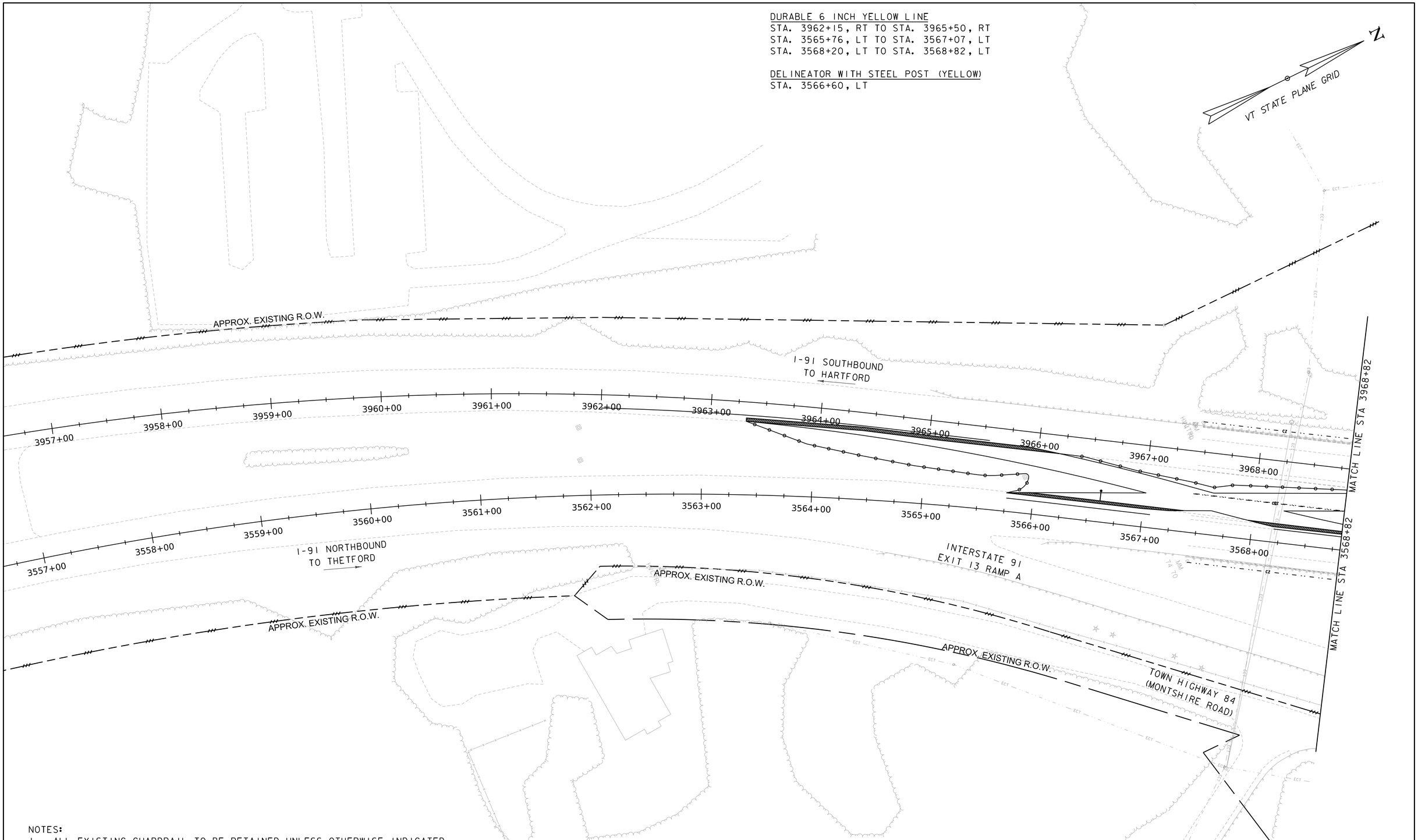
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568bdrutility.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: A.LEENHOUTS
UTILITY DETAILS 2

PLOT DATE: 6/20/2024
DRAWN BY: A.STICKELMAN
CHECKED BY: A. SPERA
SHEET 54 OF 112

DURABLE 6 INCH YELLOW LINE
STA. 3962+15, RT TO STA. 3965+50, RT
STA. 3565+76, LT TO STA. 3567+07, LT
STA. 3568+20, LT TO STA. 3568+82, LT

DELINEATOR WITH STEEL POST (YELLOW)
STA. 3566+60, LT



NOTES:
1. ALL EXISTING GUARDRAIL TO BE RETAINED UNLESS OTHERWISE INDICATED.
2. ALL SIGNS ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.
3. DELINEATORS WITHIN CONSTRUCTION LIMITS SHALL BE REPLACED PER VTRANS STANDARD DRAWINGS T-40 AND T-43. DELINEATORS MAY BE SALVAGED AT THE DISCRETION OF THE RESIDENT ENGINEER.

SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568signs.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SIGNS, MARKINGS, AND DRAINAGE 1	SHEET 55 OF 112

DURABLE 6 INCH WHITE LINE
STA. 3973+50, LT TO STA. 3978+00, LT
STA. 3973+50, LT TO STA. 3978+00, LT (DASHED)
STA. 3973+50, LT TO STA. 3978+00, LT (DOTTED)
STA. 3573+25, RT TO STA. 3577+50, RT
STA. 3573+25, RT TO STA. 3577+50, RT (DASHED)

DURABLE 6 INCH YELLOW LINE
STA. 3568+82, LT TO STA. 3569+90, LT
STA. 3969+40, RT TO STA. 3971+50, RT
STA. 3973+50, RT TO STA. 3979+70, RT
STA. 3573+25, LT TO STA. 3579+27, LT
STA. 3980+22, RT TO STA. 3980+83, RT

DELINEATOR WITH STEEL POST (YELLOW)
STA. 3969+75, RT
STA. 3578+00, LT

15" RCP CLASS III
STA. 3578+52, LT TO STA. 3579+00, LT

TRENCH EXCAVATION OF EARTH
STA. 3578+52, LT TO STA. 3579+00, LT

REHABILITATING DIS, CATCH BASINS, OR MANHOLES, CLASS II
STA. 3579+00, LT

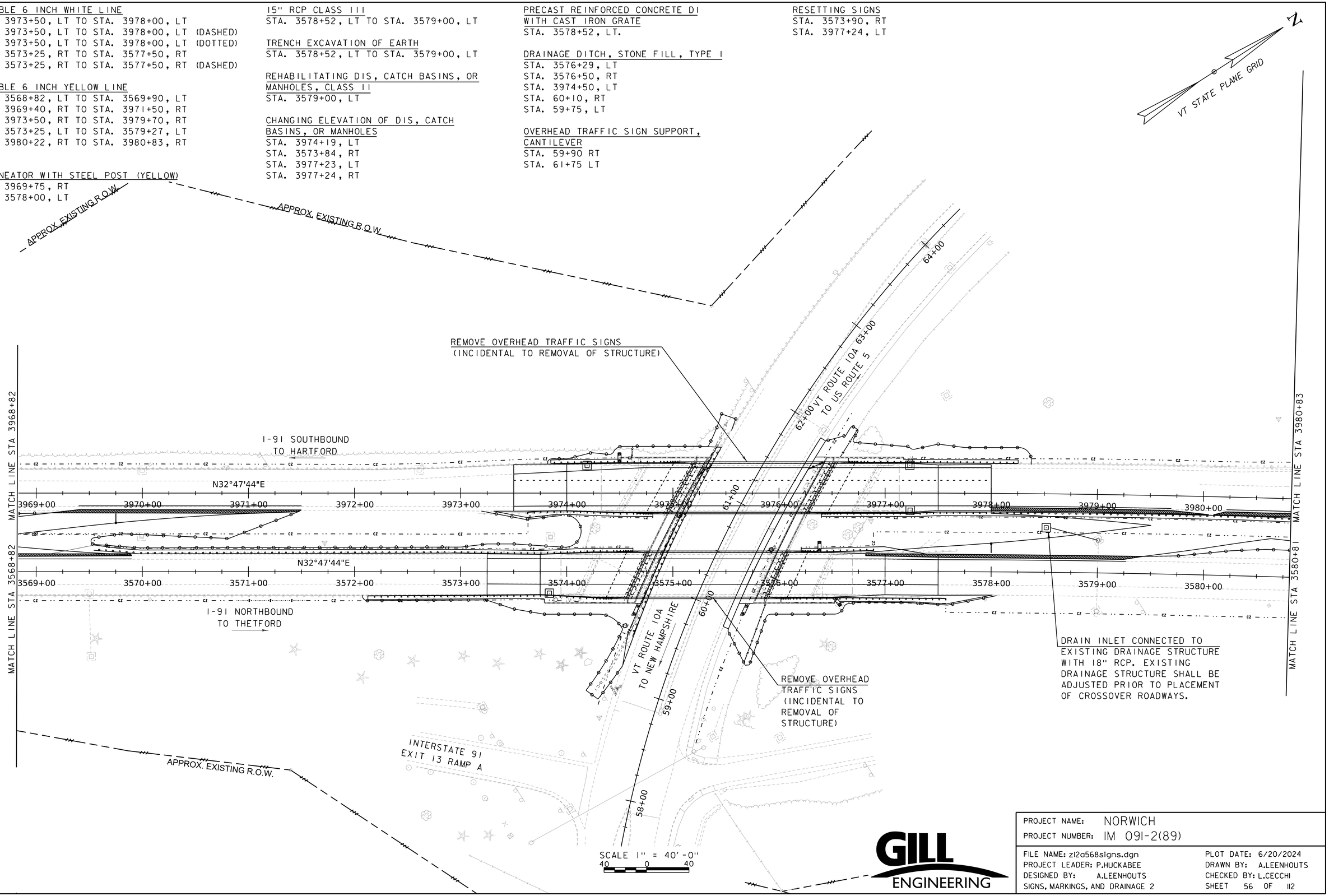
CHANGING ELEVATION OF DIS, CATCH BASINS, OR MANHOLES
STA. 3974+19, LT
STA. 3573+84, RT
STA. 3977+23, LT
STA. 3977+24, RT

PRECAST REINFORCED CONCRETE DI WITH CAST IRON GRATE
STA. 3578+52, LT.

DRAINAGE DITCH, STONE FILL, TYPE I
STA. 3576+29, LT
STA. 3576+50, RT
STA. 3974+50, LT
STA. 60+10, RT
STA. 59+75, LT

OVERHEAD TRAFFIC SIGN SUPPORT, CANTILEVER
STA. 59+90 RT
STA. 61+75 LT

RESETTING SIGNS
STA. 3573+90, RT
STA. 3977+24, LT

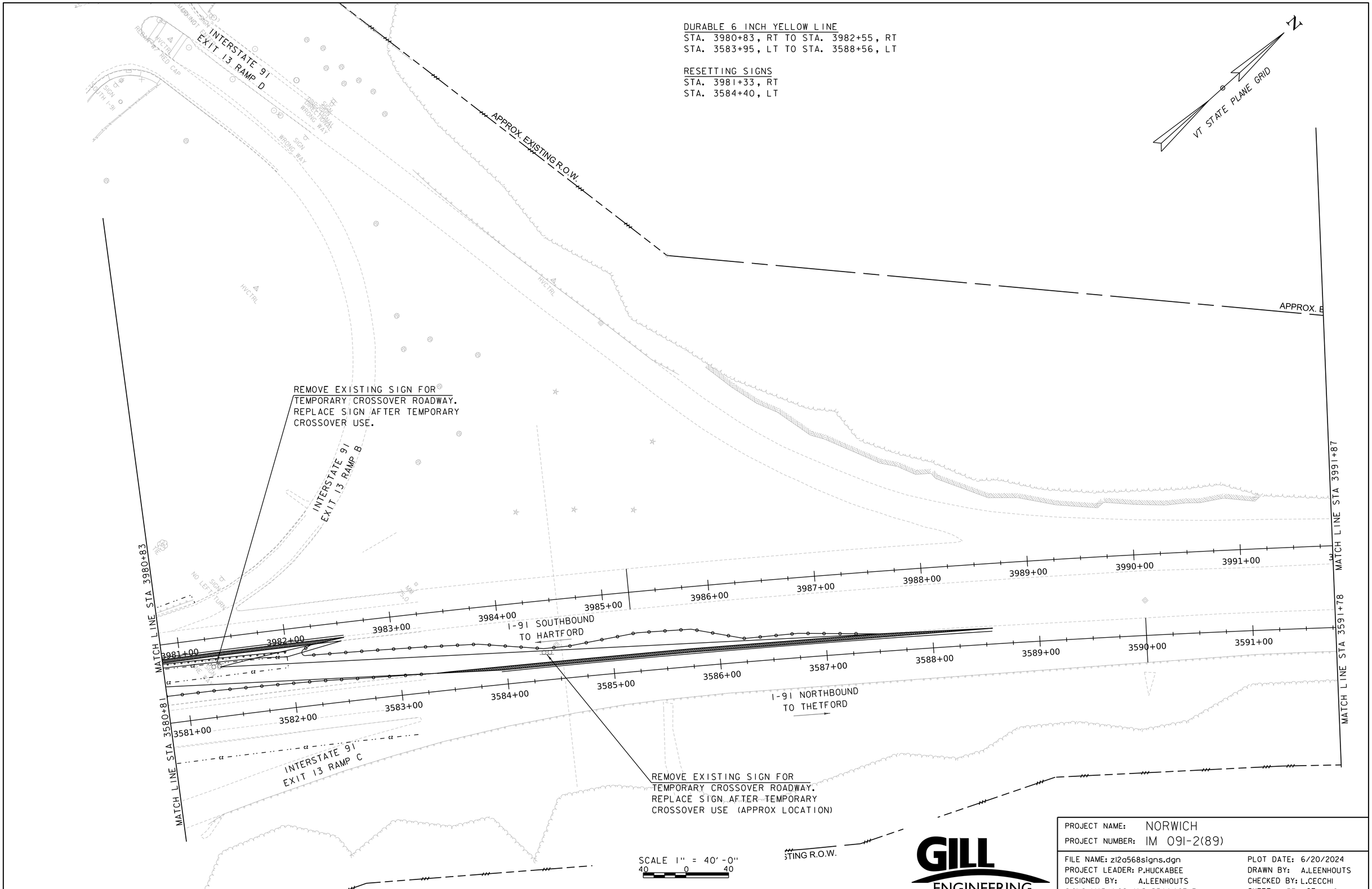


GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568signs.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SIGNS, MARKINGS, AND DRAINAGE 2	SHEET 56 OF 112

DURABLE 6 INCH YELLOW LINE
STA. 3980+83, RT TO STA. 3982+55, RT
STA. 3583+95, LT TO STA. 3588+56, LT

RESETTING SIGNS
STA. 3981+33, RT
STA. 3584+40, LT



GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568signs.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SIGNS, MARKINGS, AND DRAINAGE 3	SHEET 57 OF 112

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

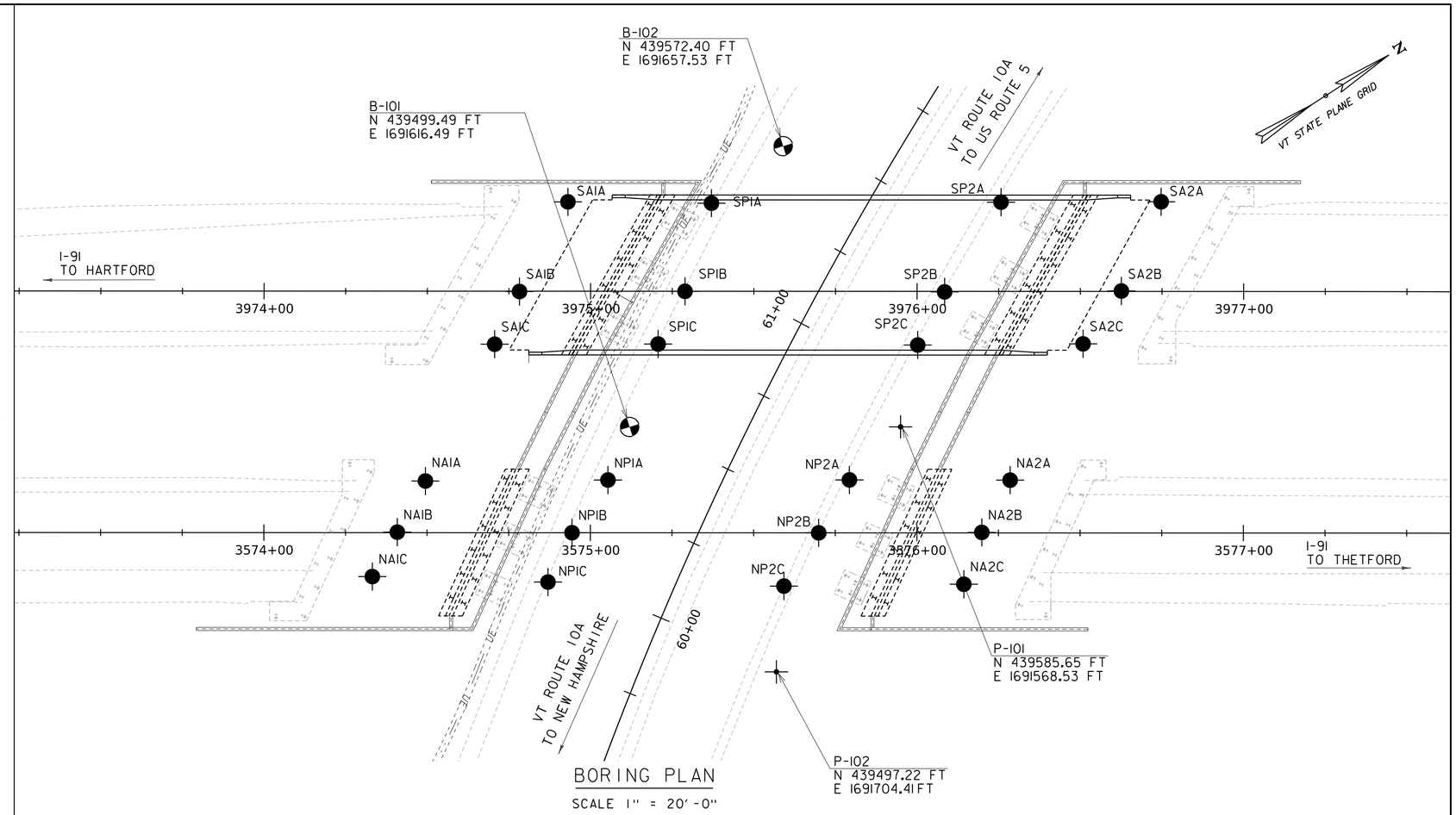
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING PLAN

SCALE 1" = 20'-0"

BORING NO.	SOUTHBOUND STATION	SOUTHBOUND OFFSET	NORTHBOUND STATION	NORTHBOUND OFFSET	GROUND ELEV.	BEDROCK ELEV.
B-101	3975+11.98	41.60	3575+12.03	-32.40	475.43	445.03
P-101	3975+94.98	41.52	3575+95.03	-32.48	473.78	440.28
B-102	3975+58.98	-44.48	-	-	477.64	442.14
P-102	-	-	3575+57.03	42.62	471.82	428.32

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between March 10, 2023 and March 22, 2023 by the Vermont Agency of Transportation.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Vermont Agency of Transportation and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

NOTES:

BORING INFORMATION TAKEN FROM THE OCTOBER 1965 RECORD PLANS. APPROXIMATE LOCATIONS SHOWN, FOR INFORMATION ONLY.

SOIL PROBE

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568boring.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
BORING LAYOUT

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L.CECCHI
SHEET 58 OF 112

BOTTOM OF ABUTMENT #3
PILE CAP EL=487.20

ABUTMENT 3 EST. PILE TIP
EL = 432.36

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Norwich
IM 091-2(89)
IM 91 Bridge 48 N/S VT Route 10A

Boring No.: B-101
Page No.: 1 of 1
Pin No.: 12A568
Checked By: AJA

Boring Crew: McGinley, Monette, Brochu, Arles
Date Started: 3/10/23 Date Finished: 3/13/23
VTSPG NAD83: N 439499.49 ft E 1691616.49 ft
SB Station: 3975+11.98 Offset: 41.6 RT
NB Station: 3575+12.03 Offset: 32.4 LT
Ground Elevation: 475.43 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/13/23	20.7	WT After Drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, ASPHALT 0.0'-1.05'								
		A-1-b, gry/brn, MTD, Rec. = 1.0 ft, GRAVEL and SAND, little silt. Field Note: Gravel in end of sampler				15-21-21-22 (42)	5.7	42.1	42.7	15.2
		A-2-4, gry/brn, MTD, Rec. = 2.0 ft, SAND, some gravel, little silt. Field Note: Broken rock/gravel within sample				29-33-54-38 (87)	7.8	22.0	58.1	19.9
5		A-2-4, brn, Dry, Rec. = 1.3 ft, SAND, some silt, some gravel				44-24-19-13 (43)	6.5	20.7	52.0	27.3
		A-2-4, brn, Moist, Rec. = 1.9 ft, SAND, some silt, trace gravel				5-5-5-11 (10)	9.3	7.2	72.8	20.0
10		A-2-4, brn, MTD, Rec. = 2.0 ft, SAND, some silt, little gravel				14-14-16-16 (30)	11.0	11.5	68.2	20.3
15		A-1-a, gry, MTW, Rec. = 0.5 ft, GRAVEL, some sand, trace silt. Rollercone cleanout 19.4'-20.0'				15-10-10-9 (20)	16.1	57.7	33.9	8.4
20		A-4, brn, Moist, Rec. = 0.95 ft, SILT and GRAVEL, some sand. Field Note: Sample transition to poorly graded, fine, SAND in last 0.4 ft of sample				21-18-10-7 (28)	3.3	38.0	24.3	37.7
25		A-4, brn, MTW, Rec. = 0.6 ft, SILT, little gravel, trace sand				25-18-9-10 (27)	29.6	11.6	7.7	80.7
30		Field Note, Rec. = 0.0 ft, Refusal @ 30.4', 50 blows per 6"				R@4" (R)	Top of Bedrock @ 30.4 ft			
		30.4 ft - 35.4 ft, Dark-gray hornblende-plagioclase-iotite-mica-chlorite SCHIST, interlayed with thin bands of white LIMESTONE. Fine grained. Natural breaks are slightly rust colored and dull. At 0.8-1.3', TUFF with phyllite pieces. Very close to close spacing. Hard, Very slightly weathered, Poor rock, NX, Slightly rough condition. RMR = 34	R-1 (55)	68 (0)	2 1 2 6 4					
35		35.4 ft - 40.4 ft, Greenish-dark-gray hornblende-plagioclase-biotite-mica-chlorite SCHIST interlayed with thin bands of white LIMESTONE. Fine-grained. Natural breaks are slightly rust colored and dull. Close spacing. Slightly rough condition. Hard, Very slightly weathered, Poor rock, NX, RMR = 39	R-2 (55)	80 (16)	6 6 8 18 9					
40		Hole stopped @ 40.4 ft								
45										

Remarks:
Hole Collapse @ 30.0'
Boring was advanced in the shoulder of VT Route 10A. Stationing and offset based on I-91 alignment.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.
4. "bgs" is used as the shorthand stand in for "Below Ground Surface".

BORING LOG NORWICH IM 091-2(89).GPJ VERMONT AOT.GDT 5/2/23

BOTTOM OF ABUTMENT #1
PILE CAP EL=488.39

ABUTMENT 1 EST. PILE TIP
EL = 449.42

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Norwich
IM 091-2(89)
IM 91 Bridge 48 N/S VT Route 10A

Boring No.: B-102
Page No.: 1 of 1
Pin No.: 12A568
Checked By: AJA

Boring Crew: McGinley, Brochu, Zottola
Date Started: 3/20/23 Date Finished: 3/22/23
VTSPG NAD83: N 439572.40 ft E 1691657.53 ft
SB Station: 3975+58.98 Offset: 44.5 LT
Ground Elevation: 477.64 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/22/23	30.7	WT After Drilling
03/22/23		No WT Before Drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, brn, MTD, Rec. = 1.3 ft, SAND, little gravel, little silt				8-4-4-4 (8)	6.6	17.9	68.8	13.3
		A-1-b, brn, MTD, Rec. = 0.9 ft, SAND, some gravel, little silt				4-5-6-10 (11)	5.2	22.3	66.8	10.9
		A-2-4, brn, MTD, Rec. = 1.9 ft, SAND, little gravel, little silt				10-16-20-22 (36)	9.8	16.9	67.1	16.0
		A-2-4, brn, MTD, Rec. = 1.5 ft, SAND, little gravel, little silt				22-19-15-12 (34)	7.0	19.4	64.5	16.1
10		A-2-4, brn, MTD, Rec. = 1.5 ft, SAND, some silt, little gravel. Rollercone cleanout 12.0'-13.0'				17-14-12-10 (26)	9.2	14.1	65.8	20.1
		Field Note, Rec. = 0.0 ft, No recovery. Rollercone cleanout 17.5'-18.0'				3-2-1-2 (3)				
20		A-4, brn, MTW, Rec. = 1.0 ft, SILT and SAND, little gravel. Rollercone cleanout 21.5'-23.0'				6-9-5-4 (14)	24.0	12.9	46.7	40.4
		A-4, brn, MTW, Rec. = 1.3 ft, SILT, trace sand, trace gravel				4-6-6-6 (12)	29.6	4.5	6.6	88.9
30		A-4, brn, MTW, Rec. = 1.2 ft, SILT, trace sand. Rollercone Cleanout 32.5'-33.0'				4-6-7-7 (13)	30.5		5.3	94.7
		Field Note, Rec. = 0.0 ft, Refusal @ 33.7', 50 blows per 6". Rollercone cleanout 33.0'-33.7'. Advanced casing to 35.0'. Rollercone cleanout to 35.5'				31-R@2" (R)				
		35.5 ft - 40.5 ft, Dark-gray hornblende-plagioclase-biotite-mica-chlorite SCHIST with small inclusions of limestone and quartz. Fine-grained. Very slightly weathered. Natural breaks have rust colored minerals and dulled in color. Close spacing. Slightly rough condition. Hard, Very slightly weathered, Poor rock, NX, RMR = 39	R-1 (65)	70 (13)	2 4 3 4 4					
40		40.5 ft - 45.5 ft, Dark-gray hornblende-plagioclase-biotite-mica-chlorite SCHIST with small inclusions of limestone and quartz. Fine-grained. Natural breaks are slightly rust colored and dulled in color. Close spacing. Slightly rough condition. Hard, Very slightly weathered, Fair rock, NX, RMR = 44	R-2 (65)	100 (39)	4 4 4 3 4					
		Hole stopped @ 45.5 ft								
50										

Remarks:
Hole Collapse @ 36.8'
Boring was advanced in the shoulder of VT Route 10A. Stationing and offset based on I-91 alignment.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.
4. "bgs" is used as the shorthand stand in for "Below Ground Surface".

BORING LOG NORWICH IM 091-2(89).GPJ VERMONT AOT.GDT 5/2/23

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568bor.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
BORING LOGS 1

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L.CECCHI
SHEET 59 OF 112

BOTTOM OF ABUTMENT #2
PILE CAP EL=485.19

ABUTMENT 2 EST. PILE TIP
EL = 441.53

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Norwich
IM 091-2(89)
IM 91 Bridge 48 N/S VT Route 10A

Boring No.: P-101
Page No.: 1 of 1
Pin No.: 12A568
Checked By: AJA

Boring Crew: McGinley, Monette, Zottola
Date Started: 3/13/23 Date Finished: 3/16/23
VTSPG NAD83: N 439585.65 ft E 1691568.53 ft
SB Station: 3975+94.98 Offset: 41.5 RT
NB Station: 3575+95.03 Offset: 32.5 LT
Ground Elevation: 473.78 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/16/23	15.9	WT After Drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Casing advanced to bedrock without sampling								
25		23.5 ft – 28.5 ft, Greenish-gray hornblende-plagioclase-biotite-mica-chlorite SCHIST interlayed with thin bands of white LIMESTONE. Fine-grained. Natural breaks are slightly rust colored and dull. Drilling marks on outside of core. Very close spacing. Hard, Very slightly weathered, Poor rock, NX, Slightly rough condition. RMR = 30	R-1 (40)	34 (0)	7 1 1 1 4	Top of Bedrock @ 23.5 ft				
30		28.5 ft – 33.5 ft, Greenish-gray hornblende-plagioclase-biotite-mica-chlorite SCHIST interlayed with thin bands of white LIMESTONE. Fine-grained. Natural breaks are slightly rust colored and dull. 0.4' – 0.95' rust stained, folliated. Close spacing. Hard, Very slightly weathered, Poor rock, NX, Slightly rough condition. RMR = 39	R-2 (55)	82 (16)	5 4 9 7 7					
35		Hole stopped @ 33.5 ft								

Remarks:
Hole Collapse @ 28.0'
Boring was advanced in the shoulder of VT Route 10A. Stationing and offset based on I-91 alignment.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.
4. "bgs" is used as the shorthand stand in for "Below Ground Surface".

BORING LOG NORWICH IM 091-2(89).GPJ VERMONT AOT.GDT 5/2/23

BOTTOM OF ABUTMENT #4
PILE CAP EL=484.00

ABUTMENT 4 EST. PILE TIP
EL = 424.92

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

Norwich
IM 091-2(89)
IM 91 Bridge 48 N/S VT Route 10A

Boring No.: P-102
Page No.: 1 of 1
Pin No.: 12A568
Checked By: AJA

Boring Crew: McGinley, Monette, Brochu, Zottola
Date Started: 3/17/23 Date Finished: 3/20/23
VTSPG NAD83: N 439497.22 ft E 1691704.41 ft
NB Station: 3575+57.03 Offset: 42.6 RT
Ground Elevation: 471.82 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes
03/17/23	10.3	WT After Drilling
03/20/23		No WT After Drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Casing advanced to bedrock without sampling								
45		43.5 ft – 48.5 ft, Dark-gray plagioclase-mica SCHIST and silver-greenish-gray plagioclase-mica-hornblende-biotite-chlorite PHYLLITE with small inclusions of limestone. Fine-grained. Natural breaks are dull. Very close spacing.Slightly rough condition. Hard, Very slightly weathered, Poor rock, NX, RMR = 33	R-1 (75)	28 (0)	6 7 4 3 5	Top of Bedrock @ 43.5 ft				
50		48.5 ft – 53.5 ft, Silver-greenish-gray plagioclase-mica-hornblende-biotite-chlorite PHYLLITE with small inclusions of limestone and quartz veins. Fine-grained. Natural breaks are slightly rust colored and dull. Close spacing. Slightly rough condition. Hard, Very slightly weathered, Fair rock, NX, RMR = 42	R-2 (75)	100 (42)	5 4 3 3 3					
60		Hole stopped @ 53.5 ft								

Remarks:
Hole Collapse @ 44.8'
Boring was advanced in the shoulder of VT Route 10A. Stationing and offset based on I-91 alignment.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.
4. "bgs" is used as the shorthand stand in for "Below Ground Surface".

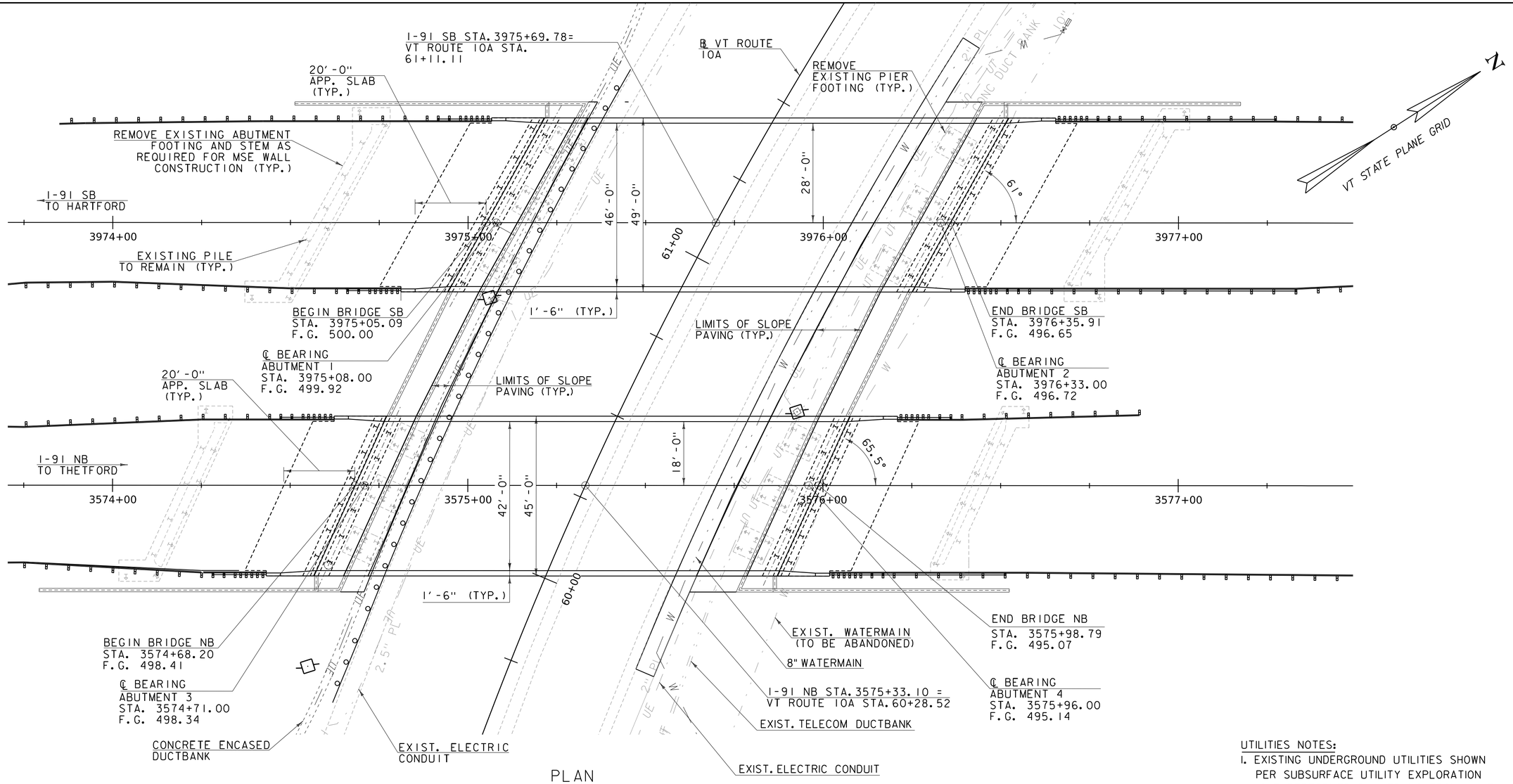
BORING LOG NORWICH IM 091-2(89).GPJ VERMONT AOT.GDT 5/2/23

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568bor.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
BORING LOGS 2

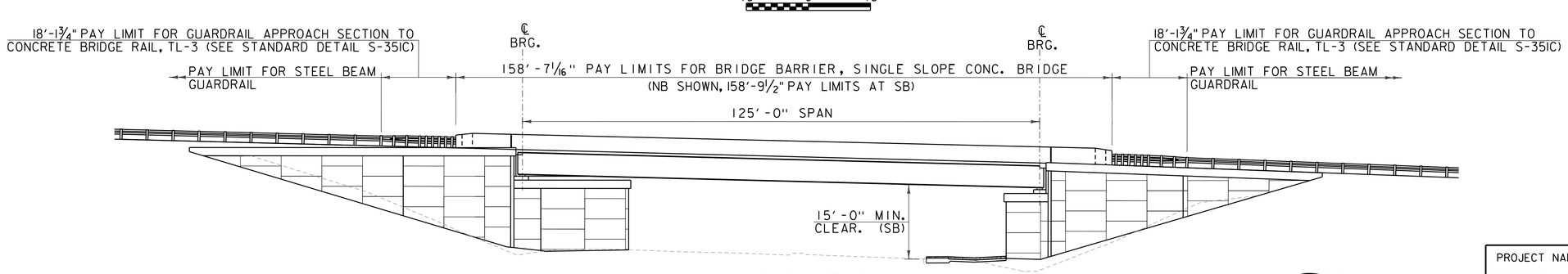
PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L.CECCHI
SHEET 60 OF 112



PLAN

SCALE 1" = 15'-0"

15 0 15



ELEVATION

SCALE 1" = 15'-0"

15 0 15

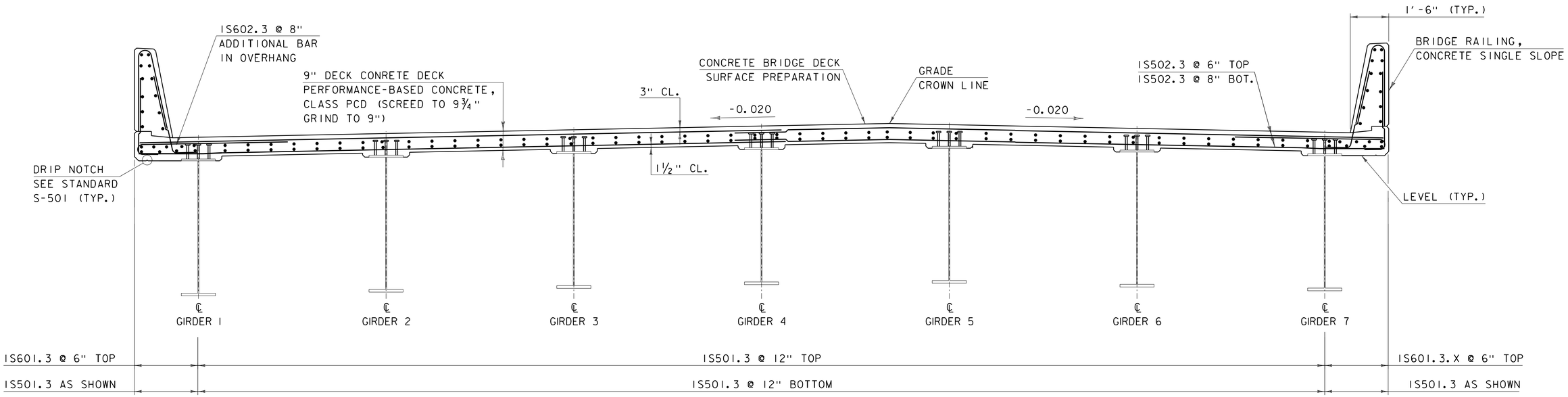
UTILITIES NOTES:

1. EXISTING UNDERGROUND UTILITIES SHOWN PER SUBSURFACE UTILITY EXPLORATION (SUE) PERFORMED BY VTRANS FROM JUNE 2023 TO OCTOBER 2023.

2. SEE UTILITY LAYOUT SHEET FOR INFORMATION NOT SHOWN.

GILL ENGINEERING

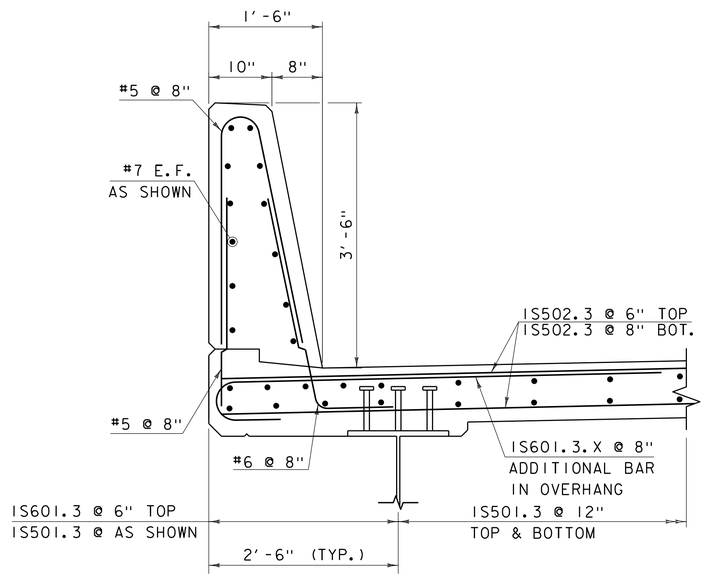
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568pe.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
PLAN & ELEVATION	SHEET 61 OF 112



NOTE:
SOUTHBOUND REINFORCEMENT SHOWN, NORTHBOUND SIMILAR.

TYPICAL DECK REINFORCEMENT SECTION

SCALE: ½" = 1'-0"



NOTES:

1. SOUTHBOUND REINFORCEMENT SHOWN, NORTHBOUND SIMILAR.
2. SEE BRIDGE RAILING DETAIL SHEETS FOR ADDITIONAL REINFORCEMENT DETAIL.

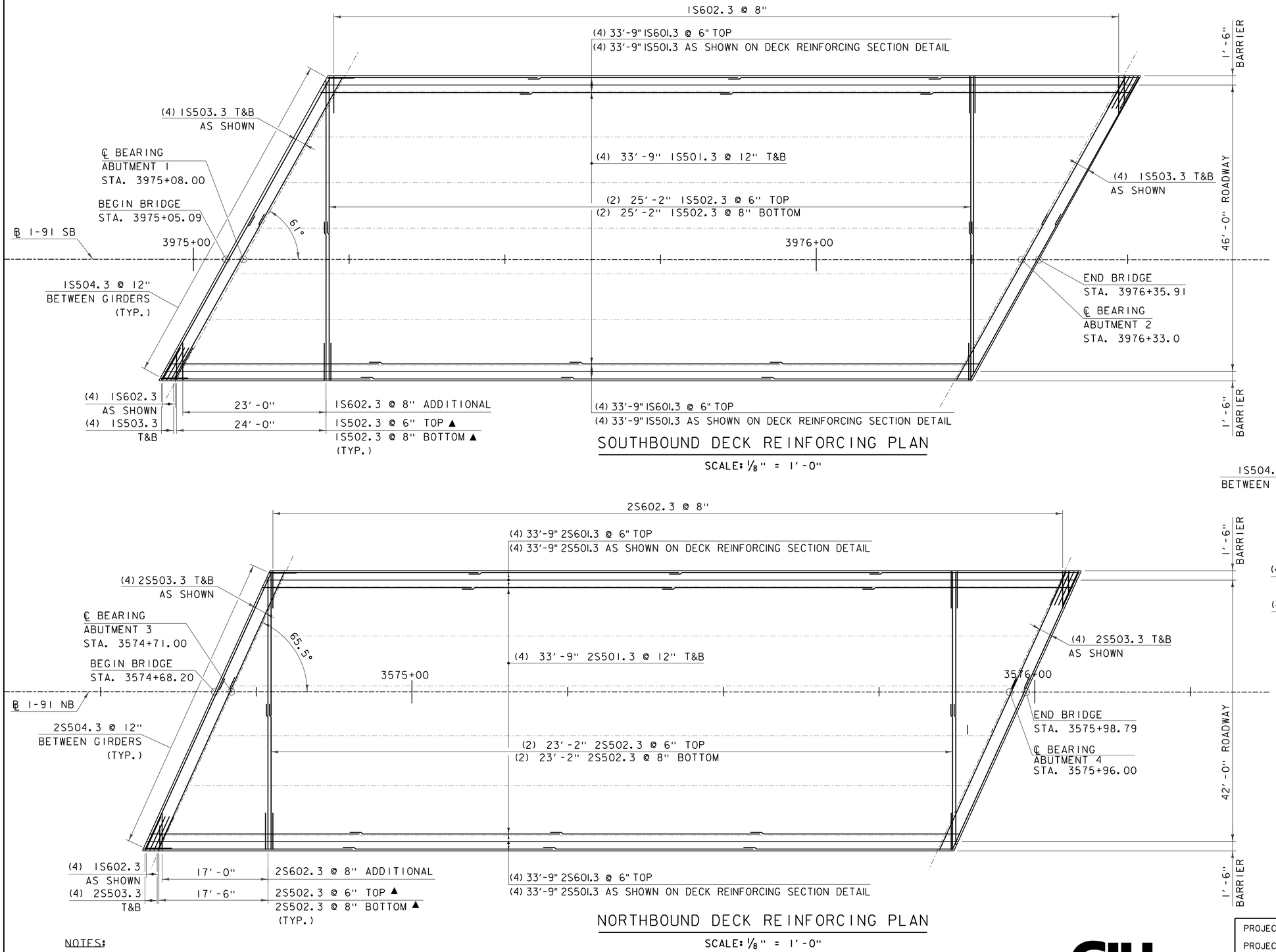
TYPICAL BARRIER DETAIL

SCALE: 1" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

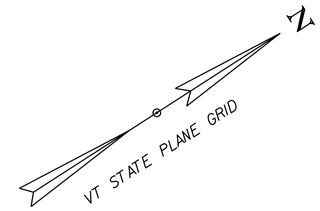
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: K.COLEMAN
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
DECK REINFORCING SECTION	SHEET 62 OF 112



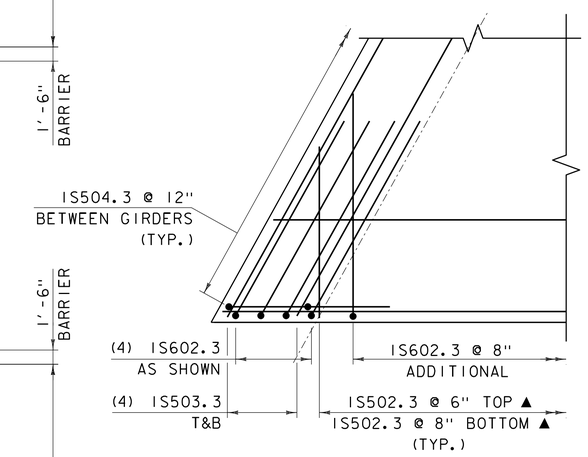
SOUTHBOUND DECK REINFORCING PLAN

SCALE: 1/8" = 1'-0"



NORTHBOUND DECK REINFORCING PLAN

SCALE: 1/8" = 1'-0"



ACUTE CORNER DETAIL

N. T. S.

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	SPLICE LENGTH
#5	1'-7"
#6	1'-11"

NOTES:

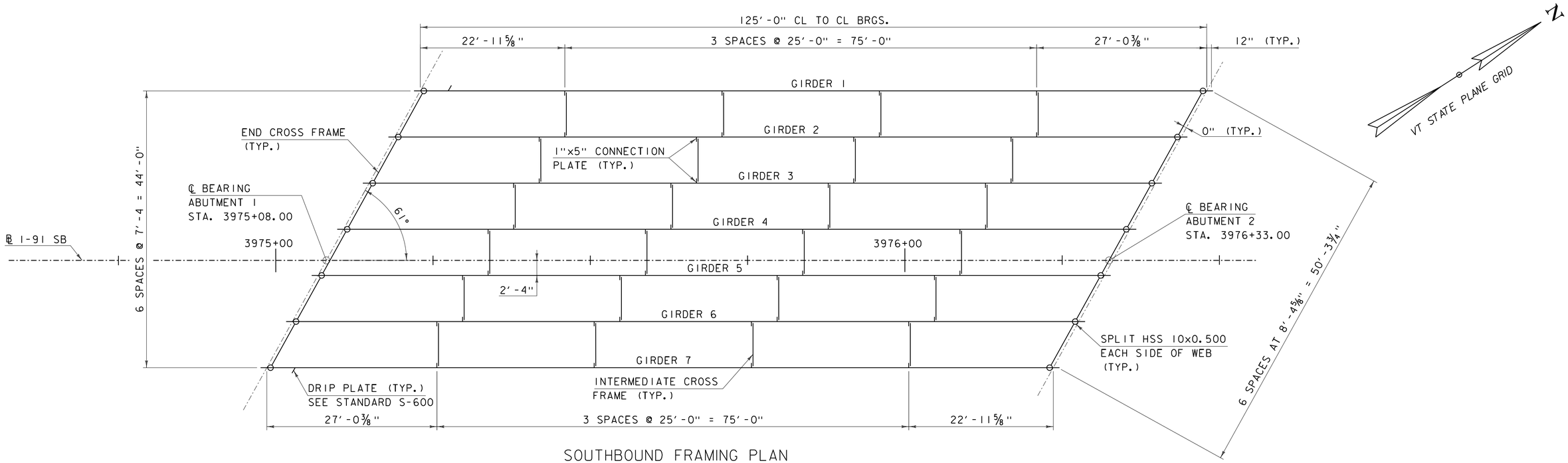
1. BRIDGE RAILING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE BRIDGE RAILING DETAILS FOR MORE INFORMATION.
2. ▲ = CUT TO FIT IN FIELD

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

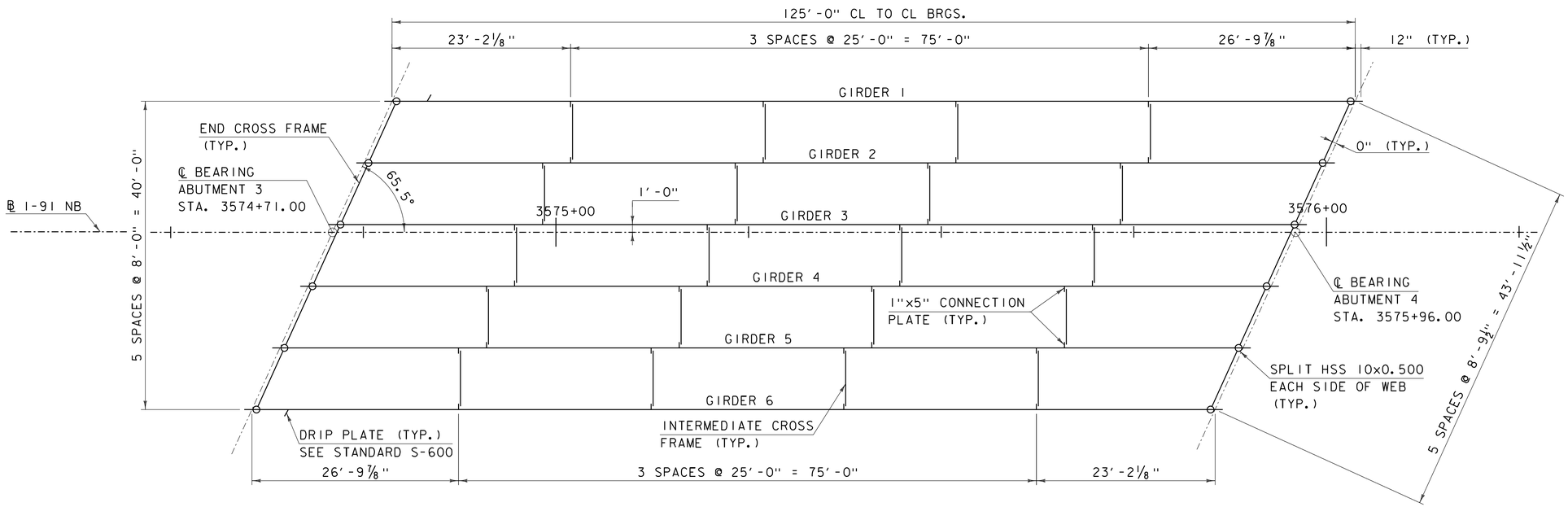
FILE NAME: z12a568sup.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
DECK REINFORCEMENT PLAN

PLOT DATE: 6/20/2024
DRAWN BY: K.COLEMAN
CHECKED BY: L.CECCHI
SHEET 63 OF 112



SOUTHBOUND FRAMING PLAN

SCALE ⅛" = 1-0"

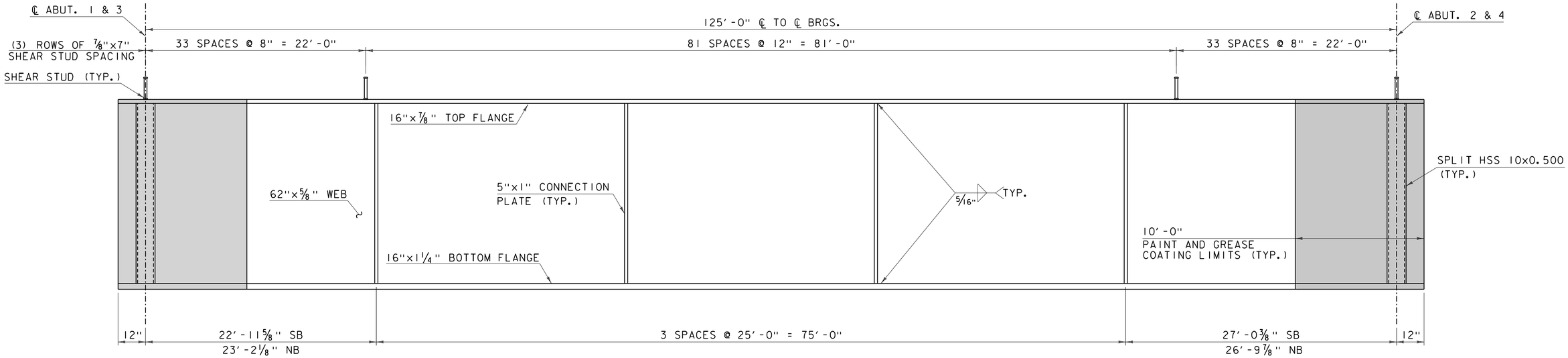


NORTHBOUND FRAMING PLAN

SCALE ⅛" = 1-0"

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: K. COLEMAN
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
FRAMING PLAN	SHEET 64 OF 112



TYPICAL GIRDER ELEVATION

SCALE: NTS

NOTES:

1. HSS TUBE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1085.
2. ALL GIRDERS ARE MAIN LOAD CARRYING MEMBERS AND SHALL RECEIVE CHARPY V-NOTCH TESTING. SEE SECTION 714 OF THE VERMONT STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. SEE DECK REINFORCING SECTION SHEET FOR ADDITIONAL SHEAR STUD DETAILS.
4. SEE STANDARD S-601 FOR BEARING STIFFENER, CONNECTION PLATE, AND CROSS FRAME DETAILS.
5. SEE STANDARD S-600 FOR DRIP PLATE DETAILS AND ADDITIONAL STRUCTURAL STEEL NOTES.

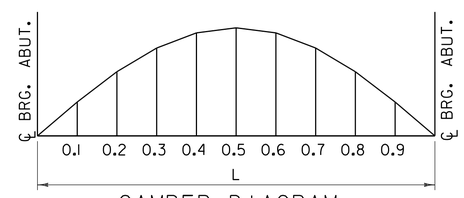
TABLE OF DEFLECTIONS AND CAMBER ORDINATES (INCHES)

NORTHBOUND

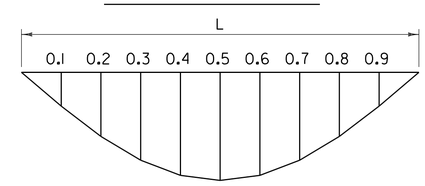
GIRDER	LOAD TYPE	ABUT. 1	0.1 L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	ABUT. 2
1&6	STEEL DEFLECTION	0.00	0.34	0.63	0.87	1.02	1.07	1.02	0.87	0.63	0.34	0.00
	SLAB DEFLECTION	0.00	1.06	2.00	2.73	3.20	3.36	3.20	2.73	2.00	1.06	0.00
	SDL DEFLECTION	0.00	0.31	0.58	0.80	0.94	0.98	0.94	0.80	0.58	0.31	0.00
	RESIDUAL CAMBER	0.00	0.56	1.00	1.31	1.50	1.56	1.50	1.31	1.00	0.56	0.00
	TOTAL CAMBER	**0.00**	**2.26**	**4.21**	**5.71**	**6.65**	**6.98**	**6.65**	**5.71**	**4.21**	**2.26**	**0.00**
2-5	STEEL DEFLECTION	0.00	0.35	0.66	0.90	1.05	1.10	1.05	0.90	0.66	0.35	0.00
	SLAB DEFLECTION	0.00	1.22	2.31	3.17	3.71	3.90	3.71	3.17	2.31	1.22	0.00
	SDL DEFLECTION	0.00	0.29	0.55	0.75	0.88	0.92	0.88	0.75	0.55	0.29	0.00
	RESIDUAL CAMBER	0.00	0.56	1.00	1.31	1.50	1.56	1.50	1.31	1.00	0.56	0.00
	TOTAL CAMBER	**0.00**	**2.42**	**4.52**	**6.13**	**7.14**	**7.49**	**7.14**	**6.13**	**4.52**	**2.42**	**0.00**

SOUTHBOUND

GIRDER	LOAD TYPE	ABUT. 1	0.1 L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	ABUT. 2
1&7	STEEL DEFLECTION	0.00	0.34	0.63	0.87	1.02	1.07	1.02	0.87	0.63	0.34	0.00
	SLAB DEFLECTION	0.00	1.01	1.90	2.61	3.05	3.20	3.05	2.61	1.90	1.01	0.00
	SDL DEFLECTION	0.00	0.28	0.54	0.74	0.86	0.91	0.86	0.74	0.54	0.28	0.00
	RESIDUAL CAMBER	0.00	0.56	1.00	1.31	1.50	1.56	1.50	1.31	1.00	0.56	0.00
	TOTAL CAMBER	**0.00**	**2.19**	**4.07**	**5.52**	**6.43**	**6.74**	**6.43**	**5.52**	**4.07**	**2.19**	**0.00**
2-6	STEEL DEFLECTION	0.00	0.34	0.63	0.87	1.02	1.07	1.02	0.87	0.63	0.34	0.00
	SLAB DEFLECTION	0.00	1.13	2.14	2.92	3.43	3.60	3.43	2.92	2.14	1.13	0.00
	SDL DEFLECTION	0.00	0.27	0.51	0.70	0.82	0.86	0.82	0.70	0.51	0.27	0.00
	RESIDUAL CAMBER	0.00	0.56	1.00	1.31	1.50	1.56	1.50	1.31	1.00	0.56	0.00
	TOTAL CAMBER	**0.00**	**2.30**	**4.28**	**5.80**	**6.76**	**7.09**	**6.76**	**5.80**	**4.28**	**2.30**	**0.00**



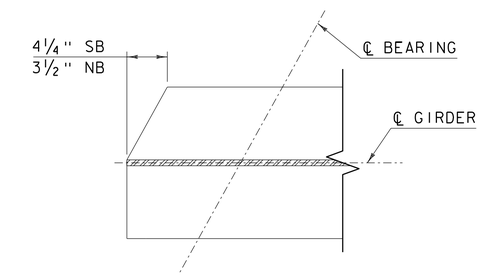
CAMBER DIAGRAM



DEFLECTION DIAGRAM

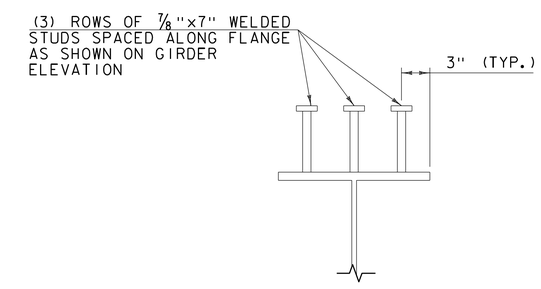
NOTES:

1. CAMBER AND DEAD LOAD MEASUREMENTS ARE GIVEN IN INCHES AT SPAN TENTH POINTS.
2. POSITIVE CAMBER VALUES ARE UPWARD, POSITIVE DEFLECTIONS ARE DOWNWARD.
3. STEEL DEFLECTION IS DUE TO GIRDERS AND CROSS FRAMES. CONCRETE DEFLECTION IS DUE TO DECK AND HAUNCHES. SDL DEFLECTION IS DUE TO BRIDGE RAILING.



GIRDER END DETAIL

SCALE: 1 1/2" = 1'-0"



NOTE:

SEE STANDARD S-600 FOR ADDITIONAL DETAIL.

SHEAR CONNECTOR DETAIL

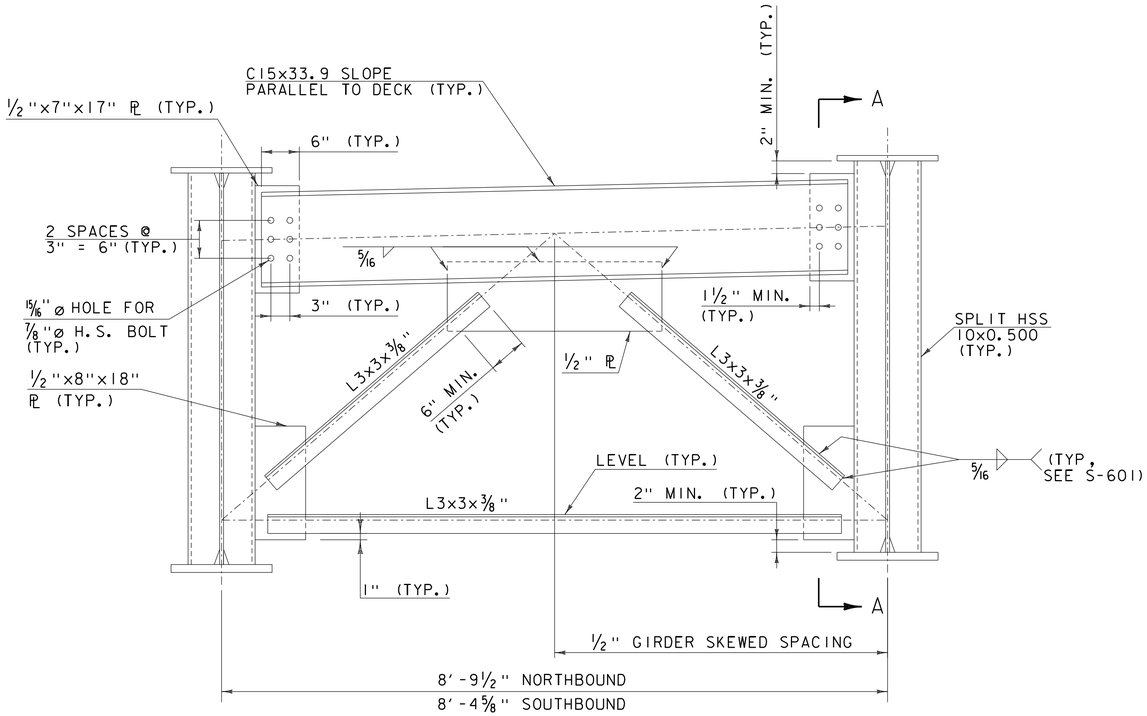
SCALE: 1 1/2" = 1'-0"

GILL ENGINEERING

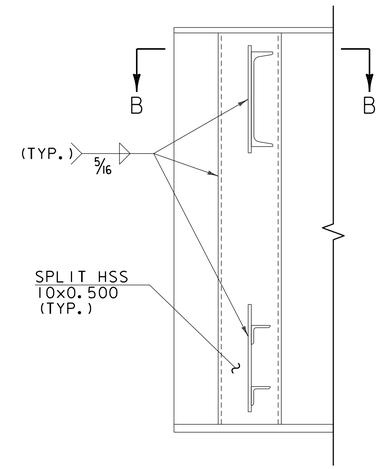
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568sup.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
GIRDER DETAILS

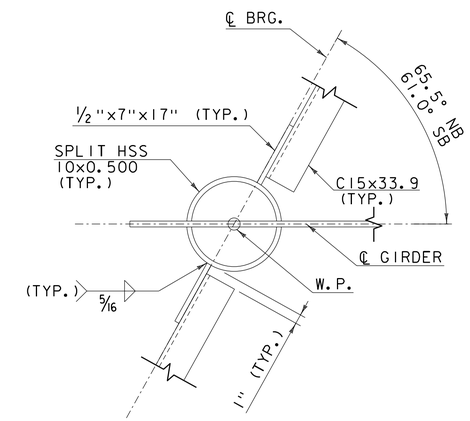
PLOT DATE: 6/20/2024
DRAWN BY: K.COLEMAN
CHECKED BY: L.CECCHI
SHEET 65 OF 112



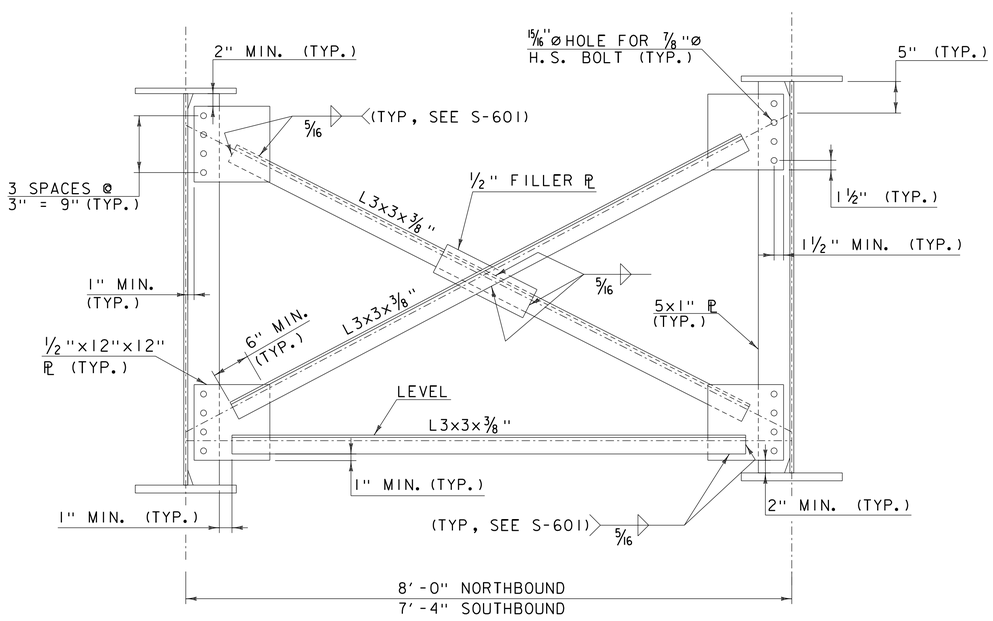
END CROSS FRAME
SCALE 1" = 1-0"



SECTION A-A
SCALE 1" = 1-0"



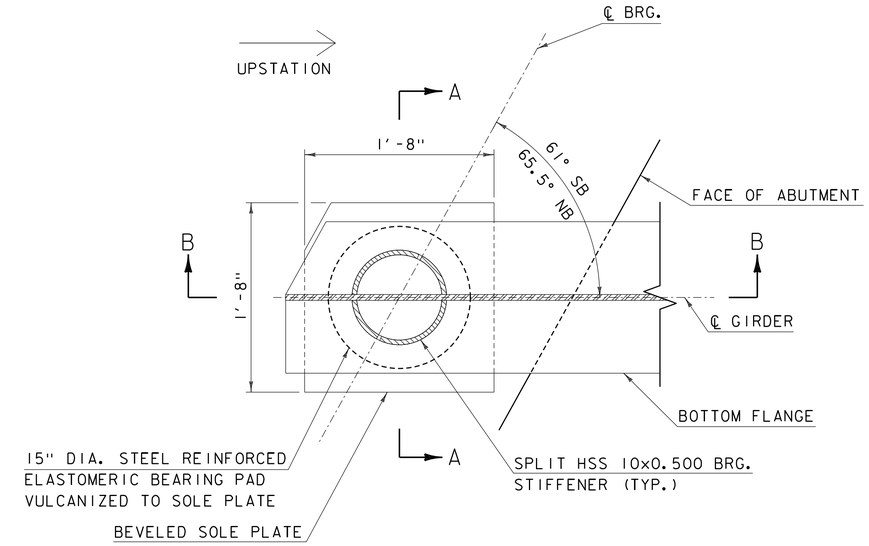
SECTION B-B
SCALE 1 1/2" = 1-0"



INTERMEDIATE CROSS FRAME
SCALE 1" = 1-0"

GILL ENGINEERING

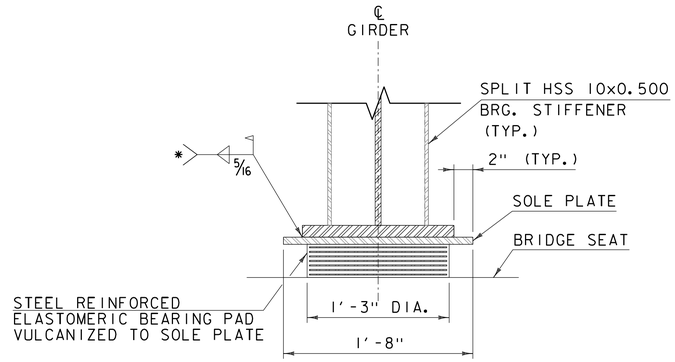
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
CROSS FRAME DETAILS	SHEET 66 OF 112



NOTE:
ABUTMENT 1 & 3 SHOWN, ABUTMENT 2 & 4 OPPOSITE HAND

ABUTMENT 1& 3 BEARING PLAN

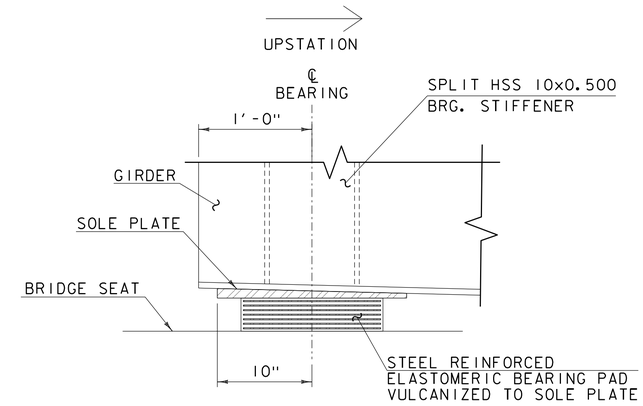
SCALE: 1½" = 1'-0"



(*) - WELDS SHALL TERMINATE ¼" FROM EDGE OF PLATE, MASKING AND TOUCH-UP PER STANDARD SPECIFICATIONS.

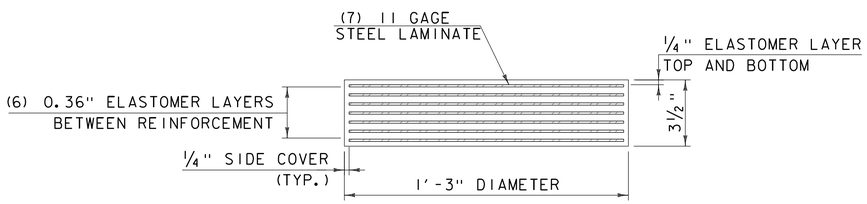
TRANSVERSE SECTION A-A

SCALE: 1½" = 1'-0"



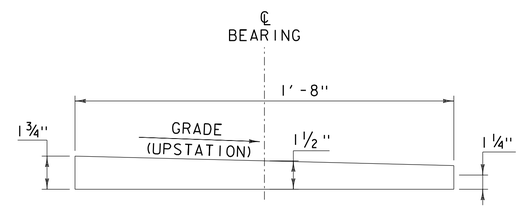
LONGITUDINAL SECTION B-B

SCALE: 1½" = 1'-0"



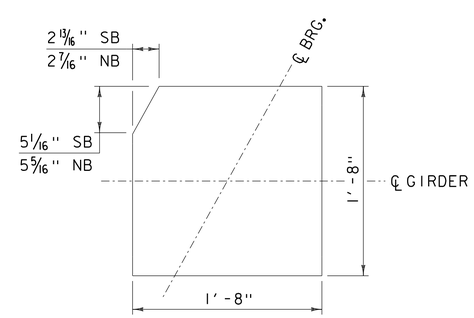
ELASTOMERIC BEARING PAD

SCALE: 3" = 1'-0"



BEVELED SOLE PLATE ELEVATION

SCALE: 3" = 1'-0"



BEVELED SOLE PLATE PLAN

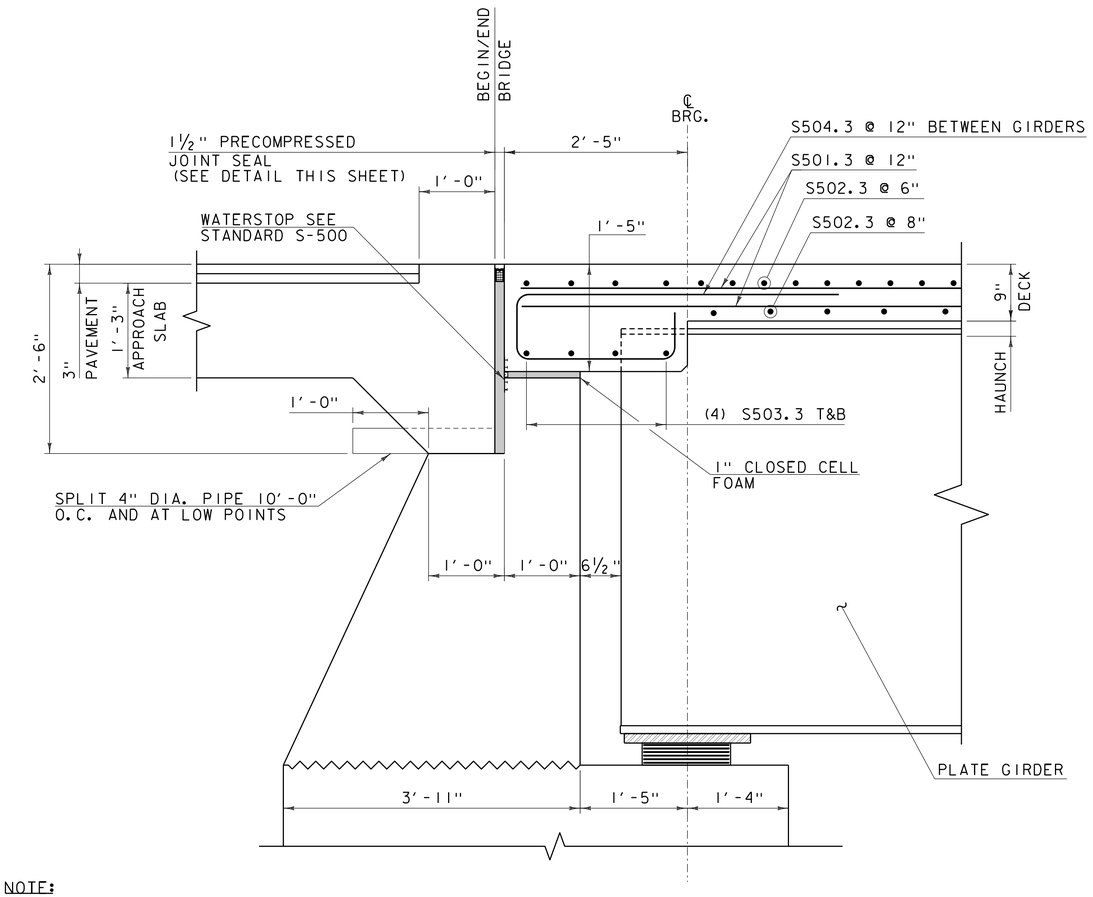
SCALE: 1½" = 1'-0"

NOTES:

1. BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF SECTION 531 AND SECTION 731.
2. BEARINGS WERE DESIGNED PER METHOD A OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 14.7.6. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 218 KIPS.
3. ELASTOMER SHALL BE DUROMETER 60, WITH A SHEAR MODULUS BETWEEN 130 AND 200 PSI. ELASTOMER SHALL HAVE A MINIMUM LOW-TEMPERATURE ELASTOMER GRADE OF 4.
4. STEEL LAMINATES SHALL MEET THE REQUIREMENTS OF AASHTO M270M/M270, GRADE 36. STEEL LAMINATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL. STEEL LAMINATES SHALL BE FREE OF SHARP EDGES AND BURRS.
5. STEEL SOLE PLATES SHALL CONFORM TO AASHTO M270, GRADE 50 AND SHALL BE GALVANIZED.
6. GALVANIZED MEMBERS THAT ARE TO BE WELDED AFTER GALVANIZING SHALL BE MASKED 1 IN. (25 MM) ON EITHER SIDE OF THE WELD LINE PRIOR TO GALVANIZING.
7. ELASTOMERIC BEARING PADS SHALL BE VULCANIZED TO THE SOLE PLATE.
8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER BEARING IS INSTALLED.
9. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.

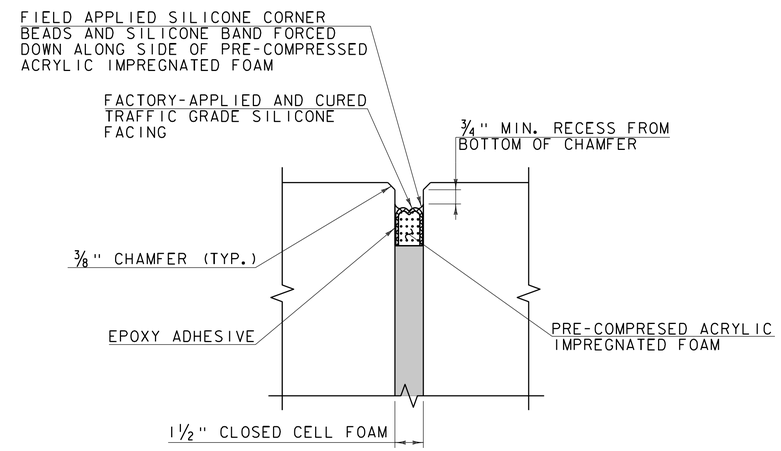
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
BEARING DETAILS	SHEET 67 OF 112



NOTE:
ALL HORIZONTAL DIMENSIONS ARE PERPENDICULAR TO CENTERLINE OF BEARING.

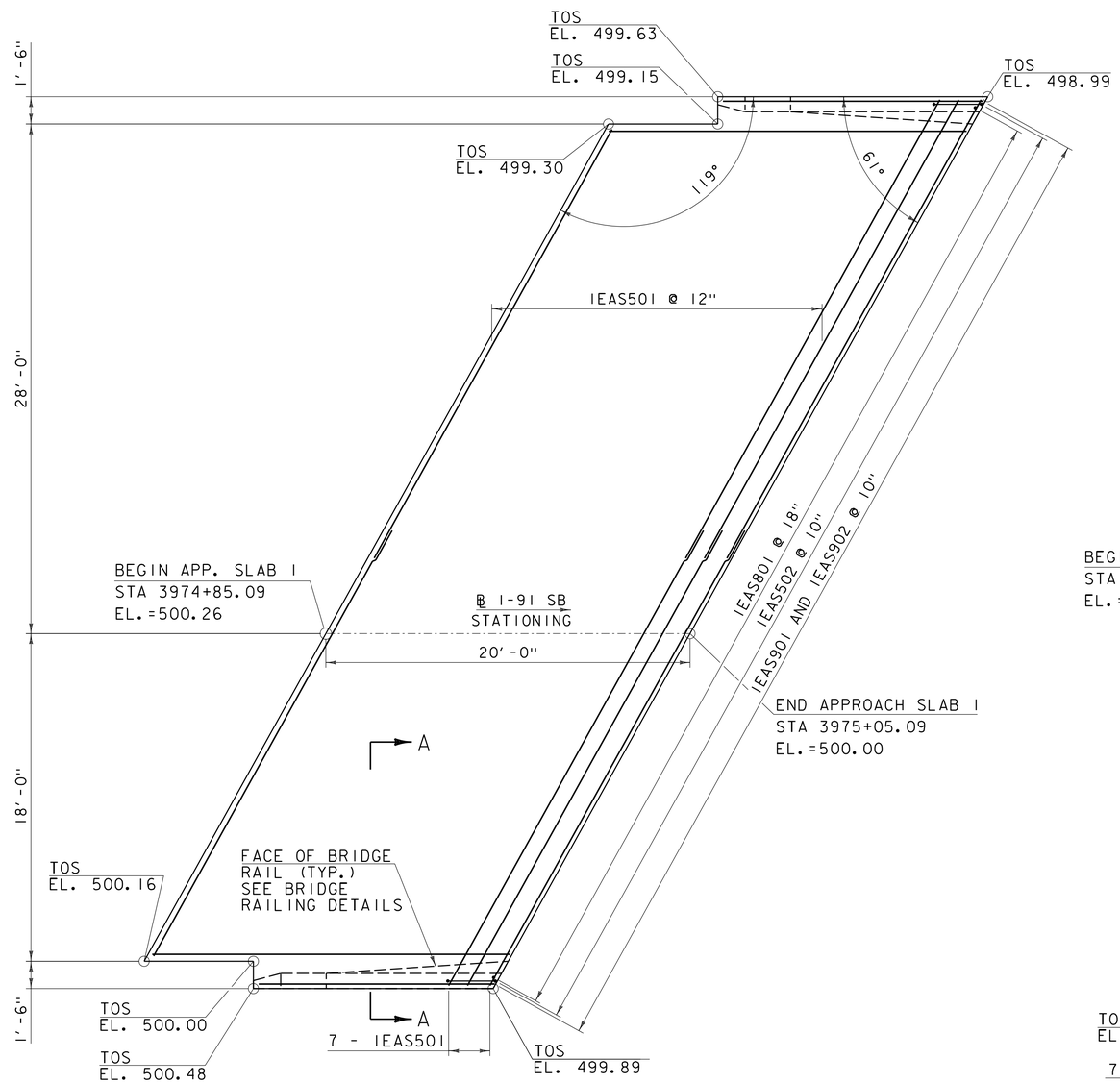
BRIDGE END DETAIL
SCALE: 1" = 1'-0"



PRE-COMPRESSED JOINT SEAL
SCALE: 3" = 1'-0"

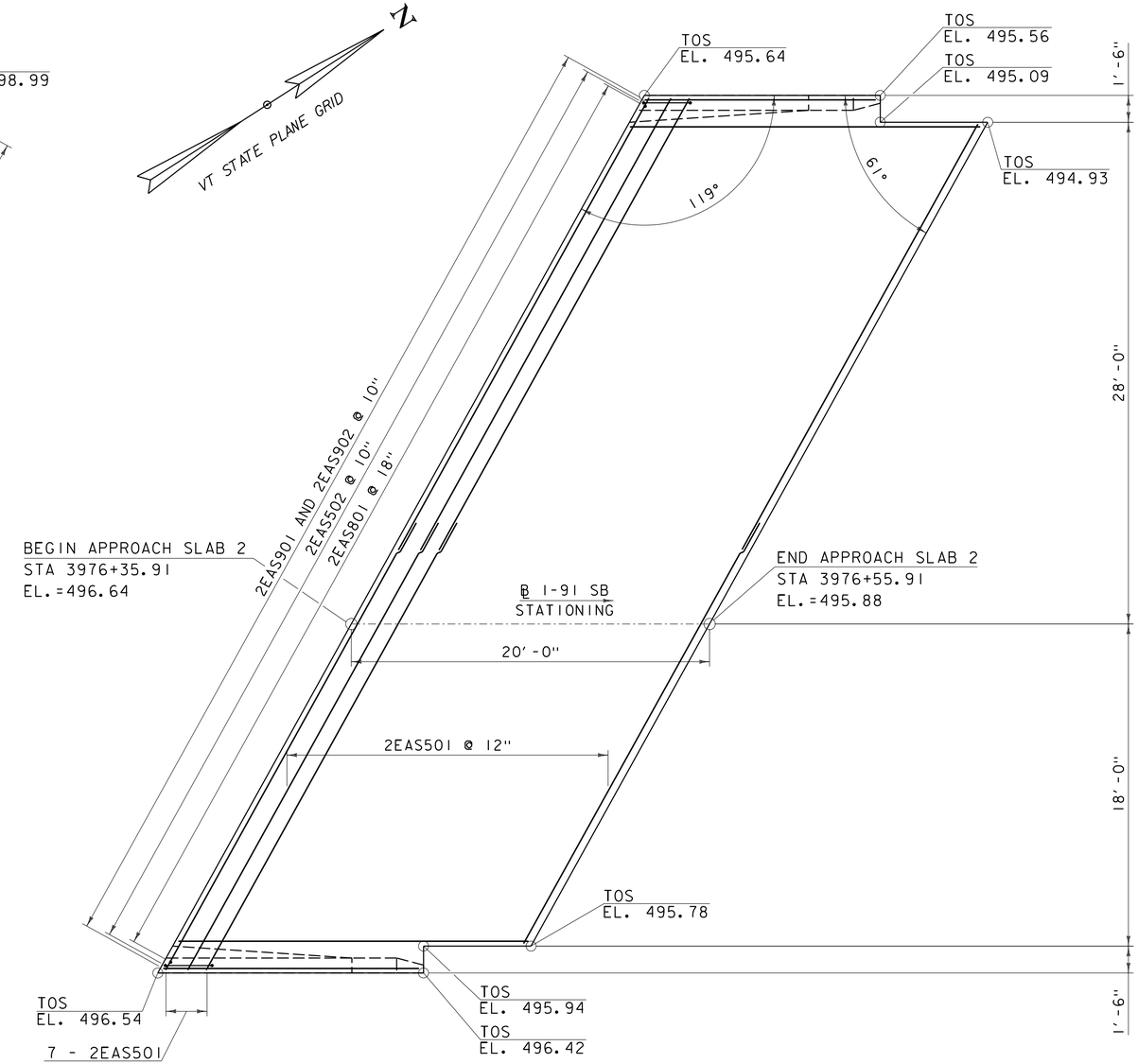
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
BRIDGE END DETAILS	SHEET 68 OF 112



APPROACH SLAB 1 PLAN

SCALE: ¼" = 1'-0"

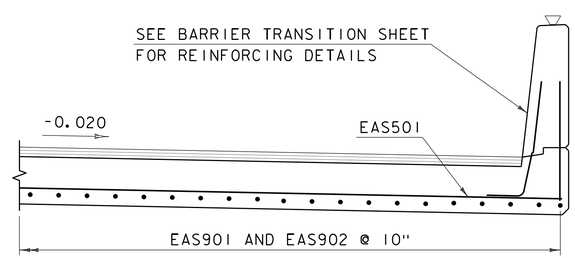


APPROACH SLAB 2 PLAN

SCALE: ¼" = 1'-0"

NOTE:

TOS = TOP OF SLAB

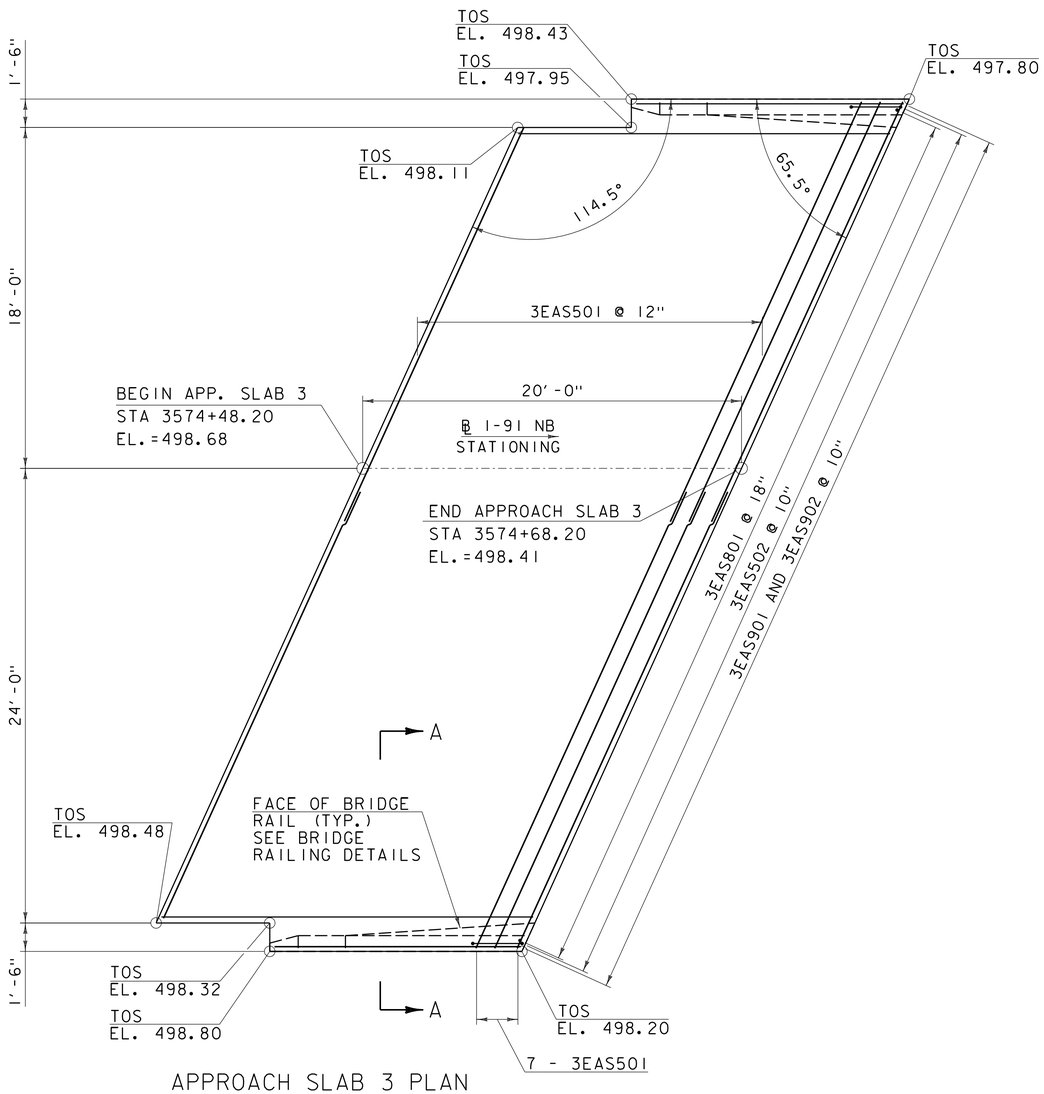


SECTION A-A - APPROACH SLAB

SCALE: ½" = 1'-0"

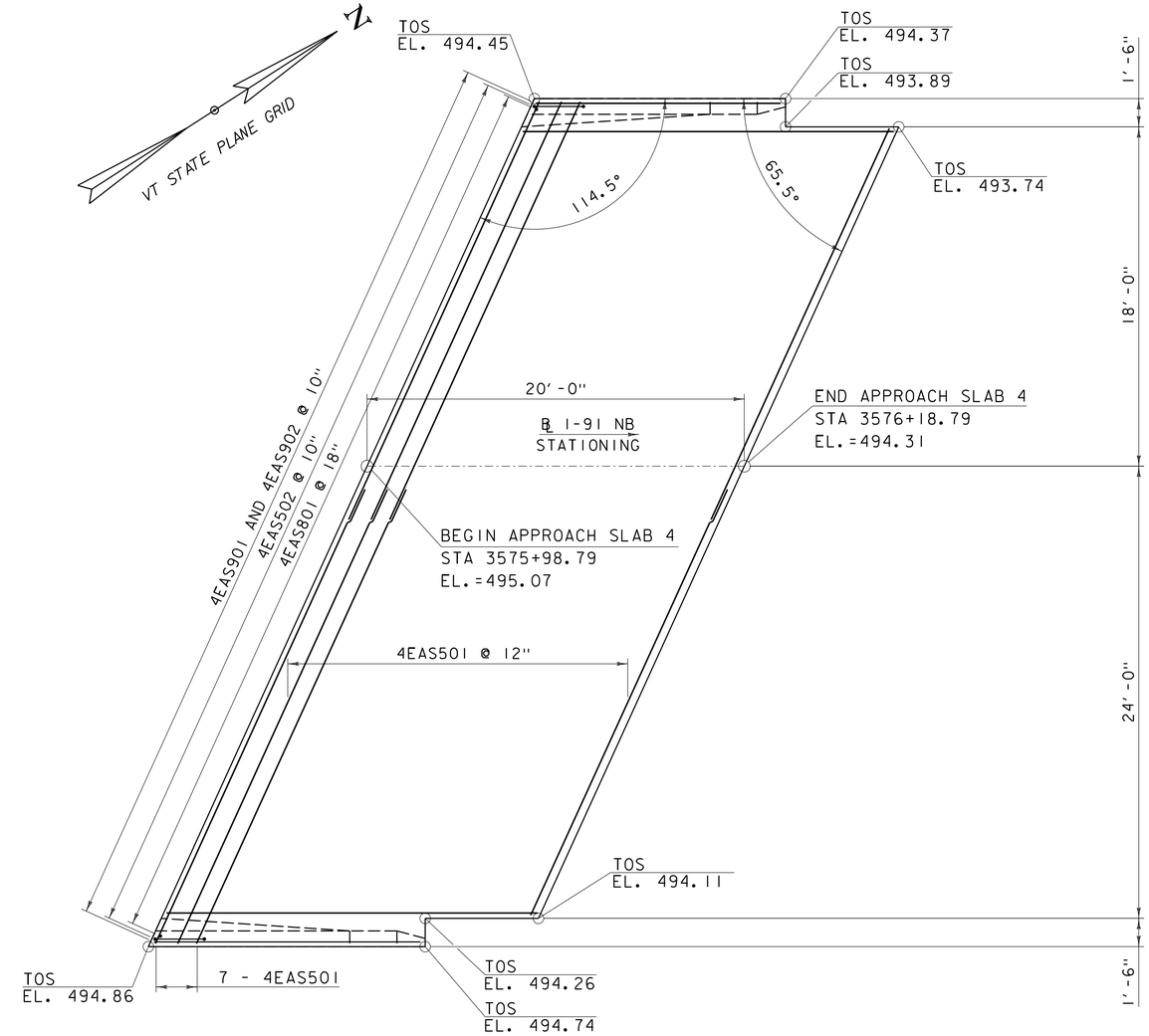
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
APPROACH SLAB DETAILS (1 OF 2)	SHEET 69 OF 112



APPROACH SLAB 3 PLAN

SCALE: ¼" = 1'-0"

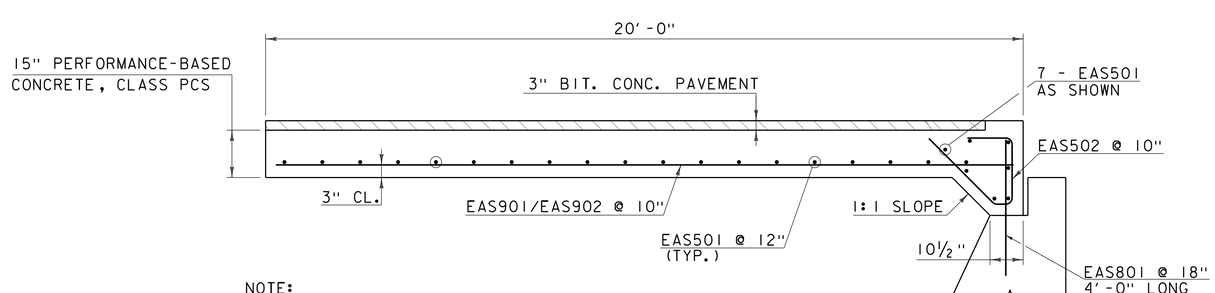


APPROACH SLAB 4 PLAN

SCALE: ¼" = 1'-0"

NOTE:

TOS = TOP OF SLAB



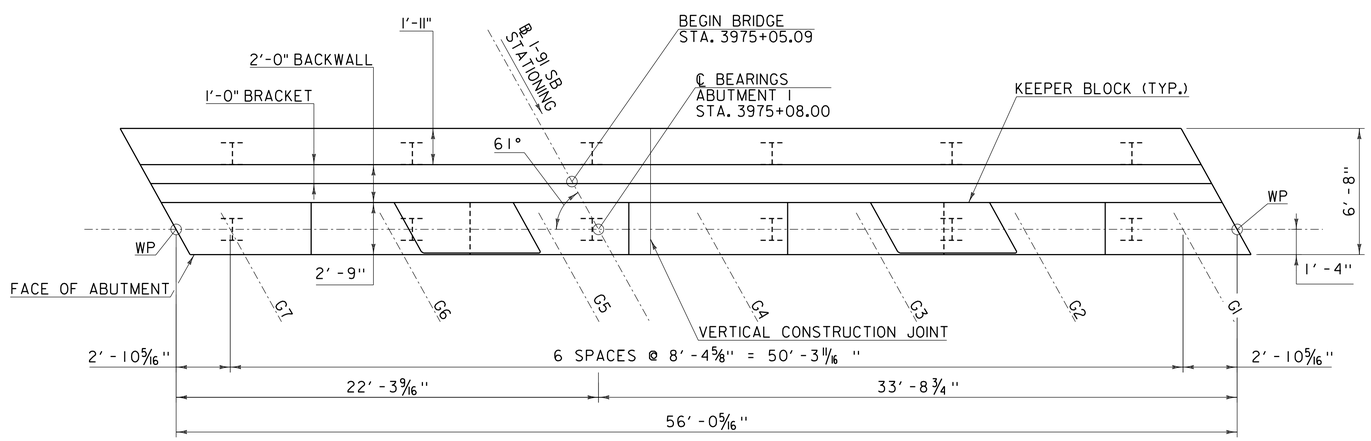
NOTE:
DETAIL SHOWN FOR BEGIN BRIDGE APPROACH SLAB.
END BRIDGE APPROACH SLAB IS MIRROR IMAGE OF THIS DETAIL.

APPROACH SLAB TYPICAL

SCALE: ½" = 1'-0"

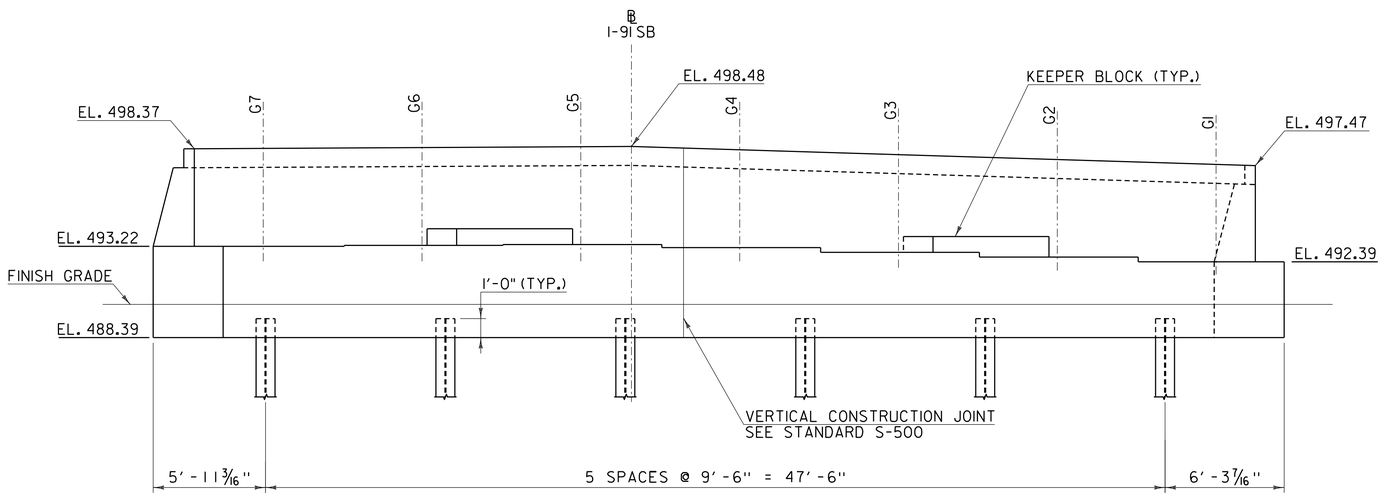
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568sup.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
APPROACH SLAB DETAILS (2 OF 2)	SHEET 70 OF 112



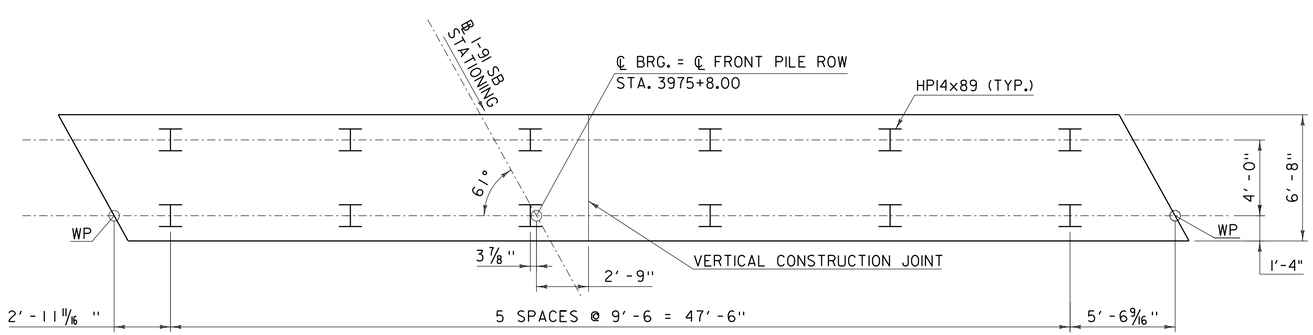
ABUTMENT 1 PLAN

SCALE 1/4" = 1'-0"



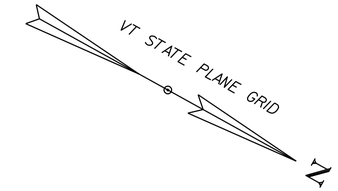
ABUTMENT 1 ELEVATION

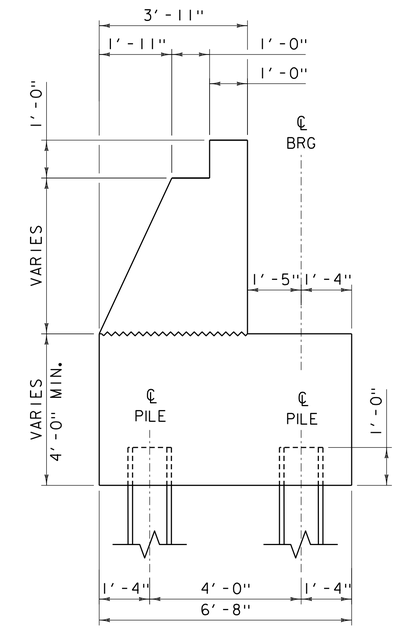
SCALE 1/4" = 1'-0"



ABUTMENT 1 PILE CAP PLAN

SCALE 1/4" = 1'-0"





ABUTMENT 1 SECTION

SCALE 1/2" = 1-0"

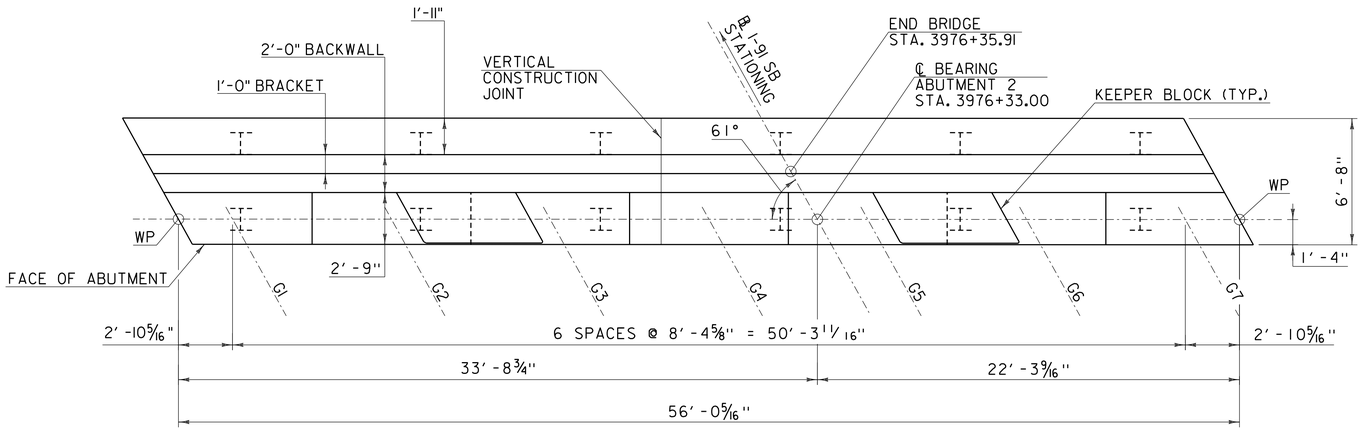
GIRDER	BRIDGE SEAT ELEV.
G1	492.39
G2	492.65
G3	492.90
G4	493.15
G5	493.30
G6	493.26
G7	493.22

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

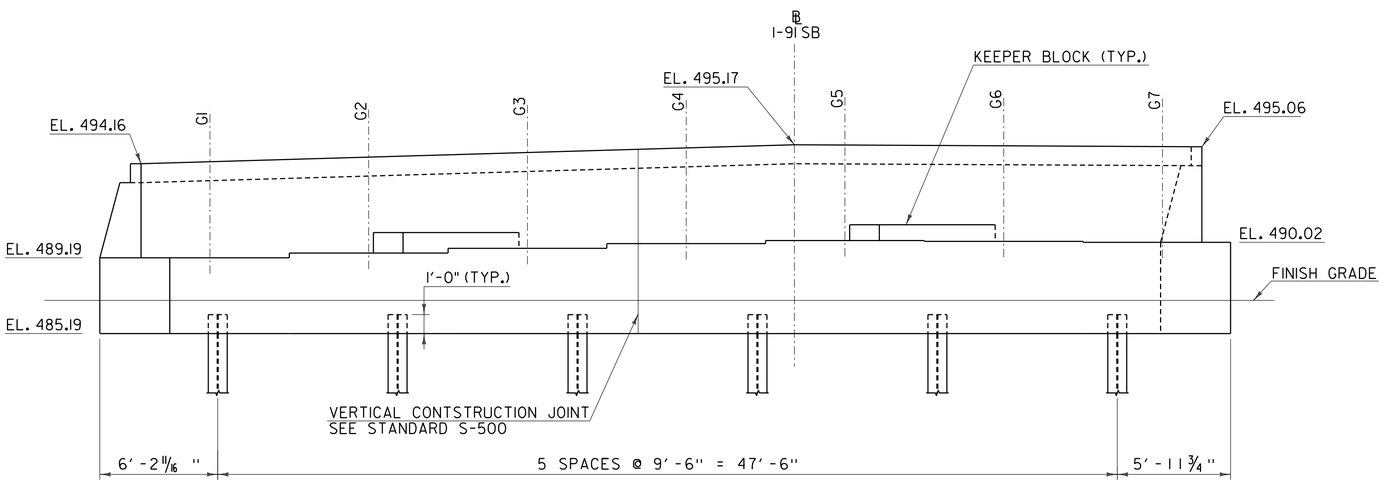
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 1

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L. CECCHI
SHEET 71 OF 112



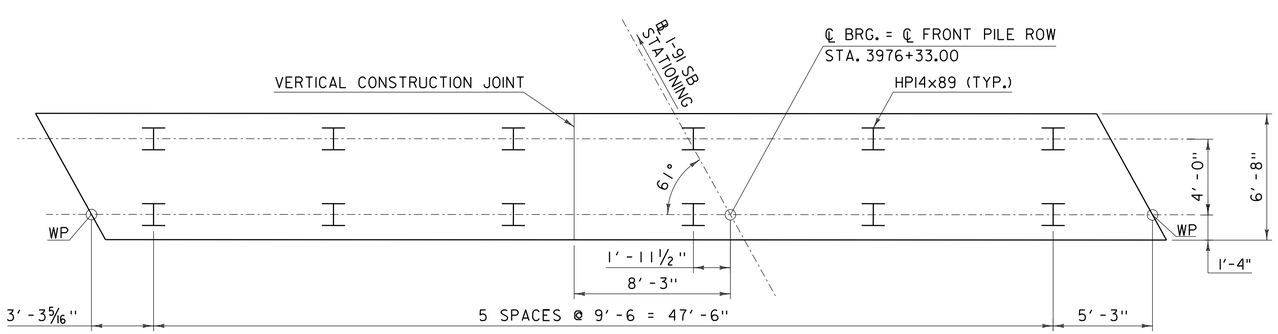
ABUTMENT 2 PLAN

SCALE 1/4" = 1'-0"



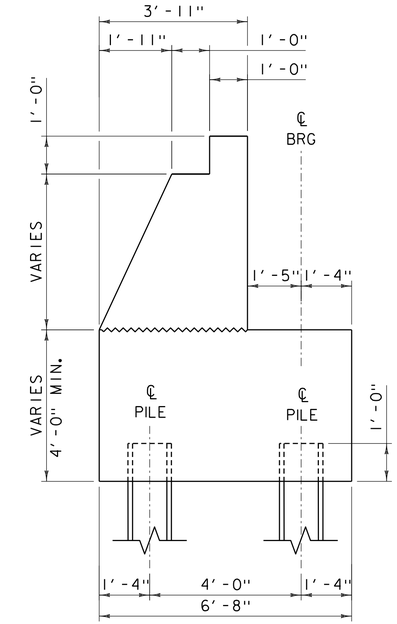
ABUTMENT 2 ELEVATION

SCALE 1/4" = 1'-0"



ABUTMENT 2 PILE CAP PLAN

SCALE 1/4" = 1'-0"



ABUTMENT 2 SECTION

SCALE 1/2" = 1-0"

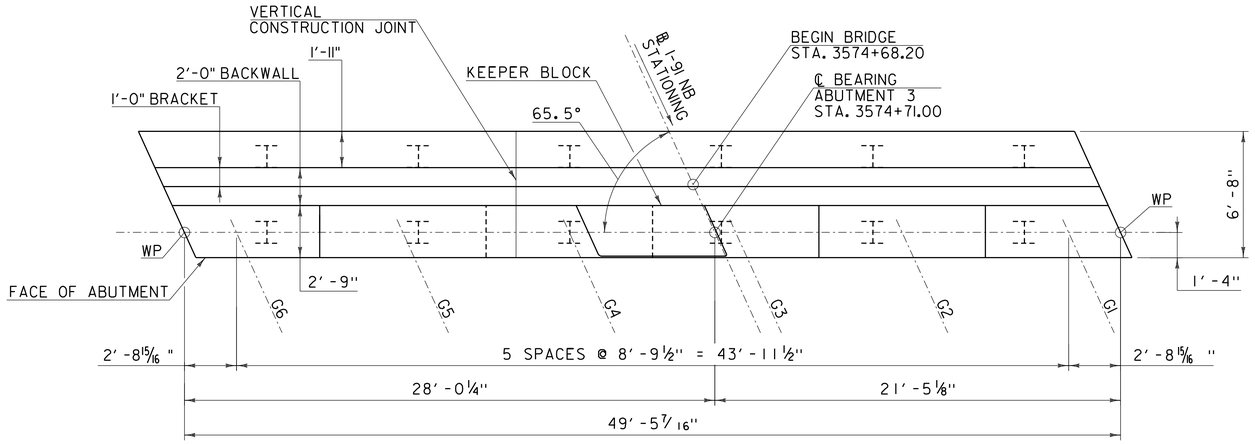
GIRDER	BRIDGE SEAT ELEV.
G1	489.19
G2	489.45
G3	489.70
G4	489.95
G5	490.10
G6	490.06
G7	490.02

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

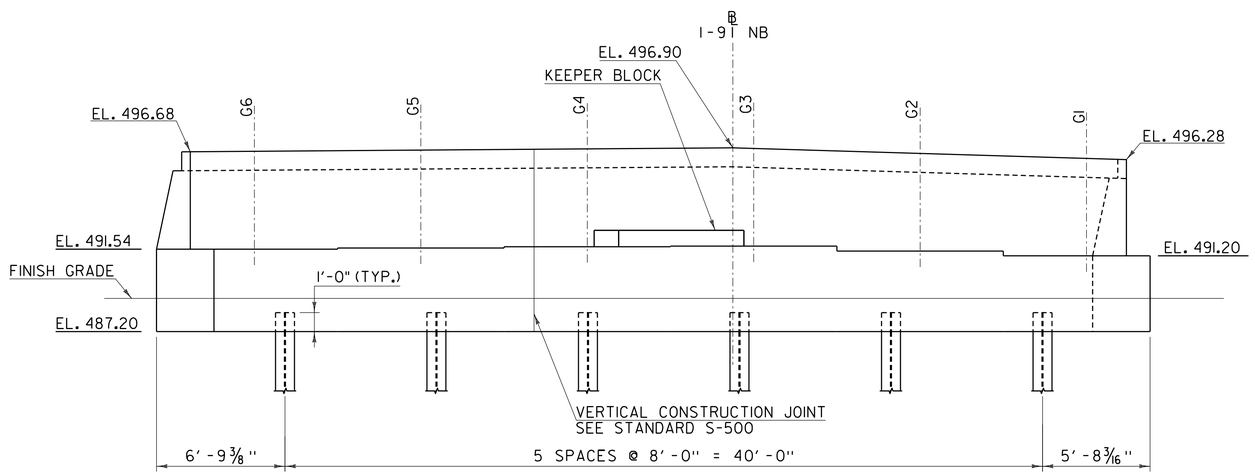
FILE NAME: zl2a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 2

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L. CECCHI
SHEET 72 OF 112



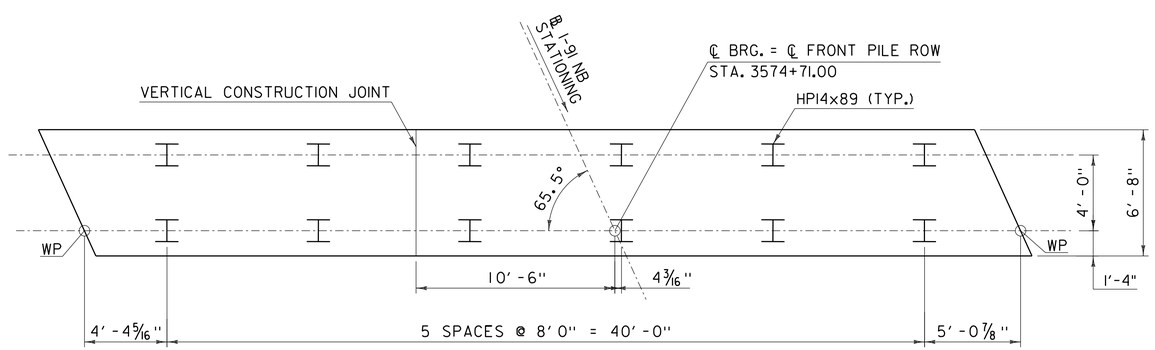
ABUTMENT 3 PLAN

SCALE 1/4" = 1'-0"



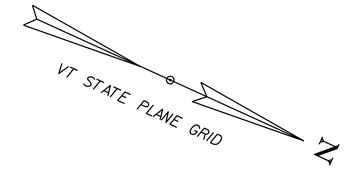
ABUTMENT 3 ELEVATION

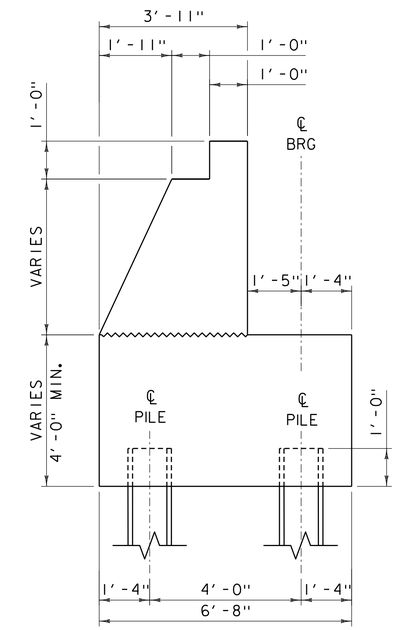
SCALE 1/4" = 1'-0"



ABUTMENT 3 PILE CAP PLAN

SCALE 1/4" = 1'-0"





ABUTMENT 3 SECTION

SCALE 1/2" = 1'-0"

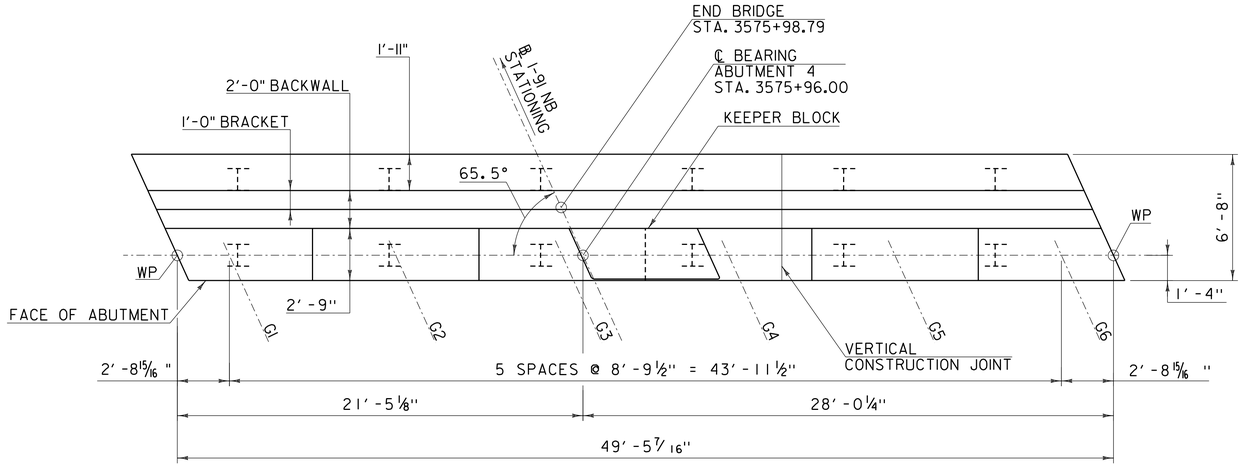
GIRDER	BRIDGE SEAT ELEV.
G1	491.20
G2	491.45
G3	491.70
G4	491.68
G5	491.61
G6	491.54

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

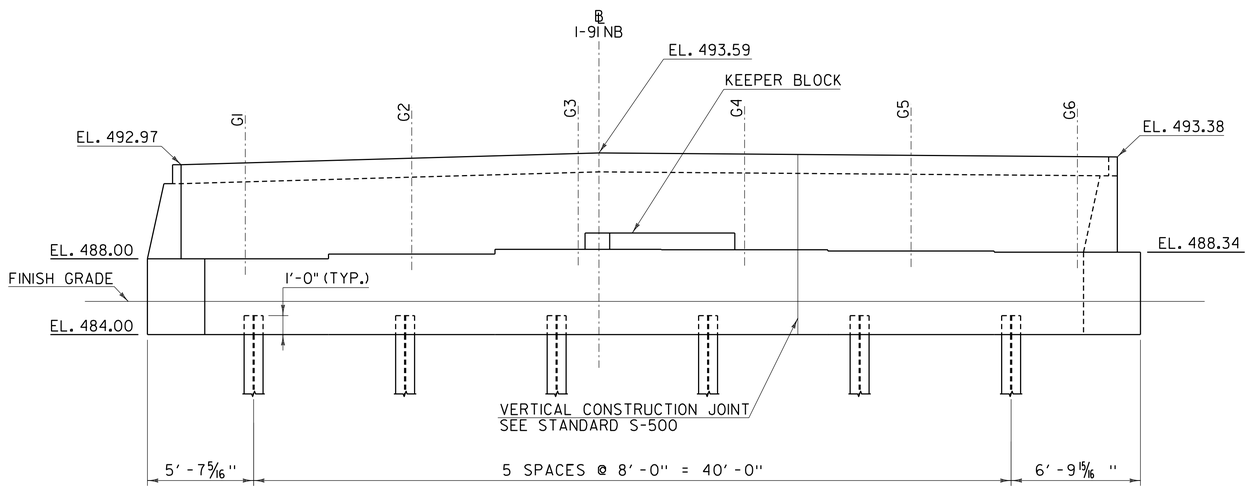
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 3

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L. CECCHI
SHEET 73 OF 112



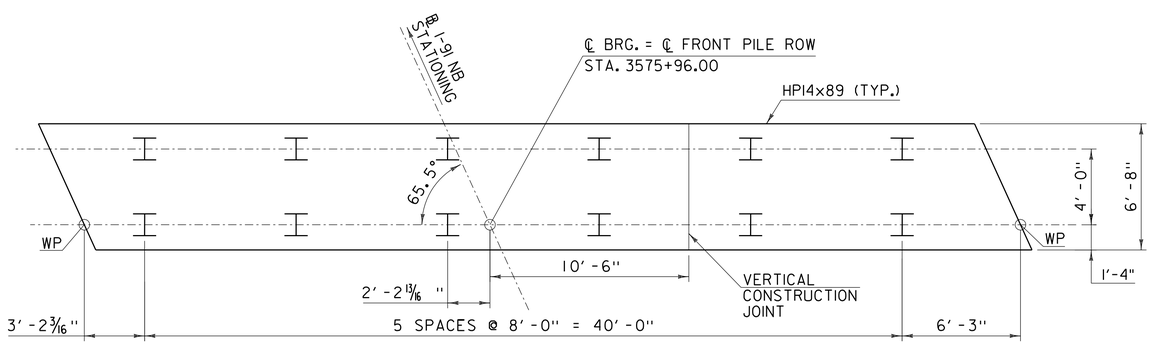
ABUTMENT 4 PLAN

SCALE 1/4" = 1'-0"



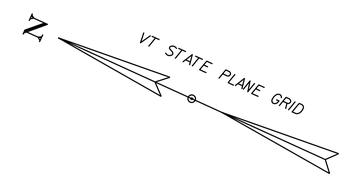
ABUTMENT 4 ELEVATION

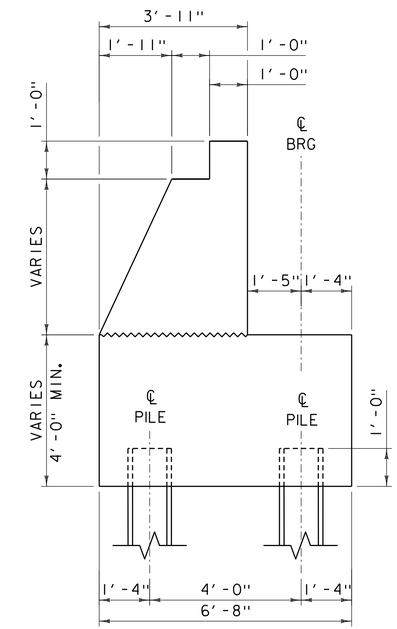
SCALE 1/4" = 1'-0"



ABUTMENT 4 PILE CAP PLAN

SCALE 1/4" = 1'-0"





ABUTMENT 4 SECTION

SCALE 1/2" = 1-0"

GIRDER	BRIDGE SEAT ELEV.
G1	488.00
G2	488.25
G3	488.50
G4	488.48
G5	488.41
G6	488.34

GILL ENGINEERING

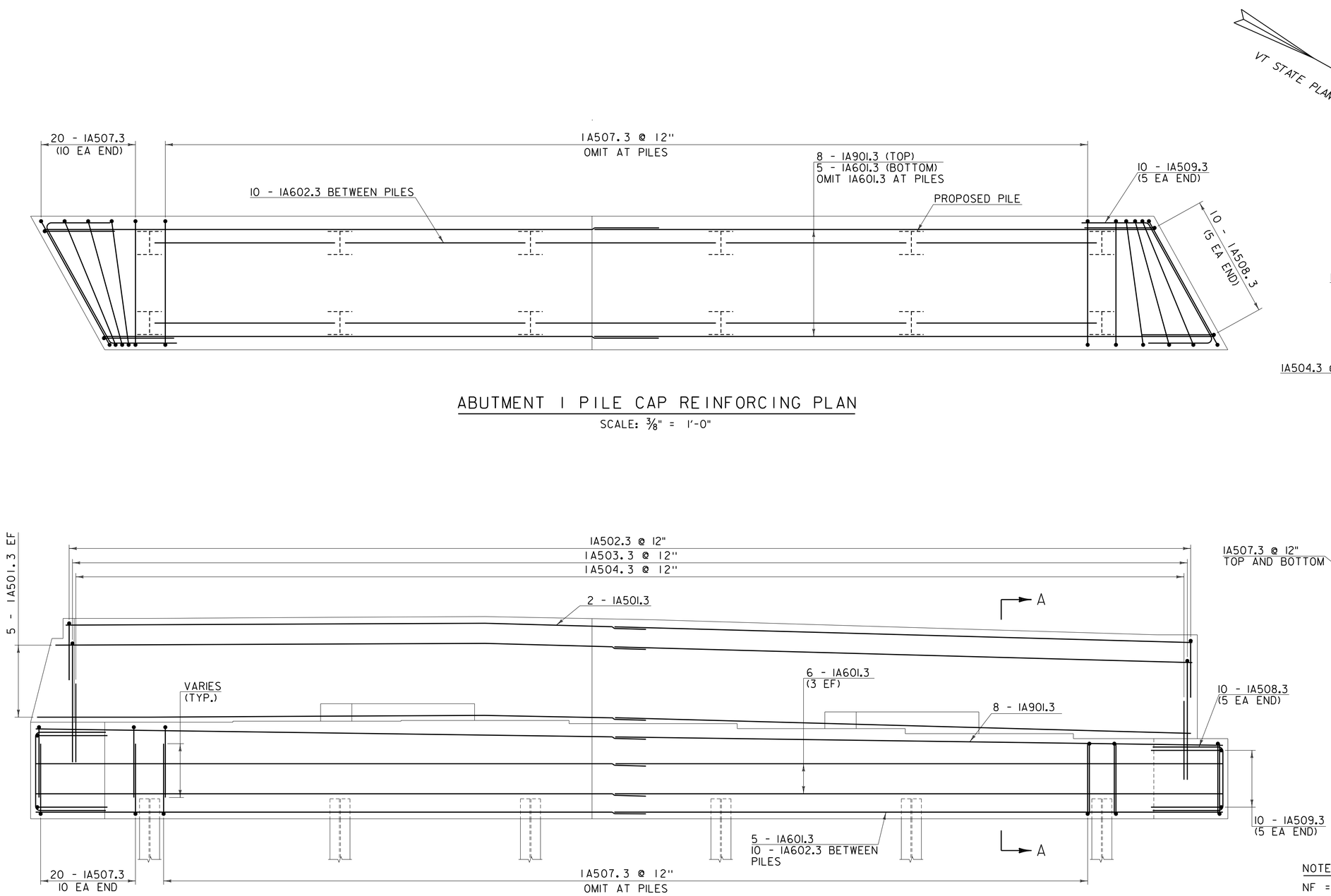
PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 4

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: L. CECCHI
SHEET 74 OF 112

ABUTMENT 1 PILE CAP REINFORCING PLAN

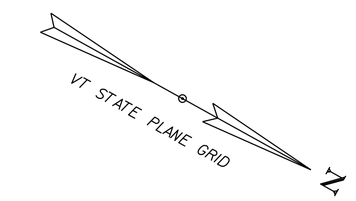
SCALE: 3/8" = 1'-0"

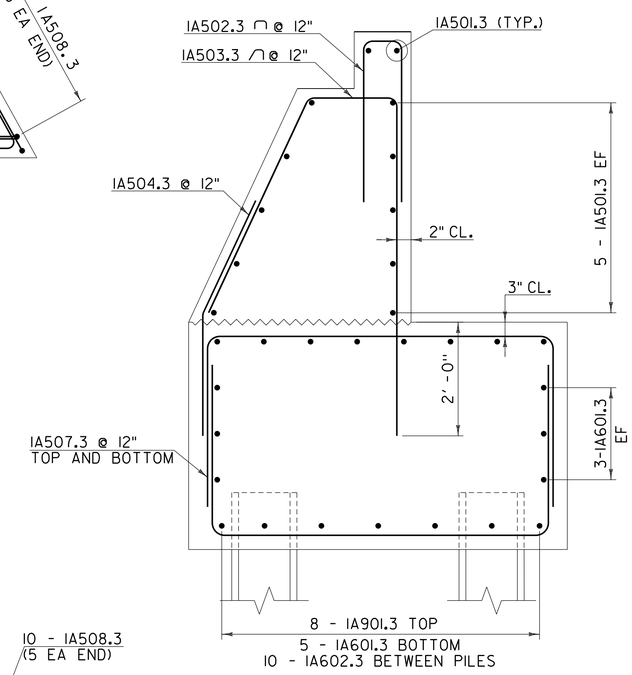


NOTE:
SEE KEEPER BLOCK DETAILS SHEET FOR KEEPER BLOCK REINFORCING.

ABUTMENT 1 REINFORCING ELEVATION

SCALE: 3/8" = 1'-0"





SECTION A-A

SCALE: 3/4" = 1'-0"

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	SPLICE LENGTH
#5	1'-7"
#6	1'-11"
#9	4'-0"

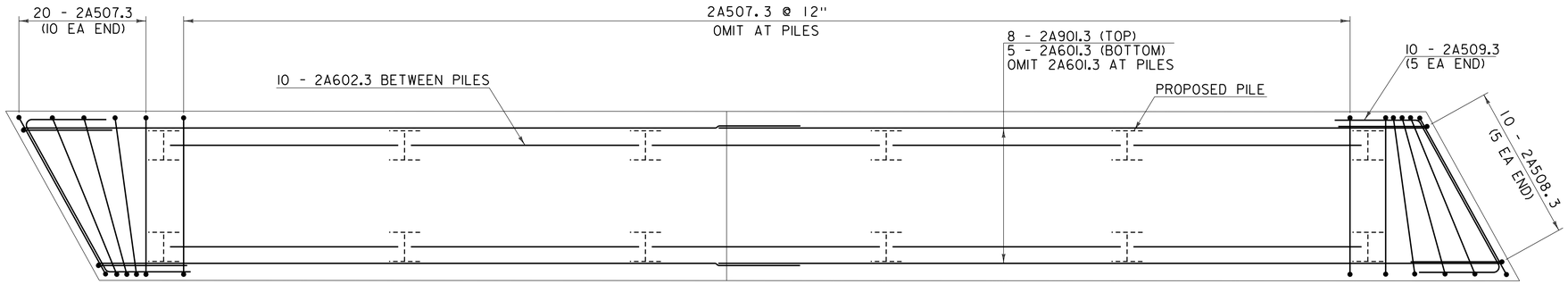
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

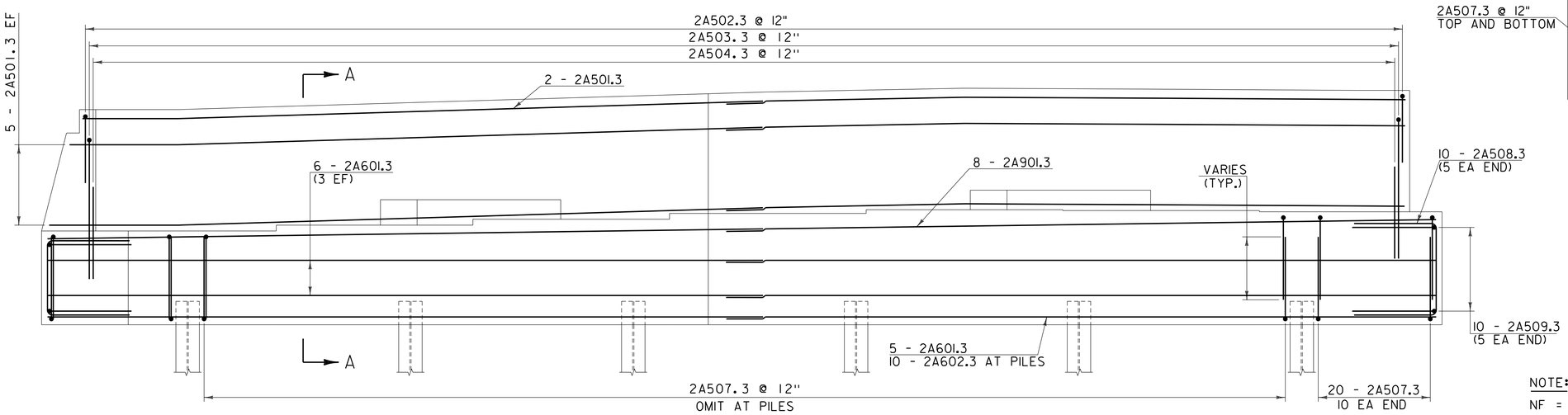
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 1REINFORCEMENT

PLOT DATE: 6/20/2024
DRAWN BY: D.CASALE
CHECKED BY: L.CECCHI
SHEET 75 OF 112



ABUTMENT 2 PILE CAP REINFORCING PLAN

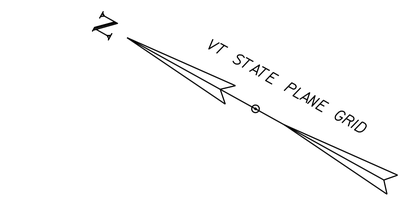
SCALE: 3/8" = 1'-0"

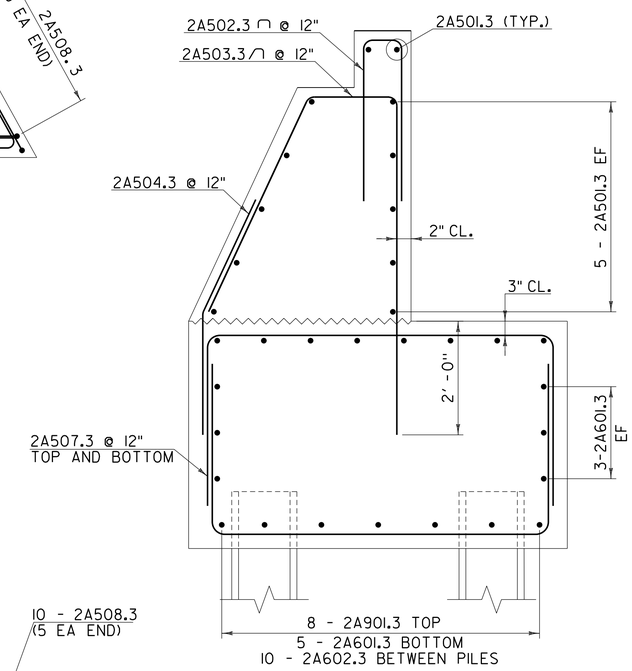


NOTE:
SEE KEEPER BLOCK DETAILS SHEET FOR KEEPER BLOCK REINFORCING.

ABUTMENT 2 REINFORCING ELEVATION

SCALE: 3/8" = 1'-0"





SECTION A-A

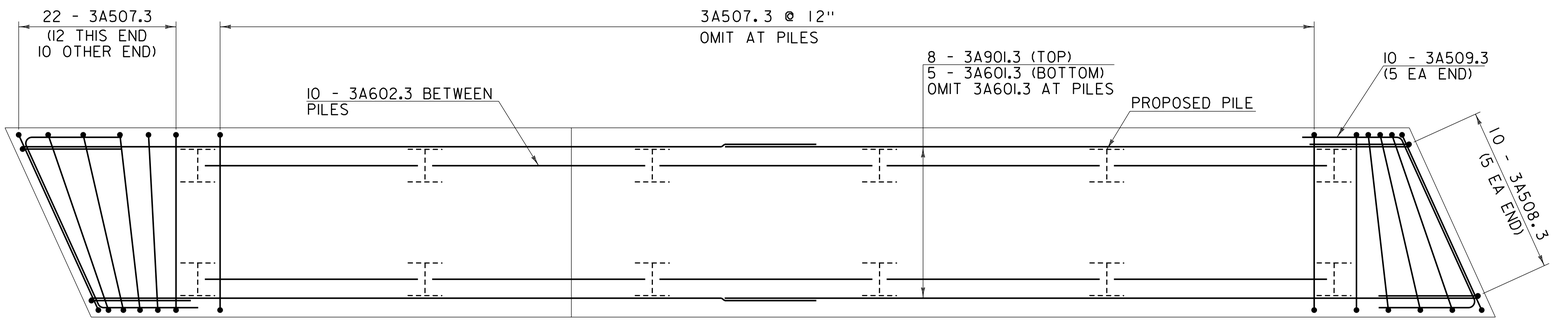
SCALE: 3/4" = 1'-0"

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	SPLICE LENGTH
#5	1'-7"
#6	1'-11"
#9	4'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

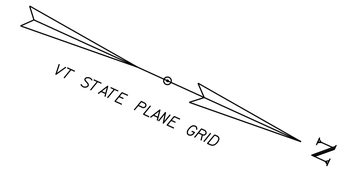
GILL ENGINEERING

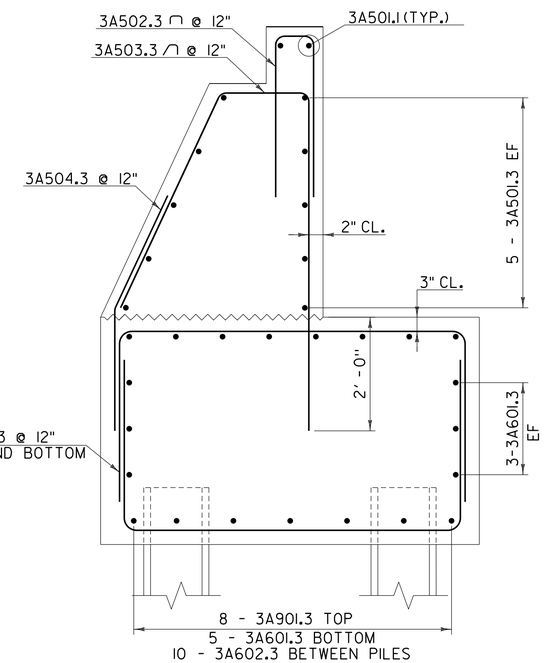
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568sub.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
ABUTMENT 2 REINFORCEMENT	SHEET 76 OF 112



ABUTMENT 3 PILE CAP REINFORCING PLAN

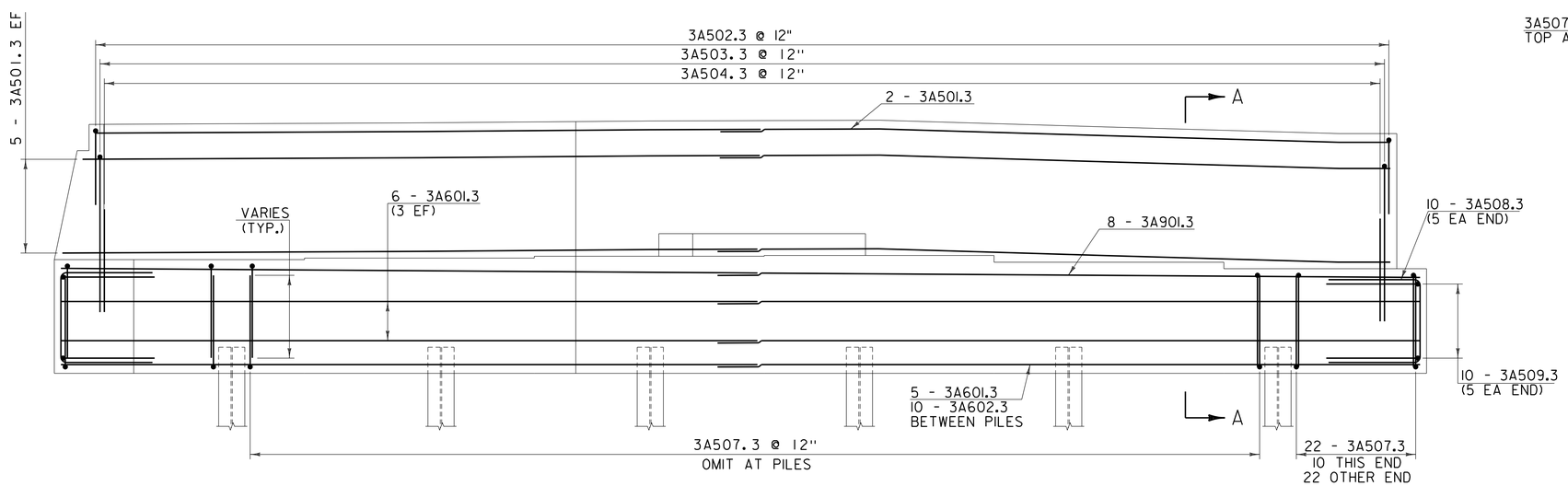
SCALE: 3/8" = 1'-0"





SECTION A-A

SCALE: 3/4" = 1'-0"



NOTE:
SEE KEEPER BLOCK DETAILS SHEET FOR KEEPER BLOCK REINFORCING.

ABUTMENT 3 REINFORCING ELEVATION

SCALE: 3/8" = 1'-0"

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	SPLICE LENGTH
#5	1'-7"
#6	1'-11"
#9	4'-0"

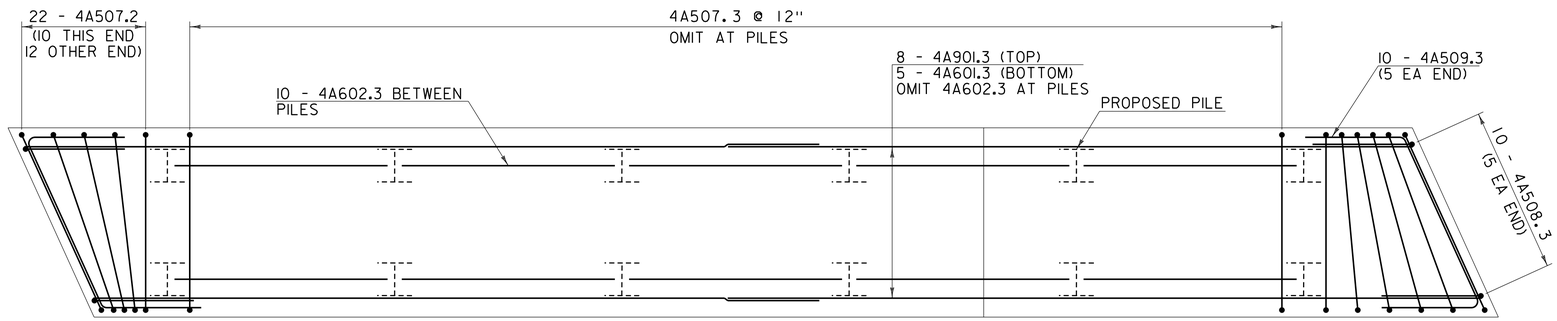
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

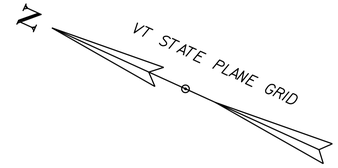
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 3 REINFORCEMENT

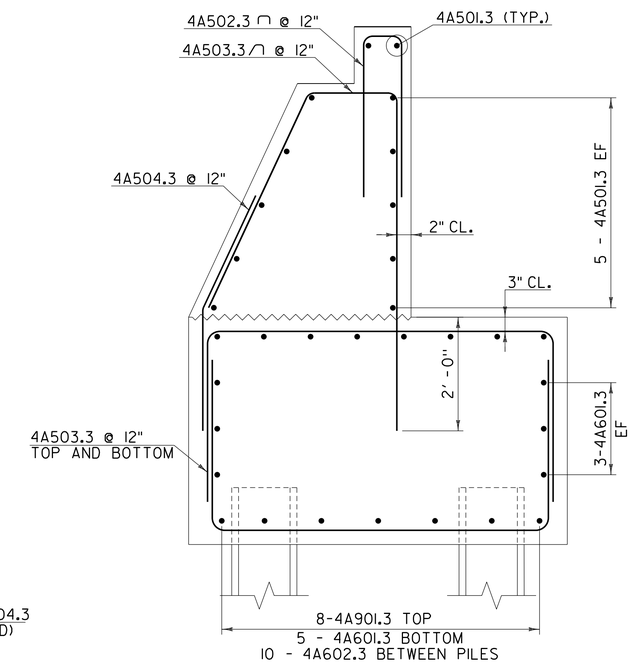
PLOT DATE: 6/20/2024
DRAWN BY: D.CASALE
CHECKED BY: L.CECCHI
SHEET 77 OF 112



ABUTMENT 4 PILE CAP REINFORCING PLAN

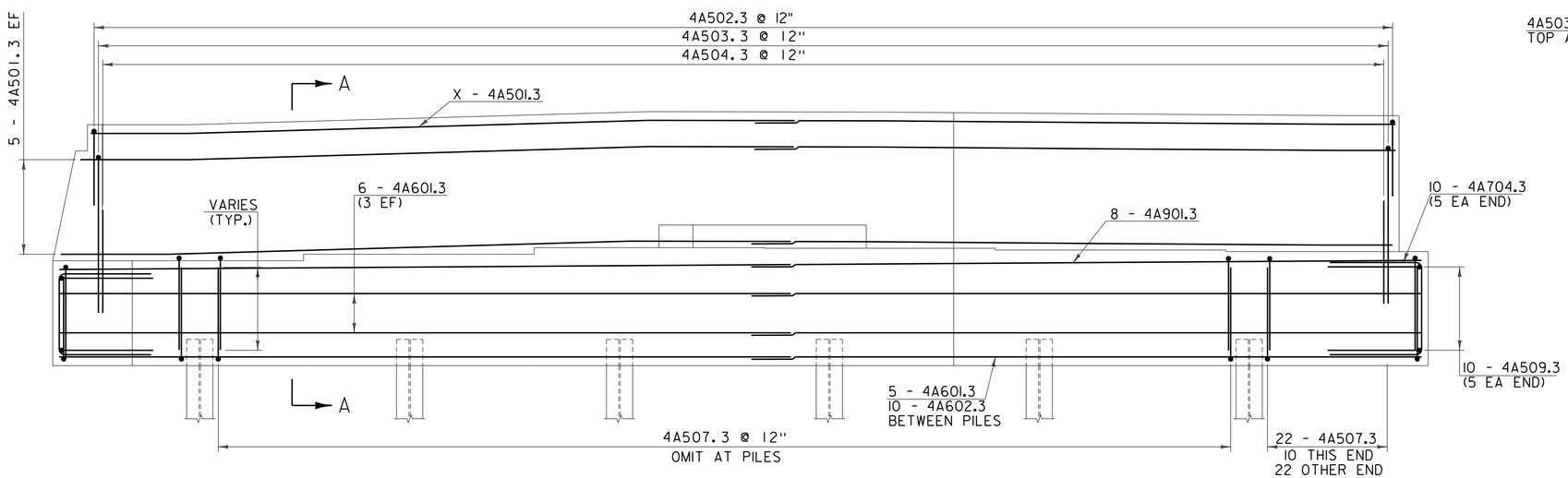
SCALE: 3/8" = 1'-0"





SECTION A-A

SCALE: 3/4" = 1'-0"



NOTE:
SEE KEEPER BLOCK DETAILS SHEET FOR KEEPER BLOCK REINFORCING.

ABUTMENT 4 REINFORCING ELEVATION

SCALE: 3/8" = 1'-0"

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	SPLICE LENGTH
#5	1'-7"
#6	1'-11"
#9	4'-0"

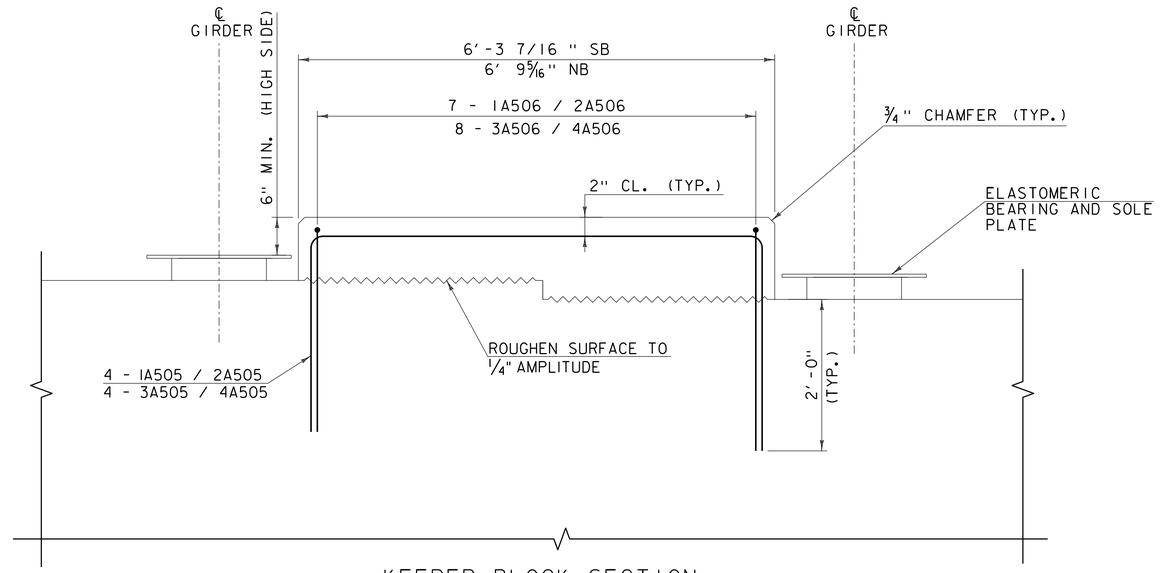
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

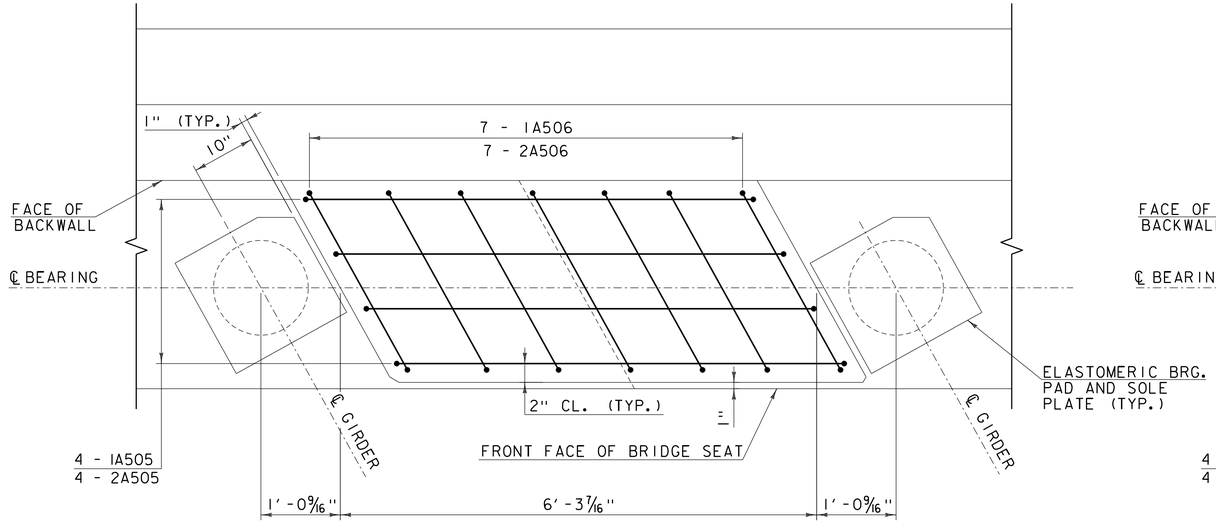
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
ABUTMENT 4 REINFORCEMENT

PLOT DATE: 6/20/2024
DRAWN BY: D.CASALE
CHECKED BY: L.CECCHI
SHEET 78 OF 112



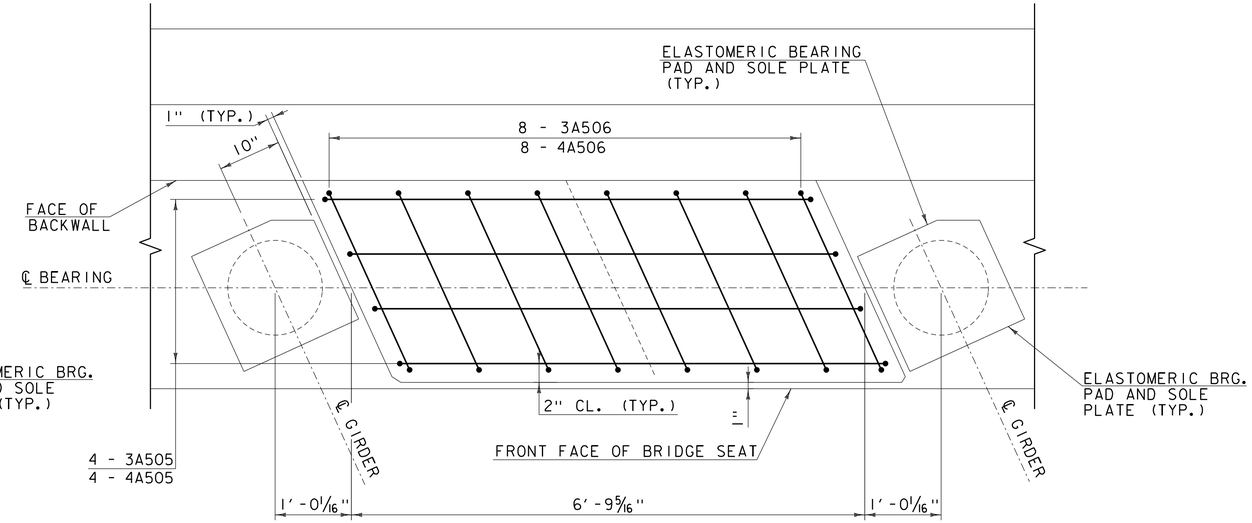
KEEPER BLOCK SECTION

SCALE 1" = 1-0"



SOUTHBOUND KEEPER BLOCK PLAN

SCALE 1" = 1-0"

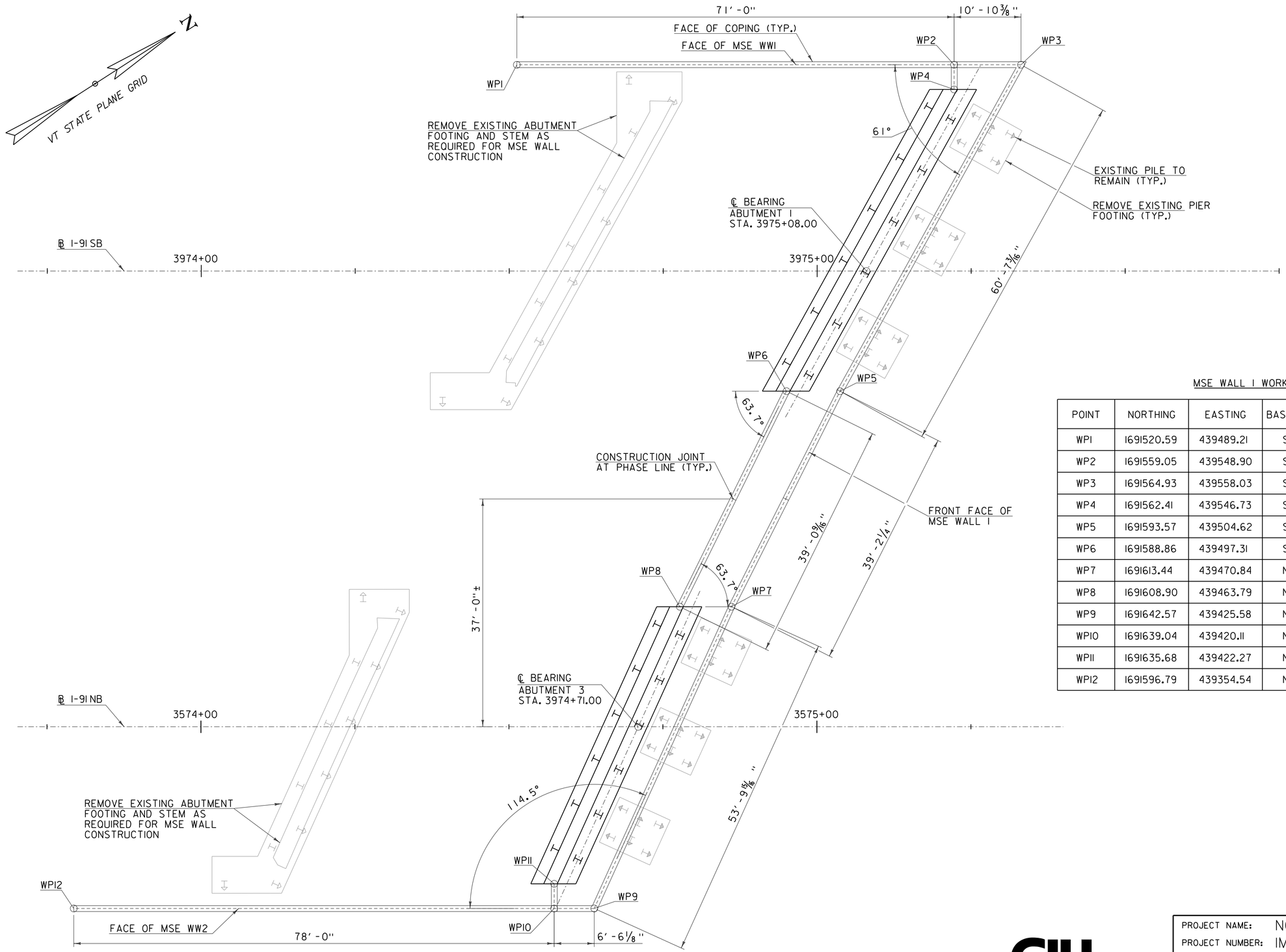


NORTHBOUND KEEPER BLOCK PLAN

SCALE 1" = 1-0"

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568sub.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F. BERLUS	CHECKED BY: L.CECCHI
KEEPER BLOCK DETAILS	SHEET 79 OF 112



MSE WALL 1 LAYOUT
SCALE 1/8" = 1-0"

MSE WALL 1 WORKING POINT TABLE

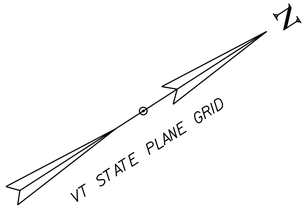
POINT	NORTHING	EASTING	BASELINE	STATION	OFFSET	TOP OF WALL EL.
WP1	1691520.59	439489.21	SB	3974+51.23	33.5' LT	501.71
WP2	1691559.05	439548.90	SB	3975+22.23	33.5' LT	499.97
WP3	1691564.93	439558.03	SB	3975+33.10	33.5' LT	490.39
WP4	1691562.41	439546.73	SB	3975+22.23	29.5' LT	499.97
WP5	1691593.57	439504.62	SB	3975+3.72	19.5' RT	490.39
WP6	1691588.86	439497.31	SB	3974+95.01	19.5' RT	499.87
WP7	1691613.44	439470.84	NB	3574+86.13	19.5' LT	489.20
WP8	1691608.90	439463.79	NB	3574+77.75	19.5' LT	497.81
WP9	1691642.57	439425.58	NB	3574+63.86	29.5' RT	489.20
WP10	1691639.04	439420.11	NB	3574+57.35	29.5' RT	499.21
WP11	1691635.68	439422.27	NB	3574+57.35	25.5' RT	499.21
WP12	1691596.79	439354.54	NB	3573+79.35	29.5' RT	501.21

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

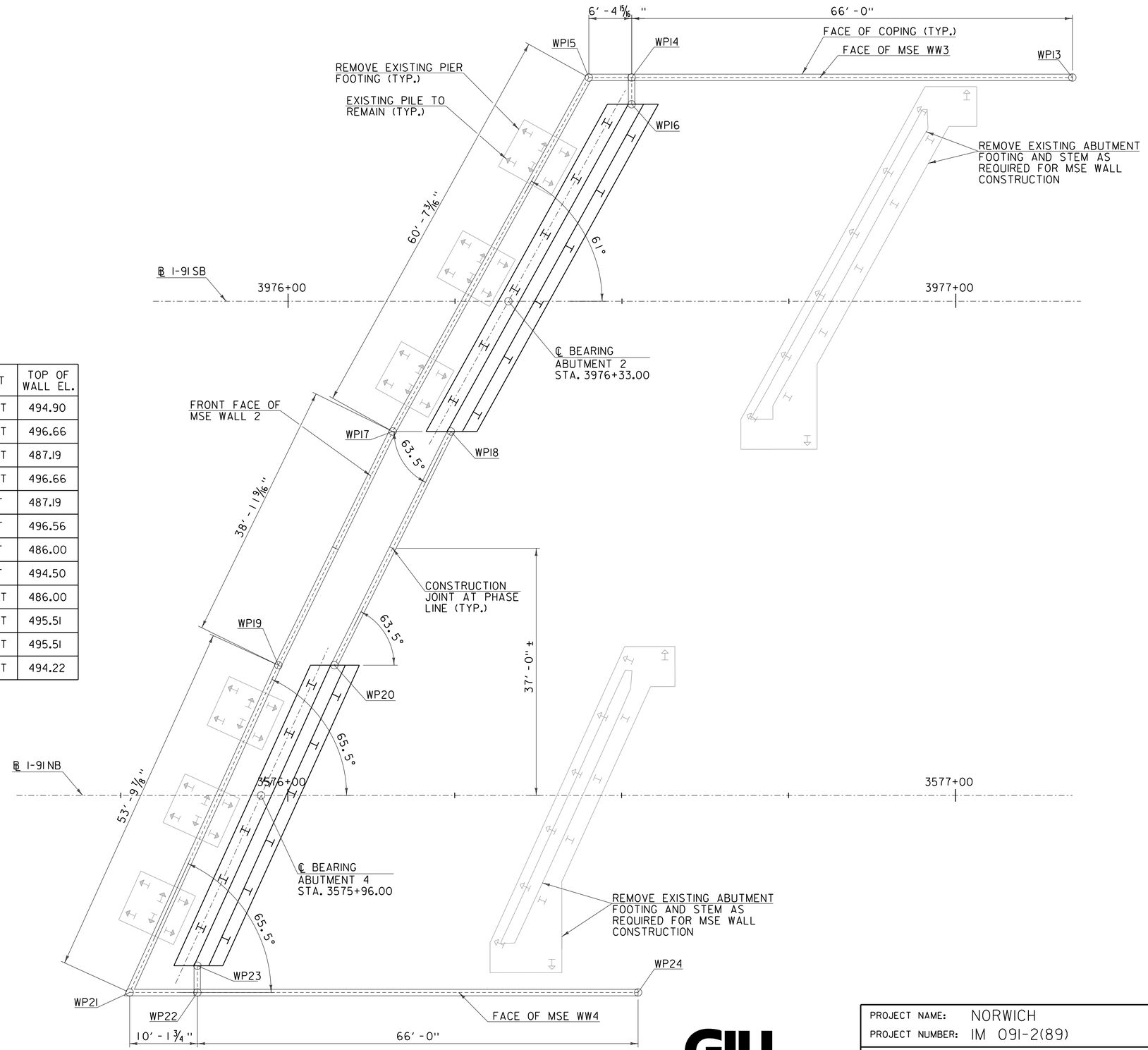
FILE NAME: z12a568sub.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
MSE WALL 1 LAYOUT

PLOT DATE: 6/20/2024
DRAWN BY: D.CASALE
CHECKED BY: L.CECCHI
SHEET 80 OF 112



MSE WALL 2 WORKING POINT TABLE

POINT	NORTHING	EASTING	BASELINE	STATION	OFFSET	TOP OF WALL EL.
WP13	1691664.79	439713.00	SB	3977+17.46	33.5' LT	494.90
WP14	1691629.04	439657.52	SB	3976+51.46	33.5' LT	496.66
WP15	1691625.57	439652.13	SB	3976+45.04	33.5' LT	487.19
WP16	1691632.40	439655.35	SB	3976+51.46	29.5' LT	496.66
WP17	1691654.21	439598.73	SB	3976+15.66	19.5' RT	487.19
WP18	1691658.93	439606.05	SB	3976+24.38	19.5' RT	496.56
WP19	1691674.36	439565.38	NB	3575+98.59	19.5' LT	486.00
WP20	1691678.90	439572.43	NB	3576+6.98	19.5' LT	494.50
WP21	1691703.48	439520.12	NB	3575+76.32	29.5' RT	486.00
WP22	1691708.98	439528.64	NB	3575+86.46	29.5' RT	495.51
WP23	1691705.61	439530.81	NB	3575+86.46	25.5' RT	495.51
WP24	1691744.73	439584.12	NB	3576+52.46	29.5' RT	494.22

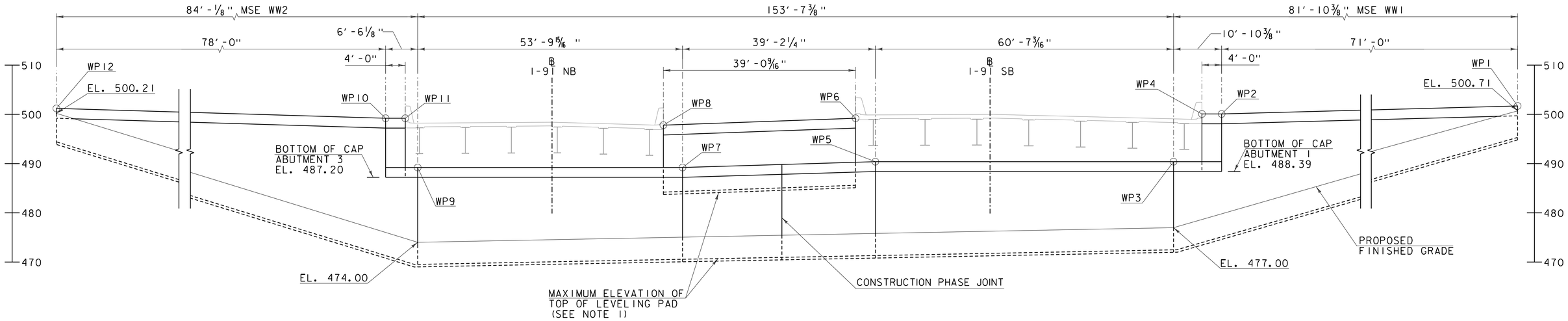


MSE WALL 2 LAYOUT

SCALE 1/8" = 1-0"

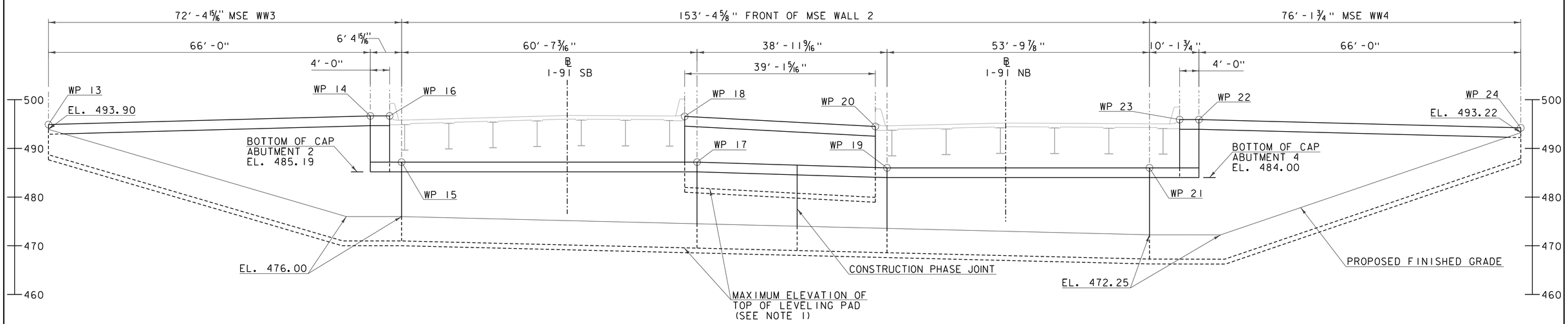
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568sub.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
MSE WALL 2 LAYOUT	SHEET 81 OF 112



MSE WALL 1 DEVELOPED ELEVATION

SCALE 1" = 10-0"



MSE WALL 2 DEVELOPED ELEVATION

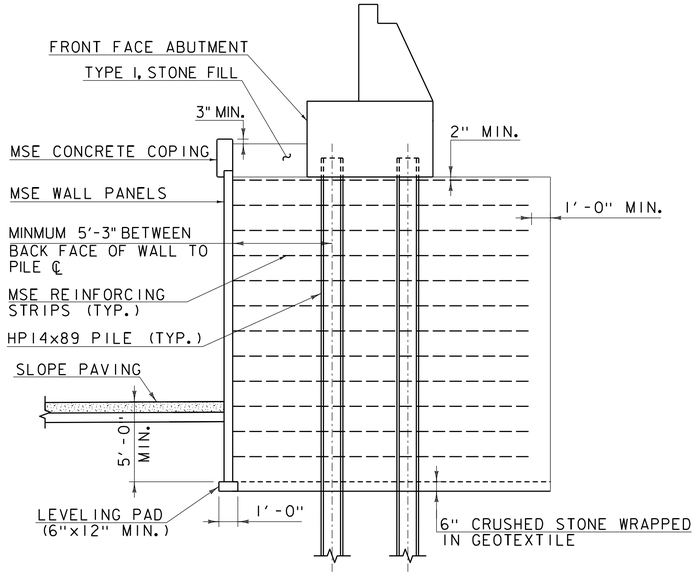
SCALE 1" = 10-0"

NOTES:

1. TOP OF LEVELING PAD SHALL BE LOCATED 5'-0" MINIMUM BELOW GRADE.
2. SEE MSE WALL 1 AND MSE WALL 2 LAYOUT SHEET FOR WORKING POINT DETAILS.
3. SUPERSTRUCTURE SHOWN SCHEMATICALLY.

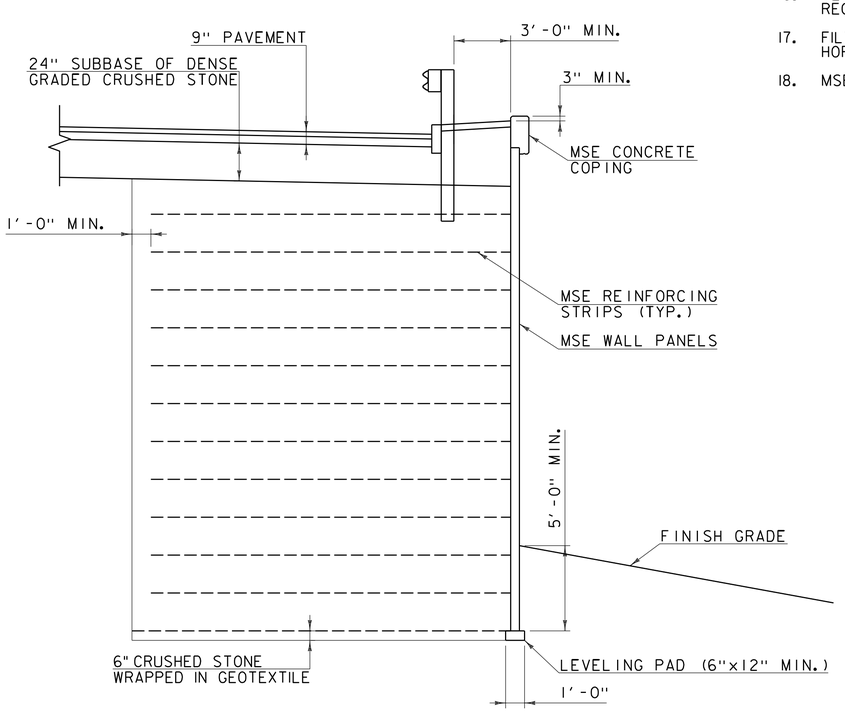
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zi2a568sub.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F.BERLUS	CHECKED BY: L. CECCHI
MSE WALL 1 & 2 ELEVATION	SHEET 82 OF 112



MSE ABUTMENT WALL TYPICAL SECTION

SCALE: 1/4" = 1'-0"



MSE WINGWALL TYPICAL SECTION

SCALE: 1/4" = 1'-0"

MSE WALL NOTES:

1. THE CONTRACTOR SHALL DESIGN, DETAIL, AND CONSTRUCT A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH THESE PLANS, VTRANS 2024 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND MANUFACTURER RECOMMENDATIONS.
2. ALL LAYOUT DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
3. THE DESIGN AND INSTALLATION OF THE MSE WALL SYSTEM SHALL ACCOUNT FOR AND AVOID POTENTIAL CONFLICT BETWEEN THE REINFORCING STRIPS AND THE PROPOSED BRIDGE. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING THE REINFORCING STRIPS AROUND THE PILES, THE PILES CAPS, THE APPROACH SLABS AND THE APPROACH GUARDRAILS.
4. WHERE EXISTING ABUTMENTS ARE LOCATED WITHIN THE LIMITS OF THE REINFORCING STRIPS, THE CONTRACTOR SHALL REMOVE THE ABUTMENT STEM AND FOOTING AS REQUIRED FOR THE INSTALLATION OF THE MSE WALL.
5. THE DESIGN OF THE MSE WALLS SHALL UTILIZE THE FOLLOWING FACTORED BEARING RESISTANCES:

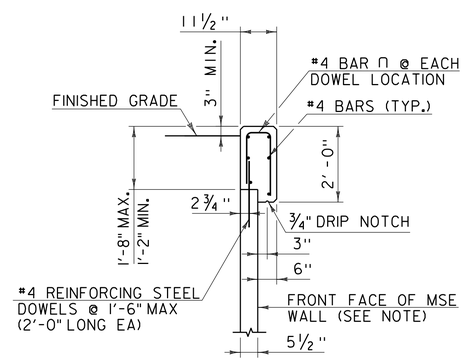
   MSE WALL 1 ABUTMENT WALL: 57.9 KSF

   MSE WALL 1 WINGWALLS: 59.5 KSF

   MSE WALL 2 ABUTMENT WALL: 46.4 KSF

   MSE WALL 2 WINGWALLS: 50.2 KSF

   FOR ADDITIONAL INFORMATION REGARDING FOUNDATION SOILS AND NOMINAL BEARING RESISTANCE INFORMATION SEE GEOTECHNICAL ENGINEERING REPORT DATED JANUARY 23, 2024 PREPARED BY VTRANS.
6. THE MSE WALL REINFORCEMENT DESIGN SHALL ACCOMMODATE AN UNFACTORED HORIZONTAL LOAD OF 21 KIPS AND RESULTING DEFLECTION OF 21 INCHES AT THE TOP OF PILE. ALL FORCES FROM THE SUPERSTRUCTURE AND ABUTMENT ARE CARRIED BY THE PILE FOUNDATION.
7. WHERE GUARDRAIL OR GUARDRAIL APPROACH SECTIONS ARE LOCATED WITHIN THE LIMITS OF THE MSE WALLS, THE MSE WALL SHALL BE DESIGNED TO RESIST HORIZONTAL LOADS FOR POST AND BEAM BARRIERS AS SPECIFIED IN AASHTO SECTION 11.10.10.2.
8. CRUSHED STONE SHALL MEET THE REQUIREMENTS OF SUBSECTION 704.16 OF SPECIFICATIONS. PAYMENT FOR CRUSHED STONE WILL BE CONSIDERED INCIDENTAL TO ITEM 227.0100, "RETAINNG WALL, MECHANILLY STABILIZED EARTH".
9. WITHIN THE PLAN LIMITS OF THE REINFORCED SOIL ZONE, TOPSOIL AND ORGANIC MATERIALS SHALL BE CONSIDERED UNSUITABLE SOILS FOR PUPOSES OF FOUNDATION PREPARATION AND SHALL BE ENTIRELY REMOVED. PAYMENT FOR REMOVAL WILL BE INCLUDED UNDER APPROPRIATE EXCAVATION ITEMS.
10. THE MINIMUM SOIL REINFORCEMENT STRIP LENGTH SHALL BE 70 PERCENT OF WALL HEIGHT, AS MEASURED FROM THE LEVELING PAD.
11. THE PANELS SHALL HAVE A NOMINAL SIZE OF 4.5 FT WIDE AND 4.5 TALL, OR GREATER. THE ARCHITECTURAL FINISH OF THE PANELS SHALL BE "ASHLAR STONE FINISH".
12. THE CONTRACTOR SHALL DETERMINE THE LEVELING PAD ELEVATIONS AND LENGTHS. ELEVATIONS AND LENGTHS OF THE LEVELING PADS SHOWN IN THE MSE WALL LAYOUT AND ELEVATION SHEETS ARE CONCEPTUAL.
13. CONCRETE FOR THE CAST-IN-PLACE COPING AND LEVELING PAD SHALL BE PERFORMANCE BASED CONCRETE, CLASS PCS IN ACCORDANCE WITH SECTION 501. REINFORCING STEEL FOR CAST-IN-PLACE COPING SHALL MEET THE REQUIREMENTS FOR LEVEL II COROSSION RESISTANCE, IN ACCORDANCE WITH SECTION 507. PAYMENT FOR WORK AND MATERAILS FOR CAST-IN-PLACE COPING SHALL BE CONSIDERED INCIDENTAL TO ITEM 227.0100, "RETAINNG WALL, MECHANILLY STABILIZED EARTH".
14. REINFORCING STEEL DOWELS EXTENDING FROM MSE WALL PANELS IN TO THE CAST-IN-PLACE COPING SHALL BE CAST INTEGRALLY WITH THE PANELS - DRILLING AND GROUTING OF REINFORCING DOWELS WILL NOT BE ALLOWED.
15. EXPANSION JOINTS SHALL BE PROVIDED IN THE CAST-IN-PLACE CONCRETE COPING AT 20'-0" MAXIMUM SPACING AND SHALL ALIGN WITH JOINTS BETWEEN ADJACENT PANELS. REINFORCING STEEL WITHIN THE CAST-IN-PLACE COPING SHALL NOT BE CONTINUOUS THROUGH EXPANSION JOINTS.
16. ALTHOUGH NOT SHOWN IN MSE WALL ELEVATIONS IN THESE PLANS, SLIP JOINTS ARE REQUIRED AT WALL INTERSECTIONS THAT FORM ANGLES. ADDITIONAL SLIP JOINTS MAY BE USED AS REQUIRED BY THE MSE WALL SUPPLIER.
17. FILTER FABRIC MEETING THE REQUIREMENTS OF SECTION 720 FOR GEOTEXTILE UNDER STONE FILL SHALL BE ADHERED TO THE BACK FACE OF THE MSE WALL PANELS AT ALL HORIZONTAL AND VERTICAL JOINTS BETWEEN PANELS. FILTER FABRIC SHALL NOMINALLY BE 18" WIDE AND CENTERED ON THE JOINT.
18. MSE WALL REINFORCING ELEMENTS WITHIN 20 FEET OF THE TRAVELWAY SHALL BE PROTECTED WITH TARPS OR POLYETHYLENE SHEETING AT THE COMPLETION OF PHASE 2.



NOTE:
ASSUMED WALL PANEL THICKNESS. ADJUSTMENT SHALL BE MADE TO FRONT FACE OF WALL LOCATIONS AND APPLICABLE DETAILS IF OTHER WALL PANEL THICKNESS IS USED.

CAST-IN-PLACE CONCRETE COPING SECTION

SCALE: 1/2" = 1'-0"

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568MSEWall.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: D.CASALE
DESIGNED BY: F.BERLUS	CHECKED BY: L.CECCHI
MSE WALL DETAILS	SHEET 83 OF 112

STATE OF VERMONT
AGENCY OF TRANSPORTATION

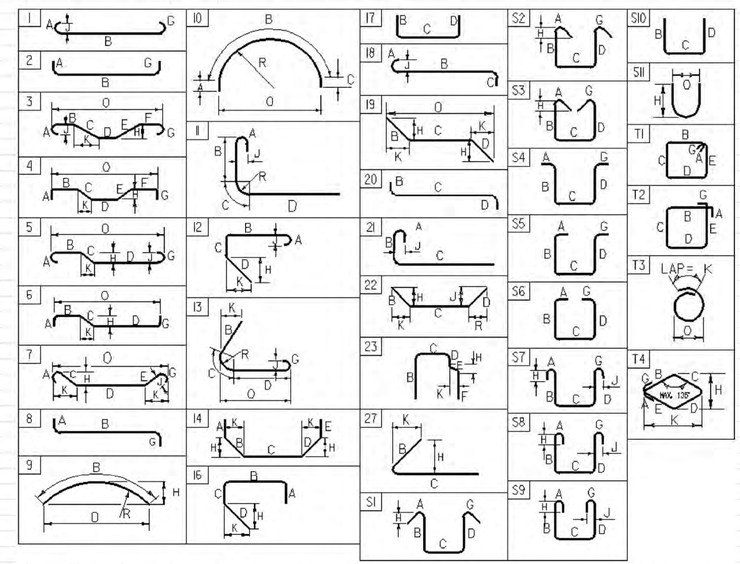
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK - SOUTHBOUND																
	384	5	33'- 9"	1S501.3	STR	33'- 9"											
▲	918	5	25'- 2"	1S502.3	STR	25'- 2"											
	16	5	28'- 7"	1S503.3	STR	28'- 7"											
✳	45	6	33'- 9"	1S601.3	STR	33'- 9"											
	41	5	8'- 5"	1S504.3	S6	4'- 3"	1'- 0"	2'- 1"	1'- 1"								
	400	6	6'- 1"	1S602.3	1	0'- 8"	5'- 5"							0'- 6"			
	DECK - NORTHBOUND																
	352	5	33'- 9"	2S501.3	STR	33'- 9"											
▲	918	5	23'- 2"	2S502.3	STR	23'- 2"											
	16	5	25'- 4"	2S503.3	STR	25'- 4"											
	44	6	33'- 9"	2S601.3	STR	33'- 9"											
	38	5	8'- 5"	2S504.3	S6	4'- 3"	1'- 0"	2'- 1"	1'- 1"								
	400	6	6'- 1"	2S602.3	1	0'- 8"	5'- 5"							0'- 6"			
	APPROACH SLAB 1																
	49	5	28'- 8"	1EAS501	STR	28'- 8"											
✳	40	8	4'- 0"	1EAS801	STR	4'- 0"											
	56	9	19'- 6"	1EAS901	STR	19'- 6"											
	4	9	13'- 6"	1EAS902	STR	13'- 6"											
	60	5	6'- 2"	1EAS502	16	1'- 6"	1'- 9"	0'- 5"	2'- 6"				1'- 9"		1'- 9"		
	APPROACH SLAB 2																
	49	5	28'- 8"	2EAS501	STR	28'- 8"											
	39	8	4'- 0"	2EAS801	STR	4'- 0"											
	56	9	19'- 6"	2EAS901	STR	19'- 6"											
	4	9	13'- 6"	2EAS902	STR	13'- 6"											
	60	5	6'- 8"	2EAS502	16	1'- 6"	1'- 9"	0'- 11"	2'- 6"				1'- 9"		1'- 9"		
	APPROACH SLAB 3																
	49	5	25'- 5"	3EAS501	STR	25'- 5"											
	34	8	4'- 0"	3EAS801	STR	4'- 0"											
	51	9	19'- 6"	3EAS901	STR	19'- 6"											
	4	9	13'- 6"	3EAS902	STR	13'- 6"											
	55	5	6'- 8"	3EAS502	16	1'- 6"	1'- 9"	0'- 11"	2'- 6"				1'- 9"		1'- 9"		
	APPROACH SLAB 4																
	49	5	25'- 5"	4EAS501	STR	25'- 5"											
	34	8	4'- 0"	4EAS801	STR	4'- 0"											
	51	9	19'- 6"	4EAS901	STR	19'- 6"											
	4	9	13'- 6"	4EAS902	STR	13'- 6"											
	55	5	6'- 8"	4EAS502	16	1'- 6"	1'- 9"	0'- 11"	2'- 6"				1'- 9"		1'- 9"		
	ABUTMENT 1																
✳	25	5	28'- 8"	1A501.3	STR	28'- 8"											
	22	6	28'- 9"	1A601.3	STR	28'- 9"											
	10	6	9'- 0"	1A602.3	STR	9'- 0"											
	16	9	29'- 9"	1A901.3	STR	29'- 9"											
	58	5	5'- 10"	1A502.3	S10		2'- 7"	0'- 8"	2'- 7"								
	58	5	11'- 3"	1A503.3	16		5'- 10.9"	1'- 8.8"	3'- 7.6"				1'- 6.6"		3'- 3.5"		
	58	5	4'- 8"	1A504.3	16			2'- 2"	2'- 6"				2'- 3.1"		1'- 0.7"		
	4	5	11'- 11"	1A505.3	S10		3'- 0"	5'- 11"	3'- 0"								
	7	5	8'- 5"	1A506.3	S10		3'- 0"	2'- 5"	3'- 0"								
	108	5	13'- 2"	1A507.3	S10		3'- 6"	6'- 2"	3'- 6"								
	10	5	10'- 6"	1A508.3	S10		3'- 6"	3'- 6"	3'- 6"								
	10	5	13'- 10"	1A509.3	14	3'- 6"	6'- 10.2"			3'- 6"			3'- 2.3"		6'- 0.8"		
	ABUTMENT 2																
	24	5	28'- 8"	2A501.3	STR	28'- 8"											
	22	6	28'- 9"	2A601.3	STR	28'- 9"											
	10	6	9'- 0"	2A602.3	STR	9'- 0"											
	16	9	29'- 9"	2A901.3	STR	29'- 9"											
	58	5	5'- 10"	2A502.3	S10		2'- 7"	0'- 8"	2'- 7"								
	58	5	11'- 1"	2A503.3	16		5'- 9.6"	1'- 8.8"	3'- 6.5"				1'- 6.5"		3'- 2.3"		
	58	5	4'- 8"	2A504.3	16			2'- 2"	2'- 6"				2'- 3.0"		1'- 1.1"		
	4	5	11'- 11"	2A505.3	S10		3'- 0"	5'- 11.4"	3'- 0"								
	7	5	8'- 5"	2A506.3	S10		3'- 0"	2'- 5"	3'- 0"								
	108	5	13'- 2"	2A507.3	S10		3'- 6"	6'- 2"	3'- 6"								
	10	5	10'- 6"	2A508.3	S10		3'- 6"	3'- 6"	3'- 6"								
	10	5	13'- 10"	2A509.3	14	3'- 6"	6'- 10.2"			3'- 6"			3'- 2.3"		6'- 0.8"		

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT 3																
	24	5	25'- 4"	3A501.3	STR	25'- 4"											
	22	6	25'- 5"	3A601.3	STR	25'- 5"											
	10	6	7'- 6"	3A602.3	STR	7'- 6"											
	16	9	26'- 6"	3A901.3	STR	26'- 6"											
	51	5	5'- 10"	3A502.3	S10		2'- 7"	0'- 8"	2'- 7"								
	51	5	11'- 3"	3A503.3	16		5'- 10.9"	1'- 8.8"	3'- 7.6"				1'- 6.6"		3'- 3.5"		
	51	5	4'- 8"	3A504.3	16			2'- 2"	2'- 6"				2'- 3.1"		1'- 0.7"		
	4	5	12'- 5"	3A505.3	S10		3'- 0"	6'- 5.3"	3'- 0"								
	7	5	8'- 5"	3A506.3	S10		3'- 0"	2'- 5"	3'- 0"								
	94	5	13'- 2"	3A507.3	S10		3'- 6"	6'- 2"	3'- 6"								
	10	5	10'- 6"	3A508.3	S10		3'- 6"	3'- 6"	3'- 6"								
	10	5	13'- 7"	3A509.3	14	3'- 6"	6'- 6.9"			3'- 6"			2'- 6.5"		6'- 0.8"		
	ABUTMENT 4																
	24	5	25'- 4"	4A501.3	STR	25'- 4"											
	22	6	25'- 5"	4A601.3	STR	25'- 5"											
	10	6	7'- 6"	4A602.3	STR	7'- 6"											
	16	9	26'- 6"	4A901.3	STR	26'- 6"											
	51	5	5'- 10"	4A502.3	S10		2'- 7"	0'- 8"	2'- 7"								
	51	5	11'- 1"	4A503.3	16		5'- 9.6"	1'- 8.8"	3'- 6.5"				1'- 6.5"		3'- 2.3"		
	51	5	4'- 8"	4A504.3	16			2'- 2"	2'- 6"				2'- 3.0"		1'- 1.1"		
	4	5	12'- 5"	4A505.3	S10		3'- 0"	6'- 5.3"	3'- 0"								
	7	5	8'- 5"	4A506.3	S10		3'- 0"	2'- 5"	3'- 0"								
	94	5	13'- 2"	4A507.3	S10		3'- 6"	6'- 2"	3'- 6"								
	10	5	10'- 6"	4A508.3	S10		3'- 6"	3'- 6"	3'- 6"								
	10	5	13'- 7"	4A509.3	14	3'- 6"	6'- 6.9"			3'- 6"			2'- 6.5"		6'- 0.8"		

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

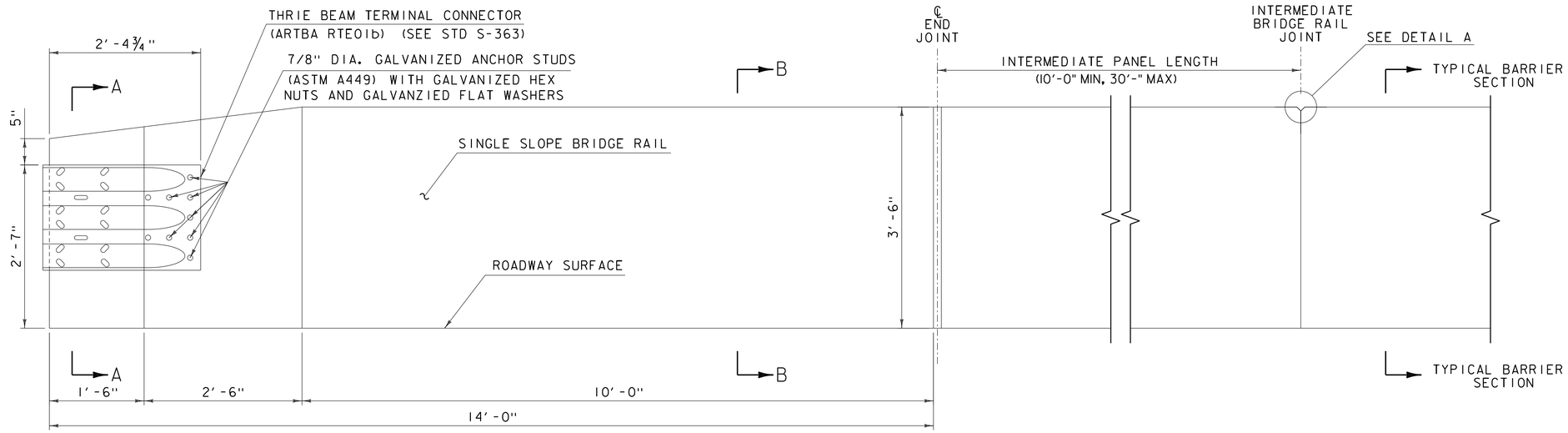
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX, .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

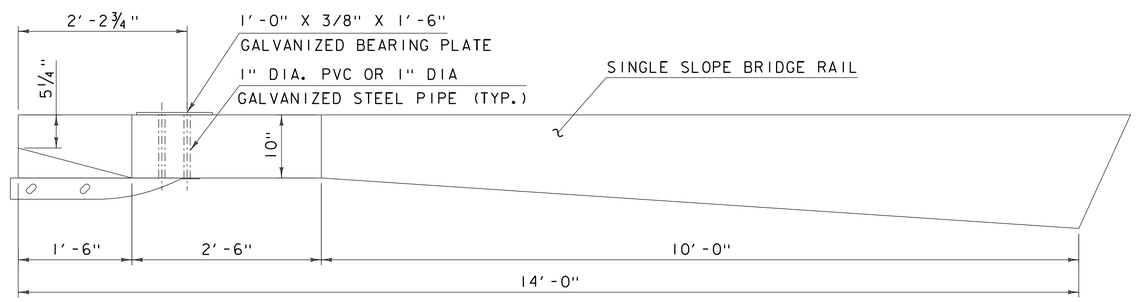
PROJECT NAME: **NORWICH**
PROJECT NUMBER: **IM091-2(89)**

FILE NAME: **z12a568rss** PLOT DATE: **6/19/2024**
PROJECT MANAGER: **P.HUCKABEE** DRAWN BY: **K.COLEMAN**
DESIGNED BY: **F.BERLUS** CHECKED BY: **LCECCHI**
REINFORCING STEEL SCHEDULE SHEET #1 SHEET 78 OF 112



NOTE:
SECTION A-A AND SECTION B-B SHOWN ON SHEET 86.

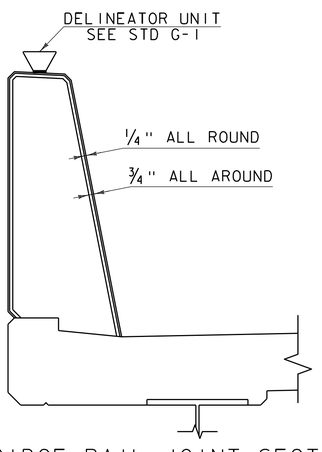
BRIDGE RAIL TRANSITION ELEVATION
SCALE 1" = 1-0"



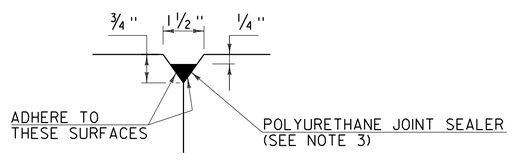
BRIDGE RAIL TRANSITION PLAN
SCALE 1" = 1-0"

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. BRIDGE RAILING SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.
3. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT FOR DELINEATORS SHALL BE INCIDENTAL TO ITEM 525.5400 "BRIDGE RAILING, CONCRETE SINGLE SLOPE".
4. PAYMENT FOR ALL MATERIALS INCLUDING REINFORCING STEEL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 525.5400 "BRIDGE RAILING, CONCRETE SINGLE SLOPE".



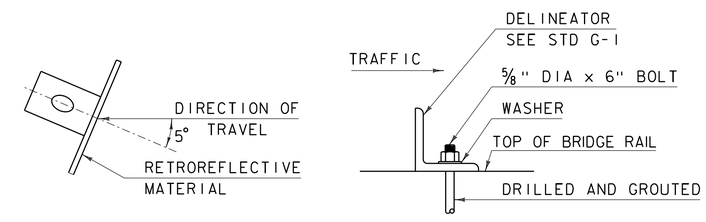
BRIDGE RAIL JOINT SECTION
SCALE 1" = 1'-0"



DETAIL A
(NOT TO SCALE)

CONCRETE RAIL JOINT NOTES:

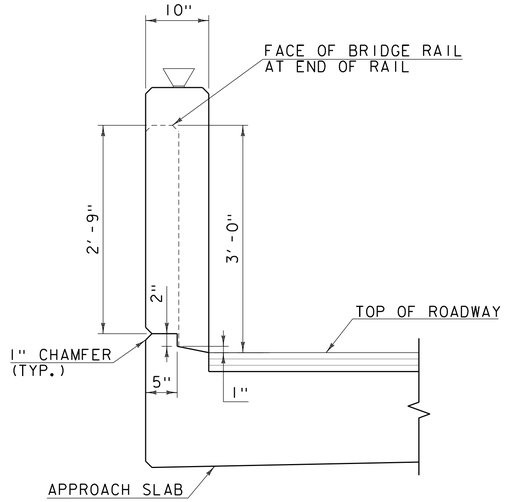
1. CONCRETE RAIL MAY BE PLACED IN ONE CONTINOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE RAIL CONCRETE ITEM.
2. WHEN BRIDGE RAIL JOINTS ARE USED THE PANELS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
3. POLYURETHANE JOINT SEALER SHALL MEET THE REQUIREMENTS OF SECTION 524. COLOR SHALL MATCH CONCRETE. PAYMENT WILL BE INCIDENTAL TO THE BRIDGE ITEM.
4. REINFORCING STEEL SHALL EXTEND THROUGH THE RAIL JOINT.



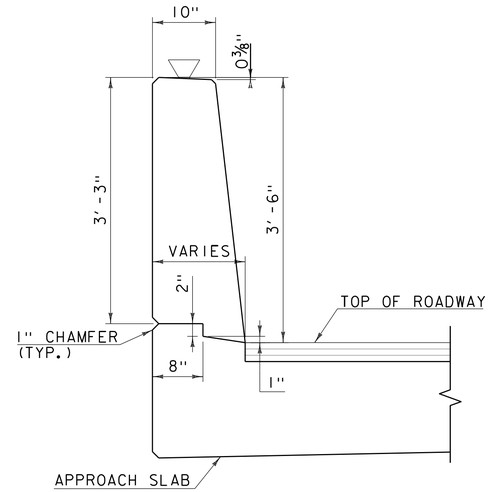
DELINEATOR MOUNTING DETAILS
(NOT TO SCALE)

GILL ENGINEERING

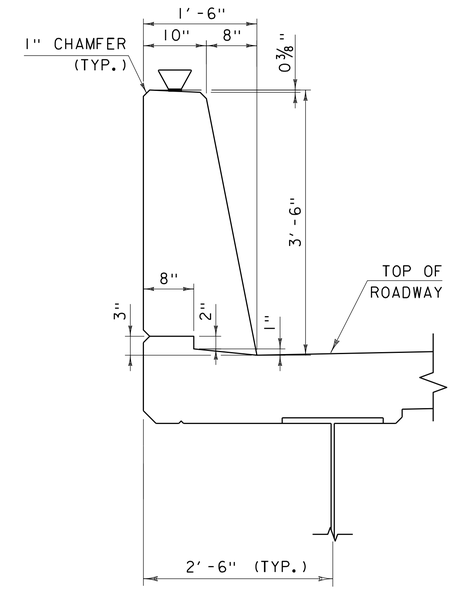
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568rail.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P. HUCKABEE	DRAWN BY: K. COLEMAN
DESIGNED BY: F. BERLUS	CHECKED BY: L. CECCHI
BRIDGE RAILING DETAILS 1OF 2	SHEET 85 OF 112



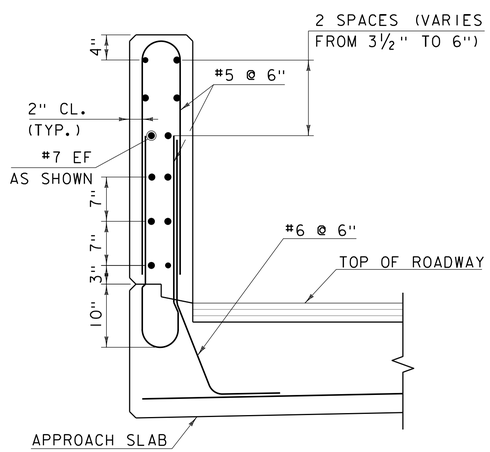
SECTION A-A
SCALE 1" = 1-0"



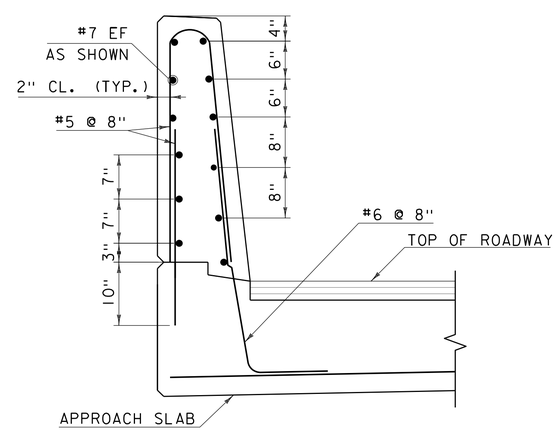
SECTION B-B
SCALE 1" = 1-0"



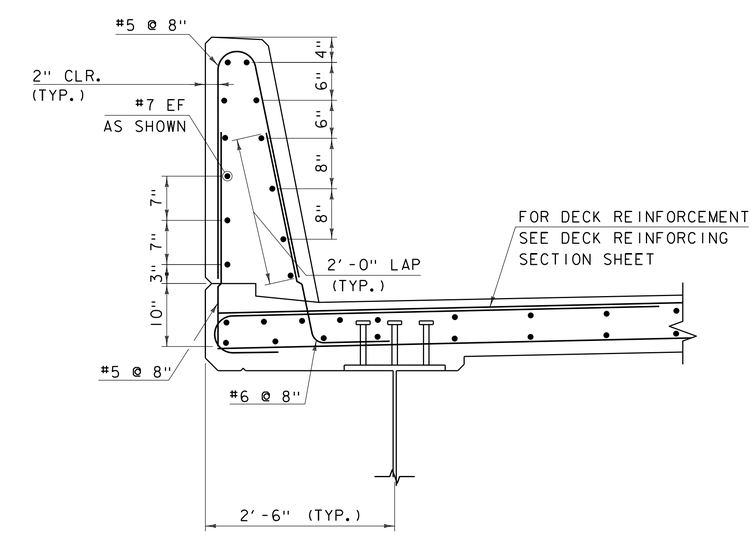
TYPICAL BARRIER SECTION
SCALE 1" = 1-0"



REINFORCING SECTION A-A
SCALE 1" = 1-0"



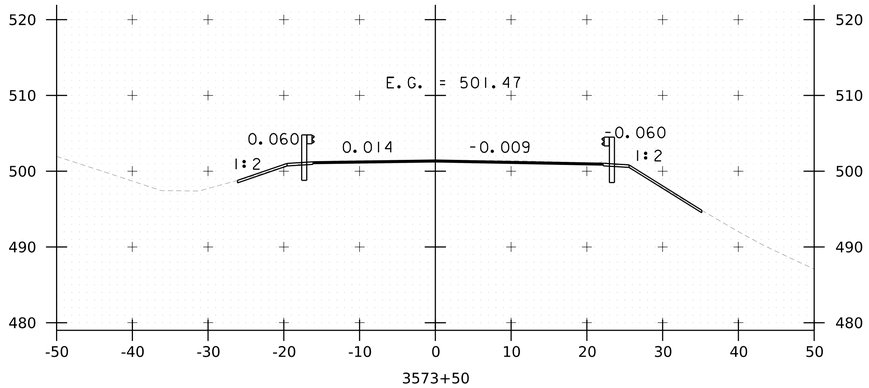
REINFORCING SECTION B-B
SCALE 1" = 1-0"

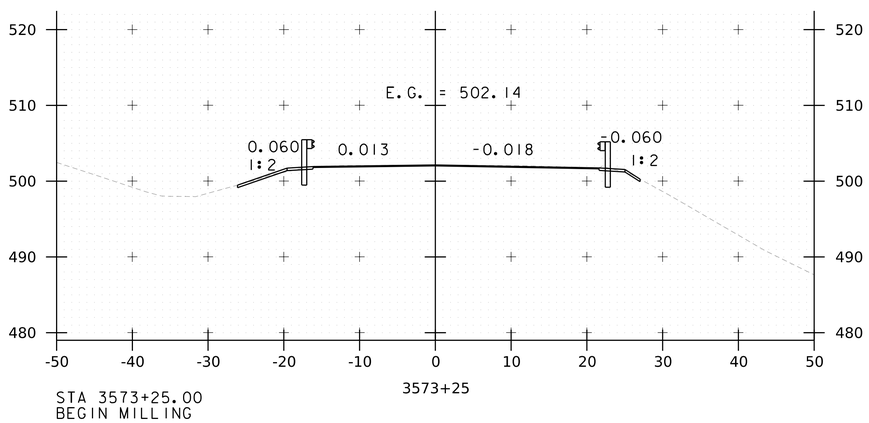


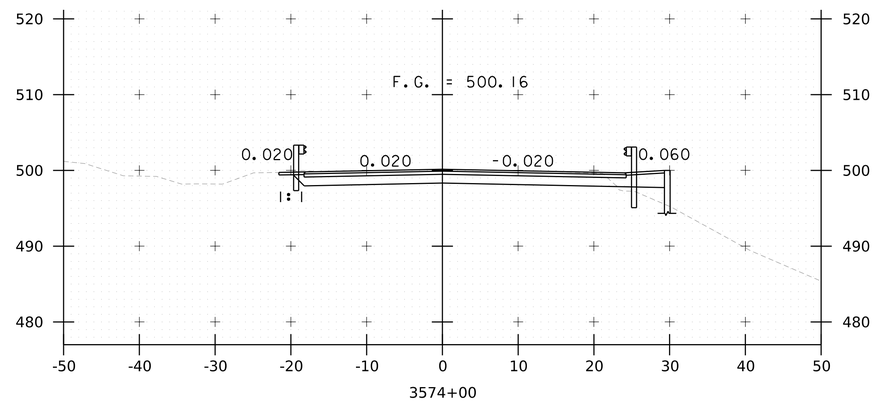
TYPICAL BARRIER REINFORCING SECTION
SCALE 1" = 1-0"

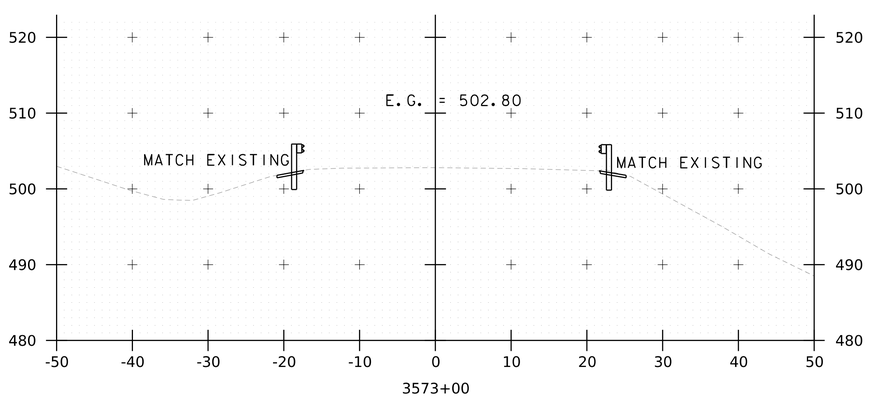
GILL ENGINEERING

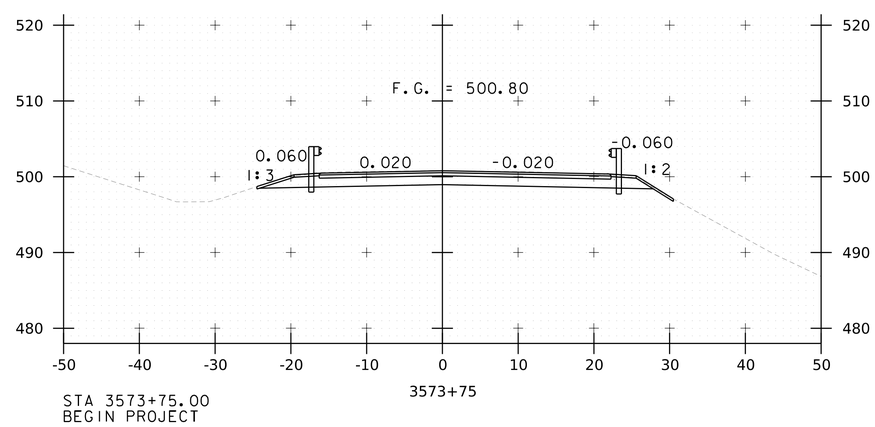
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568rail.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P. HUCKABEE	DRAWN BY: K. COLEMAN
DESIGNED BY: F. BERLUS	CHECKED BY: L. CECCHI
BRIDGE RAILING DETAILS 2 OF 2	SHEET 86 OF 112







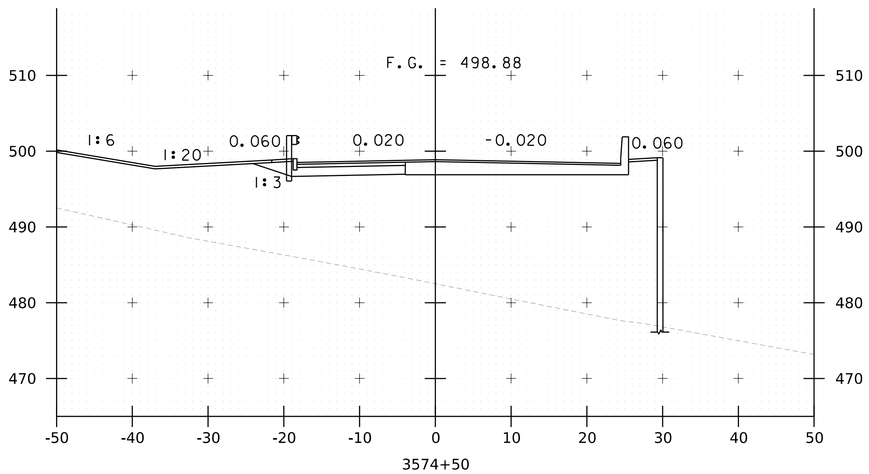




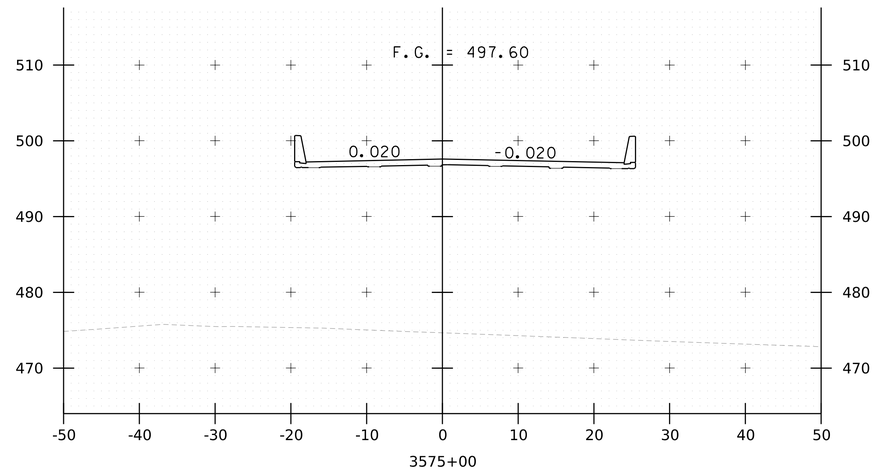
STA. 3573+00 TO STA. 3574+00

GILL ENGINEERING

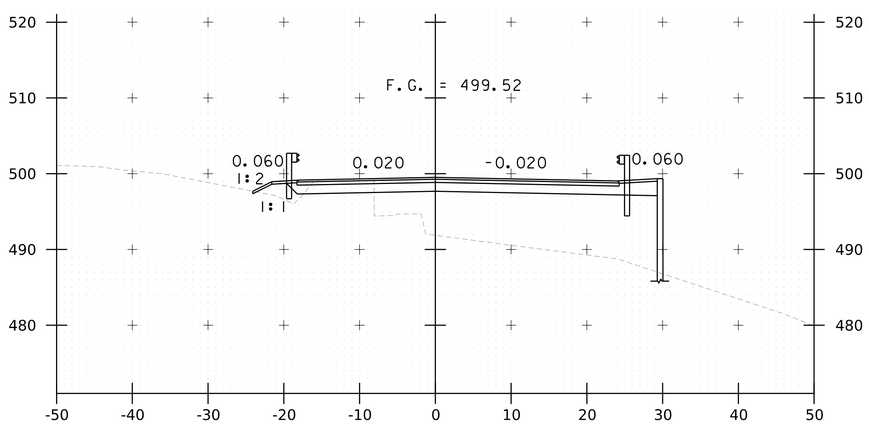
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-19INB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSS SECTIONS 1	SHEET 87 OF 112



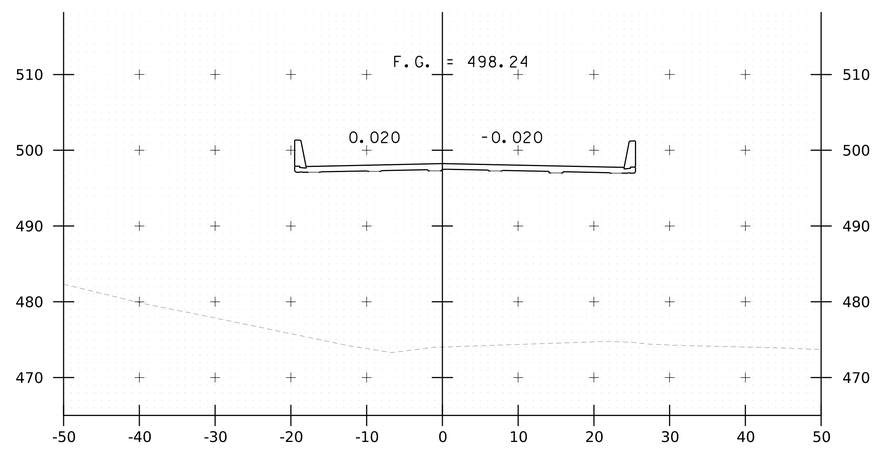
3574+50



3575+00



3574+25



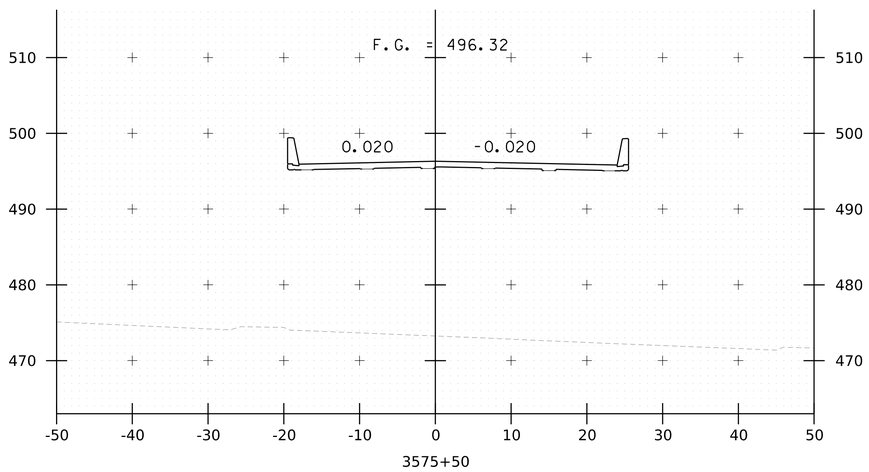
STA 3574+68.20
BEGIN BRIDGE

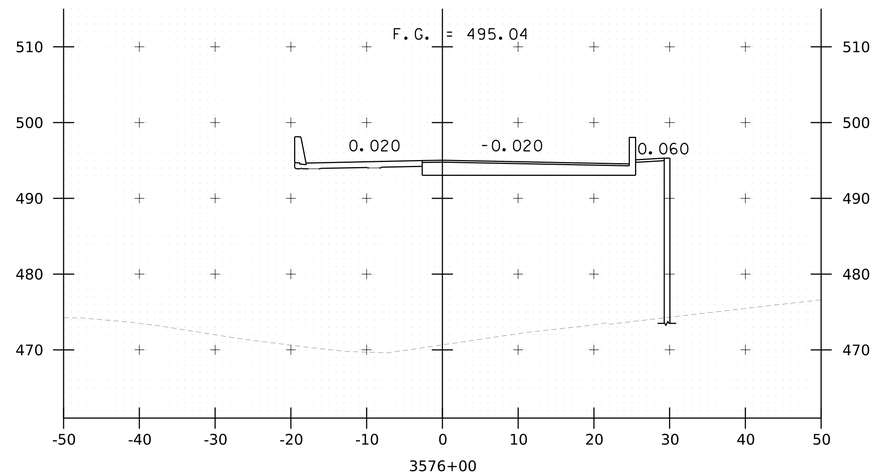
3574+75

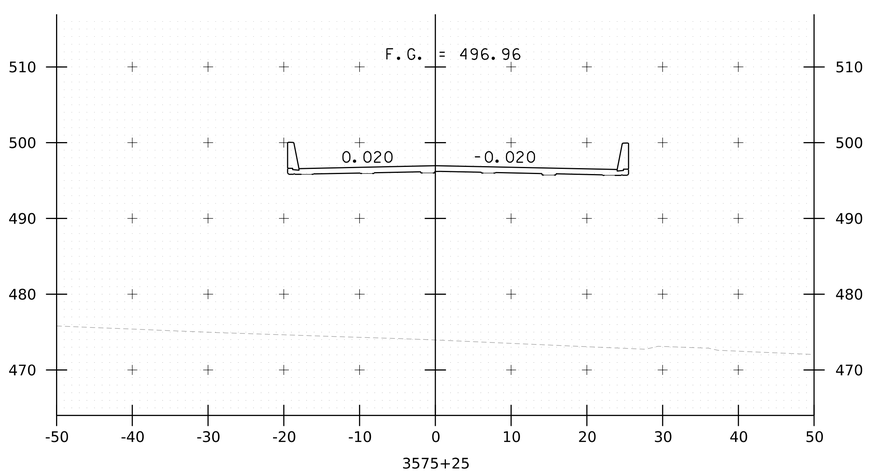
STA. 3574+25 TO STA. 3575+00

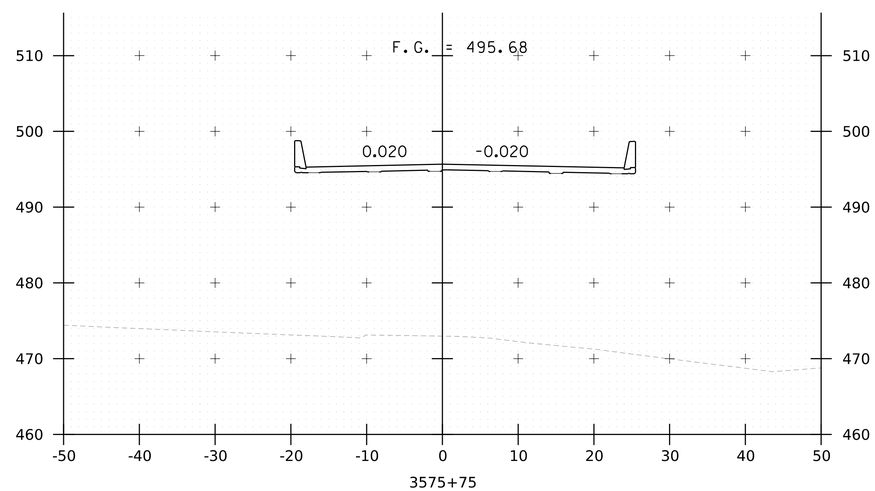
GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-19INB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSS SECTIONS 2	SHEET 88 OF 112





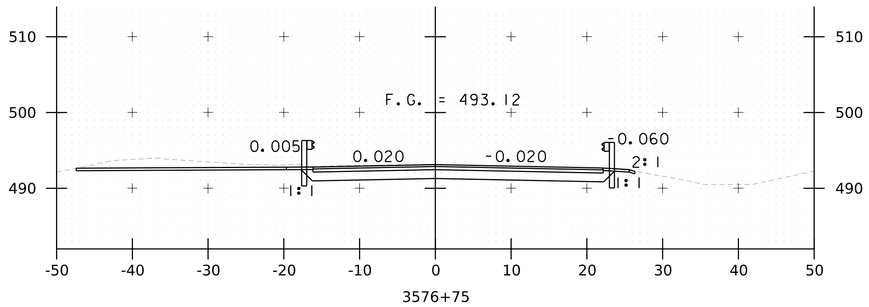


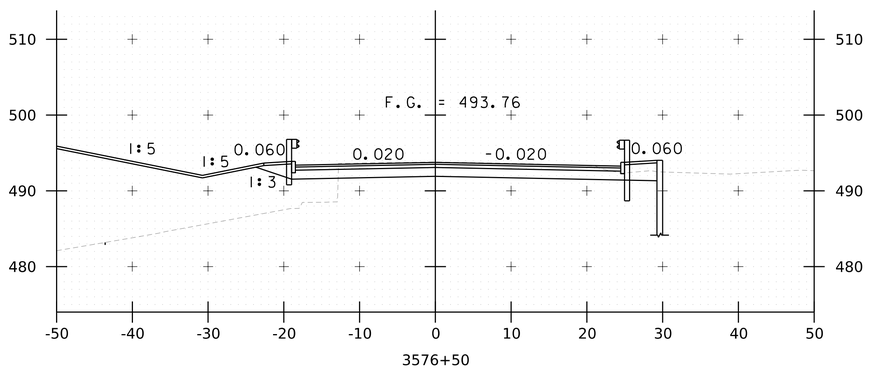


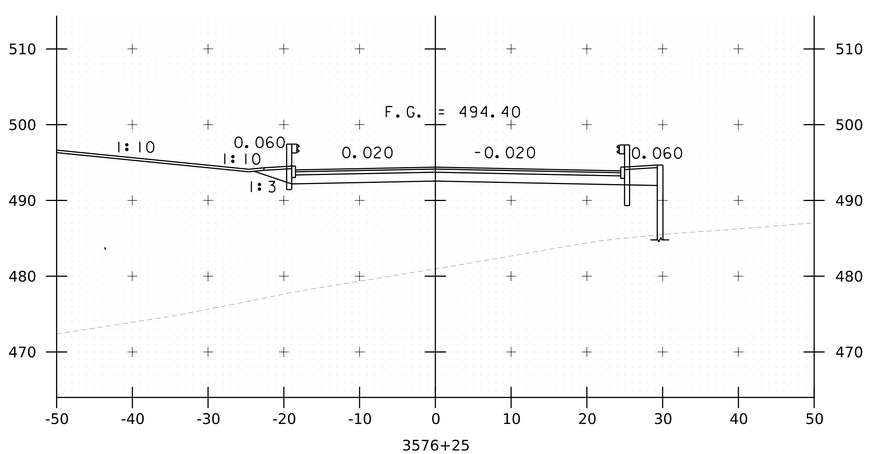
STA. 3575+25 TO STA. 3576+00

GILL ENGINEERING

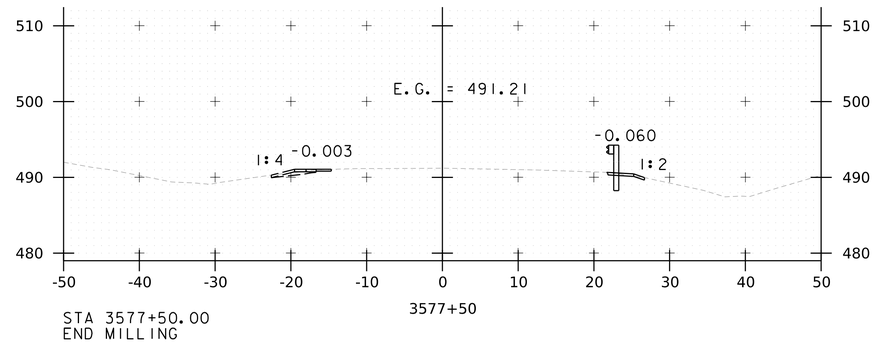
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-19INB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSS SECTIONS 3	SHEET 89 OF 112



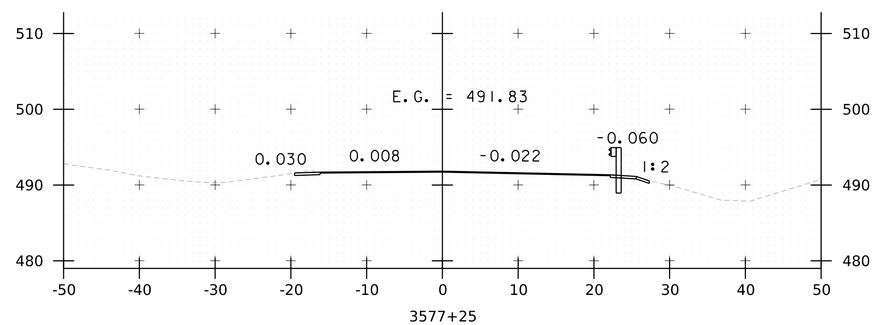


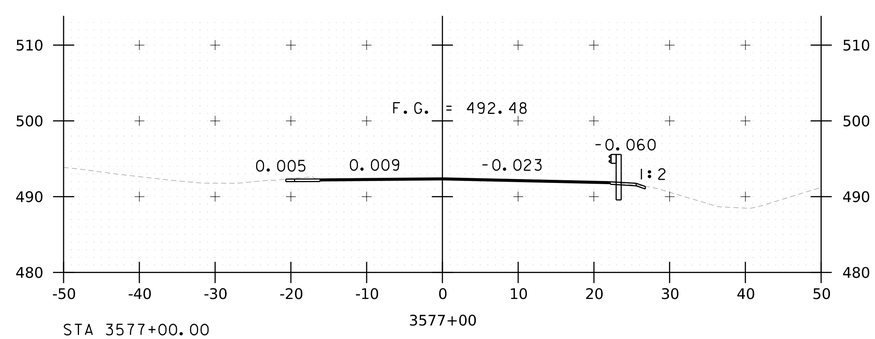


STA 3575+98.79
END BRIDGE



STA 3577+50.00
END MILLING



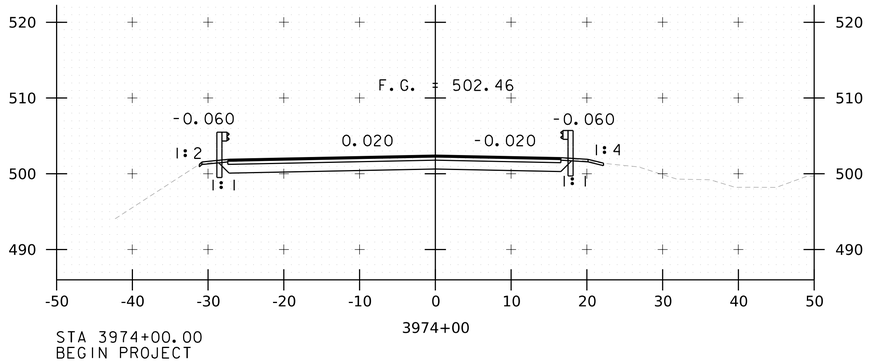


STA 3577+00.00
END PROJECT

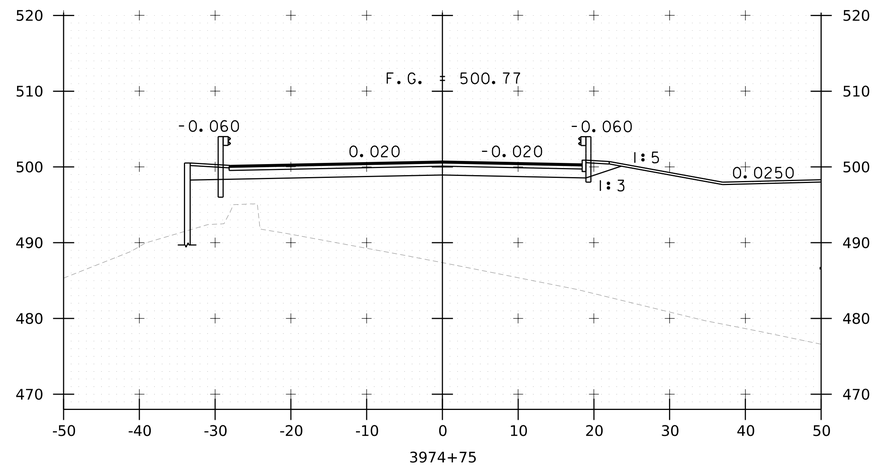
STA. 3576+25 TO STA. 3577+50

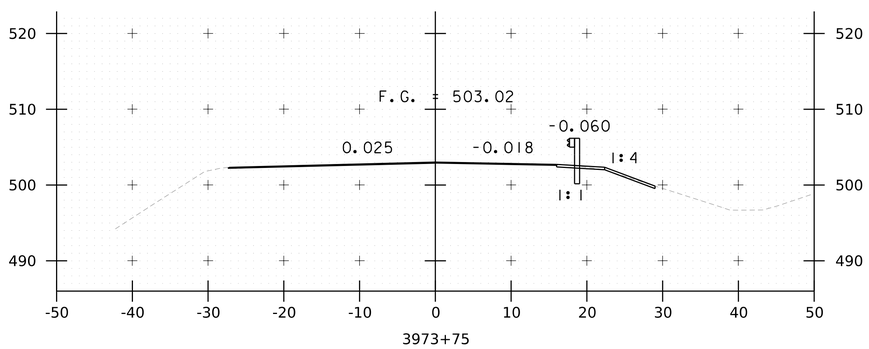
GILL ENGINEERING

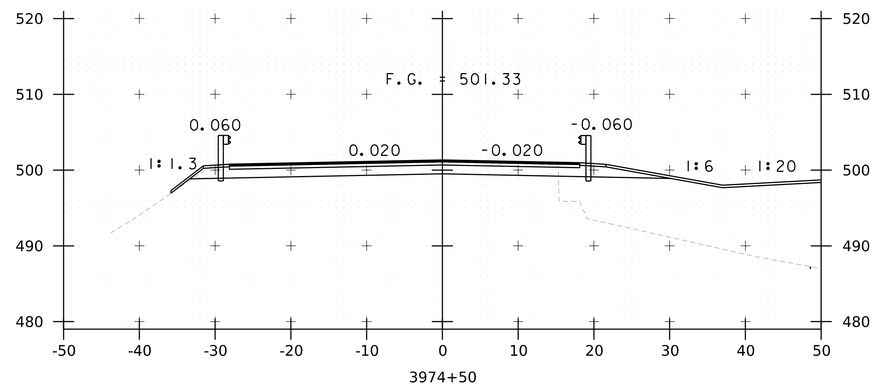
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-19INB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
NORTHBOUND CROSS SECTIONS 4	SHEET 90 OF 112

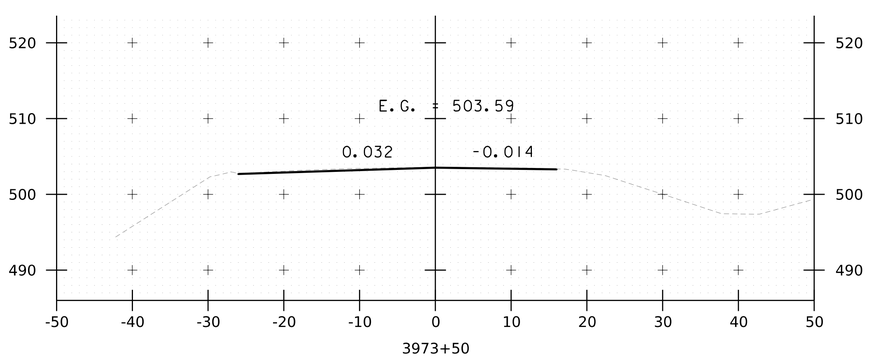


STA 3974+00.00
BEGIN PROJECT

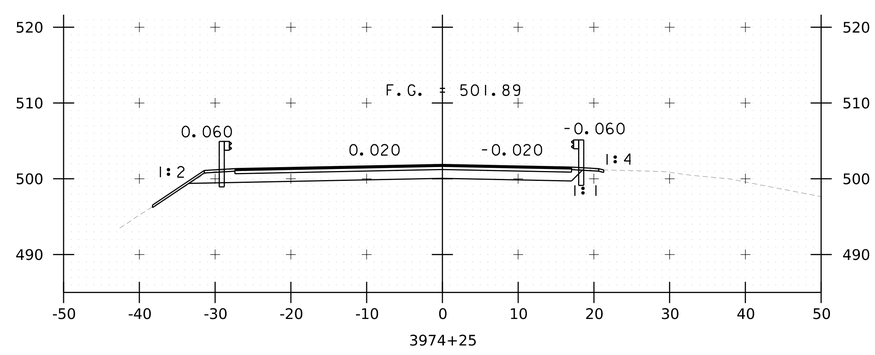








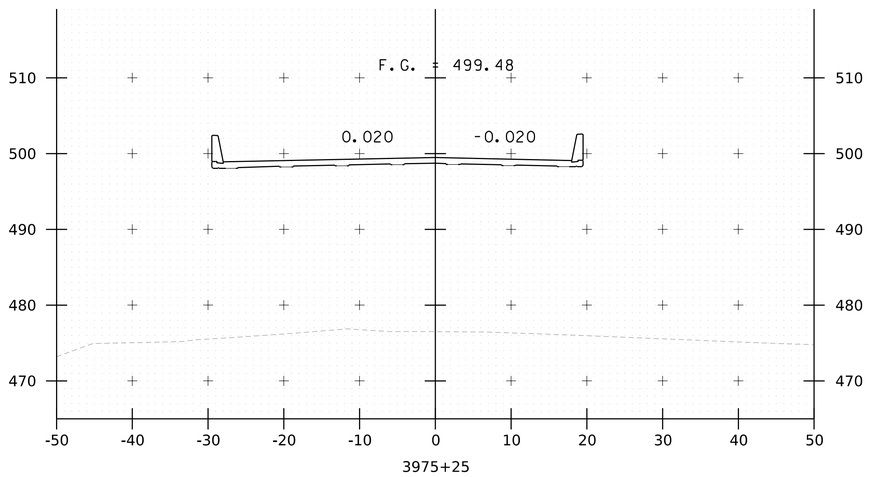
STA 3973+50.00
BEGIN MILLING

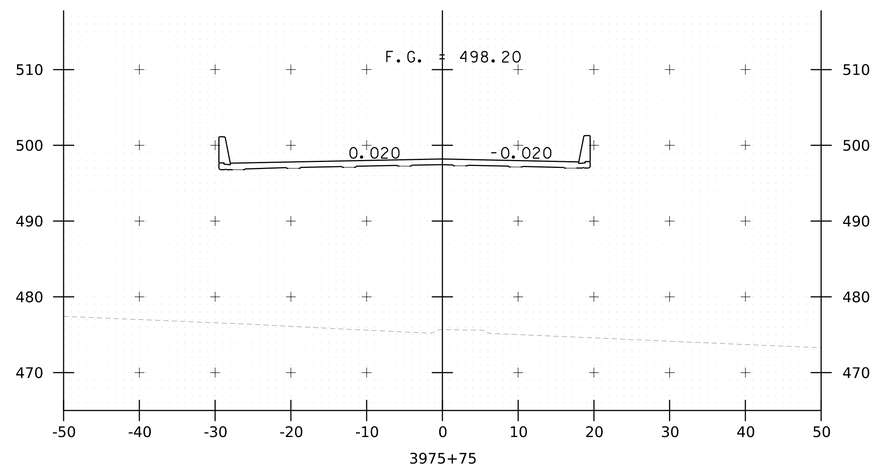


STA. 3973+50 TO STA. 3974+75

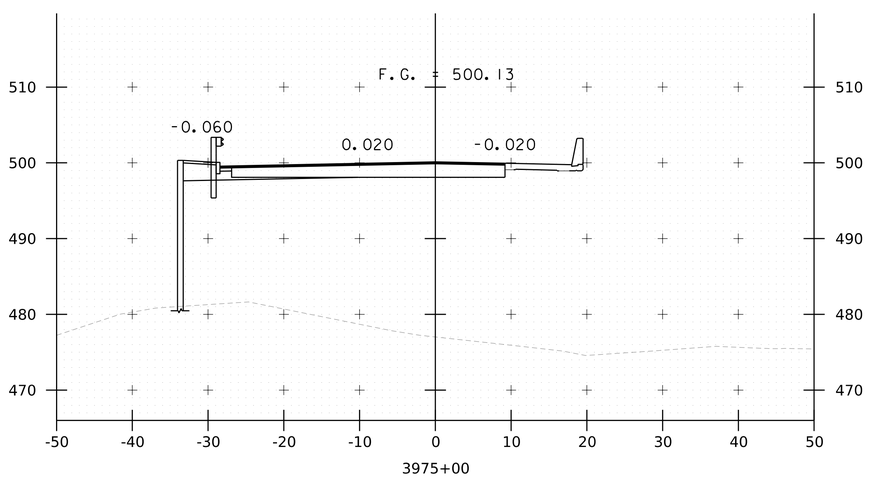
GILL ENGINEERING

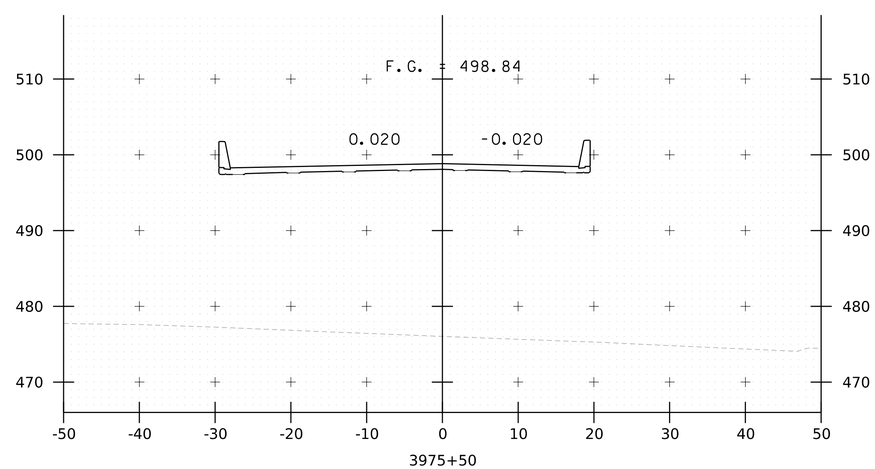
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-191SB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSS SECTIONS 1	SHEET 91 OF 112





STA 3975+05.09
BEGIN BRIDGE

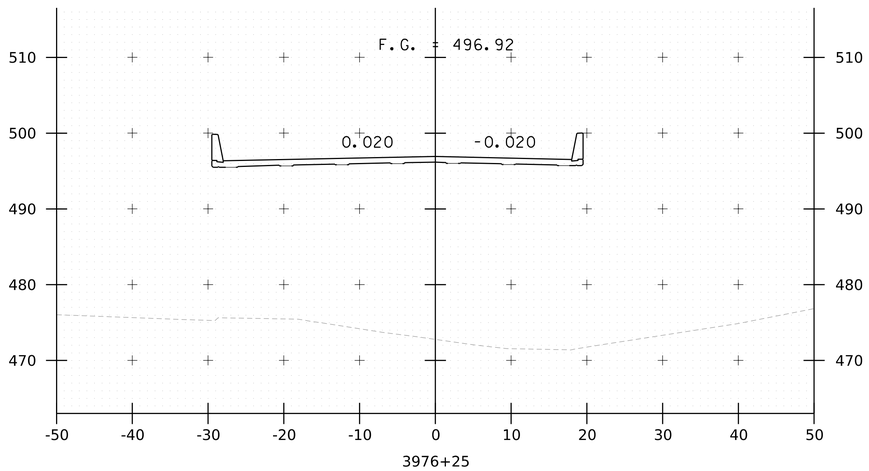




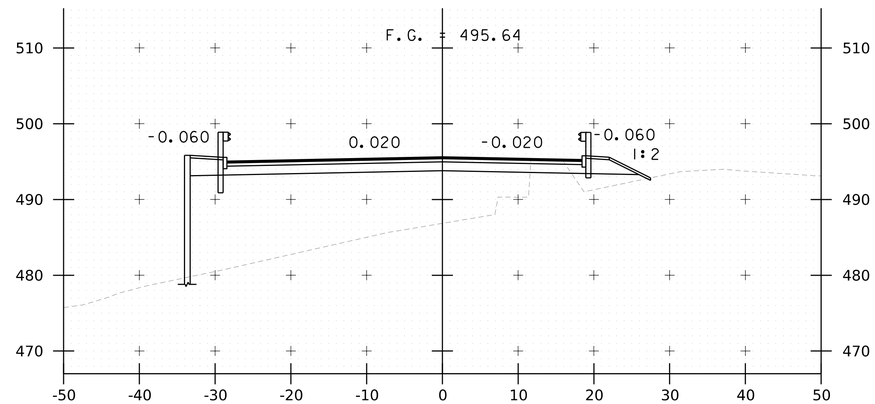
STA. 3975+00 TO STA. 3975+75

GILL ENGINEERING

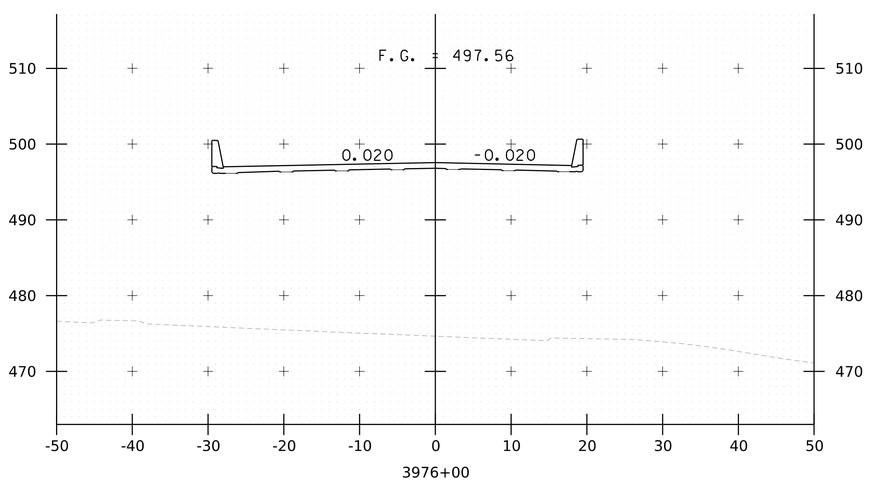
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-191SB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSS SECTIONS 2	SHEET 92 OF 112



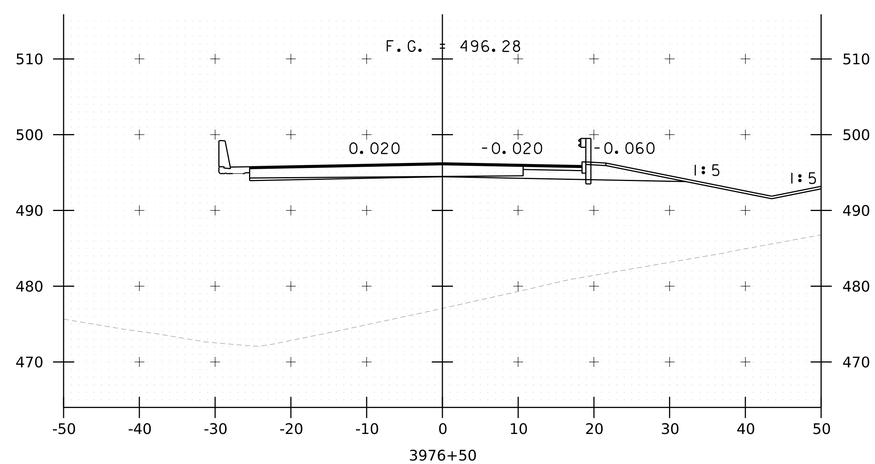
3976+25



3976+75



3976+00



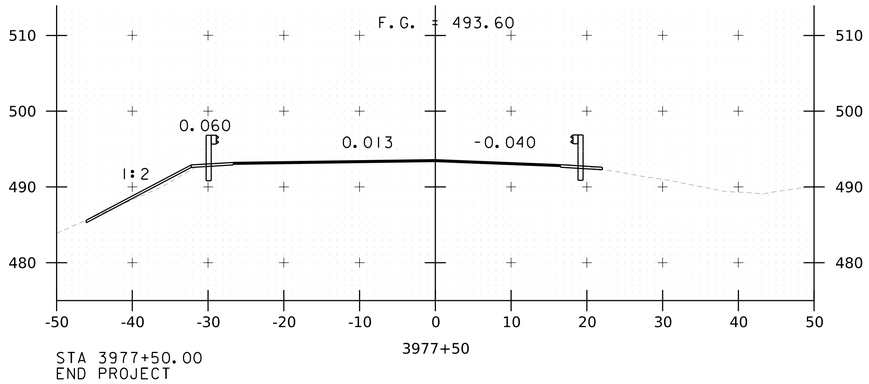
3976+50

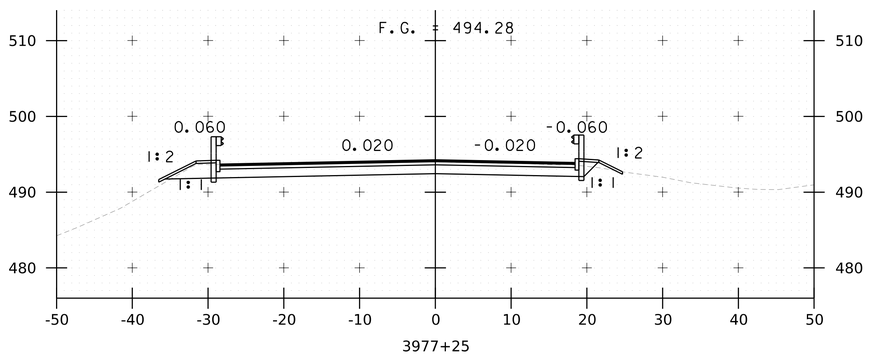
STA 3976+35.91
END BRIDGE

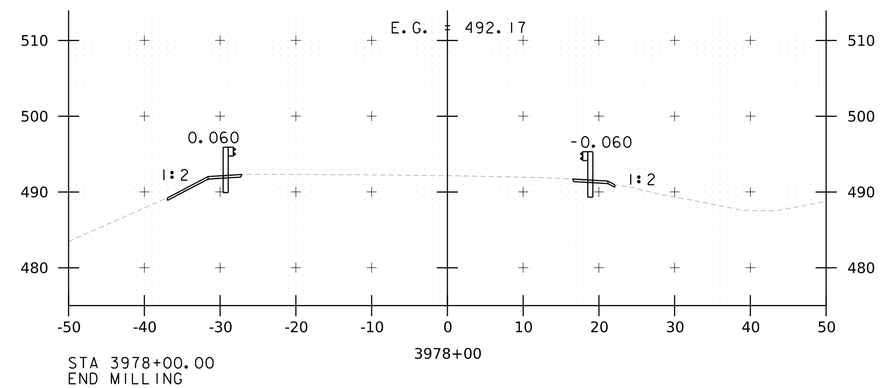
STA. 3976+00 TO STA. 3976+75

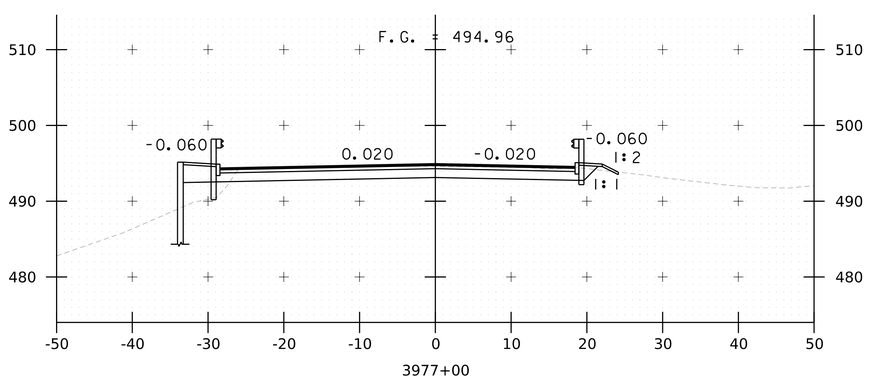
GILL ENGINEERING

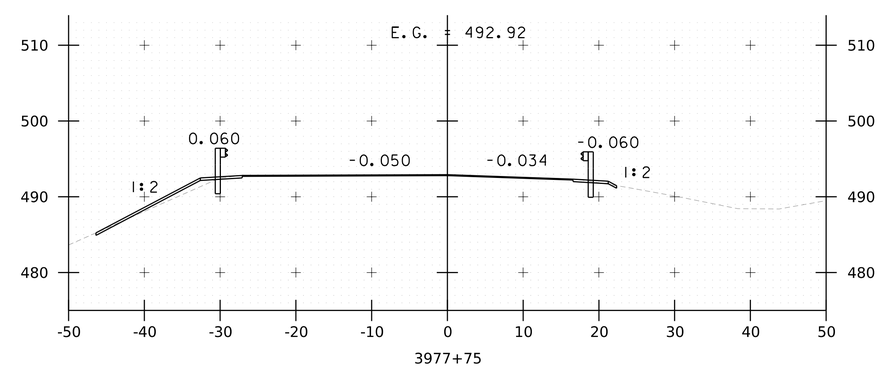
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-191SB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSS SECTIONS 3	SHEET 93 OF 112







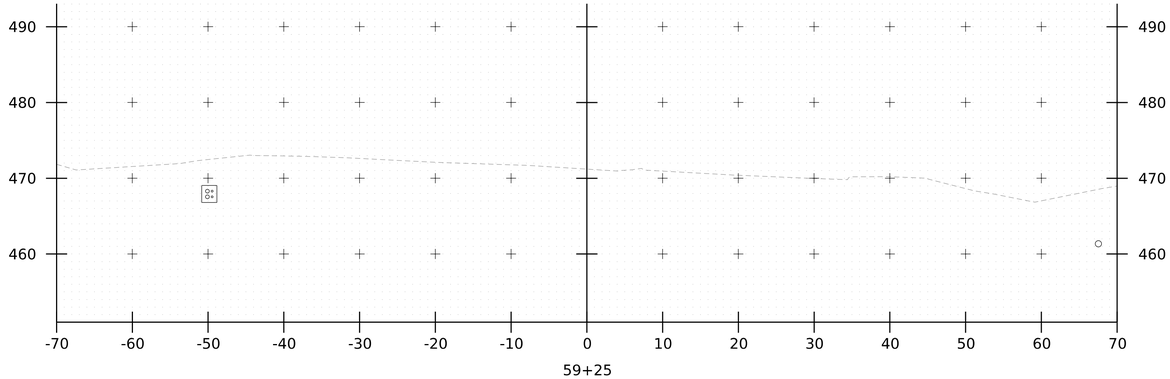


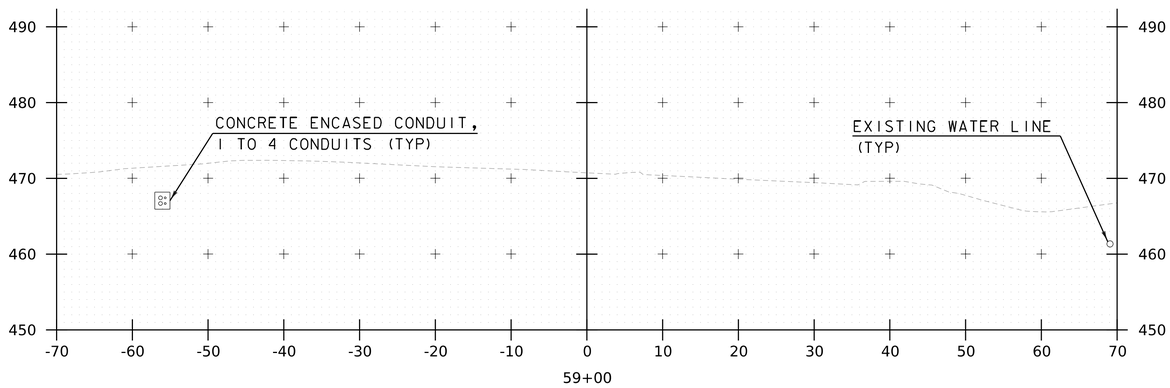


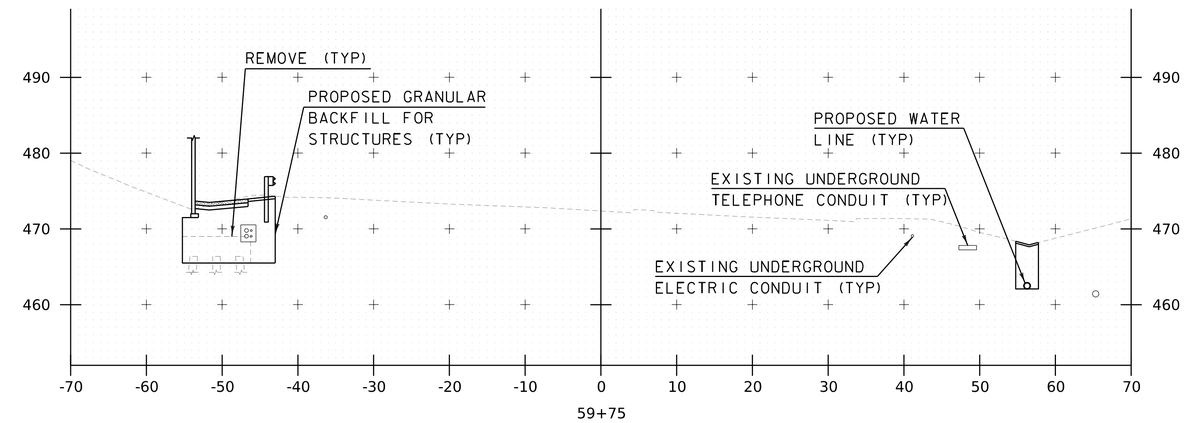
STA. 3977+00 TO STA. 3978+00

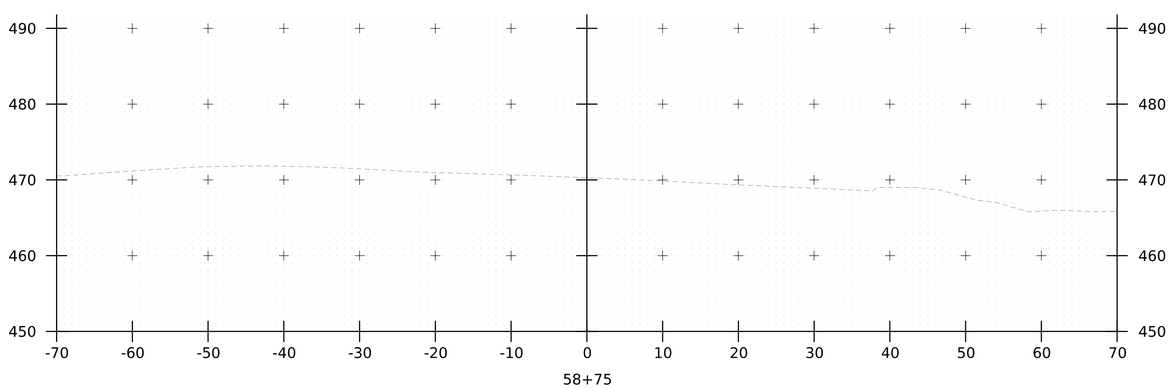
GILL ENGINEERING

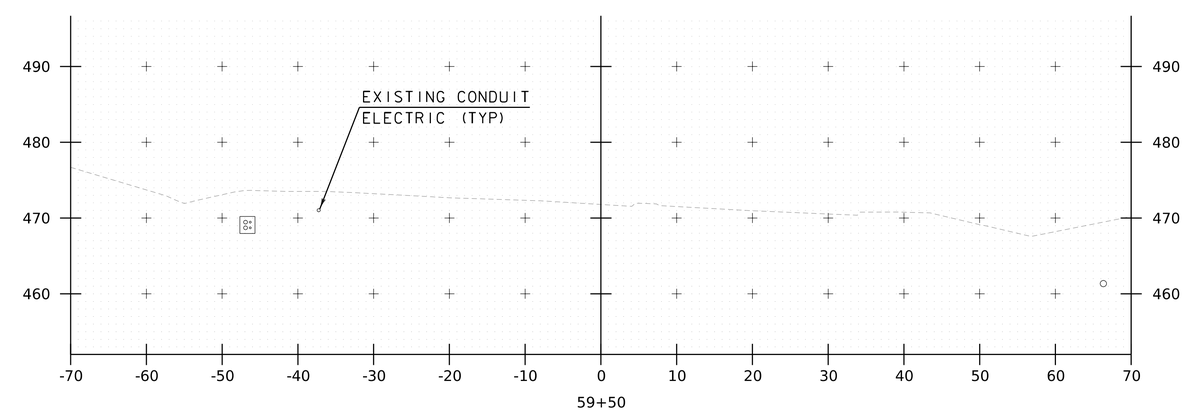
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-191SB.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.LEENHOUTS
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
SOUTHBOUND CROSS SECTIONS 4	SHEET 94 OF 112







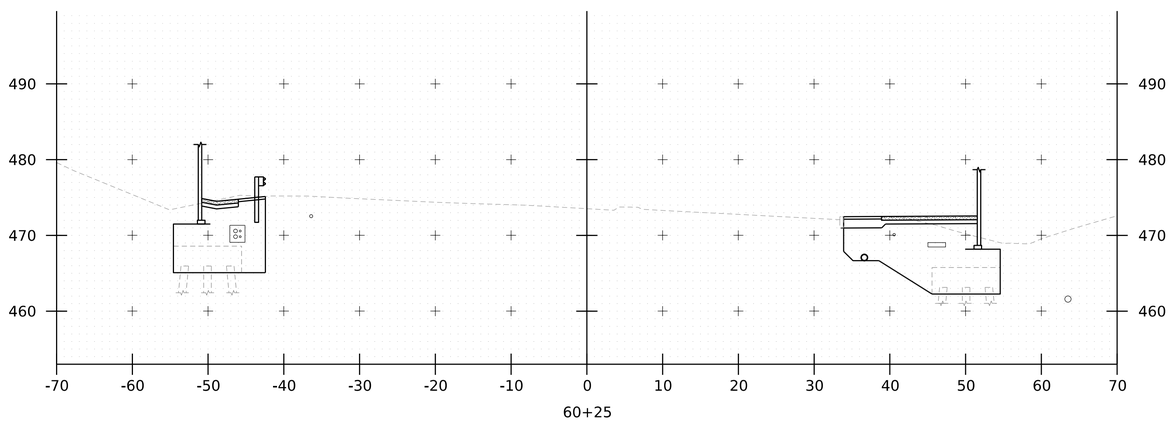




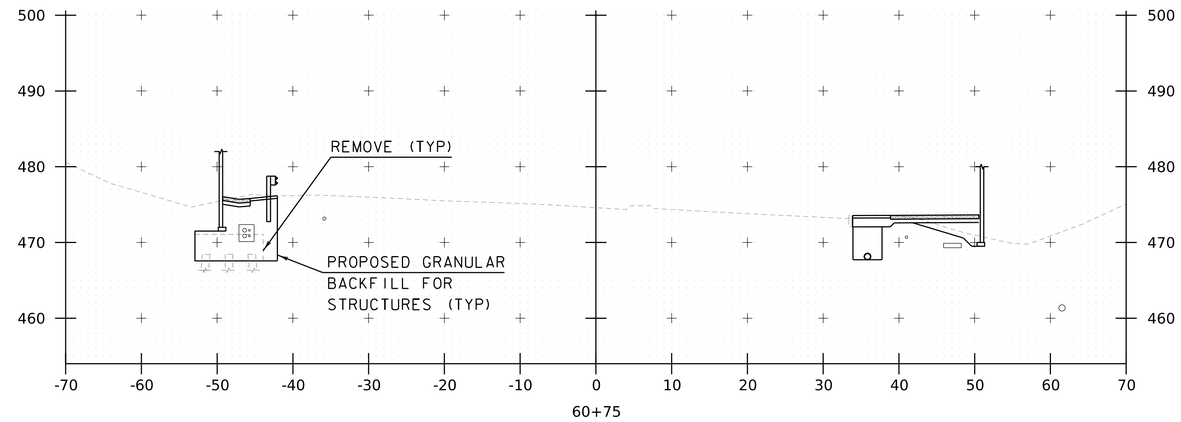
STA. 58+75 TO STA. 59+75

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-10A.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
ROUTE 10A CROSS SECTIONS 1	SHEET 95 OF 112



60+25



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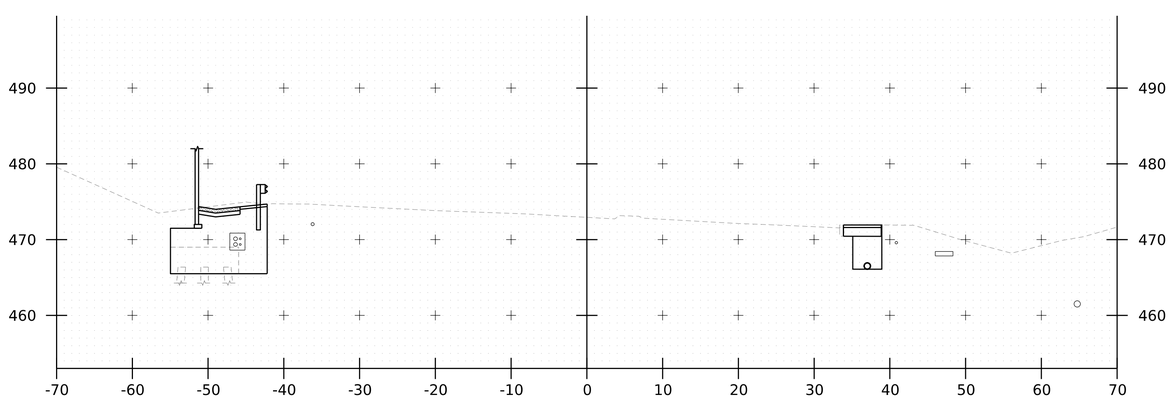
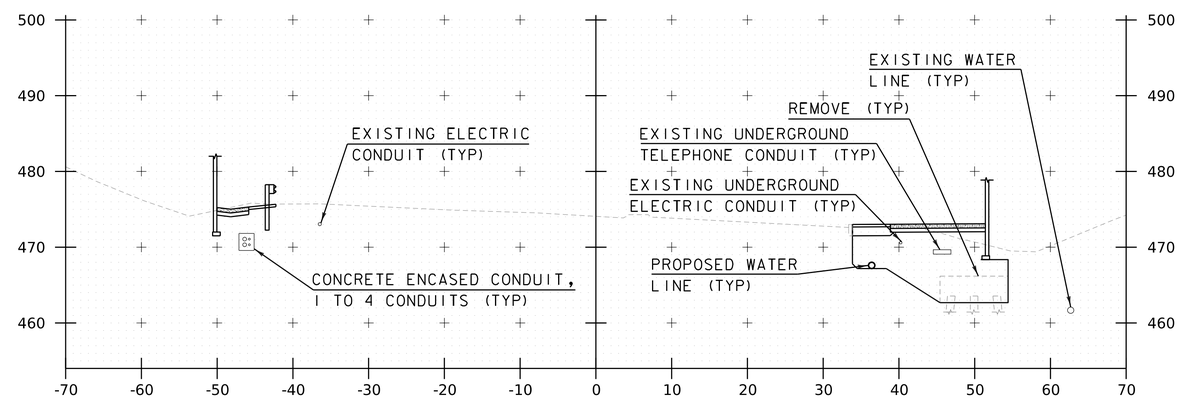


60+00

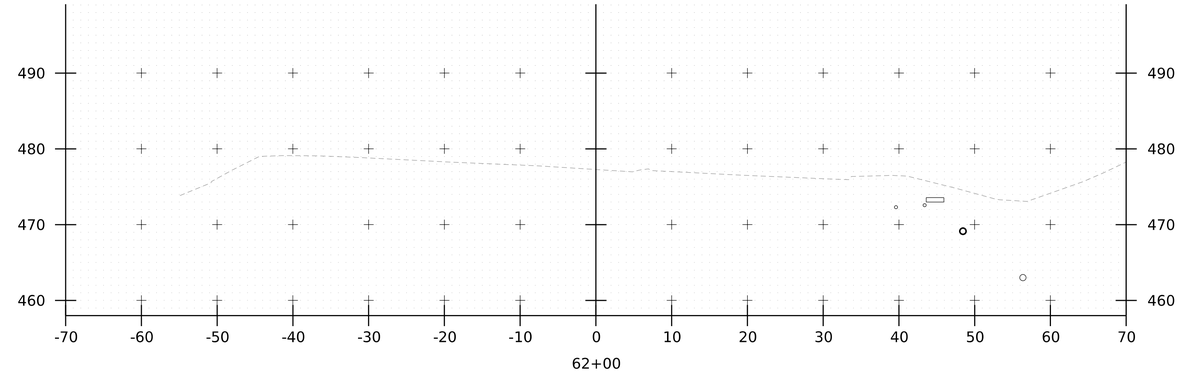


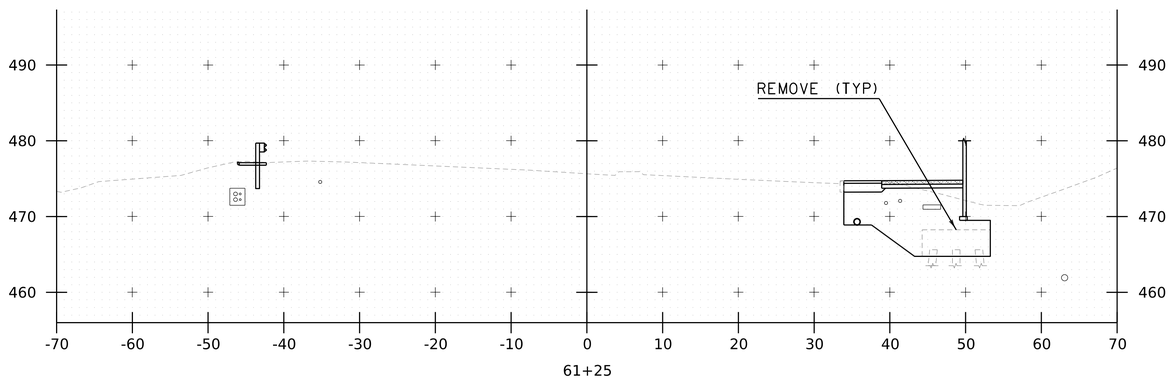
60+50

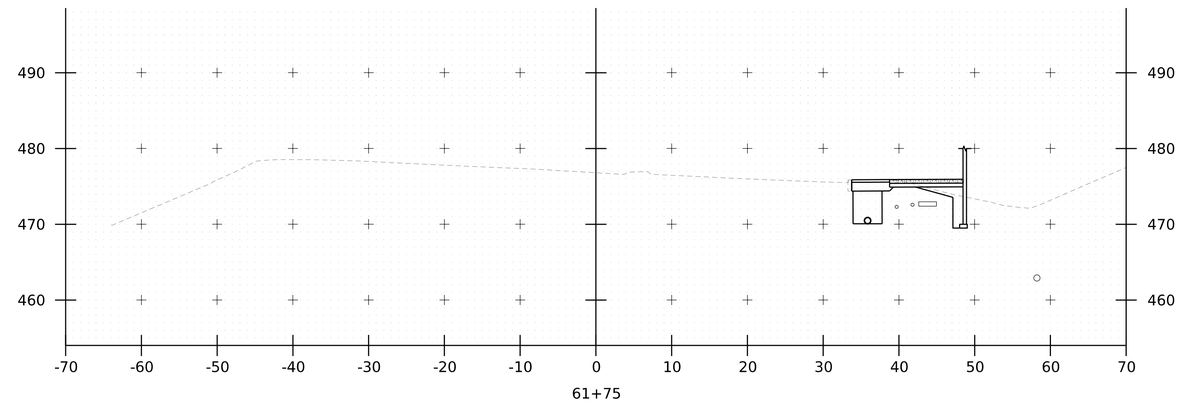
STA. 60+00 TO STA. 60+75

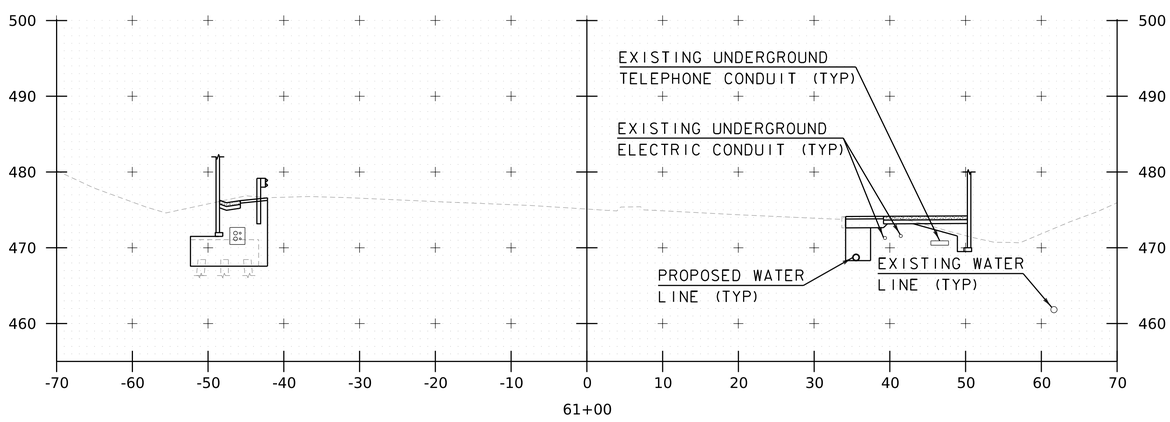
GILL ENGINEERING

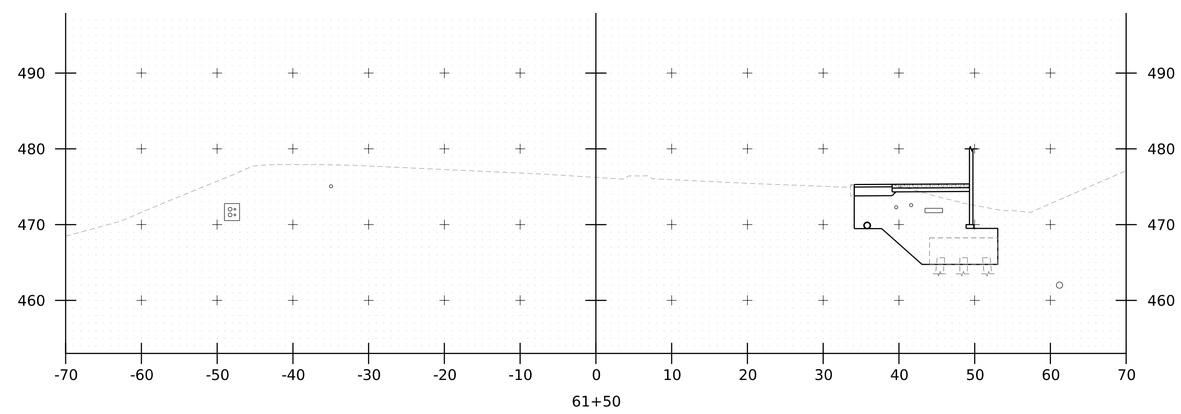
PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-10A.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
ROUTE 10A CROSS SECTIONS 2	SHEET 96 OF 112











STA. 61+00 TO STA. 62+00

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568xs-10A.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: A.STICKELMAN
DESIGNED BY: A.LEENHOUTS	CHECKED BY: L.CECCHI
ROUTE 10A CROSS SECTIONS 3	SHEET 97 OF 112

EPSC PLAN NARRATIVE

1. PROJECT DESCRIPTION

THIS PROJECT INVOLVES NEW BRIDGE AND APPROACH CONSTRUCTION TO BRIDGES 48N AND 48S OVER VT ROUTE 10A, LOCATED ON I-91 AT THE INTERCHANGE OF EXIT 3 (M.M.74.8) IN THE TOWN OF NORWICH. THE PROJECT ALSO INCLUDES CONSTRUCTION OF TEMPORARY CROSSOVER ROADWAYS ON EITHER END OF THE BRIDGES TO SHIFT TRAFFIC FROM ONE BRIDGE TO THE OTHER WHILE EACH BRIDGE IS BEING CONSTRUCTED.

IT IS ANTICIPATED THAT CONSTRUCTION WILL LAST TWO CONSTRUCTION SEASONS.

2. AMOUNT OF DISTURBANCE & RISK EVALUATION

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 3.86 ACRES.

THE MAXIMUM CONCURRENT EARTH DISTURBANCE USED TO SCORE THIS PROJECT IN APPENDIX A RISK ASSESSMENT 2.00 ACRES.

THIS PROJECT REQUIRES COVERAGE UNDER GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS.

ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

3. MAJOR COMPONENTS & SEQUENCING

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME. TRAFFIC CONTROL FOR PHASING OF WORK SHOWN ON SHEET 23.

4. SITE DESCRIPTION
4.1 VEGETATED BUFFERS

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE IMPLEMENTED WHEREVER POSSIBLE.

THIS PROJECT DOES NOT RELY ON VEGETATED BUFFERS AS A MITIGATING RISK FACTOR.

4.2 STREAM CROSSINGS

THIS PROJECT DOES NOT INCLUDE ANY PROPOSED STREAM CROSSINGS. BLOODY BROOK IS CONVEYED BY A DEEP CULVERT BELOW THE INTERSTATE, IMPACTS ARE NOT ANTICIPATED.

4.3 WETLANDS

THERE ARE NO WETLANDS OR WETLAND BUFFERS BEING IMPACTED WITHIN THE PROJECT LIMITS.

4.4 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT AREA IS SLOPING GROUND CONSISTING OF TYPICAL INTERSTATE HIGHWAYS WITH PAVED ROADWAYS AND GRASSY MEDIANS AND SIDESLOPES SURROUNDED BY UNDEVELOPED AREAS OF FOREST. THERE ARE COMMERCIAL PROPERTIES AND SMALL RESIDENTIAL AREAS ADJACENT TO THE PROJECT AREA.

4.5 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS MOSTLY OF MOWED GRASS IN THE MEDIANS WITH OTHER MODERATE VEGETATION SURROUNDING THE EXISTING BRIDGE ABUTMENTS. IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE PROJECT. UPON COMPLETION, THE DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES AS DESCRIBED IN THE TURF ESTABLISHMENT DETAIL, UNLESS NOTED OTHERWISE.

4.6 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. SOILS ON THE PROJECT SITE INCLUDE:

BELGRADE SILT LOAM, 3% TO 8" SLOPES, "K FACTOR" = 0.43
HITCHCOCK SILT LOAM, 3% TO 8% SLOPES, "K FACTOR" = 0.49
HITCHCOCK SILT LOAM, 25% TO 50% SLOPES, "K FACTOR" = 0.49
UDORTHENTS AND UDIPSAMMENTS, "K FACTOR" = 0.10
GLOVER-VERSHIRE COMPLEX, 3% TO 15% SLOPES

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

4.7 OTHER SENSITIVE RESOURCES

CRITICAL HABITATS: NONE
HISTORICAL OR ARCHAELOGICAL AREAS: NONE
PRIME AGRICULTURAL LAND: NONE
THREATENED & ENDANGERED SPECIES: FEDERALLY THREATENED NORTHERN LONG-EARED BATS ARE THE ONLY LISTED SPECIES IN THE PROJECT AREA. THE BRIDGE DOES NOT PROVIDE USEFUL ROOSTING HABITAT AND THEREFORE RESTRICTIONS CAUSED BY THIS ANIMAL ARE UNLIKELY.
WATER RESOURCE: NONE
WETLANDS: NONE

5. DRAINAGE
5.1 RECEIVING WATERS

BLOODY BROOK IS THE ONLY WATER SOURCE NEAR THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SINUOUS WITH A VERY BROAD CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL. BLOODY BROOK DRAINS AN 18.6 MILES^2 WATERSHED.

5.2 DISCHARGE POINTS

THE PROJECT IS APPROXIMATELY 0.08 MILES EAST OF THE RECEIVING WATER. THERE ARE NO DISCRETE DISCHARGE POINTS. WATER FROM THE PROJECT AREA DIRECTLY ADJACENT TO THE RECEIVING WATER DRAINS TOWARDS THE BROOK.

5.3 CONVEYANCE/FLOW PATH FROM PROJECT TO WATERS

THE MAJORITY OF THE PROJECT AREA HAS RUNOFF DRAINS OVERLAND ACROSS ADJACENT VEGETATED SIDE SLOPES BEFORE REACHING THE RECEIVING WATER. THERE ARE ALSO A NUMBER OF DROP INLETS ON SITE THAT COLLECT ROADWAY RUNOFF AND DRAIN TO THE BROOK.

6. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

THE MEASURES INCLUDED IN THIS PLAN ARE PROVIDED AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. IT IS EXPECTED THAT THE CONTRACTOR MAY USE THIS PLAN, WITH ADJUSTMENTS AS NECESSARY, BASED ON THEIR SPECIFIC MEANS AND METHODS OF CONSTRUCTION.

APPLYING THESE MEASURES THROUGHOUT CONSTRUCTION IS CRITICAL TO THEIR SUCCESS IN MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. REFER TO THE DETAILS INCLUDED IN THESE PLANS AND THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR SPECIFIC GUIDANCE.

6.1 IDENTIFY LIMITS OF DISTURBANCE

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

6.2 LIMIT CONCURRENT DISTURBANCE

LIMITING THE AMOUNT OF SOIL EXPOSED AT ONE TIME REDUCES THE POTENTIAL EROSION ON SITE. CONCURRENT EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY AND EMPLOYING STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE.

6.3 STABILIZE DISTURBED AREAS
6.3.1 ACCESS POINTS/ENTRANCE/EXITS

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES ARE ANTICIPATED ON THIS PROJECT AND SHALL BE LOCATED AS SHOWN ON THIS EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

6.3.2 TEMPORARY MEASURES FOR EXPOSED AREAS DURING CONSTRUCTION

ALL AREAS OF EARTH DISTURBANCE MUST HAVE STABILIZATION IN PLACE WITHIN 14 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, DISTURBED AREAS MUST BE STABILIZED IN ADVANCE OF ANY RUNOFF PRODUCING EVENT.

SURFACE ROUGHENING OF EXPOSED SLOPES, SEEDING OF TEMPORARY SLOPES, AND STOCKPILES, AND STANDARD MULCHING PRACTICES DESCRIBED IN SPECIFICATION SECTION 653.07 SHALL BE UTILIZED TO TEMPORARILY STABILIZE DISTURBED AREAS.

6.3.3 PERMANENT STABILIZATION AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, ROLLED EROSION CONTROL PRODUCT, TYPE I SHALL BE USED INSTEAD OF MULCH.

6.4 DIVERT UPLAND RUNOFF

THE I-91 SOUTHERN APPROACH DRAINS TOWARDS THE PROJECT AREA. RUNOFF FROM THESE AREAS MAY NEED TO BE DIVERTED AWAY FROM THE PROJECT AREA. THE CONTRACTOR SHALL REFER TO THE LOW RISK HANDBOOK FOR GUIDANCE.

6.5 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED ON THE DOWNHILL SIDE OF CONSTRUCTION ACTIVITIES, PRIOR TO ANY UP-SLOPE WORK.

SILT FENCE WILL BE INSTALLED ALONG THE CONTOURS AND AS PROPOSED ON THE EPSC PLAN.

6.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

EXISTING MEDIAN DRAINAGE TO REMAIN, THEREFORE IT IS NOT ANTICIPATED THAT CHECK STRUCTURES WILL BE REQUIRED FOR THIS PROJECT.

7. CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

PERMANENT STORMWATER TREATMENT DEVICES ARE NOT ANTICIPATED TO BE NEEDED FOR THIS PROJECT.

8. DEWATERING

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS. DEWATERED STORMWATER OR GROUNDWATER MUST BE FILTERED AND ROUTED IN A MANNER THAT DOES NOT RESULT IN VISIBLY TURBID DISCHARGES TO WATERS.

DEWATERING ACTIVITIES ARE NOT ANTICIPATED FOR THIS PROJECT.

9. OFF-SITE AREAS

OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE AREAS THAT ARE NEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 105.25 – 105.28. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, AND STAGING AREAS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR PER 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12" OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.

ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

10. WINTER CONSTRUCTION

CONSTRUCTION ACTIVITIES MAY CONTINUE INTO THE WINTER CONSTRUCTION SEASON, DEPENDING ON ACTUAL FIELD AND WEATHER CONDITIONS. IF ACTIVITIES ARE ON-GOING BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

- ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
- LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
- DEVELOPMENT OF A SNOW MANAGEMENT PLAN THAT INCLUDES:
  - ADEQUATE STORAGE AND CONTROL OF MELT-WATER
  - STORAGE OF CLEARED SNOW TO BE PLACED DOWN SLOPE OF DISTURBED AREAS AND OUT OF STORMWATER TREATMENT STRUCTURES
- AREAS OF DISTURBANCE WITHIN 100 FT OF A WATERBODY MUST HAVE REINFORCED (WOVEN WIRE) SILT FENCE INSTALLED ACROSS THE SLOPE, DOWNGRADIENT OF THE EARTH DISTURBANCE. ALTERNATIVELY, REGULAR, NON-WOVEN WIRE SILT FENCE MAY BE USED IF COMBINED WITH EROSION CONTROL BERM, EROSION LOG, OR STRAW WATTLE.
- DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
- SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.
- MULCH TO BE APPLIED AT A MINIMUM OF 2 INCHES DEPTH WITH 80-90% COVERAGE.
- AREAS OF DISTURBED SOILS MUST BE STABILIZED PRIOR TO ANY RUNOFF-PRODUCING EVENT, WITH THE FOLLOWING EXCEPTION:
  - STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH NO OUTLET AND A DEPTH OF 2 FT OR GREATER (OPEN UTILITY TRENCHES), PROVIDED THAT ANY DEWATERING, IF NECESSARY, IS CONDUCTED AS REQUIRED.
- PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1" THICKNESS.
- USE STONE TO STABILIZE AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED.

11. INSPECTION & MAINTENANCE

INSPECTION AND MONITORING OF THE PROJECT'S EPSC MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION 653.04 MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN, ALONG WITH PERMIT SPECIFIC INSPECTION REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE A COPY OF THEIR INSPECTION FORM AS PART OF THEIR EPSC PLAN.

ALL EPSC MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

TEMPORARY STABILIZATION MEASURES INCLUDE MINIMIZING THE EXPOSED AREA OF DISTURBANCE THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY STABILIZATION PRACTICES THROUGH INCREMENTAL STAGES AS CONSTRUCTION PHASES CHANGE. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AS DIRECTED BY THE ENGINEER.

FERRELL, CATHERINE L.

VT STATE PLANE GRID

BELGRADE SILT LOAM
3-8% SLOPES
"K" FACTOR 0.43
HIGH EROSION POTENTIAL

HITCHCOCK SILT LOAM
3-8% SLOPES
"K" FACTOR 0.49
HIGH EROSION POTENTIAL

BELGRADE SILT LOAM
3-8% SLOPES
"K" FACTOR 0.43
HIGH EROSION POTENTIAL

FOREST

PARKING LOT

KING ARTHUR FLOUR CO., INC.

FOREST

APPROX. EXISTING R.O.W.

FOREST

MATCH LINE STA 3944+25

I-91 SOUTHBOUND
TO HARTFORD

GRASS

3957+00 3958+00 3959+00 3960+00 3961+00 3962+00 3963+00 3964+00 3965+00 3966+00 3967+00 3968+00

I-91 NORTHBOUND
TO THETFORD

3557+00 3558+00 3559+00 3560+00 3561+00 3562+00 3563+00 3564+00 3565+00 3566+00 3567+00 3568+00

INTERSTATE 91
EXIT 13 RAMP D

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

TOWN HIGHWAY 84
(MONTSHIRE ROAD)

FOREST

DARTMOUTH COLLEGE;
C/O REAL ESTATE OFFICE

PARKING LOT

CHILD CARE CENTER, INC.

FOREST

VERSHIRE-DUMMERSTON COMPLEX
8-15% SLOPES
ROCKY
"K" FACTOR 0.20
LOW EROSION POTENTIAL

HITCHCOCK SILT LOAM
15-25% SLOPES
"K" FACTOR 0.49
HIGH EROSION POTENTIAL

HITCHCOCK
SILT LOAM
25-50% SLOPES
ERODED
"K" FACTOR 0.49
HIGH EROSION
POTENTIAL

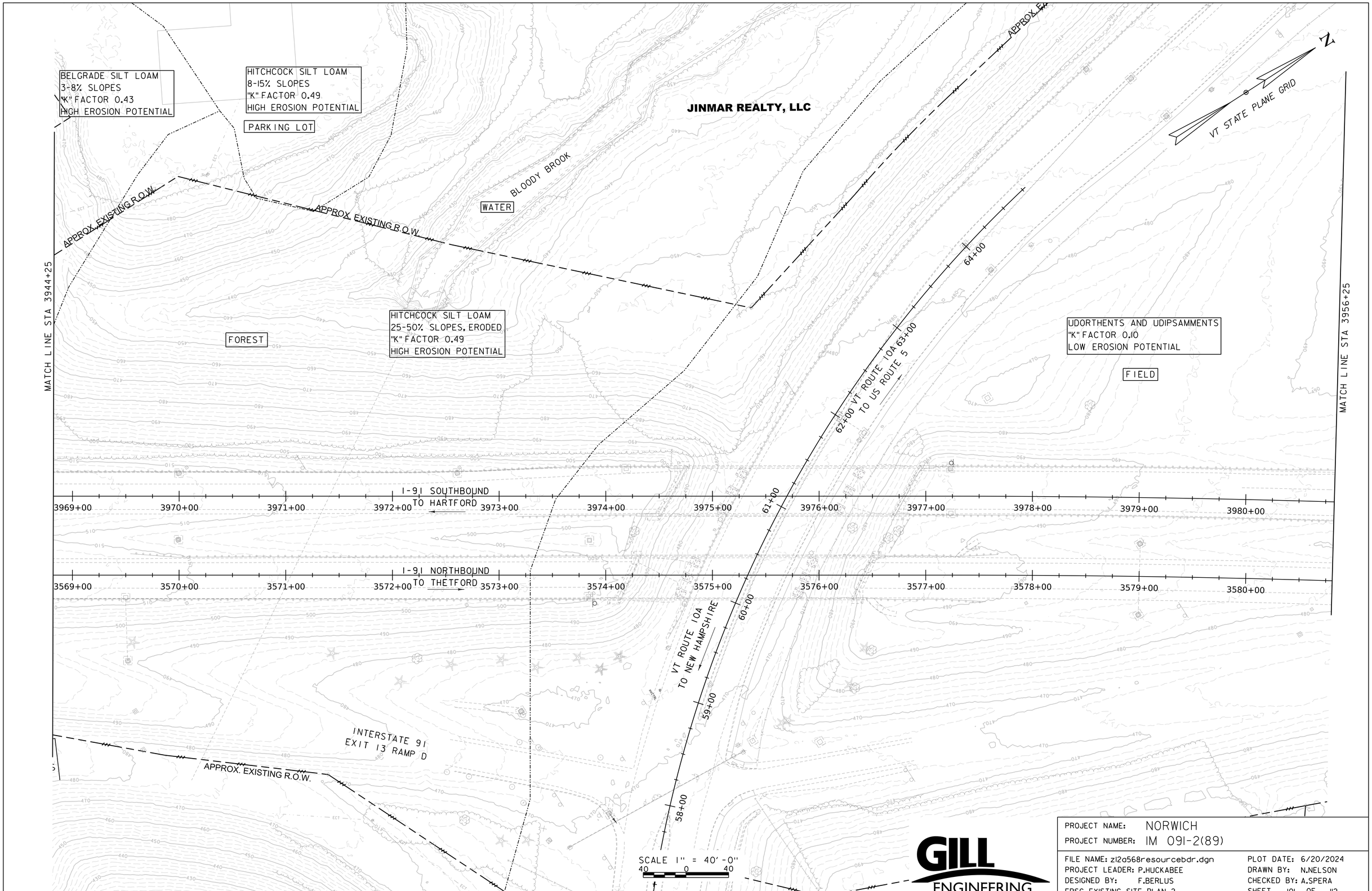
SCALE 1" = 40'-0"
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568resourcebdr.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC EXISTING SITE PLAN 1

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 100 OF 112



PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
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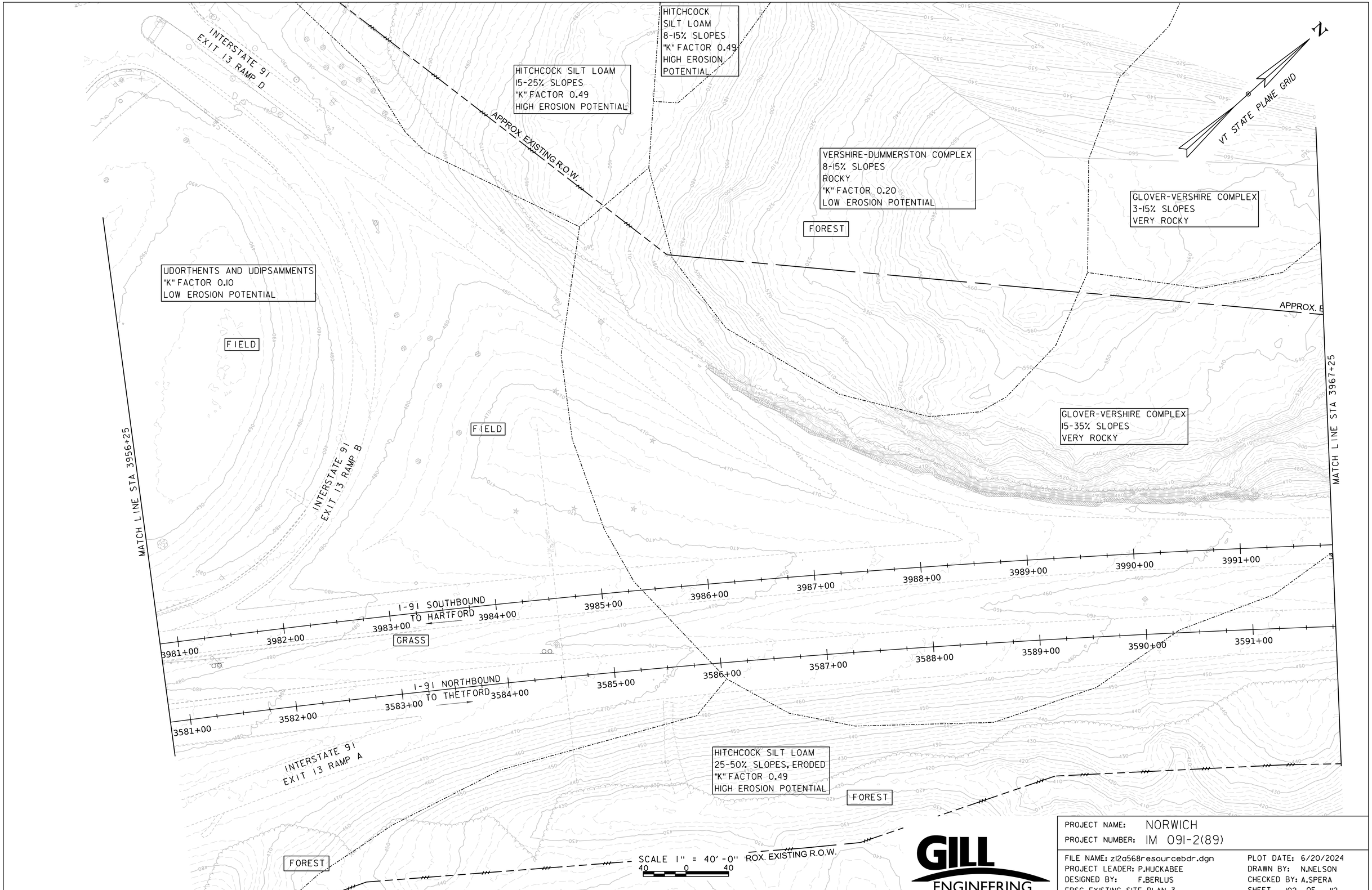
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC EXISTING SITE PLAN 2	SHEET 101 OF 112



GILL ENGINEERING

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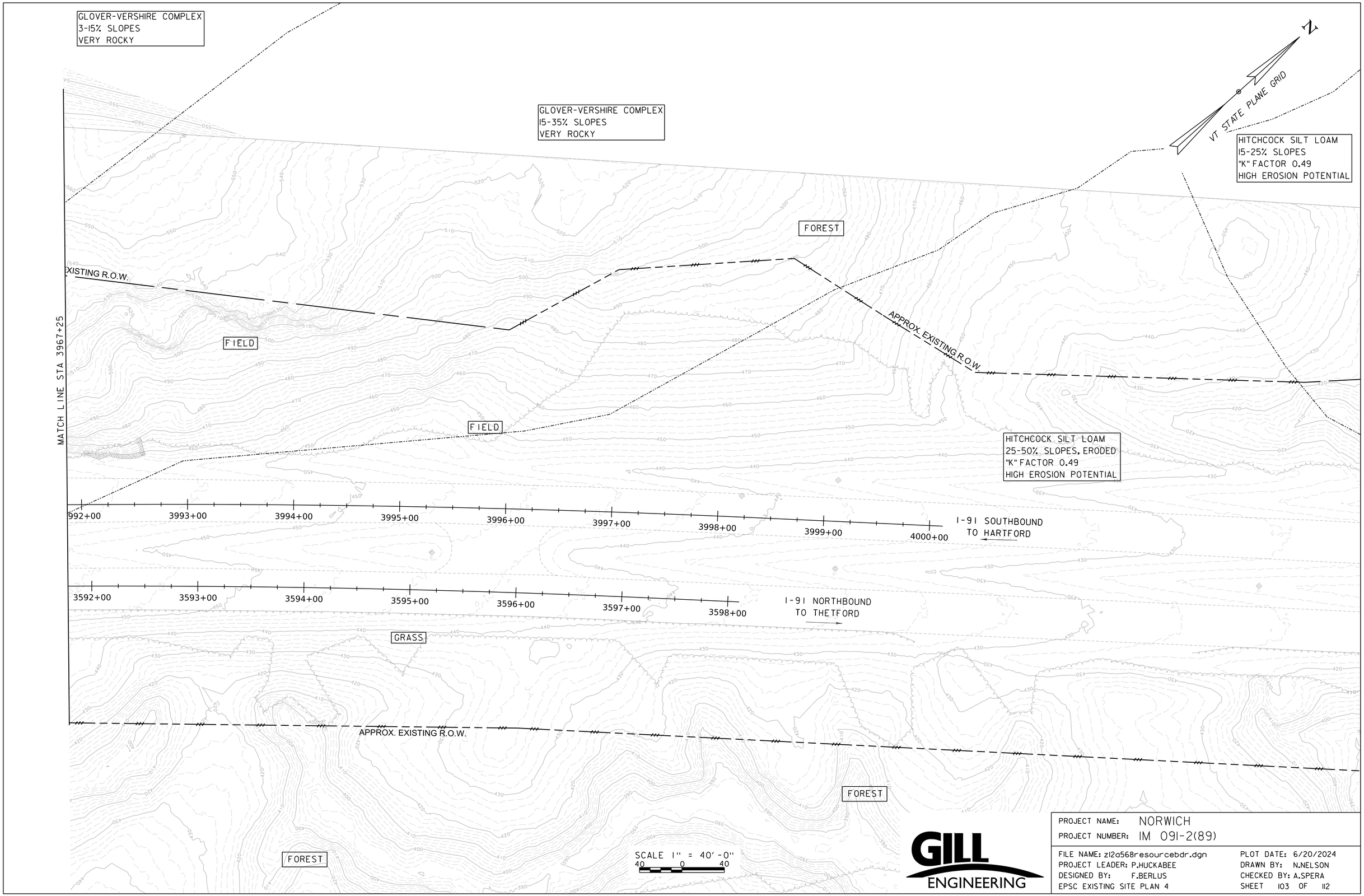
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC EXISTING SITE PLAN 3	SHEET 102 OF 112



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PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC EXISTING SITE PLAN 4	SHEET 103 OF 112

FERRELL, CATHERINE

VT STATE PLANE GRID

N

FOREST

PARKING LOT

KING ARTHUR FLOUR CO., INC.

APPROX. EXISTING R.O.W.

FOREST

FOREST

MATCH LINE STA 3944+25

SOUTHBOUND CROSSOVER

I-91 SOUTHBOUND TO HARTFORD

3957+00 3958+00 3959+00 3960+00 3961+00 3962+00 3963+00 3964+00 3965+00 3966+00 3967+00 3968+00

GRASS

PDF

PDF

I-91 NORTHBOUND TO THETFORD

3557+00 3558+00 3559+00 3560+00 3561+00 3562+00 3563+00 3564+00 3565+00 3566+00 3567+00 3568+00

DROP INLET PROTECTION DEVICE, TYPE I (TYP.)

INTERSTATE 91 EXIT 13 RAMP D

NORTHBOUND CROSSOVER

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

APPROX. EXISTING R.O.W.

DARTMOUTH COLLEGE; C/O REAL ESTATE OFFICE

PARKING LOT

CHILD CARE CENTER, INC.

TOWN HIGHWAY 84 (MONTSHIRE ROAD)

FOREST

LEGEND

- DROP INLET PROTECTION DEVICE, TYPE I
- DROP INLET PROTECTION DEVICE, TYPE II
- DISTURBED AREA
- FLOW DIRECTION
- SILT FENCE
- EXISTING DROP INLET
- EXISTING PIPE

SCALE 1" = 40'-0"

40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH

PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568resourcebdr.dgn

PROJECT LEADER: P.HUCKABEE

DESIGNED BY: F.BERLUS

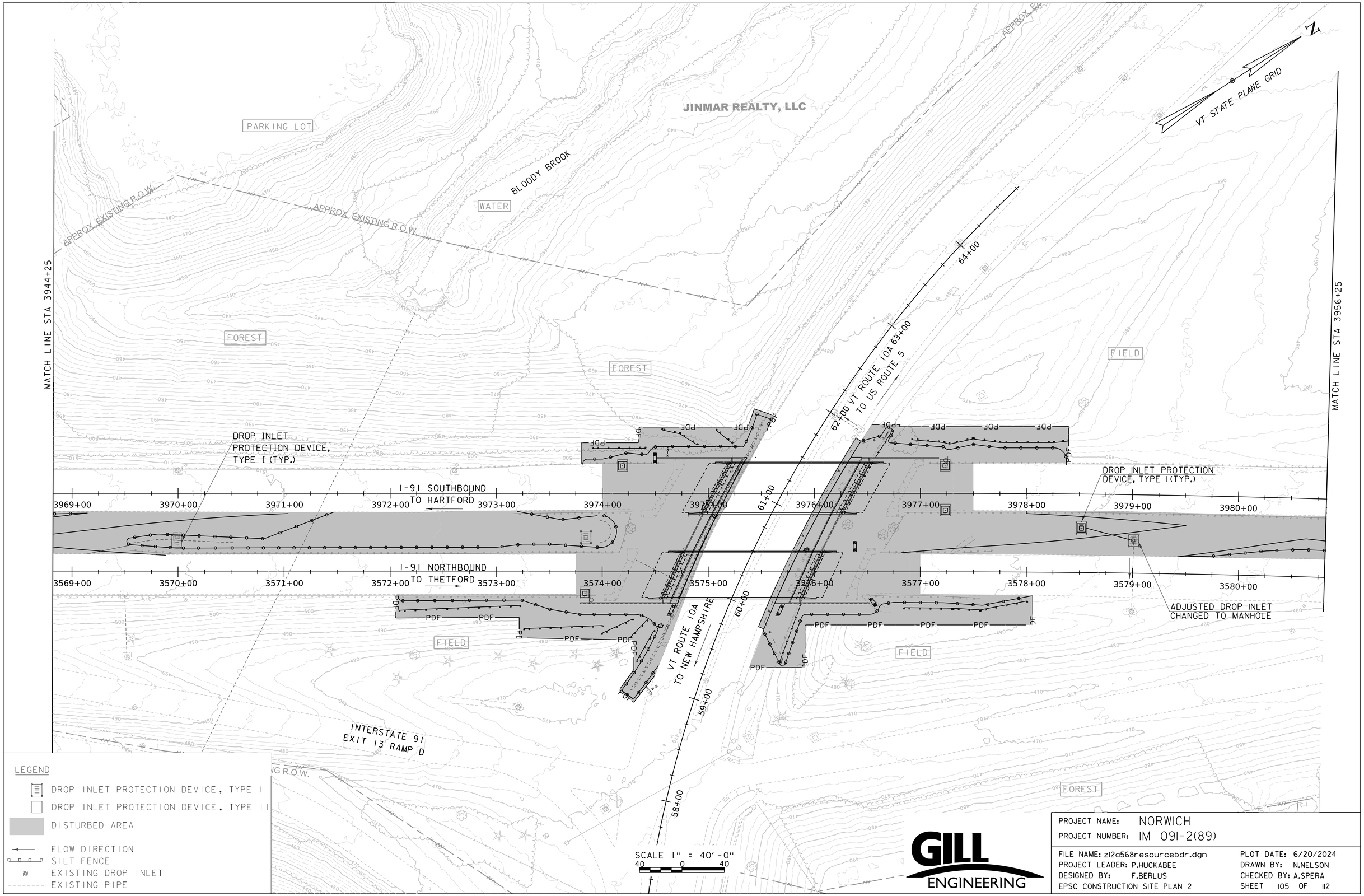
EPSC CONSTRUCTION SITE PLAN 1

PLOT DATE: 6/20/2024

DRAWN BY: N.NELSON

CHECKED BY: A.SPERA

SHEET 104 OF 112



LEGEND

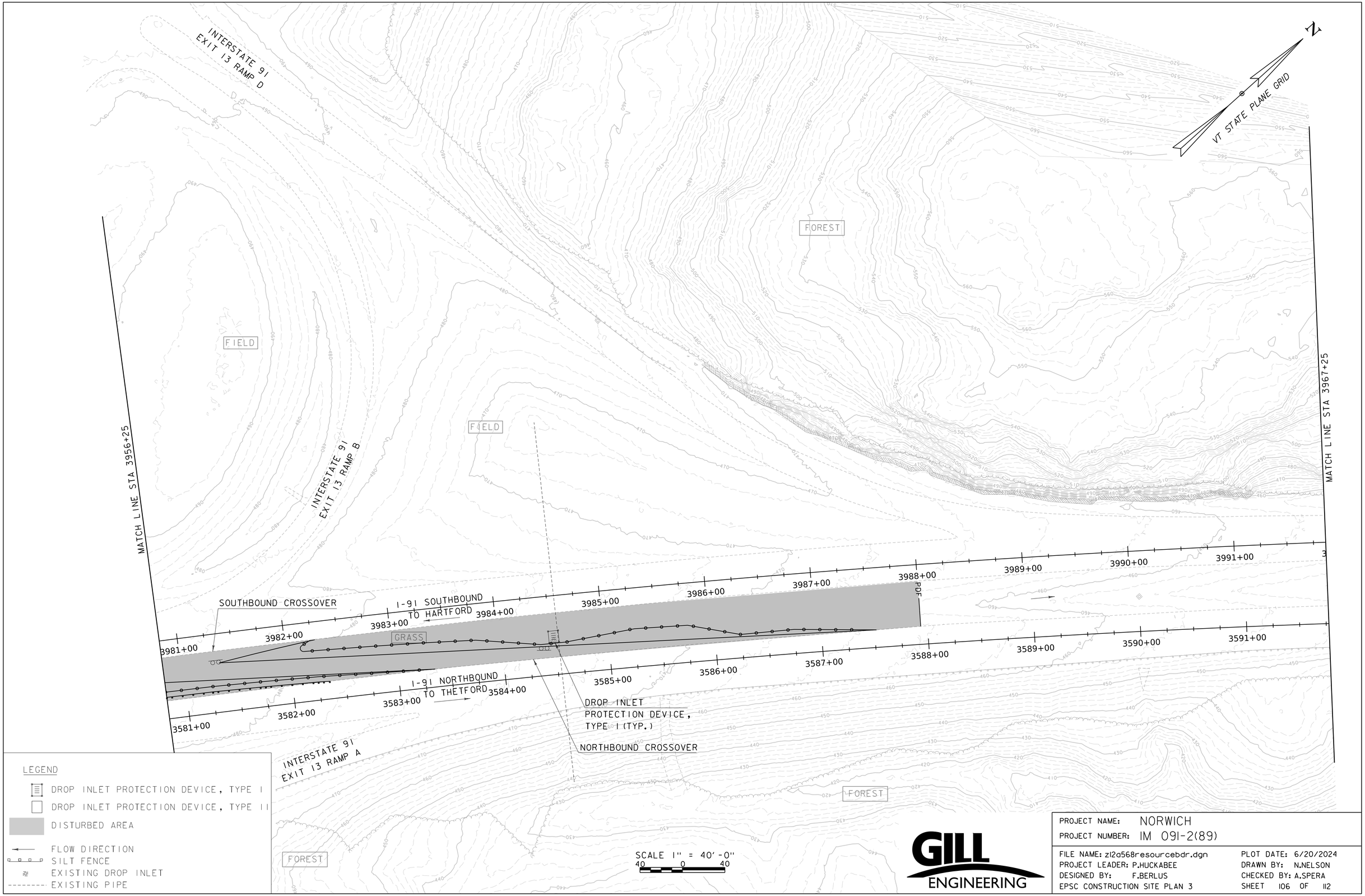
- DROP INLET PROTECTION DEVICE, TYPE I
- DROP INLET PROTECTION DEVICE, TYPE II
- DISTURBED AREA
- FLOW DIRECTION
- SILT FENCE
- EXISTING DROP INLET
- EXISTING PIPE

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

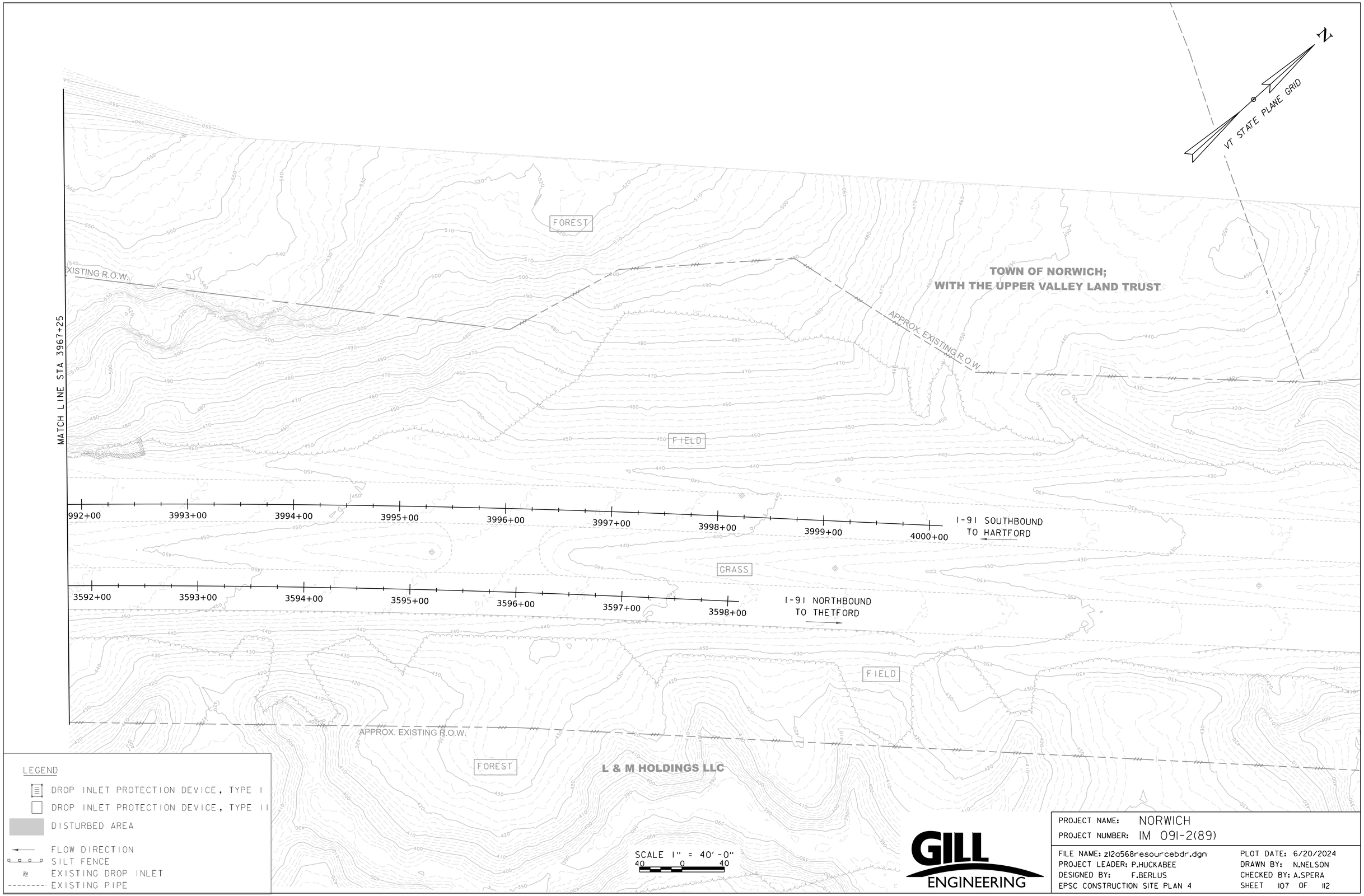
FILE NAME: z12a568resourcebdr.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC CONSTRUCTION SITE PLAN 2

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 105 OF 112



GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568resourcebdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC CONSTRUCTION SITE PLAN 3	SHEET 106 OF 112



LEGEND

- DROP INLET PROTECTION DEVICE, TYPE I
- DROP INLET PROTECTION DEVICE, TYPE II
- DISTURBED AREA
- FLOW DIRECTION
- SILT FENCE
- EXISTING DROP INLET
- EXISTING PIPE

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568resourcebdr.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC CONSTRUCTION SITE PLAN 4

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 107 OF 112

FERRELL, CATHERINE

VT STATE PLANE GRID

N

KING ARTHUR FLOUR CO., INC.

FOREST

PARKING LOT

APPROX. EXISTING R.O.W.

REMOVE CROSSOVER PAVEMENT

MATCH LINE STA 3944+25

I-91 SOUTHBOUND TO HARTFORD

GRASS

3957+00 3958+00 3959+00 3960+00 3961+00 3962+00 3963+00 3964+00 3965+00 3966+00 3967+00 3968+00

I-91 NORTHBOUND TO THETFORD

3557+00 3558+00 3559+00 3560+00 3561+00 3562+00 3563+00 3564+00 3565+00 3566+00 3567+00 3568+00

INTERSTATE 91 EXIT 13 RAMP D

DARTMOUTH COLLEGE; C/O REAL ESTATE OFFICE

CHILD CARE CENTER, INC.

TOWN HIGHWAY 84 (MONTSHIRE ROAD)

LEGEND

TOPSOIL AND SEED

FLOW DIRECTION

EXISTING DROP INLET

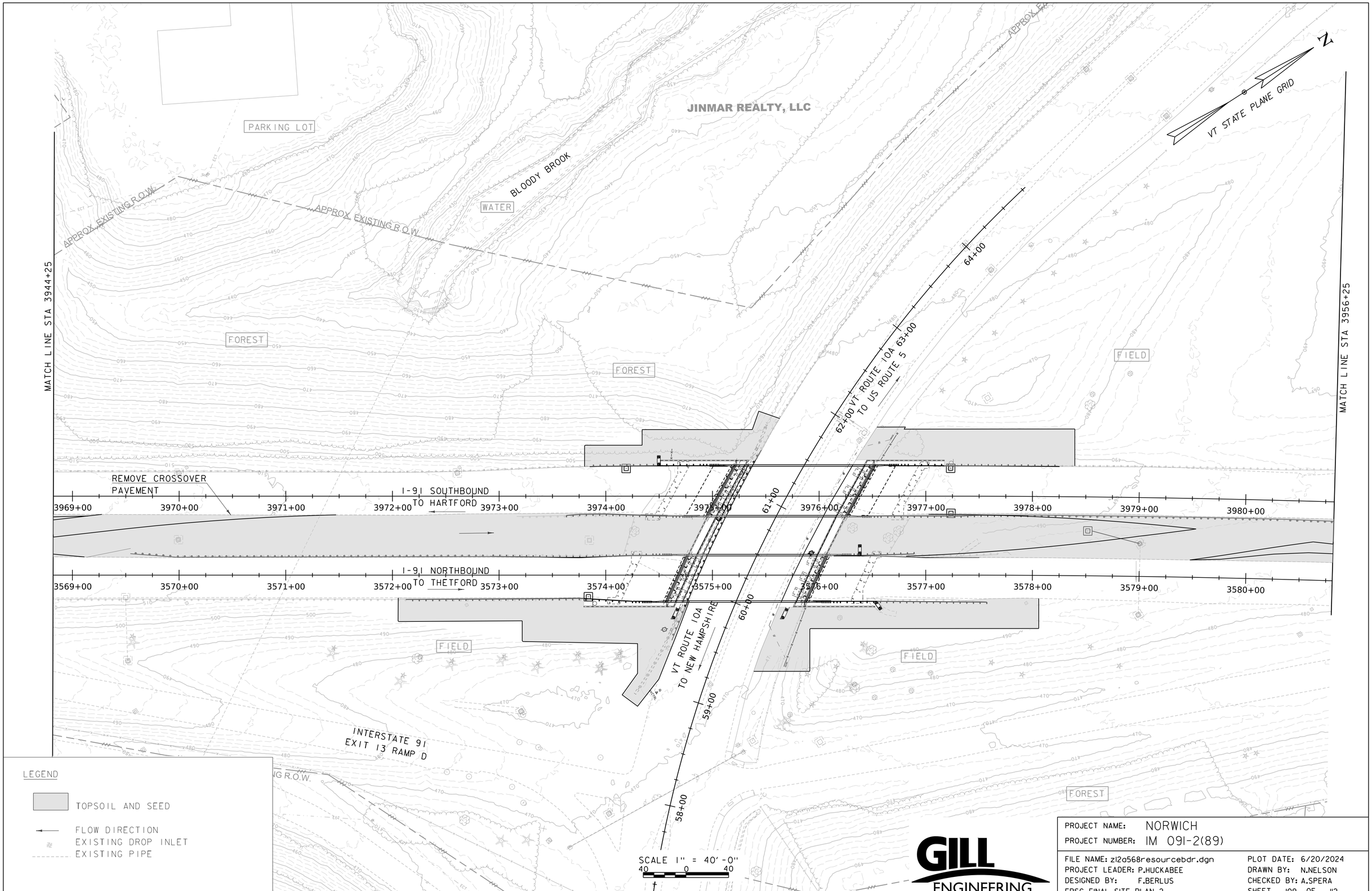
EXISTING PIPE

SCALE 1" = 40'-0"

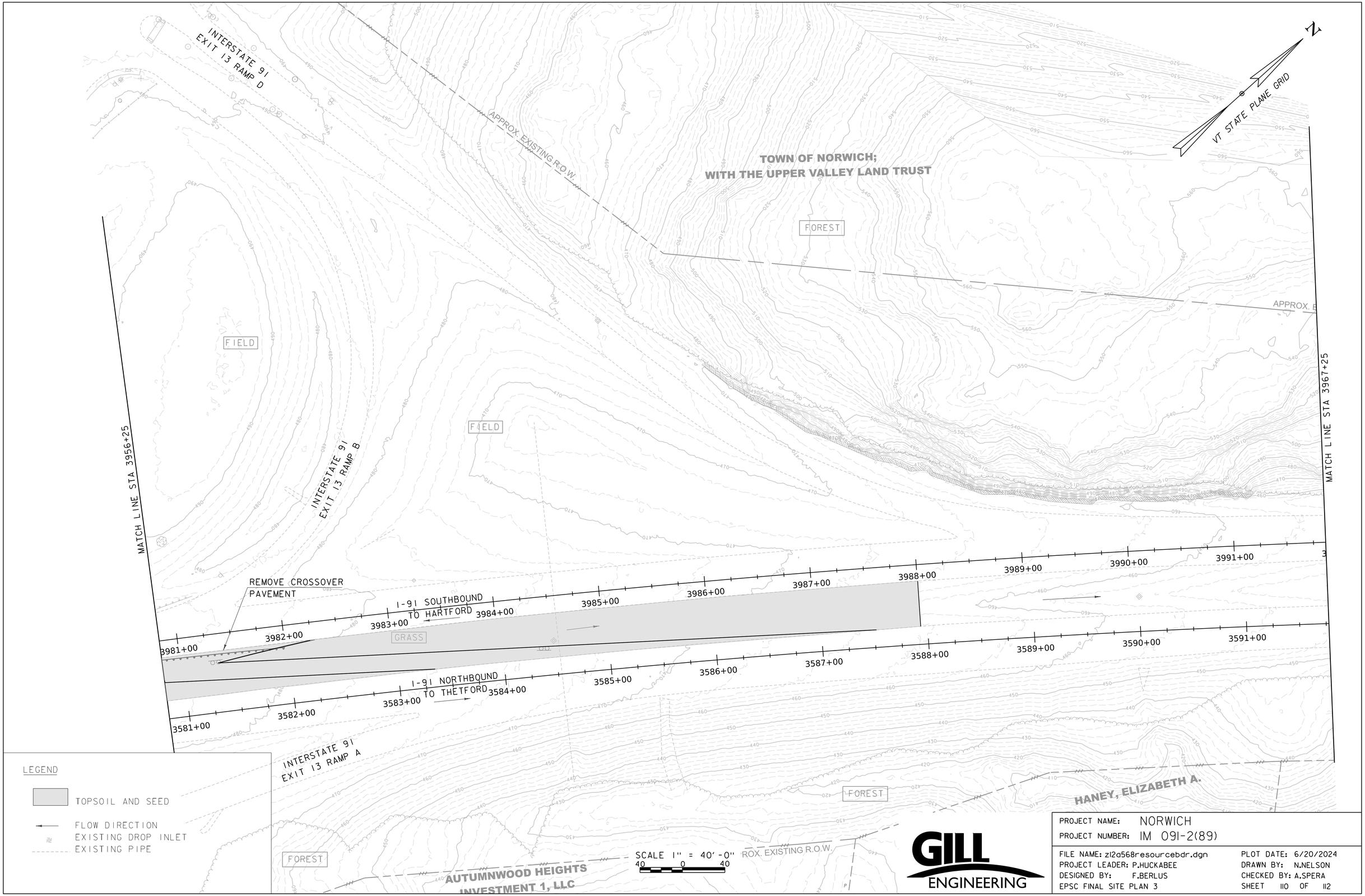
40 0 40

GILL ENGINEERING

PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: zl2a568resourcebdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC FINAL SITE PLAN 1	SHEET 108 OF 112



PROJECT NAME: NORWICH	
PROJECT NUMBER: IM 091-2(89)	
FILE NAME: z12a568resourcebdr.dgn	PLOT DATE: 6/20/2024
PROJECT LEADER: P.HUCKABEE	DRAWN BY: N.NELSON
DESIGNED BY: F.BERLUS	CHECKED BY: A.SPERA
EPSC FINAL SITE PLAN 2	SHEET 109 OF 112

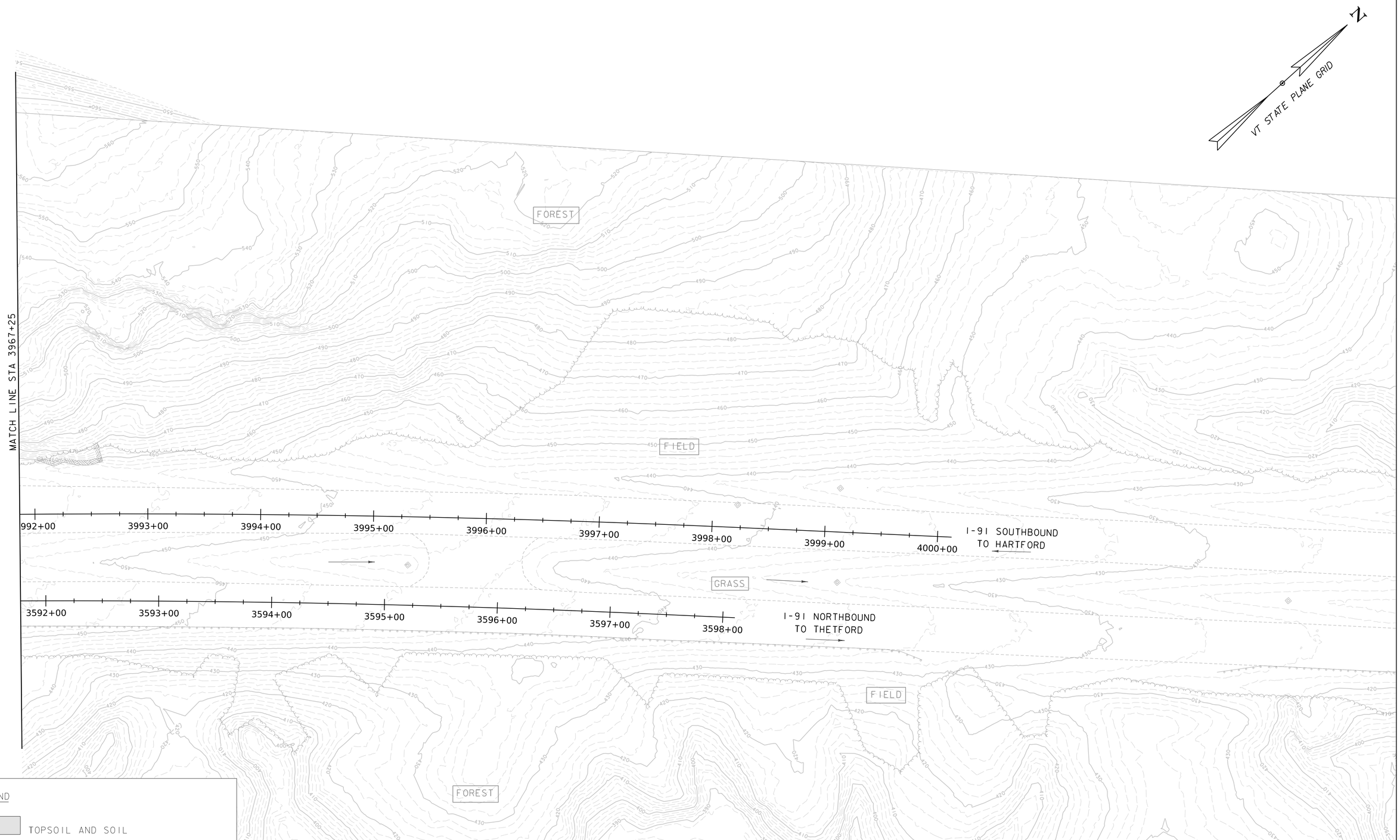


GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568resourcebdr.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC FINAL SITE PLAN 3

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 110 OF 112



LEGEND

TOPSOIL AND SOIL

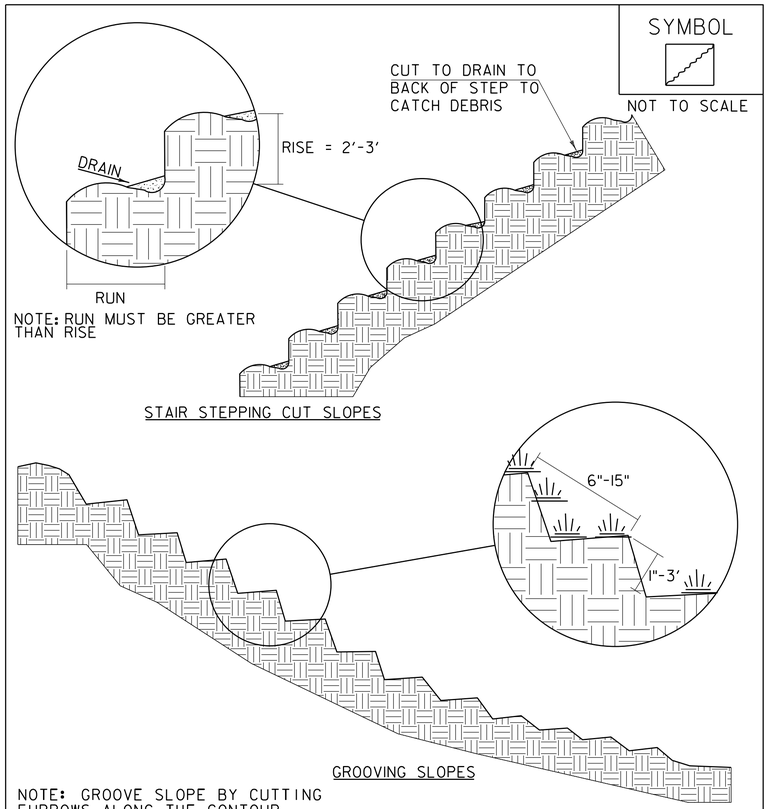
FLOW DIRECTION
EXISTING DROP INLET
EXISTING PIPE

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: zl2a568resourcebdr.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC FINAL SITE PLAN 4

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 111 OF 112



NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

VAOT NATURALIZED AREA TYPE I

WEIGHT	NAME	LATIN NAME	GERM	PURITY
38%	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	INERTS			
100%				

VAOT NATURALIZED AREA TYPE II

WEIGHT	NAME	LATIN NAME	GERM	PURITY
37.5%	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%				

SEED RATE: BROADCAST: 75 LBS/ACRE
HYDROSEED: PER MANUFACTURER'S RECOMMENDATIONS

APPLY AMENDMENTS PER SOIL TEST RESULTS

FERTILIZER (755.06):
IF NO SOIL TEST IS PERFORMED, A SLOW OR CONTROLLED RELEASE FERTILIZER SHALL BE APPLIED AT A RATIO OF 1:1:1 (N:P:K). NITROGEN AND PHOSPHORUS SHALL BE APPLIED AT NO MORE THAN 1 LB. PER 1,000 SQ.FT.

LIMESTONE (755.08 & 755.09):
IF NO SOIL TEST IS PERFORMED, APPLY LIMESTONE PER MANUFACTURER'S RECOMMENDATIONS.

COMPOST (755.05):
COMPOST MAY BE APPLIED PER SOIL TEST RESULTS.

CONSTRUCTION GUIDANCE

1. THESE SEED MIXES SHALL BE USED IN AREAS THAT WILL NATURALIZE, RECEIVING LIMITED ANNUAL MOWING THROUGH THE GROWING SEASON.
2. USE SEED MIX AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON-WETLAND) AREAS DISTURBED BY THE CONTRACTOR. IF THE PLANS DO NOT SPECIFY A SEED TYPE, NATURALIZED AREA TYPE I OR TYPE II SHALL BE USED.
3. SEED MIXES SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. HAY MULCH TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE. ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
5. FERTILIZER SHOULD NOT BE APPLIED WITHIN 2 WEEKS OF APPLYING LIMESTONE.
6. FOR BEST ESTABLISHMENT, REAPPLY FERTILIZER 2-3 WEEKS AFTER GERMINATION.

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.1500 TURF ESTABLISHMENT, GENERAL SEED)

REVISIONS	
JANUARY 12, 2015	WHF
JUNE 15, 2023	BKD

GILL ENGINEERING

PROJECT NAME: NORWICH
PROJECT NUMBER: IM 091-2(89)

FILE NAME: z12a568erodetails.dgn
PROJECT LEADER: P.HUCKABEE
DESIGNED BY: F.BERLUS
EPSC DETAILS SHEET

PLOT DATE: 6/20/2024
DRAWN BY: N.NELSON
CHECKED BY: A.SPERA
SHEET 112 OF 112