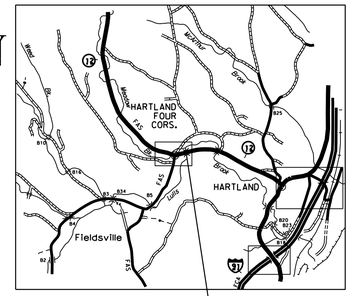
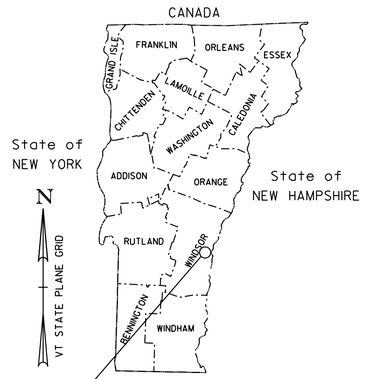
STATE OF VERMONT
AGENCY OF TRANSPORTATION





HARTLAND
BF 0153(1)

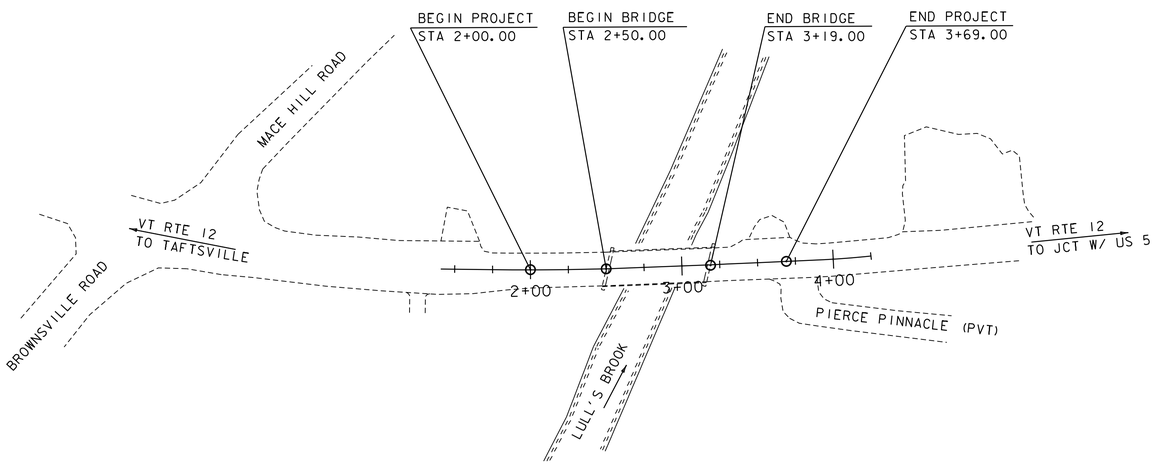
PROPOSED IMPROVEMENT
BRIDGE PROJECT

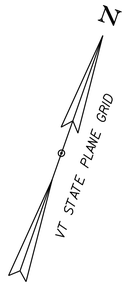
TOWN OF HARTLAND
COUNTY OF WINDSOR
ROUTE NO : VT 12, MAJOR COLLECTOR, BRIDGE NO: 3

PROJECT LOCATION: LOCATED IN THE TOWN OF HARTLAND ON VT RTE 12 APPROXIMATELY 1.4 MILES NORTH OF THE VT 12/US 5 INTERSECTION

PROJECT DESCRIPTION: CONSTRUCTION OF A NEW CONCRETE DECK WITH RELATED ROADWAY APPROACH WORK.

LENGTH OF STRUCTURE:	69.00 FEET
LENGTH OF ROADWAY:	100.00 FEET
LENGTH OF PROJECT:	169.00 FEET





SCALE 1" = 50'-0"
50 0 50

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 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 2	
SURVEYED BY :	N/A
SURVEYED DATE :	N/A
DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED Ann L. Gammell, PE DATE Apr 22, 2021

PROJECT MANAGER : J.B. MCCARTHY

PROJECT NAME : HARTLAND
PROJECT NUMBER : BF 0153(1)

SHEET 1 OF 19 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

b2

PLAN SHEETS

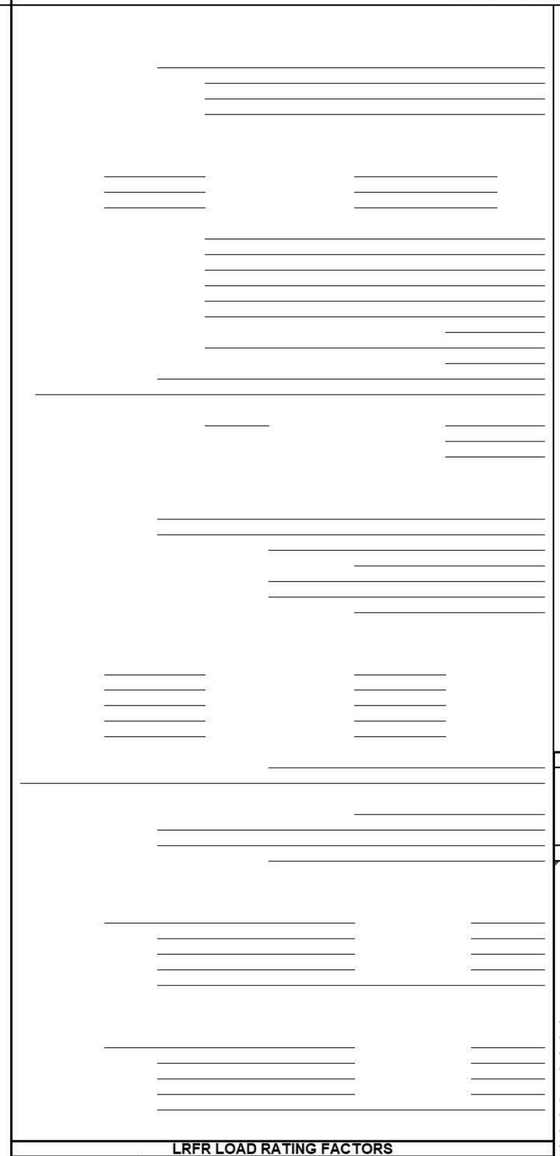
STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
B-71a	STANDARD FOR RESIDENTIAL DRIVES	04-07-2020
E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-15	SILT FENCE	04-07-2020
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
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
S-367A	BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING	02-02-2017
S-367B	GUARDRAIL APPROACH SECTION, GALVANIZED HD STEEL BEAM	02-02-2017
S-400	BRIDGE JOINT ASPHALTIC PLUG	04-07-2020
S-500	CONCRETE DETAILS AND NOTES	04-07-2020
S-501	CONCRETE DETAILS AND NOTES	04-07-2020
S-600	STRUCTURAL DETAILS AND NOTES	04-07-2020
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-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	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-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	8/29/2011
HSD-621.06	MISCELLANEOUS GUARDRAIL DETAILS	2/27/2017

FINAL HYDRAULIC REPORT



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	2.15	1.11					
POSTING							
OPERATING	2.8	1.44	2.3	1.54	1.99	1.78	1.95
COMMENTS:							

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	2.0 INCH
3. DESIGN SPAN	L:	67.00 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. SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	f'_c:	4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	---
10. CONCRETE HIGH PERFORMANCE, CLASS SCC	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:	---
19. LATERAL PILE DEFLECTION	Δ:	---
20. BASIC WIND SPEED	V_{3s}:	---
21. MINIMUM GROUND SNOW LOAD	p_g:	---
22. SEISMIC DATA PGA: ---	S_s:	---
	S_1:	---
23.		
24.		---
25.		---
26.		---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2021	3200	450	56	4.4	190
2041	3500	500	56	6.5	300

20 year ESAL for flexible pavement from 2021 to 2041 : 1061000

40 year ESAL for flexible pavement from 2021 to 2061 : 2394000

Design Speed : 35 mph

AS BUILT "REBAR" DETAIL

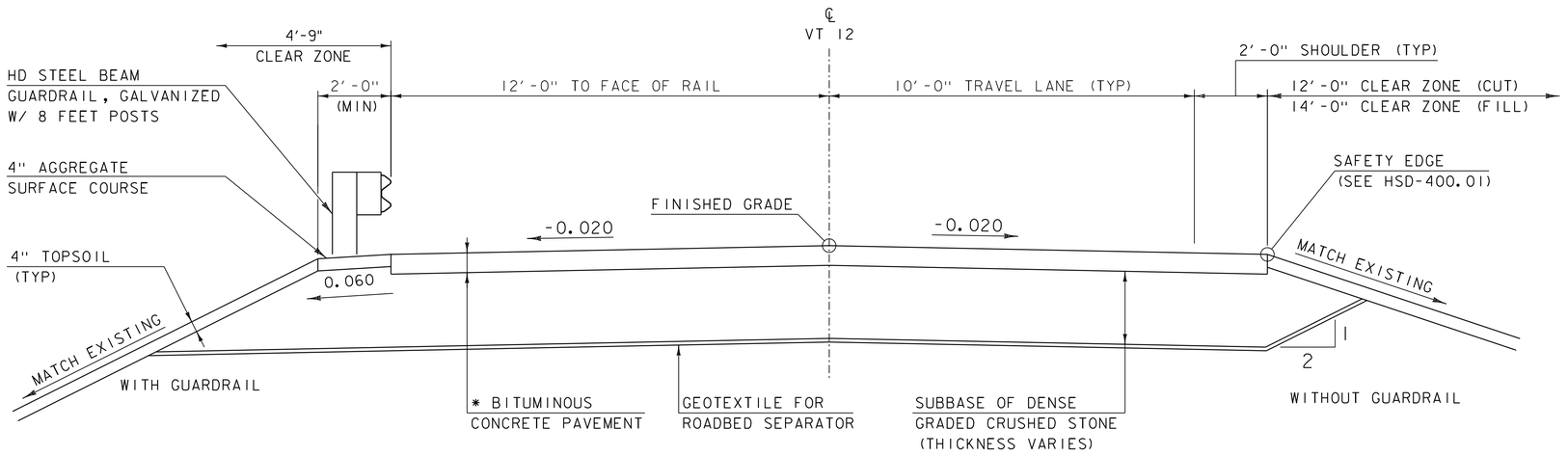
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

PROJECT NAME: **HARTLAND**

PROJECT NUMBER: **BF 0153(1)**

FILE NAME: **20B326PI**
PROJECT LEADER: **JB. MCCARTHY**
DESIGNED BY: **K. LIHIC**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 4/28/2021
DRAWN BY: **K. LIHIC**
CHECKED BY: **A. LEMIEUX**

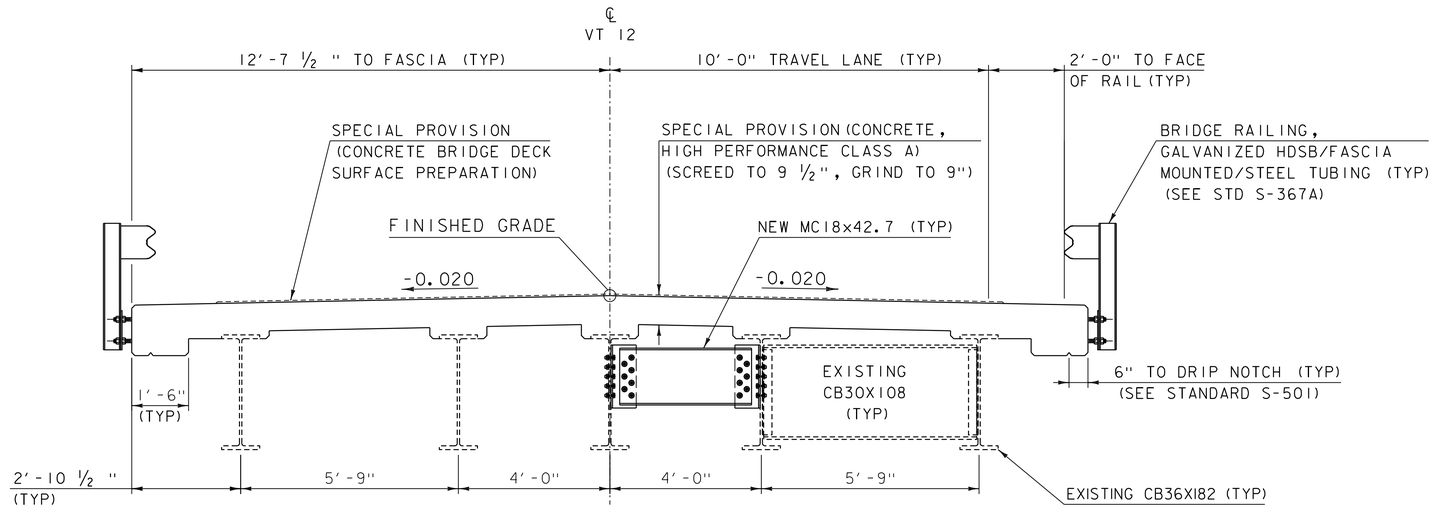


ROADWAY TYPICAL SECTION

SCALE 1/2" = 1'-0"

* SEE MATERIAL TRANSITON FOR PAVEMENT LIFTS

BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS



BRIDGE TYPICAL SECTION

SCALE 1/2" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b326typ.dgn
PROJECT LEADER: JB MCCARTHY
DESIGNED BY: K. LIHIC
TYPICAL SECTION SHEET

PLOT DATE: 28-APR-2021
DRAWN BY: K. LIHIC
CHECKED BY: A. LEMIEUX
SHEET 3 OF 19

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION, DATED 2020, AND ITS LATEST REVISIONS.

2. FULL ACCESS TO ALL DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE".

3. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" WILL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO COMPLETELY REMOVE THE EXISTING DECK DOWN TO THE TOP FLANGE OF THE EXISTING BEAMS TO INCLUDE BUT NOT LIMITED TO THE BRIDGE RAILING, CURBS, PAVEMENT, CURTAIN WALLS AND WING WALLS TO THE ELEVATION OF THE BRIDGE SEAT.

4. THE PROJECT LAYOUT HAS BEEN GENERATED FROM AERIAL PHOTOGRAPHY AND HAS NOT BEEN SURVEYED. ONLY LIMITED RECORD PLANS ARE AVAILABLE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK AT THE SITE. ANY CONFLICTS BETWEEN FIELD MEASUREMENTS AND THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER.

5. THE ELEVATIONS USED IN THE PROJECT PLANS WERE GENERATED BY ASSUMING AN ABUTMENT 1 BRIDGE SEAT ELEVATION OF 187.19 FEET AT THE BEAM 3 BEARING.

6. A LIMITED SURVEY OF THE APPROACHES BY VTRANS IS PLANNED. THIS INFORMATION WILL BE PROVIDED TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING TO FACILITATE CONSTRUCTION OF THE DECK AND APPROACHES.

7. THE CONTRACTOR IS ADVISED THAT VT 12 BRIDGE #2, LOCATED APPROXIMATELY 0.5 MILES SOUTH OF THE PROJECT SITE HAS A POSTED WEIGHT RESTRICTION. THIS WEIGHT RESTRICTION SHALL BE OBSERVED BY THE CONTRACTOR.

8. VTRANS WILL REMOVE THE JERSEY BARRIERS, STEEL PLATE, AND TRAFFIC SIGNALS LOCATED AT THE PROJECT SITE ON DAY 1 OF THE BRIDGE CLOSURE PERIOD. THE CONTRACTOR SHALL CONTACT CHRIS BUMP [TEL. (802) 356-7678] A MINIMUM OF 14 DAYS PRIOR TO THE BEGINNING OF THE BRIDGE CLOSURE PERIOD TO SCHEDULE THIS WORK.

TRAFFIC CONTROL

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE-SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED. THE PLAN SHALL SPECIFY ALL CONSTRUCTION ACTIVITIES REQUIRING ALTERNATING ONE-WAY TRAFFIC, RELATE THOSE ACTIVITIES TO THE CONSTRUCTION SCHEDULE, AND SHOW APPROPRIATE TEMPORARY TRAFFIC CONTROL. ALL COSTS WILL BE INCLUDED IN ITEM 641.11 "TRAFFIC CONTROL, ALL-INCLUSIVE".

10. THE REGIONAL DETOUR ROUTE FOR TRAFFIC DURING THE BRIDGE CLOSURE PERIOD WILL BE SIGNED AND MAINTAINED BY OTHERS.

11. THE UNIFORMED TRAFFIC OFFICER (UTO) HOURS IN THE CONTRACT SHALL BE USED TO POST UTOS AT THE INTERSECTION OF VT 12 WITH MACE HILL ROAD, AND AT THE INTERSECTION OF VT 12 WITH BOWERS ROAD DURING WORKING HOURS FOR THE DURATION OF THE BRIDGE CLOSURE PERIOD. THE UTOS ARE BEING INCLUDED IN THE CONTRACT TO ENFORCE THE LEGAL LOAD LIMITS ON THESE LOCAL ROADS DURING THE BRIDGE CLOSURE PERIOD.

STRUCTURAL STEEL

12. 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, AND WHEN HANDLING ANY PAINT REMOVED INTENTIONALLY OR NOT. ANY REMOVED STRUCTURAL STEEL OR PAINT IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, IT'S OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED STRUCTURAL STEEL OR PAINT.

13. THE LOCATIONS OF THE SHEAR CONNECTORS AND CLIP ANGLES SHALL BE MARKED OUT BEFORE SURFACE PREPARATION BEGINS. THE CONTACT AREAS SHALL BE CLEANED TO AN EXTENT 1 INCH BEYOND THE BORDER OF EACH OF THE CONNECTED PART IN ACCORDANCE WITH ITEM 900.645 "SPECIAL PROVISION (REMOVAL, CONTAINMENT, AND DISPOSAL OF LEAD PAINT)(TYPE II)". THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY LEAD ABATEMENT PERMITS. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 900.645 "SPECIAL PROVISION (REMOVAL, CONTAINMENT, AND DISPOSAL OF LEAD PAINT)(TYPE II)".

14. AREAS ON THE WEB OF THE BEAMS THAT HAVE BEEN CLEANED SHALL BE FIELD-PRIMED BY THE CONTRACTOR. AFTER ERECTION OF THE NEW STEEL, THE CONTRACTOR SHALL APPLY A MID AND TOP COAT TO THE PRIMED AREAS, IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. THIS MID AND TOP COAT SHALL THE SAME PRODUCT AS WAS APPLIED TO THE SHOP PAINTED STEEL. PAYMENT FOR THIS WORK WILL BE INCLUDED UNDER ITEM 506.50 "STRUCTURAL STEEL". THE CONTRACTOR MAY PERFORM THIS WORK WITHOUT HOLDING SSPC-QP1 AND SSPC-QP2 CERTIFICATIONS.

15. IMMEDIATELY AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED, THE CONTRACTOR SHALL TAKE ELEVATIONS ALONG THE TOP OF THE BEAMS, AT 5'-0" INTERVALS. THE ELEVATIONS SHALL THEN BE SENT TO THE PROJECT MANAGER FOR USE IN DETERMINING THE HAUNCH DEPTHS. THE CONTRACTOR SHOULD EXPECT 2 WORKING DAYS FOR VTRANS TO PREPARE THE HAUNCH DEPTH CALCULATIONS.

16. 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 AND SHALL EXTEND AT LEAST 75% OF WEB DEPTH.

17. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 7/8" DIAMETER BOLTS IN 15/16" DIAMETER HOLES, AND MEET THE REQUIREMENTS OF SUBSECTION 714.05.

18. FAYING SURFACES OF BOLTED CONNECTIONS ARE NOT REQUIRED TO MEET AASHTO SLIP COEFFICIENT VALUES.

19. ANY BOLT HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

20. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 50 AND BE PAID FOR UNDER ITEM 506.50, "STRUCTURAL STEEL". ALL NEW STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH SUBSECTION 506.23(d) AND BE BROWN AS SPECIFIED IN TABLE 708.03A. CLIP ANGLES AND FAYING SURFACES OF DIAPHRAGMS SHALL BE SHOP PRIMED ONLY.

21. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR IN THE FABRICATION DRAWINGS AND SUBMITTED TO THE RESIDENT ENGINEER FOR ACCEPTANCE.

REINFORCED CONCRETE

22. THE TOTAL REACTION FROM THE SCREED AND WORK BRIDGE COMBINED SHALL BE A MAXIMUM OF 1 KIP ON EACH SIDE OF THE BRIDGE.

23. THE CONCRETE FOR THE DECK, CURTAIN WALLS AND WINGWALLS SHALL MEET THE REQUIREMENTS OF ITEM 900.608 "SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)" AND PAID FOR UNDER THIS ITEM.

24. THE CONTRACTOR MAY BACKFILL BEHIND THE CURTAINWALLS AND WINGWALLS, STRIP THE FASCIA FORMWORK, AND ERECT THE BRIDGE RAILING AFTER FIELD-CURED CYLINDERS FOR THE CONCRETE HAVE ATTAINED 85% OF THE DESIGN COMPRESSIVE STRENGTH OR THE EFFECTIVE CURE TIME HAS REACHED 5 DAYS, WHICHEVER IS LONGER. PROPER CONCRETE CURE SHALL BE MAINTAINED FOR THE FULL DURATION SPECIFIED IN ITEM 900.608 "SPECIAL PROVISION(CONCRETE, HIGH PERFORMANCE CLASS A)" TABLE 5.

25. CHAMFER ALL EXPOSED EDGES OF CONCRETE 1" X 1", UNLESS OTHERWISE NOTED.

26. THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

27. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL CUT CONCRETE AND ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

28. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

29. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.11, "REINFORCING STEEL, LEVEL I (EPOXY COATED)".

30. A BRIDGE PLAQUE, FURNISHED BY THE AGENCY, SHALL BE CAST INTO WINGWALL NO. 2, SEE S-501 FOR DETAILS.

31. PAYMENT FOR "WATERPROOFING MEMBRANE SYSTEM, TYPE III" AND THE 1 ½" CLOSED CELL FOAM AT THE JOINT BETWEEN THE EXISTING ABUTMENT AND NEW CURTAIN WALL WILL BE INCIDENTAL TO THE ADJACENT CONCRETE ITEM. WATERPROOFING MEMBRANE SYSTEM, TYPE III SHALL MEET THE REQUIREMENTS OF SECTION 726.11(c).

ENVIRONMENTAL

32. THE CONTRACTOR SHALL PROVIDE A SITE-SPECIFIC EROSION PREVENTION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH SECTION 653 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ESTIMATED QUANTITIES FOR EPSC WORK HAVE BEEN INCLUDED IN THE CONTRACT FOR BIDDING PURPOSES. IF THE CONTRACTOR'S EPSC PLAN REQUIRES ITEMS OF WORK THAT ARE NOT INCLUDED IN THE PLANS, IT SHALL BE PAID FOR AS PART OF ITEM 653.03. "MAINTENANCE OF EPSC PLAN".

33. AREAS OF DISTURBANCE ARE SHOWN ON THE ENVIRONMENTAL IMPACT PLANS; REFERENCED IN THE SPECIAL PROVISIONS, NOTICE TO BIDDERS - OTHER SPECIFICATIONS AND CONTRACT REQUIREMENTS.

34. THE CONTRACTOR SHALL NOT CUT OR TRIM ANY TREES ADJACENT TO THE PROJECT SITE.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						1011 - ROADWAY	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
						280				280		CY	COMMON EXCAVATION	203.15				
						1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
						320				320		SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10				
						230				230		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
						10				10		CY	AGGREGATE SURFACE COURSE	401.10				
						6				6		CWT	EMULSIFIED ASPHALT	404.65				
						1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
								3420		3420		LB	STRUCTURAL STEEL, ROLLED BEAM	506.50				
								16670		16670		LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11				
								1		1		LS	SHEAR CONNECTORS (740 - 7/8" X 7")	508.15				
								15		15		GAL	WATER REPELLENT, SILANE	514.10				
								52		52		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
								150		150		LF	BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING	525.44				
								1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20				
						132				132		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	621.215				
						4				4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
						2				2		EACH	GUARDRAIL APPROACH SECTION, GALV HD STEEL BEAM W/ 8FT POSTS	621.738				
						196				196		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
						672				672		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						200				200		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									3000	3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
						3				3		EACH	CPM SCHEDULE	633.10				
						1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						1				1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.11				
						492				492		LF	4 INCH WHITE LINE, WATERBORNE PAINT	646.201				
						558				558		LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
						580				580		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
							5			5		LB	SEED	651.15				
							15			15		LB	FERTILIZER	651.18				
							0.25			0.25		TON	AGRICULTURAL LIMESTONE	651.20				
							15			15		CY	TOPSOIL	651.35				
							1			1		LS	EPSC PLAN	653.01				
							30			30		HR	MONITORING EPSC PLAN	653.02				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.03				
							0.25			0.25		TON	HAY MULCH	653.10				
							150			150		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.20				

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b3260TYSHT.dgn
PROJECT LEADER: J.B. MCCARTHY
DESIGNED BY: K.LIHIC
QUANTITY SHEET 1

PLOT DATE: 28-APR-2021
DRAWN BY: K.LIHIC
CHECKED BY: A.MANN
SHEET 5 OF 19

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES / TOTALS / DESCRIPTIONS

1011 - ROADWAY	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
	100			100		LF	SILT FENCE, TYPE I	653.475	
	325			325		LF	BARRIER FENCE	653.50	
12.66				12.66		SF	TRAFFIC SIGN, TYPE A	675.20	
60				60		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	
6				6		EACH	REMOVING SIGNS	675.50	
4				4		EACH	DELINEATOR WITH STEEL POST	676.10	
		70		70		CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	900.608	
25500				25500		DL	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	900.615	
		1		1		LS	SPECIAL PROVISION (REMOVAL, CONTAINMENT, AND DISPOSAL OF LEAD PAINT) (TYPE	900.645	
1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650	
1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650	
		1740		1740		SF	SPECIAL PROVISION (CONCRETE BRIDGE DECK SURFACE PREPARATION)	900.670	
135				135		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b326QTYSHT.dgn
PROJECT LEADER: J.B. MCCARTHY
DESIGNED BY: K.LIHIC
QUANTITY SHEET 2

PLOT DATE: 28-APR-2021
DRAWN BY: K.LIHIC
CHECKED BY: A.MANN

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 — 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

- 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

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(I)

FILE NAME: 20B326PI.dgn
PROJECT LEADER: J.B.MCCARTHY
DESIGNED BY: VTRANS
SYMBOLOGY LEGEND SHEET

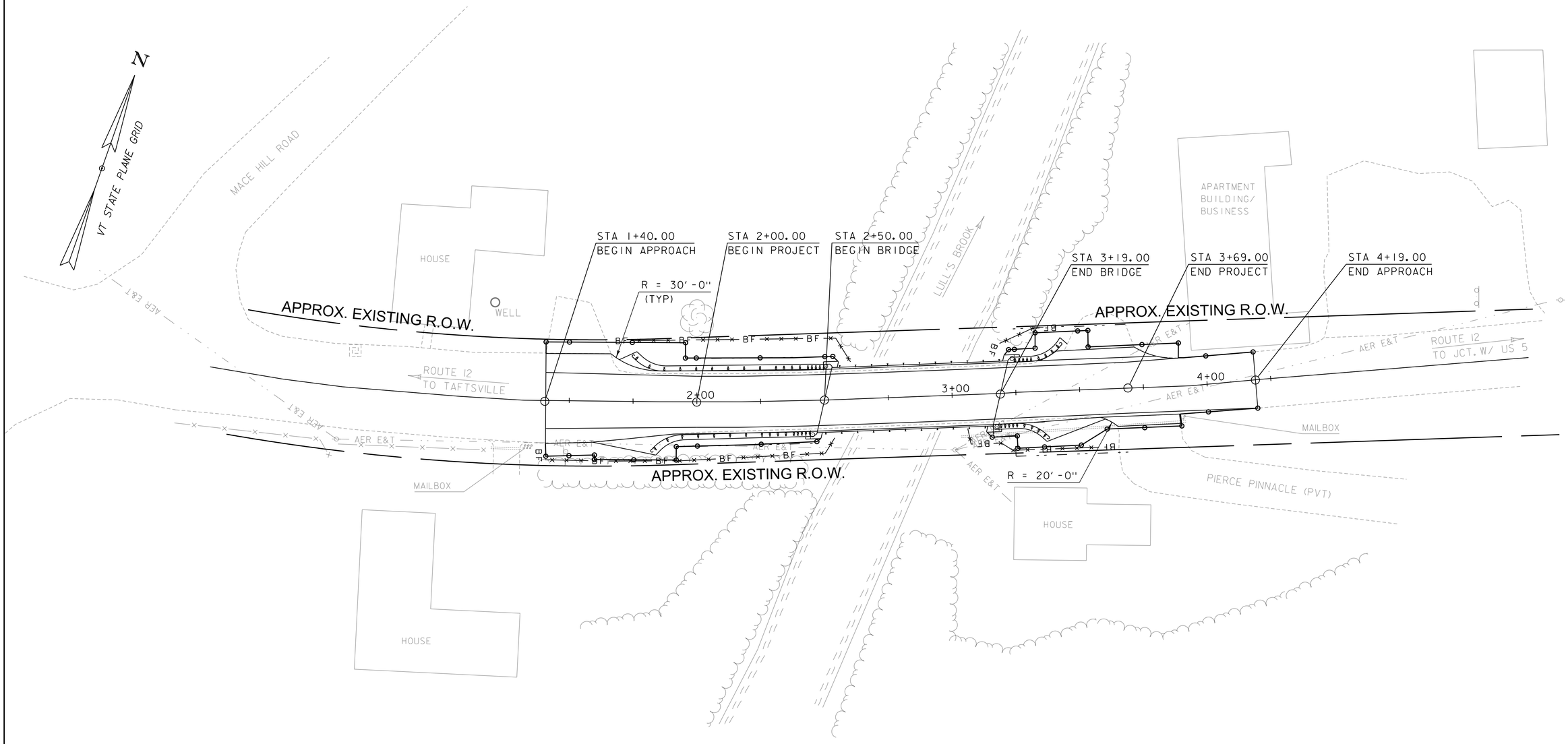
PLOT DATE: 28-APR-2021
DRAWN BY: VTRANS
CHECKED BY: K. LIHIC
SHEET 7 OF 19

CONSTRUCT 4' APRON
STA 1+50.0 LT (GRAVEL)
STA 3+60.0 LT (PAVED)
STA 3+75.0 RT (PAVED)

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 1+81.6 LT - STA 2+52.8 LT
STA 3+22.2 LT - STA 3+38.9 LT
STA 1+82.0 RT - STA 2+47.2 RT
STA 3+15.8 RT - STA 3+36.6 RT

4 IN WHITE LINE, POLYUREA
STA 1+40.0 LT - STA 3+89.1 LT
STA 1+40.0 RT - STA 3+82.8 RT

4 IN YELLOW LINE, POLYUREA
STA 1+40.0 - STA 4+19.0 (DOUBLE)



EXISTING BRIDGE DATA
CONCRETE DECK ON STEEL BEAMS
CONSTRUCTED IN 1936
67'-0" SPAN
20'-0" ROADWAY

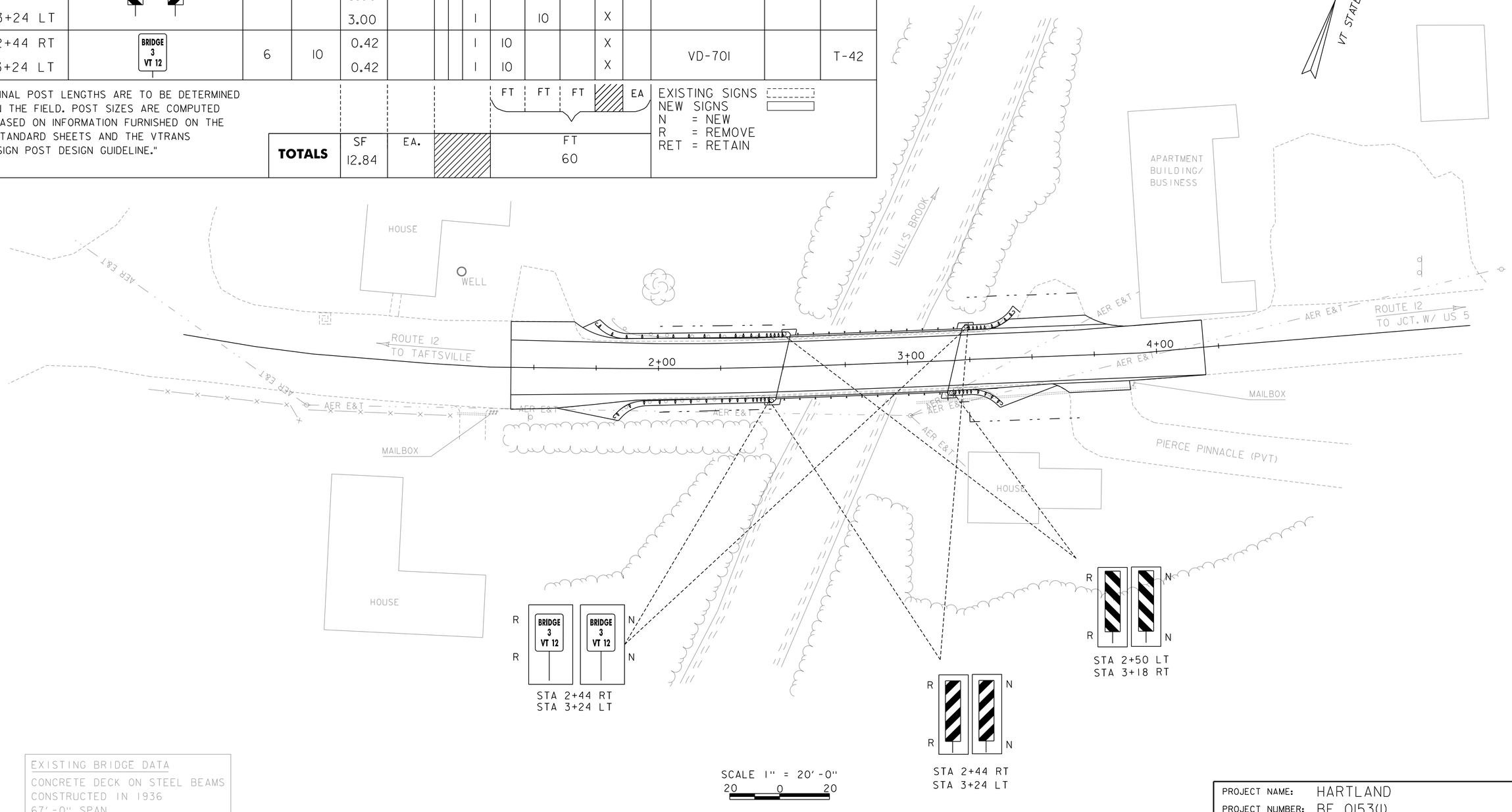
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b326brd.dgn
PROJECT LEADER: J.B. MCCARTHY
DESIGNED BY: K. LIHIC
LAYOUT SHEET

PLOT DATE: 28-APR-2021
DRAWN BY: K. LIHIC
CHECKED BY: R. HOOD
SHEET 8 OF 19

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & RETAINED SIGNS		EXIST POST		NEW SIGN POSTS						REMARKS	SIGN DETAIL	
		WIDTH (in)	HEIGHT (in)	"A"	RET SIGN	RETAIN	SALVAGE	NO. OF POSTS	SQUARE STEEL (in) 2.0 lb/ft 2.16	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
2+44 RT	LT RT	12	36	3.00				1		10		X		OM3-R OM3-L		SHSM
2+50 LT				3.00				1		10		X				
3+18 RT				3.00				1		10		X				
3+24 LT				3.00				1		10		X				
2+44 RT	BRIDGE 3 VT 12	6	10	0.42				1	10			X		VD-701		T-42
3+24 LT				0.42				1	10			X				
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."									FT	FT	FT		EA	EXISTING SIGNS NEW SIGNS N = NEW R = REMOVE RET = RETAIN		
	TOTALS			SF 12.84	EA.					FT 60						



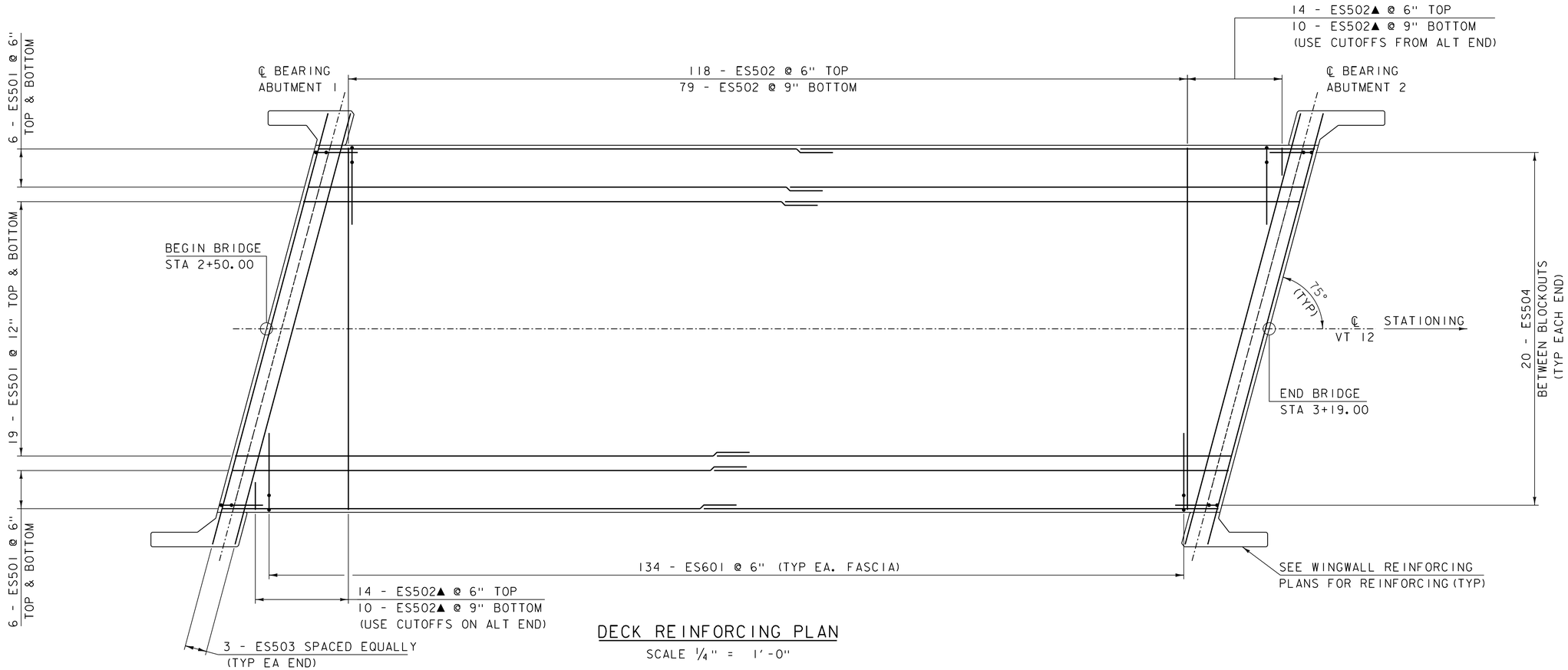
EXISTING BRIDGE DATA
CONCRETE DECK ON STEEL BEAMS
CONSTRUCTED IN 1936
67'-0" SPAN
20'-0" ROADWAY

1. ALL SIGNS NOT NOTED IN THE SUMMARY TABLE ARE TO BE RETAINED
2. SHSM = STANDARD HIGHWAY SIGNS AND MARKINGS BOOK

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

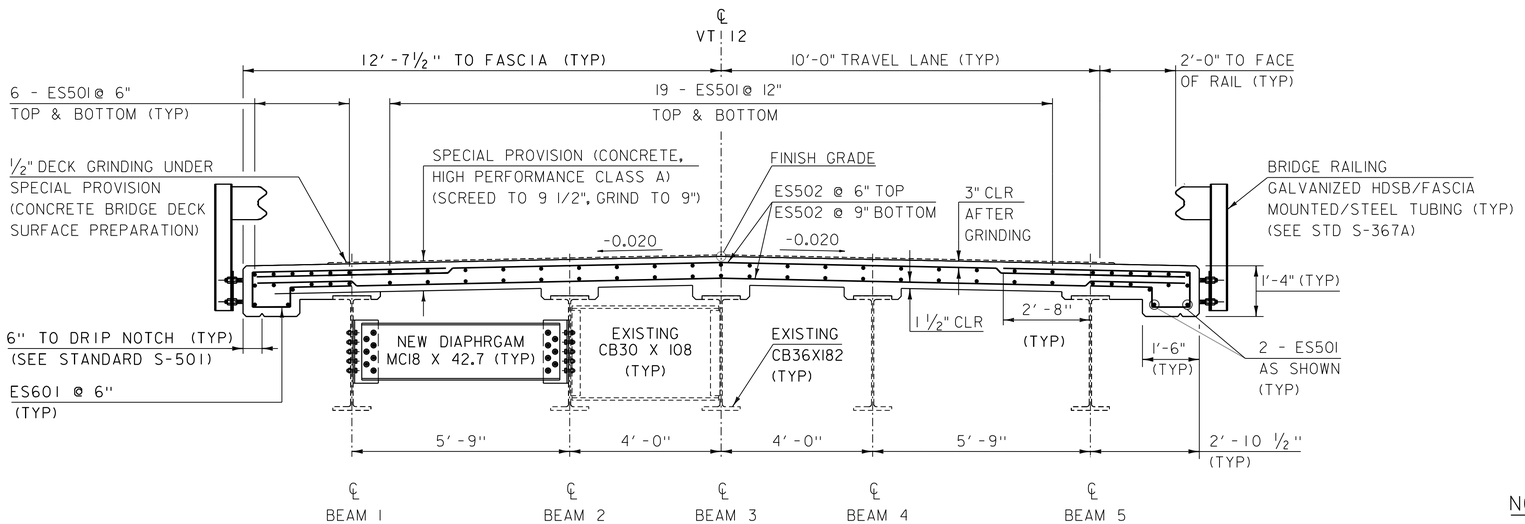
FILE NAME: s20b326sign.dgn
PROJECT LEADER: J.B. MCCARTHY
DESIGNED BY: K. LIHIC
TRAFFIC SIGN SUMMARY

PLOT DATE: 28-APR-2021
DRAWN BY: K. LIHIC
CHECKED BY: R. HOOD
SHEET 9 OF 19



DECK REINFORCING PLAN

SCALE 1/4" = 1'-0"



DECK REINFORCING TYPICAL

SCALE ½" = 1'-0"

1. SEE S-600 FOR TYPICAL HAUNCH DETAILS

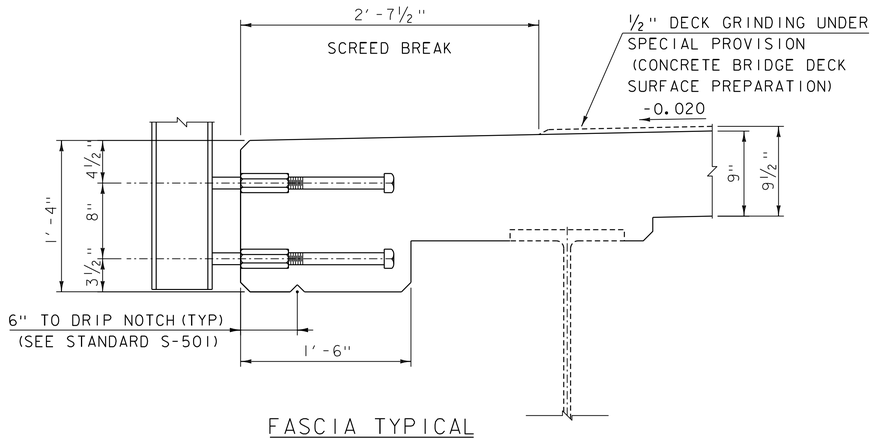
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-4" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

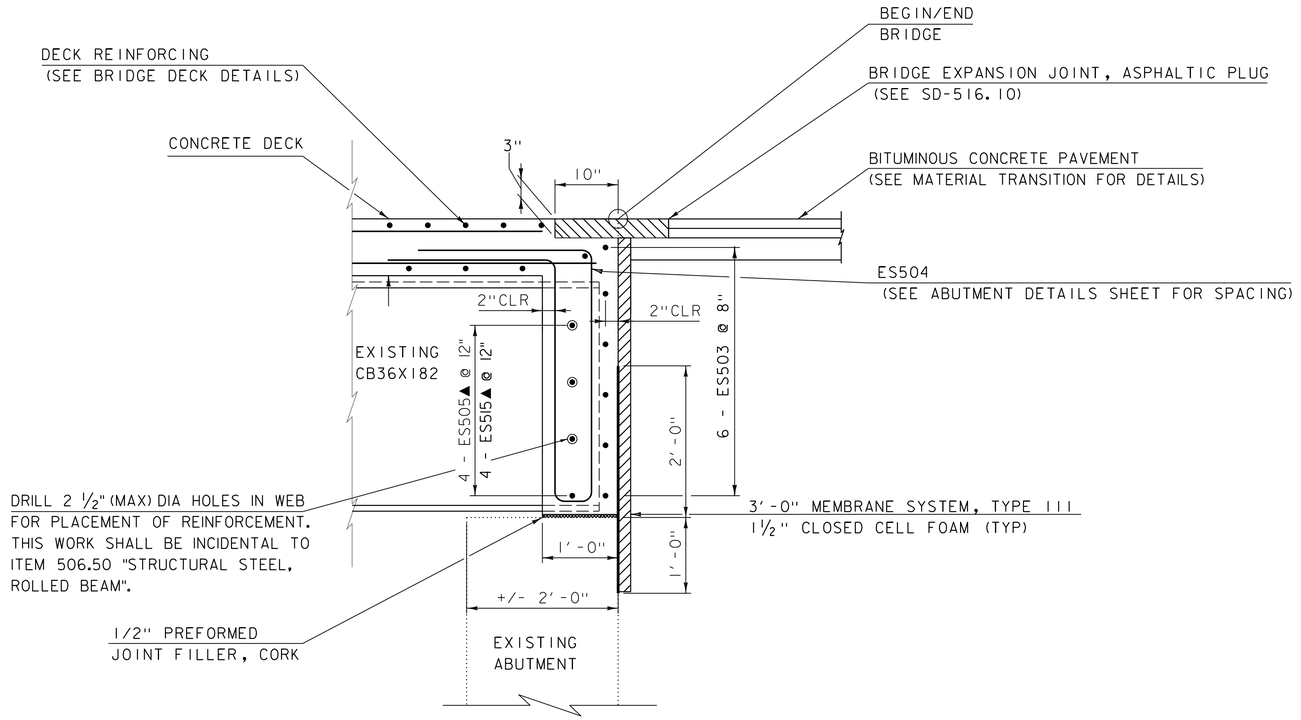
FILE NAME: s20b326sup.dgn
PROJECT LEADER: JB MCCARTHY
DESIGNED BY: R. LAYTON
BRIDGE DECK DETAILS

PLOT DATE: 28-APR-2021
DRAWN BY: R. LAYTON
CHECKED BY: K. LIHIC
SHEET 10 OF 19



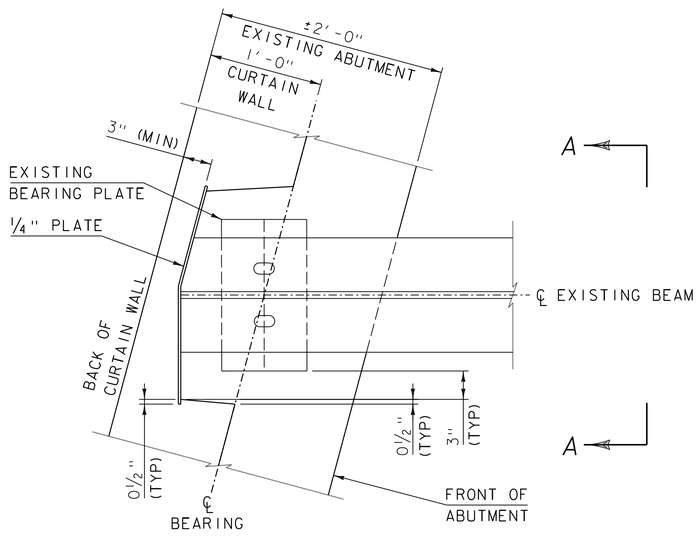
FASCIA TYPICAL

SCALE 1½" = 1'-0"



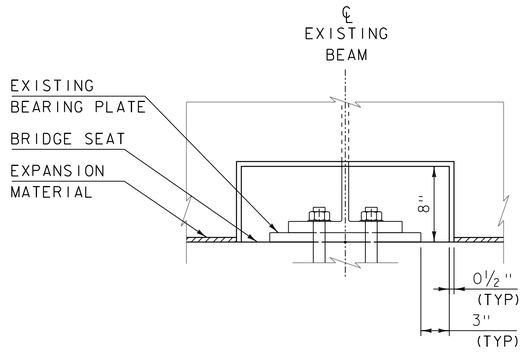
BRIDGE END TYPICAL

SCALE = 1" = 1'



PLAN VIEW

SCALE 1 ½" = 1'-0"



VIEW A-A

SCALE 1 ½" = 1'-0"

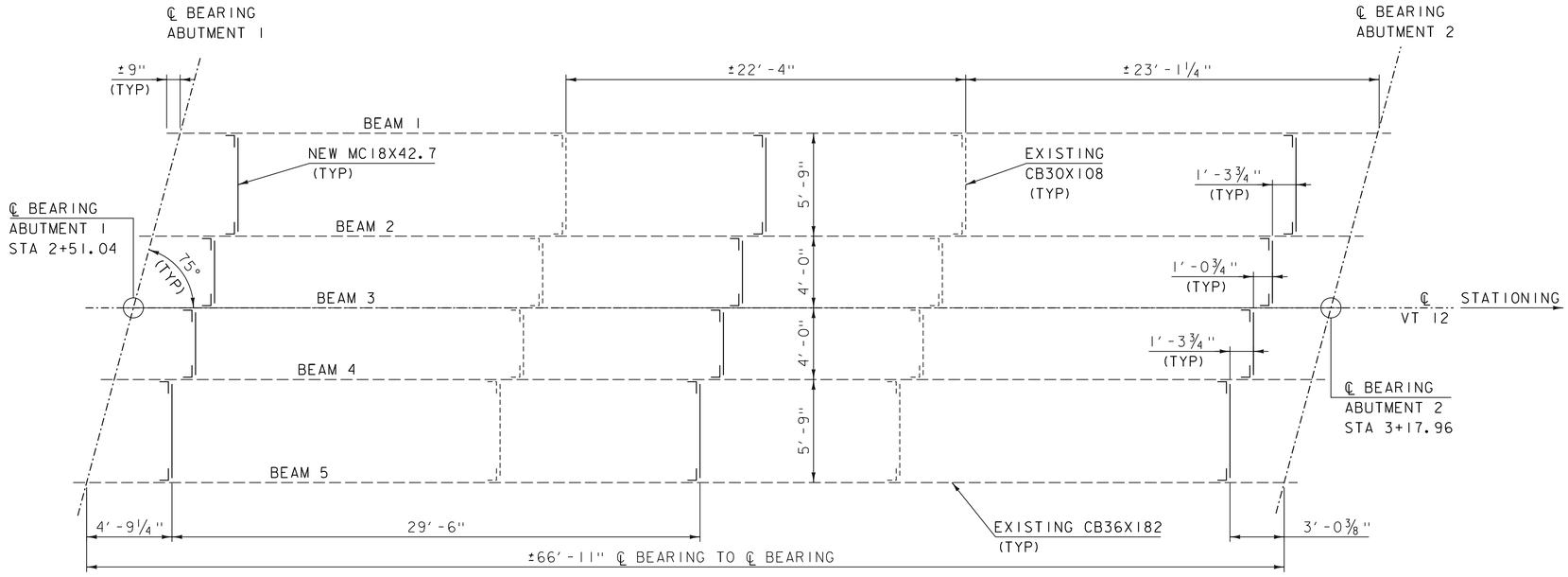
TYPICAL BEARING BLOCK OUT

SCALE 1 ½" = 1'-0"

NOTES:

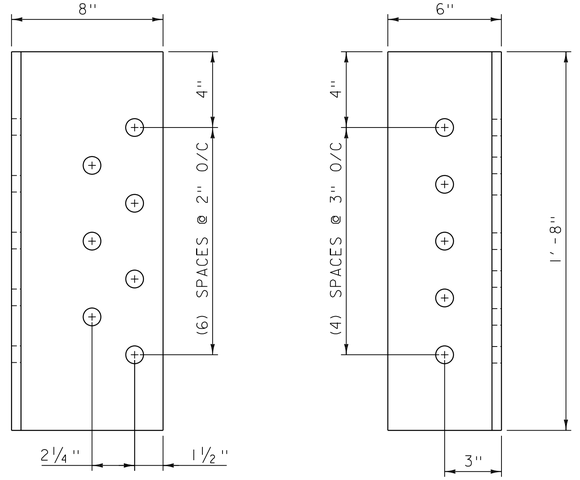
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-4" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	BF 0153(1)
FILE NAME: s20b326sup.dgn	PLOT DATE: 28-APR-2021
PROJECT LEADER: JB MCCARTHY	DRAWN BY: A. MANN
DESIGNED BY: A. MANN	CHECKED BY: K. LIHIC
SUPERSTRUCTURE DETAILS	SHEET 11 OF 19



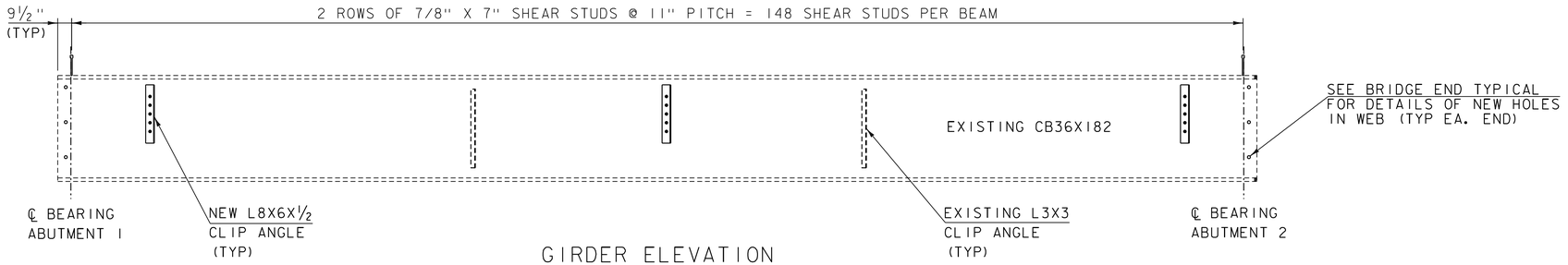
FRAMING PLAN

SCALE ¼" = 1'-0"



TYPICAL L8X6X½ CLIP ANGLE

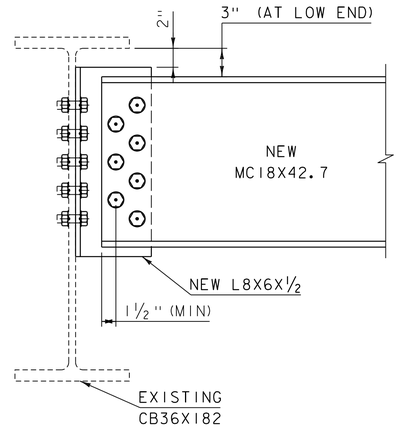
SCALE 3" = 1'-0"



GIRDER ELEVATION

HORIZONTAL SCALE: ¼" = 1'-0"
VERTICAL SCALE: N.T.S.

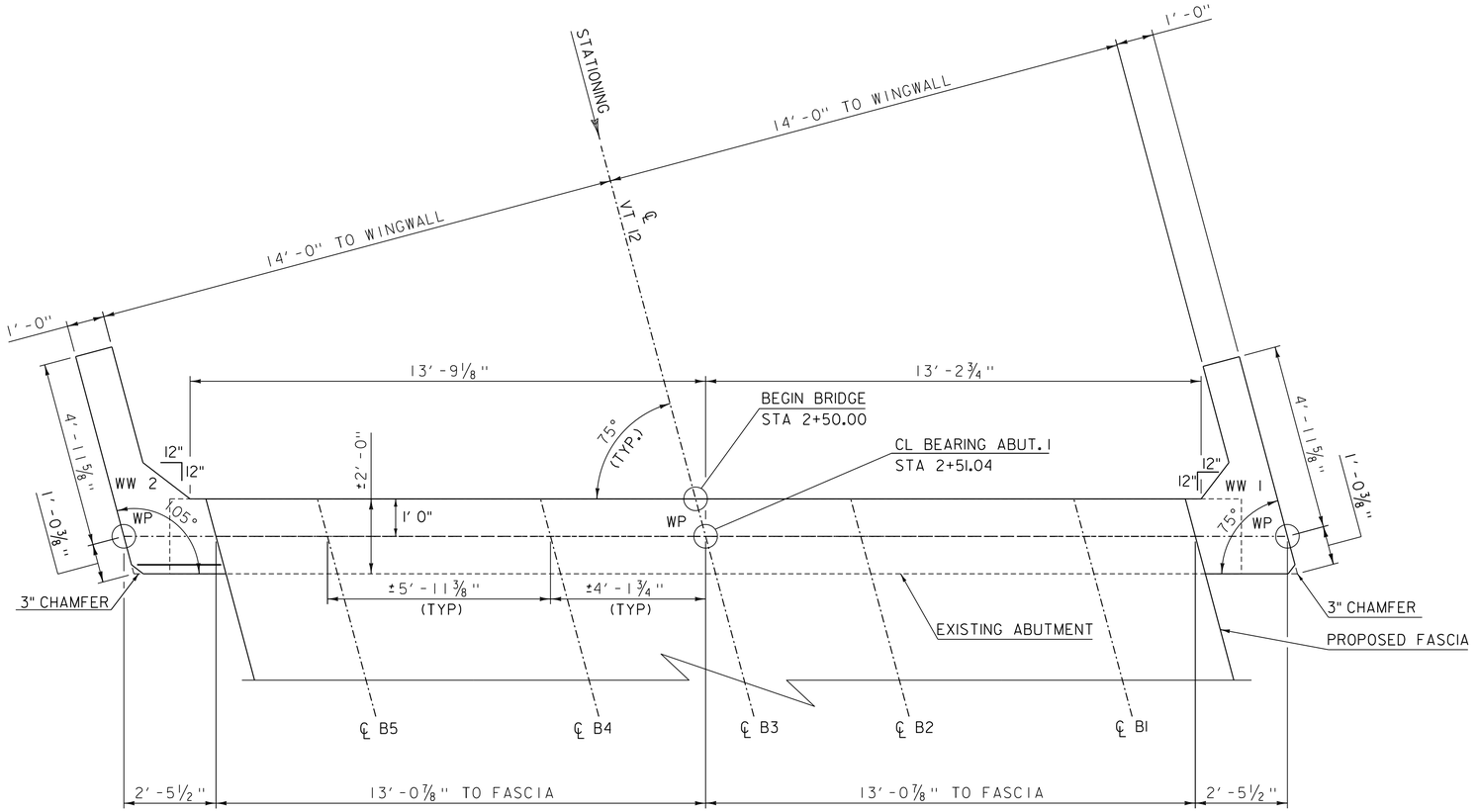
1. SEE FRAMING PLAN FOR CLIP ANGLE LOCATIONS.
2. SEE DIAPHRAGM CONNECTION DETAILS FOR CLIP ANGLE AND CONNECTION DETAILS.



TYPICAL DIAPHRAGM CONNECTION

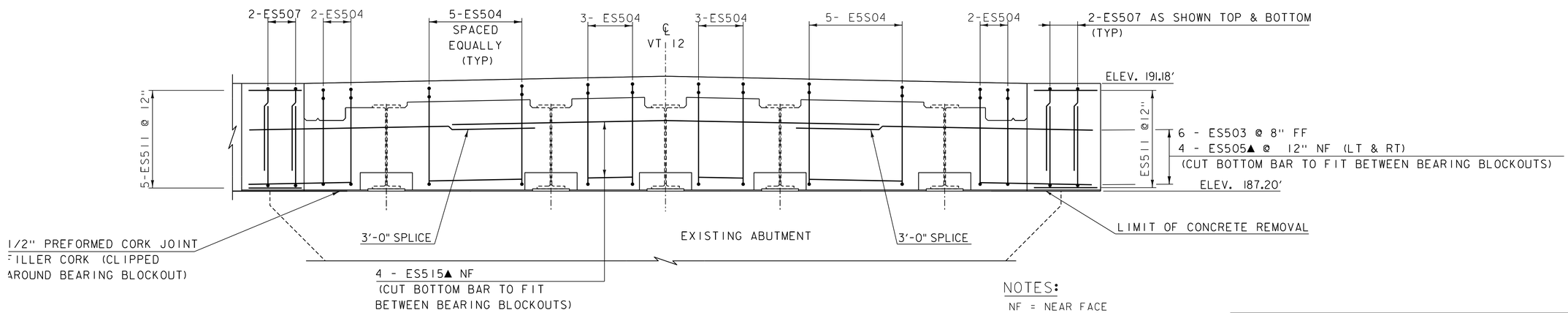
SCALE 1½" = 1'-0"

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	BF 0153(1)
FILE NAME: s20b326sup.dgn	PLOT DATE: 28-APR-2021
PROJECT LEADER: JB MCCARTHY	DRAWN BY: A. LEMIEUX
DESIGNED BY: A. LEMIEUX	CHECKED BY: K. LIHIC
FRAMING PLAN	SHEET 12 OF 19



CURTAIN WALL #1 PLAN

SCALE 1/2" = 1'-0"



CURTAIN WALL #1 ELEVATION

SCALE 1/2" = 1'-0"

1. ES509, ES512, ES513, & ES514 NOT SHOWN FOR CLARITY

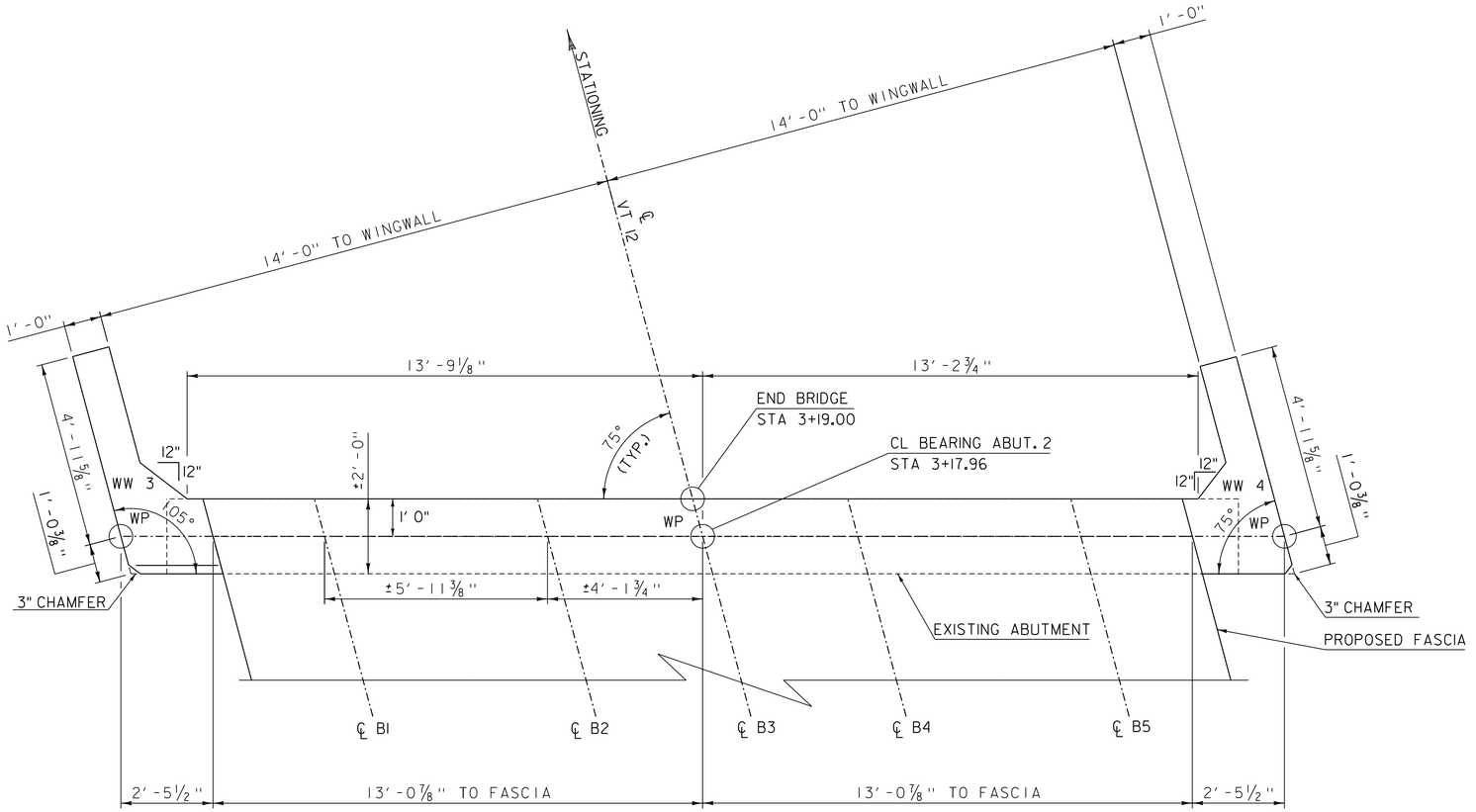
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-4" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

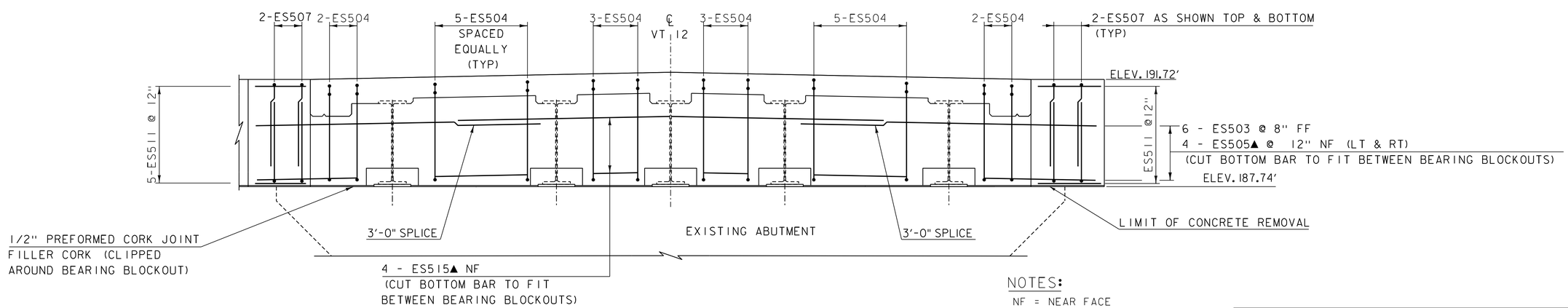
FILE NAME: s20b326sup.dgn
PROJECT LEADER: JB MCCARTHY
DESIGNED BY: K. LIHIC
CURTAINWALL 1 DETAILS

PLOT DATE: 28-APR-2021
DRAWN BY: K. LIHIC
CHECKED BY: A. LEMIEUX
SHEET 13 OF 19



CURTAIN WALL #2 PLAN

SCALE 1/2" = 1'-0"



CURTAIN WALL #2 ELEVATION

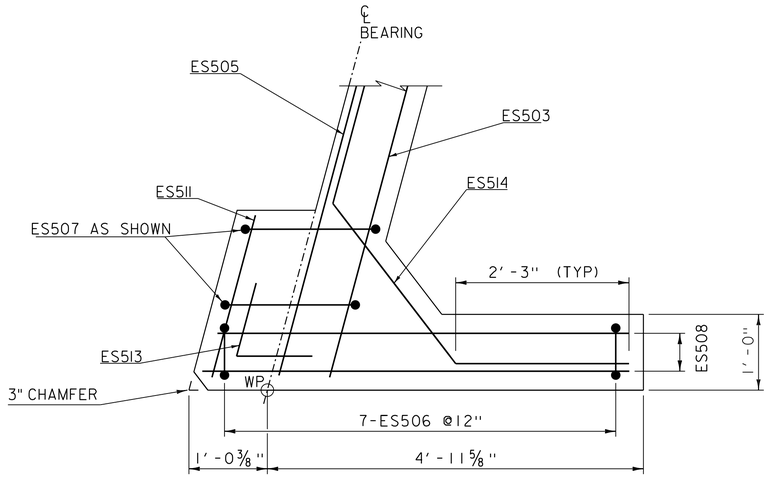
SCALE 1/2" = 1'-0"

1. ES509, ES512, ES513, & ES514 NOT SHOWN FOR CLARITY

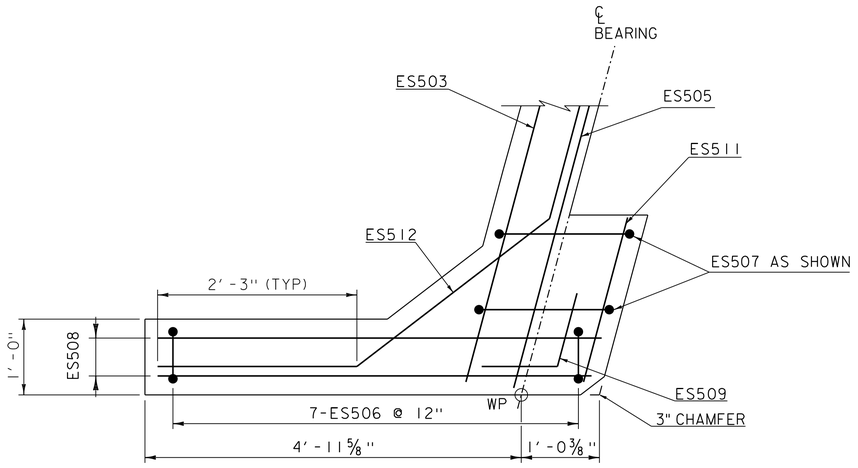
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-4" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

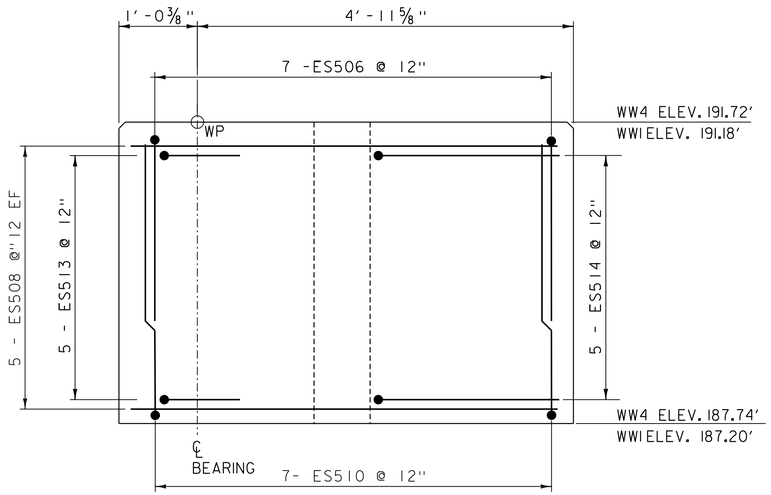
PROJECT NAME:	HARTLAND
PROJECT NUMBER:	BF 0153(1)
FILE NAME: s20b326sup.dgn	PLOT DATE: 28-APR-2021
PROJECT LEADER: JB MCCARTHY	DRAWN BY: K. LIHIC
DESIGNED BY: K. LIHIC	CHECKED BY: A. LEMIEUX
CURTAINWALL 2 DETAILS	SHEET 14 OF 19



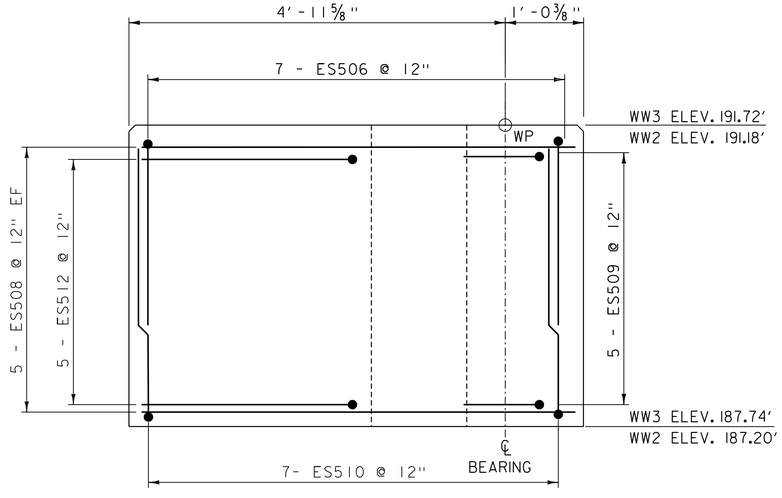
WINGWALL #4 PLAN VIEW
(WINGWALL #1 SIMILAR)
SCALE 1" = 1'



WINGWALL #2 PLAN VIEW
(WINGWALL #3 SIMILAR)
SCALE 1" = 1'

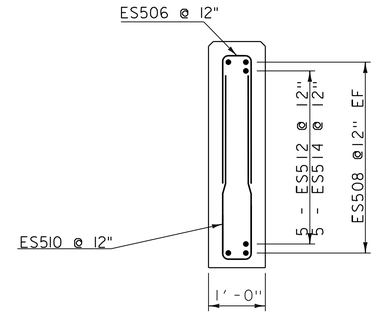


WINGWALL #4 ELEVATION VIEW
(SIMILIAR TO WINGWALL #1)
SCALE 1" = 1'



WINGWALL #2 ELEVATION VIEW
(SIMILIAR TO WING WALL #3)

SCALE 1" = 1'



WINGWALL TYPICAL SECTION
SCALE: 3/4" = 1'-0"

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-4" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b326sup.dgn
PROJECT LEADER: JB MCCARTHY
DESIGNED BY: A. MANN
WINGWALL DETAILS

PLOT DATE: 28-APR-2021
DRAWN BY: A. MANN
CHECKED BY: K. LIHIC
SHEET 15 OF 19

STATE OF VERMONT
AGENCY OF TRANSPORTATION

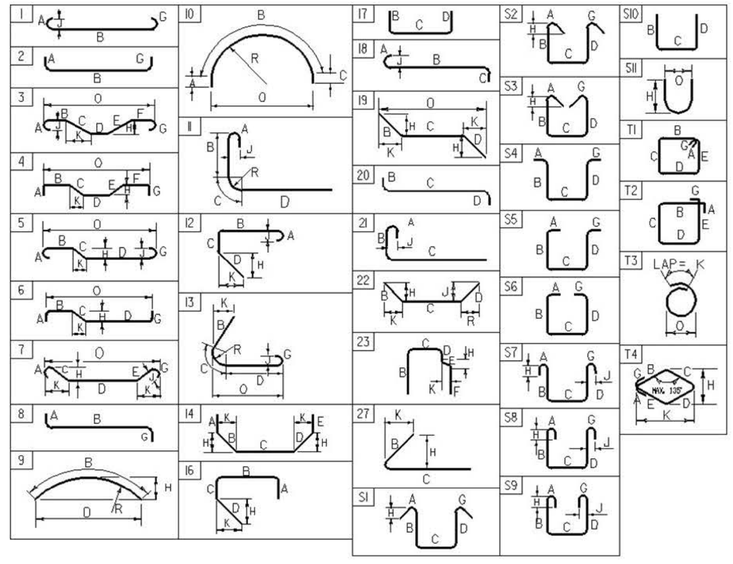
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	132	5	35'- 6"	ES501	STR	35'- 6"											
▲	221	5	24'- 9"	ES502	STR	24'- 9"											
	18	5	30'- 6"	ES503	STR	30'- 6"											
	40	5	11'- 7"	ES504	S5	2'- 4"	3'- 2"	0'- 7"	3'- 2"	2'- 4"							
✳ ▲	17	5	10'- 8"	ES505	STR	10'- 8"											
	28	5	5'- 2"	ES506	S10		2'- 4"	0'- 6"	2'- 4"								
	16	5	7'- 4"	ES507	S10		2'- 11"	1'- 6"	2'- 11"								
	40	5	5'- 6"	ES508	STR	5'- 6"											
	10	5	2'- 0"	ES509	22			1'- 0"	1'- 0"				---	1'- 0"	---	0'- 3"	
	28	5	7'- 6"	ES510	S10		3'- 6"	0'- 6"	3'- 6"								
	20	5	1'- 8"	ES511	STR	1'- 8"											
	10	5	7'- 8"	ES512	22		2'- 3"	3'- 2"	2'- 3"				1'- 5"	1'- 5"	1'- 9"	1'- 9"	
	10	5	2'- 0"	ES513	27		1'- 0"	1'- 0"					1'- 0"		0'- 3"		
	10	5	7'- 1"	ES514	22		2'- 3"	2'- 7"	2'- 3"				1'- 9"	1'- 9"	1'- 5"	1'- 5"	
▲	8	5	14'- 0"	ES515	STR	14'- 0"											
✳	267	6	9'- 5"	ES506	S5	5'- 4"	0'- 10"	1'- 0"	0'- 7"			1'- 8"					

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ 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 INCHES 2	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: **HARTLAND**
PROJECT NUMBER: **20B326**

FILE NAME: **20B326 RSS**
PROJECT MANAGER: **J.B. MCCARTHY**
DESIGNED BY: **A.MANN**
REINFORCING STEEL SCHEDULE

PLOT DATE: **4/23/2021**
DRAWN BY: **A.MANN**
CHECKED BY: **A.LEMIEUX**
SHEET **16** OF **19**

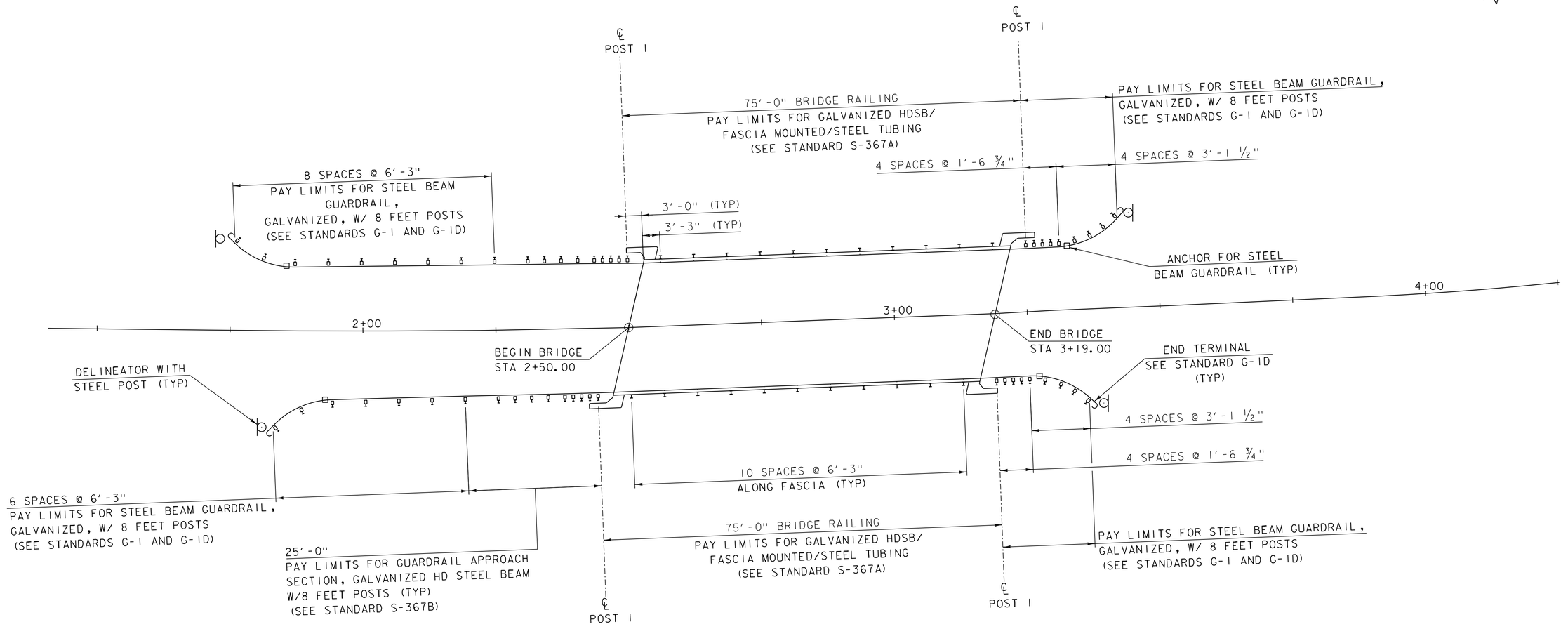
GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING
STA 2+50.2 LT - STA 3+25.4 LT
STA 2+44.0 RT - STA 3+18.8 RT

GUARDRAIL APPROACH SECTION, GALV. HD STEEL BEAM, W/ 8 FEET POSTS
STA 2+25.0 LT - STA 2+50.2 LT
STA 2+19.2 RT - STA 2+44.0 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED, W/ 8 FEET POSTS
STA 1+75.5 LT - STA 2+25.0 LT
STA 1+82.1RT - STA 2+19.2 RT
STA 3+25.4 LT - STA 3+43.8 LT
STA 3+18.8 RT - STA 3+37.5 RT

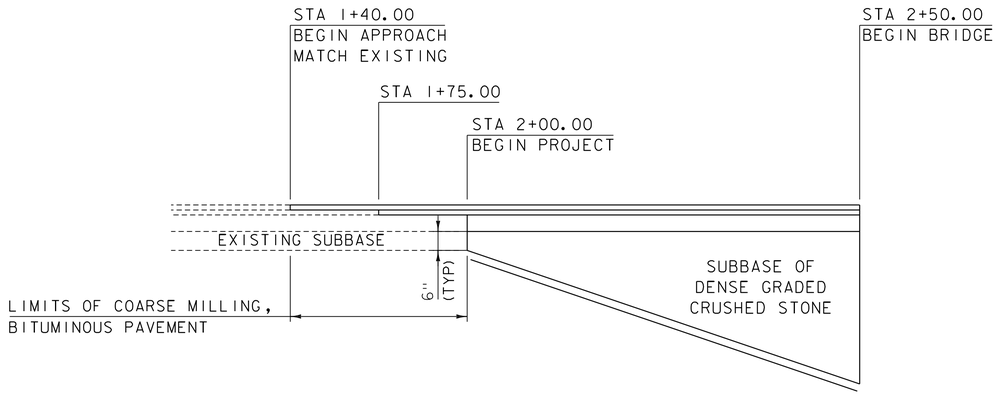
DELINEATOR WITH STEEL POST
STA 1+82.1RT (BLUE)
STA 1+75.5 LT (GREEN)
STA 3+37.5 RT (GREEN)
STA 3+43.8 LT (BLUE)

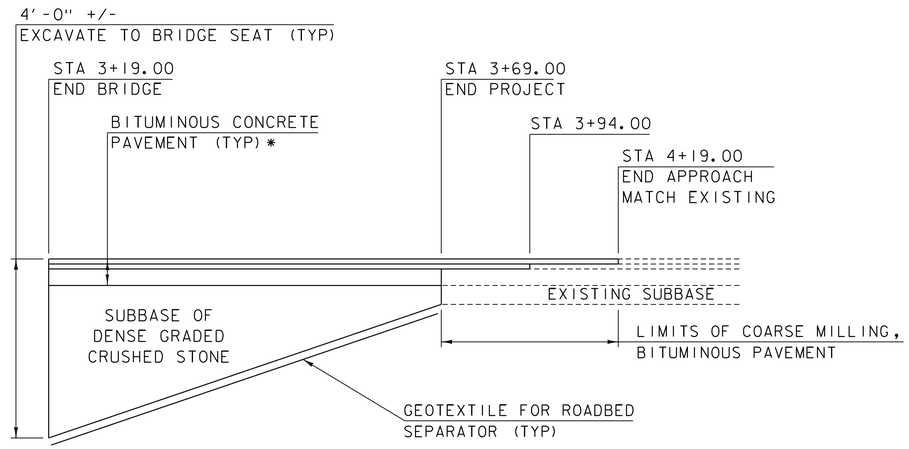
N
VT STATE PLANE GRID



SCALE 1" = 10'-0"
10 0 10

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	BF 0153(1)
FILE NAME: s20b326rail.dgn	PLOT DATE: 28-APR-2021
PROJECT LEADER: J.B. MCCARTHY	DRAWN BY: R. PELLETT
DESIGNED BY: A. LEMIEUX	CHECKED BY: R. HOOD
RAIL LAYOUT	SHEET 17 OF 19





VT ROUTE 12 MATERIAL TRANSITION DIAGRAM

(NOT TO SCALE)

* 1 1/2" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) - TYPE IVS
1 1/2" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) - TYPE IVS
3 1/2" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) - TYPE IIS

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	BF 0153(1)

FILE NAME: s20b326typ.dgn	PLOT DATE: 28-APR-2021
PROJECT LEADER: JB MCCARTHY	DRAWN BY: K. LIHIC
DESIGNED BY: K. LIHIC	CHECKED BY: A. LEMIEUX
MATERIAL TRANSITION	SHEET 18 OF 19

VAOT LOW GROW/FINE FESCUE MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. 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.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF

VAOT URBAN LAWN MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.5%	34	68	CREEPING RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	80	160				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE URBAN AREA MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
2. SEED MIX: USE ONLY AS INDICATED IN THE PLANS.
3. SEED MIX: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. 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.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 22, 2015	WHF

PROJECT NAME: HARTLAND
PROJECT NUMBER: BF 0153(1)

FILE NAME: s20b326epscdetails.dgn
PROJECT LEADER: JB MCCARTHY
DESIGNED BY: VTRANS
EROSION CONTROL DETAILS

PLOT DATE: 28-APR-2021
DRAWN BY: VTRANS
CHECKED BY: A. LEMIEUX