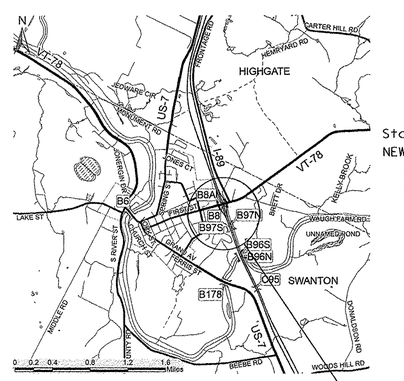
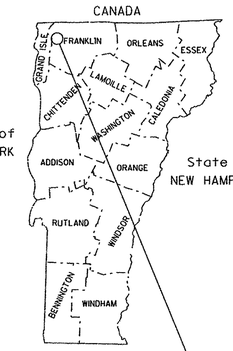
STATE OF VERMONT
AGENCY OF TRANSPORTATION





PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SWANTON
COUNTY OF FRANKLIN

ROUTE NO : INTERSTATE 89 BRIDGE NO : 97N, 97S, 98N, 98S

PROJECT LOCATION : BRIDGE 97 N & S OVER RECREATION PATH (MM 123.118)
BRIDGE 98 N & S OVER VT ROUTE 78 (EXIT 21) (MM 123.368)

PROJECT DESCRIPTION : PAVE AND MEMBRANE BRIDGES 97N, 97S, 98N WITH SUBSTRUCTURE WORK ON BRIDGES 97N, 97S, 98N, 98S

LENGTH OF STRUCTURES : BR 97 N 192 FT
BR 97 S 192 FT
BR 98 N 202 FT
TOTAL LENGTH OF STRUCTURES: 586 FT

RECORD PLANS

CONTRACTOR: COLD RIVER BRIDGES, LLC– KEENE, NH

RESIDENT ENGINEER: SCOTT WHEATLEY

CONSTRUCTION BEGAN: JUNE 20, 2013

CONSTRUCTION COMPLETE: JUNE 5, 2014

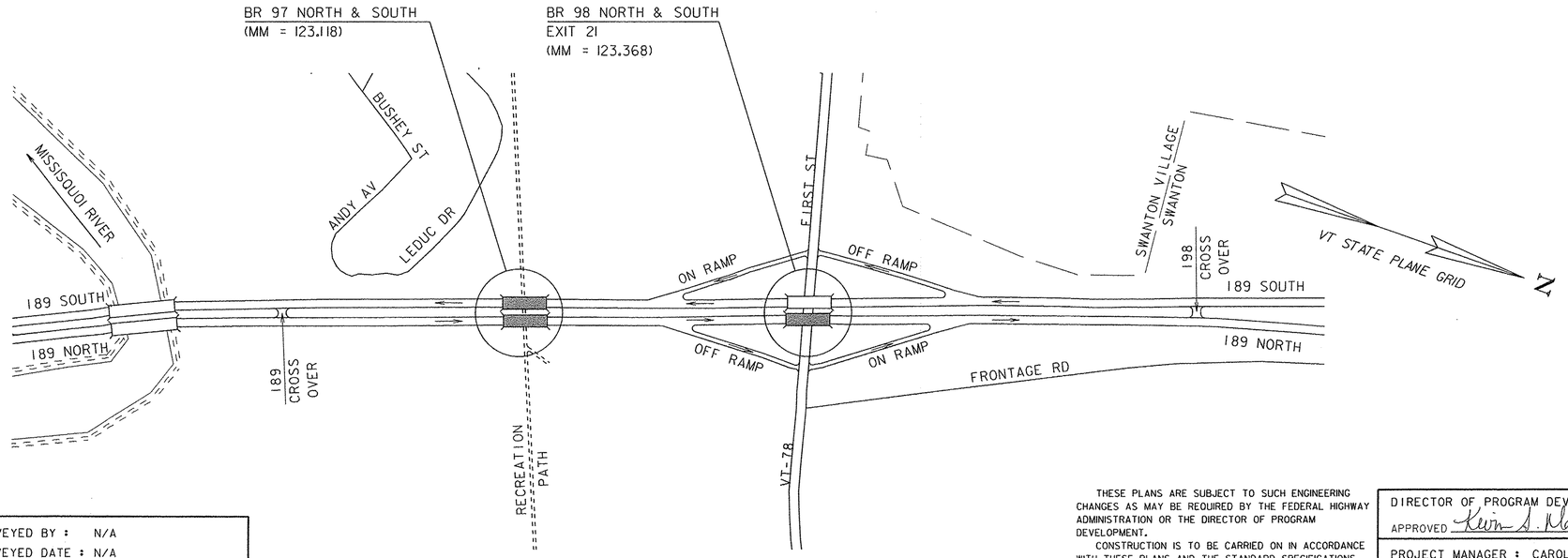
RECORD PLANS BY: SCOTT WHEATLEY & CRAIG PIERCE

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 2-23-16

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



QUALITY ASSURANCE PROGRAM: LEVEL I

CONVENTIONAL SYMBOLS

COUNTY LINE	COUNTY LINE
TOWN LINE	TOWN LINE
LIMITS OF ACCESS	
POINT OF ACCESS	X
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	SR SR SR
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY : N/A
SURVEYED DATE : N/A

DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 300'-0"
300 0 300

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Kevin J. Marchia DATE 3/21/13

PROJECT MANAGER : CAROLYN CARLSON

PROJECT NAME : SWANTON
PROJECT NUMBER : IM 089-3 (70)

SHEET 1 OF 31 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

INDEX & PROJECT NOTES SHEET

INDEX OF SHEETS

PLAN SHEETS

STANDARD LIST

E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01/02/04
E-101	CONSTRUCTION SIGN DETAILS	05/30/03
E-102	CONSTRUCTION SIGN DETAILS	06/30/03
E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	03/01/04
E-106	TRAFFIC CONTROL- MISCELLANEOUS DETAILS	03/01/04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06/30/03
E-107A	BREAKAWAY BARRICADE DETAILS	06/08/09
E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	06/08/09
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	08/08/95
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	08/08/95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95

GENERAL

1 ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FIFTH EDITION, DATED 2010 AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS THIRD EDITION, DATED 2010 AND ITS LATEST REVISIONS.

2 DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND LIMITED FIELD INVESTIGATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER, BEFORE ADVANCING THE WORK. ALL REFERENCE SHEETS WERE SCANNED IN, AND ARE NO LONGER TO SCALE.

3 UNLESS OTHERWISE PROVIDED, ALL REMOVED MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF/RECYCLED AS AUTHORIZED BY THE ENGINEER.

4 THE PLANS AND PICTURES SHOW THE TYPE OF WORK REQUIRED BUT DO NOT NECESSARILY SHOW ALL WORK NEEDED.

5 BRIDGES 97 NORTH AND SOUTH PASS OVER RECREATION PATH AND BRIDGES 98 NORTH AND SOUTH PASS OVER VT-78, THESE FEATURES WILL NEED TO BE PROTECTED FROM CONSTRUCTION ACTIVITIES. THIS WORK WILL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)".

6 THE INTENTION OF THESE PLANS IS TO SHOW THE TYPE OF CONCRETE REPAIR WORK NEEDED. QUANTITIES FOR CONCRETE REPAIR HAVE BEEN ESTIMATED BASED ON SITE VISITS.

PAVEMENT REMOVAL NOTES

7 THE FINAL ONE HALF INCH OF PAVEMENT ON THE BRIDGE DECK AND APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER, OR EQUIPMENT APPROVED BY THE ENGINEER. USE OF COLD PLANER TO REMOVE BRIDGE AND APPROACH SLAB PAVEMENT SHALL BE INCIDENTAL TO ITEM 529.10 "REMOVAL OF BRIDGE PAVEMENT". THE REMOVAL OF EXISTING SHEET MEMBRANE SHALL BE INCIDENTAL TO ITEM 580.16 SURFACE PREPARATION FOR MEMBRANE.

8 DURING BRIDGE AND APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO ENSURE THAT NO DAMAGE OCCURS TO THE EXISTING PORTLAND CEMENT CONCRETE DECK OR THE APPROACH SLABS. IF THE CONTRACTOR DAMAGES AREAS OF THE DECK OR APPROACH SLABS, THEN THE REQUIRED REPAIRS SHALL BE AS PER SECTION 580 OF THE SPECIFICATION AND WILL BE AT THE CONTRACTOR'S EXPENSE.

9 WHERE TRAFFIC IS TO BE MAINTAINED ON ONE LANE OF A BRIDGE WHILE THE OTHER LANE IS BEING REPAIRED, THE EXISTING PAVEMENT SHALL BE RETAINED TO ENSURE A SMOOTH RIDE AND LESS IMPACT DAMAGE TO THE REPAIRS MADE.

DECK REPAIR NOTES

10 AN ESTIMATED QUANTITY OF 3CY HAS BEEN INCLUDED FOR ITEM 580.12 "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III" FOR ANY AREAS THAT REQUIRE FULL DEPTH REPAIR. THIS SHALL INCLUDE ANY AREAS INDICATED BY POP OUTS ON THE SOFFIT, FASCIA, AND CURBS; OR ANY SECTION OF THE DECK THAT THE ENGINEER DETERMINES TO REQUIRE FULL DEPTH REPAIR AFTER CLASS II REMOVAL.

11 AFTER CLASS II AND CLASS III REMOVAL THE REINFORCING STEEL SHALL BE INSPECTED AND ANY REMAINING RUST SHALL BE CLEANED OFF OF THE BARS BEFORE ANY CONCRETE IS PLACED. ANY SECTIONS OF REINFORCING STEEL ORDERED REMOVED BE THE ENGINEER SHALL BE REMOVED AND REPLACED WITH #5 BARS, CUT TO FIT. AN ESTIMATED QUANTITY OF 1000 LBS OF ITEM 507.11 "REINFORCING STEEL, LEVEL 1" IS INCLUDED FOR THIS PURPOSE.

12 IF THERE IS INSUFFICIENT COMPETENT EXISTING STEEL FOR LAPPING WITH THE NEW STEEL, THE TWO BARS SHALL BE CONNECTED USING MECHANICAL BAR CONNECTORS UNDER ITEM 507.19 "MECHANICAL BAR CONNECTORS", AN ESTIMATED QUANTITY OF 50 MECHANICAL BAR CONNECTORS ARE INCLUDED FOR THIS PURPOSE, INCLUDING 3 CONNECTORS FOR TESTING UNDER SUBSECTION 713.02.

13 A QUANTITY OF 30 FEET OF DRILLING AND GROUTING DOWELS WAS ADDED IN THE EVENT THERE IS NOT ENOUGH REBAR TO LAP SPLICE OR TO USE MECHANICAL BAR CONNECTORS AT THE CURB LINES.

WATER PROOFING NOTES

14 FOLLOWING REMOVAL OF BRIDGE PAVEMENT, THE CONCRETE BRIDGE DECK SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE PAID FOR AS ITEM 580.16 "SURFACE PREPARATION FOR MEMBRANE".

15 ANY AREA OF THE BRIDGE THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE SOLE COST OF THE CONTRACTOR. ANY AREA OF CONCRETE BELOW THE MEMBRANE THAT IS FOUND TO BE UNSOUND SHALL BE IDENTIFIED BY THE CONTRACTOR AND BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE DECK AND AS TO THE EXTENT OF REPAIRS.

16 UPON APPROVAL OF THE DECK CONDITION BY THE ENGINEER, SHEET MEMBRANE WATERPROOFING, TORCH APPLIED, SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519. IF THE DECK CANNOT BE WATERPROOFED AND PAVED IN ITS ENTIRETY, IN A CONTINUOUS OPERATION, OR IF TRAFFIC IS TO BE MAINTAINED ON ONE LANE WHILE THE OTHER LANE IS BEING REPAIRED, THE FOLLOWING SHALL APPLY:

a. THE MEMBRANE SHALL EXTEND 1 +/- FOOT BEYOND THE LANE LINE OF THE REPAIRED LANE SO THAT THE MEMBRANE CAN BE LAPPED ONTO WHEN WATERPROOFING THE SECOND LANE OF WHEN CONSTRUCTION OPERATIONS HAVE RESUMED.

b. PAVEMENT SHALL BE PLACED ON THE NEWLY INSTALLED MEMBRANE FOR THE ENTIRE LENGTH OF THE BRIDGE PRIOR TO ALLOWING TRAFFIC ONTO THIS LANE.

c. THAT PART (1"+/-) OF THE MEMBRANE THAT EXTENDS BEYOND THE NECESSARY LANE WIDTH TO MAINTAIN TRAFFIC SHALL BE COVERED WITH RELEASE PAPER AND BITUMINOUS CONCRETE PAVEMENT. WHEN WATERPROOFING THE SECOND LANE, REMOVAL OF THE PAVEMENT ON THE RELEASE PAPER IN ORDER TO OVERLAP THE MEMBRANE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

17 WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE, EXCEPT FOR THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THIS WORK SHALL BE PAID FOR AS ITEM 514.10 "WATER REPELLENT, SILANE".

AIR HAMMER REMOVAL NOTES

18 THE ANGLE BETWEEN THE DECK AND AIR HAMMER AXIS SHALL BE FROM ZERO (0) DEGREES TO FORTY-FIVE (45) DEGREES. AIR HAMMERS USED FOR THE REMOVAL OF UNSOUND AND DETERIORATED CONCRETE SHALL HAVE A MAXIMUM RATING OF THIRTY (30) POUNDS AND SHALL USE CHISEL POINTS ONLY. IF REINFORCING STEEL IS DAMAGED, OR IF CONCRETE IS DEBONDED, DELAMINATED, OR OTHERWISE DAMAGED BEYOND THE DEFINED LIMITS OF REMOVAL BECAUSE OF THE IMPROPER USE OF THE AIR HAMMER, THEN THE CONTACTOR SHALL REPAIR THE DAMAGED AREAS BY REMOVING AND REPLACING THE CONCRETE AND/OR REINFORCING STEEL AT THEIR OWN EXPENSE.

PAVEMENT NOTES

19 FOLLOWING INSTALLATION OF SHEET MEMBRANE WATERPROOFING ON THE BRIDGE DECKS; THE BRIDGE DECKS AND AT-GRADE APPROACH SLABS SHALL BE PAVED CURB TO CURB WITH ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

20 CARE SHALL BE EXERCISED TO SMOOTHLY TRANSITION THE NEW APPRAOCH SLAB PAVEMENT INTO THE EXISTING PAVEMENT (50' MINIMUM, SEE SHEET 6). ANY COLD PLANING NECESSARY FOR SHAPING BRIDGE APPROACHES ALONG THE EXISTING MAIN LINE SHALL BE PAID FOR UNDER ITEM 210.10 "COLD PLANING, BITUMINOUS PAVEMENT". ANY COLD PLANING ALONG SIDE ROADS SHALL BE DONE AT THE RESIDENT ENGINEER'S DISCRETION.

21 LONGITUDINAL JOINTS IN THE PAVEMENT SHALL BE TAPERED IN ACCORDANCE WITH SECTION 490.

22 EMULSIFIED ASPHALT SHALL BE APPLIED TO TACK CONTACT SURFACES AT A RATE OF 0.025 GAL/SY.

23 TESTING FOR PAVEMENT DENSITY WILL REQUIRE CORES OF THE PAVEMENT ON THE BRIDGE DECK, POSSIBLY RESULTING IN DAMAGE TO THE MEMBRANE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGED MEMBRANE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

CONCRETE NOTES

24 DUPLICATE PAYMENT WILL NOT BE MADE FOR REPAIR OF CONCRETE SURFACES IN ANY AREA. NO PAYMENT FOR ITEM 580.11 "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II" SHALL BE MADE WITHIN AREAS OF CLASS III REPAIR. FOR EXAMPLE, IF AN AREA IS ORIGINALLY TO BE REPAIRED AS CLASS II, AND THE ENGINEER ORDERS A CHANGE TO CLASS III DEPTH, THE AREA IN QUESTION WILL BE PAID AS CLASS III.

25 ALL EDGES OF REPAIR AREAS ARE TO BE SAWCUT SQUARE AND TO A MINIMUM DEPTH OF 1". EXCEPT AT THE CURB LINES WHERE THE EDGE WILL BE CHIPPED.

ENVIRONMENTAL

26 EROSION CONTROL MEASURES SHALL BE UTILIZED AS REQUIRED AND SHALL BE PER SECTION 105 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE AGENCY OF NATURAL RESOURCES LOW-RISK HANDBOOK FOR CONSTRUCTION SITES. SEE SUBSECTION 105.23 FOR EROSION CONTROL PLAN REQUIREMENTS. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ALL OTHER CONTRACT ITEMS.

TRAFFIC CONTROL

1 A MINIMUM OF ONE WAY TRAFFIC SHALL BE MAINTAINED ON I-89 THROUGH OUT ALL PHASES OF THIS PROJECT. WORK IS TO BE PERFORMED IN ACCORDANCE WITH MUTCD(2011), AND THE APPROPRIATE VTRANS STANDARD DRAWINGS.

2 ALL SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY OR AS DIRECTED BY THE RESIDENT ENGINEER. EXISTING PERMANENT SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)

3 THE COST FOR ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN; INCLUDING BUT NOT LIMITED TO TEMPORARY TRAFFIC BARRIER, TEMPORARY PAVEMENT MARKINGS, AND CONSTRUCTION SIGNS, WILL BE INCLUDED UNDER CONTRACT ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE LOCAL TRAFFIC CONTROL PACKAGE IDENTIFYING THE PROJECT BEFORE, DURING AND AFTER THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. ALL COST SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION, (TRAFFIC CONTROL, ALL-INCLUSIVE)".

5 THE CONTRACTOR SHALL ADD SIGN G20-5AP TO THE TOP OF ALL TEMPORARY SPEED LIMIT SIGNS AS DETAILED IN THE MUTCD.

6 A MINIMUM OF TWO WAY TRAFFIC SHALL BE MAINTAINED ON VT 78 THROUGH OUT ALL PHASES OF THIS PROJECT. WORK IS TO BE PERFORMED IN ACCORDANCE WITH MUTCD(2011), AND THE APPROPRIATE VTRANS STANDARD DRAWINGS.

AS BUILT "REBAR" DETAIL

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

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: si2a276pi.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
INDEX & PROJECT NOTES SHEET

PLOT DATE: 26-MAR-2013
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 2 OF 31

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				ROADWAY	BRIDGE 97N	BRIDGE 97S	BRIDGE 98N	BRIDGE 98S	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
					468	654	468			1590		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
					200	200	200			600		LF	MILLED RUMBLE STRIPS	213.10				
					12	17	12			41		CWT	EMULSIFIED ASPHALT	404.65				
				1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
					250	250	500			1000		LB	REINFORCING STEEL, LEVEL I	507.11				
					10	10	10			30		LF	DRILLING AND GROUTING DOWELS	507.16				
					10	10	30			50		EACH	MECHANICAL BAR CONNECTOR	507.19				
					50	50	50	50		200		GAL	WATER REPELLENT, SILANE	514.10				
					120	168	120			408		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
					510	710	540			1760		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
													BEGIN OPTION AA					
					60	84	60			204		LF	JOINT SEALER, HOT POURED	524.11				
					60	84	60			204		LF	JOINT SEALER, COLD POURED	524.13				
													END OPTION AA					
					510	710	540			1760		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
					51	71	54			176		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10				
					152	213	162			527		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11				
					3	3	3			9		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12				
					15	20	14	14		63		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13				
					5	7	5	5		22		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14				
					510	710	540			1760		SF	SURFACE PREPARATION FOR MEMBRANE	580.16				
					2	2	2	2		8		GAL	REPOINTING GRANITE BRIDGE CURB	616.225				
					250	250	250	250		1000		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					100	100	400	400		1000		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 TELEPHONE (N.A.B.I.)	631.26				
				1						1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					588	588	603			1779		LF	6 INCH WHITE LINE	646.214				
					292	292	302			886		LF	6 INCH YELLOW LINE	646.215				
							126	126		252		LF	SPECIAL PROVISION (FIBER REINFORCED POLYMER (FRP), SAFSTRIP)	900.640				
					1					1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 97N)	900.645				
						1				1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 97S)	900.645				
							1			1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 98N)	900.645				
								1		1		LS	SPECIAL PROVISION (PUBLIC PROTECTION FOR BRIDGE PROJECTS)(I-89 BRIDGE NO. 98S)	900.645				
								1		1		LS	SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE TRAFFIC)(I-89 BRIDGE NO. 98S)	900.645				

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276qs.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
QUANTITY SHEET 1

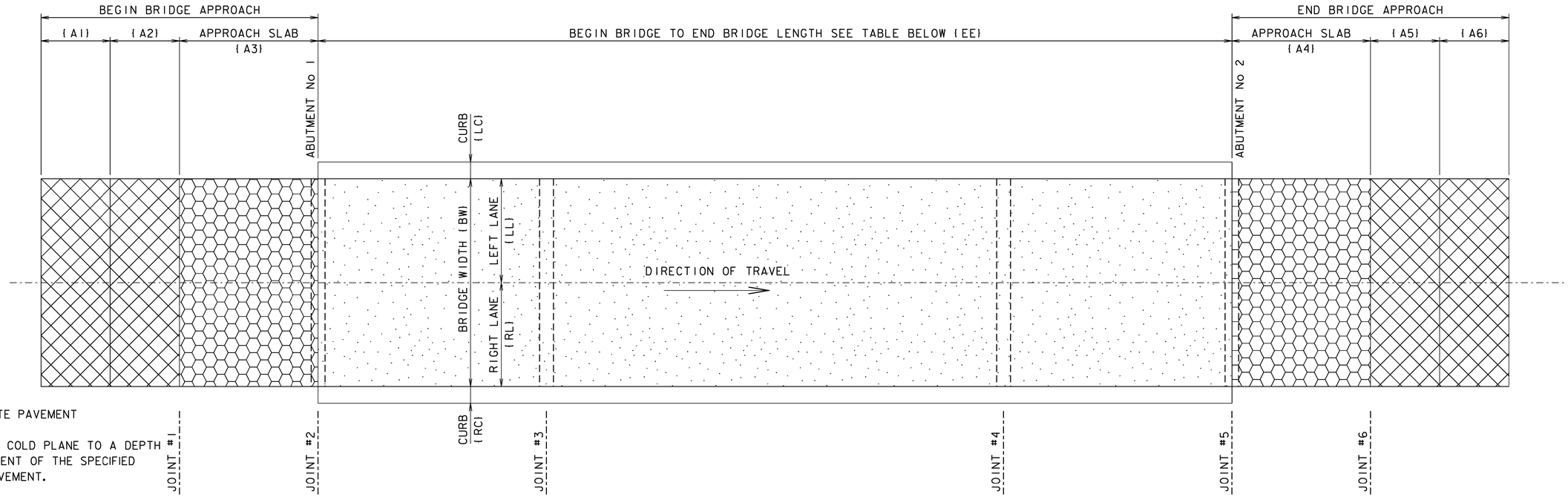
PLOT DATE: 11-APR-2013
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 3 OF 31

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES														TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY		BRIDGE 97N		BRIDGE 97S		BRIDGE 98N		BRIDGE 98S	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1								1		LS	SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE)(I-89 BRIDGE NO. 97N)	900.645				
									1						1		LS	SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE)(I-89 BRIDGE NO. 97S)	900.645				
											1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE)(I-89 BRIDGE NO. 98N)	900.645				
							1		1		1				3		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I)	900.650				
							1		1		1				3		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
							83		116		85				284		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

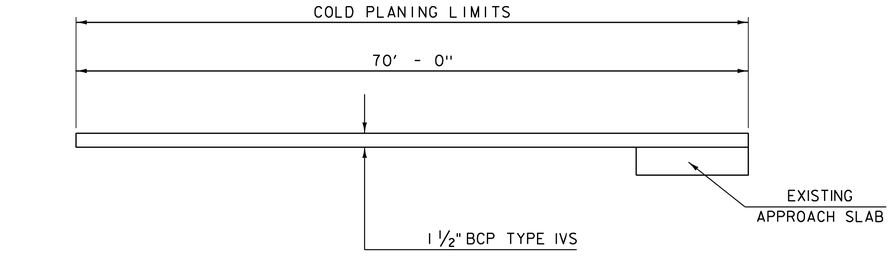
PROJECT NAME:	SWANTON
PROJECT NUMBER:	IM 089-3(70)
FILE NAME: sl2a276qs.dgn	PLOT DATE: 11-APR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
QUANTITY SHEET 2	SHEET 4 OF 31



NOTES:

BCP - BITUMINOUS CONCRETE PAVEMENT

THE INTENTION IS TO ONLY COLD PLANE TO A DEPTH THAT ALLOWS FOR PLACEMENT OF THE SPECIFIED LIFT OR LIFTS OF NEW PAVEMENT.



MATERIAL TRANSITION DETAIL

BRIDGE TYPICAL BITUMINOUS CONCRETE REMOVAL & REPLACEMENT PLAN

BRIDGE No. 97 SOUTH & BRIDGE No. 97 NORTH & BRIDGE No. 98 NORTH

1. COLD PLANING WILL BE PAID FOR UNDER ITEM 210.10 EXCEPT AS OTHERWISE SPECIFIED.
2. REMOVAL OF THE BITUMINOUS CONCRETE PAVEMENT AND MEMBRANE WILL BE PAID FOR UNDER ITEM 529.10.
3. PREPARATION OF SURFACE FOR PLACEMENT OF MEMBRANE WILL BE PAID FOR UNDER ITEM 580.16.
4. NEW MEMBRANE SHALL BE PLACED ON THE PREPARED BRIDGE DECK. PAYMENT WILL BE MADE UNDER ITEM 519.20.
5. NEW PAVEMENT WILL BE PAID FOR UNDER ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY).

WO #6 ADDED ITEM 406.27, MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT

COLD PLANE - 1½"

COLD PLANE - 1½" TO EXPOSE APPROACH SLAB

REMOVE BITUMINOUS CONCRETE PAVEMENT TO TOP OF BRIDGE DECK. REMOVE EXISTING BARRIER MEMBRANE.

BRIDGE LAYOUT DIMENSION AND GEOMETRY TABLE

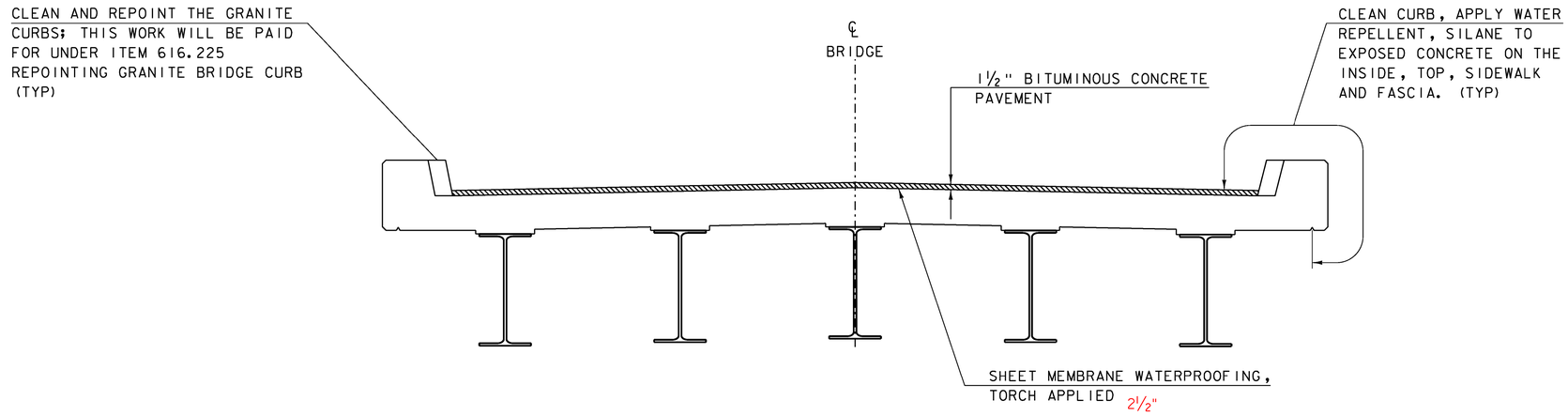
BRIDGE No.	LENGTH (FT)	WIDTH (FT)					BEGIN BRIDGE APPROACH			END BRIDGE APPROACH			EXPANSION JOINT (NEW PLUG JOINT)						EXPANSION JOINT (HOT POURED JOINT)			
	EE	BW	RL	LL	RC	LC	A1	A2	A3	A4	A5	A6	#2	#3	#4	#5	TOTAL EXP	LENGTH (FT)	#1	#6	TOTAL EXP	LENGTH (FT)
97 N	152.00	30.00	15.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	120.0	SAW	SAW	2	60.0
97 S	152.00	42.00	27.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	168.0	SAW	SAW	2	84.0
98 N	162.00	30.00	15.00	15.00	2.42	2.42	25.00	25.00	20.00	20.00	25.00	25.00	PLUG	PLUG	PLUG	PLUG	4	120.0	SAW	SAW	2	60.0

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

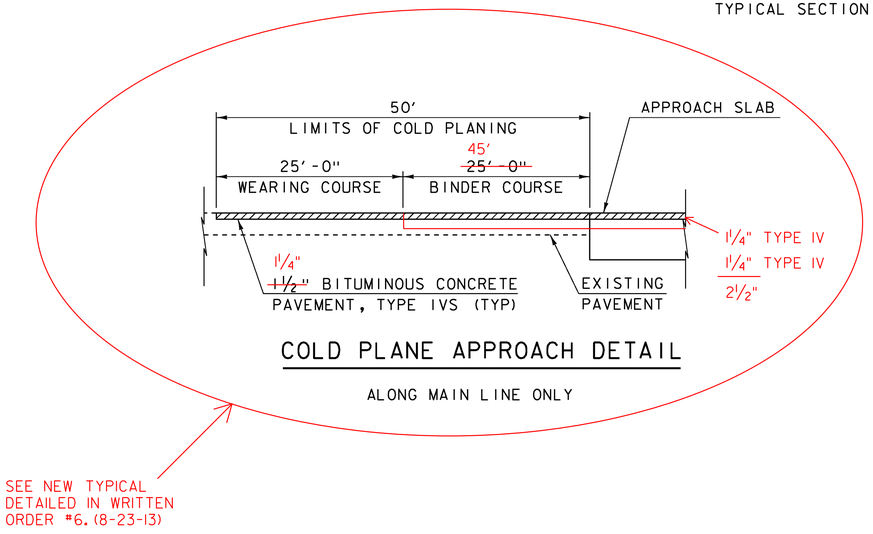
FILE NAME: sl2a276sup.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BITUMINOUS CONCRETE REMOVAL PLAN

PLOT DATE: 19-MAR-2013
DRAWN BY: M. LONGSTREET
CHECKED BY: H. SALLS
SHEET 5 OF 31



TYPICAL BRIDGE SECTION

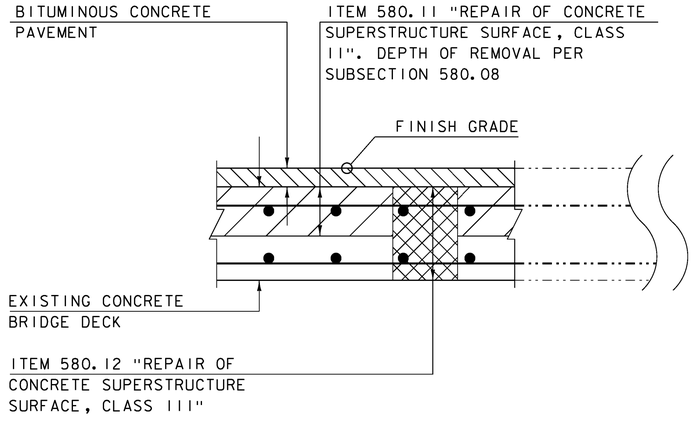
NOTE: EXISTING BRIDGE GEOMETRY VARIES BY LOCATION
TYPICAL SECTION SHOWN FOR SCHEMATIC PURPOSES ONLY.



COLD PLANE APPROACH DETAIL

ALONG MAIN LINE ONLY

SEE NEW TYPICAL DETAILED IN WRITTEN ORDER #6. (8-23-13)



CONCRETE REPLACEMENT PAY LIMIT DETAIL

BRIDGE NUMBER	CROSSING OVER	LENGTH OF BRIDGE (FT)	CURB TO CURB PAVEMENT WIDTH (FT)	TOWN	MILE MARKER
I 89 BR 97 N	RECREATION PATH	152.00	30.00	SWANTON	123.118
I 89 BR 97 S	RECREATION PATH	152.00	42.00	SWANTON	123.118
I 89 BR 98 N	VT 78	162.00	30.00	SWANTON	123.368
I 89 BR 98 S	VT 78	162.00	30.00	SWANTON	123.368

BRIDGE LOCATION TABLE

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

NOTE:

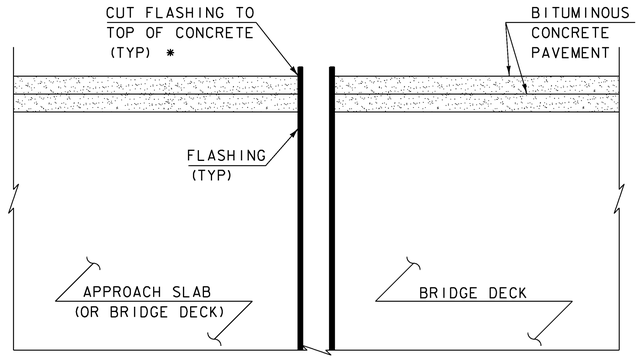
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

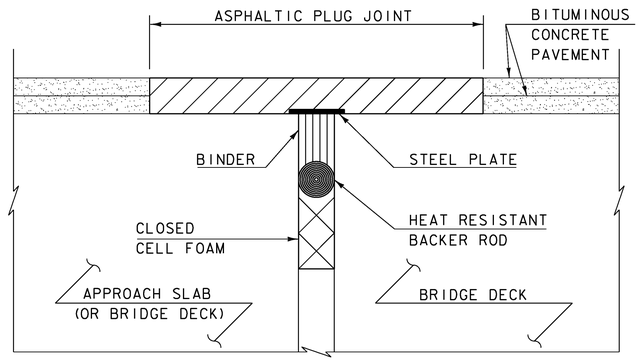
FILE NAME: sl2a276sup.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
SUPERSTRUCTURE DETAILS

PLOT DATE: 11-APR-2013
DRAWN BY: R. PELLETT
CHECKED BY: H. SALLS
SHEET 6 OF 31

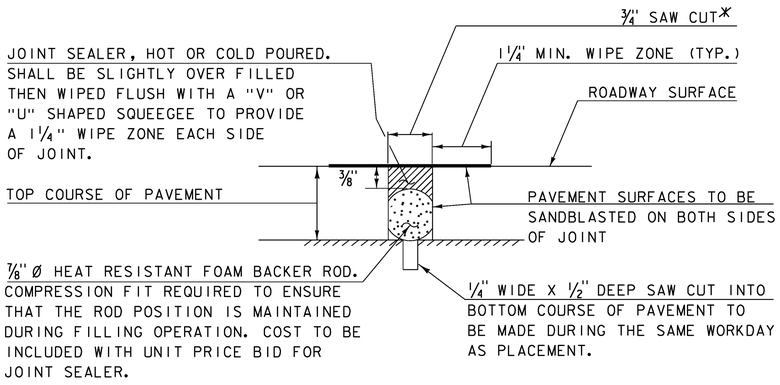
* PAYMENT FOR CUTTING THE JOINT PLATES FLASH WILL BE PAID FOR UNDER ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG



EXISTING BRIDGE JOINT



ASPHALTIC PLUG-TYPE JOINT DETAIL



SAWED PAVEMENT JOINT DETAIL

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR MATERIAL GREATER THAN 4 INCHES FROM FINISHED GRADE WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
5. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
6. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
12. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

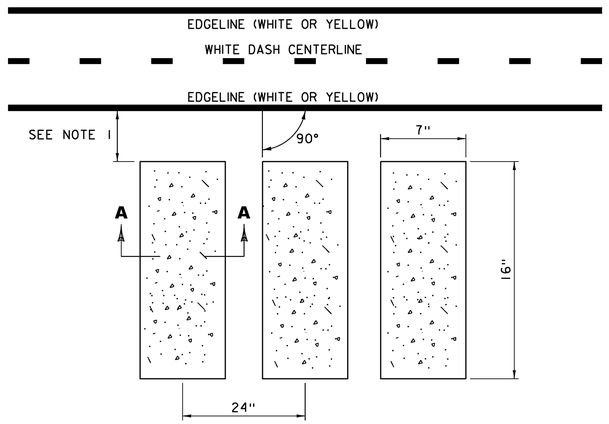
WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

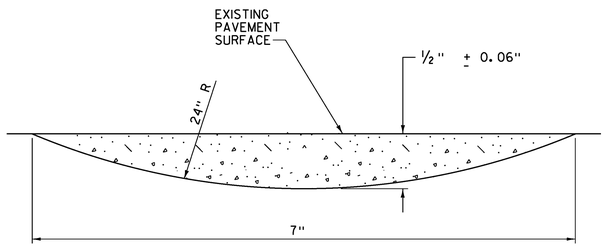
PROJECT NAME: SWANTON	
PROJECT NUMBER: IM 089-3(70)	
FILE NAME: si2a276sup.dgn	PLOT DATE: 19-MAR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
JOINT DETAILS	SHEET 7 OF 31



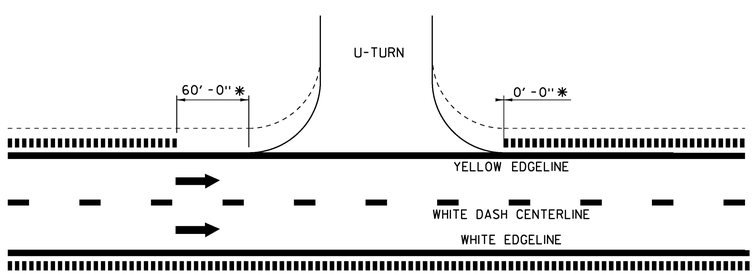
RUMBLE STRIP MILLING DETAIL

NOTES:
1. MILL RUMBLE STRIPS 30 INCHES FROM EDGELINE FOR ALL SHOULDERS 6 FEET OR WIDER; MILL RUMBLE STRIPS 6 INCHES FROM EDGELINE FOR ALL SHOULDERS LESS THAN 6 FEET WIDE.

2. IN GUARDRAIL AREAS, STOP MILLED RUMBLE STRIPS WHEN THE SHOULDER NARROWS TO 4 FEET WIDE.

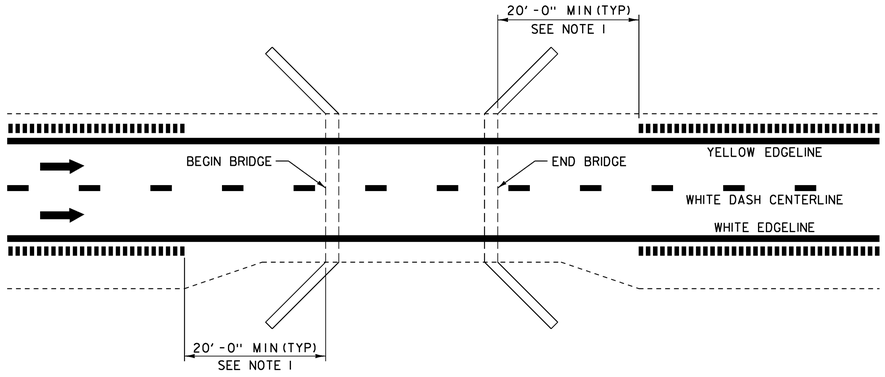


SECTION A-A



RUMBLE STRIP U-TURN DETAIL

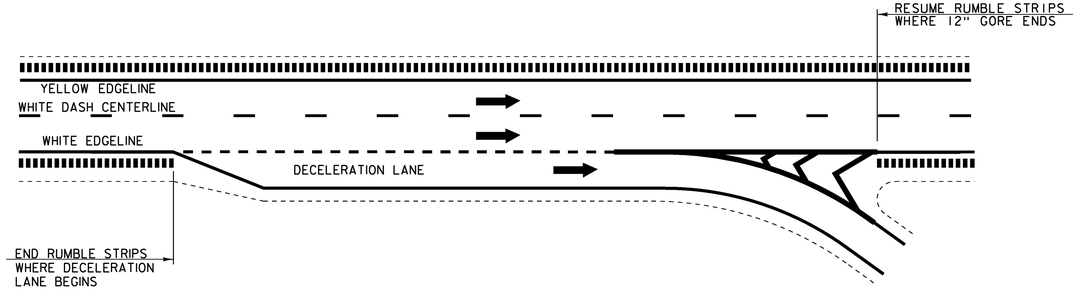
* THE DIMENSIONS MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS, AND MAY BE MODIFIED AT THE RESIDENT ENGINEER'S DISCRETION.



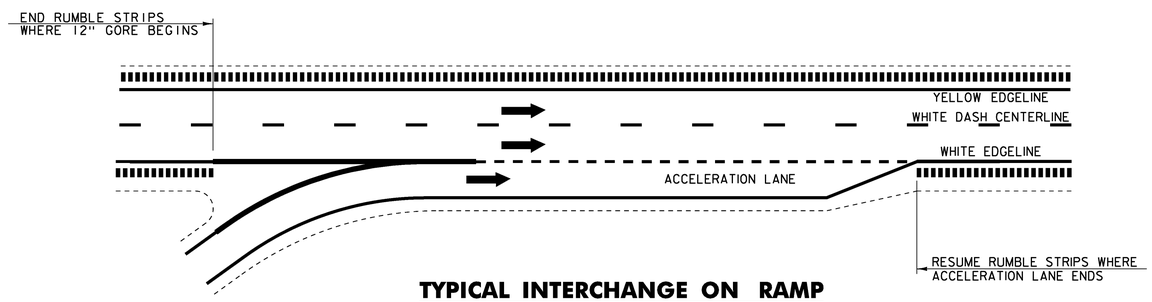
RUMBLE STRIP BRIDGE DETAIL

NOTES:
1. NO RUMBLE STRIPS SHALL BE MILLED WITHIN 20 FEET OF THE BEGIN AND END OF BRIDGE. DO NOT BEGIN RUMBLE STRIPS UNTIL THE SHOULDER IS AT LEAST 4 FEET WIDE.

2. AT NO TIME SHALL THE RUMBLE STRIPS BE MILLED INTO ANY APPROACH SLAB.



TYPICAL INTERCHANGE OFF RAMP



TYPICAL INTERCHANGE ON RAMP

LEGEND

- DIRECTION OF TRAFFIC FLOW
- MILLED RUMBLE STRIPS
- EDGE OF PAVEMENT

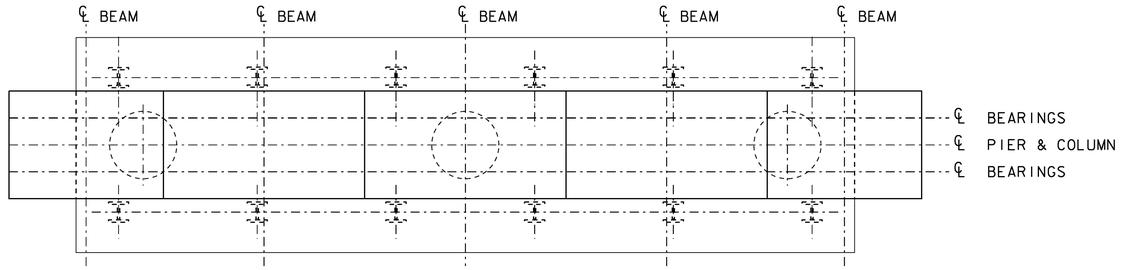
DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

COMPOSITE MILLED RUMBLE STRIP DETAILS

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276Rumble Strips.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
RUMBLE STRIP DETAILS

PLOT DATE: 19-MAR-2013
DRAWN BY: R.PELLETT
CHECKED BY: EPD
SHEET 8 OF 31



PLAN

SCALE ⅜" = 1'-0"

SUBSTRUCTURE NOTES

IT IS ANTICIPATED THAT 30% OF THE SUBSTRUCTURE WILL REQUIRE A CLASS I SUBSTRUCTURE REPAIR; WHILE 10% WILL REQUIRE A CLASS II SUBSTRUCTURE REPAIR. THE ENGINEER WILL DETERMINE THE LEVEL OF REPAIR NEEDED.

THE PICTURES REPRESENT THE EXISTING CONDITION OF THE SUBSTRUCTURES BUT DO NOT SHOW ALL THE AFFECTED AREAS.

PICTURE 1

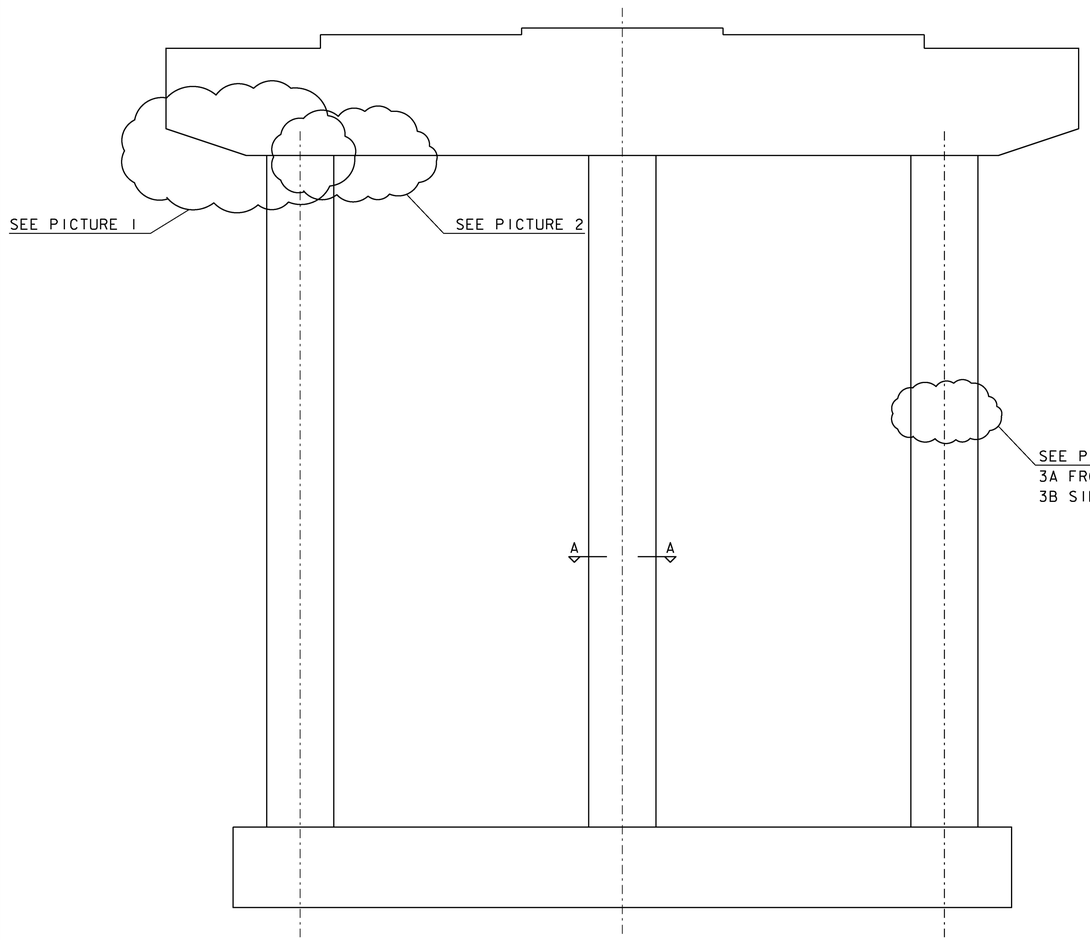
PICTURE 2

PICTURE 3A

FRONT VIEW

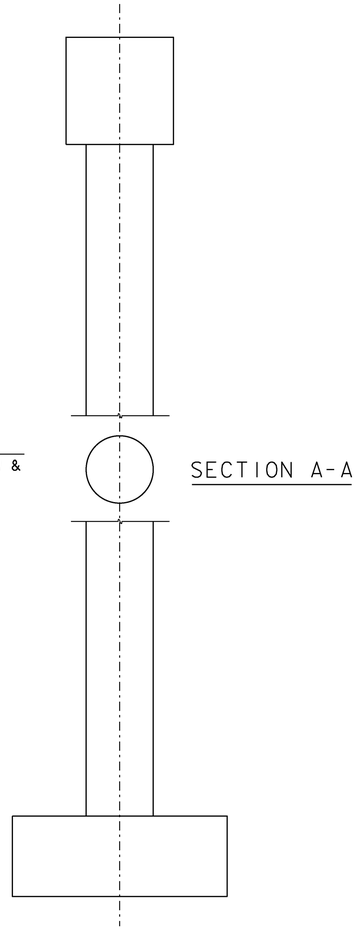
PICTURE 3B

SIDE VIEW



ELEVATION

SCALE ⅜" = 1'-0"



SECTION A-A

TYPICAL SECTION

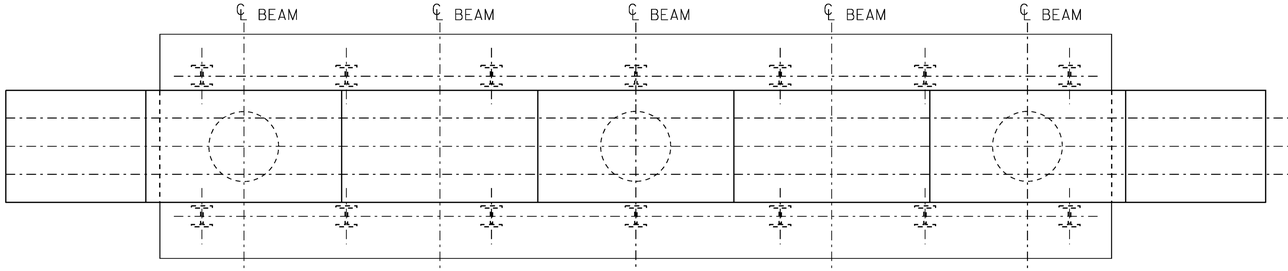
SCALE ⅜" = 1'-0"

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 97 NORTH - PIERS NO. 3 & 4

PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 9 OF 31



PLAN

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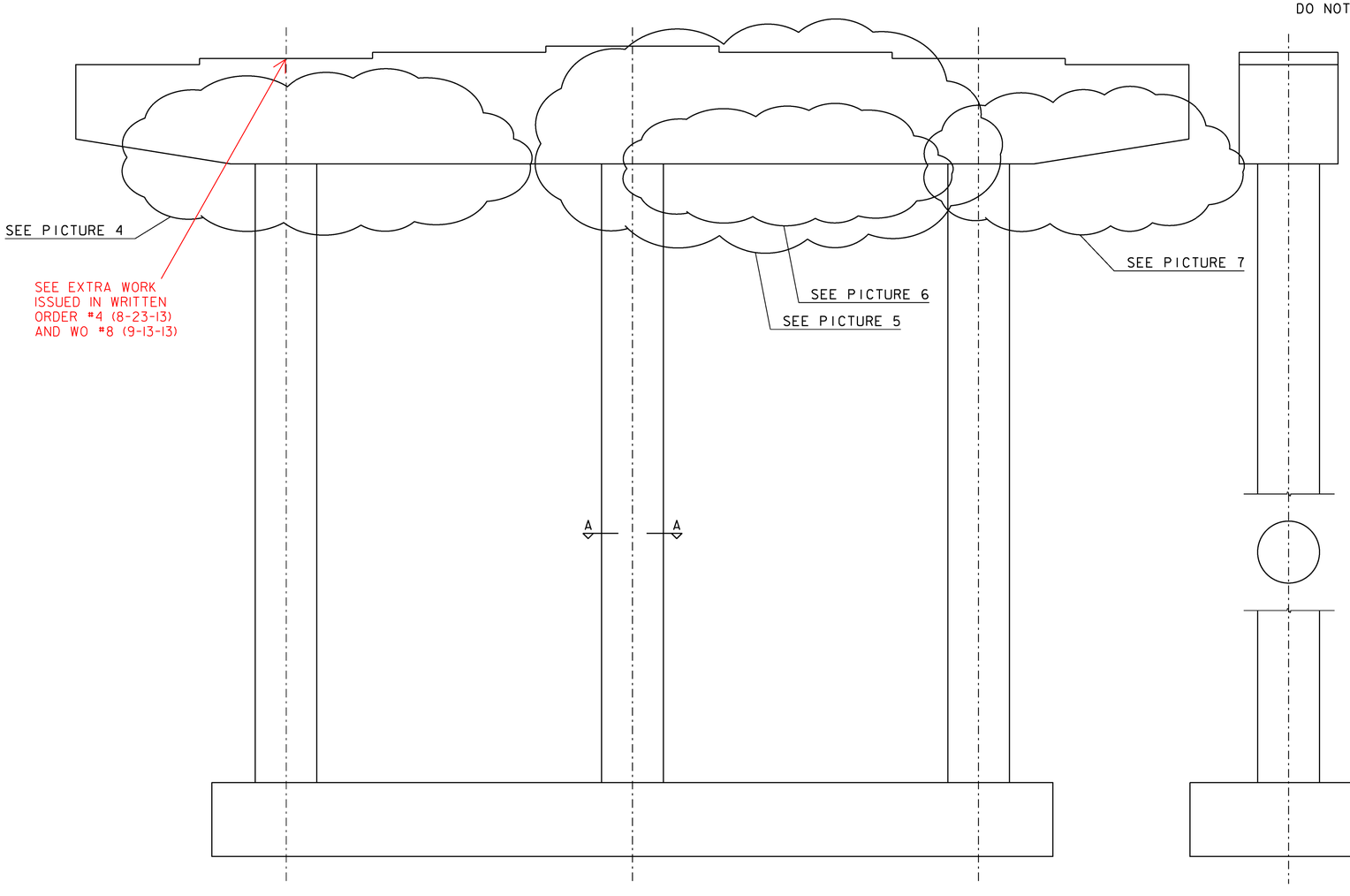
PICTURE 4

PICTURE 5

PICTURE 6

PICTURE 7



ELEVATION

SCALE ⅜" = 1'-0"

SECTION A-A

TYPICAL SECTION

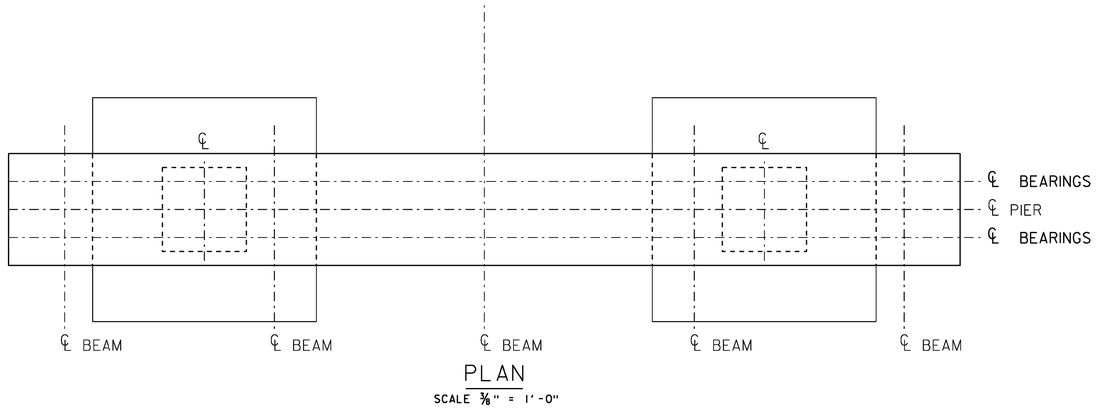
SCALE ⅜" = 1'-0"

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

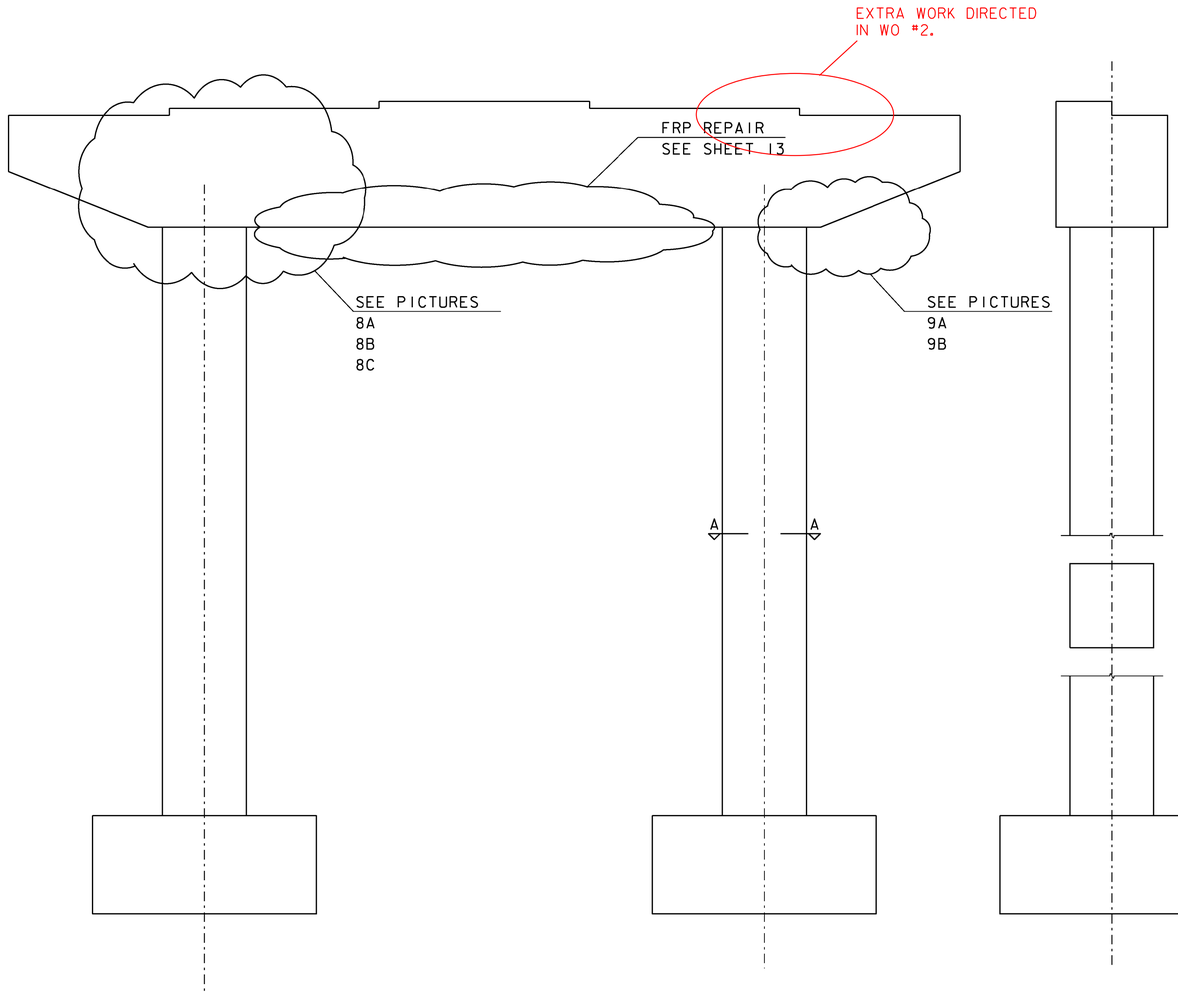
FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 97 SOUTH - PIERS NO.1& 2

PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 10 OF 31



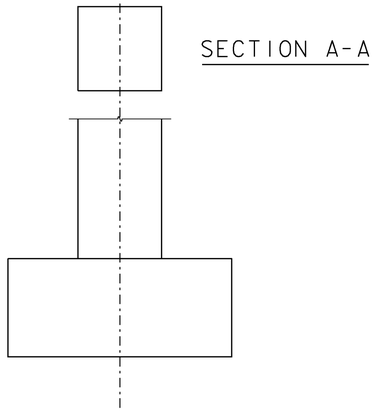
PLAN

SCALE ⅜" = 1'-0"



ELEVATION

SCALE ⅜" = 1'-0"



SECTION A-A

TYPICAL SECTION

SCALE ⅜" = 1'-0"

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PICTURE 8A

PICTURE 8B

PICTURE 8C

PICTURE 9A

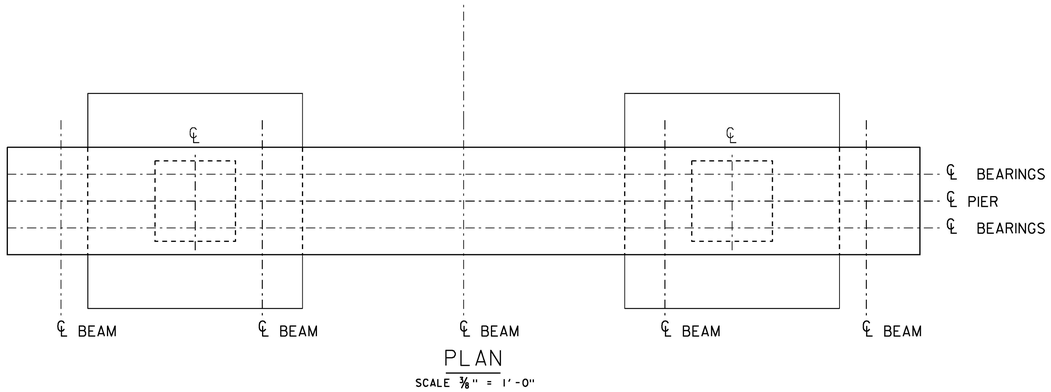
PICTURE 9B

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

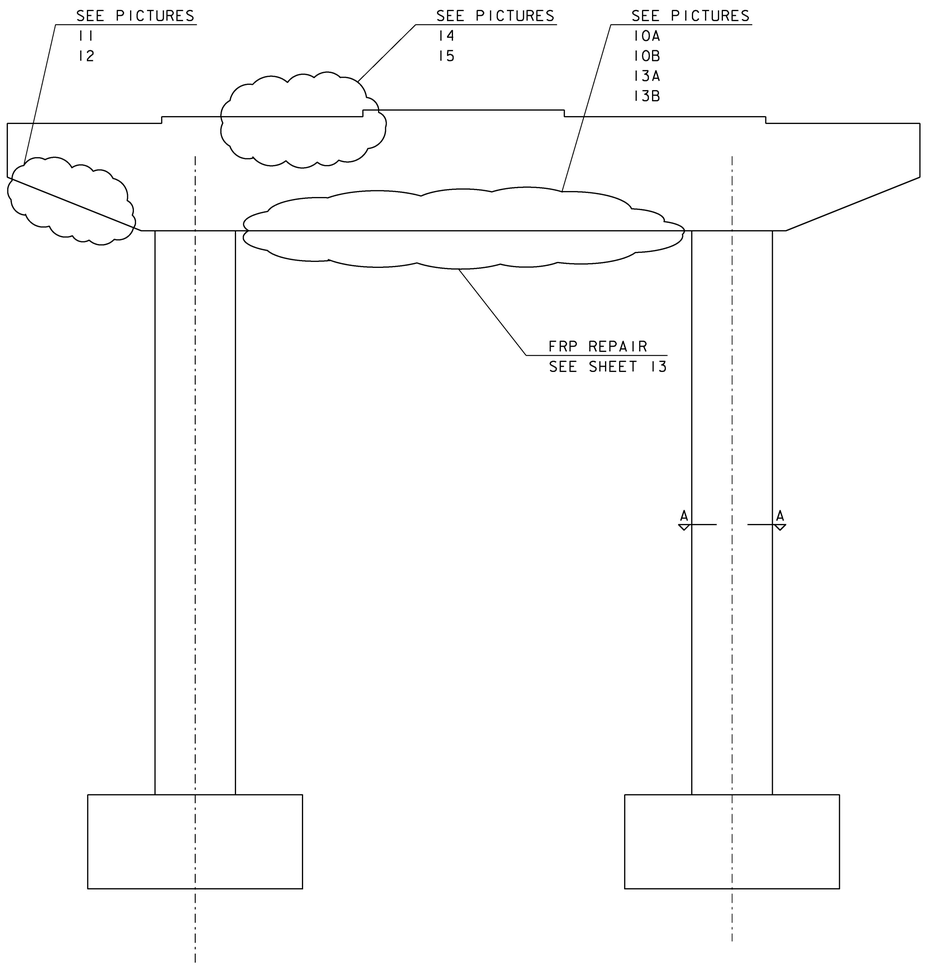
FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 98 NORTH - PIERS NO. 1& 2

PLOT DATE: 19-MAR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 11 OF 31



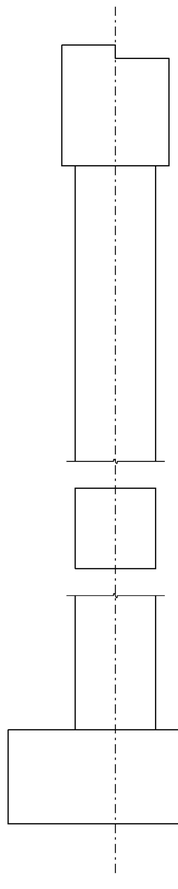
PLAN

SCALE ⅜" = 1'-0"



ELEVATION

SCALE ⅜" = 1'-0"



SECTION A-A

TYPICAL SECTION

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SUBSTRUCTURE NOTES

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PICTURE 10A

PICTURE 10B

PICTURE 11

PICTURE 12

PICTURE 13A

PICTURE 13B

PICTURE 14

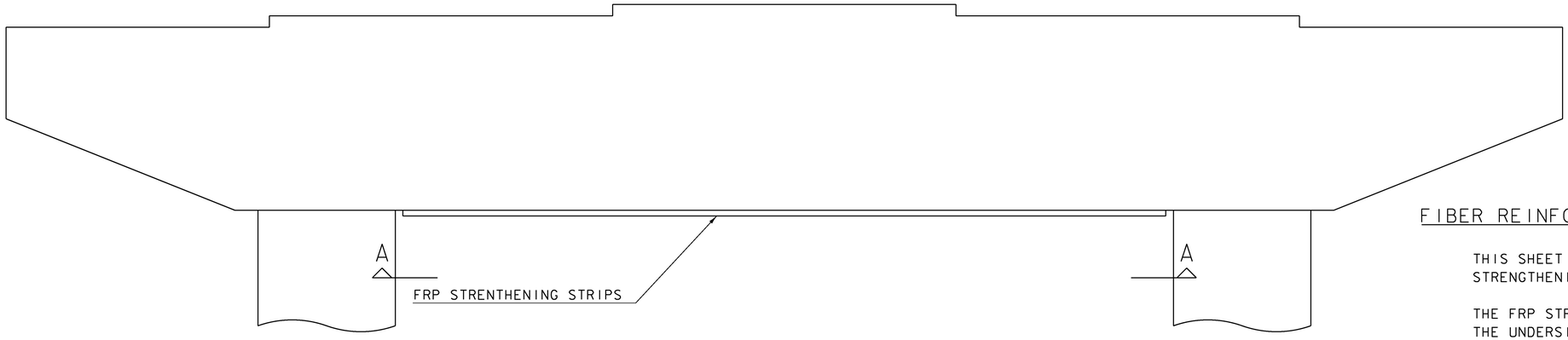
PICTURE 15

NOTE:
FOR MORE DETAILED INFORMATION VIEW THE REFERENCE PLANS.

PROJECT NAME: SWANTON
PROJECT NUMBER: IM 089-3(70)

FILE NAME: sl2a276sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BRIDGE 98 SOUTH - PIERS NO. 3 & 4

PLOT DATE: 01-APR-2013
DRAWN BY: DZENAN K.
CHECKED BY: H. SALLS
SHEET 12 OF 31



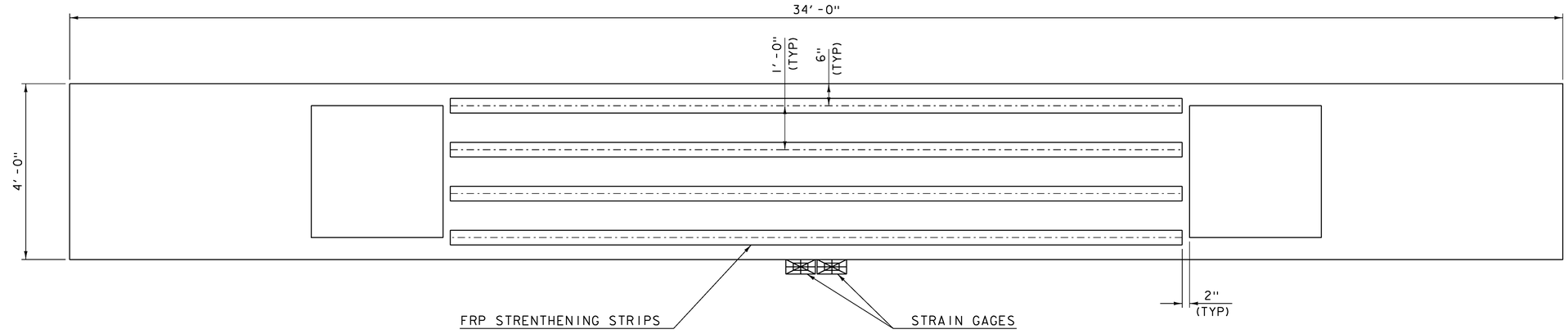
ELEVATION

FIBER REINFORCED POLYMER (FRP) NOTES

THIS SHEET SHOWS THE LAYOUT OF THE FRP STRENGTHENING STRIPS AND BOLT PATTERN.

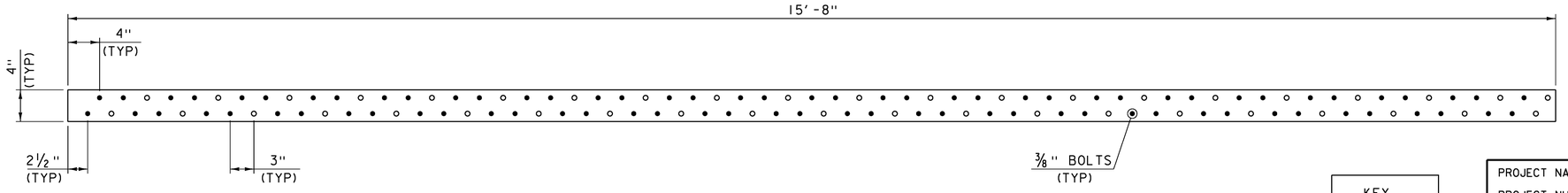
THE FRP STRIPS ARE TO BE ATTACHED TO THE UNDERSIDE OF THE PIER CAPS ON BRIDGES 98N AND 98S AS SHOWN.

THE FRP STRIPS ARE TO BE ANCHORED IN PLACE WITH STAINLESS STEEL WEDGE ANCHOR. DIAMETER, LENGTH AND STRENGTH ARE TO BE DETERMINED BY THE MANUFACTURER OF THE FRP STRIPS. FOR MORE INFORMATION ON THE FRP STRIPS SEE THE SPECIAL PROVISIONS.



PLAN

SCALE 3/4" = 1'-0"



SECTION A-A

SCALE 3/4" = 1'-0"

KEY
- ● BOLT
- ○ NO BOLT

DRAWING NOT TO SCALE UNLESS NOTED OTHERWISE

PROJECT NAME: SWANTON	
PROJECT NUMBER: IM 089-3(70)	
FILE NAME: sl2a276sub.dgn	PLOT DATE: 19-MAR-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: DZENAN K.
DESIGNED BY: H. SALLS	CHECKED BY: H. SALLS
SUBSTRUCTURE DETAILS	SHEET 13 OF 31

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

RIGHT LANE CONSTRUCTION - STAGE I

TOWNS OF SWANTON & HIGHGATE

COUNTY OF FRANKLIN
ST. ALBANS, VT - PHILIPSBURG, QUE ROAD
PROJECT I 89-3 (32)

Beginning at a point 1.824 miles southerly of the Swanton-Highgate Town Line and extending northerly 4.736 miles.

Length of Roadway	24,328.22	Feet	= 4.608	Miles
Length of Bridge	679.18	Feet	= 0.128	Miles
Length of Project	25,007.40	Feet	= 4.736	Miles

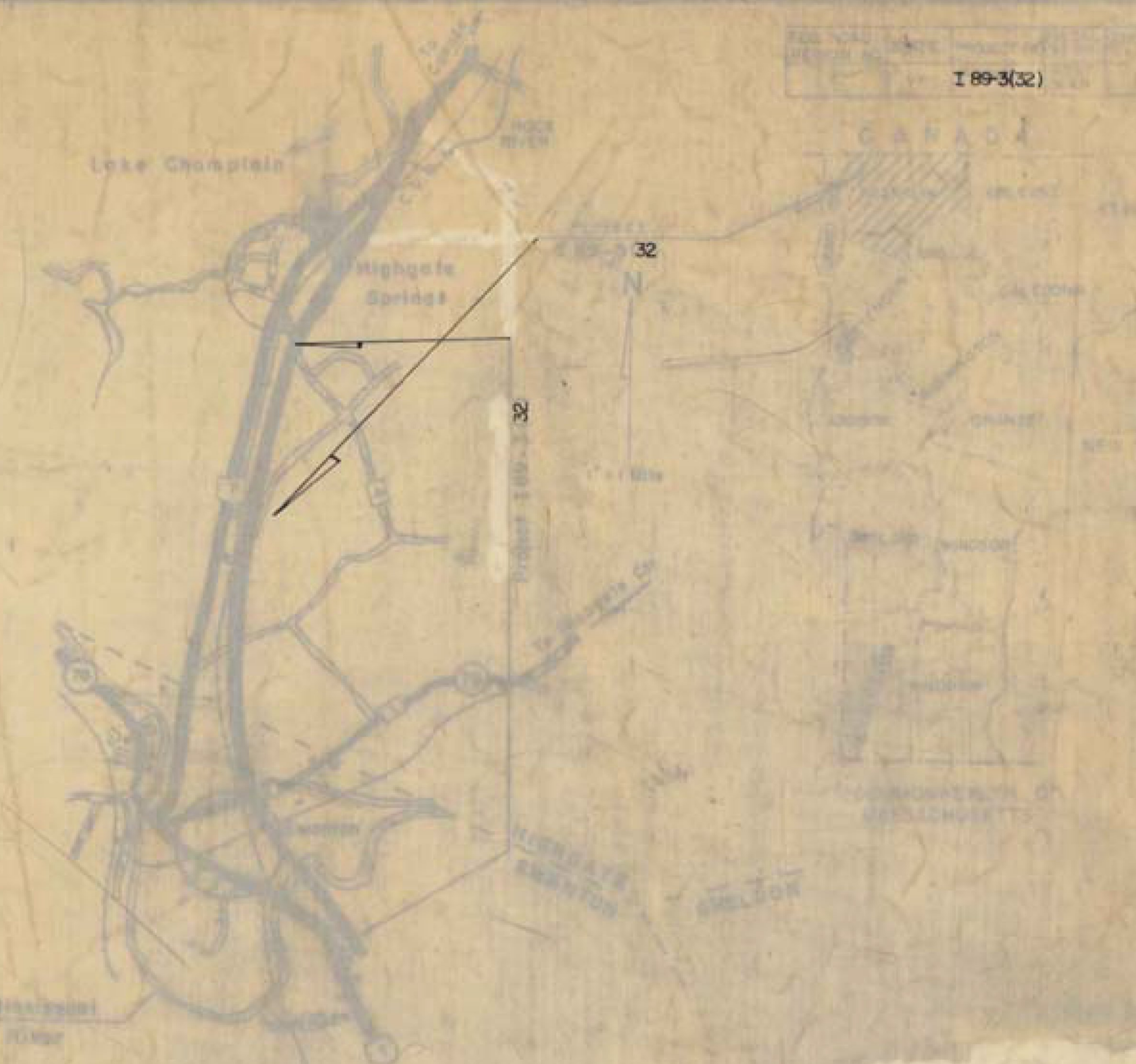
Sheets Added in Finals
6 Final Earthwork Sheets
38 Bridge Steel Prints
21 Drainage Sheets

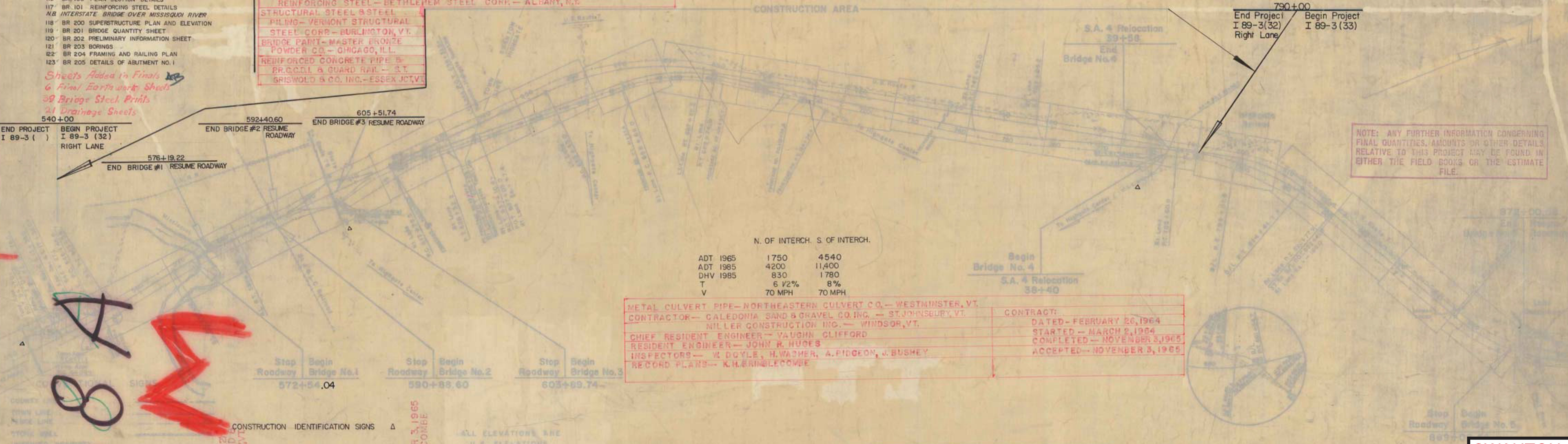
PROJECT NAME & NUMBER	TYPE — STAGE I
SWANTON-HIGHGATE I 89-3(32)	GRADING & DRAINAGE

RECORD PLANS

MATERIALS

- SUB-BASE OF GRAVEL (MOD) — LAFRANCE QUARRY — HIGHGATE SPRINGS, VT.
- SUB-BASE OF CRUSHED ROCK (MOD) — LAFRANCE QUARRY — HIGHGATE SPRINGS, VT.
- TAR EMULSION — BORDEN CO. — NEW YORK, N.Y.
- BITUMINOUS CONCRETE PAVEMENT — L.M. PIKE & SON, INC. — WILLISTON, VT.
- CONCRETE CLASS "AA" & CLASS "B" — A.G. ANDERSON'S PLANT — SWANTON, VT. & S.T. GRISWOLD & CO. INC. — ST. ALBANS, VT. & WILLISTON, VT.
- REINFORCING STEEL — BETHLEHEM STEEL CORP. — ALBANY, N.Y.
- STRUCTURAL STEEL & STEEL PILING — VERMONT STRUCTURAL STEEL CORP. — BURLINGTON, VT.
- BRIDGE PAINT — MASTER BRONZE POWDER CO. — CHICAGO, ILL.
- REINFORCED CONCRETE PIPE & PR.C.C.D.I. & GUARD RAIL — S.T. GRISWOLD & CO. INC. — ESSEX JCT, VT.
- METAL CULVERT PIPE — NORTHEASTERN CULVERT CO. — WESTMINSTER, VT.





	N. OF INTERCH.	S. OF INTERCH.
ADT 1965	1750	4540
ADT 1985	4200	11,400
DHV 1985	830	1780
T	6 1/2%	8%
V	70 MPH	70 MPH

CONTRACTOR — CALEDONIA SAND & GRAVEL CO. INC. — ST. JOHNSBURY, VT.
MILLER CONSTRUCTION INC. — WINDSOR, VT.
CHIEF RESIDENT ENGINEER — VAUGHN CLIFFORD
RESIDENT ENGINEER — JOHN R. HUGES
INSPECTORS — W. DOYLE, H. WASHER, A. PIDGEON, J. BUSHEY
RECORD PLANS — K.H. BRIMBLECOMBE

CONTRACT:
DATED — FEBRUARY 26, 1964
STARTED — MARCH 2, 1964
COMPLETED — NOVEMBER 3, 1965
ACCEPTED — NOVEMBER 3, 1965

NOTE: ANY FURTHER INFORMATION CONCERNING FINAL QUANTITIES, AMOUNTS OR OTHER DETAILS RELATIVE TO THIS PROJECT MAY BE FOUND IN EITHER THE FIELD BOOKS OR THE ESTIMATE FILE.

SWANTON-HIGHGATE I 89-3(32)
CONTRACTOR — CALEDONIA SAND & GRAVEL CO. INC. — ST. JOHNSBURY, VT. & MILLER CONSTRUCTION INC. WINDSOR, VT.

CONST. COMPLETED — NOVEMBER 3, 1965
RECORD PLANS — K.H. BRIMBLECOMBE

CONSTRUCTION IDENTIFICATION SIGNS Δ

ALL ELEVATIONS ARE U.S. ELEVATIONS

SCALE 0 1000 2000

CURVE DATA

R.H. Arnold — ASST. CHIEF ENGINEER — 11/7/63
E.H. Bt... — 11/4/...
L.M. Bjein — 11/4/63
B.M. Blanchard — 11/6/63
G.M. Lane — 11/4/63
A.D. Bishop — 11/5/63

I 89-3 (32)
RIGHT LANE - STAGE I CONSTRUCTION
I 246

SWANTON - HIGHGATE I-89-3(32)

168A

M

SWANTON
IM 089-3(70)
SHEET 14 OF 31
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

RIGHT LANE CONSTRUCTION – STAGE I

TOWNS OF SWANTON & HIGHGATE

Dated *February 27 1964* COUNTY OF FRANKLIN

ST. ALBANS, VT – PHILIPSBURG, QUE ROAD

PROJECT I 89-3 (32)

Caledonia Sand & Gravel Co. Inc.
A. Douglas Ward Pres.

Miller Construction Inc.
O. H. Miller

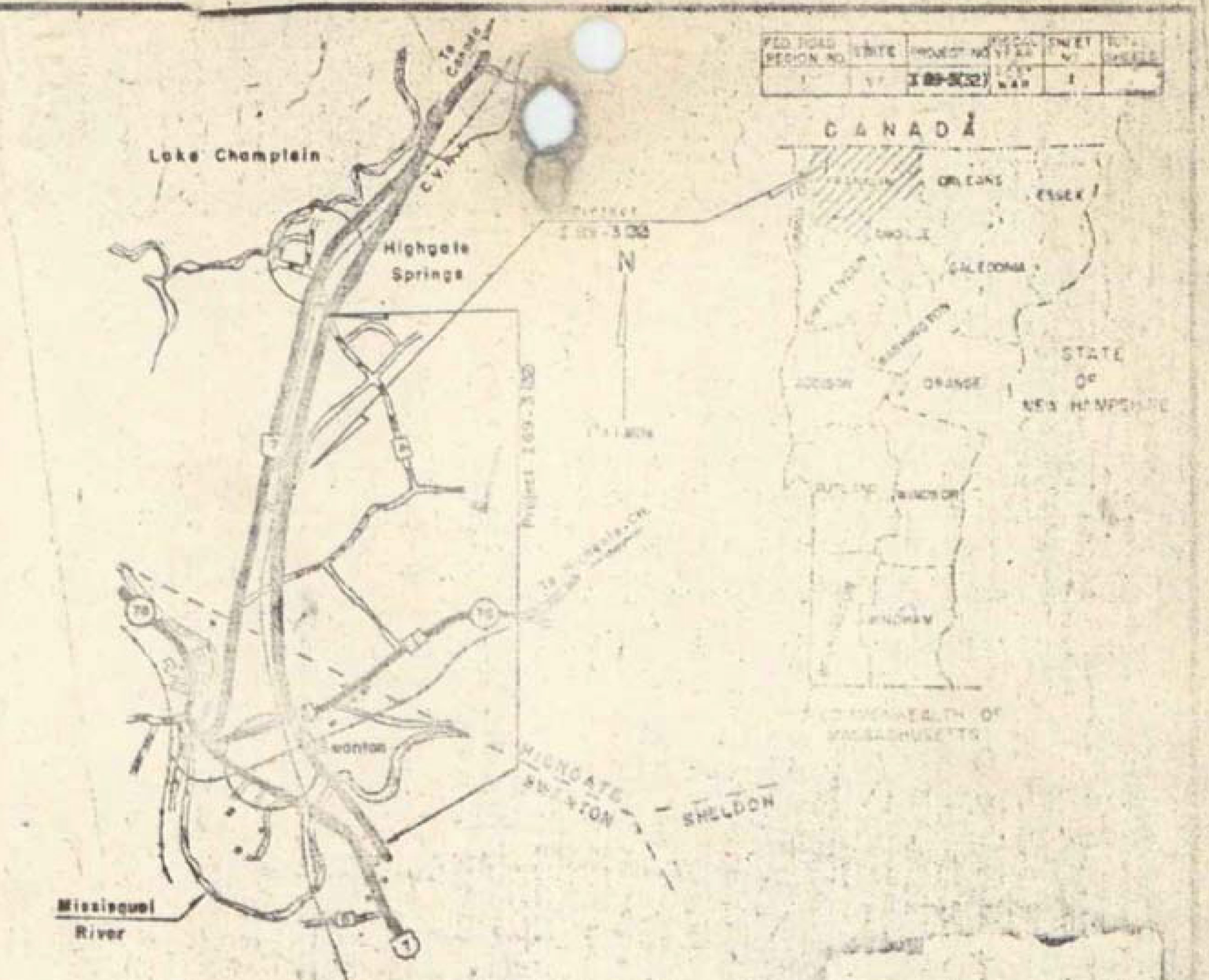
Contractor

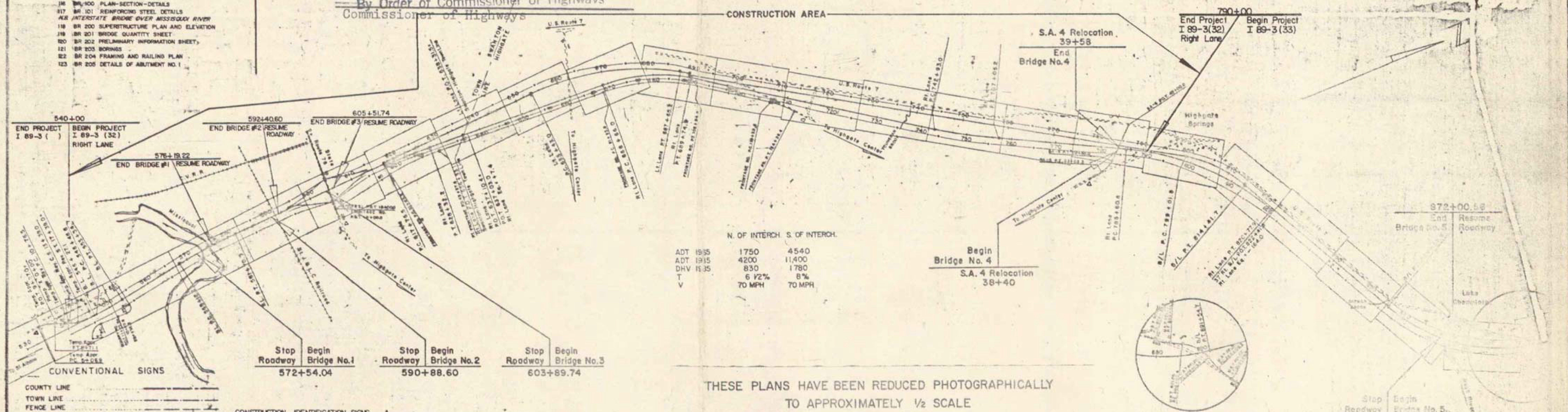
Winona H. Sheridan
By Order of Commissioner of Highways
Commissioner of Highways

Beginning at a point 1.824 miles southerly of the Swanton – Highgate Town Line and extending northerly 4.736 miles.

Length of Roadway	24,328.22	Feet = 4.608	Miles
Length of Bridge	679.18	Feet = 0.128	Miles
Length of Project	25,007.40	Feet = 4.736	Miles

INDEX OF SHEETS





	N. OF INTERCH.	S. OF INTERCH.
ADT 1965	1750	4540
ADT 1985	4200	11,400
DHV 1985	830	1780
T	6 1/2%	8%
V	70 MPH	70 MPH

CONVENTIONAL SIGNS

COUNTY LINE
TOWN LINE
FENCE LINE
STONE WALL
UNFENCED PROPERTY
GUARD RAIL
TRAVELED WAY
RAILROAD
RETAINING WALL
CENTER LINE
SURVEY LINE
CULVERT
DROP INLET
TELEPHONE POLE
POWER POLE
ACCESS CONTROL LINE
R.O.W. FENCE
R.O.W. LINE
SLOPE RIGHTS
TREES
HEDGES

CONSTRUCTION IDENTIFICATION SIGNS △

CURVE DATA

DEFLECTION OF ANGLE	Δ
DEGREE OF CURVE	D
RADIUS OF CURVE	R
TANGENT DISTANCE	T
LENGTH OF CURVE	L
EXTERNAL DISTANCE	E
POINT OF INTERSECTION	P.I.
POINT OF CURVE	P.C.
POINT OF TANGENT	P.T.
POINT ON TANGENT	P.O.T.
POINT ON SUB-TANGENT	P.O.S.T.

ALL ELEVATIONS ARE U. S. ELEVATIONS

SCALE 0 1000 2000

THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY 1/2 SCALE

LEGEND
X DESIGNATES ACCESS POINTS

WEBSTER-MARTIN, INC.
E. O. Martin
Submitted March 5, 1962
Date

STATE OF VERMONT
ERNEST O. WEBSTER
No. 193
PROFESSIONAL ENGINEER

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

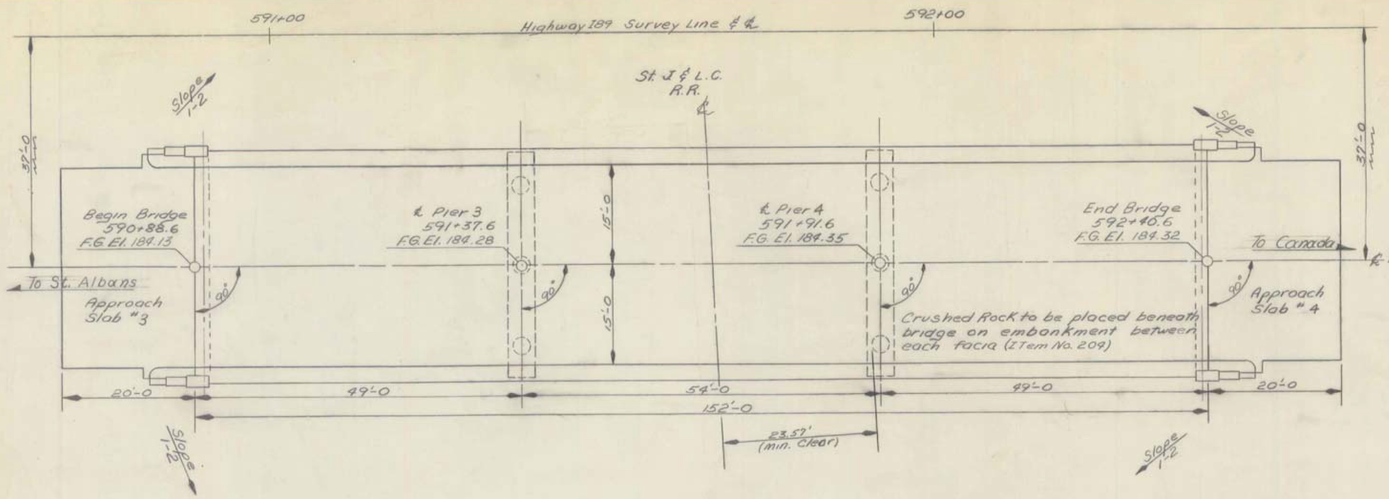
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION OF JANUARY 1956, SUBMITTED TO THE BUREAU OF PUBLIC ROADS FOR APPROVAL ON ..., INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE SUBMITTED WITH THE PLANS.

APPROVED *R. H. Arnold* ASST. CHIEF ENGINEER DATE *11/7/63*	APPROVED *E. H. Stickney* CONSTRUCTION ENGINEER DATE *11/4/63*	APPROVED *L. M. Epin* BRIDGE ENGINEER DATE *11/4/63*	APPROVED *B. M. Blanchard* DISTRICT ENGINEER DATE *11/6/63*	APPROVED *G. M. Lane* HIGHWAY ENGINEER DATE *11/4/63*	APPROVED *A. D. Bischof* DATE *11/5/63*

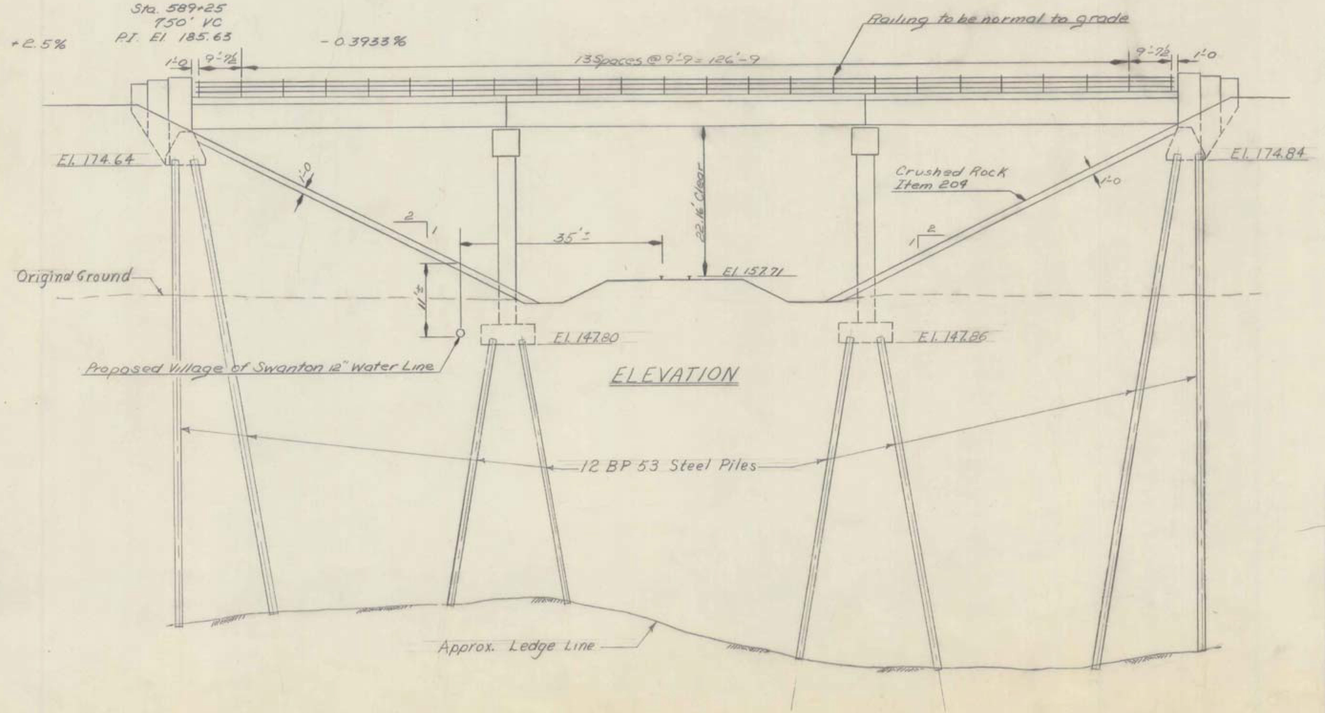
PROJECT I NO. 89-3 (32)
RIGHT LANE – STAGE I CONSTRUCTION
SHEET 1 OF 246 SHEETS
WEBSTER-MARTIN, INC. CONSULTING ... SO. BURLINGTON, VERMONT

137

SWANTON
IM 089-3(70)
SHEET 15 OF 31
FOR REFERENCE ONLY



PLAN



Abut. #3	Pier #3		Pier #4		Abut #4	
179.69	179.80	179.79	179.86	179.87	179.89	1
179.92	180.07	180.07	180.14	180.15	180.11	2
180.02	180.17	180.17	180.23	180.24	180.21	3 Beam
179.92	180.07	180.07	180.14	180.15	180.11	4 NO.
179.69	179.80	179.79	179.86	179.87	179.89	5
Bearing Device	Fix.	Exp	Fix.	Exp	Fix.	Exp

Bridge Seat Elevations

LIST OF SHEETS

BRIDGE STANDARDS

SCB-30-62
SCB-D1 thru D9-62
SB-5G-62 Sheets #1& #2.

GENERAL NOTES

1. Elevation datum sea level based on nearest U.S. Government Vertical Control.
2. For additional notes see SCB-D1-62.
3. For Bearing Devices see SCB-D8-62, Detail 'A'
4. Bridge Railing Item 572 shall be the Galvanized Metal as indicated in detail Ⓐ on sheet 2 of 2 of standard SB-5G-62

ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
	CHAN. EXCAV. OF EARTH	C.Y.				
	CHAN. EXCAV. OF ROCK	C.Y.				
	UNCLASS. CHAN. EXCAV.	C.Y.				
	STRUCT. EXCAV.	C.Y.				
	CONC. CLASS AA (MOD.)	C.Y.				
	CONC. CLASS B (MOD.)	C.Y.				
	REINF. STEEL	LBS.				
	ASPHALTIC-ASB. COATING	S.Y.				
	TREATED TIMBER PILING	L.F.				
	SPLICES FOR STEEL PILING	EA.				
	STEEL PILING	L.F.				
	UNTREATED TIMBER PILING	L.F.				

BR. 301 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE
ROAD NO. _____ BRIDGE NO. _____
NBI-89 OVER ST. J. & L.C. R.R.
PLAN AND ELEVATION
SCALE 1"=10'
SURVEYED BY _____
DRAWN BY SHS & W CHECKED BY ELO
PROJECT NO. I-89-3[redacted](3)
SHEET 135 OF 246

Sheet 115 of 122

EARTHWORK

VC.	% GRD	STATION	GRADES ELEVATION ON TAN.	GRADES ELEVATION ON V.C.	CORR. V.C.	DIST.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.

BRIDGE QUANTITY SHEET

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
BRIDGE DIVISION

NO.	ITEM	UNIT	QUANTITY BREAKDOWN SUPER-STRUCTURE	ABUT. #3	ABUT. #4	PIER #3	PIER #4					APPROACH SLAB #3	APPROACH SLAB #4		STAGE I TOTAL	STAGE I FINAL	STAGE II TOTAL	STAGE II FINAL
107	STRUCTURE EXCAVATION	C.Y.	—	10	10	7	7					—	—	1	34			
204	SUB-BASE OF CRUSHED ROCK - (MOD.) (UNDER STRUCTURE)	C.Y.	—	—	—	—	—					—	—		147			
209	Gravel Backfill	C.Y.	—	11	11	—	—					—	—		22			
318	TAR EMULSION FOR BRIDGE FLOORS	GAL	202	—	—	—	—					27	27				256	
361-B	BITUMINOUS CONCRETE PAVEMENT (DENSE GRADED TOP COURSE)	TONS	50	—	—	—	—					6	6				62	
372-A	JOINT SEALER - HOT POURED	L.F.	—	—	—	—	—					30	30				60	
373	RUBBER JOINT MATERIAL	L.F.	22	—	—	—	—					41	41		104			
401-AA	CONCRETE CLASS AA (MOD.)	C.Y.	194	—	—	—	—					—	—		194			
401-B	CONCRETE CLASS B (MOD)	C.Y.	—	37	37	60	60					25	25		244			
402	REINFORCING STEEL	L.B.	38,680	1630	1610	8250	8080					3550	3520		65,320			
403	SPIRAL REINFORCEMENT	L.S.	1	—	—	—	—					—	—		1			
404-A	STRUCTURAL STEEL @ Sta 391+64±	LB.	127,360	—	—	—	—					—	—		127,360			
407	ASPHALTIC-ASBESTOS COATING	S.Y.	—	4	4	15	15					—	—		38			
501	FURNISHING EQUIPMENT FOR DRIVING PILES	L.S.	—	—	—	—	—					—	—		1/3			
503	SPLICES FOR STEEL PILING	EA.	—	10	10	2	2					—	—		24			
504	STEEL PILING @ Sta 391+64±	L.F.	—	680	600	660	660					—	—		2600			
556-C	GRANITE BRIDGE CURB	LF	304	—	—	—	—					16	16		336			
572	BRIDGE RAILING (Galvanized Metal)	L.F.	295	—	—	—	—					—	—		295			

BRIDGE(S) AT STATION(S) 391+64 N.B. I-89 Over St. J. & L.C. Railroad
LOCATION(S) SWANTON

PROJECT NO. I89-3(52)
BR 302 OF 308
SHEET NO. 136 OF 246

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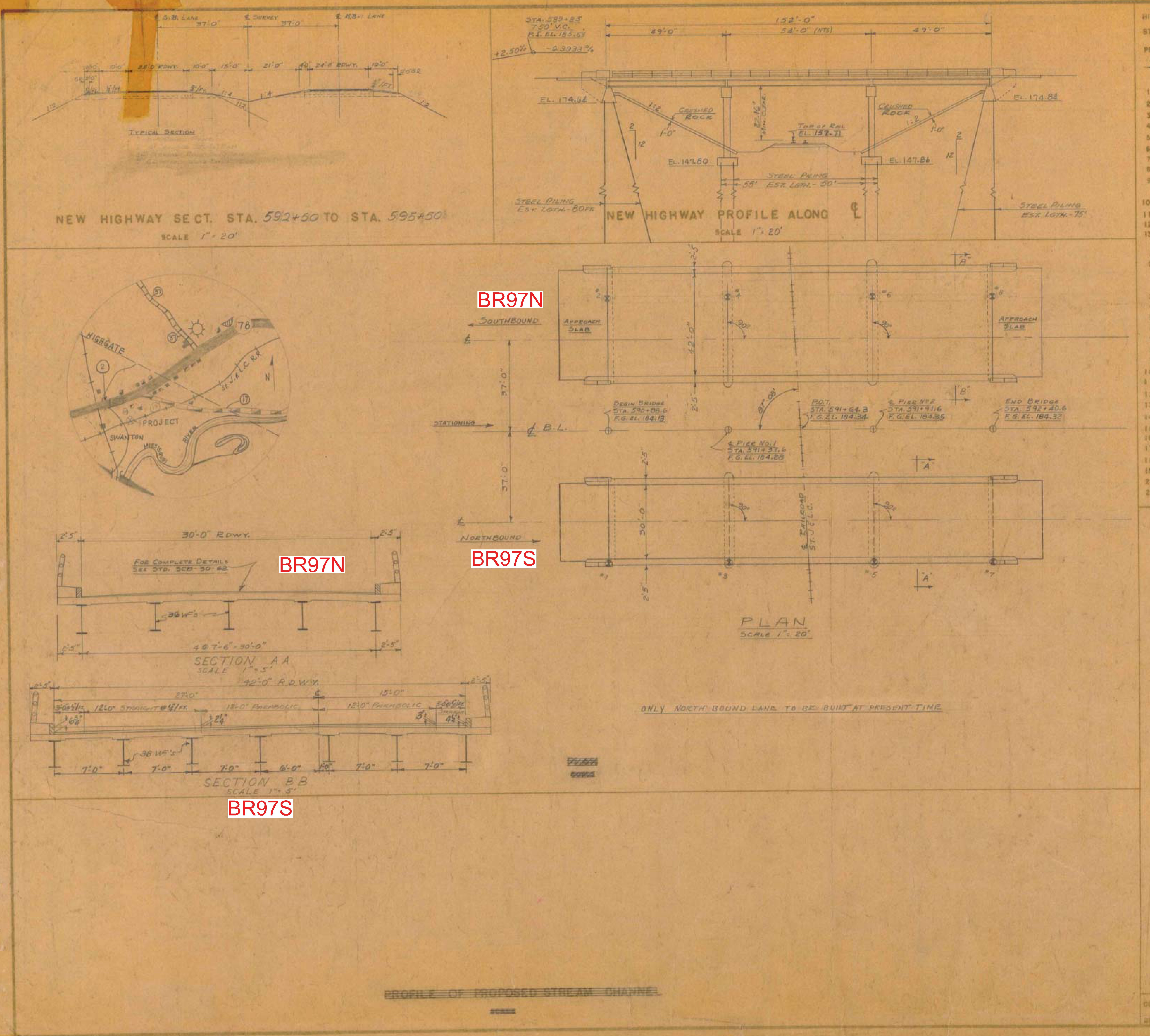
SWANTON
IM 089-3(70)
SHEET 17 OF 31
FOR REFERENCE
ONLY



HIGHWAY NO 89 NAME OF HIGHWAY *Interstate*

STRUCTURE NO ____ COUNTY *Franklin* TOWN *Swanton*

PROJECT NO *I 89-3(1)* LOCATION *Survey Station 591+64.3*

Interstate over St. J. & L.C. Railroad (Two Structures)

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE *None*
2 TYPE OF EXISTING STRUCTURE
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE ____ COST OF REMOVAL
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE ____ WATERWAY TO ORDINARY H.W.
8 EXTREME HIGH WATER AT EXISTING STRUCTURE
9 SPAN OF EXISTING BRIDGE UPSTREAM ____ WATERWAY TO EXTREME H.W.
SPAN OF EXISTING BRIDGE DOWNSTREAM ____ WATERWAY TO EXTREME H.W.
10 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE
12 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED
13 ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE *Composite WF Beam 49'-0"; 54'-0"; 49'-0" (Square)*
2 RECOMMENDED CLEAR SPAN OR SPANS
MEASURED PARALLEL TO ℄ NEW HIGHWAY *45'-0"; 50'-0"; 45'-0"*
MEASURED AT RIGHT ANGLES TO ℄ STREAM *NA*
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO *NA*
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE *NA*
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE *NA* SOURCE OF INFORMATION *NA*
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? *NA*
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? *NA* IS ORDINARY RISE RAPID? *NA*
8 LOW WATER ELEVATION AT NEW STRUCTURE *NA*
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE *NA* CHARACTER OF TERRAINE *NA*
10 IS STREAM EVER DRY? *NA*
11 VELOCITY OF STREAM AT HIGH WATER STAGE *NA* ESTIMATED DISCHARGE *NA*
12 AREA FULL OPENING *NA* AREA BELOW ORDINARY H.W. *NA*
13 CHARACTER OF SCOUR *NA* DRIFT *NA* ICE *NA*
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE *NA*
15 VERTICAL CLEARANCE ABOVE ~~FLOOD ELEVATION~~ *Top of Rail: 22.16' (Min.)*
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE *No* BOTH SIDES *NO*
17 RECOMMENDED TYPE OF PAVEMENT *Conc. Slab with Bituminous Concrete Surface*
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. *NA* ONE OR TWO WAYS *NA* PROBABLE COST *NA*
19 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE *NA*
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?
21 ~~[illegible]~~ ALLOWABLE LOAD ON ~~FOUNDATIONS~~ *PILES* *40 TONS* SHOULD PILES BE USED? *YES* EST. LGTH. [illegible]

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

DESIGN SPECIFICATIONS
AASHO 1961 EDITION AND AS MODIFIED BY VERMONT DEPT OF HIGHWAYS.

LIVE LOAD:
H 20 S16-44 AND MILITARY LOADING

DESIGN STRESSES:
STRUCT. STEEL 20 KSI
REINF. STEEL 20 KSI
CONCRETE 3000 PSI

For Boring Log see Boring Logs

SWANTON
IM 089-3(70)
SHEET 18 OF 31
FOR REFERENCE ONLY

BR97 N AND S

BR. 303 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE BRIDGE IN THE TOWNS OF SWANTON - HIGHGATE

ROUTE NO. 89 ~~100~~ STA 591+64.3
OVER ST. J. & L.C. RAILROAD

PRELIMINARY INFORMATION SHEET

SURVEYED BY WRB-[illegible] DRAWN BY BENNOCO | CHECKED BY ____ IN CHARGE ____ | SCALE AS NOTED DATE FEB. 25, 1959

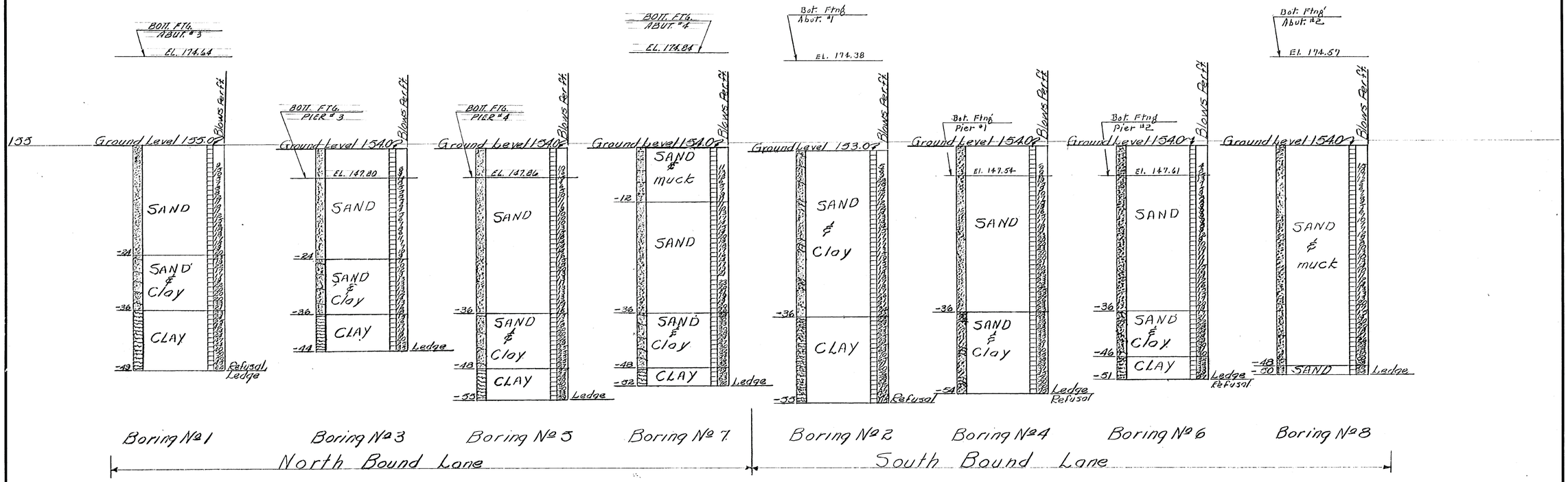
PROJECT NO I-89-3 SHEET 127 OF 2[illegible] (38)

CORRECT [signature] BRIDGE ENGINEER | APPROVED H.E. Sargent CHIEF ENGINEER

Contract Sheet 117 of 122

RECEIVED JULY 13 1959

Elev Of B.M = Top Of Rail = 158.0 @ Sta 590+88.6

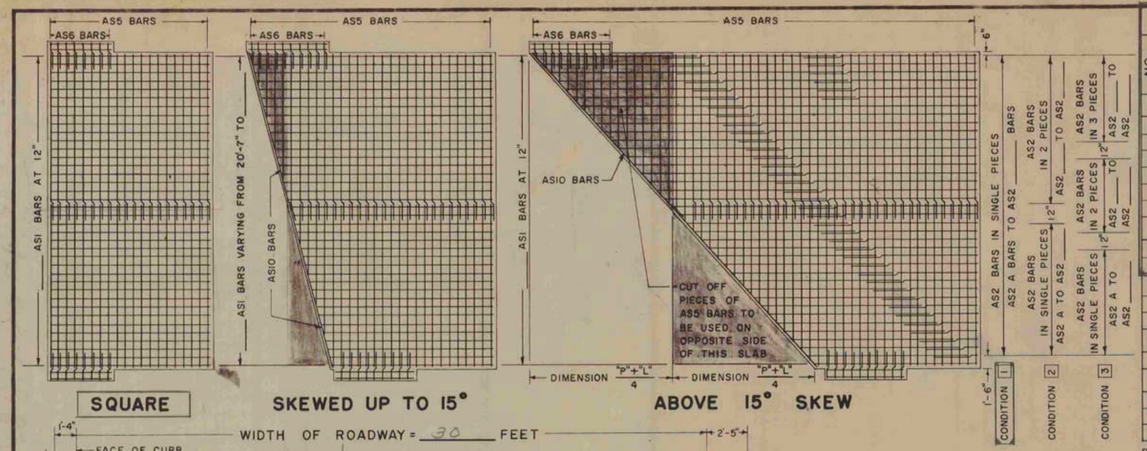


B.R. 304 OF 308

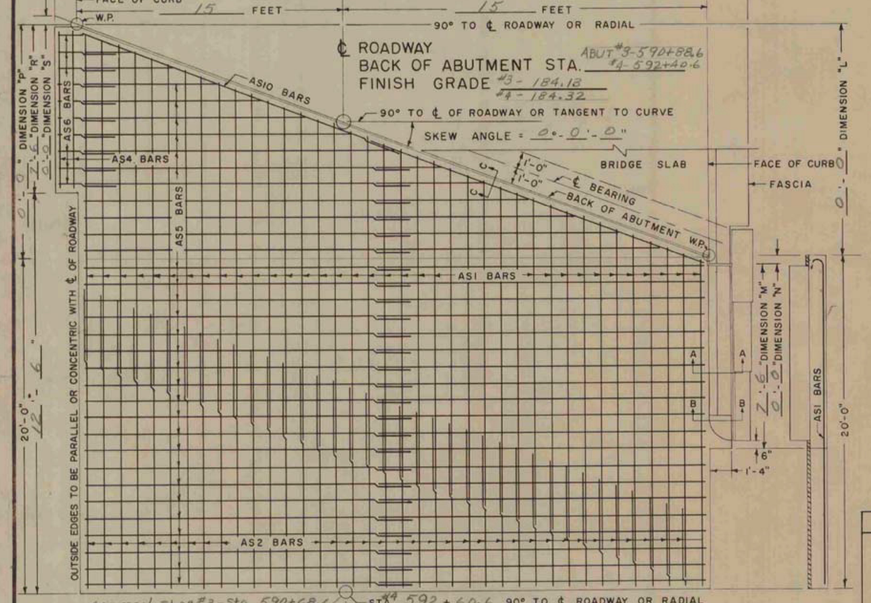
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF Swanton - Highgate
ROUTE No. 89 LOG STA. 591+86
Over St.J. & L.C. Railroad
Borings
SCALE 1" = 10'-0"
SURVEYED BY Stratton
DRAWN BY Hopkins CHECKED BY E.A.B.
PROJECT No. I-89-3(38)
SHEET 138 OF 240

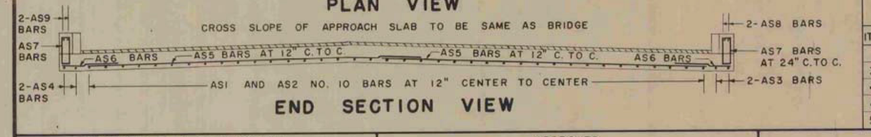
SWANTON
IM 089-3(70)
SHEET 19 OF 31
FOR REFERENCE
ONLY



SQUARE — SKEWED UP TO 15° — ABOVE 15° SKEW



PLAN VIEW

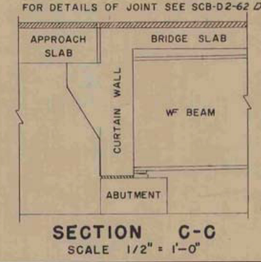


END SECTION VIEW

30' ROADWAY						38' ROADWAY						42' ROADWAY						44' ROADWAY						___ ROADWAY					
NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS
SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED					
2	10	7-0	AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.	
2	10	7-0	AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.	
16	5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.	
8	5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6	
2	5	5-4	AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.	
2	5	5-4	AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.	
SQUARE						SQUARE						SQUARE						SQUARE						SQUARE					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1			10	20'-7"	AS1	1	
20	5	29'-6"	AS5	STR.		40	5	19'-9"	AS5	STR.		40	5	21'-9"	AS5	STR.		40	5	22'-9"	AS5	STR.			5		AS5	STR.	
SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°					
30	10	AVE.	AS1	1	1.	38	10	AVE.	AS1	1	1.	42	10	AVE.	AS1	1	1.	44	10	AVE.	AS1	1	1.		10	AVE.	AS1	1	1.
5	29'-6"		AS5	STR.	2.	5	19'-9"		AS5	STR.	3.	5	21'-9"		AS5	STR.	3.	5	22'-9"		AS5	STR.	3.	5			AS5	STR.	2-3.
ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS					
2	5		ASIO	STR.		5			ASIO	STR.		5			ASIO	STR.		5			ASIO	STR.		5			ASIO	STR.	
ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1			10	20'-7"	AS1	1	
29	10	AVE.	AS2	STR.	4.	37	10	AVE.	AS2	STR.	4.	41	10	AVE.	AS2	STR.	4.	43	10	AVE.	AS2	STR.	4.		10	AVE.	AS2	STR.	4.
5	29'-6"		AS5	STR.	2.	5	19'-9"		AS5	STR.	3.	5	21'-9"		AS5	STR.	3.	5	22'-9"		AS5	STR.	3.	5			AS5	STR.	2-3.

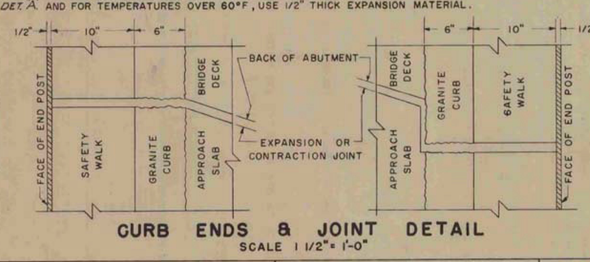
REMARKS: (1) ASI BAR "B" DIMENSION VARIES FROM 19'-6" TO ____. (2) 20 + DIMENSION ("P"+"L") ÷ 4 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. (3) 40 + DIMENSION ("P"+"L") ÷ 2 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. (4) THE LENGTH OF AS2 BARS VARIES FROM ____ TO ____. THE AS2 BARS MAY BE DIVIDED INTO TWO OR MORE PIECES, AS MAY BE NECESSARY, TO LIMIT THE MAXIMUM BAR LENGTH TO 30 FEET. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1. (FOR CONDITION 2. & 3. SEE REINF. SCHEDULE.)

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR H20-S16-44.

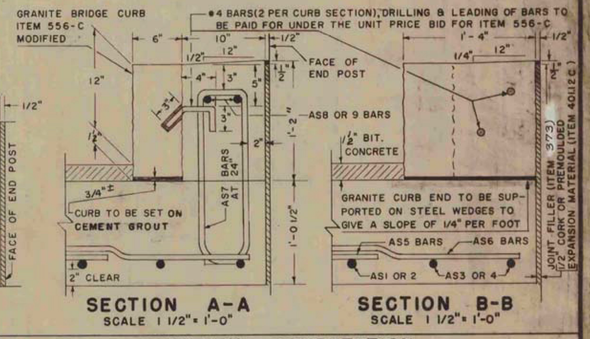


SECTION C-C
SCALE 1/2" = 1'-0"

ABUTMENTS (FIXED END) USE 1/2" EXPANSION MATERIAL. ABUTMENTS (EXPANSION END) AND PIERS: FOR TEMPERATURES LESS THAN 60°F, USE 1" THICK EXPANSION MATERIAL; AND FOR TEMPERATURES OVER 60°F, USE 1/2" THICK EXPANSION MATERIAL.



CURB ENDS & JOINT DETAIL
SCALE 1 1/2" = 1'-0"



SECTION A-A
SCALE 1 1/2" = 1'-0"

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

DETAILS OF REINFORCING BARS

TYPE I: A = 1'-1" J = 0'-9" B = 19'-6" OR VARIES

TYPE S6: A = 0'-6" B = 1'-9" C = 0'-6" D = 1'-9" G = 0'-6"

ITEM NO.	ITEM	UNIT	APP. SLAB #3 TOTAL	APP. SLAB #3 FINAL	APP. SLAB #4 TOTAL	APP. SLAB #4 FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.	27		27	
361-B	BITUMINOUS CONCRETE PAVEMENT (MOD.)	TONS	5.5		5.5	
401-B	CONCRETE CLASS B (MOD.)	CY.	~~25~~	24.5	~~25~~	24.5
402	REINFORCING STEEL	LB.	~~3515~~	3532	~~3515~~	3532
556-C	GRANITE BRIDGE CURB (MOD.)	LF.	16 ✓	16	16 ✓	16

REINFORCING STEEL

BAR NO.	A NO. PIECES	B LENGTH	C WEIGHT PER FT.	A x B x C WEIGHT IN LBS.
ASI	30	20'-7"	4.303	2656.67
AS2	—	—	4.303	—
AS3	2	7-0	4.303	60.24
AS4	2	7-0	4.303	60.24
AS5	20	29-6	1.043	615.37
AS6	16	3'-6"	1.043	58.80
AS7	8	5'-0"	1.043	41.72
AS8	2	5-9	1.043	11.13
AS9	2	5-4	1.043	11.13
ASIO	—	—	1.043	—
TOTAL WEIGHT =				3514.90

QUANTITY COMPUTATION

W = WIDTH OF ROADWAY Z = 20 + DIMENSION ("P"+"L")/4 T = DIMENSION ("M"+"R")/2

W = 30 Z = 20 T = 7'-6"

BITUMINOUS CONCRETE = W x Z x 0.0092 = TONS 30 x 20 x 0.0092 = 5.52 TONS

TAR EMULSION = W x Z x 0.0444 = GALLONS 30 x 20 x 0.0444 = 26.64 GALLONS

CONCRETE CLASS B = W x Z x 0.0386 + T x 0.1029 + (T - 1.8333) x 0.0733 = CUBIC YARDS

[30 x 20 x 0.0386] + [7.5 x 0.1029] + [(7.5 - 1.8333) x 0.0733] = 24.35 CUBIC YARDS

GRANITE BRIDGE CURB = 2(T + 0'-3") = LINEAR FEET 2(7.5 + 0.25) = 15.5 LINEAR FEET

BAR LENGTHS: AS3 BARS = DIMENSION "M" - 0'-6"
AS4 BARS = DIMENSION "R" - 0'-6"
AS6 BARS = 3'-6"
AS7 BARS = 5'-0"
AS8 BARS = DIMENSION "M" - 2'-2"
AS9 BARS = DIMENSION "R" - 2'-2"

REVISIONS AND CORRECTIONS

SWANTON
IM 089-3(70)
SHEET 20 OF 31
FOR REFERENCE ONLY

APPROVED

DRAWN BY: R.S. HAUPT NOV. 1960

TRACED BY: R.S. HAUPT NOV. 1960

CHECKED BY: A.H. SMALLEY NOV. 1960

Recommended For Approval: M.J. Dion, Bridge Engineer, Date 12/7/62

Recommended For Approval: H. Elwell, Asst. Chief Engineer, Date 1/4/63

Approved By: G.D. Bishop, Chief Engineer, Date 1/4/63

DETAILS OF APPROACH SLAB FOR 30 (WIDTH) FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 591+64.6

LOCATION SWANTON

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE

SB-AS-62

TOWN OF SWANTON-HIGHGATE

ROUTE NO. I-89

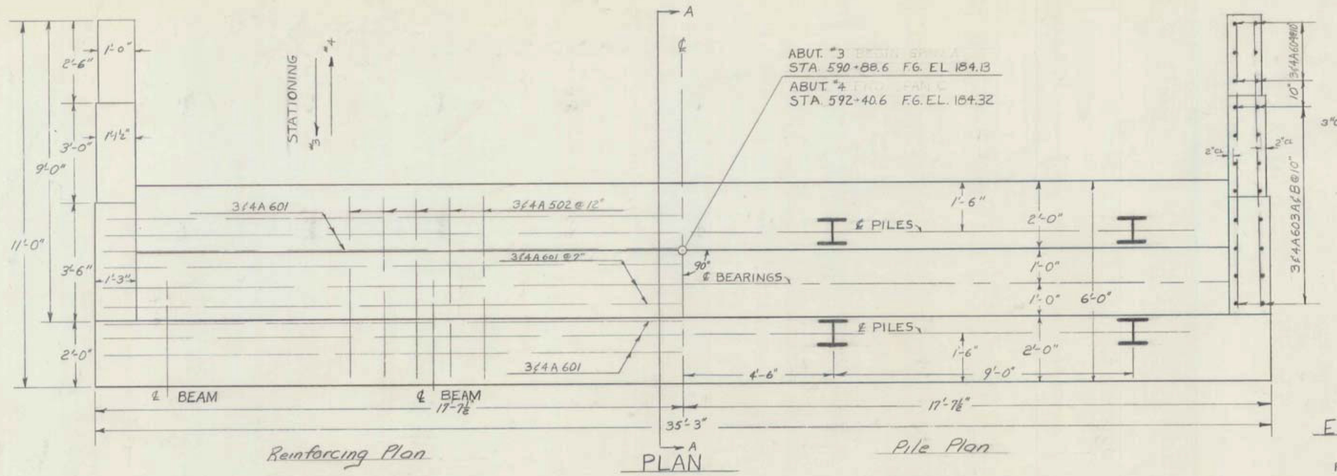
NBI-89 over St. J. & L.C. Railroad

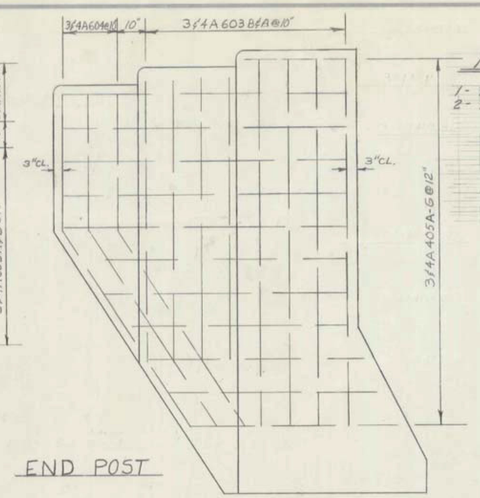
SCALE AS NOTED

DESIGNED BY M CHECKED BY ELO

PROJECT NO. I-89-3 (38)

BR. 305 OF 308 SHEET 139 OF 240

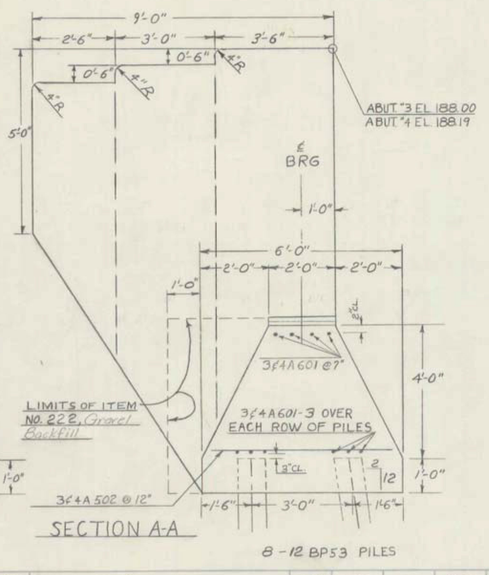


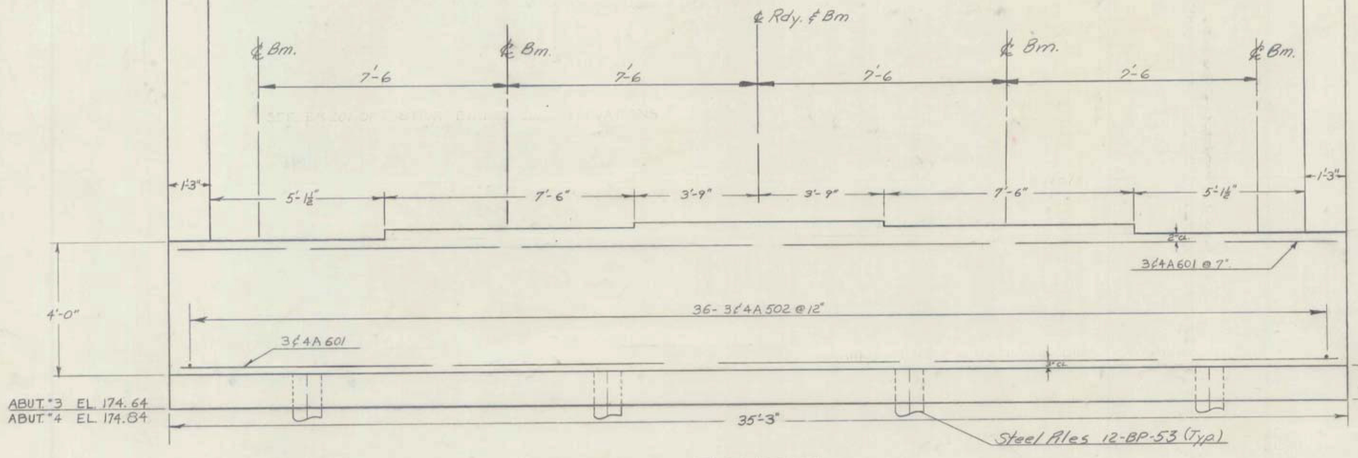


REINFORCING STEEL IDENTICAL IN EACH FACE

NOTES:-

1- For bridge seat elevations see BR 301
2- Maximum pile design load is 40 tons per pile.





ELEVATION

LOCATION	NO. PILES	SIZE	EST. LENGTH OF PILES	SPLICES ALLOWED FOR PILES NOT EXCEEDING PLAN LENGTH (TO BE PAID FOR ONLY IF USED)	SPLICES ESTIMATED FOR PILES EXCEEDING PLAN LENGTH (TO BE PAID FOR ONLY IF USED)
ABUT "3	8	12 BP 53	85 Ft.	8	2
PIER "3	12	12 BP 53	55 Ft.	—	2
PIER "4	12	12 BP 53	55 Ft.	—	2
ABUT "4	8	12 BP 53	75 Ft.	8	2

ITEM NO.	ITEM	UNIT	NET		TOTAL	FINAL
	CHAN. EXCAV. OF EARTH	C.Y.				
	CHAN. EXCAV. OF ROCK	C.Y.				
	UNCLASS. CHAN. EXCAV.	C.Y.				
	STRUCT. EXCAV.	C.Y.				
	CONC. CLASS AA (MOD.)	C.Y.				
	CONC. CLASS B (MOD.)	C.Y.				
	REINF. STEEL	LBS.				
	ASPHALTIC-ASB. COATING	S.Y.				
	TREATED TIMBER PILING	L.F.				
	SPLICES FOR STEEL PILING	EA.				
	STEEL PILING	L.F.				
	UNTREATED TIMBER PILING	L.F.				

SWANTON
IM 089-3(70)
SHEET 21 OF 31
FOR REFERENCE ONLY

BR. 306 OF 308

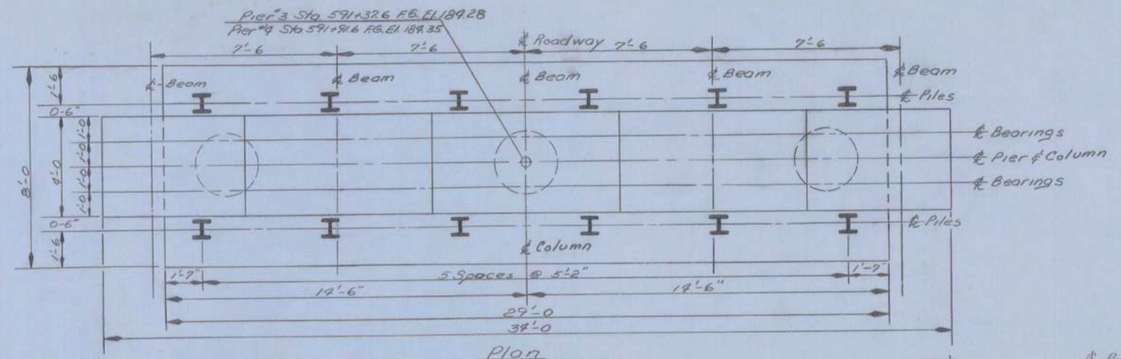
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

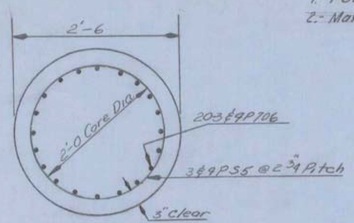
TOWN OF SWANTON - HIGHGATE INT.
ROUTE NO. I 89 STA. 531+64.6
NB I-89 over the St.J.&L.C. Railroad
ABUTMENTS "3 & "4 DETAILS
SCALE ¼" = 1'-0"
SURVEYED BY
DRAWN BY J. LYLES CHECKED BY XX
PROJECT NO. I89-3(32)
SHEET 140 OF 246

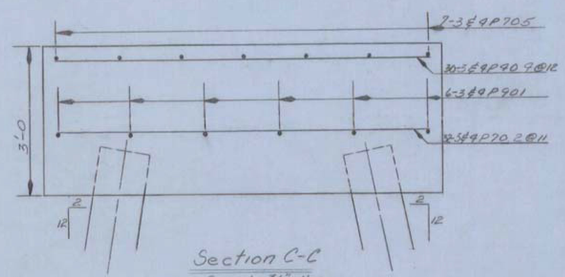
NOTES

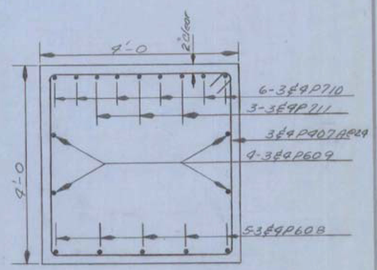
1.- For bridge seat elevations see sheet Br 301
2.- Maximum pile design load is 40 tons per pile.

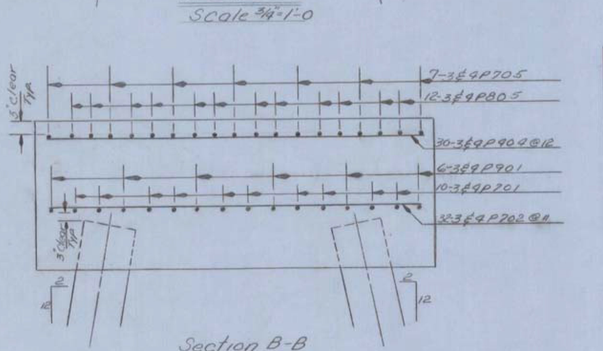
SWANTON
IM 089-3(70)
SHEET 22 OF 31
FOR REFERENCE
ONLY

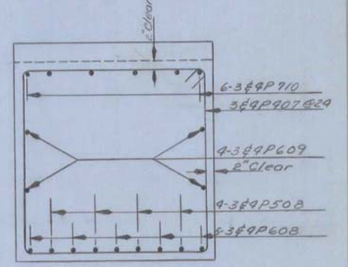


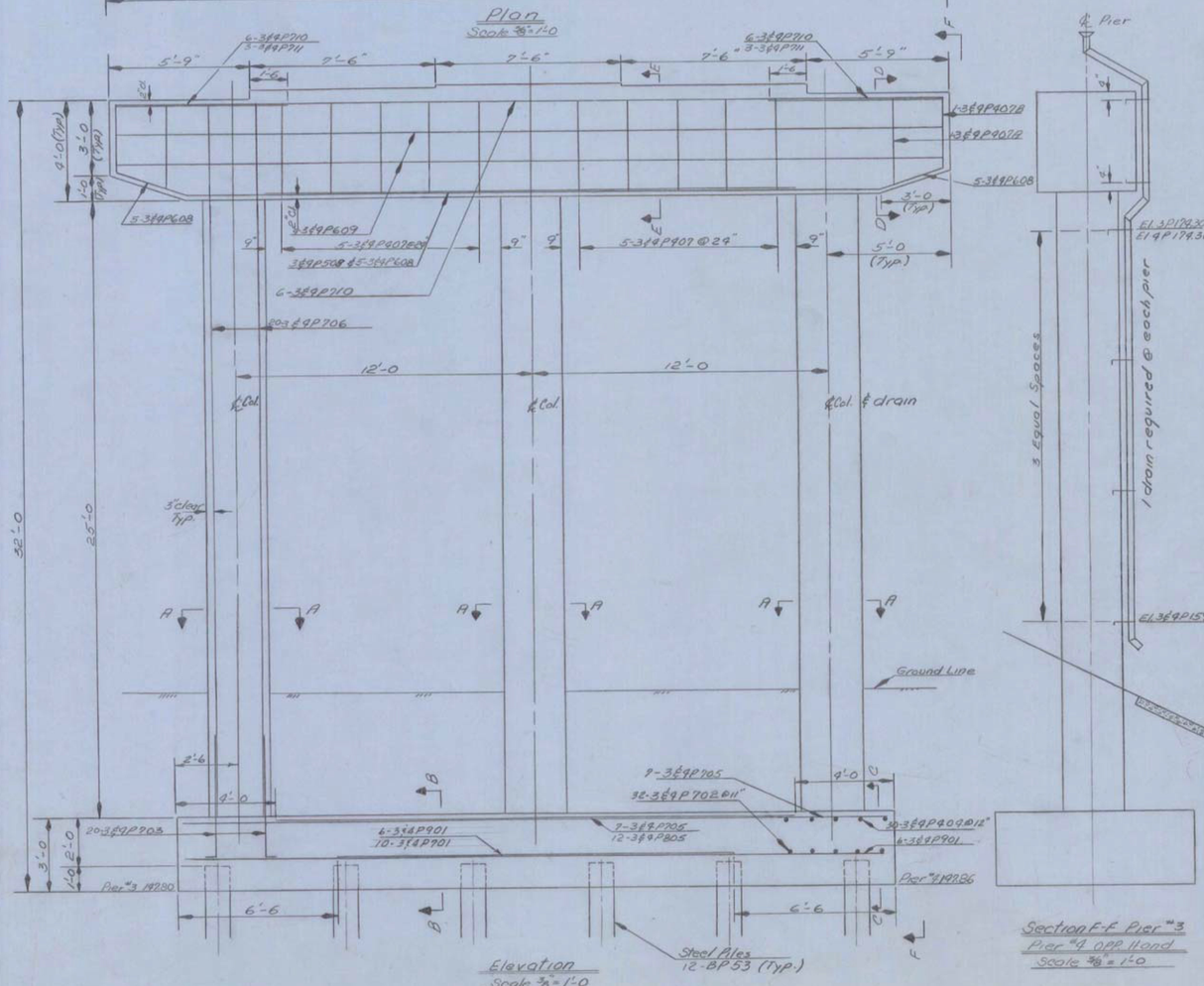












ITEM NO.	ITEM	UNIT	MET	OVERRUN	TOTAL	FINAL
106-A	CHAN. EXCAV. OF EARTH	C.Y.				
106-B	CHAN. EXCAV. OF ROCK	C.Y.				
106-C	UNCLASS. CHAN. EXCAV.	C.Y.				
107	STRUCT. EXCAV.	C.Y.				
401-B	CONC. CLASS B (MOD.)	C.Y.				
402	REINF. STEEL	LBS.				
407	ASPHALTIC-ASB. COATING	S.Y.				
502-B	TREATED TIMBER PILING	L.F.				
503	SPLICES FOR STEEL PILING	EA.				
504	STEEL PILING	L.F.				
502-A	UNTREATED TIMBER PILING	L.F.				

BR. 307 OF 308

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE
ROAD NO. I-89 BRIDGE NO.
N.B.I-89 OVER ST. J. & L.C. R.R.
PIERS NO. 3 AND 4
SCALE AS SHOWN
SURVEYED BY
DRAWN BY S.H.S. CHECKED BY R.L.O
PROJECT NO. I-89-3(69)
SHEET 141 OF 246

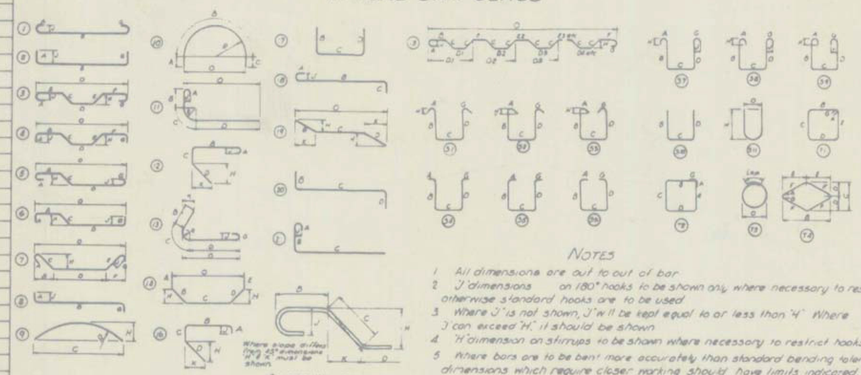
Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
				STAGE I CONSTRUCTION													
				—APPROACH SLAB NO. 3—													
4	16	5	3-6	3AS506	STR.												
5	*3	↓	5-4	3AS508	↓												
6	2		5-4	3AS509													
7	20		29-6	3AS505	STR.												
8	8	5	5-0	3AS507	56	0-6	1-9	0-6	1-9			0-6					
9	*3	10	7-0	3AS1003	STR.												
10	2	↓	7-0	3AS1004	STR.												
11	30	10	20-7	3AS1001	1	1-1	19-6							0-9			
12																	
				—APPROACH SLAB NO. 4—													
13																	
14	Same as Approach Slab #3 except that Mark shall be 4AS in lieu of 3AS and test bars shall be omitted.																
15																	
16																	
17																	
18																	
19																	
20																	
				—SUPERSTRUCTURE—													
21				**SPAN NO 4**													
22	66	4	5-3	3S404	S3	0-5	1-6	1-5	1-6			0-5					
23	26	4	7-6	3S406A	S5	0-5	3-0	0-8	3-0			0-5					
24	150	5	25-3	3S502	STR.												
25	8	↓	32-2	3S505	STR.												
26	196		34-4	3S501	STR.												
27	31	5	4-2	3S506P	17		2-6	0-8	1-0								
28	20	6	25-6	3S603	STR.												
29	22	6	8-0	3S607	1	0-8	1-8					0-8					
30																	
31				**SPAN NO 5**													
32	72	4	5-3	5S404	S3	0-5	1-6	1-5	1-6			0-5					
33	150	5	27-9	5S502	STR.												
34	216	5	34-4	5S501	STR.												
35	62	5	4-2	5S506P	17		2-6	0-8	1-0								
36	*21	6	28-0	5S603	STR.												
37	*1	4	4-0	5S400	STR.												
38																	
39				**SPAN NO 6**													
40																	
41	Same as Span No 4 except that Mark shall be 6S in lieu of 4S.																
42																	
				—SUBSTRUCTURE—													
43																	
				ABUTMENT NO 3													
44	4	4	3-0	3A405G	STR.												
45	12	↓	6-1		A												
46	4		6-6		B												
47	4		7-1		C												
48	4		7-9		D												
49	4		8-4		E												
50	16	4	8-6	3A405F													
51	*37	5	5-2	3A502													
52	*17	6	8-6	3A603B													
53	16	↓	11-0	3A603A	↓												
54	10		34-9	3A601	STR.												
55	12	6	11-1	3A604	16		3-9	7-4				6-3		3-9			
56																	
				ABUTMENT NO 4													
57	Same as Abut. No 3 except that Mark shall be 4A in lieu of 3A and test bars shall be omitted																
58																	
				PIER NO 3													
59	30	4	7-6	3P404	STR.												
60	2	↓	13-5	3P407B	T1	0-4½	3-8	2-8	3-8	2-8		0-4½					
61	2		15-1	3P407A	T1	0-4½	3-8	3-6	3-8	3-6		0-4½					
62	10	4	15-5	3P407	T1	0-4½	3-8	3-8	3-8	3-8		0-4½					
63	4	5	21-6	3P508	STR.												
64	4	6	33-6	3P609	STR.												
65	5	6	33-6	3P608	14		2-9	28-0	2-9			1-0					
66	*7	7	7-0	3P711	STR.												
67	32	↓	7-6	3P702	↓												
68	10		16-0	3P701													
69	7		28-6	3P705													
70	60		28-10	3P706	↓												
71	6	↓	33-6	3P710	STR.												
72	60	7	5-4	3P703	2	0-5	4-11										
73	*13	8	21-0	3P805	STR.												
74	*7	9	28-6	3P901	STR.												
75																	

Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
				SPIRAL													
	3	5	25-5½	3PS5	CORE 2'-0	Pitch 2¾	Turns 79	Spirals 4									
				PIER NO. 4													
	Same as Pier No. 3 except that Mark shall be 4P in lieu of 3P and test bars shall be omitted.																

Minimum bends to be as follows:

"Stirrups and tie bars shall be bent around a pin having a diameter not less than two times the minimum thickness of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum thickness except for bars larger than 1 inch, in which case the bends shall be made around a pin of eight bar diameters."

TYPICAL BAR BENDS

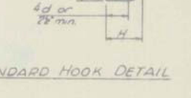


NOTES

1. All dimensions are out to out of bar.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used.
3. Where 'J' is not shown, 'J' will be kept equal to or less than 'H'. Where 'J' can exceed 'H', it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer working should have limits indicated.
6. Figures in circles show types.
7. No allowance for bend curvature is to be made except for standard hook & hoist in excess of same.

Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
163																	
164																	
165																	
166																	
167																	
168																	
169																	
170																	
171																	
172																	
173																	
174																	
175																	
176																	
177																	
178																	
179																	
180																	
181																	
182																	
183																	
184																	
185																	
186																	
187																	
188																	
189																	
190																	

Detailing Dimension O — Hook A or G



STANDARD HOOK DETAIL

BAR SIZES

Equivalent Size	Present (Numbers)
¼"	#2
⅜"	#3
½"	#4
⅝"	#5
¾"	#6
⅞"	#7
1"	#8
1⅛"	#9
1¼"	#10
1⅜"	#11

* Denotes 1 Bar added for testing purposes.

6. Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet-Steel Concrete Reinforcement Bars (Intermediate Grade) Serial Designation A.R.S.H.O. M31-48 or its latest revision. All bars shall be deformed to conform with A.S.T.M. Specifications A305-49.

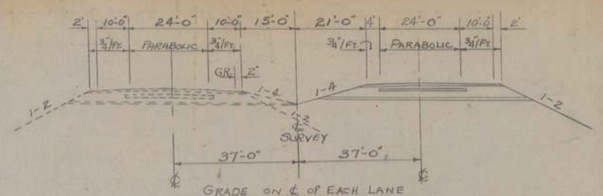
ESTIMATED QUANTITIES

Location	Pounds	FINAL
STAGE I CONSTRUCTION		
Approach Slab No. 3	3550	
Approach Slab No. 4	3520	
Sub-Total	7070	
Abutment No. 3	1630	
Abutment No. 4	1610	
Span No. 4	12,600	
Span No. 5	13,980	
Span No. 6	12,600	
Pier No. 3	8250	
Pier No. 4	8,080	
Sub-Total	58,250	
GRAND TOTAL	65,320	

BR. 308 OF 308

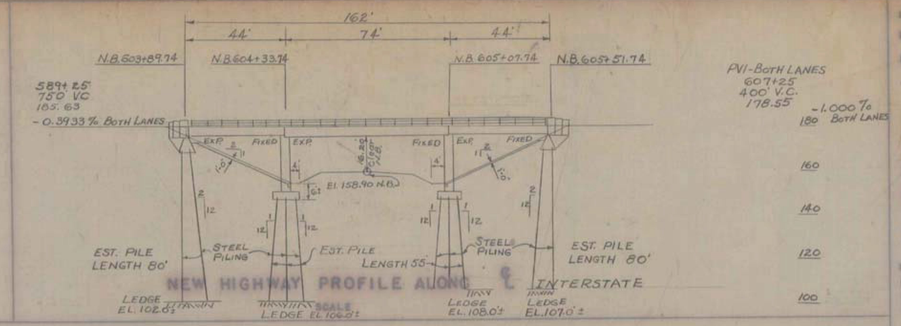
SWANTON-HIGHGATE
North Bound
I 89 OVER ST. J.t.L.C. R.R.
REINF. STEEL SCHEDULE
PROJECT No. I-89-3(32)
DRAWN BY: W. CHECKED BY: R.L.O.
SHEET 142 OF 246

SWANTON
IM 089-3(70)
SHEET 23 OF 31
FOR REFERENCE
ONLY



NEW HIGHWAY SECT. STA. 602 TO STA. 607

SCALE 1"=20'



NEW HIGHWAY PROFILE ALONG ℄ INTERSTATE

HIGHWAY NO INTERSTATE NAME OF HIGHWAY SWANTON-HIGHGATE
STRUCTURE NO ____ COUNTY FRANKLIN TOWN SWANTON
PROJECT NO I-89-3(32) LOCATION 3/4 Mile east from intersection of Route 7

EXISTING STRUCTURE

1 RATED LOADING OF EXISTING STRUCTURE NA
2 TYPE OF EXISTING STRUCTURE NA
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE NA
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE NA COST OF REMOVAL ____
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE NA
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT NA
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE NA WATERWAY TO ORDINARY H.W. NA
8 EXTREME HIGH WATER AT EXISTING STRUCTURE NA
9 SPAN OF EXISTING BRIDGE UPSTREAM NA WATERWAY TO EXTREME H.W. NA
SPAN OF EXISTING BRIDGE DOWNSTREAM NA WATERWAY TO EXTREME H.W. NA
10 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS NA
11 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE NA
12 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED NA
13 ADDITIONAL WATERWAY AREA PROVIDED NA

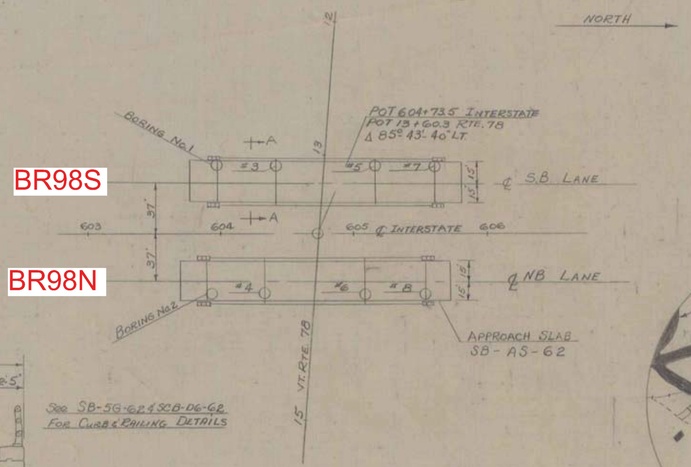
NEW STRUCTURE

1 RECOMMENDED TYPE OF STRUCTURE WF COMPOSITE
2 RECOMMENDED CLEAR SPAN OR SPANS 40' 70'-40'
MEASURED PARALLEL TO ℄ NEW HIGHWAY 40' 70' 40'
MEASURED AT RIGHT ANGLES TO ℄ STREAM 40' 70' 40'
3 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO NA
4 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE NA
5 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE NA SOURCE OF INFORMATION ____
6 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? NA
7 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? NA IS ORDINARY RISE RAPID?
8 LOW WATER ELEVATION AT NEW STRUCTURE NA
9 DRAINAGE AREA IN ACRES ABOVE STRUCTURE NA CHARACTER OF TERRAINE ____
10 IS STREAM EVER DRY? NA
11 VELOCITY OF STREAM AT HIGH WATER STAGE NA ESTIMATED DISCHARGE ____
12 AREA FULL OPENING NA AREA BELOW ORDINARY H.W. NA
13 CHARACTER OF SCOUR NA DRIFT ____ ICE ____
14 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE ____
15 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION NA
16 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE NO BOTH SIDES
17 RECOMMENDED TYPE OF PAVEMENT BIT. CONCRETE
18 TRAFFIC TO BE MAINTAINED UNDER ITEM NO. NA ONE OR TWO WAYS ____ PROBABLE COST ____
19 PROBABLE COST OF CLEARING AND DRESSING STREAM CHANNEL AT STRUCTURE SITE NA
20 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? ____
21 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 35 TONS SHOULD PILES BE USED STEEL SIZE AND LENGTH 55'-80'

FOUNDATION INFORMATION

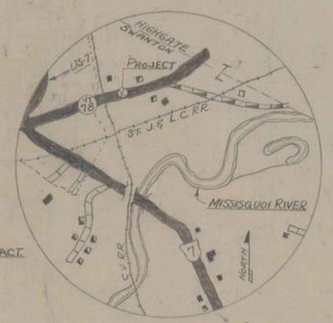
OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

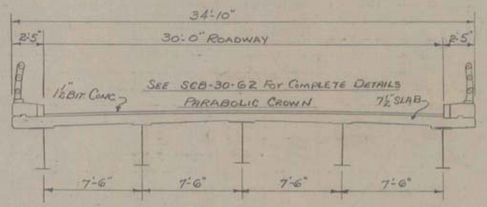
FOR BORINGS SEE BR SHEET #402



BR98S

BR98N





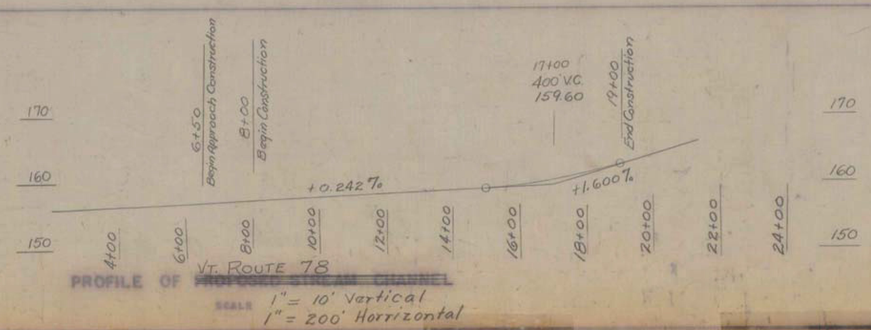
SECTION A-A (TYP)
SCALE 1"=5'

See SB-5G-62 & SCB-06-62 FOR CURB & RAILING DETAILS

SOUTHBOUND LANE UNDER CONSTRUCTION-NORTHBOUND LANE ONLY IN THIS CONTRACT

PLAN
SCALE 1"=50'

BR98N&S



PROFILE OF ~~PROPOSED STREAM CHANNEL~~
SCALE 1"=10' Vertical
1"=200' Horizontal

STAGE I & II CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE BRIDGE IN THE TOWNS OF
SWANTON - HIGHGATE
ROUTE NO I89-3(32) LOG STA 604+73.5
INTERSTATE over VT. 78

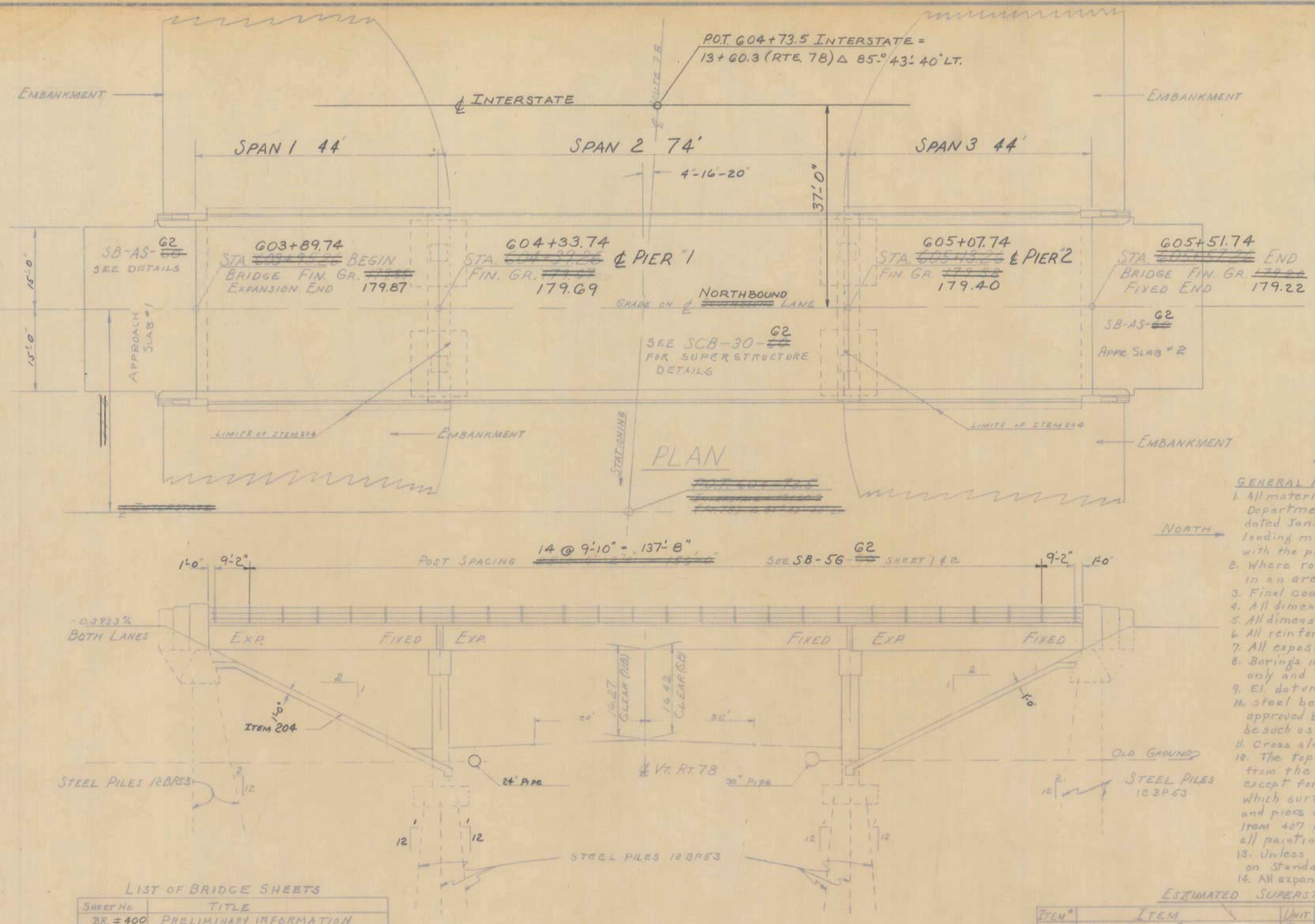
PRELIMINARY INFORMATION SHEET

SURVEYED BY W.B.-M.R. J.J.C. | DRAWN BY J.J.C. | CHECKED BY A.J.C. IN CHARGE W.M.S. | SCALE AS NOTED | DATE 10-29-62

PROJECT NO I89-3 SHEET NO 143 OF 246
(32) BR 400 of 407
Sheet 119 of 122

CORRECT ____ APPROVED ____
BRIDGE ENGINEER ____ CHIEF ENGINEER ____

SWANTON
IM 089-3(70)
SHEET 24 OF 31
FOR REFERENCE
ONLY



ESTIMATED QUANTITIES (BRIDGE ONLY)

ITEM*	ITEM	UNIT	NET	TOTAL STAGE I	TOTAL STAGE II	FINAL
107	STRUCTURE EXCAVATION	C.Y.		~~760~~		130
204	SUB-BASE OF CRUSHED ROCK, MOD., UNDER STRUCTURE	C.Y.		~~131~~		109
222	Gravel Backfill	C.Y.		~~36~~		0
* 319	TAR EMULSION FOR BRIDGE FLOORS	GAL.			270	
* 373	RUBBER JOINT MATERIAL	L.F.		~~128~~		122
* 361-B	BIT. CONC. PAV't.	TON			66	
401-B	CONCRETE CLASS B, MOD.	C.Y.	~~227~~	~~242~~		245
~~1000~~	~~CONCRETE CLASS D, MOD.~~	~~C.Y.~~	~~170~~			
402	Reinforcing Steel	LB	~~71,000~~	~~66,560~~		66,499
403	Spiral Reinforcement @ 2040					
	Sta 604+ ~~70.74~~ 70.74	L.S.	=	1 V		1
404-A	STRUCTURAL STEEL	Lb.	~~150,000~~	~~156,220~~		136,172
407	ASPHALTIC-ASBESTOS COATING	S.Y.		~~35~~		36
501	FURNISHING EQUIPMENT FOR DRIVING PILES	L.S.		1/4 V		1/4
401-AA	CONCRETE CLASS AA, MOD.	C.Y.		~~184~~		183
503	SPLICES FOR STEEL PILING	EA.		~~32~~		20
504	STEEL PILING (12BP53)	L.F.		~~3620~~	(in place)	3,287
556-C	GRANITE BRIDGE CURB MOD.	L.F.		~~356~~		355
572	BRIDGE RAILING (GALVANIZED METAL)	L.F.		315 V		315
* 378-A	JOINT SEALER HOT POURED	L.F.			60	
594	UNIFORMED TRAFFIC OFFICERS	MAN HR.		~~1000~~		0
* 102-A	GRANULAR BORROW	C.Y.		2160		
*	Note: These items to be included in roadway quantities					
	Cut-offs @ 50% Unit Price	L.F.		0		333

GENERAL NOTES

1. All material and construction shall conform to the State of Vermont Department of Highways, Standard Specifications for Road and Bridge Construction loading modified for National System of Interstate Highways applied in accordance with the provision of the AASHO. Standard Specifications, Article 1.2.8.
2. Where rock is encountered no footing shall be poured until all blasting in an area 300 feet from the structure has been completed.
3. Final coat of field paint shall be green unless otherwise directed by the Engineer.
4. All dimensions given are measured horizontally or vertically unless otherwise noted.
5. All dimensions given at 68° F.
6. All reinforcing steel to have a clearance of 3" unless otherwise noted.
7. All exposed edges of concrete shall be chamfered 1" x 1" unless otherwise noted.
8. Borings indicated on the drawings have been made for design purposes only and are not warranted to show actual subsurface conditions.
9. El. datum sea level based on nearest U.S. Government Vertical control.
10. Steel bearing piles shall be driven to ledge rock unless otherwise approved by the Engineer. When piles are driven in fill. The material should be such as to have no stones large enough to interfere with the driving of piles.
11. Cross slope of approach slab to conform with the cross slope of bridge.
12. The top surfaces of all piers and abutments shall be sloped ¼" per foot from the front edge of abutment curtain wall or center line of piers, except for bearing pads projecting 1" or more above the general area, which surfaces shall be level. The entire exposed top surface of abutment and piers shall be coated with asphaltic asbestos coating ½" thick as per item 407 of the specs. The application of this item shall be after all painting and incidental items are completed.
13. Unless otherwise called for all beams shall be cambered as specified on Standard Structures SCB-D1-G2
14. All expansion material shall be premoulded cork containing no tar or asphalt.

LIST OF BRIDGE SHEETS

SHEET NO.	TITLE
BR. # 400	PRELIMINARY INFORMATION
BR. # 401	PLAN & ELEVATION
BR. # 402	BORINGS
BR. # 403	DETAILS OF ABUTS. (NORTH & SOUTH)
BR. # 404	DETAILS OF PIER 1 & 2
BR. # 405	REINFORCING STEEL SCHEDULE
BR. ~~# 406~~ # 407	SB-AS G2
	SCB-30-~~G~~ G2
	~~SCB-D1-G2~~ SCB-D1-G2 THRU SCB-D1-G2
	SB-56-~~G~~ G2 SHEET 1 & 2
	~~SB-AS-G2~~
	~~SB-SC-G2~~
	Std. E-2, Barricades, Signs & Lights (For Bridges)

SWANTON
IM 089-3(70)
SHEET 25 OF 31
FOR REFERENCE ONLY

ESTIMATED SUPERSTRUCTURE QUANTITIES

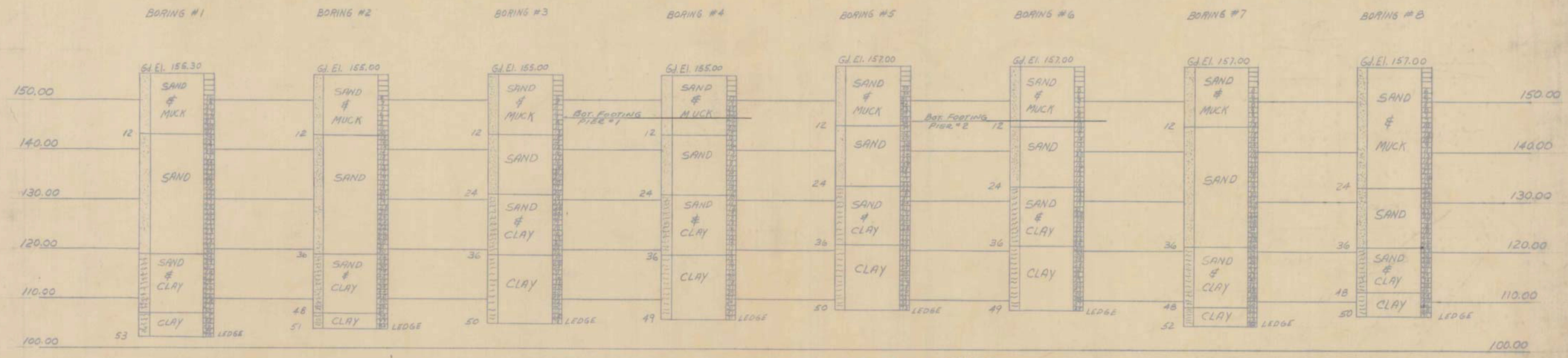
ITEM*	ITEM	UNIT	NET			FINAL
* 361-B	BIT. CONC. PAVEMENT	TON		54		
401-AA	CONCRETE CLASS AA MOD.	C.Y.		~~184~~		183
402	REINFORCING STEEL	LB.	SEE	REINF.	SCHEDULE	
403	SPIRAL REINF. @ STA. 70+74 2040	L.S.		1 V		1
* 318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		216		
404-A	STRUCTURAL STEEL	LB.		~~156,220~~		136,172
556-C	GRANITE BRIDGE CURB MOD.	L.F.		324		323
572	BRIDGE RAILING (GALVANIZED METAL)	L.F.		315 V		315
* 378-A	JOINT SEALER HOT POURED	L.F.			60	
373	RUBBER JOINT MATERIAL	L.F.		~~128~~		122
	APPROACH SLAB QUANTITIES					
* 361-B	BIT. CONC. PAVE.	TON		12		
401-B	CONCRETE CLASS B, MOD	C.Y.		~~50~~		49
402	REINFORCING STEEL	LB.	SEE	REINF.	SCHEDULE	
556-C	GRANITE BRIDGE CURB MOD.	L.F.		32 V		32
* 318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		54		

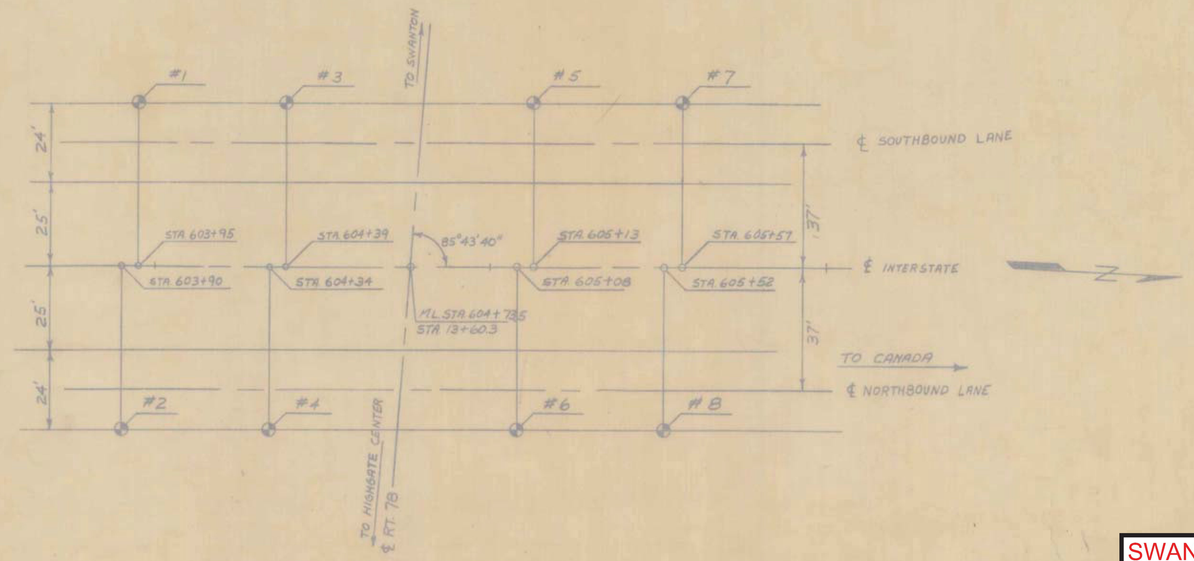
* Note These items to be included in roadway quantities

STAGE I & II CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE
ROAD NO. I-89 BRIDGE NO.
INTERSTATE OVER ROUTE 78
PLAN & ELEVATION (N.B.)
SCALE 1" = 10'-0"
SURVEYED BY A.J.C. (N.B.) J.J.C. (N.B.)
DRAWN BY A.J.C. CHECKED BY
PROJECT NO. I 89-3 (38)
SHEET 142 OF 246



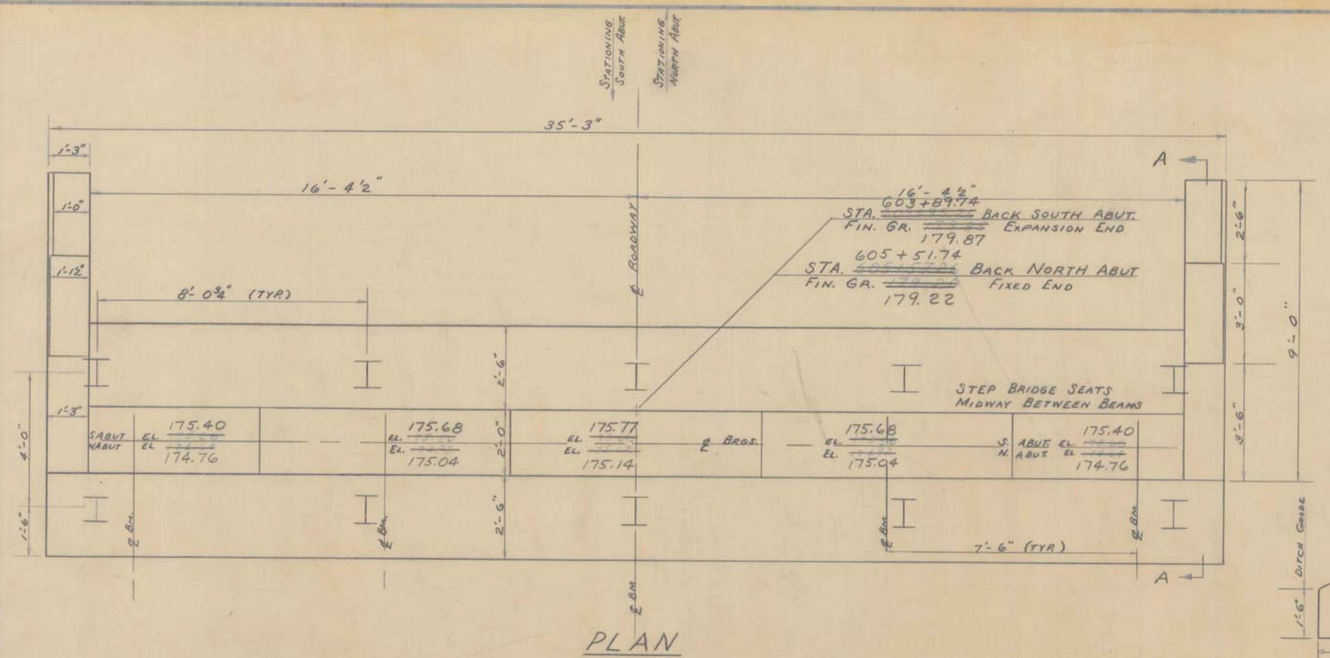


PLAN BORING LOCATIONS
SCALE-1"=20'

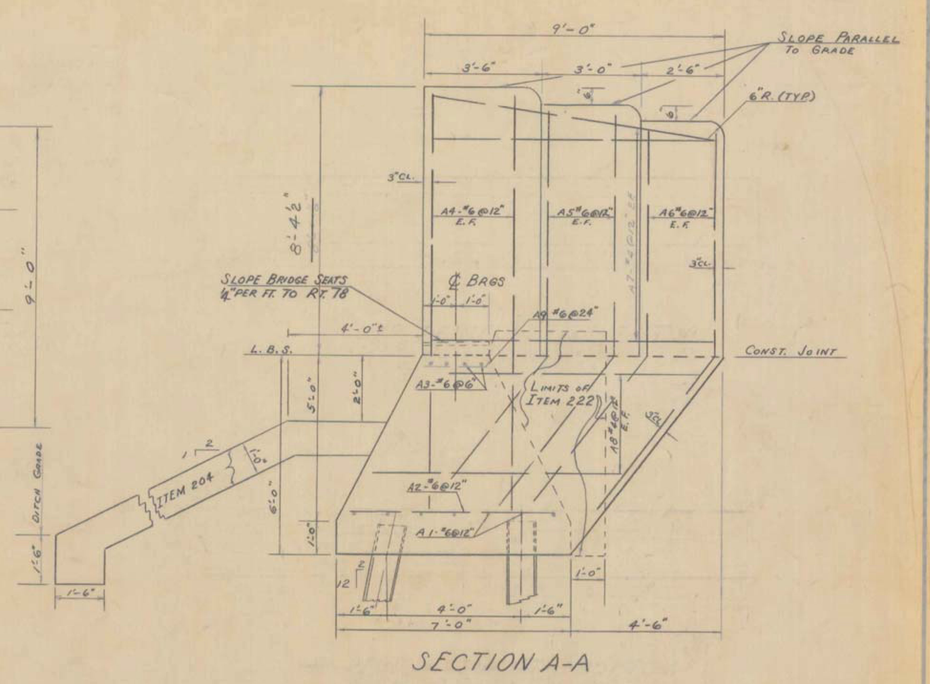
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON-HIGHGATE
ROUTE No. I-89 LOG STA.
BORINGS
M'L STA. 604+73.5 - RT. 78 STA 13+60.3
SCALE AS NOTED
SURVEYED BY STAFF
DRAWN BY AAP CHECKED
PROJECT NO. I-89-3(32)
SHEET 125 246

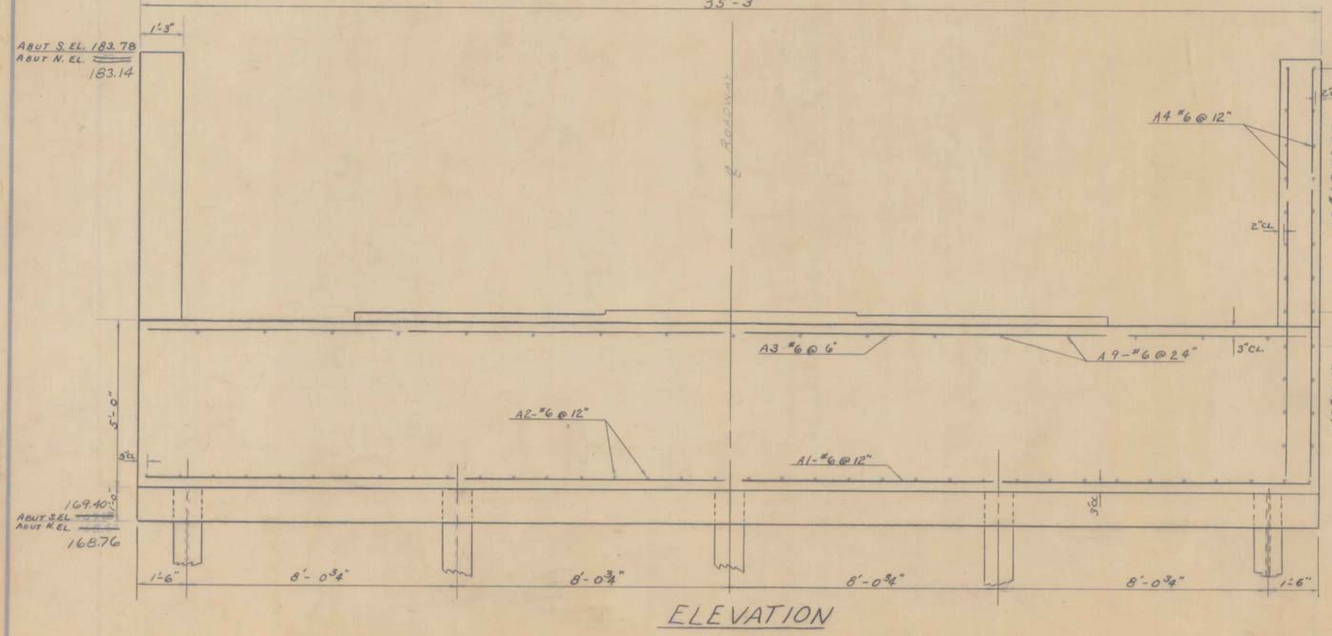
SWANTON
IM 089-3(70)
SHEET 26 OF 31
FOR REFERENCE
ONLY



PLAN



SECTION A-A



ELEVATION

	No. Piles	Size	Est. Length of Piles	Splices Allowed for Piles Not Exceeding Plan Length (To be paid for only if used)	Splices Estimated for Piles Exceeding Plan Length (To be paid for only if used)
Abut #1	10	12BP53	85'	10	2
Abut #2	10	12BP53	85'	10	2

NOTES

1. Coat Exposed Bridge Seats with Item 407, Asphaltic-Asb. Coating, ½" Thick, After Superstructure is in Place.
2. Piles to be 12BP53, Est. Lgth. = 80'
3. Piles Driven to 35 Ton Bearing Capacity.
4. Bridge Seat Elevations are for ℄ Brgs.
5. Bottom of All Piles To Be At Ledge.
6. See General Notes Sheet BR = 401

SWANTON
IM 089-3(70)
SHEET 27 OF 31
FOR REFERENCE ONLY

ITEM NO.	ITEM	UNIT	NET	[redacted]	TOTAL	FINAL
106-A	CHAN. EXCAV. OF EARTH	C.Y.				
106-B	CHAN. EXCAV. OF ROCK	C.Y.				
106-C	UNCLASS. CHAN. EXCAV.	C.Y.				
107	STRUCT. EXCAV.	C.Y.	~~25~~			0
401-B	CONC. CLASS B (MOD.)	C.Y.	~~93~~			91
402	REINF. STEEL	LBS.	(SEE REINF. SCHEDULE)			
407	ASPHALTIC-ASB. COATING	S.Y.	8V			8
502-B	TREATED TIMBER PILING	L.F.				
503	SPLICES FOR STEEL PILING	EA.	=	~~24~~		20
504	STEEL PILING (12BP53) (In place)	L.F.	=	~~1700~~		1533
502-A	UNTREATED TIMBER PILING	L.F.				
204	SUBBASE OF CRUSHED ROCK, MODIFIED, (UNDER STRUCTURE)	C.Y.	~~73~~			109
222	Gravel Backfill	C.Y.	~~30~~			0
	Cut-offs @ 50% Unit Price	L.F.				167

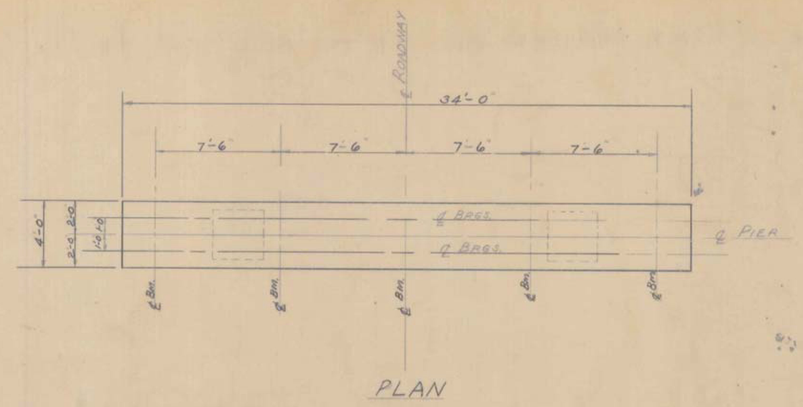
AB

STAGE I CONSTRUCTION

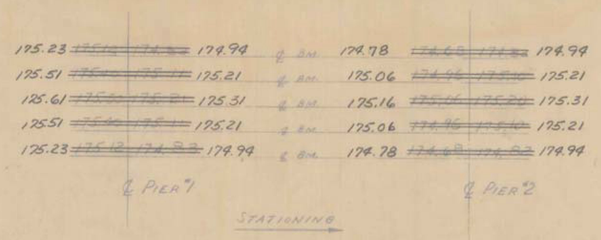
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON - HIGHGATE
ROUTE NO. I-89 LOG STA.
INTERSTATE OVER ROUTE 78
DETAILS OF ABUTS. ℄ (NORTH SOUTH)
SCALE 1/2" = 1'-0" (N.B.)
SURVEYED BY WEBSTER-MARTIN J.J.C. (M.B.)
DRAWN BY A.J.C. (M.B.) CHECKED BY
PROJECT NO. I-89-3(32)
SHEET 140 OF 246

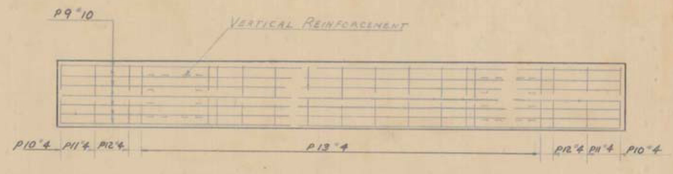
403 407



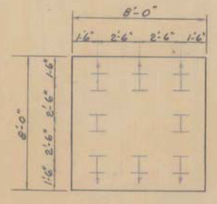
PLAN



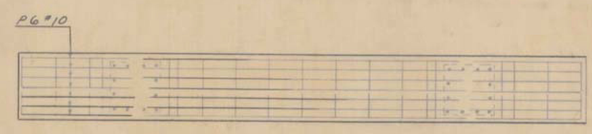
PIERS – BRIDGE SEAT ELEVATIONS



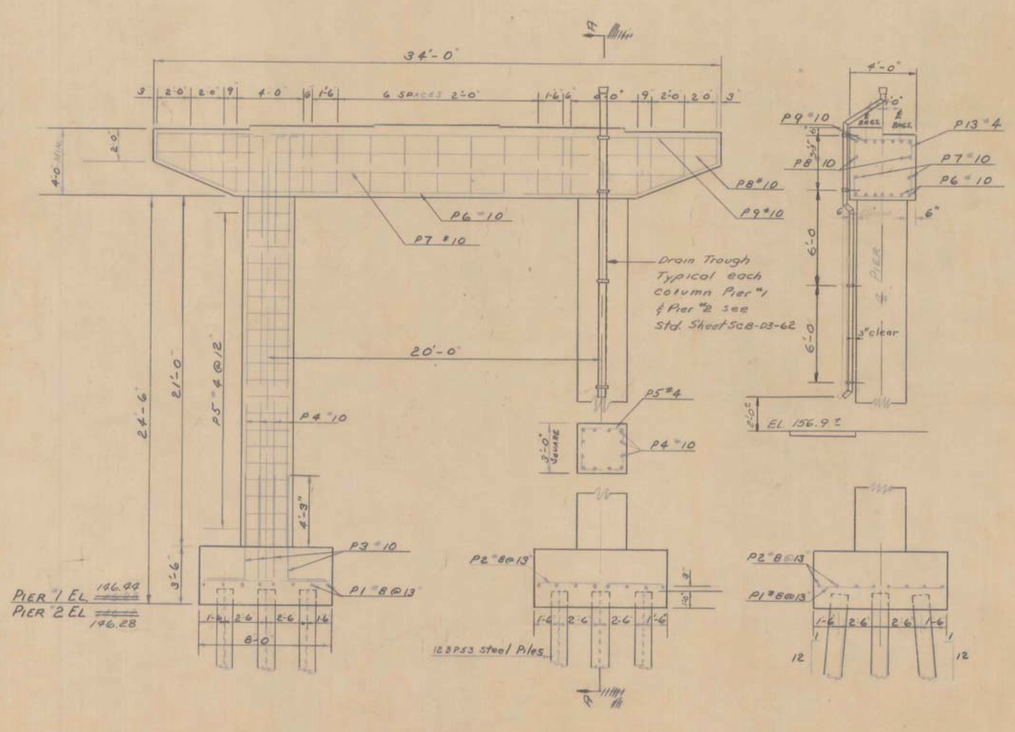
CAP REINFORCEMENT – TOP



PLAN OF PILES



CAP REINFORCEMENT – BOTTOM



ELEVATION

SECTION A-A

	No. Piles	Size	Est. Length of Piles	Splices Allowed For Piles Not Exceeding Plan Length (to be paid for only if used)	Splices Estimated for Piles Exceeding Plan length (To be paid for only if used)
Pier "1	16	12BP53	60	—	4
Pier "2	16	12BP53	60	—	4

NOTES

1. BRIDGE SEAT ELEVATIONS ARE FOR ℄ BRGS.
2. SLOPE BRIDGE SEATS ¼" PER FOOT FOR DRAINAGE.
3. COAT BRIDGE SEATS WITH ASPHALTIC – ASBESTOS COATING, ITEM 407. AFTER SUPERSTRUCTURE IS IN PLACE.
4. 12BP53 Steel PILES TO BE DRIVEN TO 35 TON BEARING CAPACITY. ESTIMATED LENGTH = 55 FEET.
5. BOTTOM OF ALL PILES TO BE AT LEDGE.
6. FOR GENERAL NOTES SEE SHEET BR=401.

Stage I Construction

ITEM NO.	ITEM	UNIT	NET	OVERRUN	TOTAL	FINAL
106-A	CHAN. EXCAV. OF EARTH	C.Y.				
106-B	CHAN. EXCAV. OF ROCK	C.Y.				
106-C	UNCLASS. CHAN. EXCAV.	C.Y.				
107	STRUCT. EXCAV.	C.Y.	~~135~~			130
401 B	CONC. CLASS B (MOD.)	C.Y.	~~99~~			102
402	REINF. STEEL	LBS.	See Reinf. Schedule			
407	ASPHALTIC-ASB. COATING	S.Y.	~~27~~			28
502-B	TREATED TIMBER PILING	L.F.				
503	SPLICES FOR STEEL PILING	EA.	~~8~~			0
504	STEEL PILING (12 BP53) (In place)	L.F.	~~1720~~			1,754
502-A	UNTREATED TIMBER PILING	L.F.				
	Cut-offs @ 50% Unit Price					166

SWANTON
IM 089-3(70)
SHEET 28 OF 31
FOR REFERENCE ONLY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF SWANTON – HIGHGATE
ROUTE NO. I-89 LOG STA.
INTERSTATE OVER ROUTE 78
DETAILS – PIERS "1 & 2 (N.B)
SCALE 1/4" = 1'-0"
SURVEYED BY WEBSTER – MARTIN A.J.C. (N.B) T.J.C. (N.B.)
DRAWN BY A.J.C. CHECKED BY [illegible]
PROJECT NO. I-89-3(32)
SHEET 147 OF 240

BR 404 of 407

Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
* 3	1	4	4-0	1-S8	Str												
4	176	5	34-4	1-S1	Str												
* 7	151	5	22-9	1-S2	Str												
8	8	5	32-2	1-S5	Str												
* 9	21	6	23-0	1-S3	Str												
10	54	4	5-3	1-S4	S3	0-5	1-6	1-5	1-6			0-5					
11	26	4	7-6	1-S6A	S2	0-5	3-0	0-8	3-0			0-5					
12	28	5	4-2	1-S6P	17		2-6	0-8	1-0								
13	22	6	3-0	1-S7	1	0-8	1-8	0-8									
14																	
15																	
16																	
17																	
18																	
19																	
20	296	5	34-4	2-S1	Str												
21	225	5	26-0	2-S2	Str												
22	30	6	26-3	2-S3	Str												
23	94	4	5-3	2-S4	S3	0-5	1-6	1-5	1-6			0-5					
24	56	5	4-2	2-S6P	17		2-6	0-8	1-0								
25																	
26																	
27																	
28																	
29																	
30																	
31	176	5	34-4	3-S1	Str												
32	150	5	22-9	3-S2	Str												
33	8	5	32-2	3-S5	Str												
34	20	6	23-0	3-S3	Str												
35	26	4	7-6	3-S6A	S2	0-5	3-0	0-8	3-0			0-5					
36	54	4	5-3	3-S4	S3	0-5	1-6	1-5	1-6			0-5					
37	28	5	4-2	3-S6P	17		2-6	0-8	1-0								
38	22	6	3-0	3-S7	1	0-8	1-8	0-8									
39																	
40																	
41																	
42																	
43																	
44																	
45	20	5	29-6	1AS5	Str												
46	16	5	3-6	1AS6	Str												
* 47	3	5	5-4	1AS8	Str												
48	2	5	5-4	1AS9	Str												
* 49	3	10	7-0	1AS3	Str												
50	2	10	7-0	1AS4	Str												
51	8	5	5-0	1AS7	S6	0-6	1-9	0-6	1-9			0-6					
52	30	10	20-7	1AS1	1	1-1	19-6									0-9	
53																	
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68																	
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79																	
80																	
81																	

SUPERSTRUCTURE

SPAN No.1 (44')

SPAN No.2 (74')

SPAN No.3 (44')

APPROACH SLAB No.1

Approach Slab No.2 Same as Approach Slab No.1 Except Prefix 2AS1, 2AS2 etc and no Test Bars.

Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
82																	
83																	
84																	
85																	
86																	
87	32	4	8-6	1A7	Str												
* 88	17	4	7-6	1A8	Str												
89	7	6	34-9	1A1	Str												
* 90	37	6	6-0	1A2	Str												
91	4	6	34-9	1A3	Str												
92	12	6	12-6	1A4	Str												
93	17	6	1-9	1A9	Str												
94	12	6	13-0	1A5	19		5-9	7-3	None				3-6		4-8		11-11
95	12	6	12-6	1A6	19		5-9	6-9	None				3-6		4-8		11-5
96																	
97																	
98																	
99																	
100																	
101																	
102																	
103																	
104																	
105																	
106																	
* 107	17	8	7-6	1P1	Str												
108	16	8	7-6	1P2	Str												
109	2	10	29-9	1P7	Str												
110	2	10	33-6	1P8	Str												
111	7	10	33-6	1P9	Str												
112	40	4	10-10	1P5	T1	0-5	2-6	2-6	2-6	2-6		0-5					
113	2	4	10-10	1P10	T1	0-5	3-6	1-6	3-6	1-6		0-5					
114	2	4	12-4	1P11	T1	0-5	3-6	2-3	3-6	2-3		0-5					
115	2	4	13-10	1P12	T1	0-5	3-6	3-0	3-6	3-0		0-5					
116	13	4	14-10	1P13	T1	0-5	3-6	3-6	3-6	3-6		0-5					
* 117	25	10	8-6	1P3	17		2-3	6-3	None								
118	24	10	25-3	1P4	20		0-6	24-9	None								
119	7	10	34-0	1P6	14	None	5-0	24-0	5-0	None			1-11				
120																	
121																	
122																	
123																	
124																	
125																	
126																	
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156																	
157																	
158																	
159																	
160																	
161																	
162																	

SUBSTRUCTURE

South Abutment.

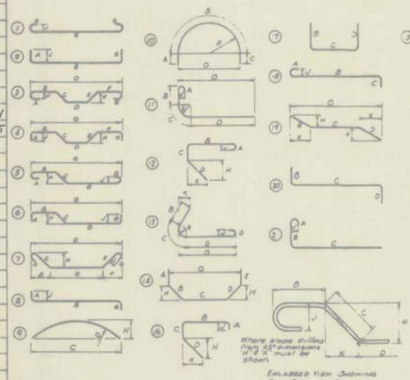
North Abutment same as South Abutment except No Test Bars and Prefix 2A1, 2A2 etc.

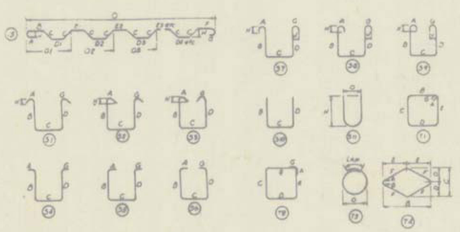
PIER No.1

Pier No.2 Same as Pier No.1 except No Test Bars and Prefix 2P1, 2P2 etc.

SWANTON
IM 089-3(70)
SHEET 29 OF 31
FOR REFERENCE ONLY

TYPICAL BAR BENDS





NOTES

1. All dimensions are out to out of bar.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used.
3. Where 'J' is not shown, 'J' will be kept equal to or less than 'H'. Where 'J' can exceed 'H', it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer marking should have limits indicated.
6. Figures in circles show types.
7. No allowance for bend curvature is to be made except for standard hook & radii in excess of same.

Item	No Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
163																	
164																	
165																	
166																	
167																	
168																	
169																	
170																	
171																	
172																	
173																	
174																	
175																	
176																	
177																	
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183																	
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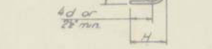
185																	
186																	
187																	
188																	
189																	
190																	



STANDARD HOOK DETAIL

BAR SIZES

Equivalent Size	Present (Numbers)
¼" ø	#2
⅜" ø	#3
½" ø	#4
⅝" ø	#5
¾" ø	#6
⅞" ø	#7
1" ø	#8
1⅛" ø	#9
1¼" ø	#10
1⅜" ø	#11

* One bar included for testing

Minimum bends to be as follows:
Stirrups and tie bars shall be bent around a pin having a diameter not less than two times the minimum thickness of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum thickness except for bars larger than 1 inch, in which case the bends shall be made around a pin of eight bar diameters.

8. Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet-Steel Concrete Reinforcement Bars (Intermediate Grade) Serial Designation AASHTO M31-48 or its latest revision. All bars shall be deformed to conform with A.S.T.M. Specifications A305-49.

ESTIMATED QUANTITIES

Location	Pounds
SPAN No.1	~~11,430~~
SPAN No.2	~~18,470~~
SPAN No.3	~~11,360~~
South Abutment	~~7,910~~
North Abutment	~~1,900~~
Pier No.1	~~7,250~~
Pier No.2	~~7,200~~
Approach Slab No.1	~~3,520~~
Approach Slab No.2	~~3,520~~
Total	~~66,560~~

FINAL
11,422
18,451
11,362
1,904
1,890
7,229
7,172
3,532
3,532
66,499

Stage I Construction

SWANTON - HIGHGATE

Interstate over Rte 78 (N.B.)

Reinforcing Schedule

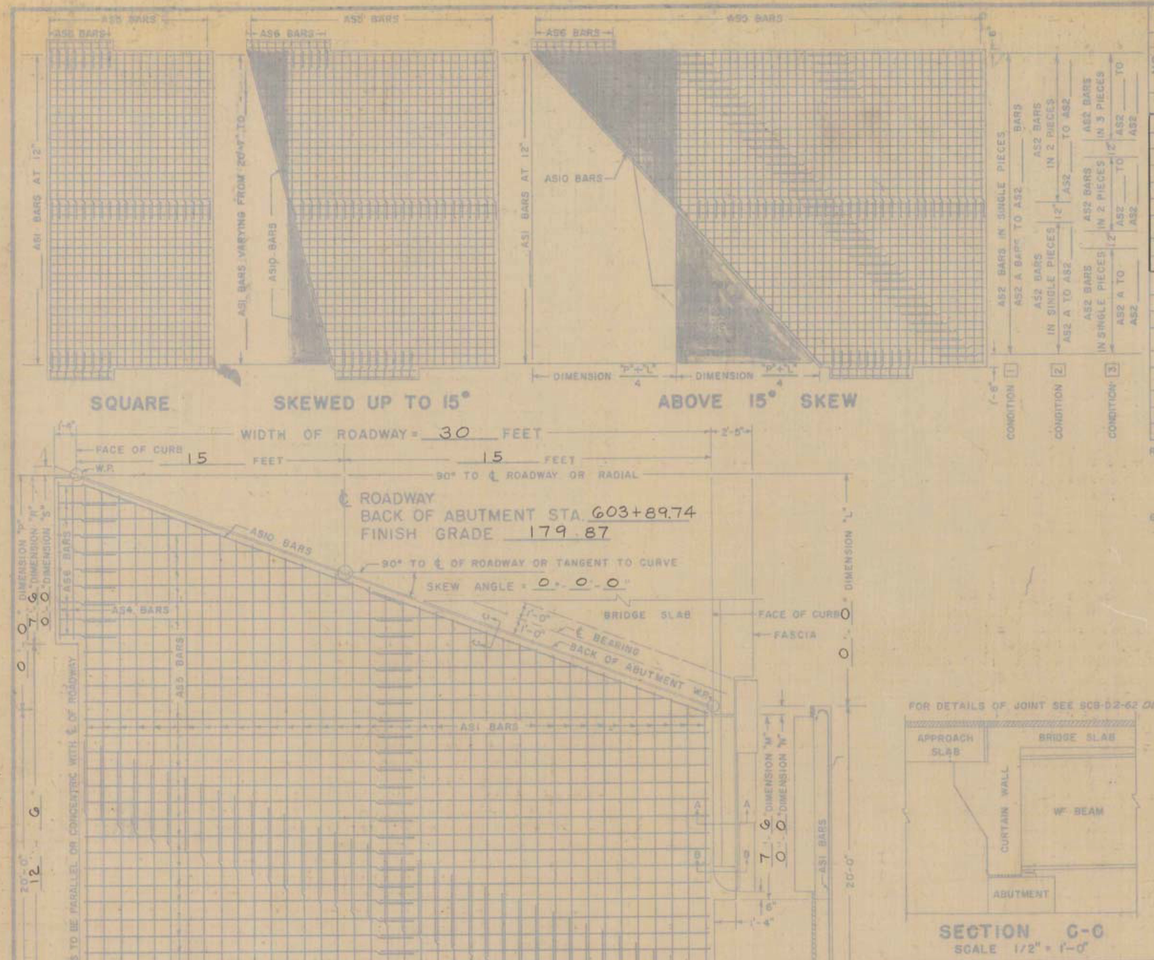
I 89-3(7) Contr. #1

Prepared by: JJC

Checked by A.J.C.

BR 405 of 407

Sheet 148 of 240

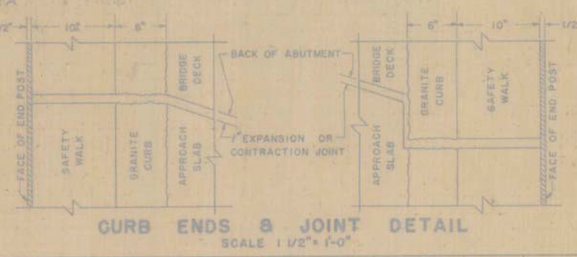


30' ROADWAY						38' ROADWAY						42' ROADWAY						44' ROADWAY						___ ROADWAY					
NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS
SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED					
2	10	7'-0"	AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.	
2	10	7'-0"	AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.	
16	5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.	
8	5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6	
2	5	5'-4"	AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.	
2	5	5'-4"	AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.	
SQUARE						SQUARE						SQUARE						SQUARE						SQUARE					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1			10	20'-7"	AS1	1	
20	5	29'-6"	AS5	STR.		40	5	19'-9"	AS5	STR.		40	5	21'-9"	AS5	STR.		40	5	22'-9"	AS5	STR.			5		AS5	STR.	2-3
SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°					
30	10	AVE.	AS1	1	1.	38	10	AVE.	AS1	1	1.	42	10	AVE.	AS1	1	1.	44	10	AVE.	AS1	1	1.		10	AVE.	AS1	1	1.
	5	29'-6"	AS5	STR.	2.		5	19'-9"	AS5	STR.	3.		5	21'-9"	AS5	STR.	3.		5	22'-9"	AS5	STR.	3.		5		AS5	STR.	2-3
ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS					
2	5		AS10	STR.			5		AS10	STR.			5		AS10	STR.			5		AS10	STR.			5		AS10	STR.	
ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1			10	20'-7"	AS1	1	
29	10	AVE.	AS2	STR.	4.	37	10	AVE.	AS2	STR.	4.	41	10	AVE.	AS2	STR.	4.	43	10	AVE.	AS2	STR.	4.		10	AVE.	AS2	STR.	4.
	5	29'-6"	AS5	STR.	2.		5	19'-9"	AS5	STR.	3.		5	21'-9"	AS5	STR.	3.		5	22'-9"	AS5	STR.	3.		5		AS5	STR.	2-3

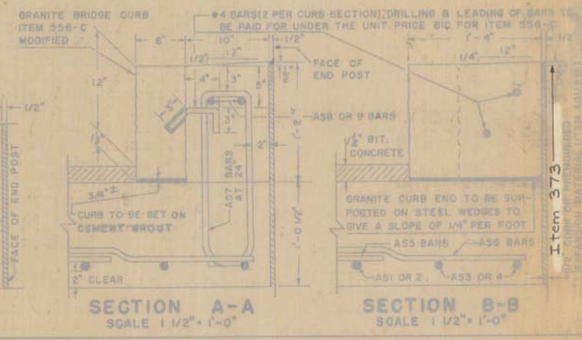
REMARKS: ● AS1 BAR "B" DIMENSION VARIES FROM 19'-6" TO ____ ● 20 + DIMENSION ("P"+"L") ÷ 4 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. ● 40 + DIMENSION ("P"+"L") ÷ 2 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. ● THE LENGTH OF AS2 BARS VARIES FROM ____ TO ____. THE AS2 BARS MAY BE DIVIDED INTO TWO OR MORE PIECES, AS MAY BE NECESSARY, TO LIMIT THE MAXIMUM BAR LENGTH TO 30 FEET. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1. (FOR CONDITION 2, & 3, SEE REINF. SCHEDULE.)

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1955. DESIGNED FOR H20-S16-44.

SECTION C-C
SCALE 1/2" = 1'-0"



CURB ENDS & JOINT DETAIL
SCALE 1 1/2" = 1'-0"



SECTION A-A
SCALE 1 1/2" = 1'-0"

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

DETAILS OF REINFORCING BARS

TYPE 1
A = 1'-1" J = 0'-9"
B = 19'-6" OR VARIES

TYPE S6
A = 0'-6"
B = 1'-9"
C = 0'-6"
D = 1'-9"
G = 0'-6"

ITEM NO.	ITEM	UNIT			TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.			27	
361-B	BITUMINOUS CONCRETE PAVEMENT (MOD.)	TONS			6	
401-B	CONCRETE CLASS B (MOD.)	C.Y.			~~25~~	24.5
402	REINFORCING STEEL	LB.			~~3520~~	3,532
556-C	GRANITE BRIDGE CURB (MOD.)	L.F.			16	16

REINFORCING STEEL

BAR NO.	A NO. PIECES	B LENGTH	C WEIGHT PER FT.	A x B x C WEIGHT IN LBS.
AS1	30	20'-7"	4.303	2657
AS2	———		4.303	
AS3	2	7'-0"	4.303	60
AS4	2	7'-0"	4.303	60
AS5	20	29'-6"	1.043	615
AS6	16	3'-6"	1.043	58
AS7	8	5'-0"	1.043	42
AS8	2	5'-4"	1.043	11
AS9	2	5'-4"	1.043	11
AS10	———		1.043	
TOTAL WEIGHT =				3514

QUANTITY COMPUTATION

W = WIDTH OF ROADWAY Z = 20 + DIMENSION ("P"+"L")/4 T = DIMENSION ("M"+"R")/2

W = 30 Z = 20 T = 7'-6"

BITUMINOUS CONCRETE = W x Z x 0.0092 = TONS 30 x 20 x 0.0092 = 5.52 TONS

TAR EMULSION = W x Z x 0.0444 = GALLONS 30 x 20 x 0.0444 = 26.64 GALLONS

CONCRETE CLASS B = W x Z x 0.0386 + T x 0.1029 + (T - 1.83333) x 0.0733 = CUBIC YARDS

[30 x 20 x 0.0386] + [7.5 x 0.1029] + [7.5 - 1.83333] x 0.0733 = 24.35 CUBIC YARDS

GRANITE BRIDGE CURB = 2(T + 0'-3") = LINEAR FEET 2(7.5 + 0.25) = 15.50 LINEAR FEET

BAR LENGTHS: AS5 BARS = DIMENSION "M" - 0'-6"
AS4 BARS = DIMENSION "R" - 0'-6"
AS6 BARS = 3'-6"
AS7 BARS = 5'-0"
AS9 BARS = DIMENSION "M" - 2'-2"
AS8 BARS = DIMENSION "R" - 2'-2"

Stage I & II Construction

REVISIONS AND CORRECTIONS

SWANTON
IM 089-3(70)
SHEET 30 OF 31
FOR REFERENCE
ONLY

APPROVED

DRAWN BY: R.S. HAUPT NOV. 1960
TRACED BY: R.S. HAUPT NOV. 1960
CHECKED BY: A.H. SMALLEY NOV. 1960

Recommended for Approval: _____ Bridge Engineer Date
Recommended for Approval: _____ Asst. Chief Engineer Date
Approved (by): _____ Chief Engineer Date

DETAILS OF APPROACH SLAB #1 N.B.
FOR 30 (WIDTH) FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 604+73.5
LOCATION I 89 over Route Vt. 78

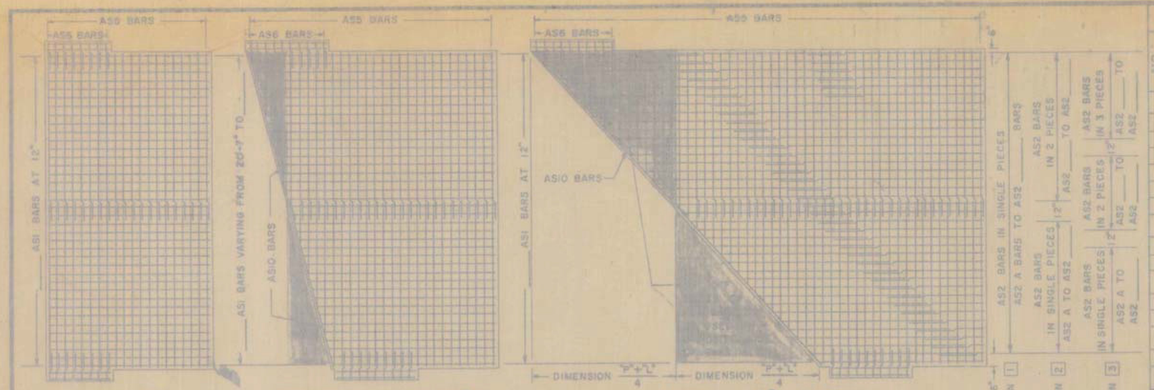
Call 3,520

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE

SB-AS-60

TOWN OF Swanton-Highgate
ROUTE NO. I 89
LOG STA. 604+73.5
SCALE AS NOTED
DESIGNED BY A.J.C. CHECKED BY J.J.C.
PROJECT NO. I 89-3 (30)
BR. 406 OF 407 SHEET 149 OF 246

Sheet 121 of 122

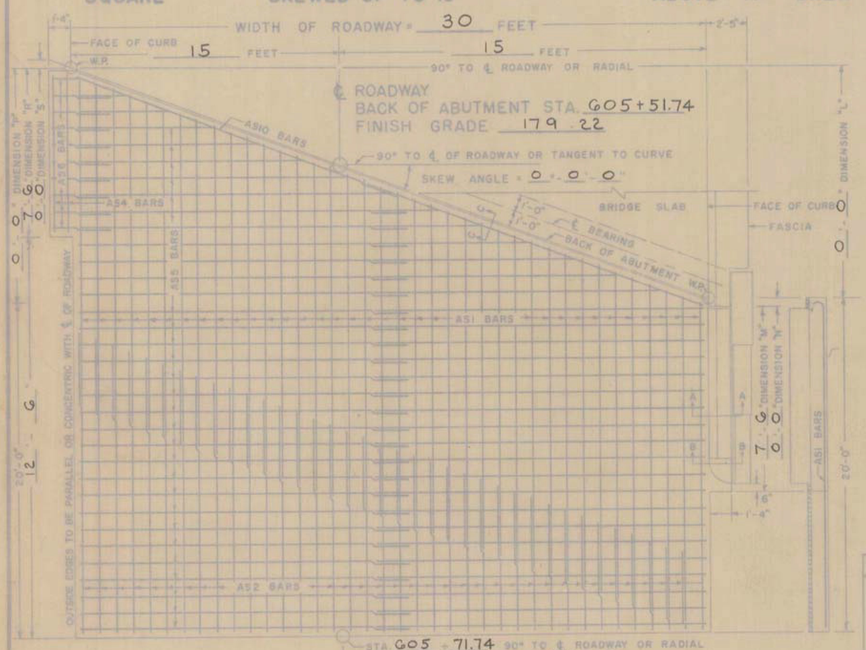


SQUARE SKEWED UP TO 15° ABOVE 15° SKEW

30' ROADWAY						38' ROADWAY						42' ROADWAY						44' ROADWAY						ROADWAY					
NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS	NO. PIECES	SIZE	LENGTH	MARK	TYPE	REMARKS
SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED						SQUARE OR SKEWED					
2	10	7'-0"	AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.		2	10		AS3	STR.	
2	10	7'-0"	AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.		2	10		AS4	STR.	
16	5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.			5	3'-6"	AS6	STR.	
8	5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6			5	5'-0"	AS7	S6	
2	5	5'-4"	AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.		2	5		AS8	STR.	
2	5	5'-4"	AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.		2	5		AS9	STR.	
SQUARE						SQUARE						SQUARE						SQUARE						SQUARE					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1		10	20'-7"	AS1	1		
20	5	29'-6"	AS5	STR.		40	5	19'-9"	AS5	STR.		40	5	21'-9"	AS5	STR.		40	5	22'-9"	AS5	STR.		5			AS5	STR.	
SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°						SKEWED UP TO 15°					
30	10	AVE.	AS1	1	1.	38	10	AVE.	AS1	1	1.	42	10	AVE.	AS1	1	1.	44	10	AVE.	AS1	1	1.	10	AVE.	AS1	1	1.	
5	29'-6"	AS5	STR.	2.		5	19'-9"	AS5	STR.	3.		5	21'-9"	AS5	STR.	3.		5	22'-9"	AS5	STR.	3.		5			AS5	STR.	2-3.
ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS						ALL SKEWED SPANS					
2	5		A510	STR.			5		A510	STR.			5		A510	STR.			5		A510	STR.			5		A510	STR.	
ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW						ABOVE 15° SKEW					
30	10	20'-7"	AS1	1		38	10	20'-7"	AS1	1		42	10	20'-7"	AS1	1		44	10	20'-7"	AS1	1		10	20'-7"	AS1	1		
29	10	AVE.	AS2	STR.	4.	37	10	AVE.	AS2	STR.	4.	41	10	AVE.	AS2	STR.	4.	43	10	AVE.	AS2	STR.	4.	10	AVE.	AS2	STR.	4.	
5	29'-6"	AS5	STR.	2.		5	19'-9"	AS5	STR.	3.		5	21'-9"	AS5	STR.	3.		5	22'-9"	AS5	STR.	3.		5			AS5	STR.	2-3.

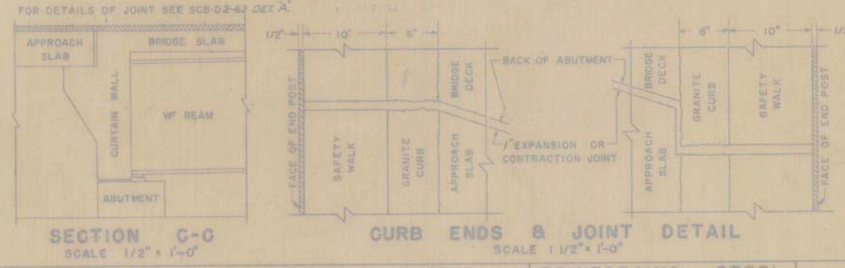
REMARKS: ● A51 BAR "B" DIMENSION VARIES FROM 19'-6" TO _____. ● 20 + DIMENSION ("F"+"L") ÷ 4 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. ● 40 + DIMENSION ("F"+"L") ÷ 2 (IN FEET) = NUMBER OF PIECES. CUT BARS IN THE FIELD USING CUT OFF PIECES ON OPPOSITE HALF OF SLAB. ● THE LENGTH OF A52 BARS VARIES FROM _____ TO _____. THE A52 BARS MAY BE DIVIDED INTO TWO OR MORE PIECES, AS MAY BE NECESSARY, TO LIMIT THE MAXIMUM BAR LENGTH TO 30 FEET. THE LOCATION OF SPLICES IS LEFT TO THE OPTION OF THE DESIGNER. THE NO. PIECES SHOWN ARE FOR CONDITION 1. (FOR CONDITION 2 & 3 SEE REINF. SCHEDULE.)

GENERAL NOTES: ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. WHEN A BAR LENGTH VARIES IN INCREMENTS EACH BAR MUST BE DETAILED. SPLICES SHALL BE 2'-1" FOR NUMBER 5 BARS, AND 4'-3" FOR NUMBER 10 BARS. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED JANUARY 1956, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1965. DESIGNED FOR H20-S16-44.

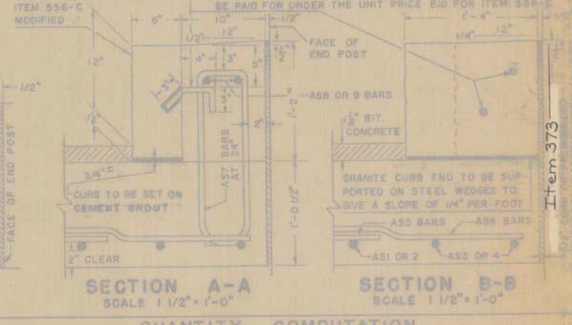


PLAN VIEW

END SECTION VIEW



SECTION C-C SCALE 1/2" = 1'-0" CURB ENDS & JOINT DETAIL SCALE 1 1/2" = 1'-0"



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

DETAILS OF REINFORCING BARS

TYPE 1: A = 1'-1" J = 0'-9" B = 19'-6" OR VARIES

TYPE S6: A = 0'-6" B = 1'-9" C = 0'-6" D = 1'-9" G = 0'-6"

ITEM NO.	ITEM	UNIT		TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		27	AB
361-B	BITUMINOUS CONCRETE PAVEMENT (MOD.)	TONS		6	
401-B	CONCRETE CLASS B (MOD.)	C.Y.		~~25~~	21.5
402	REINFORCING STEEL	LB.		~~3520~~	3,532
556-C	GRANITE BRIDGE CURB (MOD.)	L.F.		16	16

REINFORCING STEEL

BAR NO.	NO. PIECES	A	B LENGTH	C	WEIGHT PER FT.	A X B X C WEIGHT IN LBS.
AS1	30	20'-7"			4.303	2657
AS2					4.303	
AS3	2	7'-0"			4.303	60
AS4	2	7'-0"			4.303	60
AS5	20	29'-6"			1.043	615
AS6	16	3'-6"			1.043	58
AS7	8	5'-0"			1.043	42
AS8	2	5'-4"			1.043	11
AS9	2	5'-4"			1.043	11
AS10					1.043	
TOTAL WEIGHT =						3514

QUANTITY COMPUTATION

W = WIDTH OF ROADWAY Z = 20 + DIMENSION ("F"+"L")/4 T = DIMENSION "H"+"L"/2

W = 30 Z = 20 T = 7'-6"

BITUMINOUS CONCRETE = W x Z x 0.0092 = TONS 30 x 20 x 0.0092 = 5.52 TONS

TAR EMULSION = W x Z x 0.0444 = GALLONS 30 x 20 x 0.0444 = 26.64 GALLONS

CONCRETE CLASS B = W x Z x 0.0386 + T x 0.1029 + (T - 1.8333) x 0.0733 = CUBIC YARDS

[30 x 20 x 0.0386] + [7.5 x 0.1029] + [(7.5 - 1.8333) x 0.0733] = 24.35 CUBIC YARDS

GRANITE BRIDGE CURB = 2(T + 0'-3") = LINEAR FEET 2(7.5 + 0.25) = 15.50 LINEAR FEET

BAR LENGTHS: AS3 BARS = DIMENSION "M" - 0'-6"
AS4 BARS = DIMENSION "N" - 0'-6"
AS6 BARS = 3'-6"
AS7 BARS = 5'-0"
AS8 BARS = DIMENSION "M" - 2'-2"
AS9 BARS = DIMENSION "N" - 2'-2"

Stage I & II Construction

REVISIONS AND CORRECTIONS

SWANTON
IM 089-3(70)
SHEET 31 OF 31
FOR REFERENCE ONLY

APPROVED

DRAWN BY: R.S. HAUPT NOV. 1960
TRACED BY: R.S. HAUPT NOV. 1960
CHECKED BY: A.H. SMALLEY NOV. 1960

Recommended for Approval: _____ Bridge Engineer Date 12/2/62
Recommended for Approval: _____ Asst. Chief Engineer Date 12/5/62
Approved By: _____ Chief Engineer Date 12/6/62

DETAILS OF APPROACH SLAB #2 N.B. FOR 30 (WIDTH) FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 604+73.5

LOCATION I 89 over Route Vt. 78

Call 3,520

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE

SB-AS-62

TOWN OF Swanton-Highgate
ROUTE NO. I 89
LOG STA. 604+73.5
SCALE AS NOTED
DESIGNED BY A.J.C. CHECKED BY J.J.C.
PROJECT NO. I 89-3(~~2~~)(68)
SH. 407 OF 407 SHEET ~~30~~ 30 OF 246

Sheet 122 of 122