JOSEPH P. CARRARA & SONS, INC.

LETTER OF TRANSMITTAL

2464 CASE STREET
MIDDLEBURY, VERMONT 05753

TEL (802) 388-6363
FAX (802) 388-9010

DATE :	JOB NO. :
May 9, 2014	**23419-013**
ATTENTION : **Mr. Kevin Ture** *KTure@wmschultz.com*	
RE : **Vermont Route 73**	
Rochester, Vermont	
Rochester BRF 0162 (16) Bridge No. 15	
Rochester BRF 0162 (17) Bridge No. 16	
Transmittal #3	**Precast Concrete**

TO: **W.M. Schultz Construction, Inc.**
831 Route 67 PO Box 2620
Ballston Spa, New York 12020

518-885-0060

WE ARE SENDING YOU [x] Attached [ ] Under separate cover via **Email** the following items:

[x] Shop Drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications

[ ] Copy of Letter [ ] Change Order [ ] Other:

COPIES	DATE	NO.	DESCRIPTION
1	**as noted**	**as noted**	**J. P. Carrara & Sons' Precast Framing and Individual Piece Detail Drawings, Bridge No. 15:**
			"For Approval" Drawings: C1, F1 - F5, NB1 - NB11, AB1 - AB5, AS1 - AS3,
			WW1, WW2, & M1 - M3
1	**as noted**	**as noted**	**J. P. Carrara & Sons' Precast Framing and Individual Piece Detail Drawings, Bridge No. 16:**
			"For Approval" Drawings: C1, F1 - F5, NB1 - NB6, AB1 - AB5, AS1 - AS3,
			WW1, WW2, M1, & M2

THESE ARE TRANSMITTED as checked below :

[x] For approval [ ] Approved as submitted [ ] Resubmit ____ copies for approval

[ ] For your use [ ] Approved as noted [ ] Submit ____ copies for distribution

[ ] As requested [ ] Returned for corrections [ ] Return ____ corrected prints

[ ] For review and comment [ ] ____

[ ] FOR BIDS DUE ____ 20 ____ [ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS **Kevin,**

Attached please find our precast framing drawings and individual piece details for the precast/prestressed concrete NEXT Beams, abutment walls, pier caps, wingwalls, and approach slabs, which are resubmitted for approval on the project.

Please contact us at 802-388-6363 with any questions.

COPY TO :

SIGNED : Michael Weigand

If enclosures are not as noted, please notify us at once.

NEXT BEAM GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 7,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 5,500 PSI.
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) AND SHALL ADHERE TO THE REQUIREMENTS OF LEVEL II (DUAL COATED) REINFORCING STEEL IN ACCORDANCE WITH VERMONT SPECIFICATION SECTION 507. (2)
4. PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203) AND SHALL CONSIST OF 0.60"ø x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 44.0 K AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
6. ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF NEXT BEAM STEMS (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
8. THE TOP OF BEAMS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
9. SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN. (1)
10. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 90° (VERTICAL PICK). RIGGING SHALL BE CONFIGURED SUCH THAT THE BEAMS REMAIN PLUMB AND LEVEL AT ALL TIMES. A SPREADER BEAM OR FRAME MAY BE REQUIRED. THE PINS OF THE SHACKLES SHALL BE PLACED THOUGH THE LIFTING LOOPS – SEE DETAIL, THIS SHEET. BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 3'-0" OF THE BEAM ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC. (1)
11. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

    DESIGN MIX: J.P.C. BRIDGE MIX #430M (5 GAL./CY DCI)
12. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
13. CURING METHOD: AS SOON AS THE TOP OF BEAM IS FINISHED, A COVER OF INSULATED POLY. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 70°F. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS, SPACED NOT MORE THAN 100' APART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED. EACH CHART SHALL BE MARKED WITH THE CASTING DATED AND LOCATION OF THE RECORDER. IF NECESSARY TO MAINTAIN CASTING BED TEMPERATURE PRIOR TO CONCRETE PLACEMENT OR TO ACCELERATE EARLY AGE STRENGTH GAIN, EXTERNAL RADIANT HEAT MAY BE EMPLOYED VIA HOT WATER DUCTS BENEATH AND WITHIN THE PERIPHERY OF THE CASTING BED. MAXIMUM CURING TEMPERATURE SHALL NOT EXCEED PCI SPECIFIED LIMITS.
14. OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED SHEAR KEYS. (2)
15. PRECAST CONCRETE PARAPET SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH VERMONT SPECIFICATION SECTION 501.

ABUTMENT, WING WALL, & APPROACH SLAB GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRIPPING SHALL BE 3,500 PSI. (2)
3. REINFORCING STEEL IN THE ABUTMENTS & APPROACH SLABS SHALL BE GR-60, ASTM A-615 (AASHTO M31) AND SHALL ADHERE TO THE REQUIREMENTS OF LEVEL I REINFORCING STEEL IN ACCORDANCE WITH VERMONT SPECIFICATION SECTION 507 (UNLESS NOTED OTHERWISE).

   REINFORCING STEEL IN THE WING WALLS SHALL BE GR-60, ASTM A-615 (AASHTO M31) AND SHALL ADHERE TO THE REQUIREMENTS OF LEVEL II (DUAL COATED) REINFORCING STEEL IN ACCORDANCE WITH VERMONT SPECIFICATION SECTION 507 (UNLESS NOTED OTHERWISE).
4. THE TOP OF ABUTMENTS, APPROACH SLABS, & WING WALLS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN. (1)
6. PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
7. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPECIFICATION SECTION 540. (2)

   DESIGN MIX:
   - WING WALLS: J.P.C. BRIDGE MIX #425M NO DCI
   - APPROACH SLABS: J.P.C. BRIDGE MIX #425M NO DCI
   - ABUTMENTS: J.P.C. BRIDGE MIX #445M
8. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
9. CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED.
10. ABUTMENT POST-TENSIONING SEQUENCE: (2)
    - A. ERECT PRECAST CONCRETE ABUTMENTS. APPLY SIKADUR 32 HI-MOD EPOXY TO FIRST UNIT ERECTED AT MATCH CAST JOINT.
    - B. THREAD (2) ½"ø POLY STRAND TENDONS THROUGH EACH DUCT IN ABUTMENTS, AND POST-TENSION ALL TENDONS TO APPROXIMATELY 3,000 LBS.
    - C. AFTER 12 HOURS, POST-TENSION ALL TENDONS TO 32,000 LBS.

STRAND TENSIONING PROCEDURE:

1. PULL EACH STRAND INITIALLY TO 3,000* LBS. AND MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026* LBS. AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 19"* AND 21"*.

   * NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60"ø x 270 KSI
AREA: 0.217 IN^2
TENSION: 44,000 LB. EACH STRAND
GRIP-TO-GRIP: 252'-0" = 252.00'
Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE:

$$\Delta = \frac{PL}{AE} = \frac{(44{,}000 - 3{,}000) \times 252.00 \times 12}{0.217 \times 28{,}600{,}000} = 19.977''$$

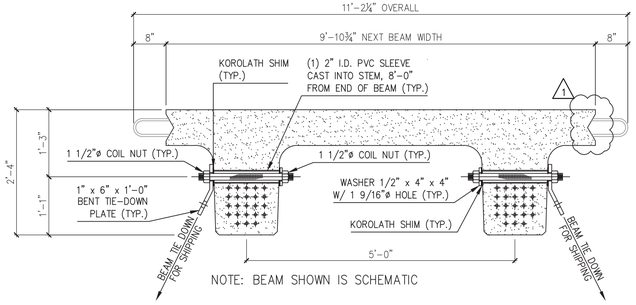
THEREFORE: (TOLERANCES € 5%)

Δ UPPER LIMIT = 1.05 x 19.977" = 20.98" = 21"
Δ LOWER LIMIT = 0.95 x 19.977" = 18.98" = 19"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:

$$\Delta P = \frac{0.5 \times 41{,}000}{19.977} = 1{,}026 \text{ LBS.}$$

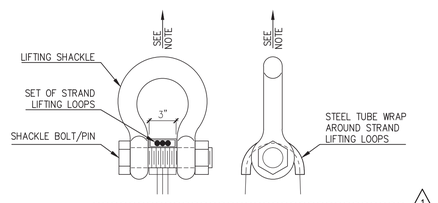
TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.



NOTE: BEAM SHOWN IS SCHEMATIC

NEXT BEAM 28D HOLD-DOWN DETAIL FOR SHIPPING

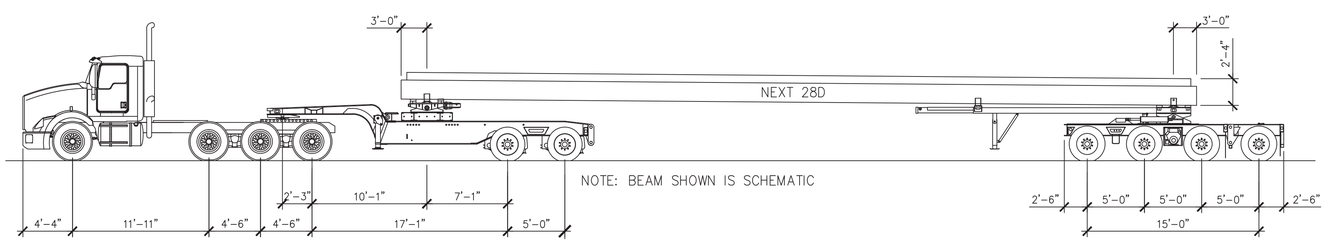
N.T.S.



NOTE: BEAMS AND ABUTMENTS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN. DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER. (1)

LIFTING SHACKLE DETAILS

N.T.S.



NOTE: BEAM SHOWN IS SCHEMATIC

SHIPPING ELEVATION

N.T.S.

(2) 4/30/14 REVISE & RESUBMIT
(1) 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

W.M. SHULTZ CONSTRUCTION, INC.
PO BOX 2620
BALLSTON SPA, NY 12020

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 15 PROJECT NO.: BRF 0162 (16)

BRIDGE 16 COVER SHEET

DATE:	MAR. 14, 2014
SCALE:	NOTED
CHKD:	DFTM: AAT/RWS JLJ/KLT
JOB NO:	23419-013
DWG. NO:	C1

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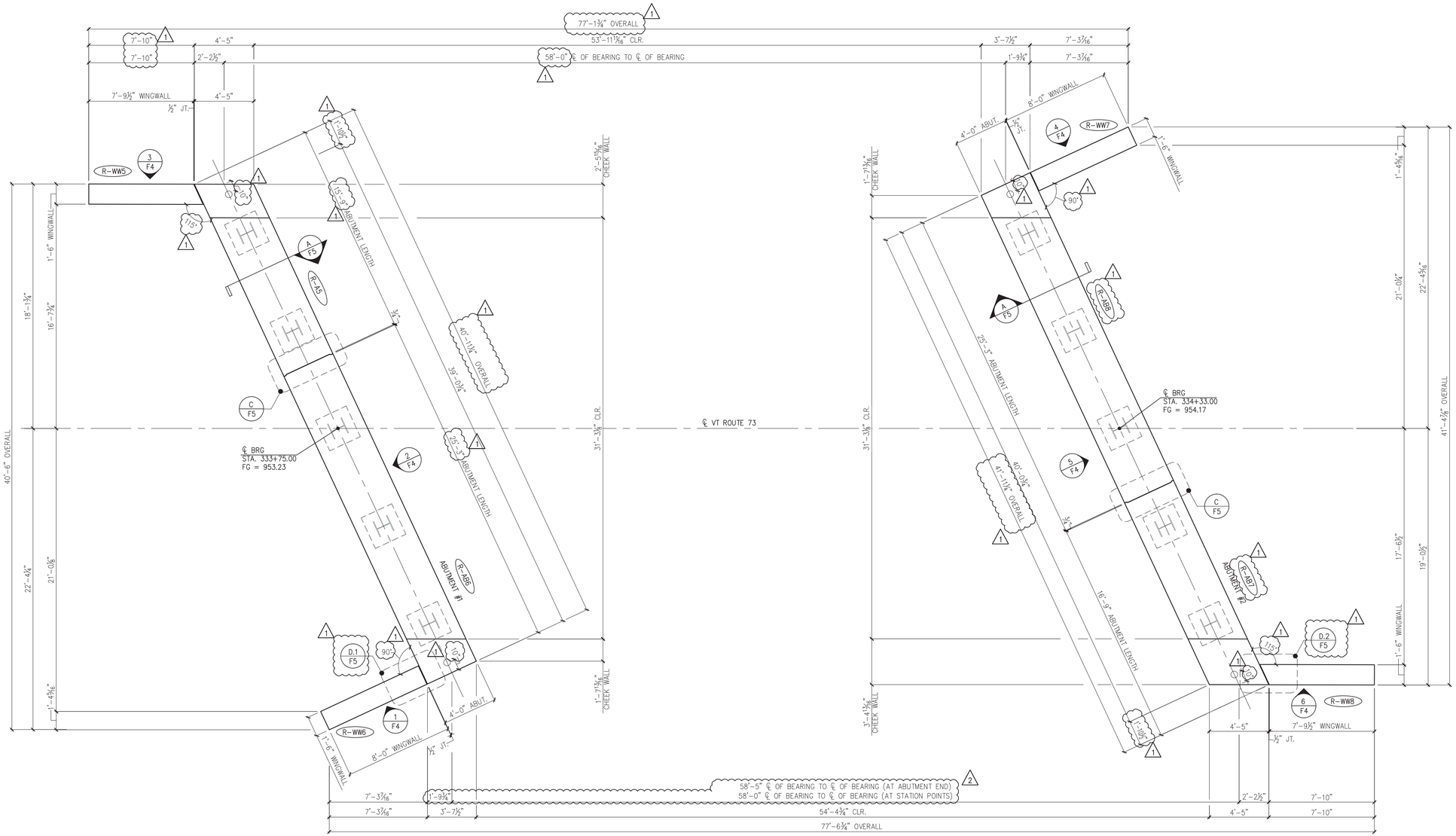

1/F1 PRECAST CONCRETE ABUTMENT AND WINGWALL LAYOUT
1/4" =1'-0"

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

ABUTMENT AND WINGWALL FRAMING PLAN

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: F1

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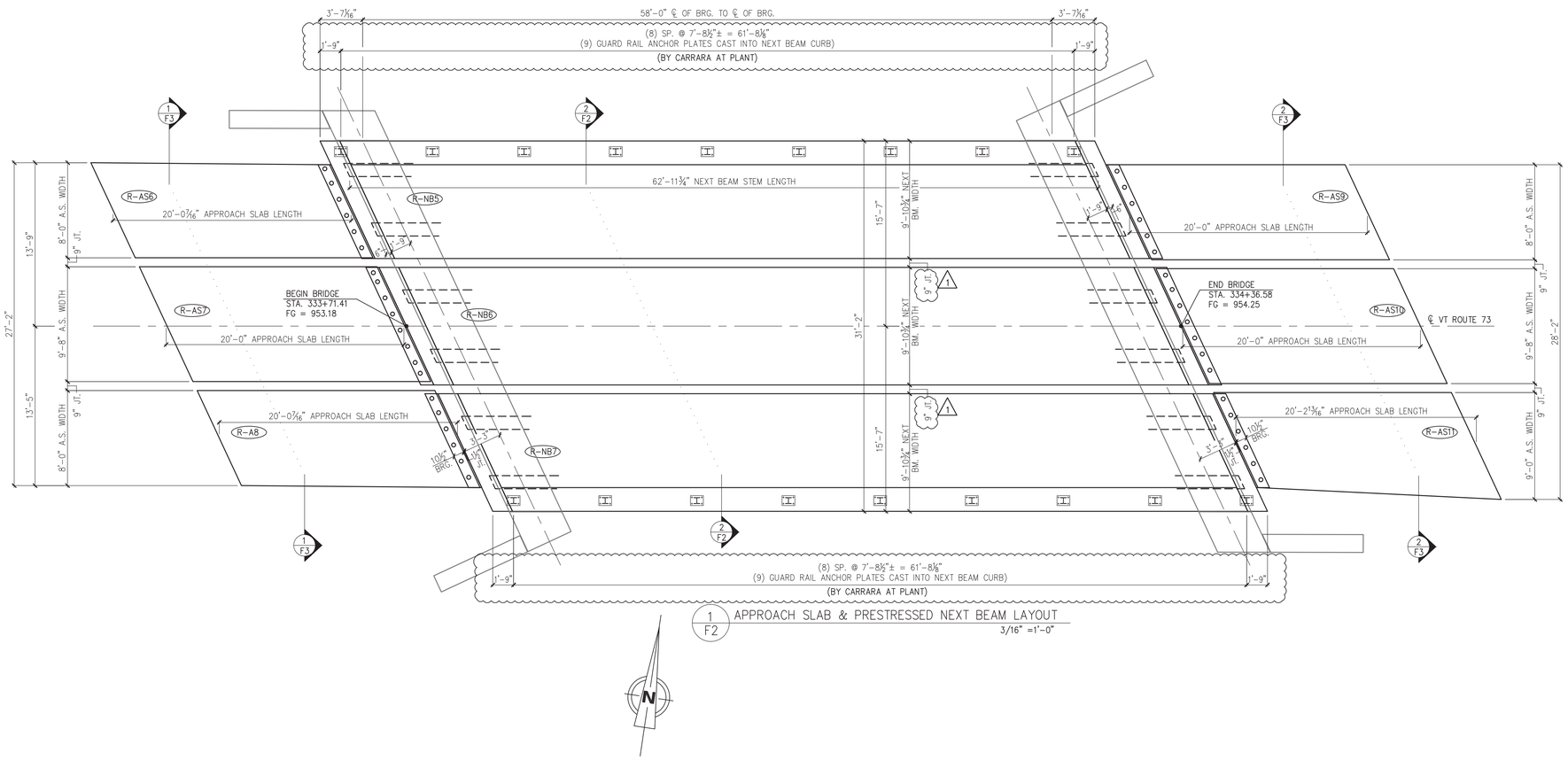
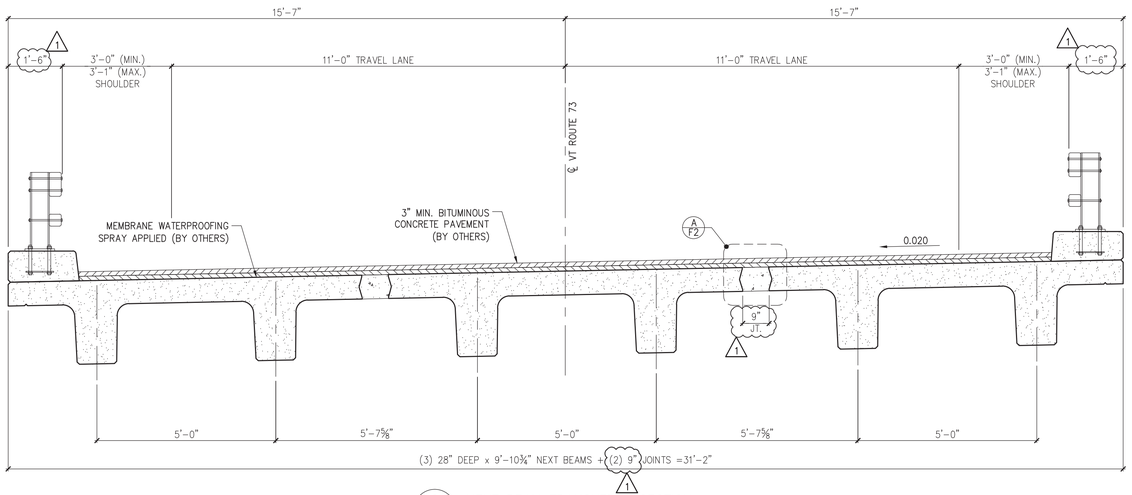
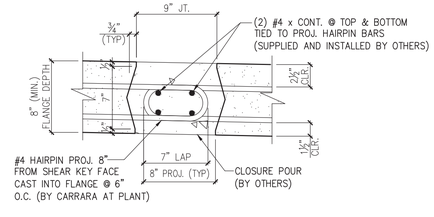


1 / F2 APPROACH SLAB & PRESTRESSED NEXT BEAM LAYOUT
3/16" =1'-0"



2 / F2 NEXT BEAM TRANSVERSE SECTION
1/2" =1'-0"



A / F2 NEXT BEAM CLOSURE POUR
1 1/2" =1'-0"

1 4/11/14 REVISE & RESUBMIT

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

SUPERSTRUCTURE PLANS & SECTIONS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: F2

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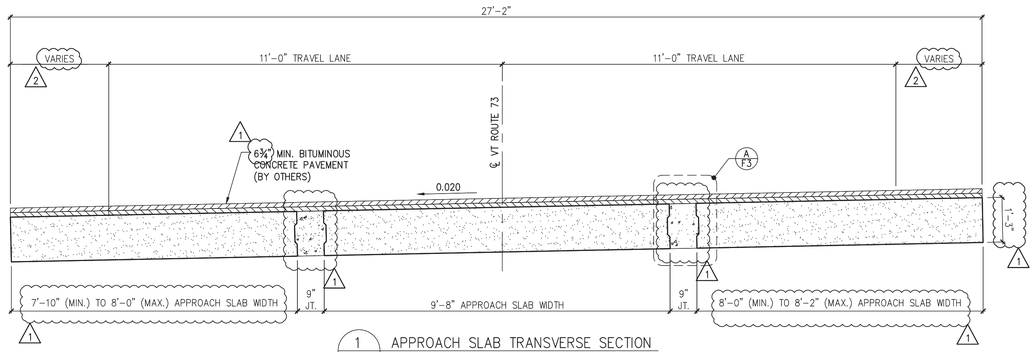
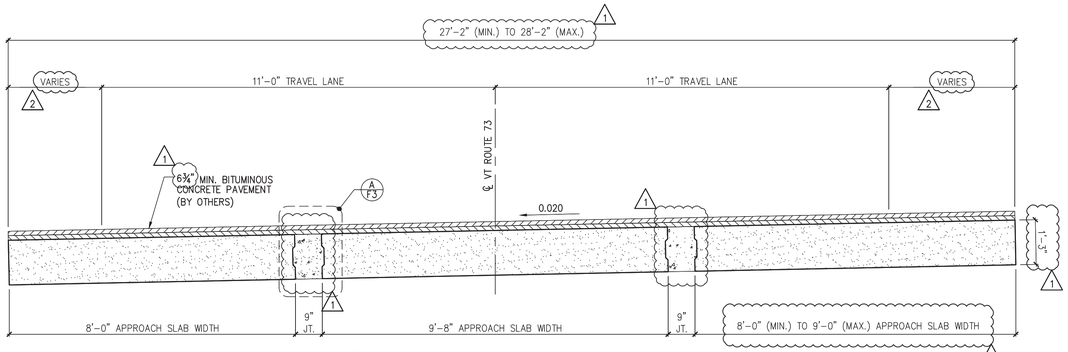
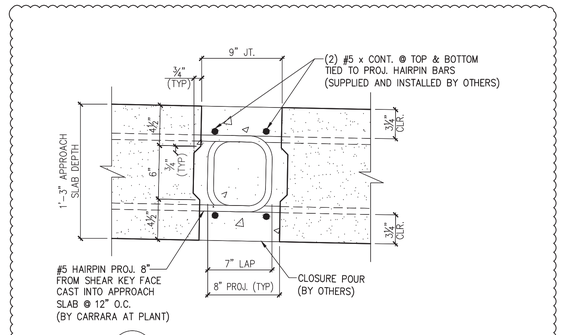


1 / F3 APPROACH SLAB TRANSVERSE SECTION
1/2" =1'-0"



2 / F3 APPROACH SLAB TRANSVERSE SECTION
1/2" =1'-0"



A / F3 APPROACH SLAB CLOSURE POUR
1 1/2" =1'-0"

2 4/30/14 REVISE & RESUBMIT

1 4/11/14 REVISE & RESUBMIT

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TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

TRANSVERSE SECTIONS & DETAILS

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CHKD:	DFTM: AAT/RWS JLJ/KLT
JOB NO:	23419-013
DWG. NO:	F3

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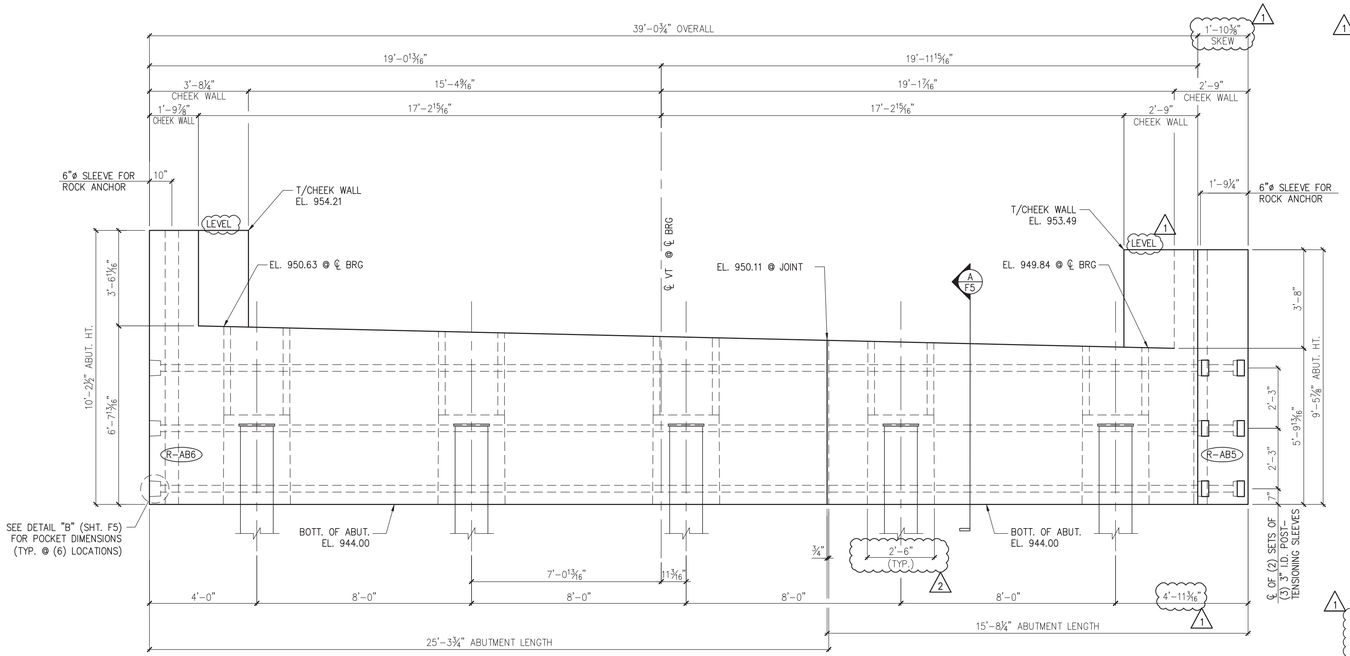
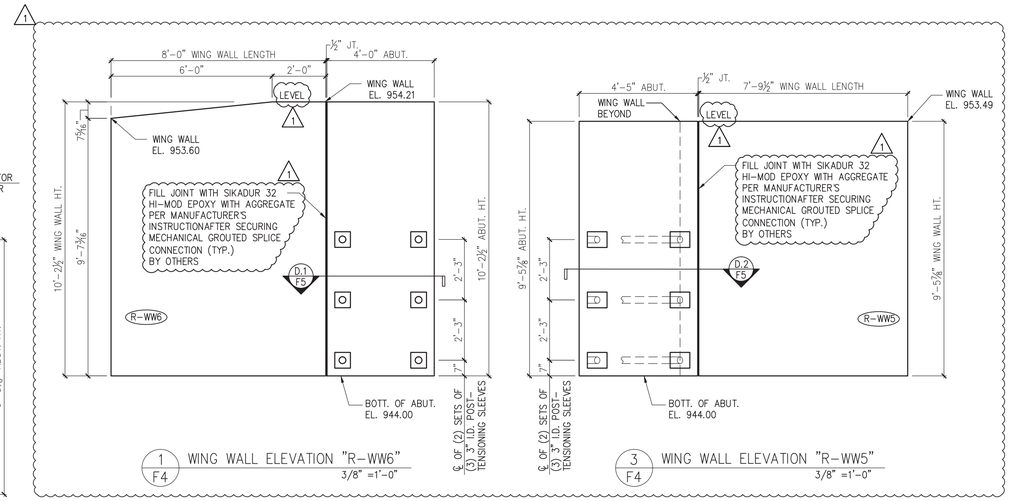
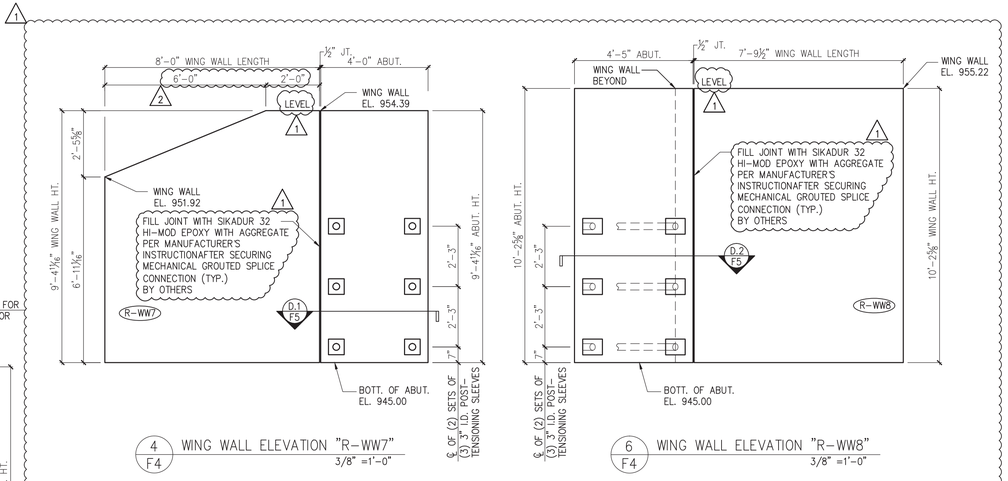


2 F4 ABUTMENT #1 ELEVATION 3/8" =1'-0"



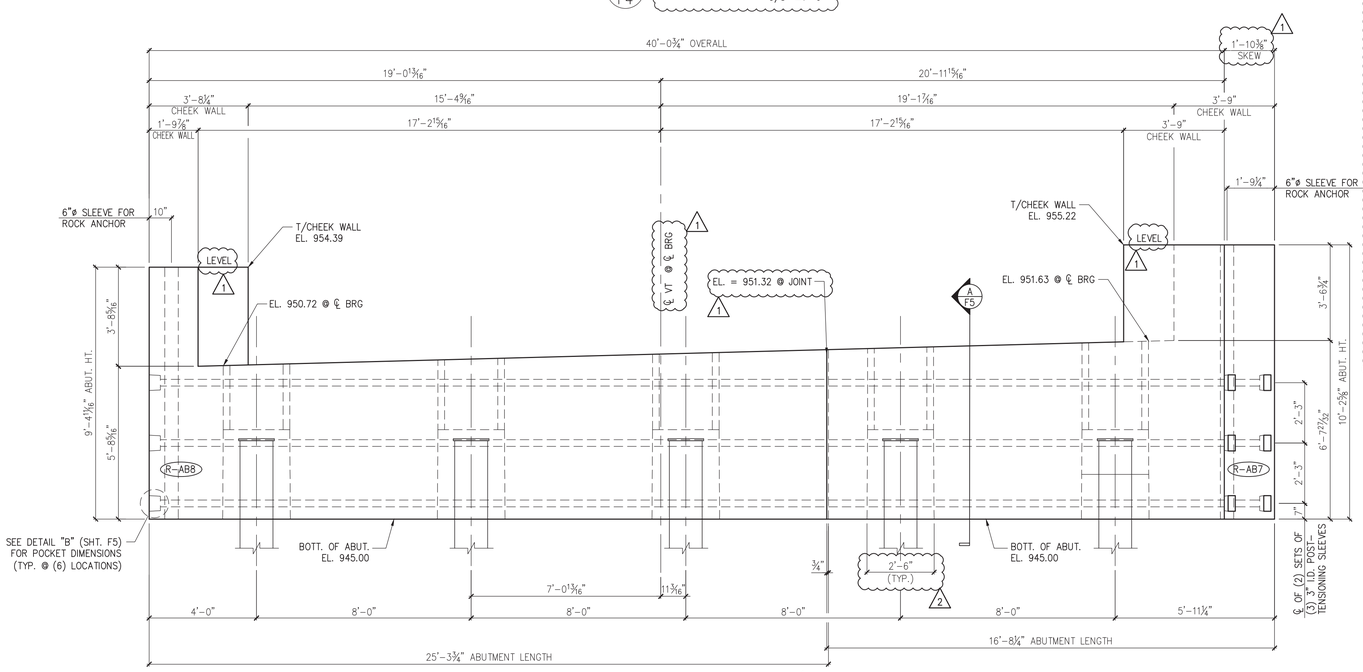
1 F4 WING WALL ELEVATION "R-WW6" 3/8" =1'-0"

3 F4 WING WALL ELEVATION "R-WW5" 3/8" =1'-0"



4 F4 WING WALL ELEVATION "R-WW7" 3/8" =1'-0"

6 F4 WING WALL ELEVATION "R-WW8" 3/8" =1'-0"



5 F4 ABUTMENT #2 ELEVATION 3/8" =1'-0"

2 4/30/14 REVISE & RESUBMIT

1 4/11/14 REVISE & RESUBMIT

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BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

ABUTMENT ELEVATIONS

DATE: MAR. 14, 2014
SCALE: NOTED
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DWG. NO: F4

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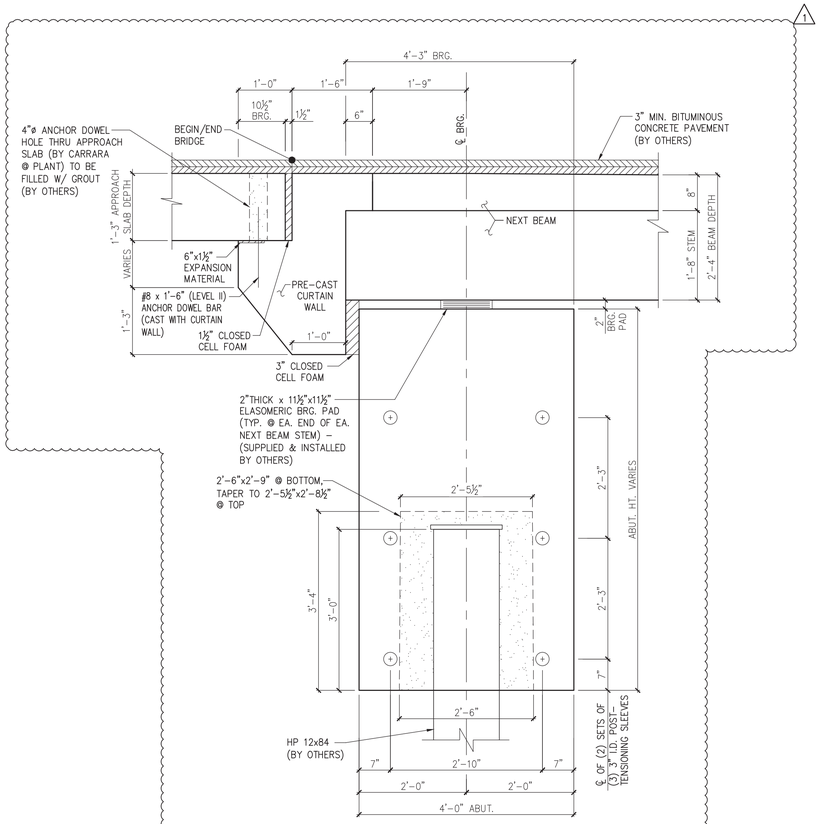
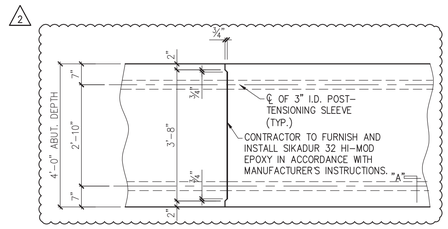
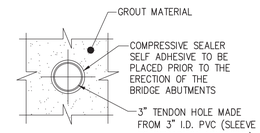


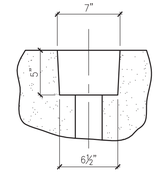
A / F5 BEARING SECTION
NEXT BEAM STEM BEARING 3/4" =1'-0"



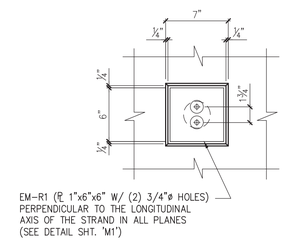
C / F5 MATCH CAST SECTION @ P.T. SLEEVE
1/2" =1'-0"



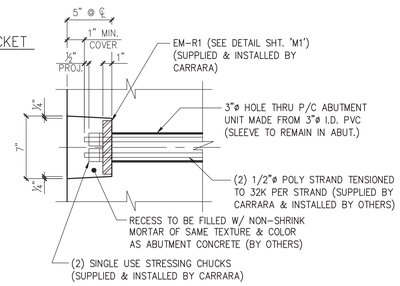
SECTION – "A"
1 1/2" =1'-0"



PLAN OF POCKET



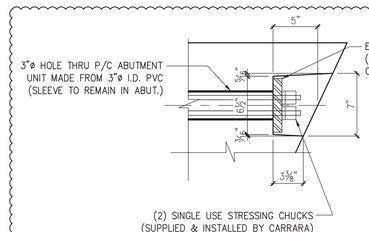
ABUTMENT ELEVATION



SECTION AT CENTERLINE

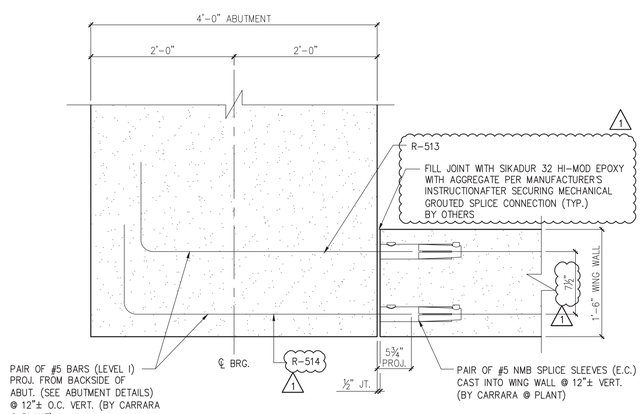
NOTE: ANCHORAGE ASSEMBLIES SHALL BE EPOXY PAINTED AFTER INSTALLATION, BY OTHERS.

DETAIL – "B"
1 1/2" =1'-0"

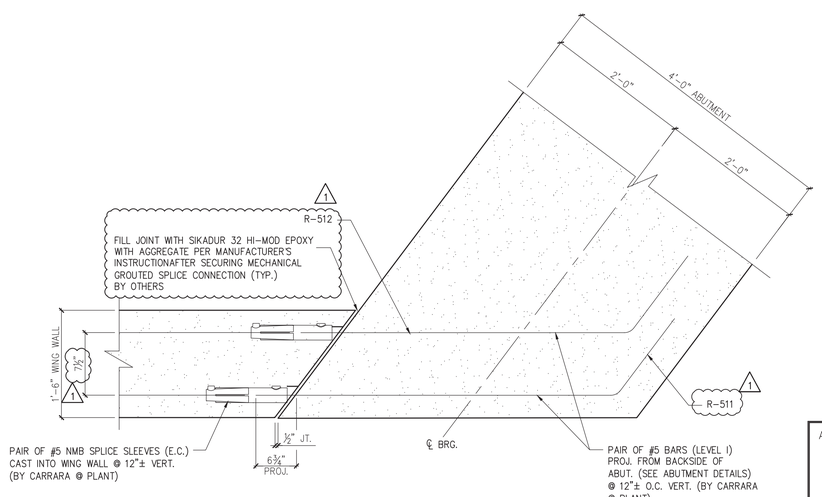


NOTE: ANCHORAGE ASSEMBLIES SHALL BE EPOXY PAINTED AFTER INSTALLATION, BY OTHERS.

DETAIL – "C"
1 1/2" =1'-0"



D.1 / F5 WING WALL CONNECTION DETAIL
1" =1'-0"



D.2 / F5 WING WALL CONNECTION DETAIL
1" =1'-0"

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

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PO BOX 2620
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

ABUTMENT DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: F5

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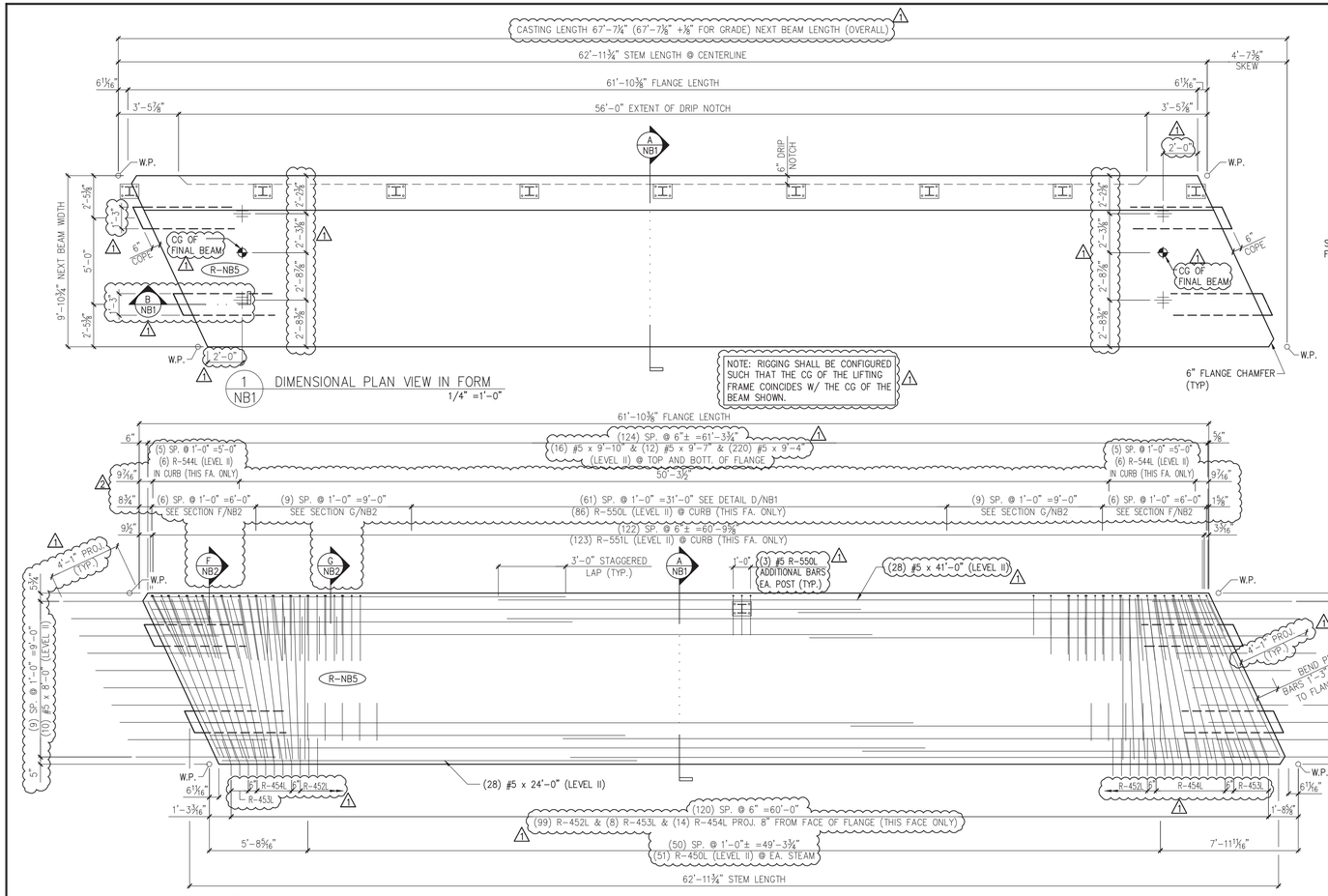
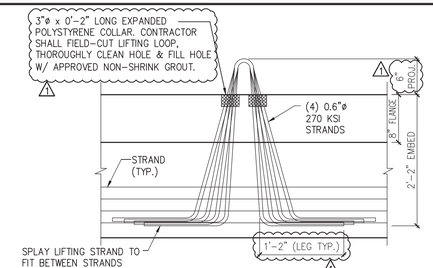


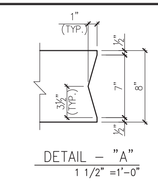
1 NB1 DIMENSIONAL PLAN VIEW IN FORM 1/4" =1'-0"

2 NB1 REINFORCING PLAN VIEW IN FORM 1/4" =1'-0"

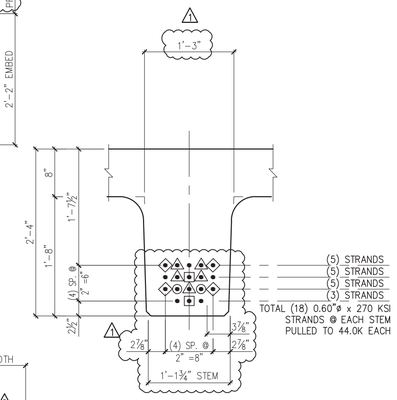
ALL DIMENSIONS INDICATED ARE PARALLEL OR PERPENDICULAR TO ℄ OF STEMS U.N.O.



TYPICAL LIFTING AND HANDING DETAIL
SCALE: 1" =1'-0"
NOTE: OTHER REINF. NOT SHOWN FOR CLARITY.



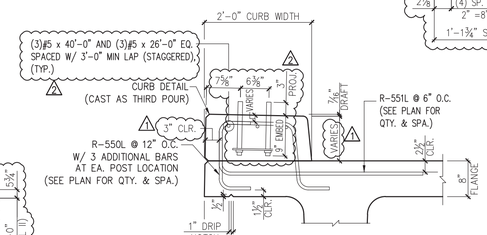
DETAIL – "A"
1 1/2" =1'-0"



DETAIL – "C" (STEM STRAND PATTERN)
1" =1'-0"

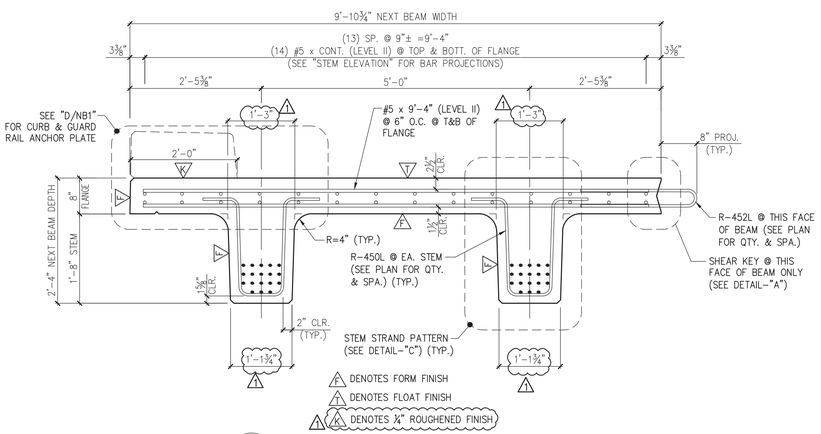
PRESTRESSING NOTATIONS

- DENOTES STRAIGHT STRANDS TO BE CUT FLUSH WITH EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO PROJECT 1'-6" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 8'-0" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 12'-0" FROM EA. END OF EA. STEM

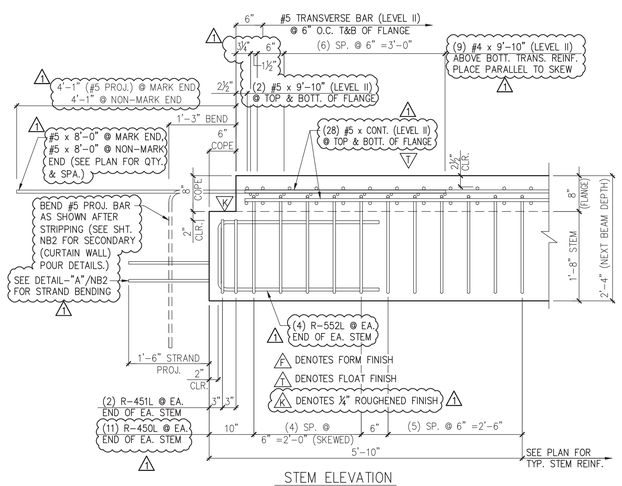


D NB1 REINFORCING @ CURB
OTHER BEAM REINF. NOT SHOWN FOR CLARITY 3/4" =1'-0"

DETENSIONING SCHEDULE
N.T.S.

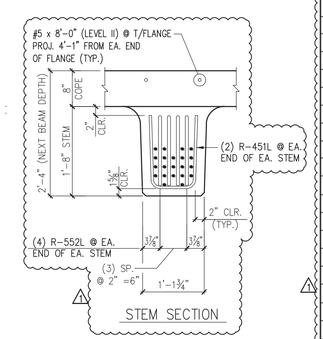


A NB1 DIMENSIONAL & REINFORCING SECTION 3/4" =1'-0"



STEM ELEVATION

B NB1 END BLOCK STEM REINFORCING DETAILS 3/4" =1'-0"



STEM SECTION

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

MARK: R-NB5	QTY.: 1	WT.:	49.3 T	VOL.:	24.33 cy
TOTAL WITH CURTAIN WALLS & CURB –		WT.:	67.5 T	VOL.:	33.4 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	R-450L	#4 BENT BAR (LEVEL II, DUAL COATED)	146
2	R-451L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
3	R-452L	#4 BENT BAR (LEVEL II, DUAL COATED)	99
4	R-453L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
5	R-454L	#4 BENT BAR (LEVEL II, DUAL COATED)	14
6			
7	R-544L	#5 BENT BAR (LEVEL II, DUAL COATED)	12
8	R-550L	#5 BENT BAR (LEVEL II, DUAL COATED)	89
9	R-551L	#5 BENT BAR (LEVEL II, DUAL COATED)	123
10	R-552L	#5 BENT BAR (LEVEL II, DUAL COATED)	16
11			
12		#4 x 9'-10" (LEVEL II, DUAL COATED)	18
13			
14		#5 x 8-0" (LEVEL II, DUAL COATED)	20
15		#5 x 9'-4" (LEVEL II, DUAL COATED)	220
16		#5 x 9'-7" (LEVEL II, DUAL COATED)	12
17		#5 x 9'-10" (LEVEL II, DUAL COATED)	20
18		#5 x 24'-0" (LEVEL II, DUAL COATED)	28
19		#5 x 26'-0" (LEVEL II, DUAL COATED)	6
20		#5 x 40'-0" (LEVEL II, DUAL COATED)	6
21		#5 x 41'-0" (LEVEL II, DUAL COATED)	28
22			
23		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

APPROVAL STAMP:

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: NB1

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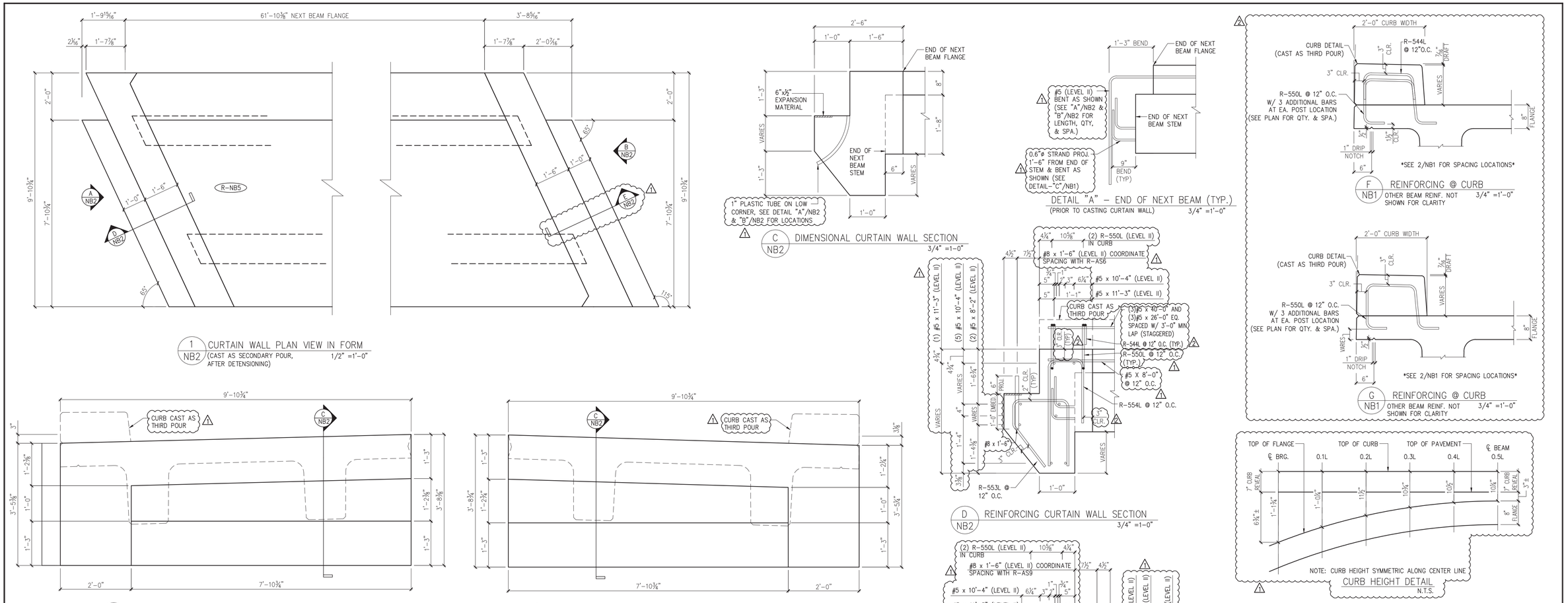

MARK:	R-NB5	QTY.: 1	WT.: 9.3 T	VOL.: 4.60 cy

MATERIAL LIST / CURTAIN WALLS

ITEM	MARK	DESCRIPTION	QTY.
1	R-553L	#5 BENT BAR (LEVEL II, DUAL COATED)	18
2	R-554L	#5 BENT BAR (LEVEL II, DUAL COATED)	20
3			
4			
5		#5 x 8'-2" (LEVEL II, DUAL COATED)	4
6		#5 x 10'-4" (LEVEL II, DUAL COATED) △1	10
7		#5 x 11'-3" (LEVEL II, DUAL COATED)	2
8			
9		#8 x 1'-6" (LEVEL II, DUAL COATED)	12
10			
11	△2	1" PLASTIC TUBE	2
12			
13			
14			

△2 4/30/14 REVISE & RESUBMIT

△1 4/11/14 REVISE & RESUBMIT

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: NB2

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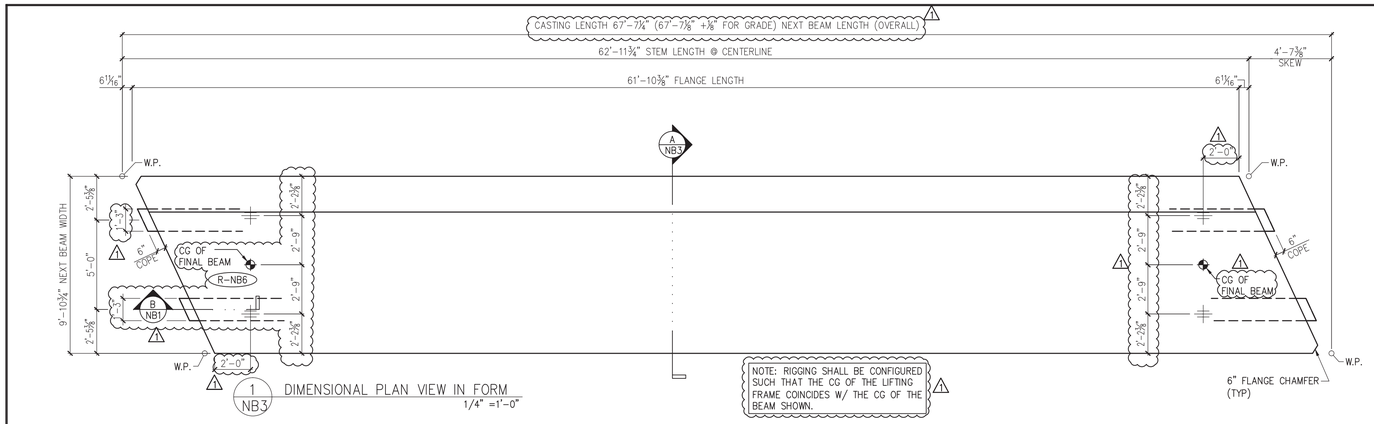
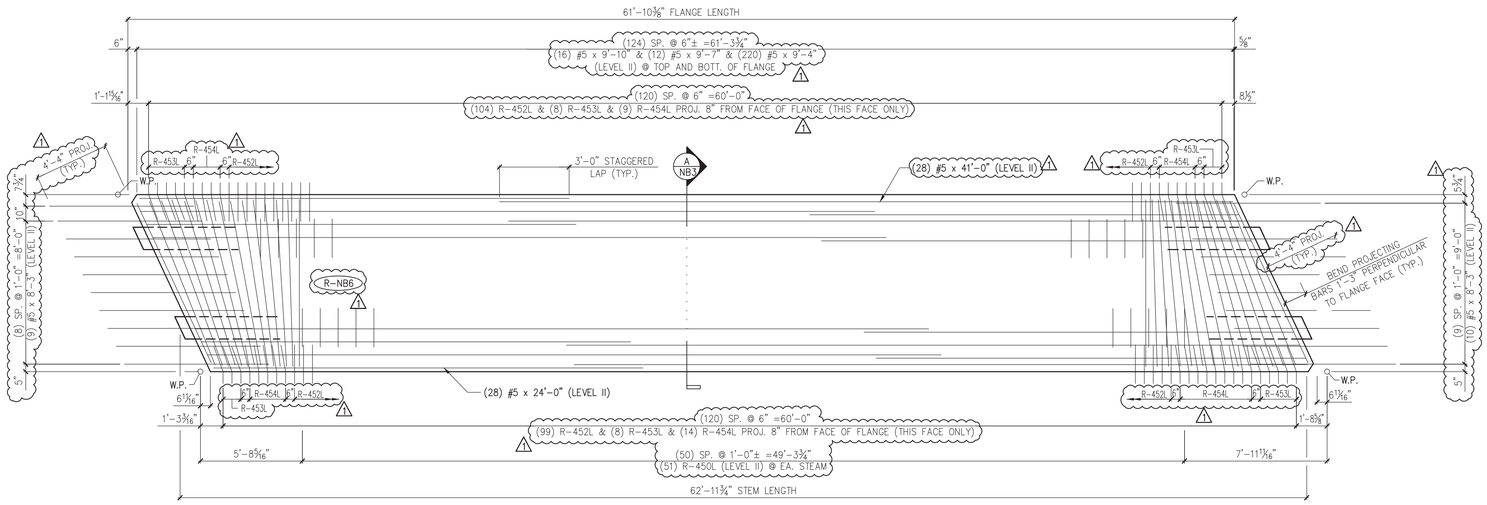
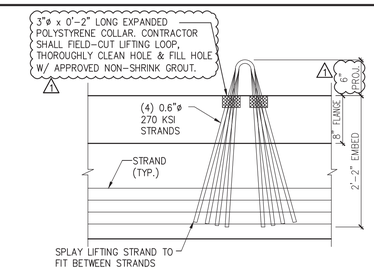


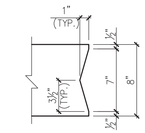
1 NB3 DIMENSIONAL PLAN VIEW IN FORM
1/4" =1'-0"



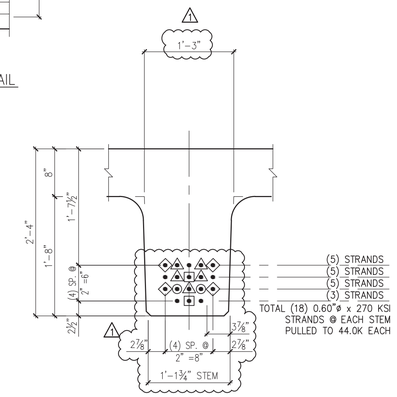
2 NB3 REINFORCING PLAN VIEW IN FORM
ALL DIMENSIONS INDICATED ARE PARALLEL OR PERPENDICULAR TO ℄ OF STEMS U.N.O.
1/4" =1'-0"



TYPICAL LIFTING AND HANDING DETAIL
SCALE 1" =1'-0"
NOTE: OTHER REINF. NOT SHOWN FOR CLARITY.



DETAIL – "A"
1 1/2" =1'-0"

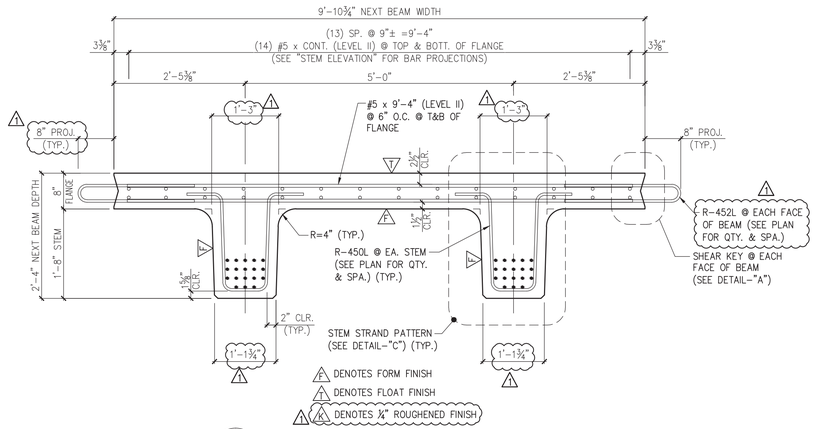


DETAIL – "C" (STEM STRAND PATTERN)
1" =1'-0"

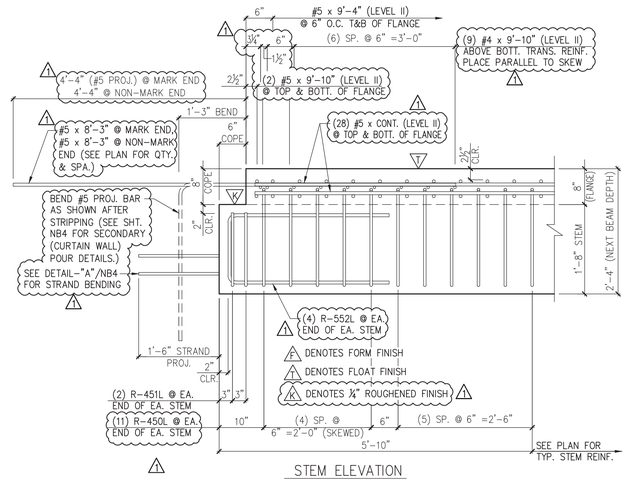
PRESTRESSING NOTATIONS

- ● DENOTES STRAIGHT STRANDS TO BE CUT FLUSH WITH EA. END OF EA. STEM
- ◇ DENOTES STRAIGHT STRANDS TO PROJECT 1'-6" FROM EA. END OF EA. STEM
- △ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- ▣ DENOTES STRAIGHT STRANDS TO BE DEBONDED 8'-0" FROM EA. END OF EA. STEM
- ⊙ DENOTES STRAIGHT STRANDS TO BE DEBONDED 12'-0" FROM EA. END OF EA. STEM

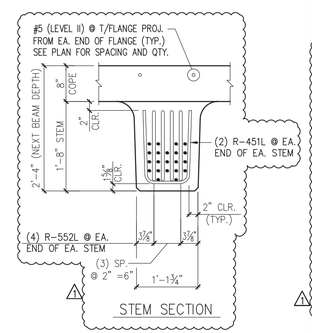
DETENSIONING SCHEDULE
N.T.S.



A NB3 DIMENSIONAL & REINFORCING SECTION
3/4" =1'-0"



B NB3 END BLOCK STEM REINFORCING DETAILS
3/4" =1'-0"



STEM SECTION

MARK:	R-NB6	QTY.:	1	WT.:	49.3 T	VOL.:	24.33 cy
TOTAL WITH CURTAIN WALLS –				WT.:	29.91 T	VOL.:	29.54 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	R-450L	#4 BENT BAR (LEVEL II, DUAL COATED)	146
2	R-451L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
3	R-452L	#4 BENT BAR (LEVEL II, DUAL COATED)	203
4	R-453L	#4 BENT BAR (LEVEL II, DUAL COATED)	16
5	R-454L	#4 BENT BAR (LEVEL II, DUAL COATED)	23
6			
7	R-552L	#5 BENT BAR (LEVEL II, DUAL COATED)	16
8			
9		#4 x 9'-10" (LEVEL II, DUAL COATED)	18
10		#5 x 8'-0" (LEVEL II, DUAL COATED)	20
11		#5 x 9'-4" (LEVEL II, DUAL COATED)	220
12		#5 x 9'-7" (LEVEL II, DUAL COATED)	12
13		#5 x 9'-10" (LEVEL II, DUAL COATED)	20
14		#5 x 24'-0" (LEVEL II, DUAL COATED)	28
15		#5 x 41'-0" (LEVEL II, DUAL COATED)	28
16			
17			
18		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

1 4/11/14 REVISE & RESUBMIT

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: NB3

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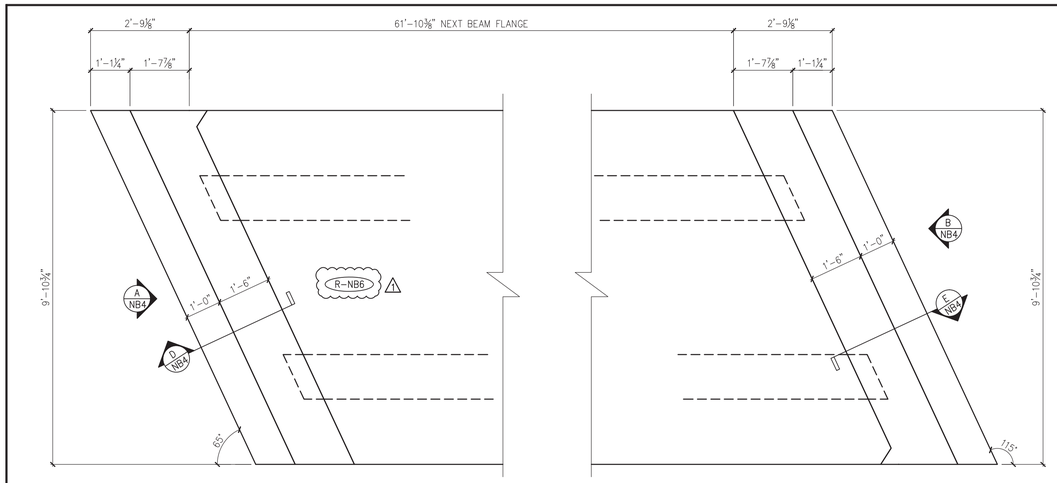
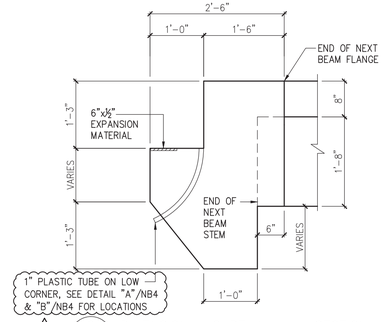
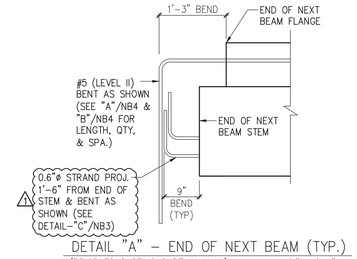


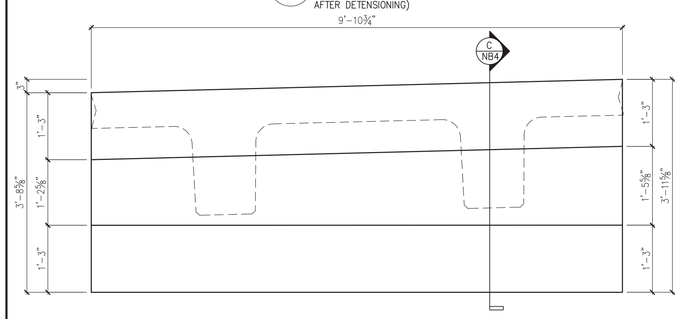
1 NB4 CURTAIN WALL PLAN VIEW IN FORM
(CAST AS SECONDARY POUR, AFTER DETENSIONING) 1/2" =1'-0"



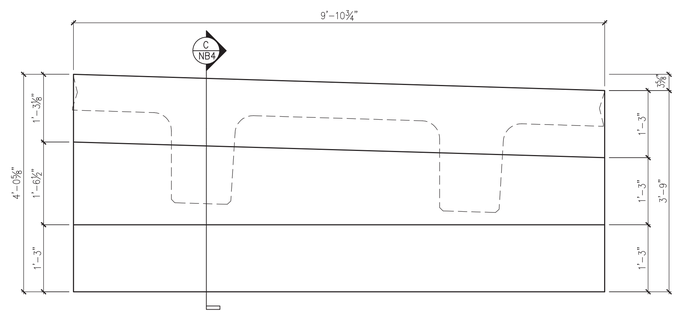
C NB4 DIMENSIONAL CURTAIN WALL SECTION
3/4" =1-0"



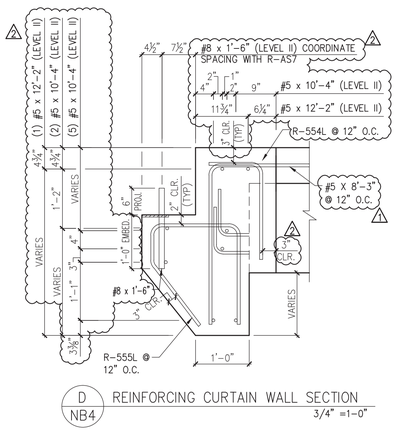
DETAIL "A" – END OF NEXT BEAM (TYP.)
(PRIOR TO CASTING CURTAIN WALL) 3/4" =1'-0"



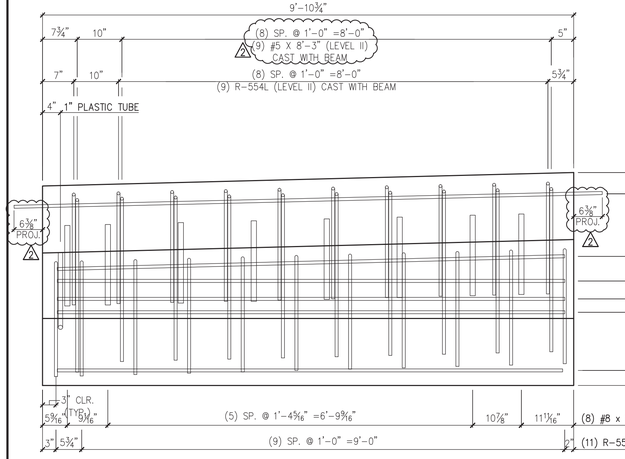
A NB4 DIMENSIONAL CURTAIN WALL ELEVATION @ ABUT. #1
3/4" =1-0"



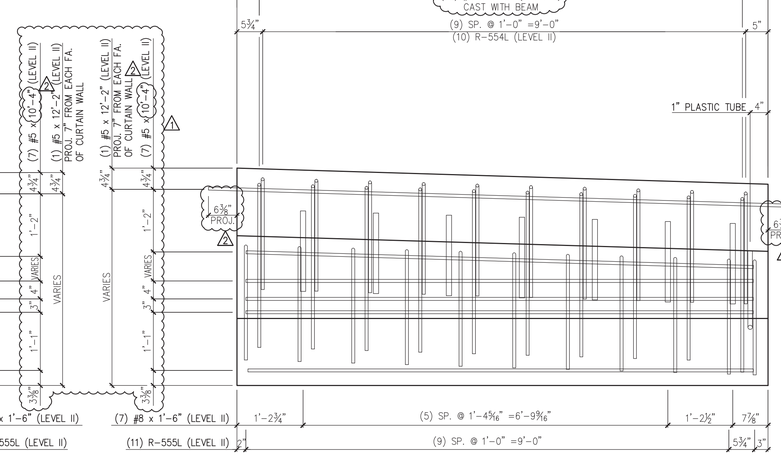
B NB4 DIMENSIONAL CURTAIN WALL ELEVATION @ ABUT. #2
3/4" =1-0"



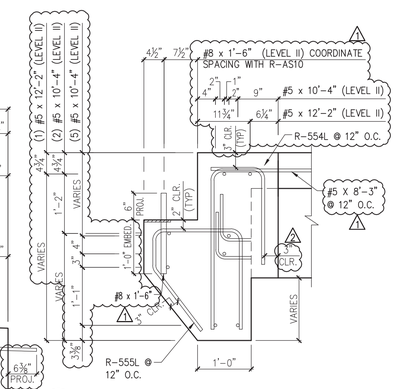
D NB4 REINFORCING CURTAIN WALL SECTION
3/4" =1-0"



A NB4 REINFORCING CURTAIN WALL ELEVATION @ ABUT. #1
3/4" =1-0"



B NB4 REINFORCING CURTAIN WALL ELEVATION @ ABUT. #1
3/4" =1-0"



E NB4 REINFORCING CURTAIN WALL SECTION
3/4" =1-0"

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

MARK:	R-NB6	QTY.:	1	WT.:	1 10.6 T	VOL.:	5.22 cy

MATERIAL LIST / CURTAIN WALLS

ITEM	MARK	DESCRIPTION	QTY.
1	R-554L	#5 BENT BAR (LEVEL II, DUAL COATED)	20
2	R-555L	#5 BENT BAR (LEVEL II, DUAL COATED)	22
3			
4			
5		#5 x 10'-4" (LEVEL II, DUAL COATED)	14
6		#5 x 12'-2" (LEVEL II, DUAL COATED)	2
7			
8		#8 x 1'-6" (LEVEL II, DUAL COATED)	15
9			
10		2 1" PLASTIC TUBE	2
11			
12			
13			
14			

APPROVAL STAMP:

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DATE: MAR. 14, 2014
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JOB NO: 23419-013
DWG. NO: NB4

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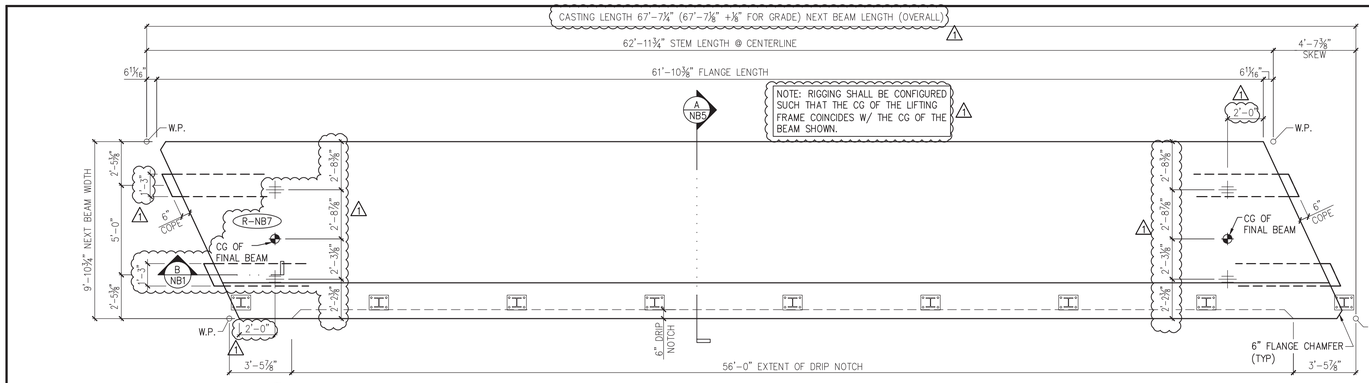
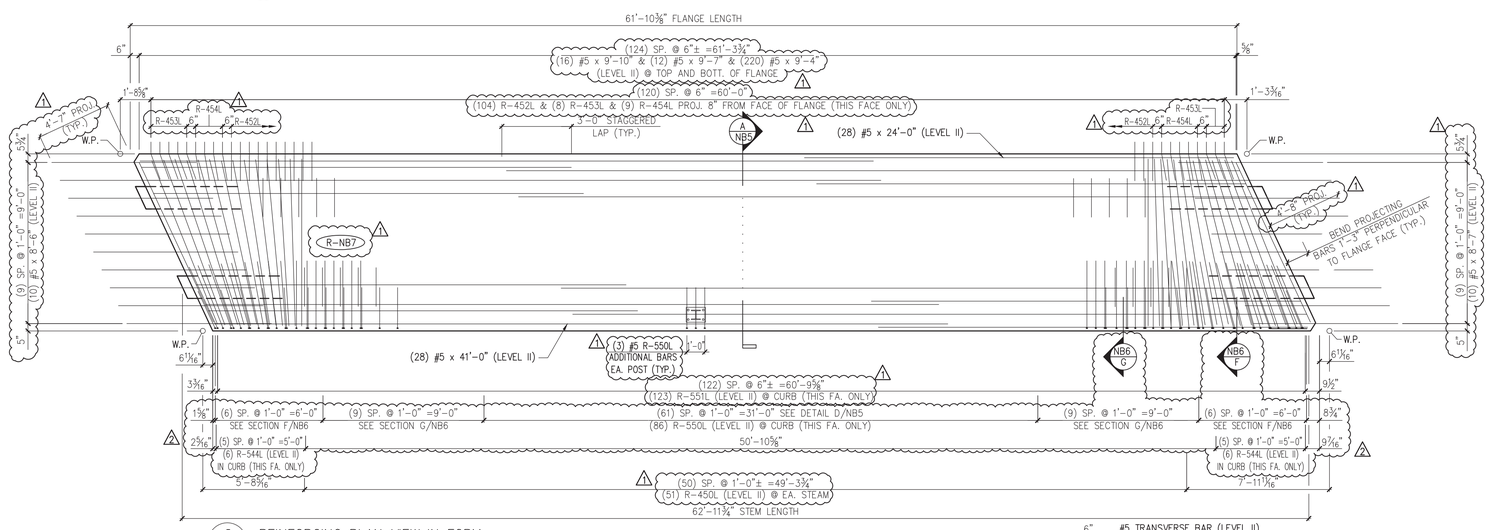
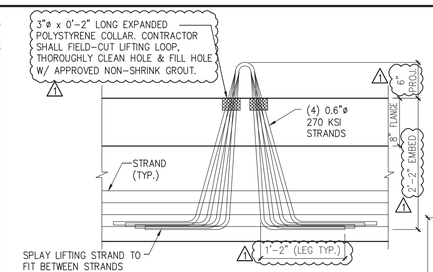


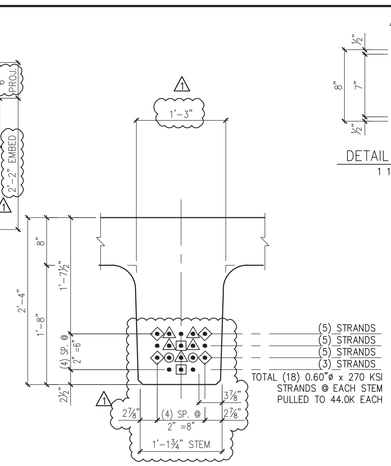
1 NB5 DIMENSIONAL PLAN VIEW IN FORM
1/4" =1'-0"



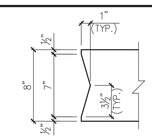
2 NB5 REINFORCING PLAN VIEW IN FORM
ALL DIMENSIONS INDICATED ARE PARALLEL OR PERPENDICULAR TO ℄ OF STEMS U.N.O.
1/4" =1'-0"



TYPICAL LIFTING AND HANDING DETAIL
SCALE: 1" =1'-0"
NOTE: OTHER REINF. NOT SHOWN FOR CLARITY.



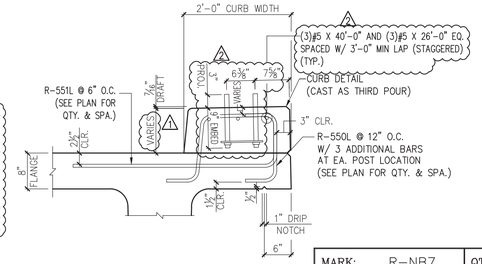
DETAIL – "C" (STEM STRAND PATTERN)
1" =1'-0"



DETAIL – "A"
1 1/2" =1'-0"

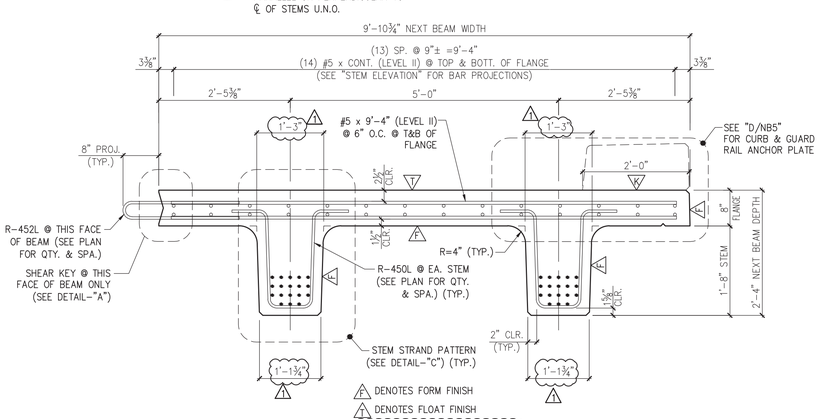
PRESTRESSING NOTATIONS

- ● DENOTES STRAIGHT STRANDS TO BE CUT FLUSH WITH EA. END OF EA. STEM
- ◇ DENOTES STRAIGHT STRANDS TO PROJECT 1'-6" FROM EA. END OF EA. STEM
- △ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- ▣ DENOTES STRAIGHT STRANDS TO BE DEBONDED 8'-0" FROM EA. END OF EA. STEM
- ◉ DENOTES STRAIGHT STRANDS TO BE DEBONDED 12'-0" FROM EA. END OF EA. STEM

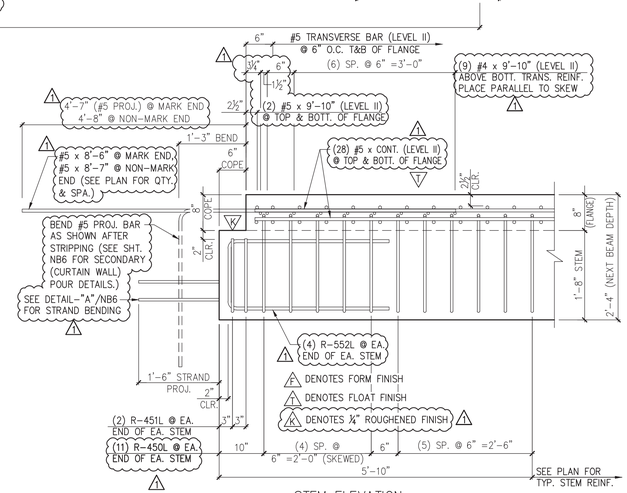


D NB5 REINFORCING @ CURB
OTHER BEAM REINF. NOT SHOWN FOR CLARITY
3/4" =1'-0"

DETENSIONING SCHEDULE
N.T.S.

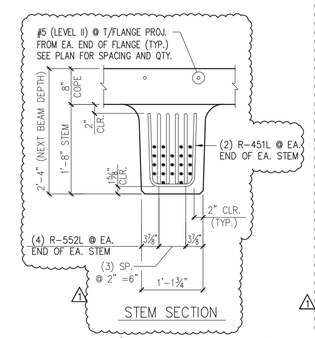


A NB5 DIMENSIONAL & REINFORCING SECTION
3/4" =1'-0"



STEM ELEVATION

B NB5 END BLOCK STEM REINFORCING DETAILS
3/4" =1'-0"



STEM SECTION

4/30/14 REVISE & RESUBMIT
4/11/14 REVISE & RESUBMIT

MARK:	R-NB7	QTY.:	1	WT.:	49.3 T	VOL.:	24.33 cy
TOTAL WITH CURTAIN WALLS & CURB –				WT.:	69.2 T	VOL.:	34.16 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	R-450L	#4 BENT BAR (LEVEL II, DUAL COATED)	146
2	R-451L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
3	R-452L	#4 BENT BAR (LEVEL II, DUAL COATED)	104
4	R-453L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
5	R-454L	#4 BENT BAR (LEVEL II, DUAL COATED)	9
6			
7	R-544L	#5 BENT BAR (LEVEL II, DUAL COATED)	12
8	R-550L	#5 BENT BAR (LEVEL II, DUAL COATED)	89
9	R-551L	#5 BENT BAR (LEVEL II, DUAL COATED)	123
10	R-552L	#5 BENT BAR (LEVEL II, DUAL COATED)	16
11			
12		#4 x 9'-10" (LEVEL II, DUAL COATED)	18
13			
14			
15		#5 x 8'-6" (LEVEL II, DUAL COATED)	10
16		#5 x 8'-7" (LEVEL II, DUAL COATED)	10
17		#5 x 9'-4" (LEVEL II, DUAL COATED)	220
18		#5 x 9'-7" (LEVEL II, DUAL COATED)	12
19		#5 x 9'-10" (LEVEL II, DUAL COATED)	20
20		#5 x 24'-0" (LEVEL II, DUAL COATED)	28
21		#5 x 26'-0" (LEVEL II, DUAL COATED)	3
22		#5 x 40'-0" (LEVEL II, DUAL COATED)	3
23		#5 x 41'-0" (LEVEL II, DUAL COATED)	28
24			
25		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

APPROVAL STAMP:

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Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: NB5

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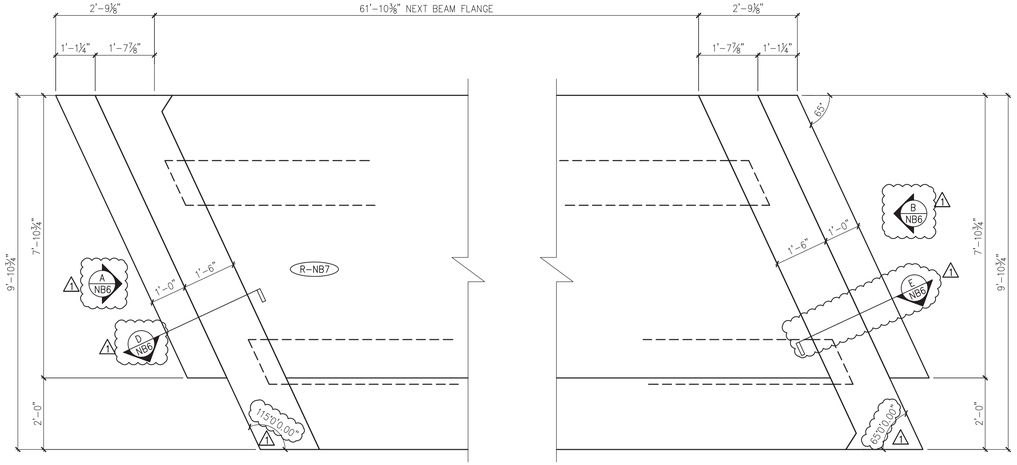
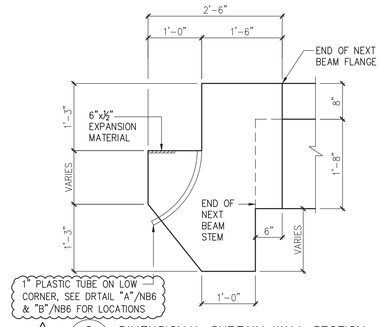
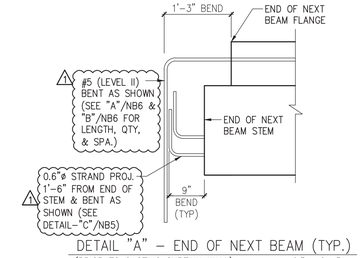


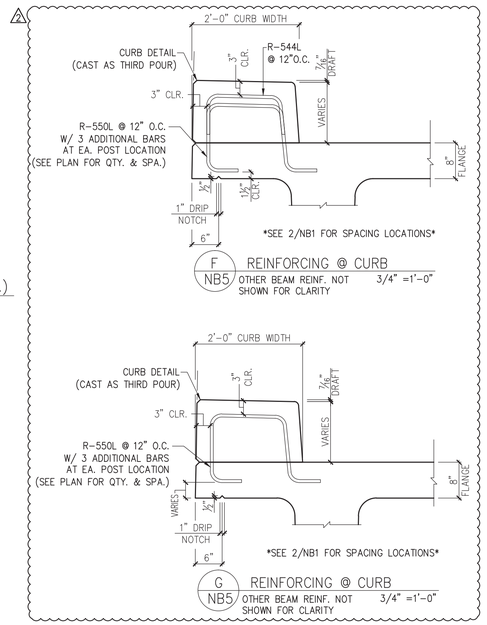
1 NB6 CURTAIN WALL PLAN VIEW IN FORM
(CAST AS SECONDARY POUR, AFTER DETENSIONING) 1/2" =1'-0"

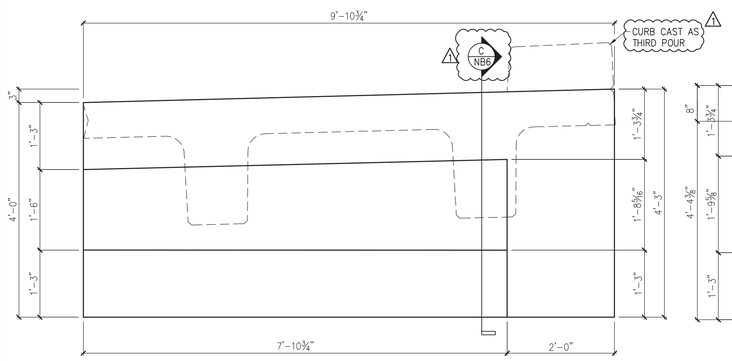


C NB6 DIMENSIONAL CURTAIN WALL SECTION
3/4" =1-0"

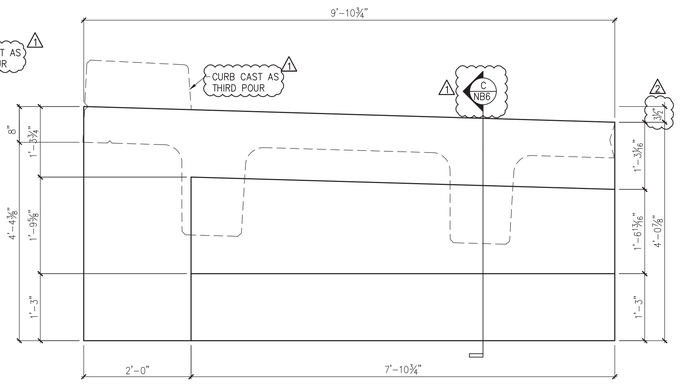


DETAIL "A" – END OF NEXT BEAM (TYP.)
(PRIOR TO CASTING CURTAIN WALL) 3/4" =1'-0"

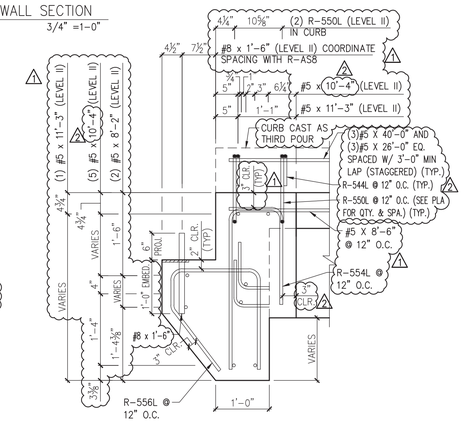




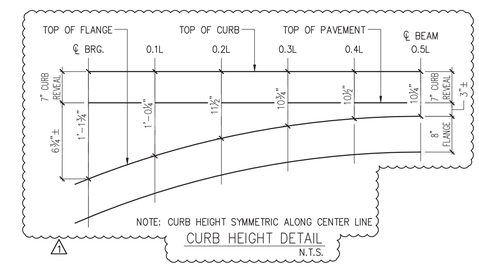
A NB6 DIMENSIONAL CURTAIN WALL ELEVATION @ ABUT. #1
3/4" =1-0"



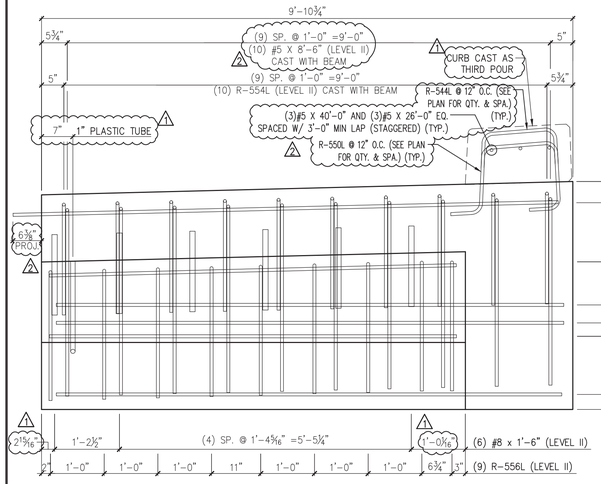
B NB6 DIMENSIONAL CURTAIN WALL ELEVATION @ ABUT. #2
3/4" =1-0"



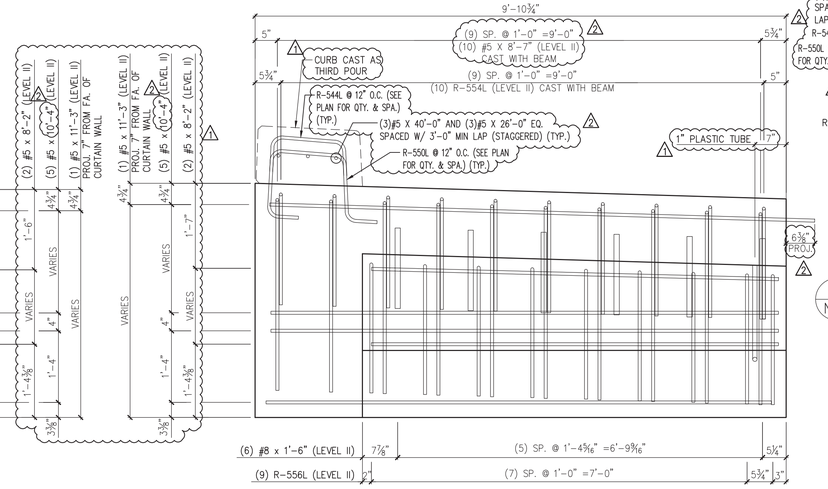
E NB6 REINFORCING CURTAIN WALL SECTION
3/4" =1-0"



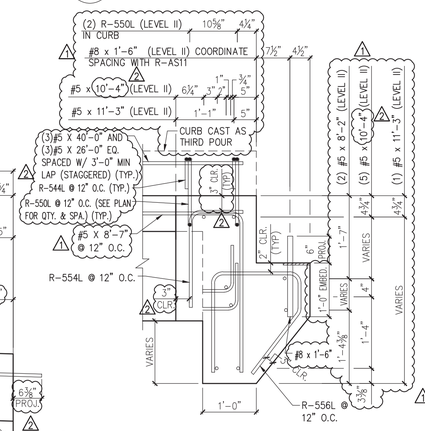
CURB HEIGHT DETAIL
N.T.S.



A NB6 REINFORCING CURTAIN WALL ELEVATION @ ABUT. #1
3/4" =1-0"



B NB6 REINFORCING CURTAIN WALL SECTION @ ABUT. #1
3/4" =1-0"



D NB6 REINFORCING CURTAIN WALL SECTION
3/4" =1-0"

△2 4/30/14 REVISE & RESUBMIT
△1 4/11/14 REVISE & RESUBMIT

MARK:	R-NB7	QTY.: 1	WT.: △1 10.9 T	VOL.: 5.39 cy

MATERIAL LIST / CURTAIN WALLS

ITEM	MARK	DESCRIPTION	QTY.
1	R-554L	#5 BENT BAR (LEVEL II, DUAL COATED)	20
2	R-556L	#5 BENT BAR (LEVEL II, DUAL COATED)	18
3			
4			
5			
6		#5 x 8'-2" (LEVEL II, DUAL COATED)	4
7		#5 x 10'-4" (LEVEL II, DUAL COATED) △2	10
8		#5 x 11'-3" (LEVEL II, DUAL COATED)	2
9			
10		#8 x 1'-6" (LEVEL II, DUAL COATED)	12
11			
12		△2 1" PLASTIC TUBE	2
13			
14			

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: NB6

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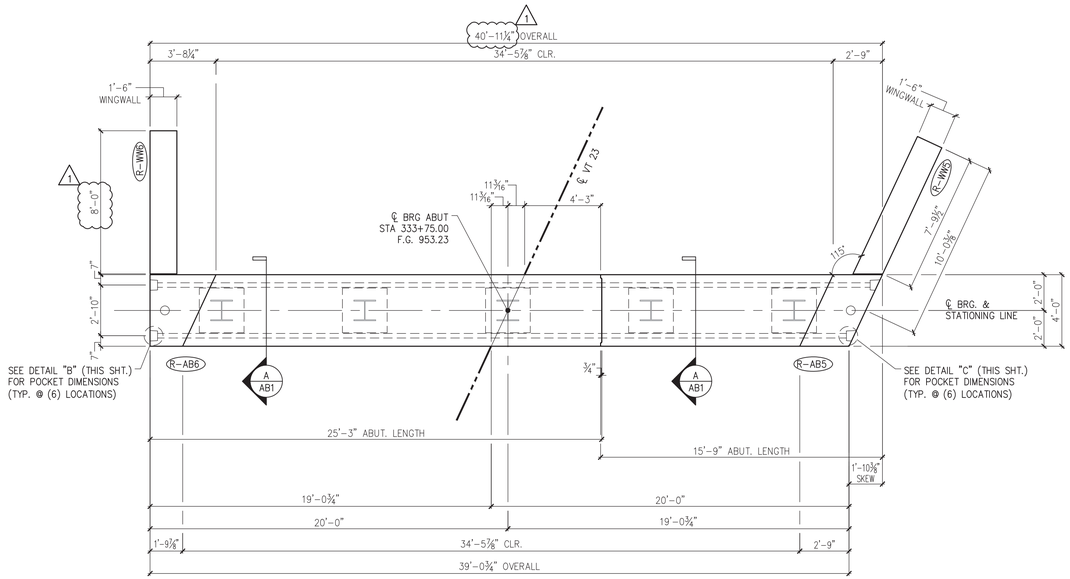
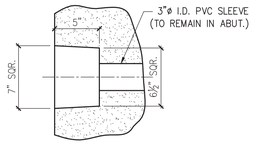
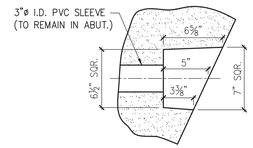


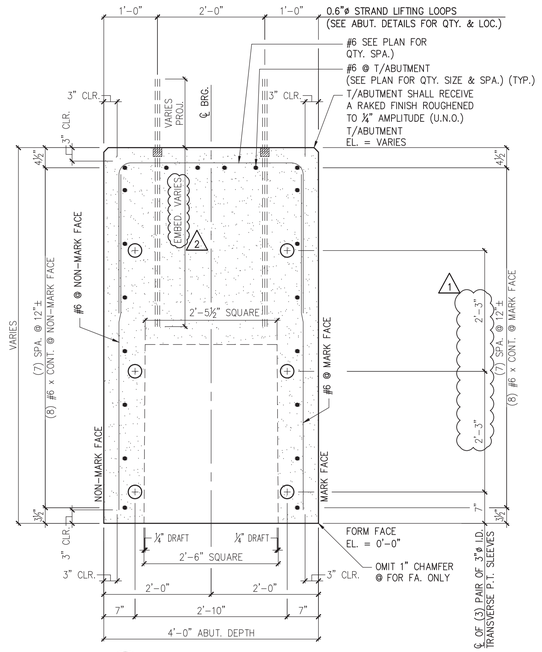
1 / AB1 ABUTMENT 1 ASSEMBLY PLAN
1/4" =1'-0"



DETAIL – "B"
1 1/2" =1'-0"

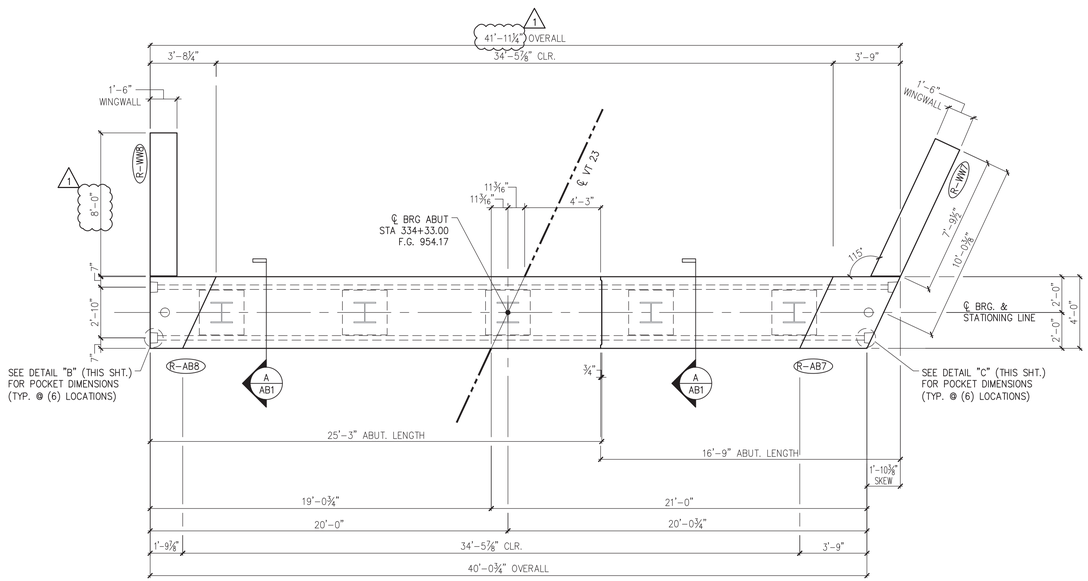


DETAIL – "C"
1 1/2" =1'-0"



A / AB1 ABUTMENT SECTION
3/4" =1'-0"

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL
RECEIVE A 1" CHAMFER (U.N.O.)



2 / AB1 ABUTMENT 2 ASSEMBLY PLAN
1/4" =1'-0"

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST ABUTMENT
PLAN, SECTION & DETAILS

DATE:	MAR. 14, 2014
SCALE:	NOTED
CHKD:	DFTM: AAT/RWS JLJ/KLT
JOB NO:	23419-013
DWG. NO:	AB1

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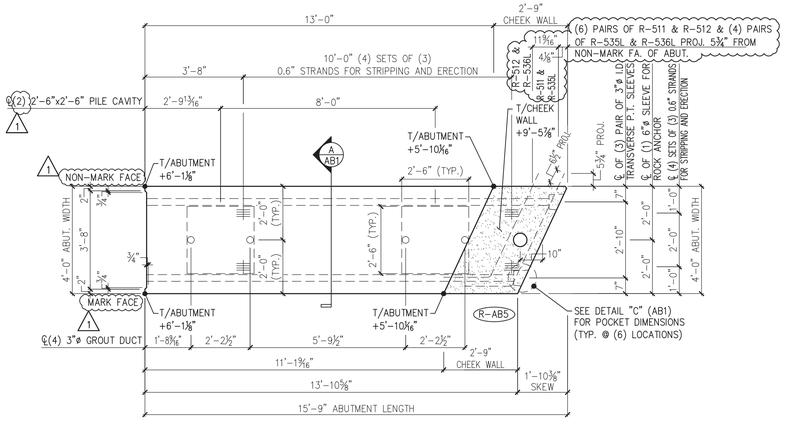
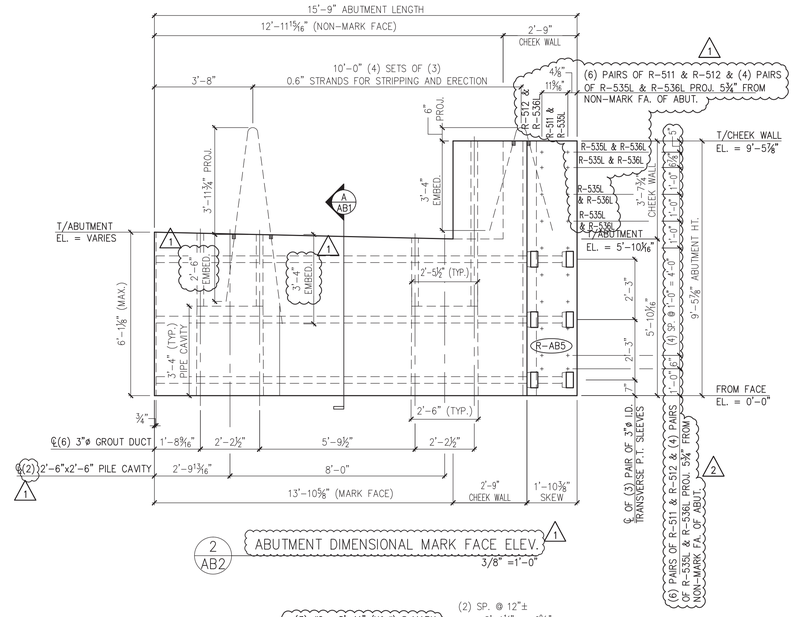
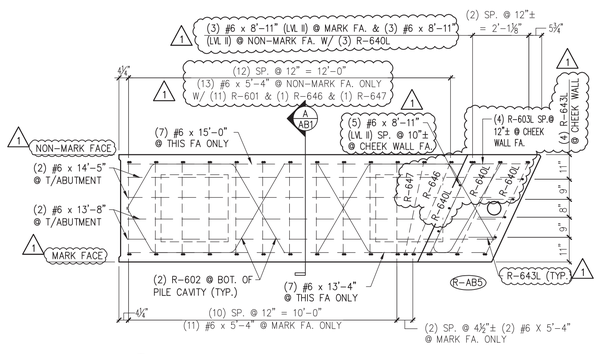


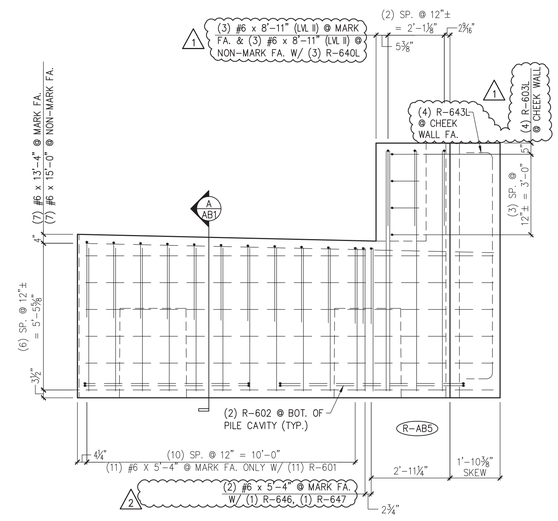
1 AB2 ABUTMENT DIMENSIONAL PLAN VIEW IN FORM
3/8" =1'-0"



2 AB2 ABUTMENT DIMENSIONAL MARK FACE ELEV.
3/8" =1'-0"



3 AB2 ABUTMENT REINFORCING PLAN VIEW IN FORM
3/8" =1'-0"



4 AB2 ABUTMENT REINFORCING MARK FACE ELEV.
3/8" =1'-0"

MARK:	R-AB5	QTY.: 1	WT.: 26.3 T	VOL.: 12.99 cy

ITEM	MARK	MATERIAL LIST / ABUTMENT	QTY.
1	R-511	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
2	R-512	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
3	R-535L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
4	R-536L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
5			
6	R-601	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	11
7	R-602	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	4
8	R-603L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
9	R-640L	#6 BENT BAR (LEVEL II – DUAL COATED)	3
10	R-643L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
11	R-645	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	3
12	R-646	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
13	R-647	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
14			
15			
16		#6 x 5'-4" (LEVEL I – BLACK REINFORCEMENT)	26
17		#6 x 8'-11" (LEVEL I – BLACK REINFORCEMENT)	11
18		#6 x 13'-4" (LEVEL I – BLACK REINFORCEMENT)	7
19		#6 x 13'-8" (LEVEL I – BLACK REINFORCEMENT)	2
20		#6 x 14'-5" (LEVEL I – BLACK REINFORCEMENT)	2
21		#6 x 15'-0" (LEVEL I – BLACK REINFORCEMENT)	7
22			
23		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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COUNTY OF WINDSOR

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VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST ABUTMENT DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: AB2

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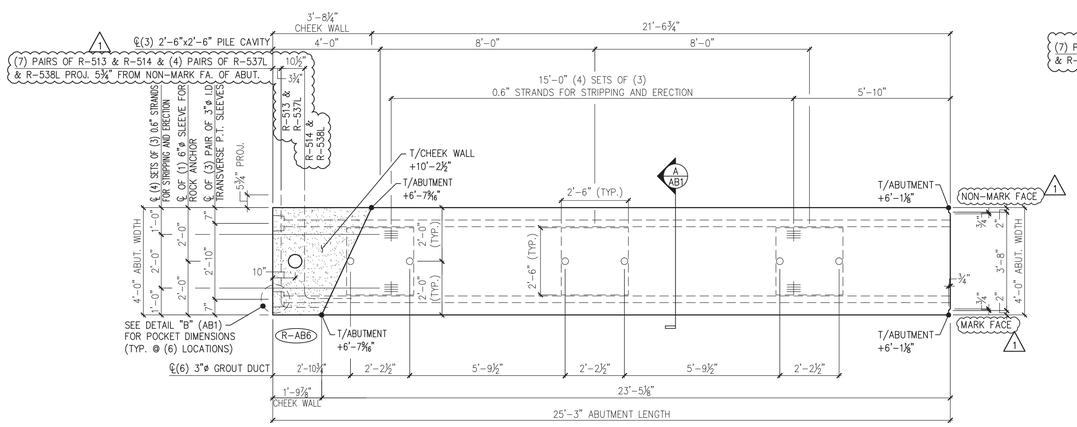
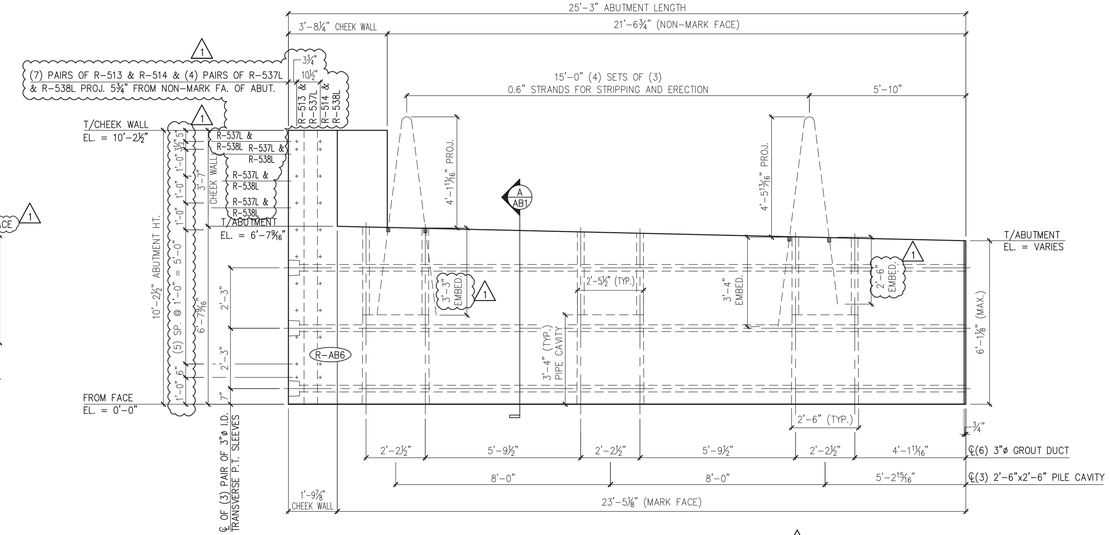
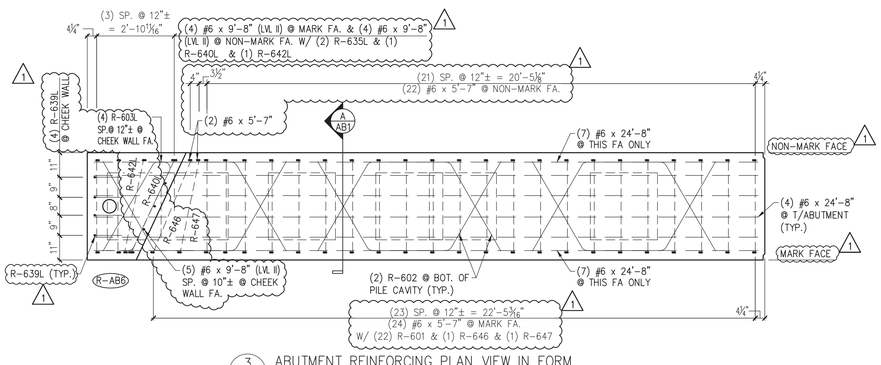


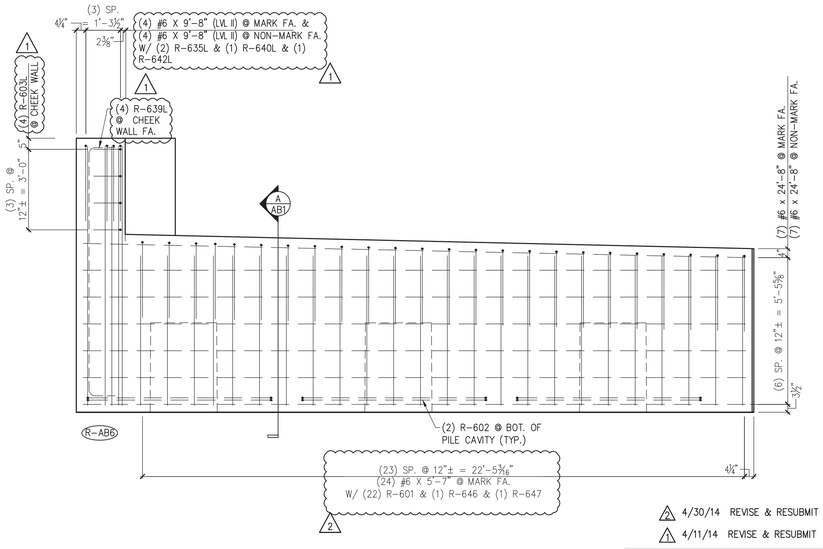
1 AB3 ABUTMENT DIMENSIONAL PLAN VIEW IN FORM
3/8" =1'-0"



2 AB3 ABUTMENT DIMENSIONAL MARK FACE ELEV.
3/8" =1'-0"



3 AB3 ABUTMENT REINFORCING PLAN VIEW IN FORM
3/8" =1'-0"



4 AB3 ABUTMENT REINFORCING MARK FACE ELEV.
3/8" =1'-0"

MARK:	R-AB6	QTY.:	1	WT.:	46.8 T	VOL.:	21.10 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	R-513	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	7
2	R-514	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	7
3	R-537L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
4	R-538L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
5			
6	R-601	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	24
7	R-602	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
8	R-646	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
9	R-603L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
10	R-635L	#6 BENT BAR (LEVEL II – DUAL COATED)	2
11	R-639L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
12	R-640L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
13	R-642L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
14	R-645	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
15	R-646	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
16	R-647	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
17			
18			
19		#6 x 5'-7" (LEVEL I – BLACK REINFORCEMENT)	48
20		#6 x 9'-8" (LEVEL I – BLACK REINFORCEMENT)	13
21		#6 x 24'-8" (LEVEL I – BLACK REINFORCEMENT)	18
22			
23		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

W.M. SCHULTZ CONSTRUCTION, INC.
PO BOX 2620
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST ABUTMENT DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: AB3

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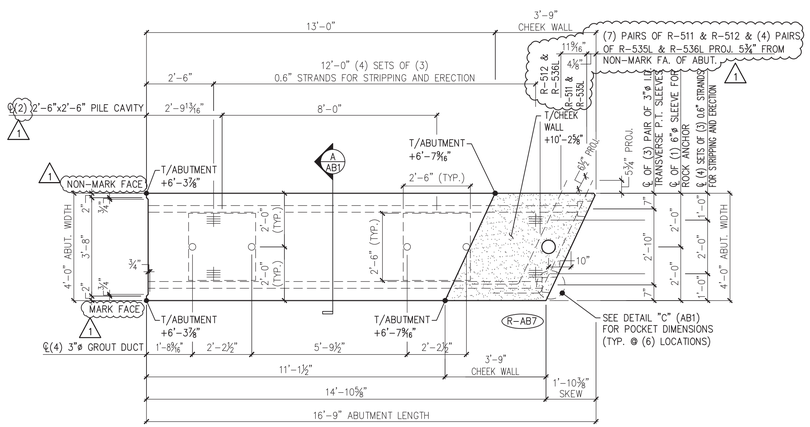
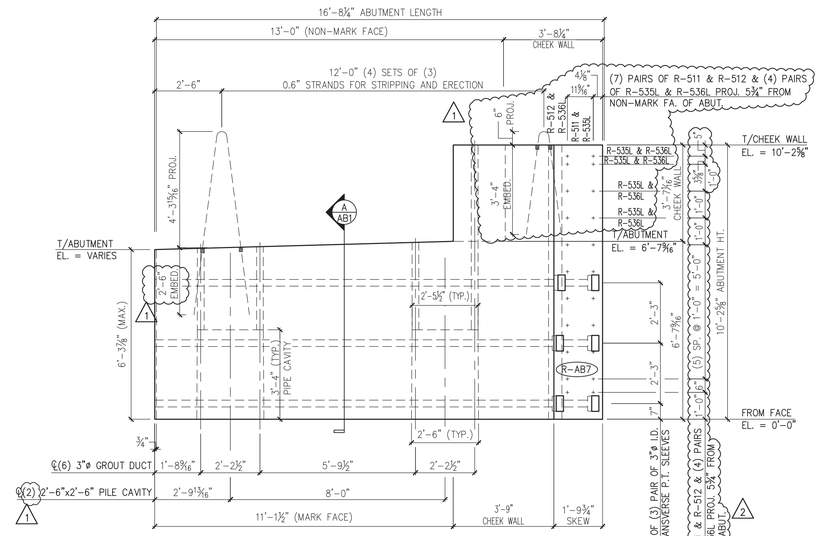
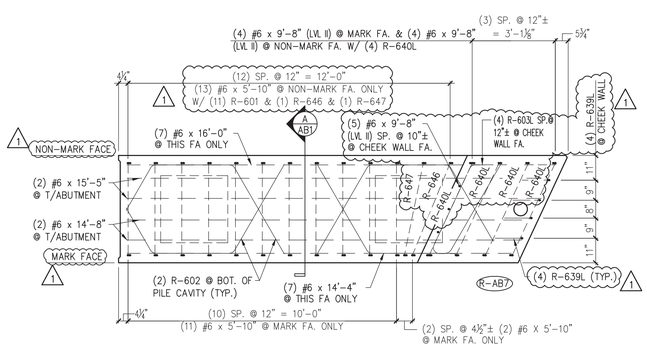


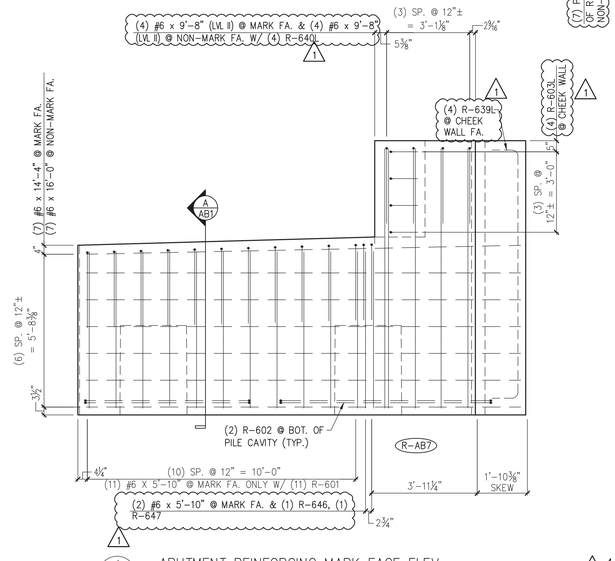
1 AB4 ABUTMENT DIMENSIONAL PLAN VIEW IN FORM
3/8" =1'-0"



2 AB4 ABUTMENT DIMENSIONAL MARK FACE ELEV.
3/8" =1'-0"



3 AB4 ABUTMENT REINFORCING PLAN VIEW IN FORM
3/8" =1'-0"



4 AB4 ABUTMENT REINFORCING MARK FACE ELEV.
3/8" =1'-0"

MARK:	R-AB7	QTY.:	1	WT.:	31.7 T	VOL.:	15.65 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	R-511	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	7
2	R-512	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	7
3	R-535L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
4	R-536L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
5			
6	R-601	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	11
7	R-602	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	4
8	R-603L	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	4
9	R-639L	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	4
10	R-640L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
11	R-645	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	4
12	R-646	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
13	R-647	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
14			
15		#6 x 5'-10" (LEVEL I – BLACK REINFORCEMENT)	26
16		#6 x 9'-8" (LEVEL I – BLACK REINFORCEMENT)	13
17		#6 x 14'-4" (LEVEL I – BLACK REINFORCEMENT)	7
18		#6 x 14'-8" (LEVEL I – BLACK REINFORCEMENT)	2
19		#6 x 15'-5" (LEVEL I – BLACK REINFORCEMENT)	2
20		#6 x 16'-0" (LEVEL I – BLACK REINFORCEMENT)	7

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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PO BOX 2620
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST ABUTMENT DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JU/KLT
JOB NO: 23419-013
DWG. NO: AB4

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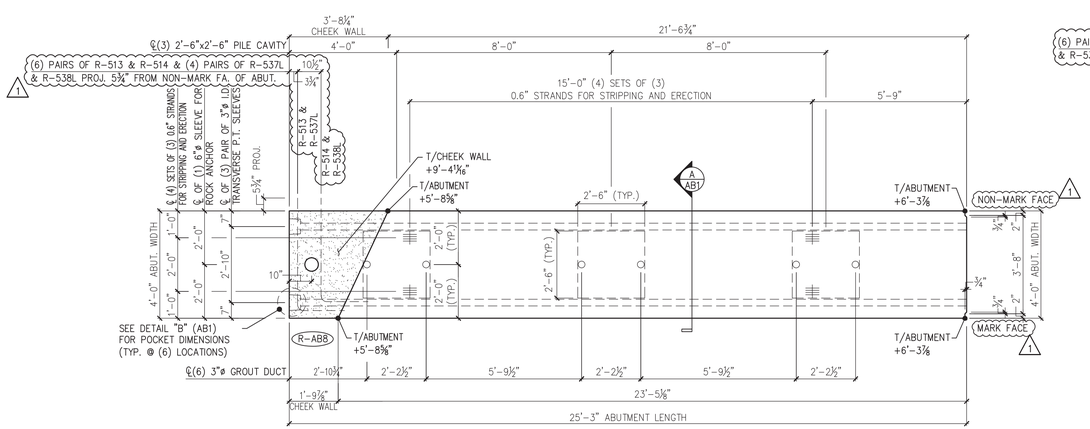
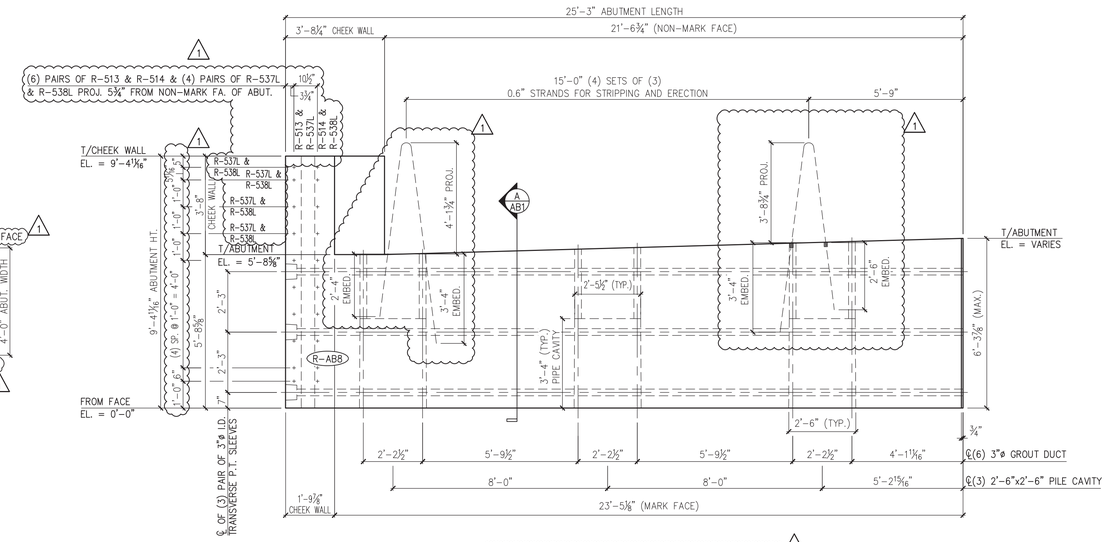
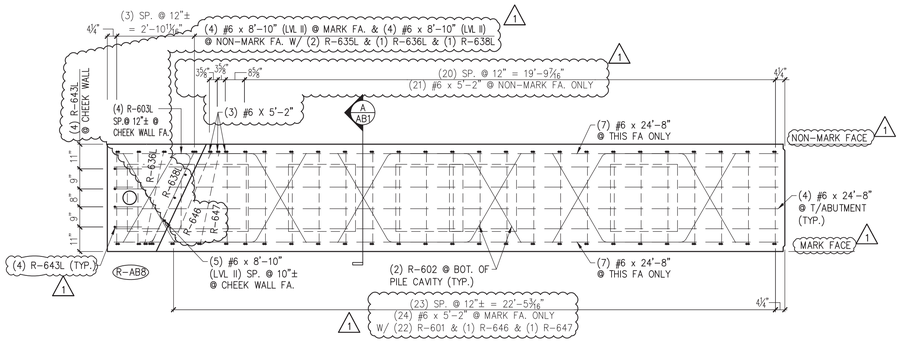


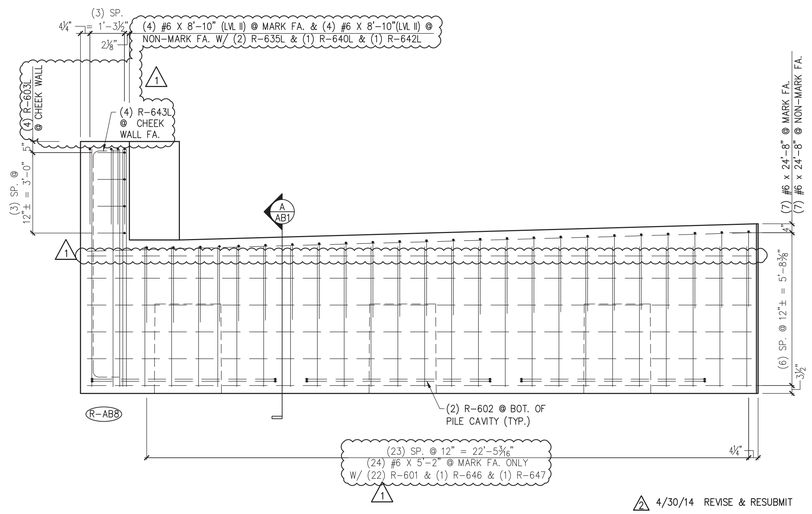
1 AB5 ABUTMENT DIMENSIONAL PLAN VIEW IN FORM
3/8" =1'-0"



2 AB5 ABUTMENT DIMENSIONAL MARK FACE ELEV.
3/8" =1'-0"



3 AB5 ABUTMENT REINFORCING PLAN VIEW IN FORM
3/8" =1'-0"



4 AB5 ABUTMENT REINFORCING MARK FACE ELEV.
3/8" =1'-0"

MARK: R-AB8	QTY.: 1	WT.: 43.7 T	VOL.: 21.57 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	R-513	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
2	R-514	#5 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
3	R-537L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
4	R-538L	#5 BENT BAR (LEVEL II – DUAL COATED)	4
5			
6	R-601	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	22
7	R-602	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	6
8	R-603L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
8	R-635L	#6 BENT BAR (LEVEL II – DUAL COATED)	2
8	R-636L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
8	R-638L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
9	R-640L	#6 BENT BAR (LEVEL II – DUAL COATED)	4
10	R-642L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
11	R-643L	#6 BENT BAR (LEVEL II – DUAL COATED)	1
12	R-645	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
13	R-646	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
14	R-647	#6 BENT BAR (LEVEL I – BLACK REINFORCEMENT)	1
15			
16		#6 x 5'-2" (LEVEL I – BLACK REINFORCEMENT)	48
17		#6 x 8'-10" (LEVEL I – BLACK REINFORCEMENT)	13
18		#6 x 24'-8" (LEVEL I – BLACK REINFORCEMENT)	18
19			
20		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST ABUTMENT DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: AB5

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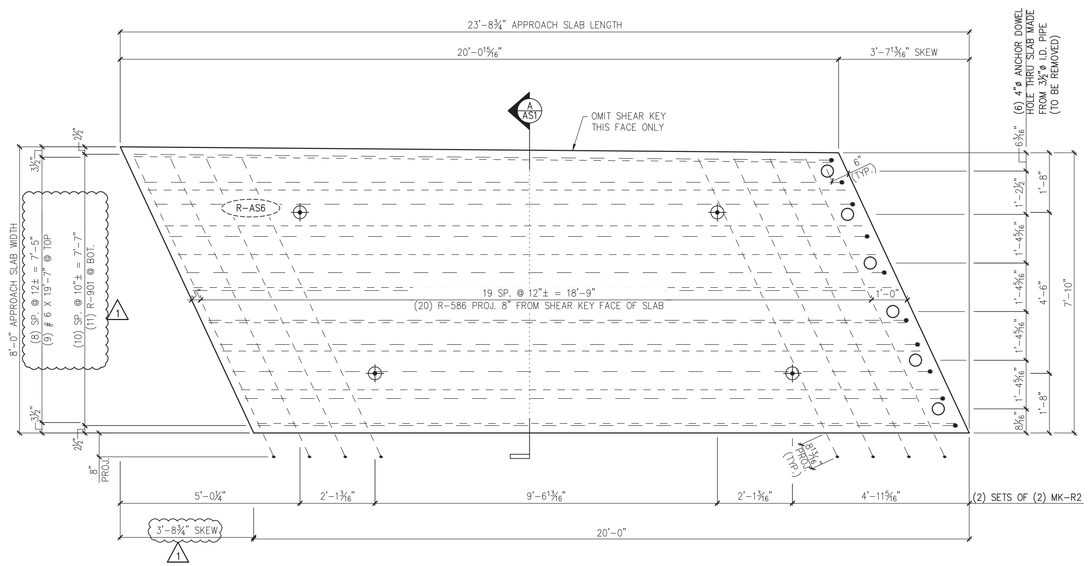
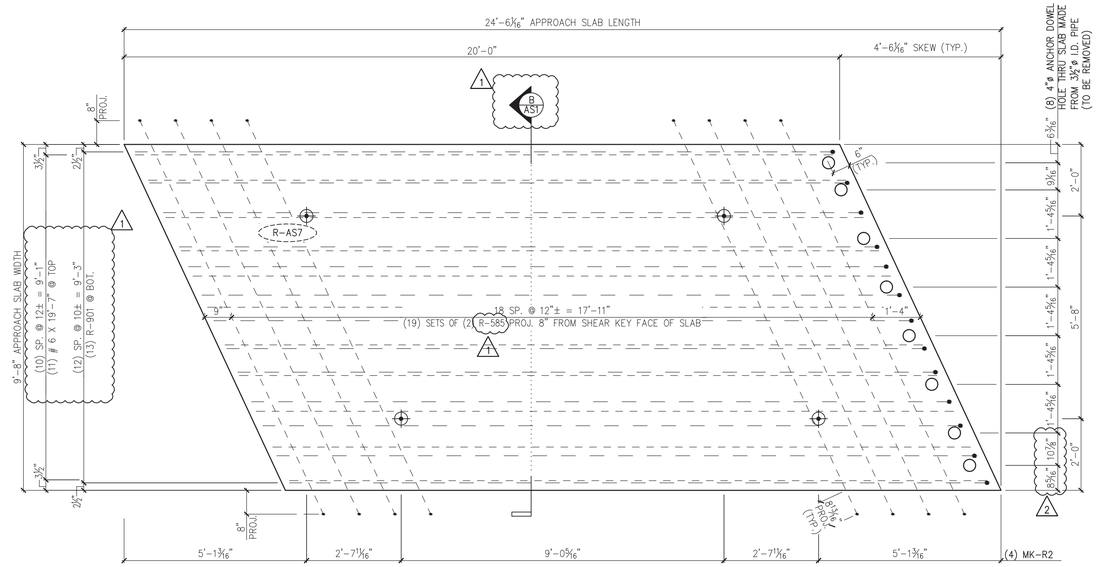
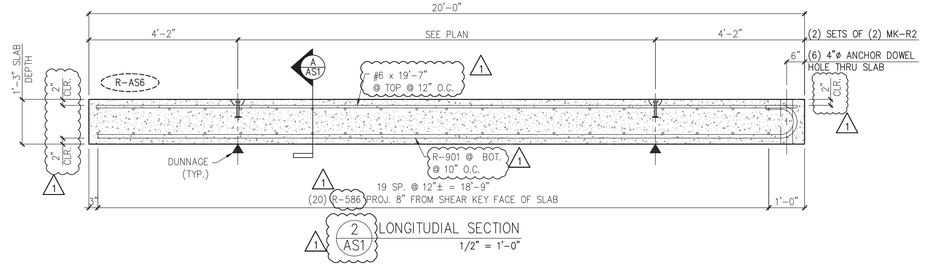


1 AS1 PLAN IN VIEW FORM
1/2" =1'-0"



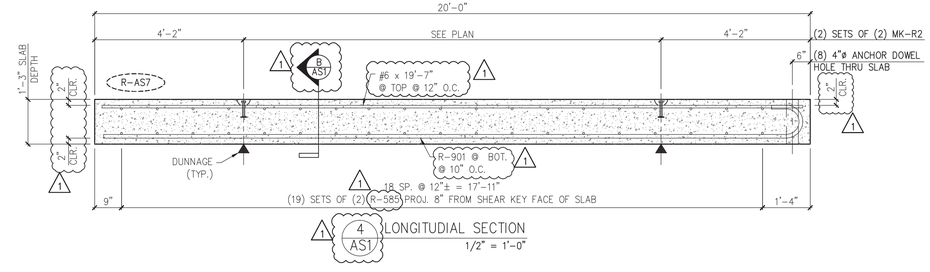
3 AS1 PLAN IN VIEW FORM
1/2" =1'-0"



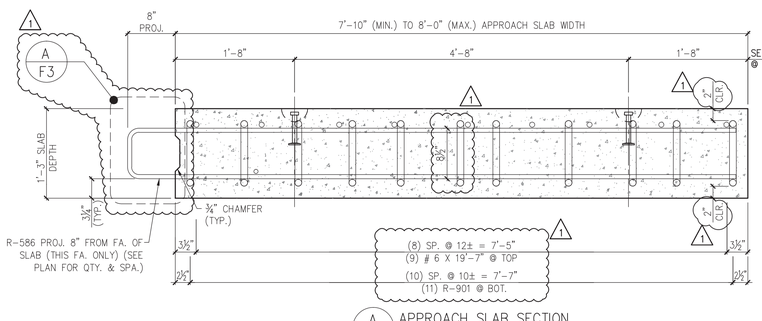
2 AS1 LONGITUDIAL SECTION
1/2" = 1'-0"

PER THE RFI RESPONSE DATED MAY 8 2014:

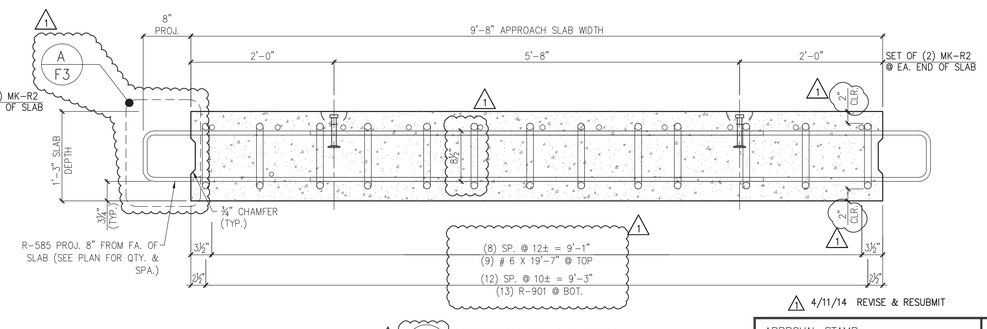
FABRICATOR SHALL ROTATE THE #9 BARS TO PROVIDE THE REQUIRED 3" CLEARANCE



4 AS1 LONGITUDIAL SECTION
1/2" = 1'-0"



A AS1 APPROACH SLAB SECTION
1" = 1'-0"



B AS1 APPROACH SLAB SECTION
1" = 1'-0"

MARK:	R-AS6	QTY.: 1	WT.: 14.9 T	VOL.: 7.33 cy
MARK:	R-AS7	QTY.: 1	WT.: 18.2 T	VOL.: 8.95 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY. WING WALL R-AS6	QTY. WING WALL R-AS7
1	R-585	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	38
2	R-586	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	20	0
3				
4		#6 x 19'-7" (LEVEL I, BLACK REINFORCEMENT)	9	9
5				
6	R-901	#9 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	11	13
7				
8	MK-R2	8T x 10" SWIFT LIFT LIFTER	4	4

1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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Precast & Prestress Manufacturer
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W.M. SCHULTZ CONSTRUCTION, INC.
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST APPROACH SLAB DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: AS1

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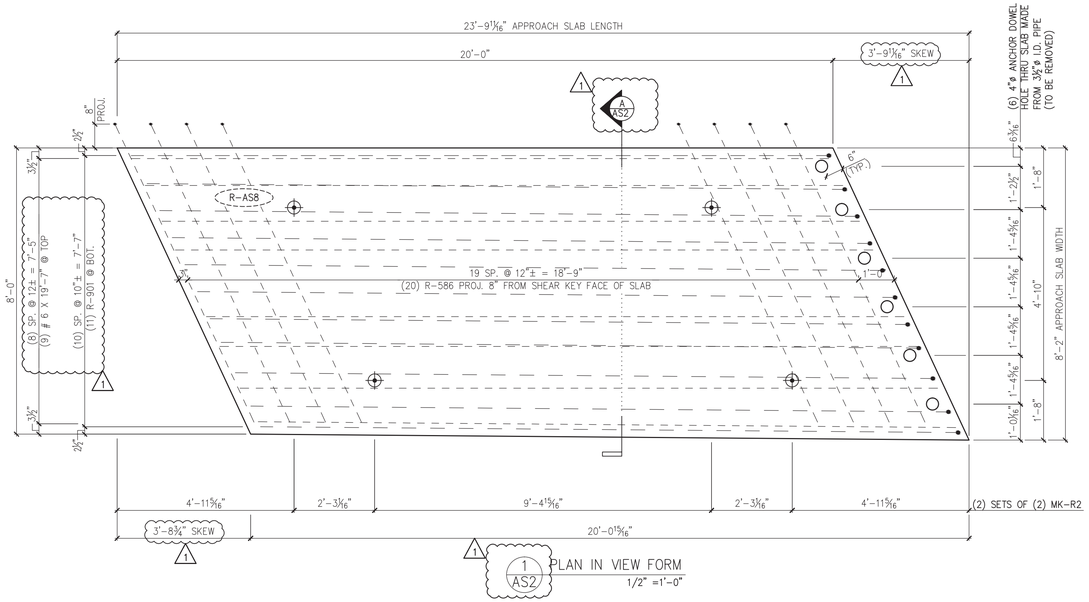
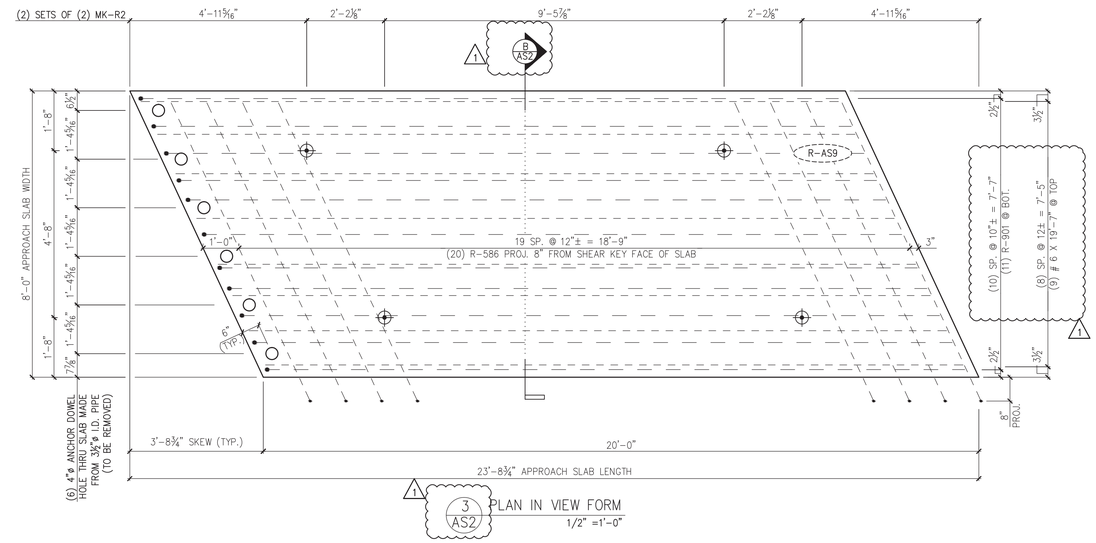
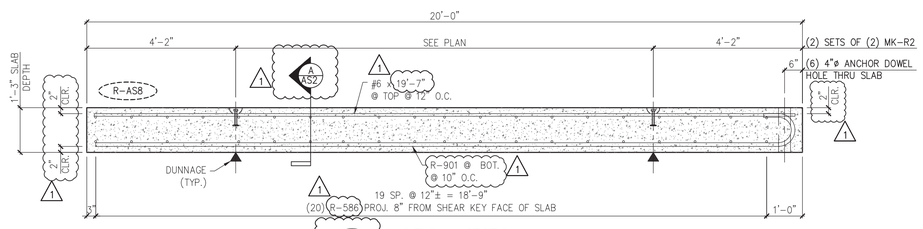


1 AS2 PLAN IN VIEW FORM
1/2" =1'-0"



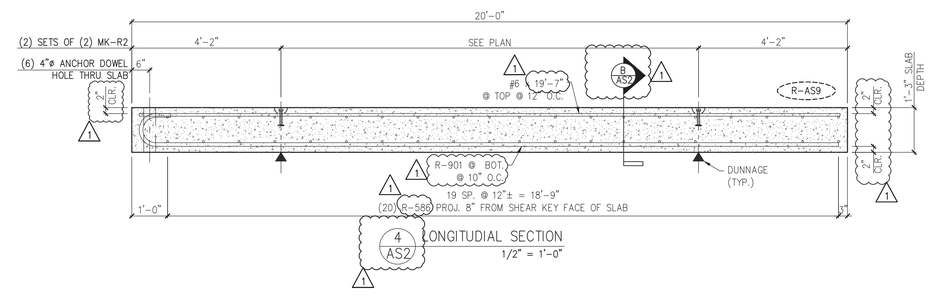
3 AS2 PLAN IN VIEW FORM
1/2" =1'-0"



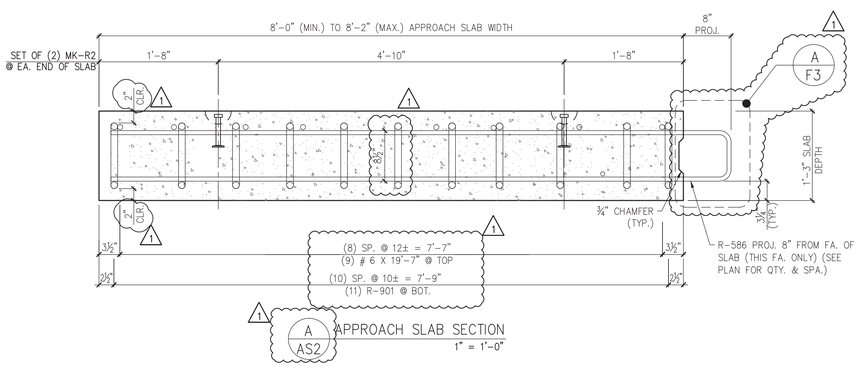
2 AS2 LONGITUDIAL SECTION
1/2" = 1'-0"

PER THE RFI RESPONSE DATED MAY 8 2014:

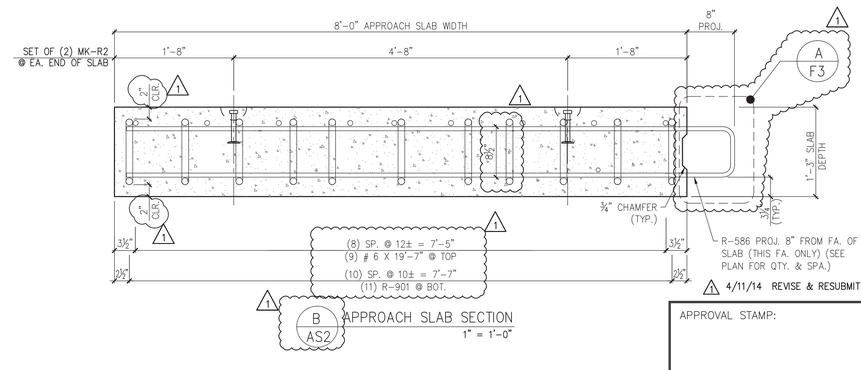
FABRICATOR SHALL ROTATE THE #9 BARS TO PROVIDE THE REQUIRED 3" CLEARANCE



4 AS2 LONGITUDIAL SECTION
1/2" = 1'-0"



A AS2 APPROACH SLAB SECTION
1" = 1'-0"



B AS2 APPROACH SLAB SECTION
1" = 1'-0"

MARK:	R-AS8	QTY.:	1	WT.:	15.3 T	VOL.:	7.48 cy
MARK:	R-AS9	QTY.:	1	WT.:	15.0 T	VOL.:	7.41 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY./WING WALL R-AS8	QTY./WING WALL R-AS9
1				
2	R-586	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	20	20
3				
4	1	#6 x 19'-7" (LEVEL I, BLACK REINFORCEMENT)	9	9
5				
6	R-901	#9 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	11	11
7				
8	MK-R2	8T x 10" SWIFT LIFT LIFTER	4	4

1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST APPROACH SLAB DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: AS2

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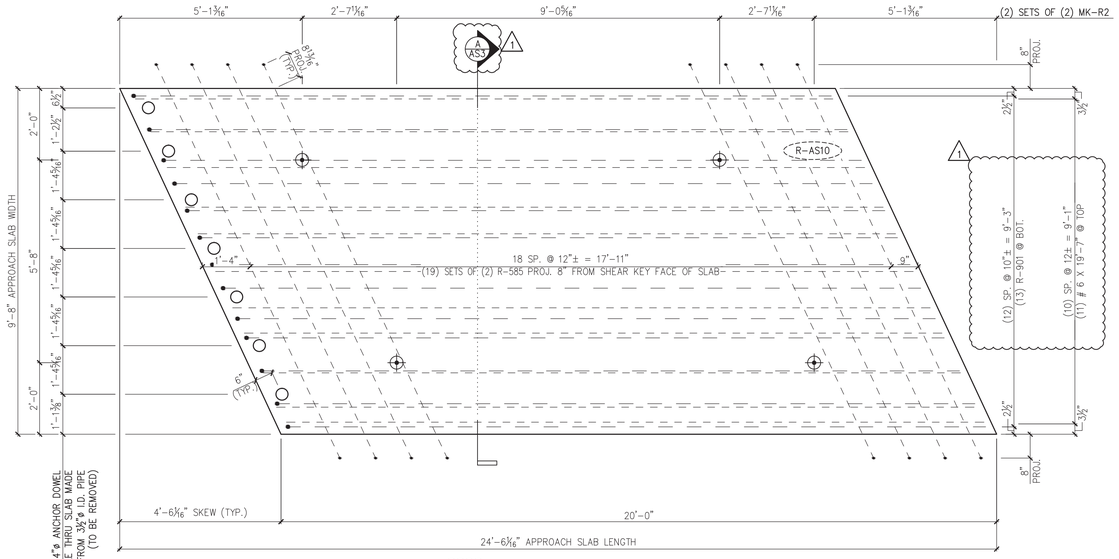
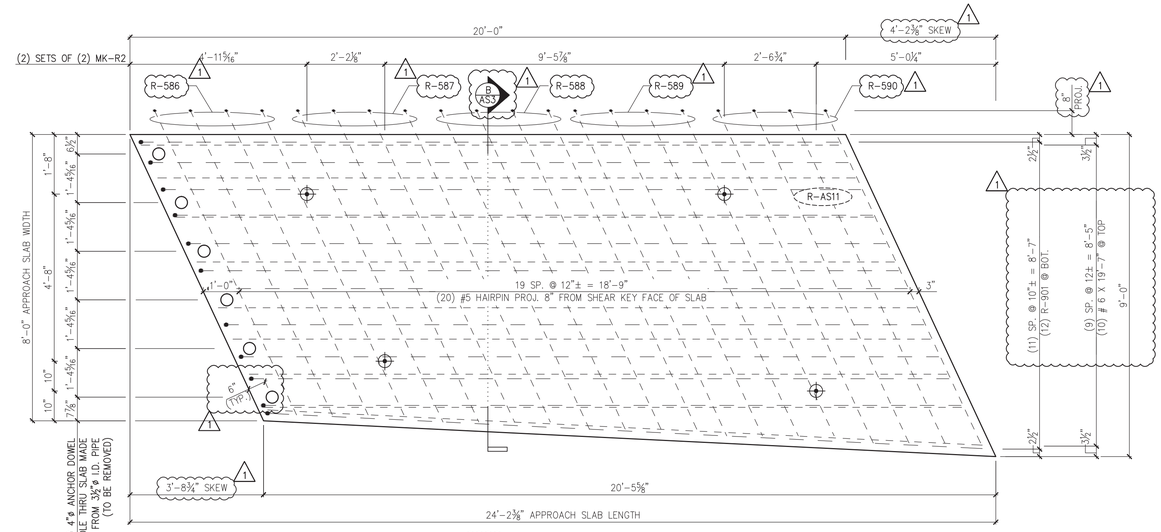
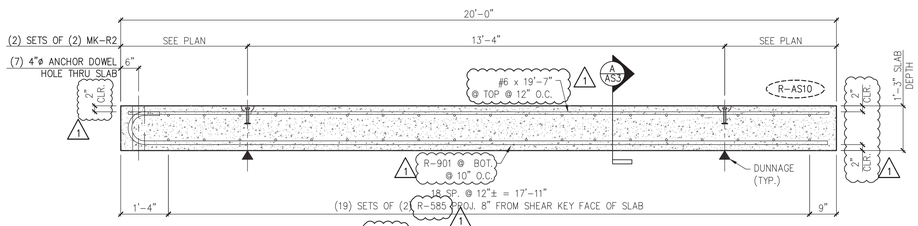


1 AS3 PLAN IN VIEW FORM
1/2" =1'-0"



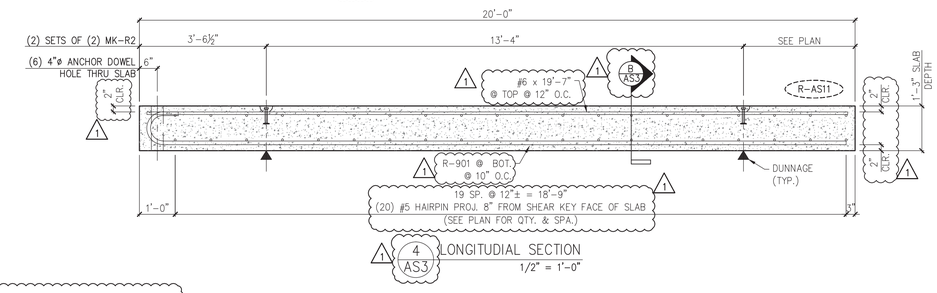
3 AS3 PLAN IN VIEW FORM
1/2" =1'-0"



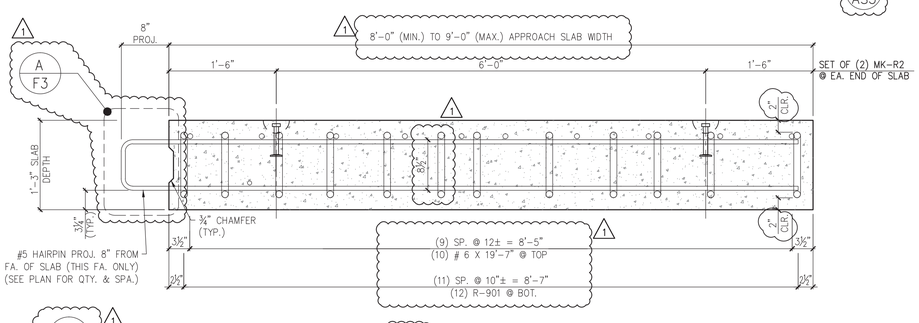
2 AS3 LONGITUDIAL SECTION
1/2" = 1'-0"

PER THE RFI RESPONSE DATED MAY 8 2014:

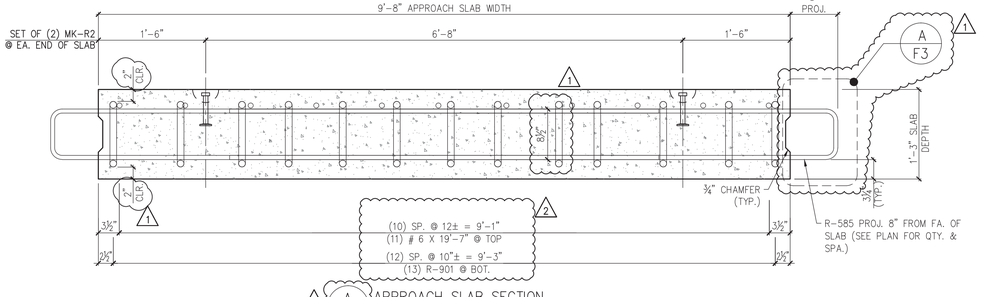
FABRICATOR SHALL ROTATE THE #9 BARS TO PROVIDE THE REQUIRED 3" CLEARANCE



4 AS3 LONGITUDIAL SECTION
1/2" = 1'-0"



B AS3 APPROACH SLAB SECTION
1" = 1'-0"



A AS3 APPROACH SLAB SECTION
1" = 1'-0"

MARK:	R-AS10	QTY.:	1	WT.:	18.2 T	VOL.:	8.95 cy
MARK:	R-AS11	QTY.:	1	WT.:	16.0 T	VOL.:	7.87 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY./WING WALL R-AS10	QTY./WING WALL R-AS11
1	R-585	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	0
2	R-586	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	4
3	R-587	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	4
4	R-588	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	4
5	R-589	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	4
6	R-590	#5 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	0	4
7				
8				
8		#6 x 19'-7" (LEVEL I, BLACK REINFORCEMENT)	9	10
8				
8	R-901	#9 BENT BAR (LEVEL I, BLACK REINFORCEMENT)	13	12
8				
8	MK-R2	8T x 10" SWIFT LIFT LIFTER	4	4

2 4/30/14 REVISE & RESUBMIT

1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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Precast & Prestress Manufacturer
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST APPROACH SLAB DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JLJ/KLT
JOB NO: 23419-013
DWG. NO: AS3

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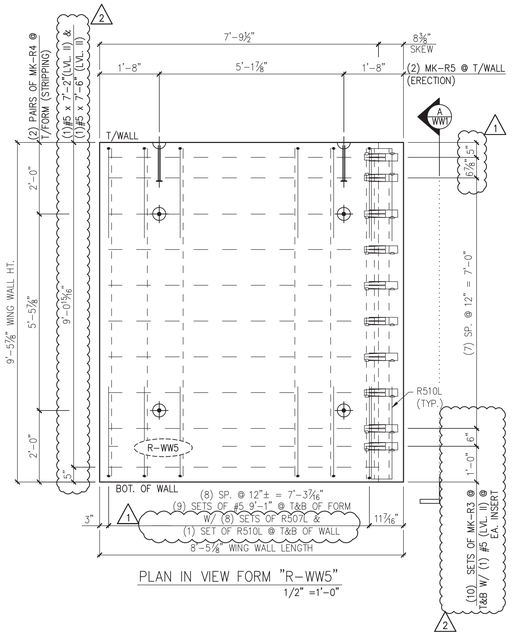
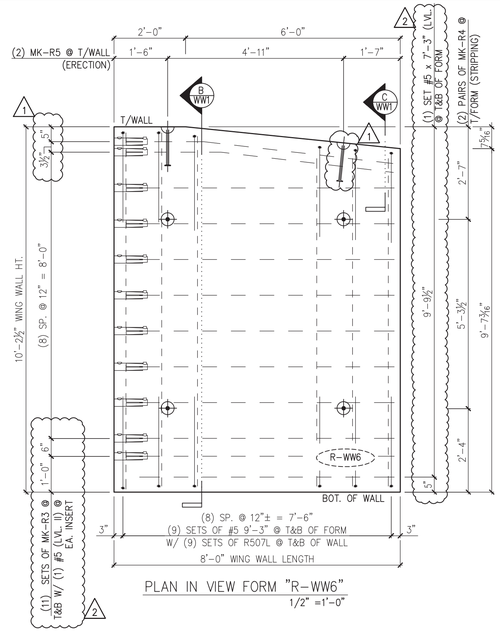
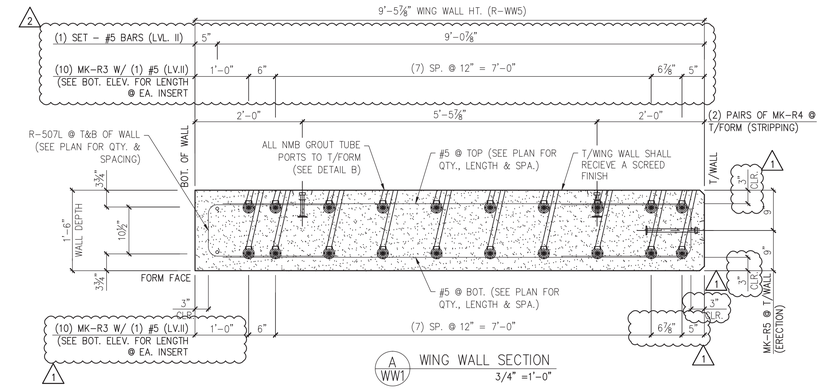


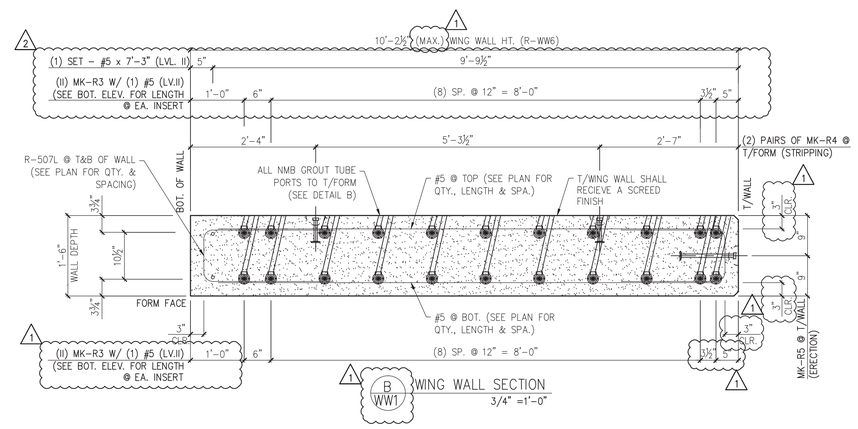
PLAN IN VIEW FORM "R-WW5"
1/2" =1'-0"



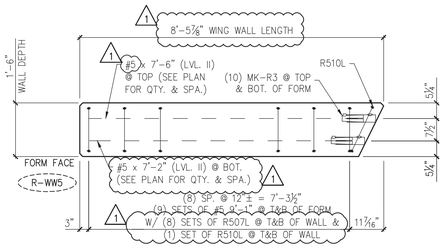
PLAN IN VIEW FORM "R-WW6"
1/2" =1'-0"



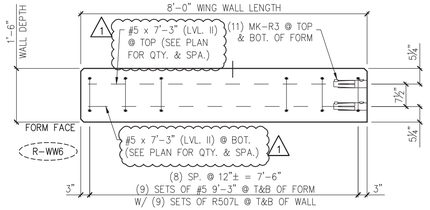
A WW1 WING WALL SECTION
3/4" =1'-0"



B WW1 WING WALL SECTION
3/4" =1'-0"



WING WALL BOTTOM ELEVATION
1/2" =1'-0"

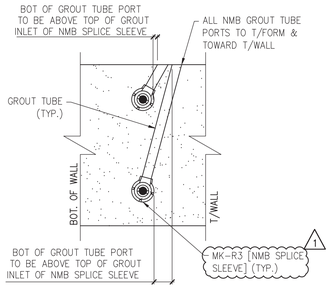


WING WALL BOTTOM ELEVATION
1/2" =1'-0"

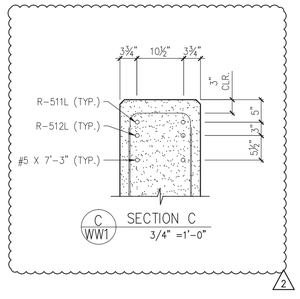
MARK:	R-WW5	QTY.:	1	WT.:	8.8 T	VOL.:	4.30 cy
MARK:	R-WW6	QTY.:	1	WT.:	9.0 T	VOL.:	4.44 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY./WING WALL R-WW5	QTY./WING WALL R-WW6
1	R-507L	#5 BENT BAR (LEVEL II, DUAL COATED)	16	18
2	R-510L	#5 BENT BAR (LEVEL II, DUAL COATED)	2	0
3	R-511L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
4	R-512L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
5				
6				
7		#5 x 7'-2" (LEVEL II, DUAL COATED)	11	0
8		#5 x 7'-3" (LEVEL II, DUAL COATED)	0	20
9		#5 x 7'-6" (LEVEL II, DUAL COATED)	11	0
10		#5 x 9'-1" (LEVEL II, DUAL COATED)	18	0
11		#5 x 9'-3" (LEVEL II, DUAL COATED)	0	18
12				
13				
14	MK-R3	NMB SPLICE SLEEVE #5 U-X(PG) (EPOXY COATED) 1	20	22
15	MK-R4	4T x 9 1/2" SWIFT LIFT LIFTER	4	4
16	MK-R5	20T x 19 3/4" SWIFT LIFT LIFTER	2	2



DETAIL - "B"
1-1/2" =1'-0"



C WW1 SECTION C
3/4" =1'-0"

2 4/30/14 REVISE & RESUBMIT

1 4/11/14 REVISE & RESUBMIT

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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST WING WALL DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: WW1

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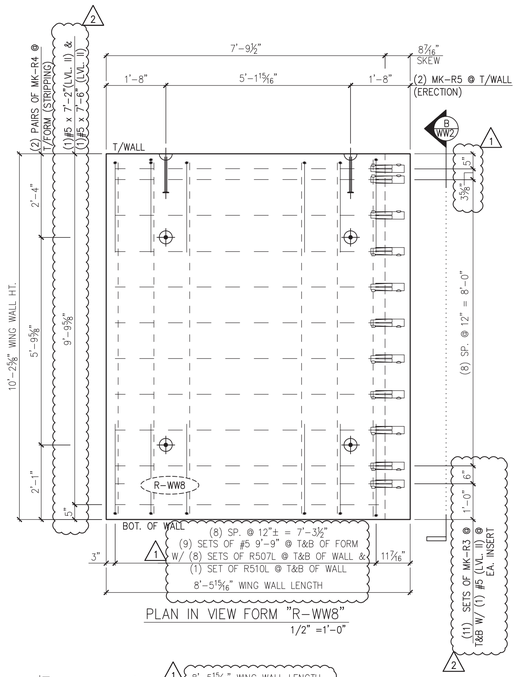
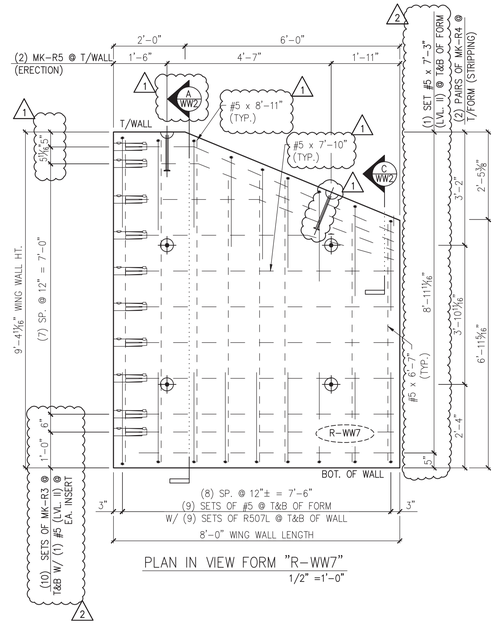
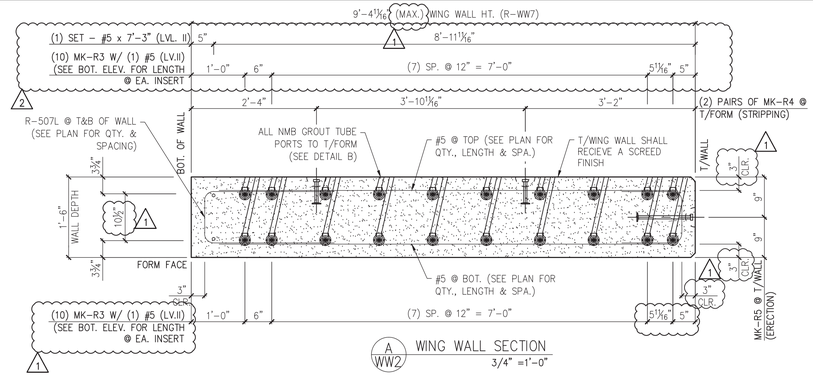


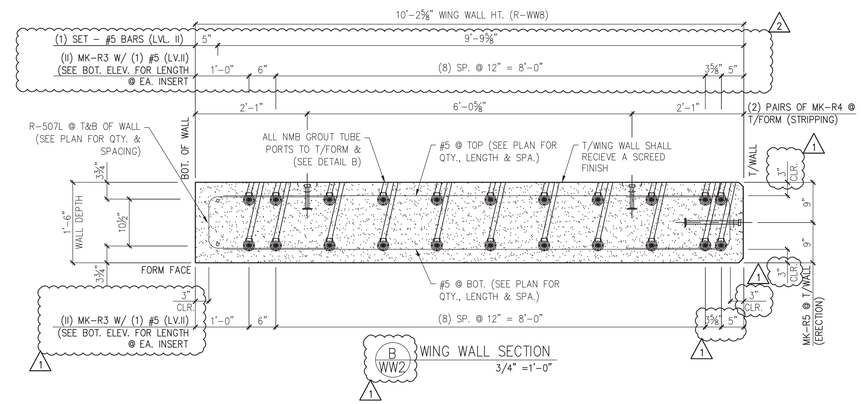
PLAN IN VIEW FORM "R-WW8"
1/2" =1'-0"



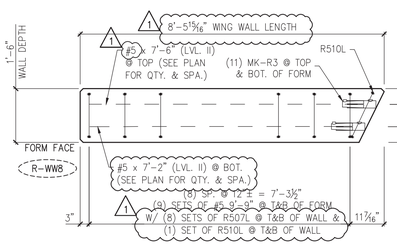
PLAN IN VIEW FORM "R-WW7"
1/2" =1'-0"



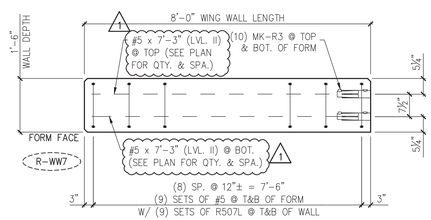
A WW2 WING WALL SECTION
3/4" =1'-0"



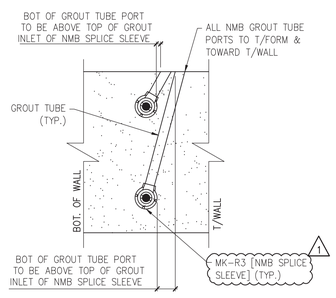
B WW2 WING WALL SECTION
3/4" =1'-0"



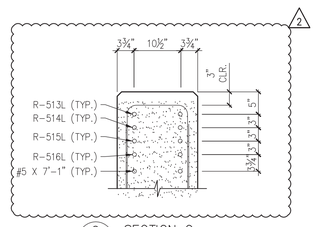
WING WALL BOTTOM ELEVATION
1/2" =1'-0"



WING WALL BOTTOM ELEVATION
1/2" =1'-0"



DETAIL - "B"
1-1/2" =1'-0"



C WW2 SECTION C
3/4" =1'-0"

MARK:	R-WW8	QTY.:	1	WT.:	9.4 T	VOL.:	4.63 cy
MARK:	R-WW7	QTY.:	1	WT.:	7.7 T	VOL.:	3.76 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY./WING WALL R-WW8	QTY./WING WALL R-WW7
1	R-507L	#5 BENT BAR (LEVEL II, DUAL COATED)	16	18
2	R-510L	#5 BENT BAR (LEVEL II, DUAL COATED)	2	0
3	R-513L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
4	R-514L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
5	R-515L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
6	R-516L	#5 BENT BAR (LEVEL II, DUAL COATED)	0	2
7				
8				
9		#5 x 6'-7" (LEVEL II, DUAL COATED)	0	6
10		#5 x 7'-2" (LEVEL II, DUAL COATED)	12	0
11		#5 x 7'-3" (LEVEL II, DUAL COATED)	0	14
12		#5 x 7'-6" (LEVEL II, DUAL COATED)	12	0
13		#5 x 7'-10" (LEVEL II, DUAL COATED)	0	6
14		#5 x 8'-11" (LEVEL II, DUAL COATED)	0	6
15		#5 x 9'-9" (LEVEL II, DUAL COATED)	18	0
16				
17				
18				
19	MK-R3	NMB SPLICE SLEEVE #5 U-X(PG) (EPOXY COATED) 1	22	20
	MK-R4	4T x 9 1/2" SWIFT LIFT LIFTER	4	4
	MK-R5	20T x 19 3/4" SWIFT LIFT LIFTER	2	2

2 4/30/14 REVISE & RESUBMIT
1 4/11/14 REVISE & RESUBMIT

APPROVAL STAMP:

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

PRECAST WING WALL DETAILS

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: WW2

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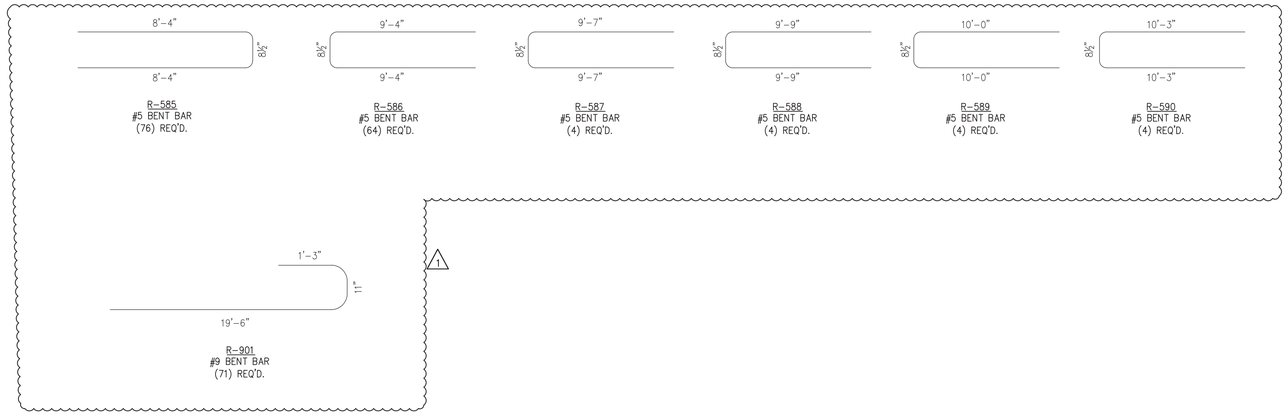
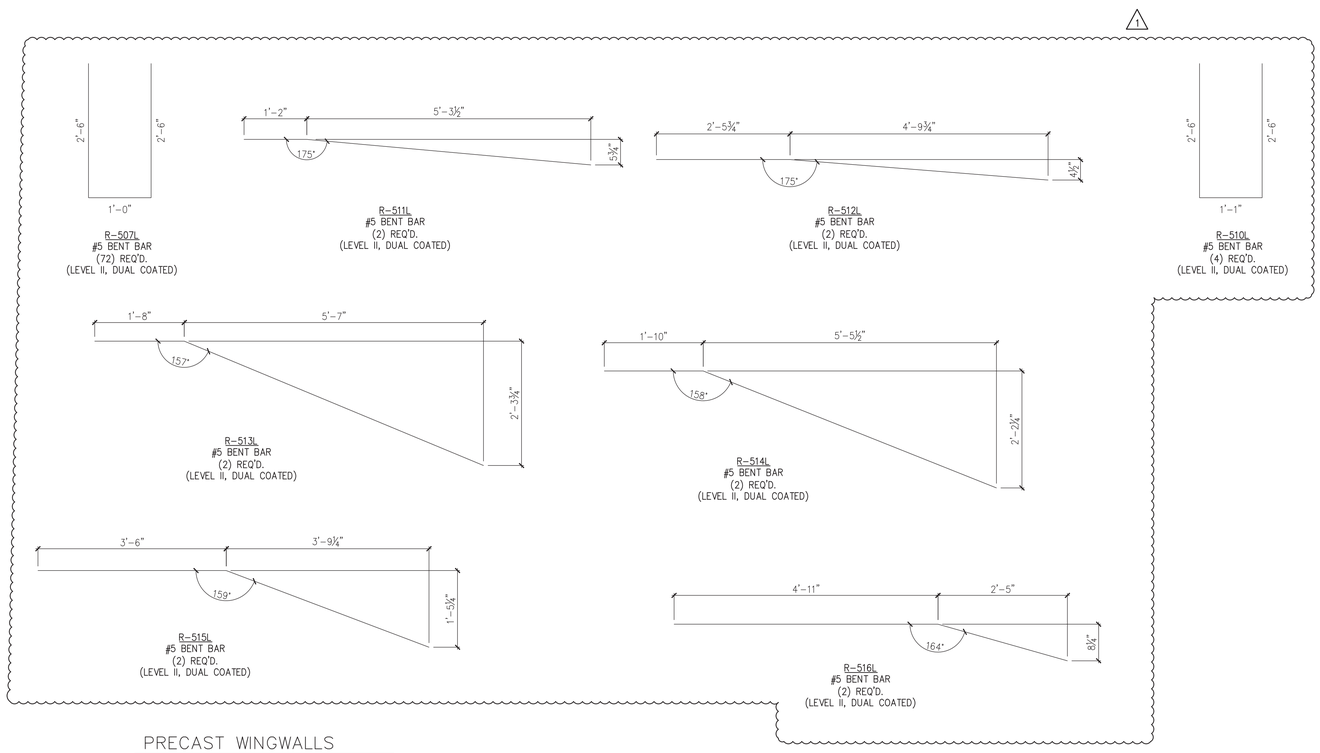


PRECAST APPROACH SLABS



PRECAST WINGWALLS

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1					PRECAST APPROACH SLABS
2		55	#6 x 19'-7" (LEVEL I, BLACK REINFORCEMENT)		
3					
4					
5					
6	MK-R2	24	8T x 10" SWIFT LIFT LIFTER		
7					
8					
9					
10		6	#5 x 6'-7" (LEVEL II, DUAL COATED)		PRECAST WING WALLS
11		23	#5 x 7'-2" (LEVEL II, DUAL COATED)		
12		34	#5 x 7'-3" (LEVEL II, DUAL COATED)		
13		23	#5 x 7'-6" (LEVEL II, DUAL COATED)		
14		6	#5 x 7'-10" (LEVEL II, DUAL COATED)		
15		6	#5 x 8'-11" (LEVEL II, DUAL COATED)		
16		18	#5 x 9'-1" (LEVEL II, DUAL COATED)		
17		18	#5 x 9'-3" (LEVEL II, DUAL COATED)		
18		18	#5 x 9'-9" (LEVEL II, DUAL COATED)		
19					
20					
21					
22	MK-R3	84	NMB SPLICE SLEEVE #5 U-X(PG) (EPOXY COATED)		
23	MK-R4	16	4T x 9 1/2" SWIFT LIFT LIFTER		
24	MK-R5	8	20T x 19 3/4" SWIFT LIFT LIFTER		
25					

1 4/11/14 REVISE & RESUBMIT

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COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

MATERIALS LIST

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: M1

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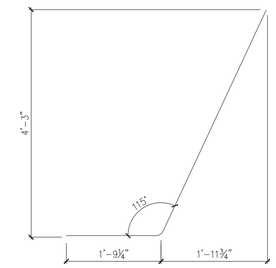
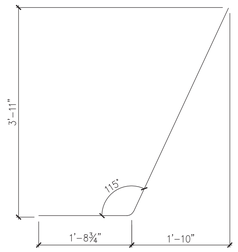


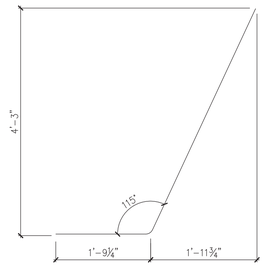
R-511
#5 BENT BAR
(13) REQ'D.



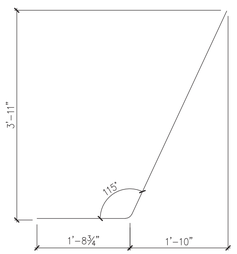
R-512
#5 BENT BAR
(13) REQ'D.

R-513
#5 BENT BAR
(13) REQ'D.

R-514
#5 BENT BAR
(13) REQ'D.



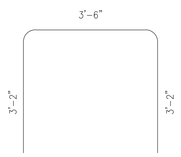
R-535L
#5 BENT BAR
(12) REQ'D.
(LEVEL II, DUAL COATED)



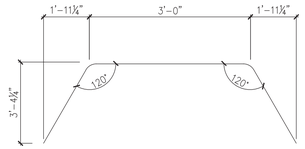
R-536L
#5 BENT BAR
(12) REQ'D.
(LEVEL II, DUAL COATED)

R-537L
#5 BENT BAR
(8) REQ'D.
(LEVEL II, DUAL COATED)

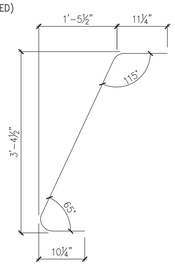
R-538L
#5 BENT BAR
(8) REQ'D.
(LEVEL II, DUAL COATED)



R-601
#6 BENT BAR
(68) REQ'D.



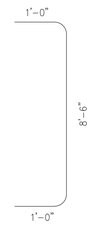
R-602
#6 BENT BAR
(20) REQ'D.



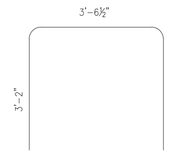
R-603L
#6 BENT BAR
(16) REQ'D.
(LEVEL II, DUAL COATED)

R-604
#6 BENT BAR
(8) REQ'D.

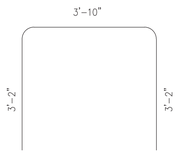
R-635L
#6 BENT BAR
(4) REQ'D.
(LEVEL II, DUAL COATED)



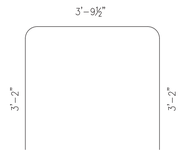
R-643L
#6 BENT BAR
(5) REQ'D.
(LEVEL II, DUAL COATED)



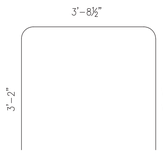
R-636L
#6 BENT BAR
(1) REQ'D.
(LEVEL II, DUAL COATED)



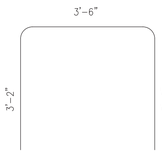
R-638L
#6 BENT BAR
(1) REQ'D.
(LEVEL II, DUAL COATED)



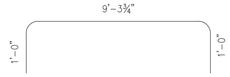
R-645
#6 BENT BAR
(9) REQ'D.



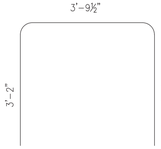
R-646
#6 BENT BAR
(4) REQ'D.



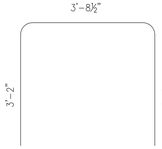
R-647
#6 BENT BAR
(4) REQ'D.



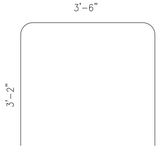
R-608
#6 BENT BAR
(8) REQ'D.



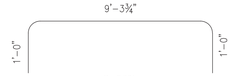
R-640L
#6 BENT BAR
(8) REQ'D.
(LEVEL II, DUAL COATED)



R-641L
#6 BENT BAR
(4) REQ'D.
(LEVEL II, DUAL COATED)



R-642L
#6 BENT BAR
(1) REQ'D.
(LEVEL II, DUAL COATED)



R-639L
#6 BENT BAR
(8) REQ'D.
(LEVEL II, DUAL COATED)

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.		REMARKS	
1		48	#6 x 5'-2" (LEVEL I – BLACK REINFORCEMENT)		PRECAST ABUTMENT
2		26	#6 x 5'-4" (LEVEL I – BLACK REINFORCEMENT)		
3		48	#6 x 5'-7" (LEVEL I – BLACK REINFORCEMENT)		
4		26	#6 x 5'-10" (LEVEL I – BLACK REINFORCEMENT)		
5		13	#6 x 8'-10" (LEVEL II – BLACK REINFORCEMENT)		
6		11	#6 x 8'-11" (LEVEL II – BLACK REINFORCEMENT)		
7		26	#6 x 9'-8" (LEVEL II – BLACK REINFORCEMENT)		
8		7	#6 x 13'-4" (LEVEL I – BLACK REINFORCEMENT)		
9		2	#6 x 13'-8" (LEVEL I – BLACK REINFORCEMENT)		
10		7	#6 x 14'-4" (LEVEL I – BLACK REINFORCEMENT)		
11		2	#6 x 14'-5" (LEVEL I – BLACK REINFORCEMENT)		
12		2	#6 x 14'-8" (LEVEL I – BLACK REINFORCEMENT)		
13		7	#6 x 15'-0" (LEVEL I – BLACK REINFORCEMENT)		
14		2	#6 x 15'-5" (LEVEL I – BLACK REINFORCEMENT)		
15		7	#6 x 16'-0" (LEVEL I – BLACK REINFORCEMENT)		
16		36	#6 x 24'-8" (LEVEL I – BLACK REINFORCEMENT)		
17					
18					
19		16	SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS		

1 4/11/14 REVISE & RESUBMIT

PRECAST ABUTMENT

Eriksson technologies
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TAMPA, FL LRFD.COM
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W.M. SCHULTZ CONSTRUCTION, INC.
PO BOX 2620
BALLSTON SPA, NY 12020

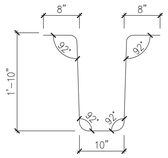
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF ROCHESTER
VT ROUTE 73 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 16 PROJECT NO.: BRF 0162 (17)

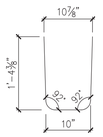
MATERIALS LIST

DATE: MAR. 14, 2014
SCALE: NOTED
CHKD: DFTM: AAT/RWS JJ/KLT
JOB NO: 23419-013
DWG. NO: M2

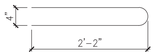
S:\Engineering Services\Carrara\14002 Rochester BR 15 & 16\Production Drawings\AutoCAD Files\Bridge 16\BR 16-M-1.dwg



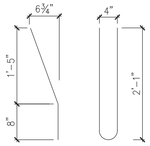
R-450L
#4 BENT BAR
(438) REQ'D.
(LEVEL II, DUAL COATED)



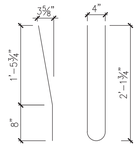
R-451L
#4 BENT BAR
(24) REQ'D.
(LEVEL II, DUAL COATED)



R-452L
#4 BENT BAR
(406) REQ'D.
(LEVEL II, DUAL COATED)

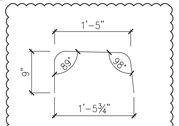


R-453L
#4 BENT BAR
(32) REQ'D.
(LEVEL II, DUAL COATED)

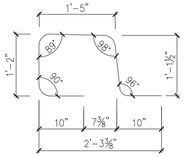


R-454L
#4 BENT BAR
(46) REQ'D.
(LEVEL II, DUAL COATED)

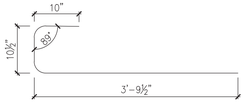
2



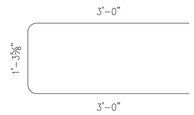
R-544L
#5 BENT BAR
(24) REQ'D.
(LEVEL II, DUAL COATED)



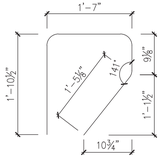
R-550L
#5 BENT BAR
(186) REQ'D.
(LEVEL II, DUAL COATED)



R-551L
#5 BENT BAR
(246) REQ'D.
(LEVEL II, DUAL COATED)

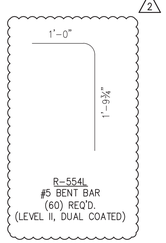


R-552L
#5 BENT BAR
(48) REQ'D.
(LEVEL II, DUAL COATED)

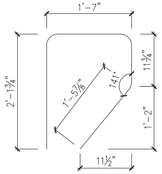


R-553L
#5 BENT BAR
(18) REQ'D.
(LEVEL II, DUAL COATED)

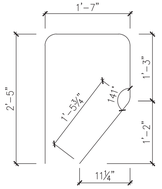
2



R-554L
#5 BENT BAR
(60) REQ'D.
(LEVEL II, DUAL COATED)



R-555L
#5 BENT BAR
(22) REQ'D.
(LEVEL II, DUAL COATED)



R-556L
#5 BENT BAR
(18) REQ'D.
(LEVEL II, DUAL COATED)

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.		REMARKS
1		54	#4 x 9'-10" (LEVEL II, DUAL COATED)	
2				
3		20	#5 x 8'-0" (LEVEL II, DUAL COATED)	
4		8	#5 x 8'-2" (LEVEL II, DUAL COATED)	
5		20	#5 x 8'-3" (LEVEL II, DUAL COATED)	
6		10	#5 x 8'-6" (LEVEL II, DUAL COATED)	
7		10	#5 x 8'-7" (LEVEL II, DUAL COATED)	
8		660	#5 x 9'-4" (LEVEL II, DUAL COATED)	
9		36	#5 x 9'-7" (LEVEL II, DUAL COATED)	
10		60	#5 x 9'-10" (LEVEL II, DUAL COATED)	
11		34	#5 x 10'-4" (LEVEL II, DUAL COATED) 2	
12		4	#5 x 11'-3" (LEVEL II, DUAL COATED)	
13		2	#5 x 12'-2" (LEVEL II, DUAL COATED)	
14		84	#5 x 24-0" (LEVEL II, DUAL COATED)	
15		12	#5 x 26'-0" (LEVEL II, DUAL COATED)	
16		12	#5 x 40'-0" (LEVEL II, DUAL COATED)	
17		84	#5 x 41'-0" (LEVEL II, DUAL COATED)	
18				
19		39	#8 x 1'-6" (LEVEL II, DUAL COATED)	
20				
21		12	SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	

PRECAST BEAMS

PRECAST BEAMS

2 4/30/14 REVISE & RESUBMIT

1 4/11/14 REVISE & RESUBMIT

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MATERIALS LIST

DWG. NO: M3

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