



---

PO Box 508  
Barton, VT 05822  
Phone: (802) 525-9506  
Fax: (802) 525-4616  
[www.jpsicard.com](http://www.jpsicard.com)

Submittal Data Sheet

Submittal #: 6

Submission #: 3

Date: 6/1/2015

Project Name: Barton BRO (1449) Bridge Replacement

Owner: Town of Barton, VT

Engineer: VTrans

Contractor: J.P. Sicard Inc.

Item Number(s): 540.10, 900.640

Supplier: J.P. Carrara

Description of Item: Fabrication Drawings: Pre-Cast Abutments, NEXT Beams and Approach Slabs -REV3

Substitution: NO

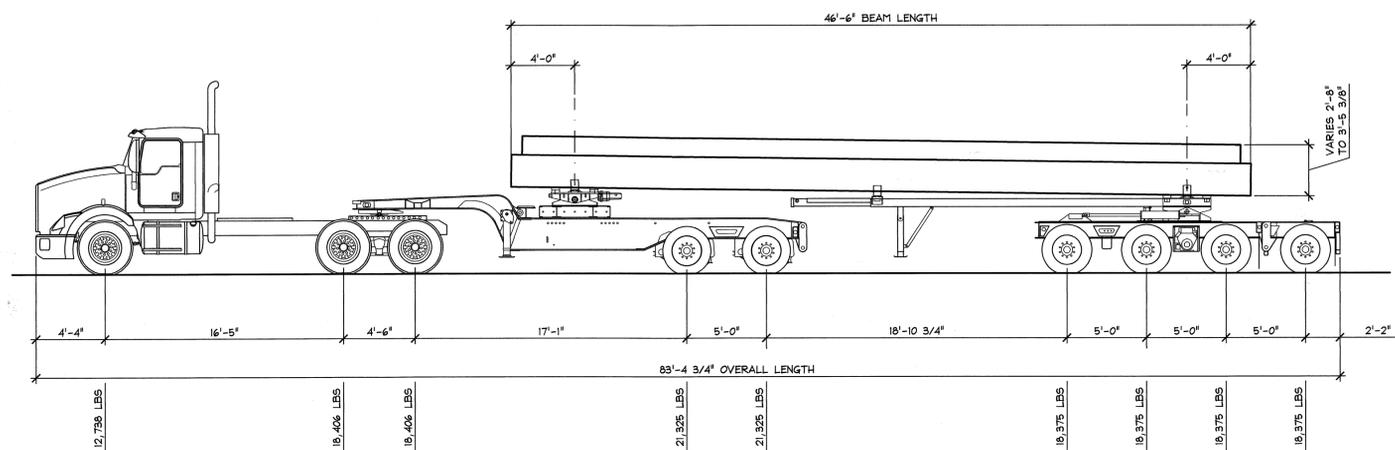
Engineers Review Comments: \_\_\_\_\_

Submitted By: Brad Drake

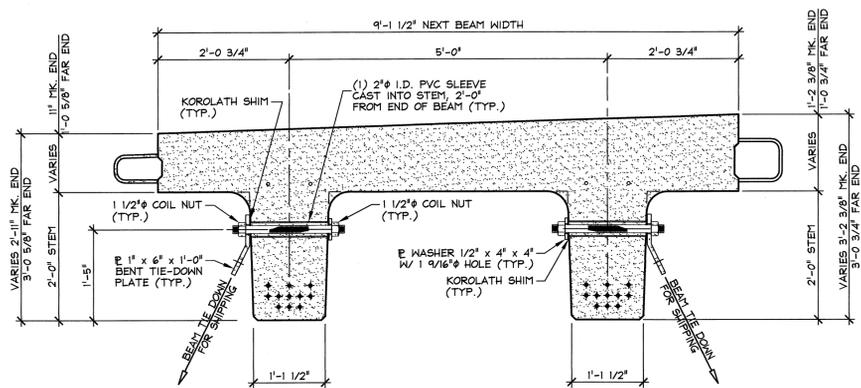
Title: Project Manager

Company: JP Sicard Inc

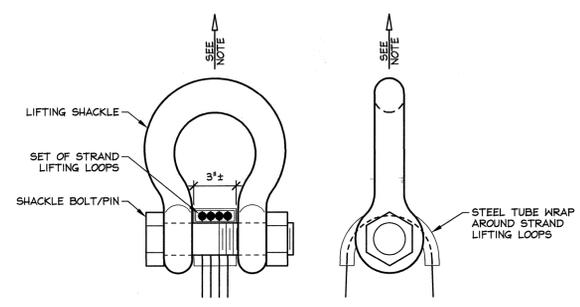




**SHIPPING ELEVATION**  
3/16" = 1'-0"



**MODIFIED NEXT BEAM 32D HOLD-DOWN  
DETAIL FOR SHIPPING**  
3/4" = 1'-0"



NOTE: BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL AND VERTICAL FORCES ARE APPLIED TO EACH SET OF LIFTING LOOPS AT EACH END OF THE BEAM. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN. DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER.

**LIFTING SHACKLE DETAILS**  
N.T.S.

**ABUTMENT & APPROACH SLAB GENERAL NOTES**

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL I (BLACK STEEL) (UNLESS NOTED OTHERWISE).
- THE TOP OF ABUTMENTS SHALL RECEIVE A 1/4" RAKED AMPLITUDE FINISH (UNLESS NOTED OTHERWISE). THE TOP OF ABUTMENT CHEEKWALLS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL HAVE 1/8" COURSE AGGREGATE EXPOSED.
- 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 5ft POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.  
DESIGN MIX:  
APPROACH SL : J.P.C. BRIDGE MIX #445MSCC (APPROVED 4-2-2015)  
ABUTMENT : J.P.C. BRIDGE MIX #445M-NO DCI (APPROVED 3-21-2015)
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- 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.
- ABUTMENT POST-TENSIONING SEQUENCE:
  - ERECT PRECAST ABUTMENTS AND INSTALL TRANSVERSE STRANDS.
  - APPLY EPOXY BONDING COMPOUND TO MATCH CAST FACES OF VERTICAL CONSTRUCTION JOINT.
  - TENSION STRANDS TO 3k TO REMOVE SAG.
  - CHECK ALIGNMENT OF PRECAST ELEMENTS.
  - POST TENSION TENDONS TO 32,000 LBS.

**NEXT BEAM GENERAL NOTES**

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 6,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,000 PSI.
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED).
- PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203) AND SHALL CONSIST OF 0.60" x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
- 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.)
- ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF NEXT BEAM STEMS (UNLESS NOTED OTHERWISE) AND COATED WITH TWO PART EPOXY PAINT SYSTEM.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" (UNLESS NOTED OTHERWISE).
- THE TOP OF BEAMS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
- BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL AND VERTICAL FORCES ARE APPLIED TO EACH OF THE TWO LIFTING LOOPS AT EACH END OF THE BEAM. THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET. BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE BEAM ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.  
DESIGN MIX: J.P.C. BRIDGE MIX #430M-NO DCI (SUBMITTED 3-21-2015)
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- 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 60°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.
- CONTRACTOR SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED AND/OR EPOXIED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED AND/OR EPOXIED SHEAR KEYS.
- MANUFACTURING TOLERANCES SHALL COMPLY WITH PCI MNL-116. SINCE PRESTRESSED PRODUCT CAMBER IS A RESULT OF REQUIRED DESIGN LOADS AND SPAN LENGTH, CAMBER TOLERANCES SHALL NOT APPLY.

**EXAMPLE PRESTRESSING STRAND  
ELONGATION CALC. AND TENSIONING**  
(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60" x 270 KSI  
AREA: 0.217 IN<sup>2</sup>  
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%)  
 $\Delta$  UPPER LIMIT = 1.05 x 19.977" = 20.98" = 21"  
 $\Delta$  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.

ADDITIONALLY, INCREASED ELONGATION AND THE CORRESPONDING FORCE DUE TO FORM SHORTENING SHALL BE ACCOUNTED FOR IN THE CALCULATIONS USED FOR CONSTRUCTION PER PROVISION PCI MNL-116 5.3.11.3.

**STRAND TENSIONING PROCEDURE:**

- PULL EACH STRAND INITIALLY TO 3,000\* LBS. AND MARK STRAND.
  - 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.
- STRANDS IN BOTTOM TWO ROWS SHALL BE RE-PULLED TO VERIFY SHORTENING EFFECT OF SELF STRESSING BED. RE-PULL FORCE SHALL NOT INCLUDE OVER-PULL FOR SHORTENING.

DESIGN LIVE LOAD: HL-93

SUBMITTED  
5-29-15  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

5/28/2015 REVISED AS NOTED T.D.

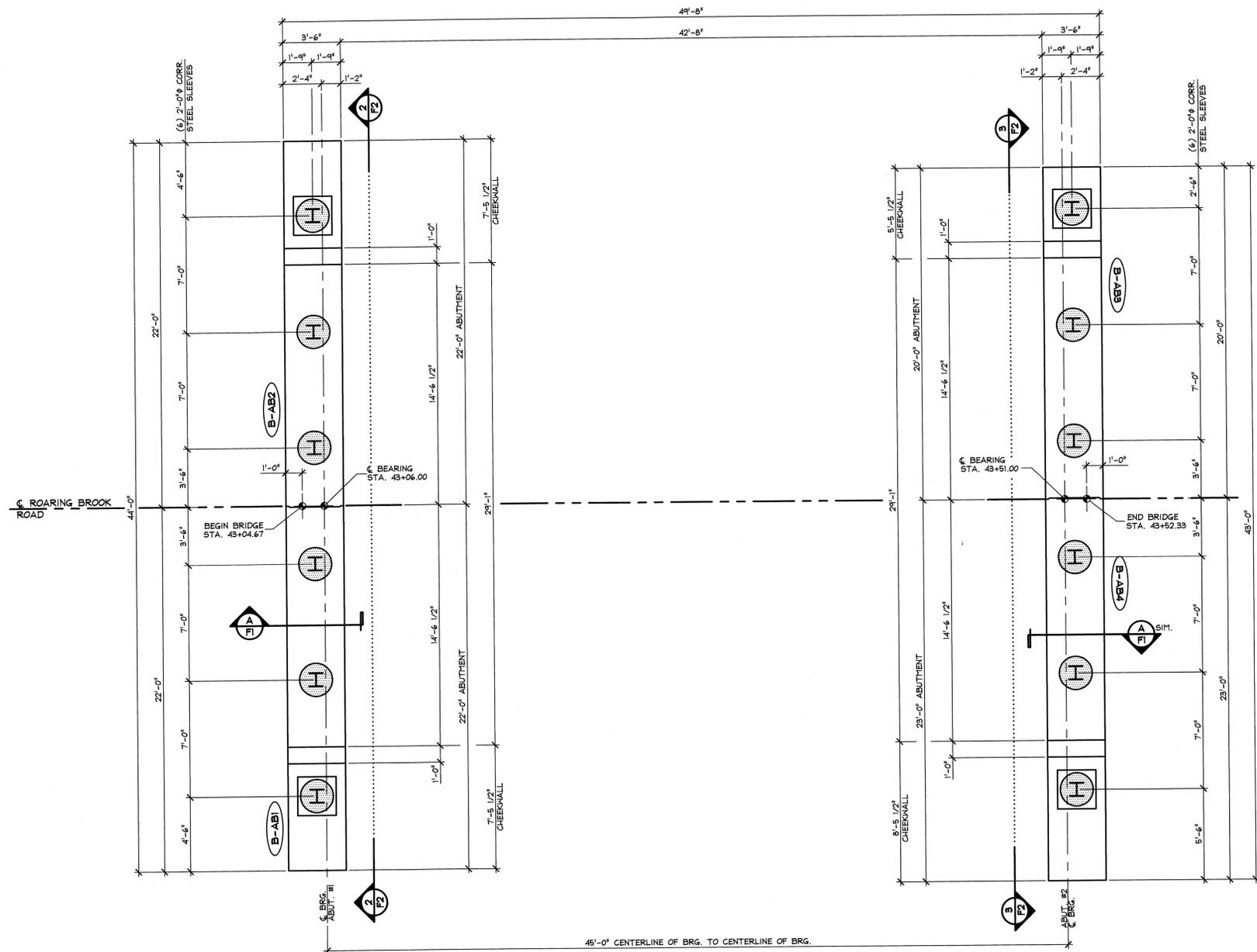
APPROVAL STAMP:

|   |   |
|---|---|
| <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2464 OSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010 | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |
|   | DATE: FEB. 25, 2015<br>SCALE: NOTED                 |
|   | CHKD: _____ DFTM: T.D.<br>JOB NO: 23462-015         |
|   | DWG. NO: C1   |

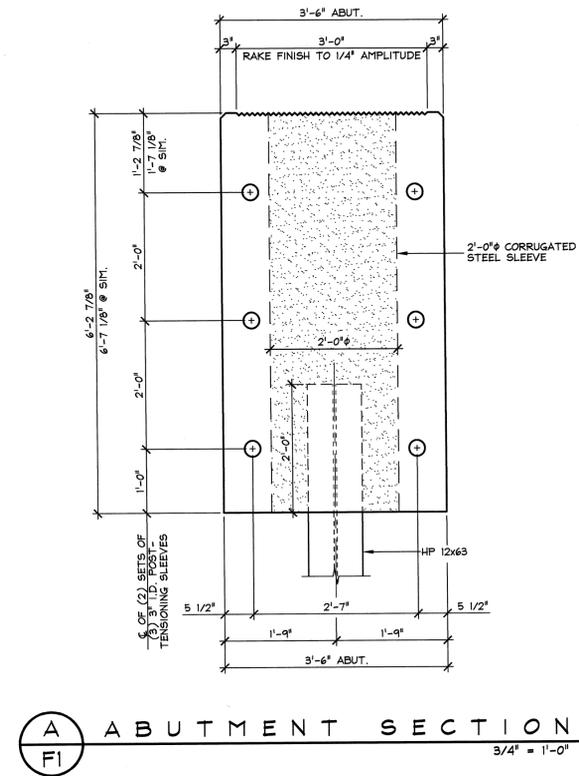
**STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF ORLEANS**

**TOWN OF BARTON**  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

**COVER SHEET**



1 PRECAST ABUTMENT LAYOUT  
 1/4" = 1'-0"

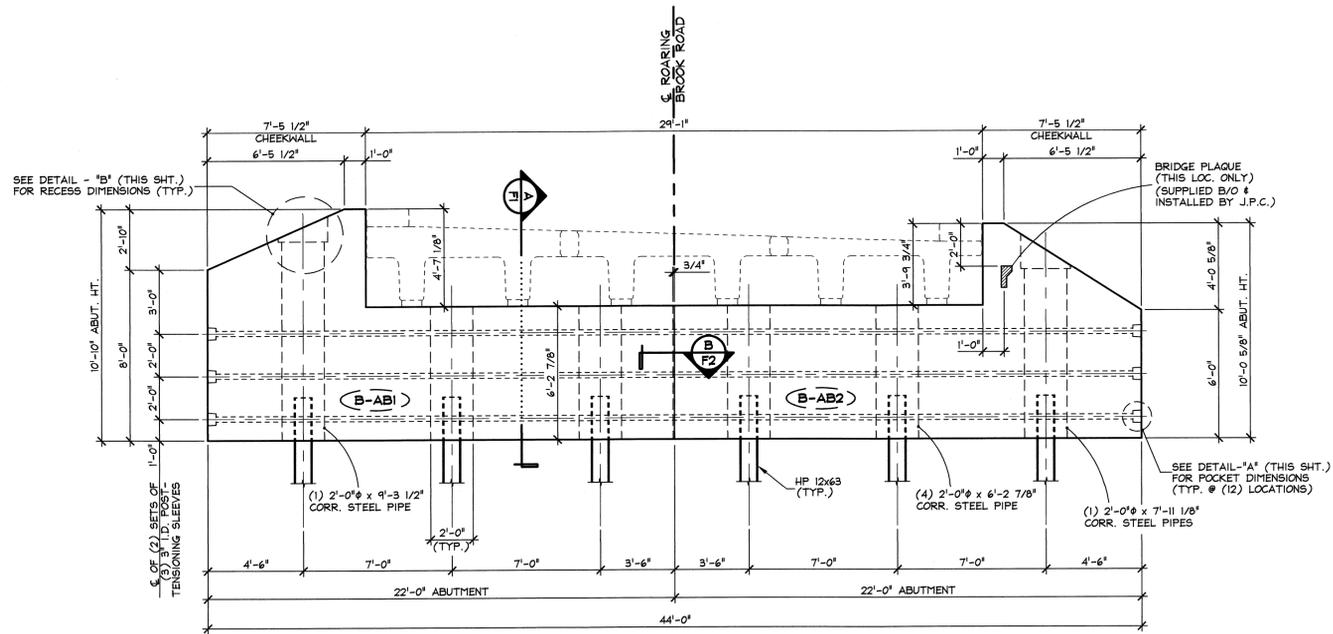


A ABUTMENT SECTION  
 3/4" = 1'-0"

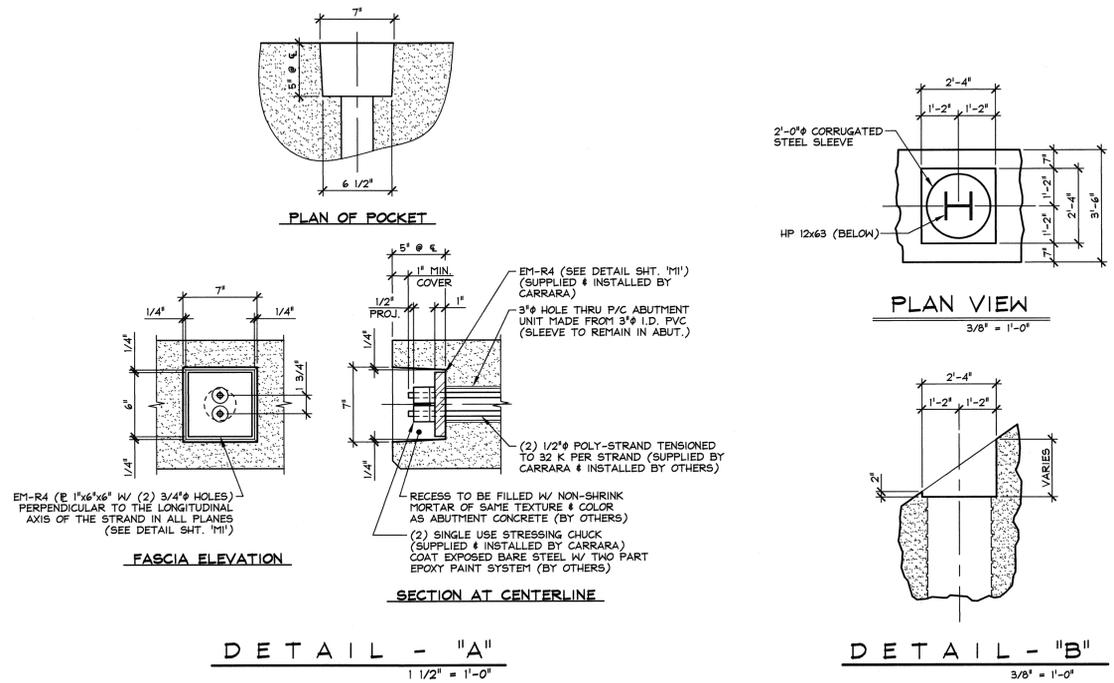
F:\VT-Bridges\23462-14 Barton\23462-F1.dwg, 5/28/2015 9:08:59 AM

SUBMITTED  
 5-29-15  
 J. P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753

|                 |  |  |   |                    |
|-----------------|--|--|---|--------------------|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br><small>2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010</small> |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |                    |
|                 | <b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b><br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                 | SCALE: NOTED       |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)   |  | CHKD: _____   | DFTM: T.D.         |
|                 | <b>PRECAST ABUTMENT LAYOUT</b>   |  | JOB NO: 23462-015                                   | DWG. NO: <b>F1</b> |

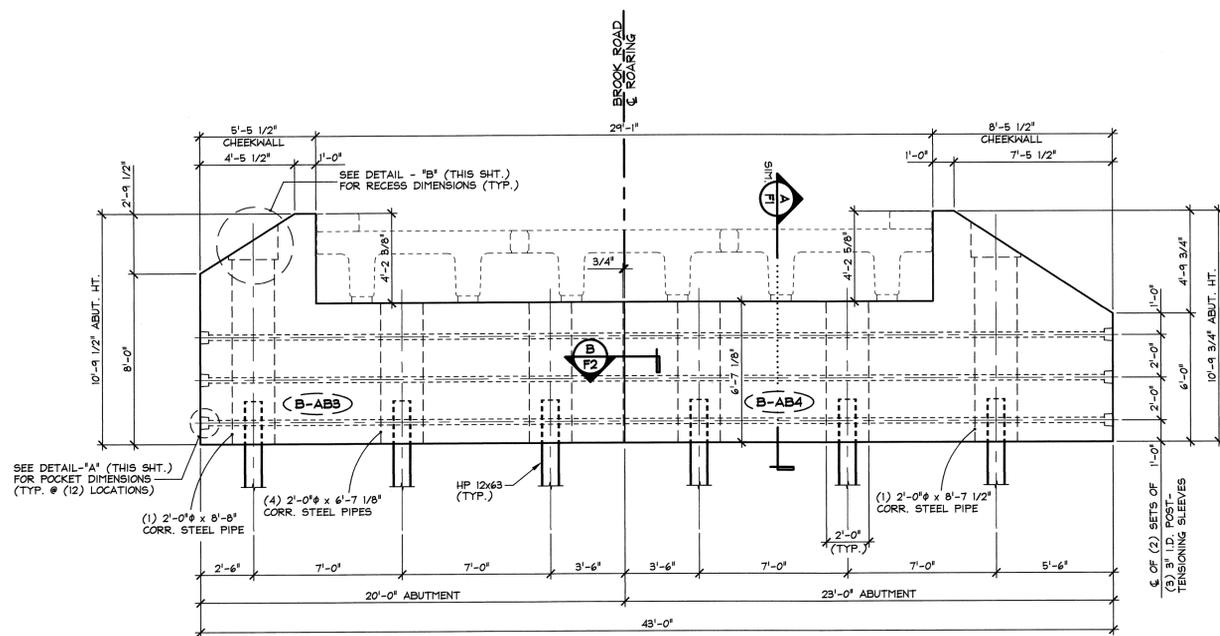


**2 PRECAST ABUTMENT #1 ELEVATION**  
 F2  
 1/4" = 1'-0"

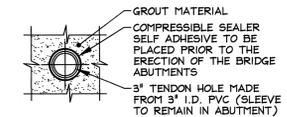


**DETAIL - \"A\"**  
 1 1/2" = 1'-0"

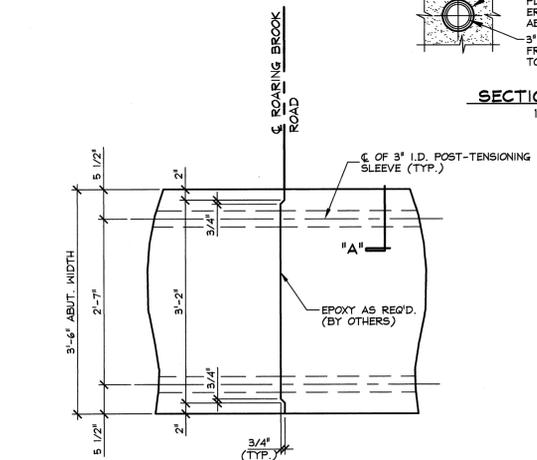
**DETAIL - \"B\"**  
 3/8" = 1'-0"



**3 PRECAST ABUTMENT #2 ELEVATION**  
 F2  
 1/4" = 1'-0"



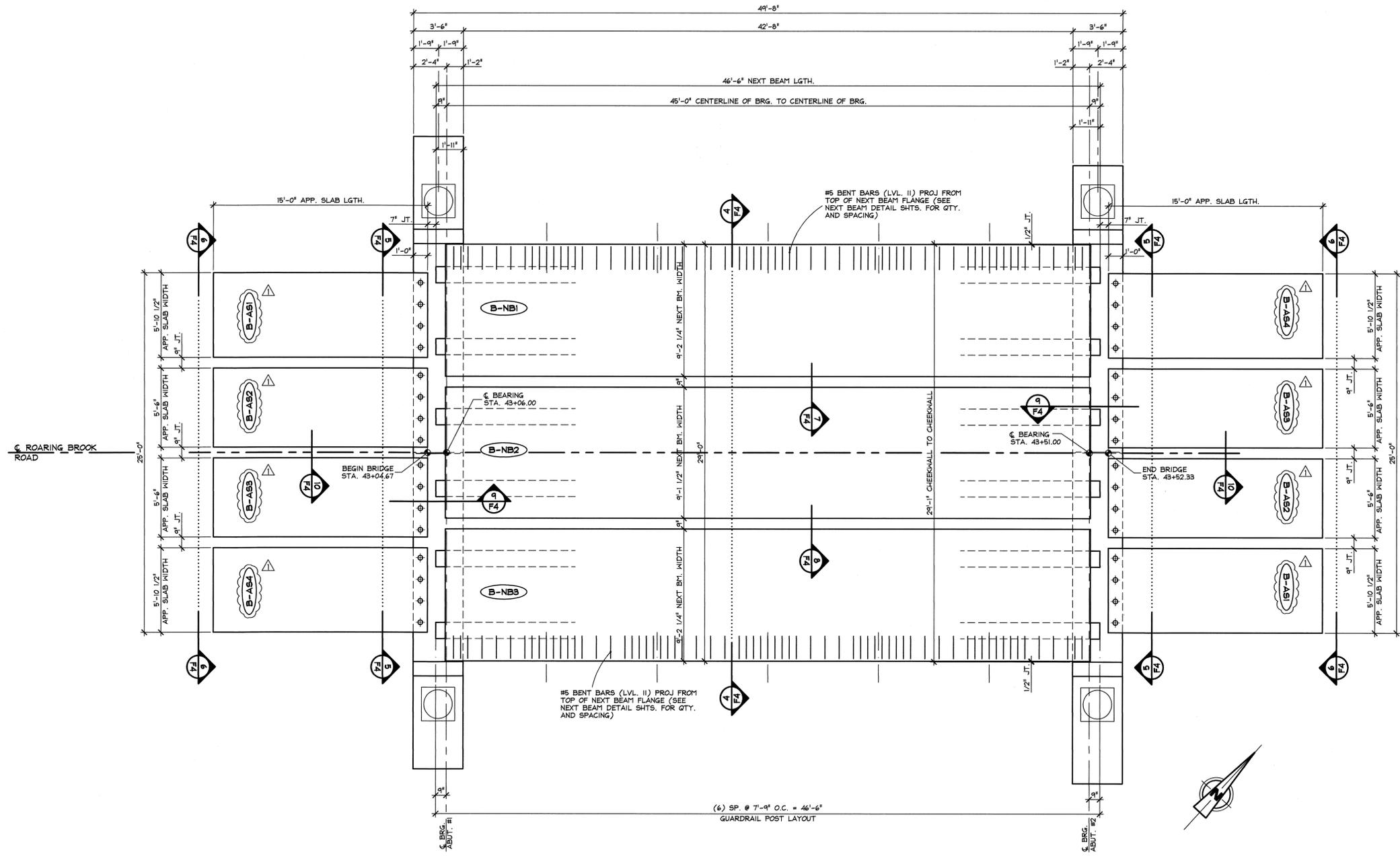
**SECTION - \"A\"**  
 1 1/2" = 1'-0"



**B CONSTRUCTION JOINT SECTION**  
 F2 @ P.T. SLEEVE (ABUTMENT)  
 3/4" = 1'-0"

SUBMITTED  
 5-29-15  
 J.P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753

|                 |  |  |  |
|-----------------|--|--|--|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2464 OISE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 |  | J.P. Sicard<br>CONTRACTOR<br>BARTON, VERMONT |
|                 | STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS   |  | DATE: FEB. 25, 2015<br>SCALE: NOTED          |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)   |  | CHKD: DFTM: T.D.<br>JOB NO: 23462-015        |
|                 | PRECAST ABUTMENT<br>ELEVATIONS & DETAILS   |  | DWG. NO: <b>F2</b>                           |



1 PRESTRESSED NEXT BEAM & APPROACH SLAB LAYOUT  
 F3 1/4" = 1'-0"

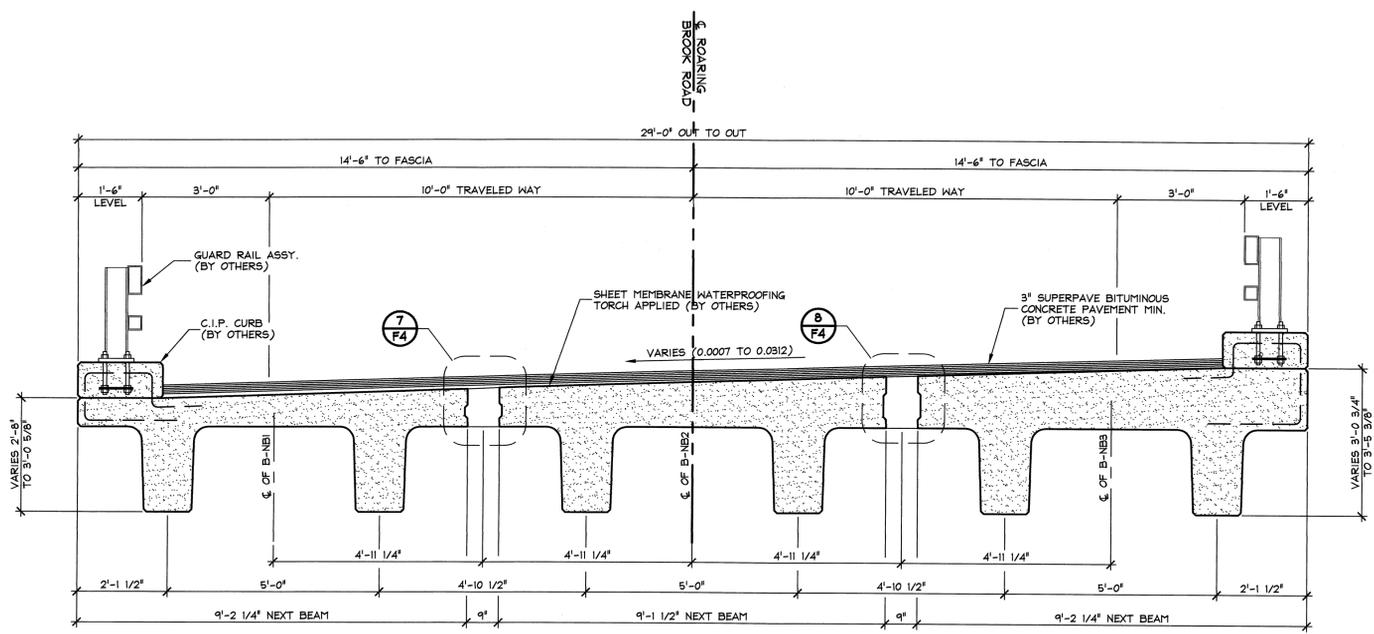
F:\VT-Bridges\23462-14 Barton\23462-F3.dwg, 5/28/2015 9:12:50 AM

5/28/2015 REVISED AS NOTED T.D.

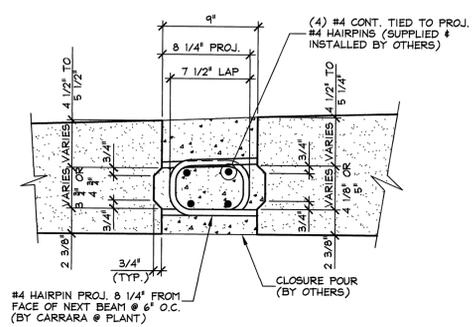
APPROVAL STAMP:

|   |  |   |  |
|---|--|---|--|
| <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br><small>244 GSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010</small> |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |  |
| STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                 |  |
| TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  |  | SCALE: NOTED  |  |
| <b>PRECAST NEXT BEAM &amp; APPROACH SLAB LAYOUT</b>   |  | CHKD: DFTM: T.D.<br>JOB NO: 23462-015               |  |
|   |  | DWG. NO: <b>F3</b>                                  |  |

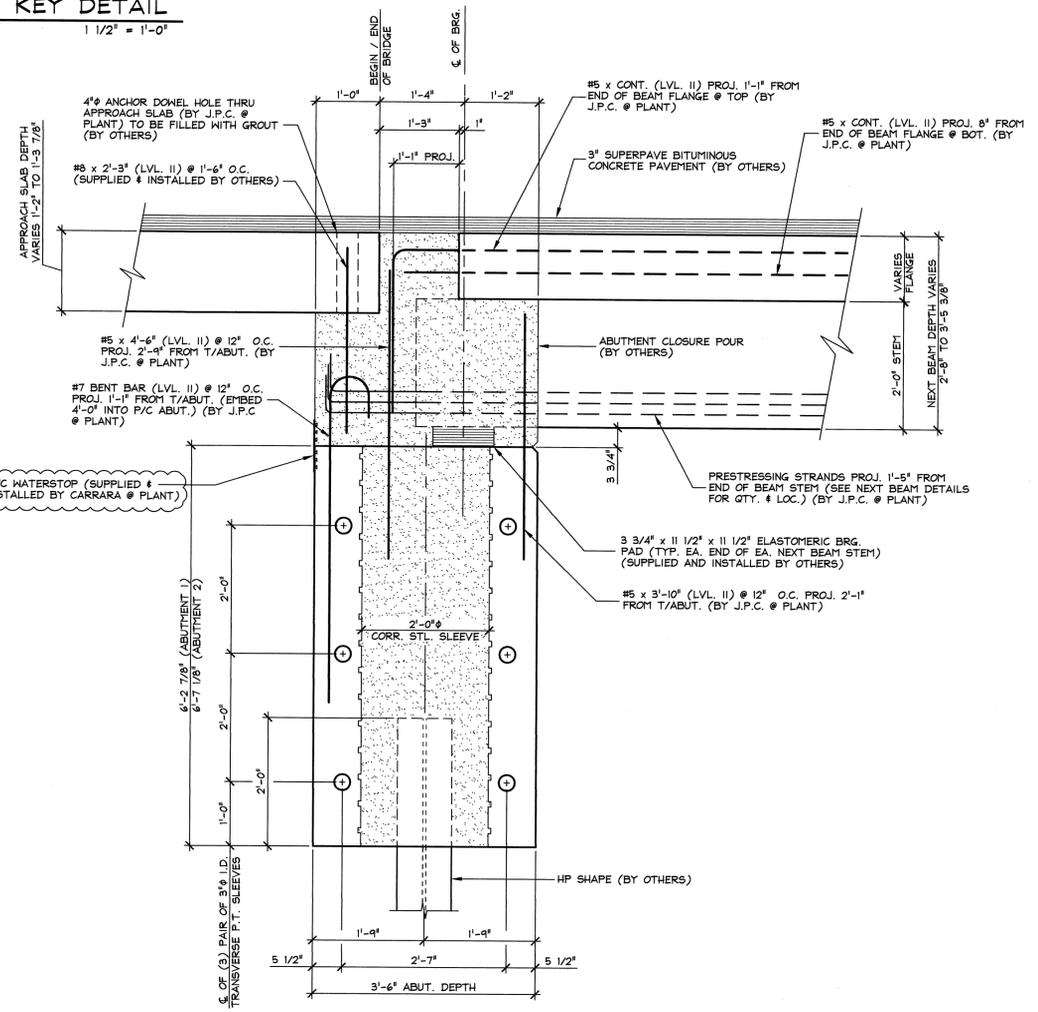
SUBMITTED  
 5-29-15  
 J. P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753



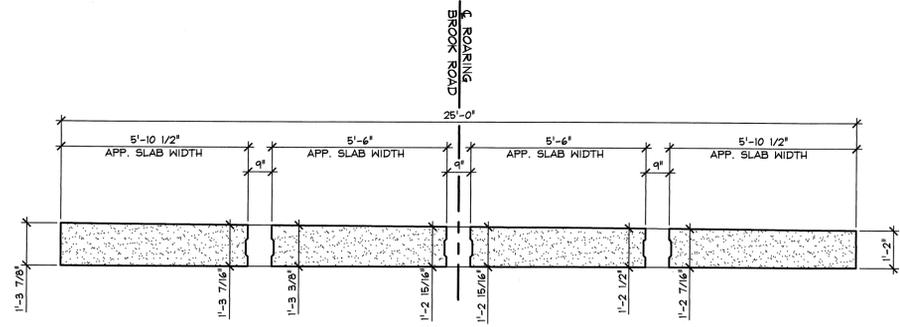
**4** TRANSVERSE SECTION THRU NEXT BEAMS  
 F4 1/2" = 1'-0"



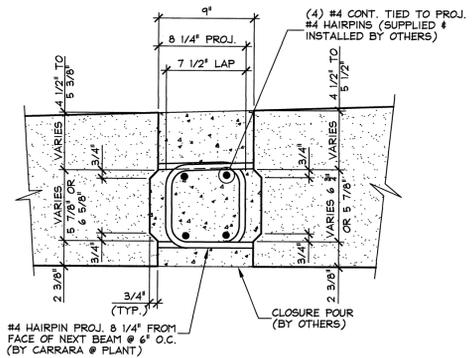
**7** SHEAR KEY DETAIL  
 F4 1 1/2" = 1'-0"



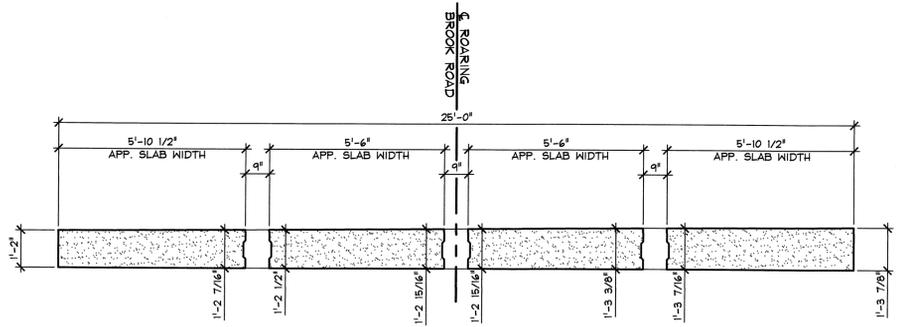
**9** ABUTMENT SECTION  
 F4 3/4" = 1'-0"



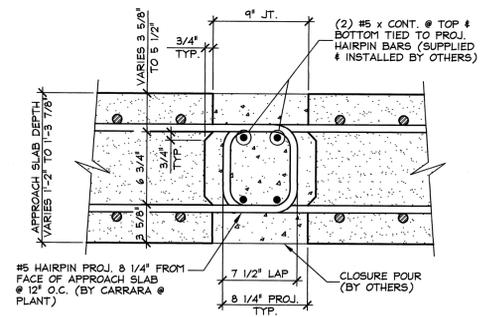
**5** SECTION AT APPROACH SLABS  
 F4 (ABUT. #1 & ABUT. #2) 3/8" = 1'-0"



**8** SHEAR KEY DETAIL  
 F4 1 1/2" = 1'-0"



**6** SECTION AT APPROACH SLABS  
 F4 (ABUT. #1 & ABUT. #2) 3/8" = 1'-0"



**10** APPROACH SLAB CLOSURE POUR  
 F4 1 1/2" = 1'-0"

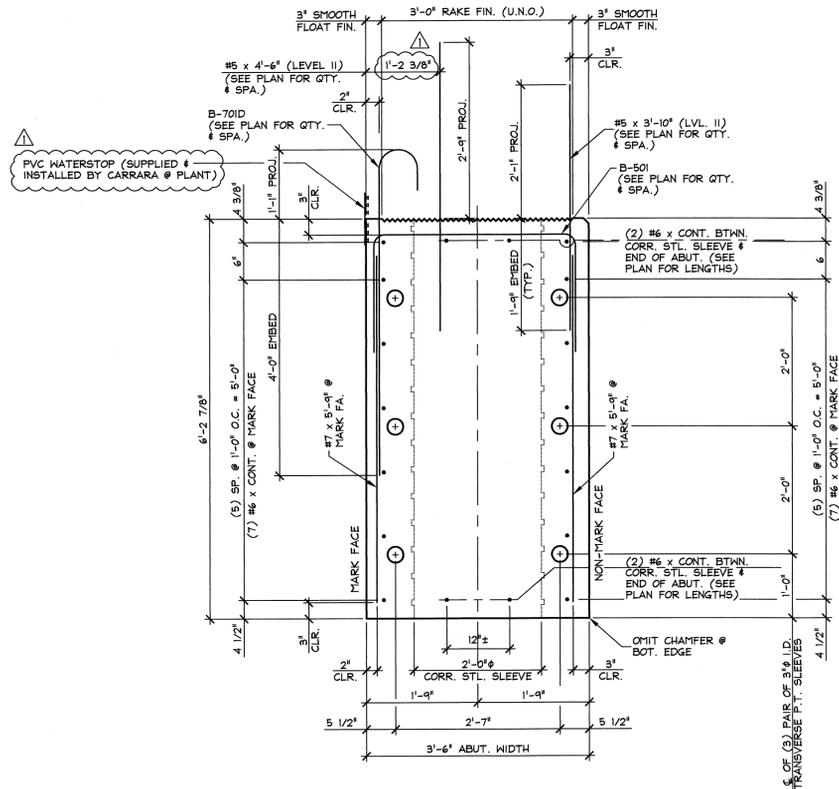
5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

|  |  |   |                    |
|--|--|---|--------------------|
| <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010 |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |                    |
| <b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b><br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                 | SCALE: NOTED       |
| <b>TOWN OF BARTON</b><br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  |  | CHKD: _____   | DFTM: T.D.         |
| <b>SECTIONS AND DETAILS</b>  |  | JOB NO: 23462-015                                   | DWG. NO: <b>F4</b> |

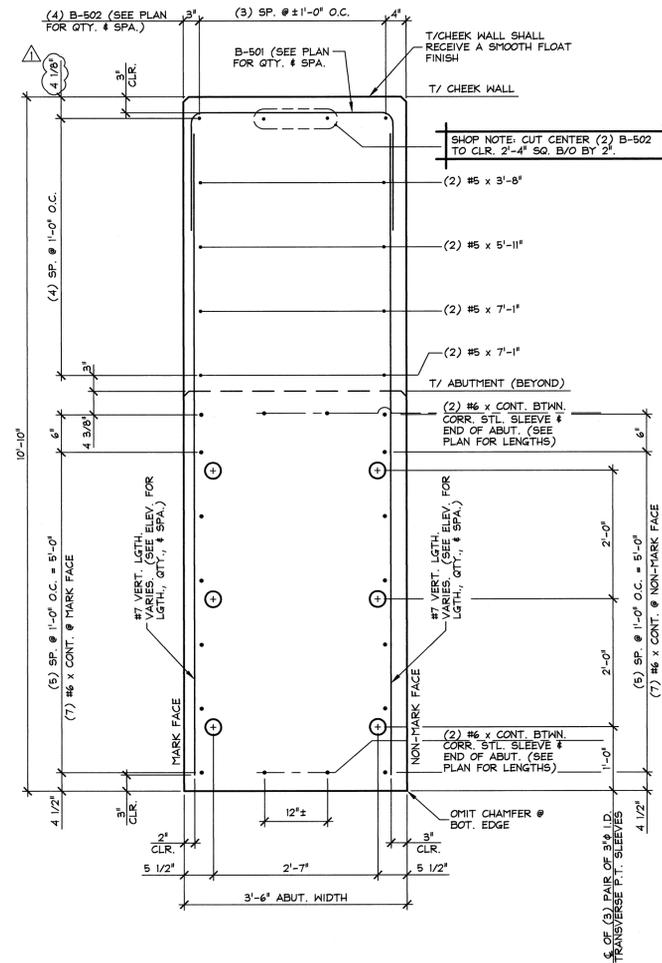
SUBMITTED  
 5-29-15  
 J.P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753





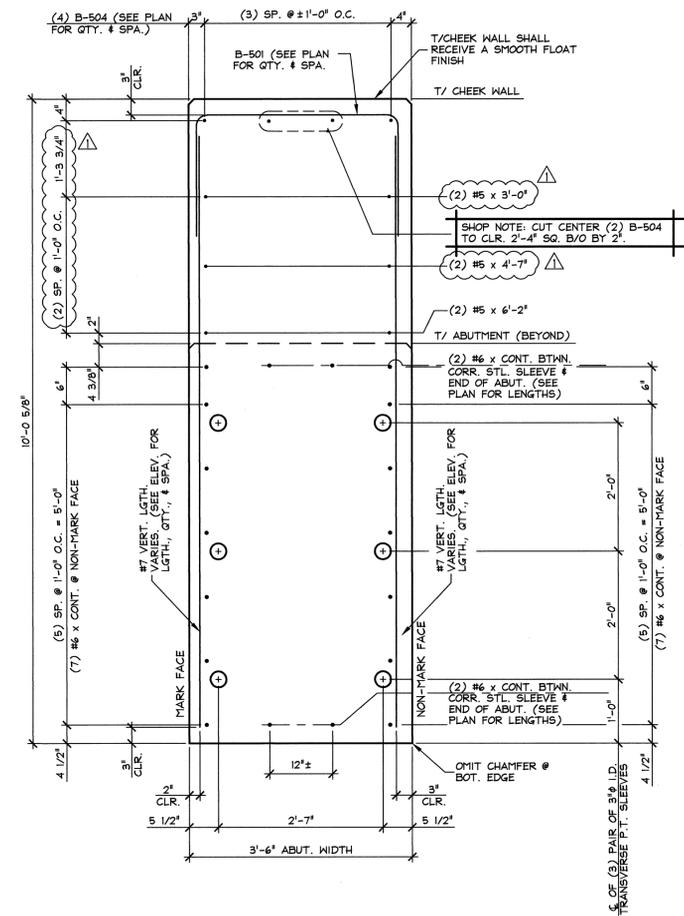
**A ABUTMENT SECTION**  
 ABIA (B-AB1 & B-AB2) 3/4" = 1'-0"

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



**B ABUTMENT SECTION**  
 ABIA (B-AB1) 3/4" = 1'-0"

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



**C ABUTMENT SECTION**  
 ABIA (B-AB2) 3/4" = 1'-0"

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

5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
 Precast & Prestress Manufacturer  
 2464 DAZE STR., WOODBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-8010

STATE OF VERMONT AGENCY OF TRANSPORTATION  
 COUNTY OF ORLEANS

DATE: FEB. 25, 2015

SCALE: NOTED

TOWN OF BARTON  
 ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
 BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

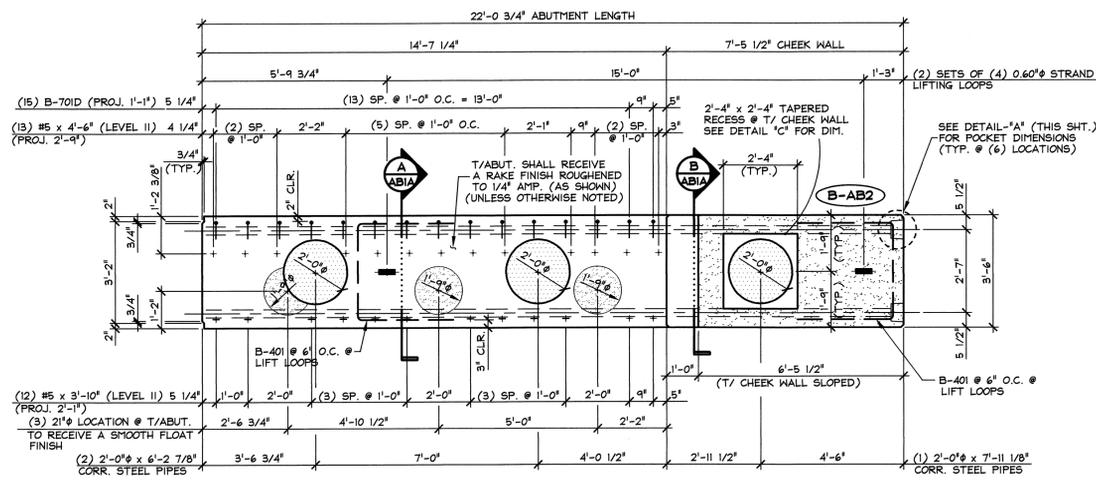
CHKD: DFTM: T.D.

JOB NO: 23462-015

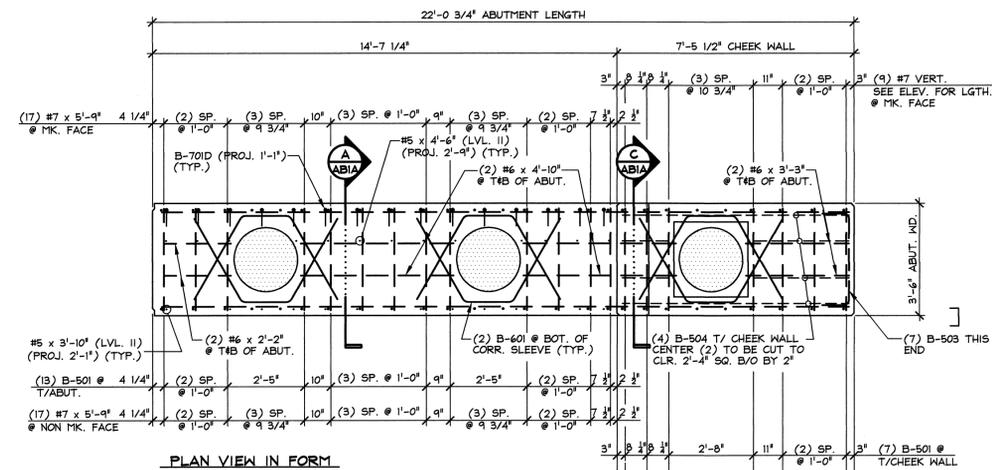
PRECAST ABUTMENT SECTIONS

DWG. NO: ABIA

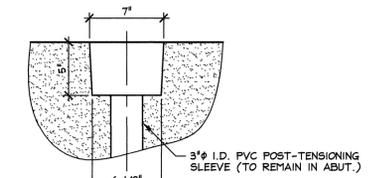
SUBMITTED  
 5-29-15  
 J.P. CARRARA & SONS, INC.  
 WOODBURY, VT 05753



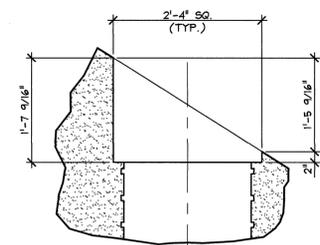
PLAN VIEW IN FORM



PLAN VIEW IN FORM

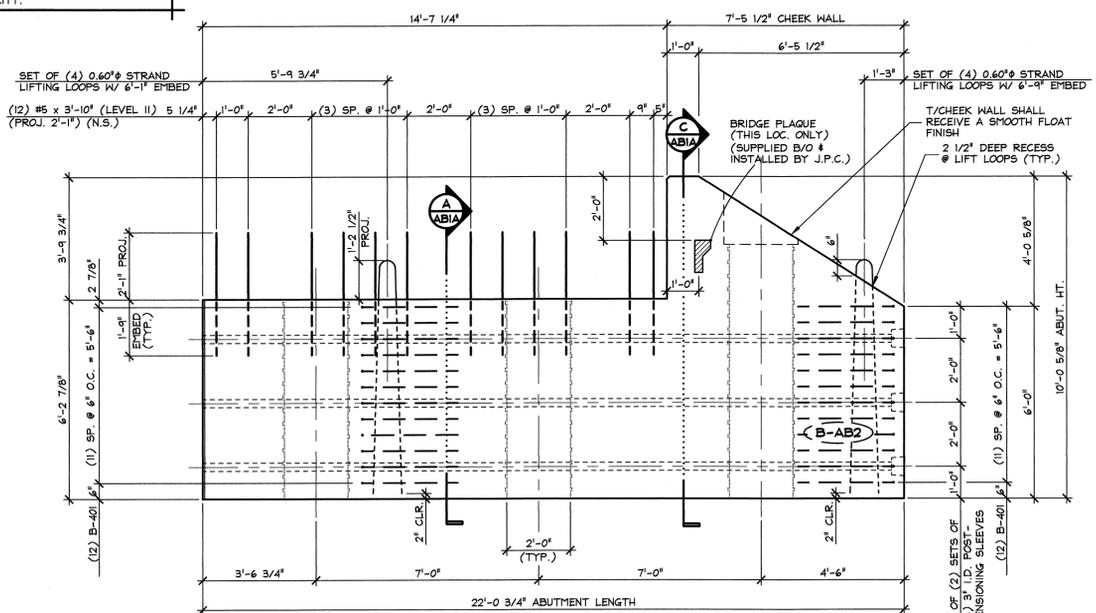


DETAIL - "A"  
1 1/2" = 1'-0"

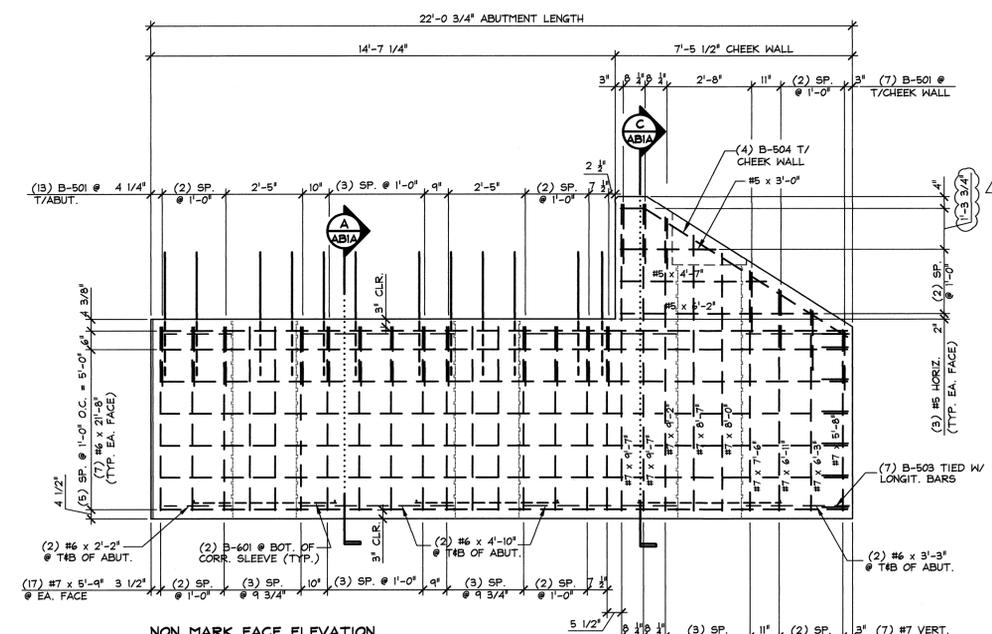


DETAIL - "C"  
3/4" = 1'-0"

SHOP NOTE: B-701D & #5 PROJ. 2'-0" ON FAR SIDE NOT SHOWN ON THIS VIEW FOR CLARITY.



NON MARK FACE ELEVATION



NON MARK FACE ELEVATION

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

MARK: B-AB2 QTY.: 1 WT.: 35.13 T VOL.: 17.14 cy

| MATERIAL LIST / ABUTMENT |        |   |      |
|--------------------------|--------|---|------|
| ITEM                     | MARK   | DESCRIPTION   | QTY. |
| 1                        | B-401  | #4 BENT BAR (LEVEL I)                                 | 24   |
| 2                        | B-501  | #5 BENT BAR (LEVEL I)                                 | 20   |
| 3                        | B-504  | #5 BENT BAR (LEVEL I)                                 | 4    |
| 4                        | B-503  | #5 BENT BAR (LEVEL I)                                 | 7    |
| 5                        | B-601  | #6 BENT BAR (LEVEL I)                                 | 6    |
| 6                        | B-701D | #5 BENT BAR (LEVEL II, DUAL COATED)                   | 15   |
| 7                        |        | #5 x 3'-10" (LEVEL II, DUAL COATED)                   | 12   |
| 8                        |        | #5 x 4'-6" (LEVEL II, DUAL COATED)                    | 13   |
| 9                        |        | #5 x 3'-0" (LEVEL I)                                  | 2    |
| 10                       |        | #5 x 4'-7" (LEVEL I)                                  | 2    |
| 11                       |        | #5 x 6'-2" (LEVEL I)                                  | 2    |
| 12                       |        | #6 x 2'-2" (LEVEL I)                                  | 4    |
| 13                       |        | #6 x 3'-3" (LEVEL I)                                  | 4    |
| 14                       |        | #6 x 4'-10" (LEVEL I)                                 | 8    |
| 15                       |        | #6 x 2'-8" (LEVEL I)                                  | 14   |
| 16                       |        | #7 x 5'-9" (LEVEL I)                                  | 34   |
| 17                       |        | #7 x 5'-8" (LEVEL I)                                  | 2    |
| 18                       |        | #7 x 6'-3" (LEVEL I)                                  | 2    |
| 19                       |        | #7 x 6'-11" (LEVEL I)                                 | 2    |
| 20                       |        | #7 x 7'-6" (LEVEL I)                                  | 2    |
| 21                       |        | #7 x 9'-2" (LEVEL I)                                  | 2    |
| 22                       |        | #7 x 9'-7" (LEVEL I)                                  | 4    |
| 23                       |        | #7 x 8'-7" (LEVEL I)                                  | 2    |
| 24                       |        | #7 x 8'-0" (LEVEL I)                                  | 2    |
| 25                       |        | SET OF (4) 0.60" STRAND LIFTING LOOPS                 | 2    |
| 26                       |        | 2'-0" DIA. x 6'-2 7/8" CORRUGATED STEEL PIPE (GALV.)  | 2    |
| 27                       |        | 2'-0" DIA. x 7'-11 1/8" CORRUGATED STEEL PIPE (GALV.) | 1    |

1 ABUTMENT DIMENSIONAL DETAILS  
AB2 3/8" = 1'-0"

SHOP NOTE:  
28 DAYS = 5,000 PSI  
RELEASE = 5,000 PSI

MIX DESIGN:  
MIX NO. 425M-NO DCI  
APPROVED 3-21-2015

2 ABUTMENT REINFORCING DETAILS  
AB2 3/8" = 1'-0"

5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

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

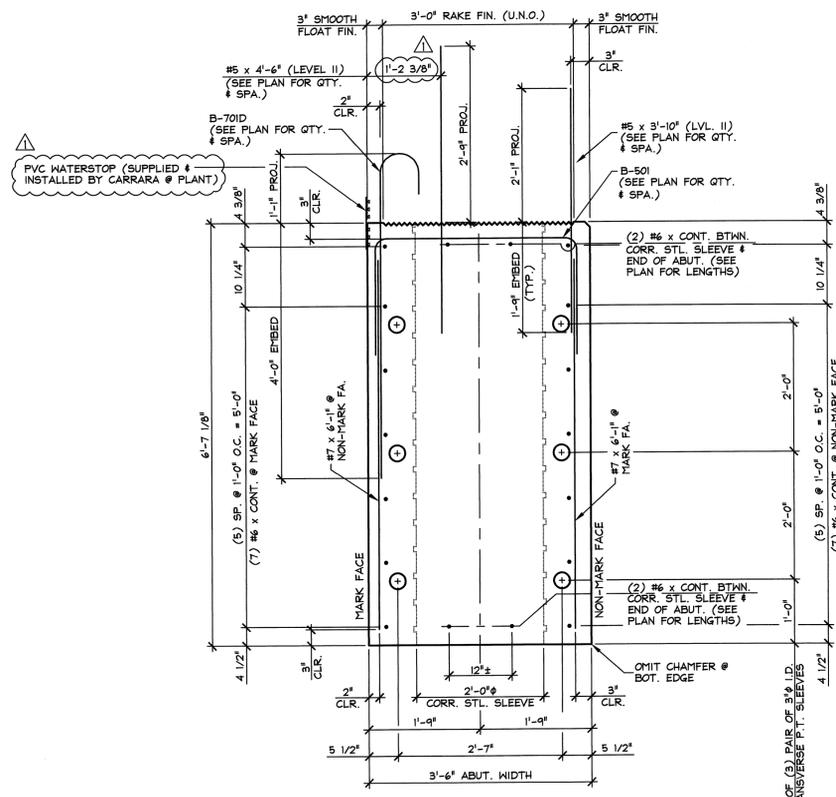
STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF ORLEANS

TOWN OF BARTON  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

PRECAST ABUTMENT DETAILS

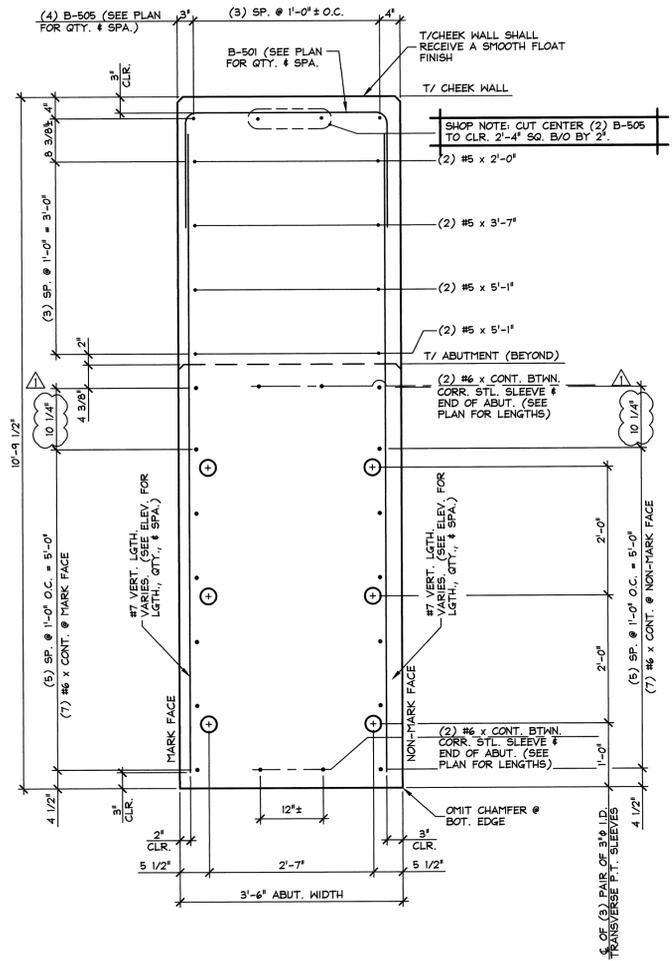
DATE: FEB. 25, 2015  
SCALE: NOTED  
CHKD: DFTM: T.D.  
JOB NO: 23462-015  
DWG. NO: AB2





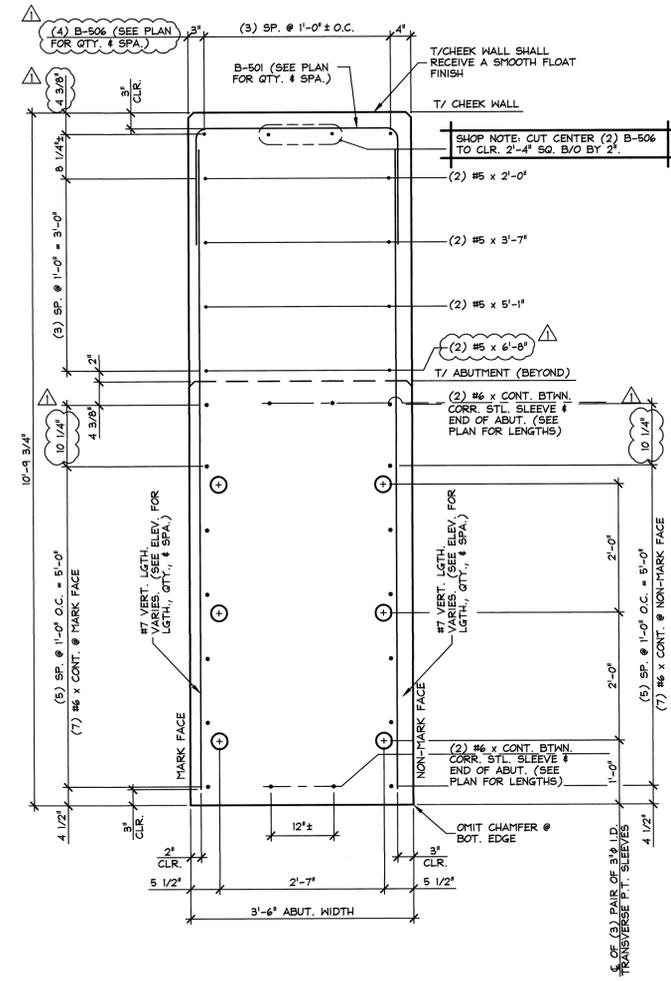
**A ABUTMENT SECTION**  
**AB3A (B-AB3 & B-AB4)** 3/4" = 1'-0"

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



**B ABUTMENT SECTION**  
**AB3A (B-AB3)** 3/4" = 1'-0"

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



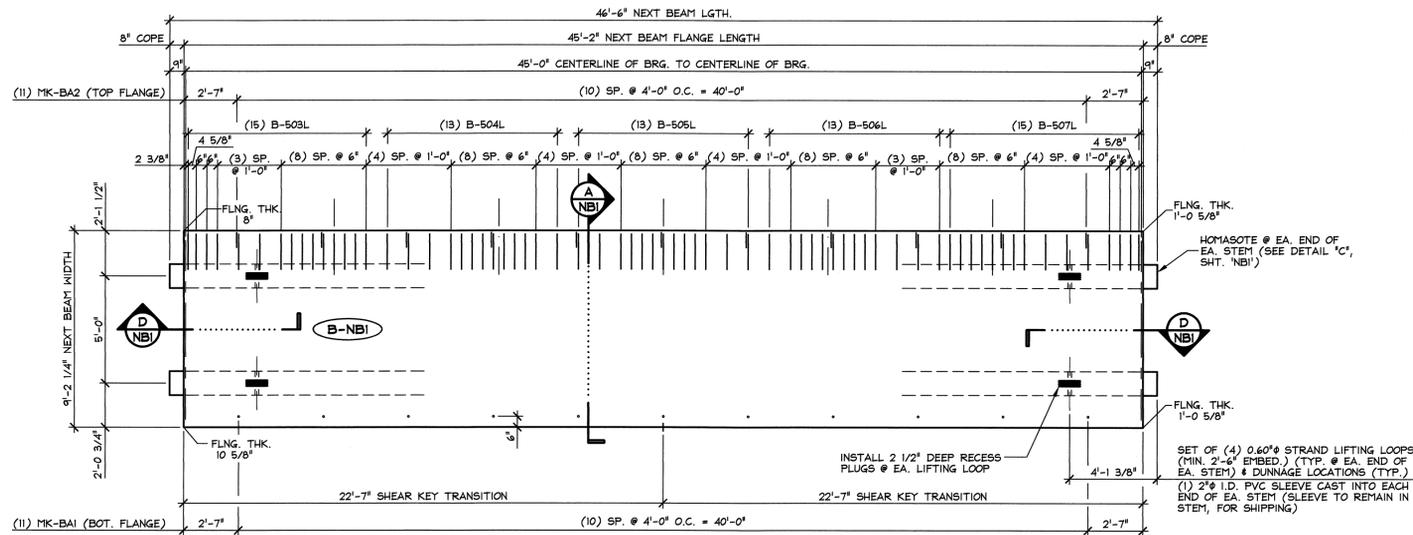
**C ABUTMENT SECTION**  
**AB3A (B-AB4)** 3/4" = 1'-0"

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

5/28/2015 REVISED AS NOTED T.D.

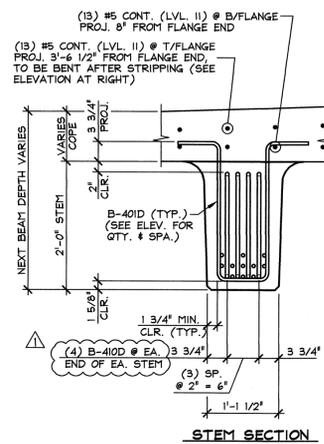
|                 |   |   |
|-----------------|---|---|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br><small>2444 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010</small> |   |
|                 | STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS  | DATE: FEB. 25, 2015                                   |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  | SCALE: NOTED<br>CHKD: DFTM: T.D.<br>JOB NO: 23462-015 |
|                 | <b>PRECAST ABUTMENT SECTIONS</b>  | DWG. NO: <b>AB3A</b>                                  |



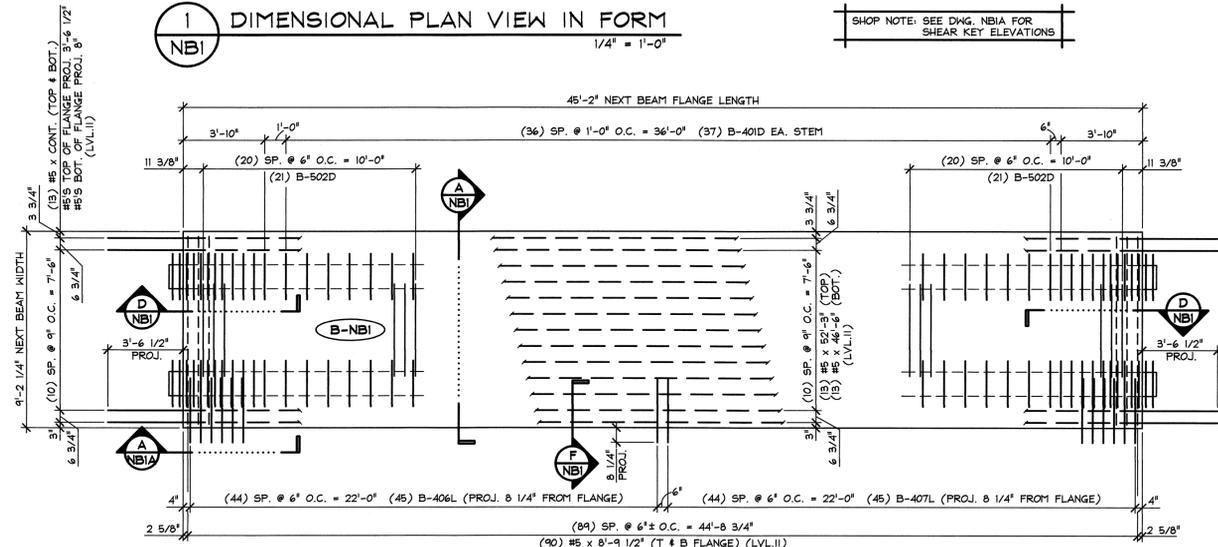


**1 DIMENSIONAL PLAN VIEW IN FORM**  
NBI  
1/4" = 1'-0"

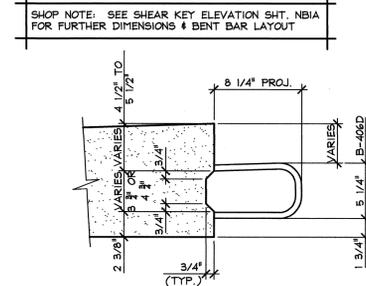
SHOP NOTE: SEE DWG. NBIA FOR SHEAR KEY ELEVATIONS



**D END BLOCK STEM REINFORCING DETAILS**  
NBI  
3/4" = 1'-0"



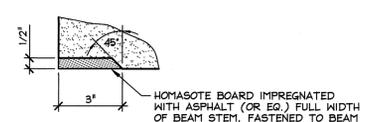
**2 REINFORCING PLAN VIEW IN FORM**  
NBI  
1/4" = 1'-0"



**F SHEAR KEY DETAIL**  
NBI  
1 1/2" = 1'-0"

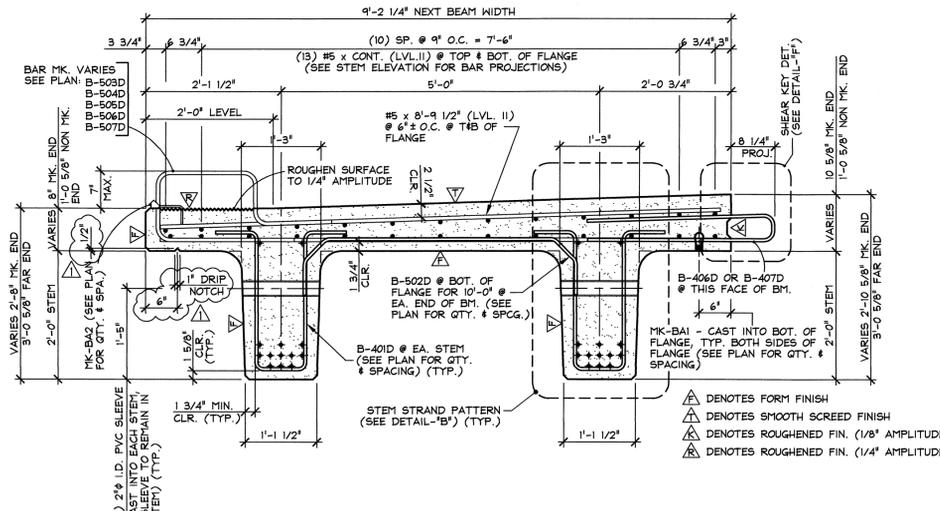
SHOP NOTE: SEE SHEAR KEY ELEVATION SHT. NBIA FOR FURTHER DIMENSIONS & BENT BAR LAYOUT

**DETENSIONING SCHEDULE**  
N.T.S.

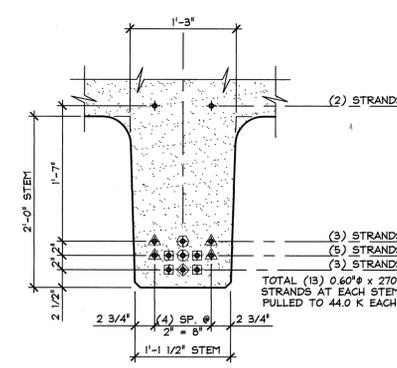


**C HOMASOTE DETAIL**  
NBI  
3" = 1'-0"

5/28/2015 REVISED AS NOTED T.D.



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



**B STEM STRAND PATTERN**  
NBI  
1" = 1'-0"

**PRESTRESSING NOTATIONS**

- ⊕ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- ⊕ DENOTES FULLY BONDED STRAIGHT STRANDS EXTENDED 2'-0" 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 4'-0" FROM EA. END OF EA. STEM
- ⊕ DENOTES STRAIGHT STRANDS TO BE DEBONDED 2'-0" FROM EA. END OF EA. STEM
- ⊕ DENOTES FULLY BONDED STRAIGHT STRANDS TO BE CUT FLUSH W/ EA. END OF EA. STEM

APPROVAL STAMP:

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

**STATE OF VERMONT AGENCY OF TRANSPORTATION**  
CONTRACTOR: J.P. Sicard  
BARTON, VERMONT

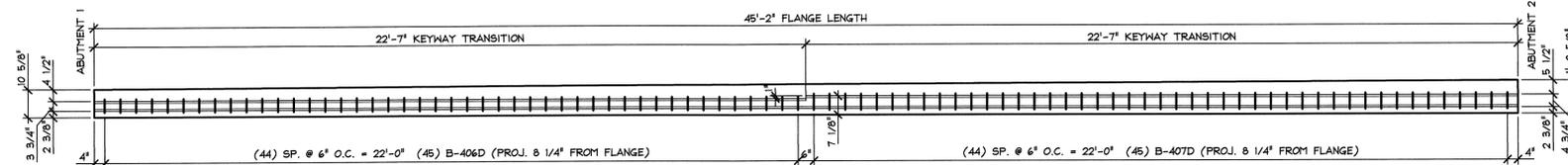
DATE: FEB. 25, 2015  
SCALE: NOTED  
CHKD: - DFTM: T.D.

**TOWN OF BARTON**  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  
JOB NO.: 23462-015

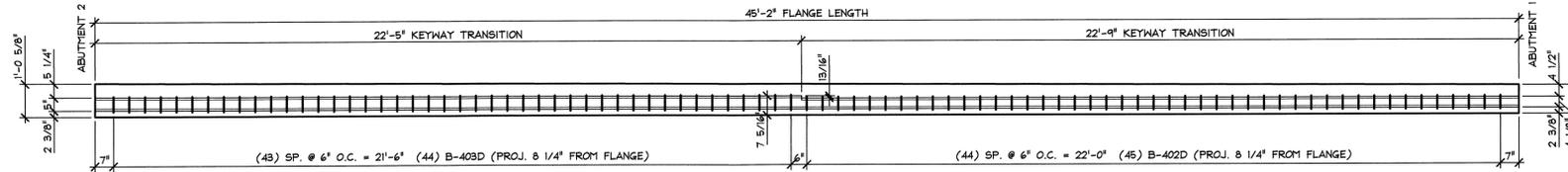
**PRESTRESSED NEXT BEAM DETAILS** DWG. NO: **NB1**

| MATERIAL LIST / NEXT BEAM |        |   |      |
|---------------------------|--------|---|------|
| ITEM                      | MARK   | DESCRIPTION                                     | QTY. |
| 1                         | MK-BA1 | 3/4" F42 FERRULE INSERT (GALV.)                 | 11   |
| 2                         | MK-BA2 | DAYTON C-24 TYPE 4-APR DECK FORM HANGER (GALV.) | 11   |
| 3                         |        |   |      |
| 4                         | B-40ID | #4 BENT BAR (LEVEL II, DUAL COATED)             | 122  |
| 5                         | B-406D | #4 BENT BAR (LEVEL II, DUAL COATED)             | 45   |
| 6                         | B-407D | #4 BENT BAR (LEVEL II, DUAL COATED)             | 45   |
| 7                         | B-410D | #4 BENT BAR (LEVEL II, DUAL COATED)             | 16   |
| 8                         | B-502D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 42   |
| 9                         | B-503D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 15   |
| 10                        | B-504D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 13   |
| 11                        | B-505D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 13   |
| 12                        | B-506D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 13   |
| 13                        | B-507D | #5 BENT BAR (LEVEL II, DUAL COATED)             | 15   |
| 14                        |        | #4 x 8'-9 1/2" (LEVEL II, DUAL COATED)          | 20   |
| 15                        |        | #5 x 8'-9 1/2" (LEVEL II, DUAL COATED)          | 180  |
| 16                        |        | #5 x 46'-6" (LEVEL II, DUAL COATED)             | 13   |
| 17                        |        | #5 x 52'-3" (LEVEL II, DUAL COATED)             | 13   |
| 18                        |        | SET OF (4) 0.60" STRAND LIFTING LOOPS           | 4    |

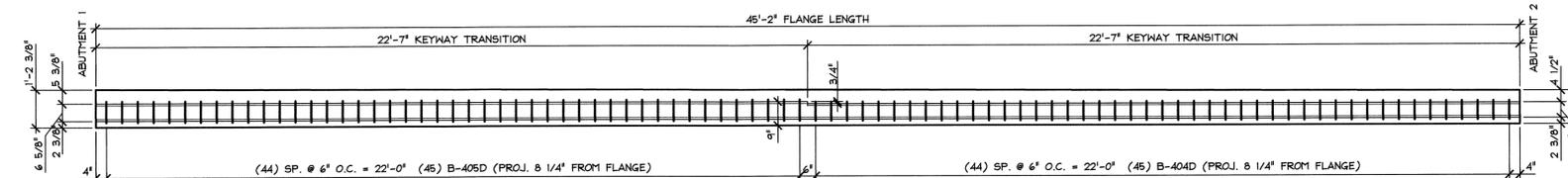
SUBMITTED  
5-29-15  
J.P. CARRARA & SONS INC.  
MIDDLEBURY, VT 05753



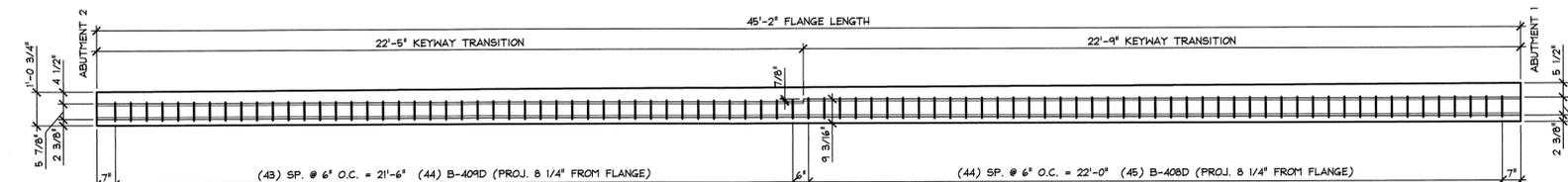
KEY ELEVATION - "A"  
3/8" = 1'-0"



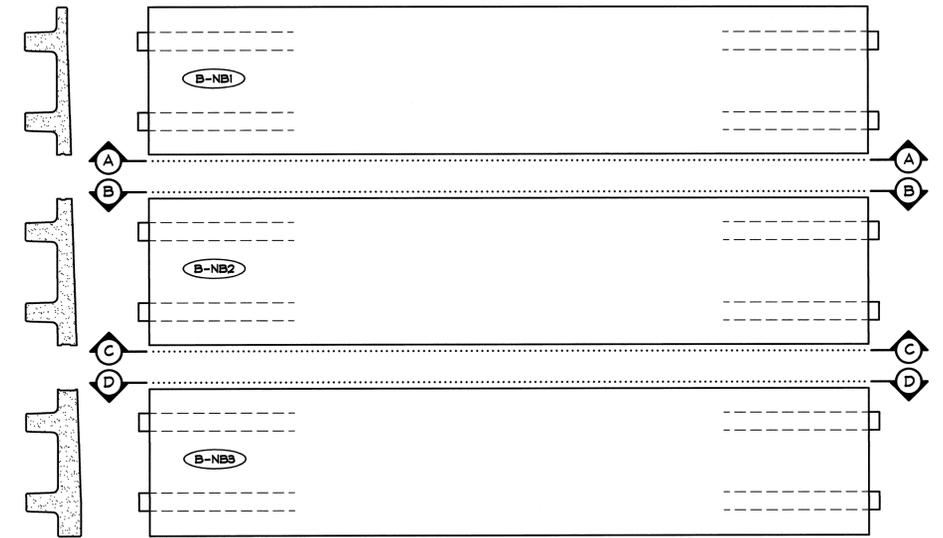
KEY ELEVATION - "B"  
3/8" = 1'-0"



KEY ELEVATION - "C"  
3/8" = 1'-0"



KEY ELEVATION - "D"  
3/8" = 1'-0"

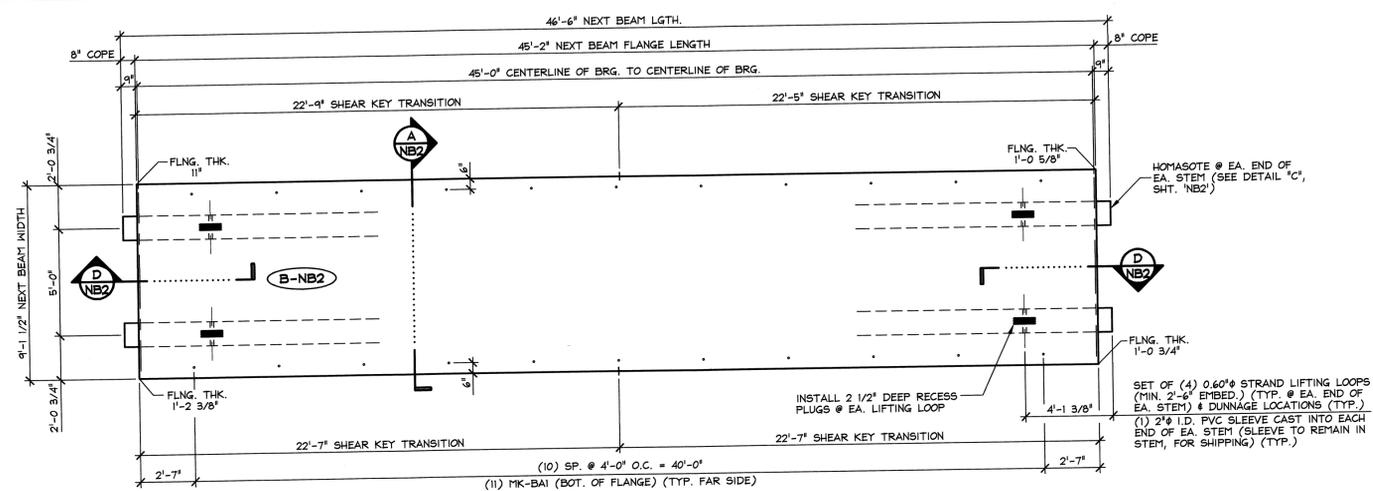


SCHMATIC PLAN VIEW OF NEXT BEAMS  
N.T.S.

F:\VT-Bridges\23462-14 Barton\23462-NB1A.dwg, 5/28/2015 1:26:57 PM

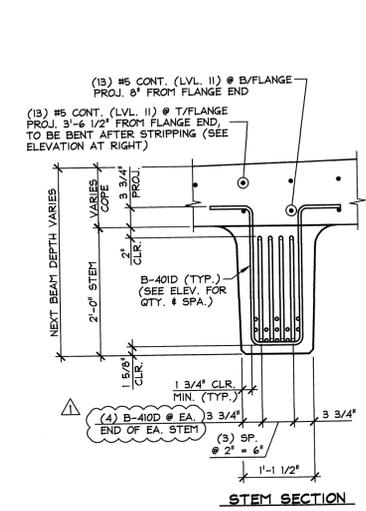
SUBMITTED  
5-29-15  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

|                 |  |  |   |                  |
|-----------------|--|--|---|------------------|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2464 OASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010 |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |                  |
|                 | STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS   |  | DATE: FEB. 25, 2015                                 |                  |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)   |  | SCALE: NOTED  | CHKD: DFTM: T.D. |
|                 | SHEAR KEY ELEVATIONS   |  | JOB NO: 23462-015                                   | DWG. NO: NB1A    |

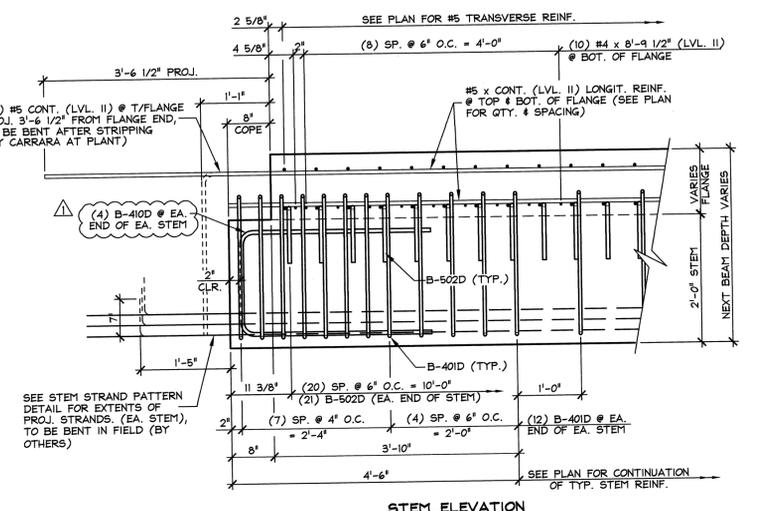


**1 DIMENSIONAL PLAN VIEW IN FORM**  
NB2  
1/4" = 1'-0"

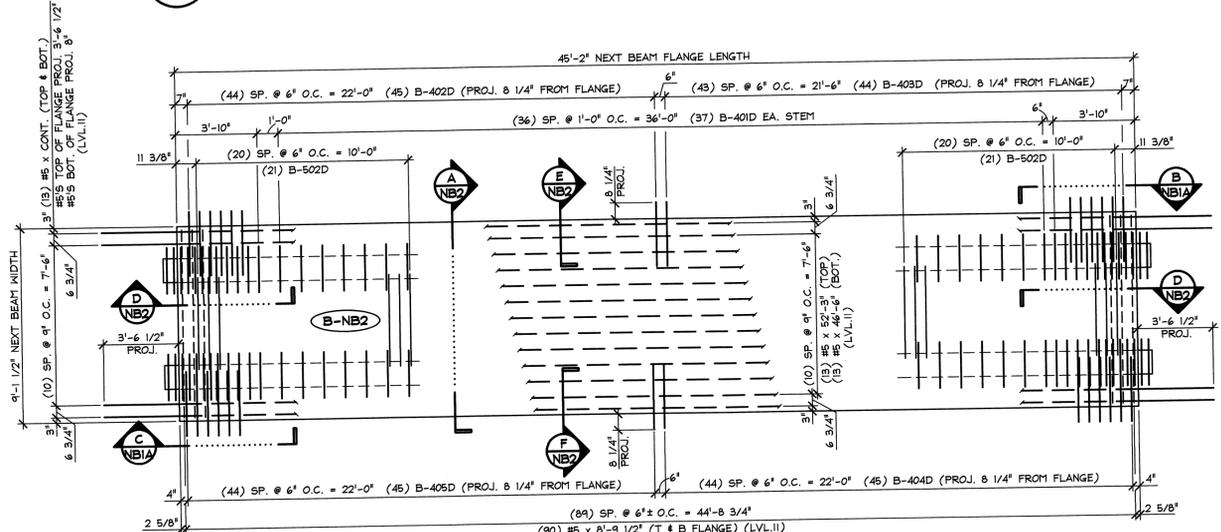
SHOP NOTE: SEE DWG. NB1A FOR SHEAR KEY ELEVATIONS



**STEM SECTION**

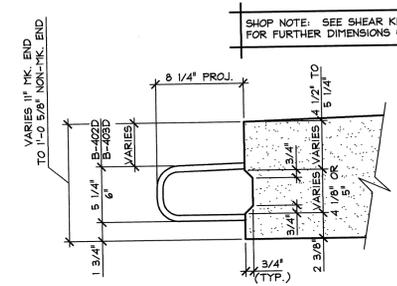


**STEM ELEVATION ALONG C OF STEM**

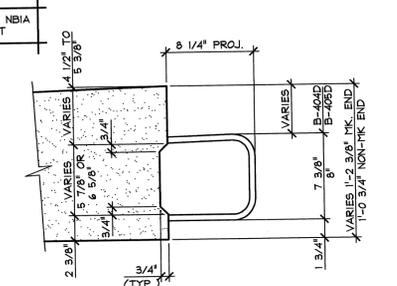


**2 REINFORCING PLAN VIEW IN FORM**  
NB2  
1/4" = 1'-0"

**D END BLOCK STEM REINFORCING DETAILS**  
NB2  
3/4" = 1'-0"



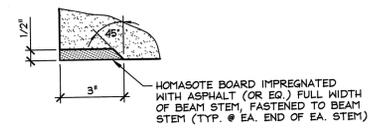
**E SHEAR KEY DETAIL**  
NB2  
1 1/2" = 1'-0"



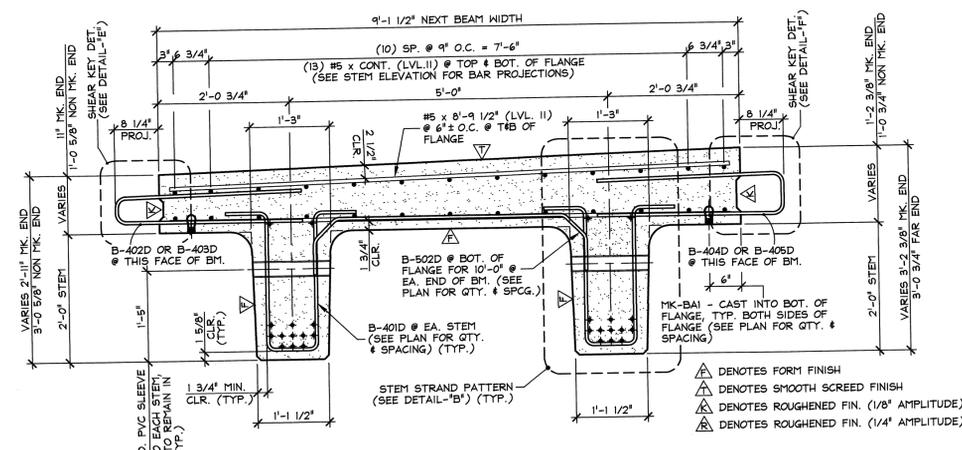
**F SHEAR KEY DETAIL**  
NB2  
1 1/2" = 1'-0"



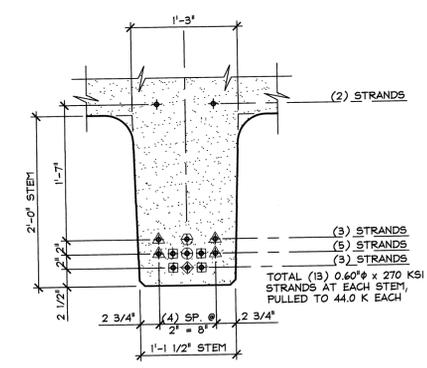
**DETENSIONING SCHEDULE**  
N.T.S.



**C HOMASOTE DETAIL**  
NB2  
3" = 1'-0"



**A DIMENSIONAL & REINFORCING SECTION**  
NB2  
3/4" = 1'-0"



**B STEM STRAND PATTERN**  
NB2  
1" = 1'-0"

- PRESTRESSING NOTATIONS**
- ▲ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
  - DENOTES FULLY BONDED STRAIGHT STRANDS EXTENDED 2'-0" 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 4'-0" FROM EA. END OF EA. STEM
  - ⊙ DENOTES STRAIGHT STRANDS TO BE DEBONDED 2'-0" FROM EA. END OF EA. STEM
  - ⊕ DENOTES FULLY BONDED STRAIGHT STRANDS TO BE CUT FLUSH W/ EA. END OF EA. STEM

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
Precast & Prestress Manufacturer  
244 OASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-5361 Fax: (802)388-9010

**J.P. Sicard**  
CONTRACTOR  
BARTON, VERMONT

**STATE OF VERMONT AGENCY OF TRANSPORTATION**  
COUNTY OF ORLEANS

**TOWN OF BARTON**  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

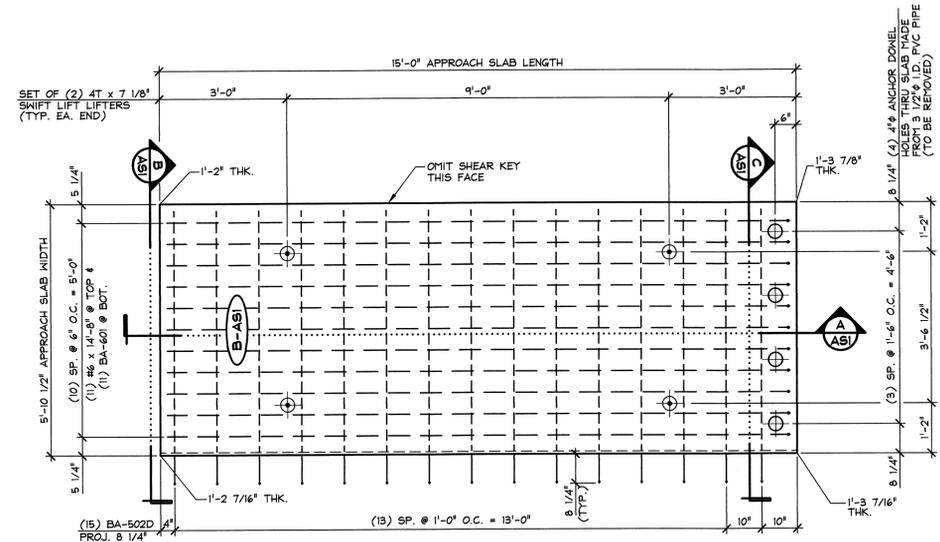
**PRESTRESSED NEXT BEAM DETAILS**

DATE: FEB. 25, 2015  
SCALE: NOTED  
CHKD: - DFTM: T.D.  
JOB NO: 23462-015  
DWG. NO: NB2

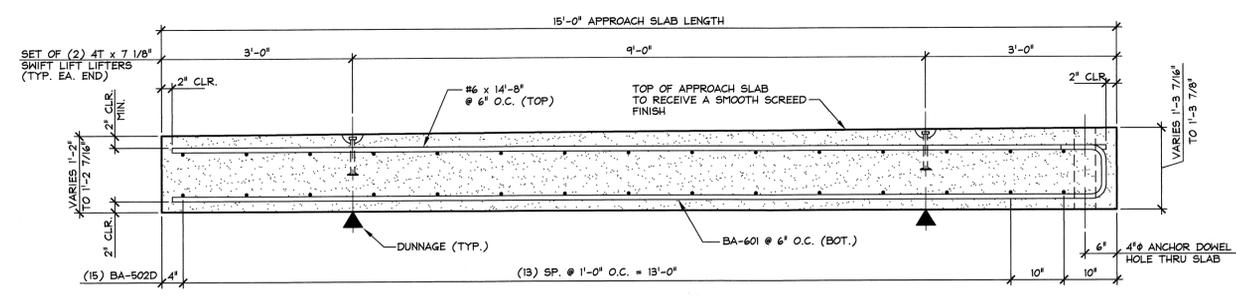
MARK: B-NB2 QTY.: 1 WT.: 49.36 T VOL.: 24.38 cy

| MATERIAL LIST / NEXT BEAM |        |  |      |
|---------------------------|--------|--|------|
| ITEM                      | MARK   | DESCRIPTION                            | QTY. |
| 1                         | MK-BA1 | 3/4" F42 FERRULE INSERT (GALV.)        | 22   |
| 2                         | B-401D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 122  |
| 3                         | B-402D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 45   |
| 4                         | B-403D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 44   |
| 5                         | B-404D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 45   |
| 6                         | B-405D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 45   |
| 7                         | B-410D | #4 BENT BAR (LEVEL II, DUAL COATED)    | 16   |
| 8                         | B-502D | #5 BENT BAR (LEVEL II, DUAL COATED)    | 42   |
| 9                         |        |  |      |
| 10                        |        | #4 x 8'-9 1/2" (LEVEL II, DUAL COATED) | 20   |
| 11                        |        | #5 x 8'-9 1/2" (LEVEL II, DUAL COATED) | 180  |
| 12                        |        | #5 x 46'-6" (LEVEL II, DUAL COATED)    | 13   |
| 13                        |        | #5 x 52'-3" (LEVEL II, DUAL COATED)    | 13   |
| 14                        |        |  |      |
| 15                        |        | SET OF (4) 0.60" STRAND LIFTING LOOPS  | 4    |

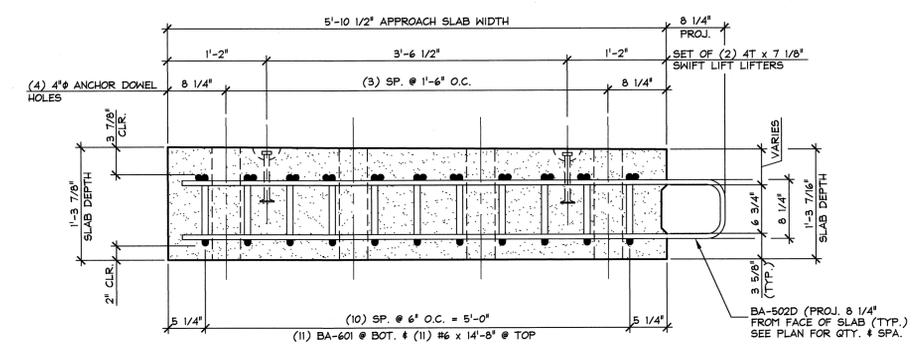




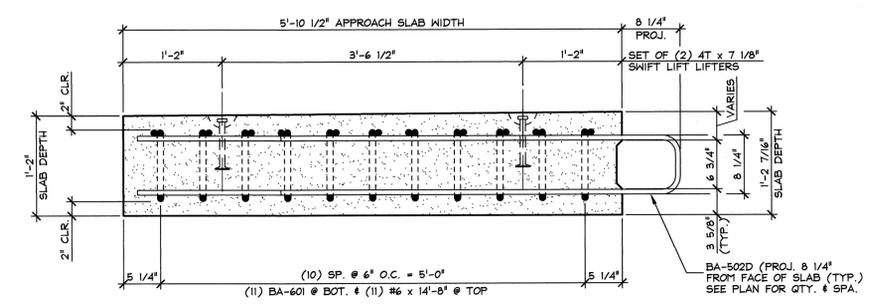
**1 PLAN VIEW IN FORM**  
 ASI  
 1/2" = 1'-0"



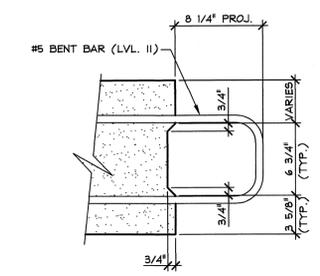
**A LONGITUDINAL SECTION**  
 ASI  
 3/4" = 1'-0"



**C SECTION**  
 ASI  
 1" = 1'-0"



**B SECTION**  
 ASI  
 1" = 1'-0"



**SHEAR KEY DETAIL**  
 1 1/2" = 1'-0"

SUBMITTED  
 5-29-15  
 J.P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753

| MATERIAL LIST / APPROACH SLAB |         |                                     |      |
|-------------------------------|---------|-------------------------------------|------|
| ITEM                          | MARK    | DESCRIPTION                         | QTY. |
| 1                             |         |                                     |      |
| 2                             | BA-502D | #5 BENT BAR (LEVEL II, DUAL COATED) | 15   |
| 3                             | BA-601  | #6 BENT BAR (LEVEL I)               | 11   |
| 4                             |         |                                     |      |
| 5                             |         |                                     |      |
| 6                             |         | #6 x 14'-8" (LEVEL I)               | 11   |
| 7                             |         |                                     |      |
| 8                             |         |                                     |      |
| 9                             |         |                                     |      |
| 10                            |         |                                     |      |
| 11                            |         |                                     |      |
| 12                            |         |                                     |      |
| 13                            |         |                                     |      |
| 14                            | DAYTON  | 4T x 7 1/8" SWIFT LIFT (DOMESTIC)   | 4    |
| 15                            |         |                                     |      |

MARK: B-ASI QTY.: 2 WT.: 8.26 T VOL.: 4.08 cy

5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

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

**J.P. Sicard**  
 CONTRACTOR  
 BARTON, VERMONT

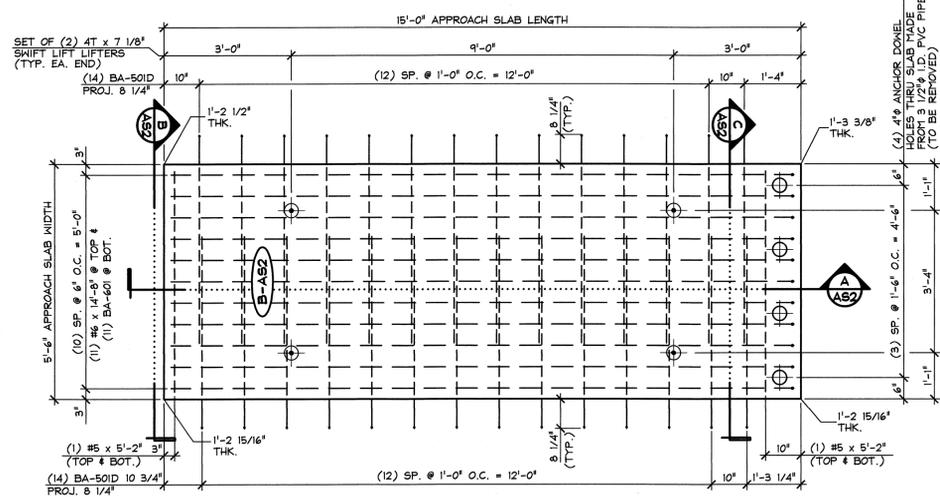
DATE: FEB. 25, 2015  
 SCALE: NOTED

STATE OF VERMONT AGENCY OF TRANSPORTATION  
 COUNTY OF ORLEANS

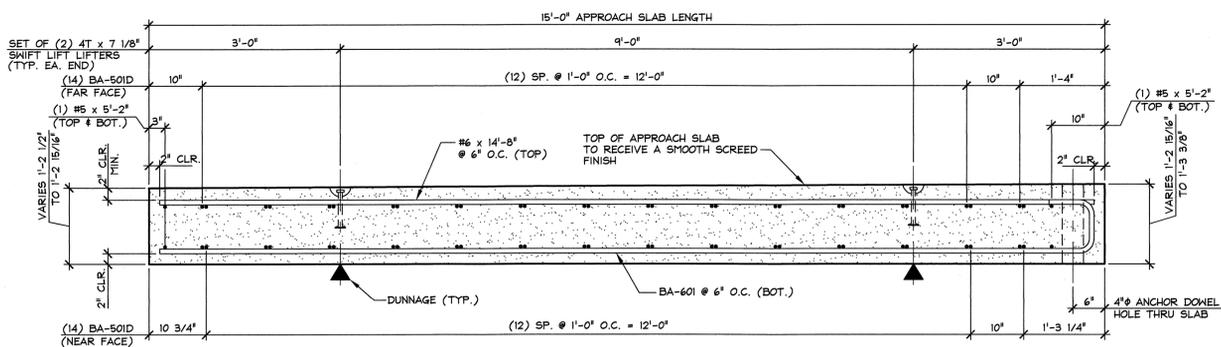
TOWN OF BARTON  
 ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
 BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

CHKD: DFTM: T.D.  
 JOB NO: 23462-015

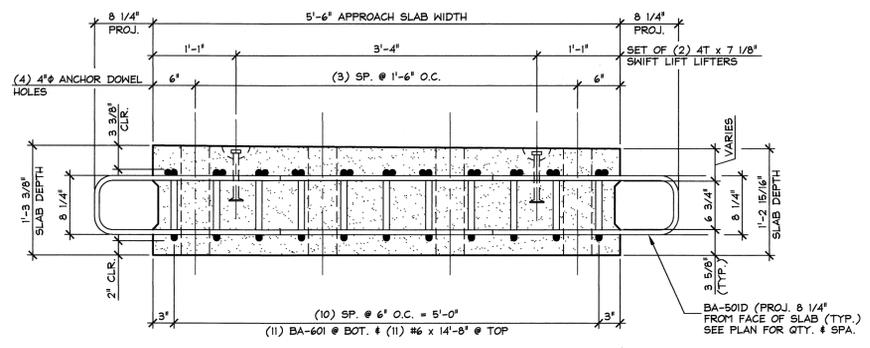
**APPROACH SLAB DETAILS**  
 DWG. NO: ASI



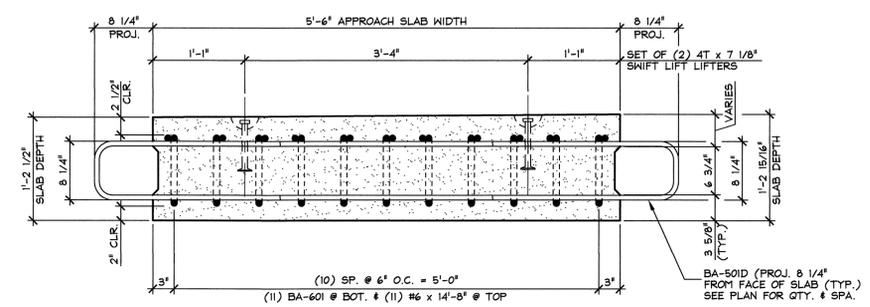
1 PLAN VIEW IN FORM  
AS2  
1/2" = 1'-0"



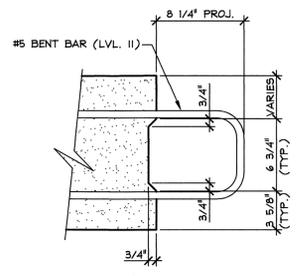
A LONGITUDINAL SECTION  
AS2  
3/4" = 1'-0"



C SECTION  
AS2  
1" = 1'-0"



B SECTION  
AS2  
1" = 1'-0"



SHEAR KEY DETAIL  
1 1/2" = 1'-0"

SUBMITTED  
5-29-15  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

| MARK: B-AS2                   | QTY.: 2 | WT.: 7.73 T                              | VOL.: 3.82 cy |
|-------------------------------|---------|--|---------------|
| MATERIAL LIST / APPROACH SLAB |         |  |               |
| ITEM                          | MARK    | DESCRIPTION                              | QTY.          |
| 1                             |         |  |               |
| 2                             | BA-501D | #5 BENT BAR (LEVEL II, DUAL COATED)      | 26            |
| 3                             | BA-601  | #6 BENT BAR (LEVEL I)                    | 11            |
| 4                             |         |  |               |
| 5                             |         |  |               |
| 6                             |         | #6 x 14'-8" (LEVEL I)                    | 11            |
| 7                             |         | #5 x 5'-2" (LEVEL I)                     | 4             |
| 8                             |         |  |               |
| 9                             |         |  |               |
| 10                            |         |  |               |
| 11                            |         |  |               |
| 12                            |         |  |               |
| 13                            |         |  |               |
| 14                            |         | DAYTON 4T x 7 1/8" SHIFT LIFT (DOMESTIC) | 4             |
| 15                            |         |  |               |

5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
Precast & Prestress Manufacturer  
2444 GALE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

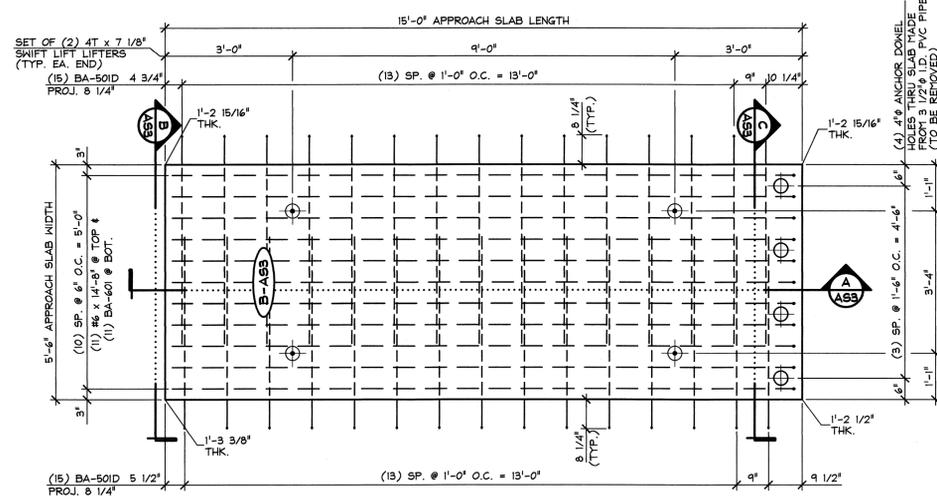
**J.P. Sicard**  
CONTRACTOR  
BARTON, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF ORLEANS

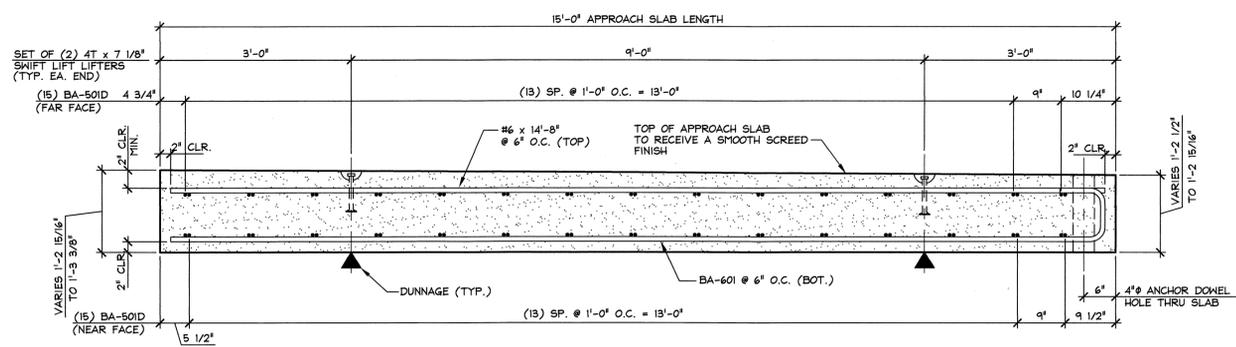
TOWN OF BARTON  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

DATE: FEB. 25, 2015  
SCALE: NOTED  
CHKD: DFTM: T.D.  
JOB NO: 23462-015

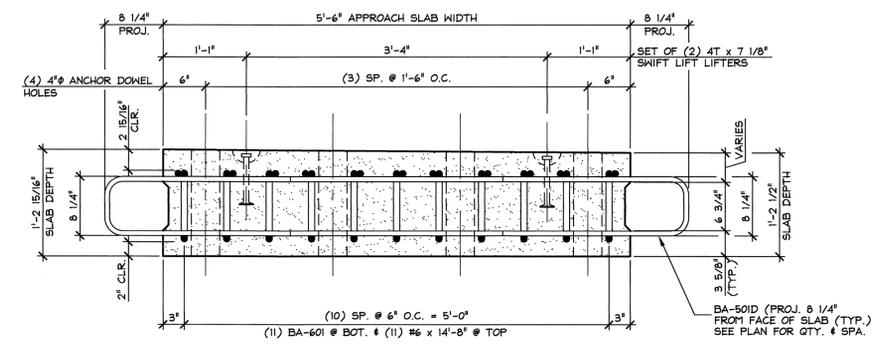
**APPROACH SLAB DETAILS**  
DWG. NO: AS2



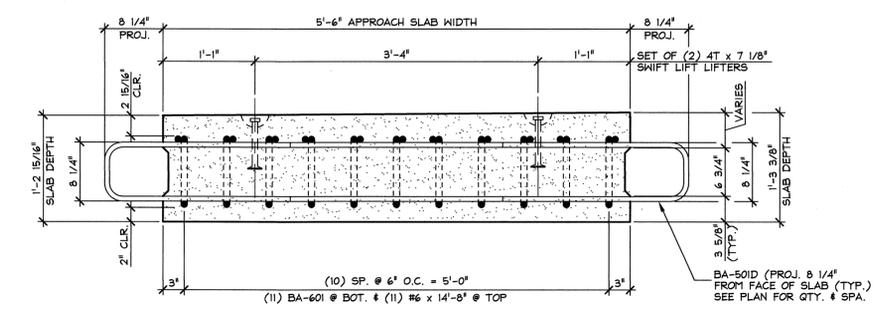
**1 PLAN VIEW IN FORM**  
AS3  
1/2" = 1'-0"



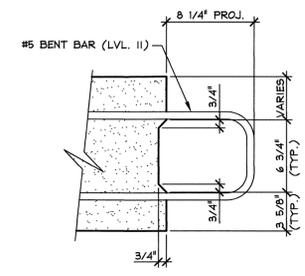
**A LONGITUDINAL SECTION**  
AS3  
3/4" = 1'-0"



**C SECTION**  
AS2  
1" = 1'-0"



**B SECTION**  
AS2  
1" = 1'-0"



**SHEAR KEY DETAIL**  
1 1/2" = 1'-0"

SUBMITTED  
5-29-15  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

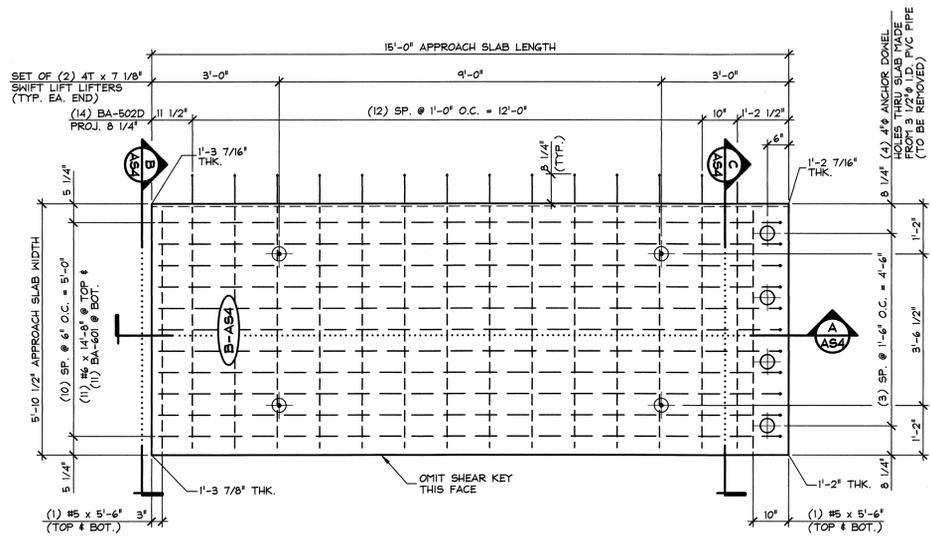
| MARK: B-AS3                   |         | QTY.: 2                                  | WT.: 7.73 T | VOL.: 3.82 cy |
|-------------------------------|---------|--|-------------|---------------|
| MATERIAL LIST / APPROACH SLAB |         |  |             |               |
| ITEM                          | MARK    | DESCRIPTION                              | QTY.        |               |
| 1                             |         |  |             |               |
| 2                             | BA-501D | #5 BENT BAR (LEVEL II, DUAL COATED)      | 30          |               |
| 3                             | BA-601  | #6 BENT BAR (LEVEL I)                    | 11          |               |
| 4                             |         |  |             |               |
| 5                             |         |  |             |               |
| 6                             |         | #6 x 14'-8" (LEVEL I)                    | 11          |               |
| 7                             |         |  |             |               |
| 8                             |         |  |             |               |
| 9                             |         |  |             |               |
| 10                            |         |  |             |               |
| 11                            |         |  |             |               |
| 12                            |         |  |             |               |
| 13                            |         |  |             |               |
| 14                            |         | DAYTON 4T x 7 1/8" SWIFT LIFT (DOMESTIC) | 4           |               |
| 15                            |         |  |             |               |

5/28/2015 REVISED AS NOTED T.D.

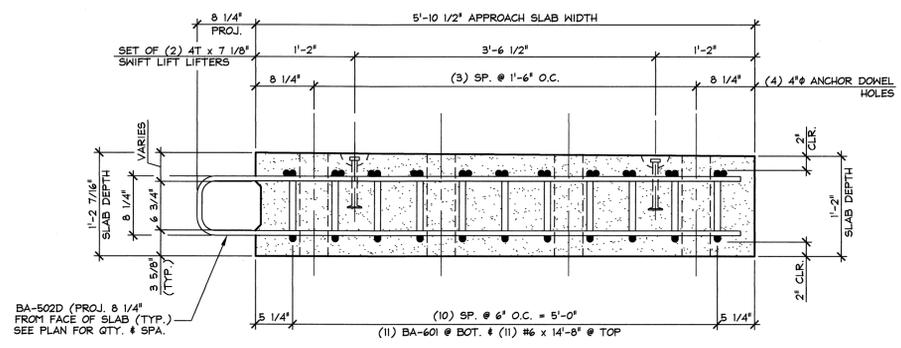
APPROVAL STAMP:

|   |  |   |                  |
|---|--|---|------------------|
| <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2484 OSE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT |                  |
| STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                 |                  |
| TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  |  | SCALE: NOTED  | CHKD: DFTM: T.D. |
| APPROACH SLAB DETAILS   |  | JOB NO: 23462-015                                   |                  |
|   |  | DWG. NO: AS3  |                  |

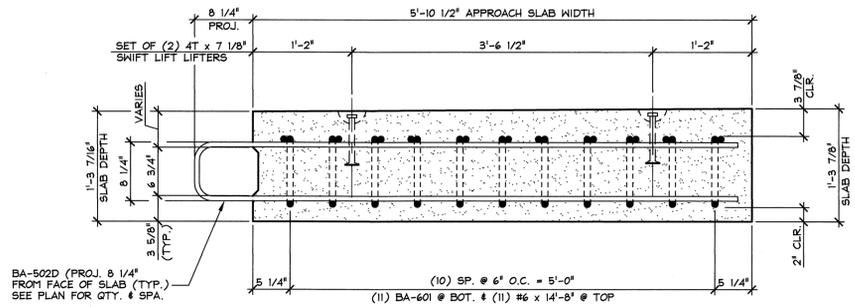
SUBMITTED  
5-29-15  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753



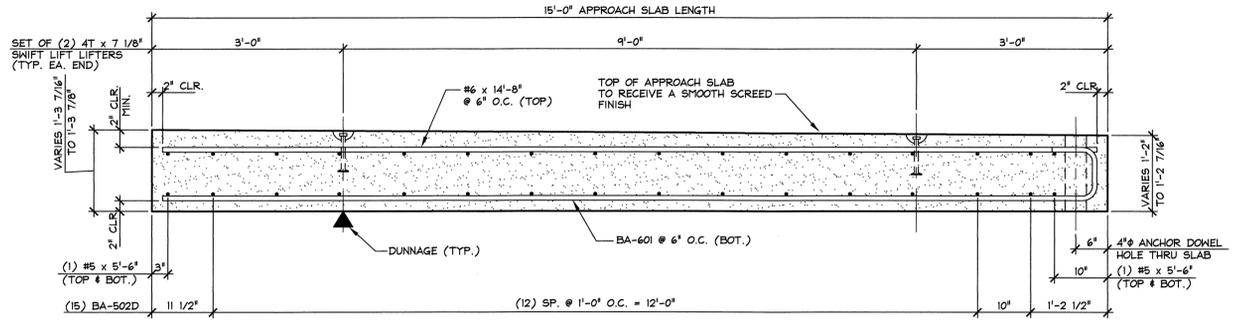
1 PLAN VIEW IN FORM  
AS4  
1/2" = 1'-0"



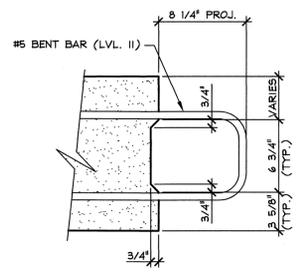
C SECTION  
AS4  
1" = 1'-0"



B SECTION  
AS4  
1" = 1'-0"



A LONGITUDINAL SECTION  
AS4  
3/4" = 1'-0"



SHEAR KEY DETAIL  
1 1/2" = 1'-0"

| MARK: B-AS4                   |         | QTY.: 2                                  | WT.: 8.26 T | VOL.: 4.08 cy |
|-------------------------------|---------|--|-------------|---------------|
| MATERIAL LIST / APPROACH SLAB |         |  |             |               |
| ITEM                          | MARK    | DESCRIPTION                              | QTY.        |               |
| 1                             |         |  |             |               |
| 2                             | BA-502D | #5 BENT BAR (LEVEL II, DUAL COATED)      | 14          |               |
| 3                             | BA-601  | #6 BENT BAR (LEVEL I)                    | 11          |               |
| 4                             |         |  |             |               |
| 5                             |         |  |             |               |
| 6                             |         | #6 x 14'-8" (LEVEL I)                    | 11          |               |
| 7                             |         | #5 x 5'-6" (LEVEL I)                     | 4           |               |
| 8                             |         |  |             |               |
| 9                             |         |  |             |               |
| 10                            |         |  |             |               |
| 11                            |         |  |             |               |
| 12                            |         |  |             |               |
| 13                            |         |  |             |               |
| 14                            | △       | DAYTON 4T x 7 1/8" SWIFT LIFT (DOMESTIC) | 4           |               |
| 15                            |         |  |             |               |

5/28/2015 REVISED AS NOTED T.D.

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
Precast & Prestress Manufacturer  
2444 DICK ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

**J.P. Sicard**  
CONTRACTOR  
BARTON, VERMONT

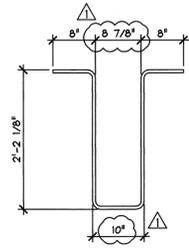
STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF ORLEANS

DATE: FEB. 25, 2015  
SCALE: NOTED

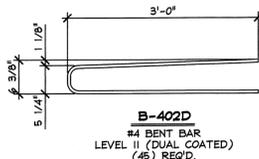
TOWN OF BARTON  
ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR  
BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)

CHKD: DFTM: T.D.  
JOB NO: 23462-015

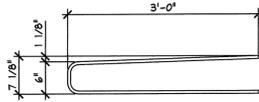
APPROACH SLAB DETAILS  
DWG. NO: AS4



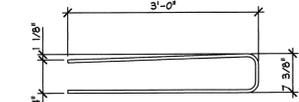
**B-401D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(366) REQ'D.



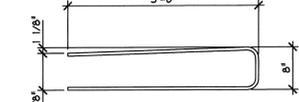
**B-402D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



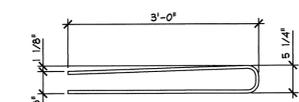
**B-403D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(44) REQ'D.



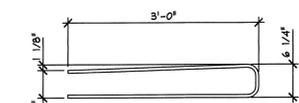
**B-404D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



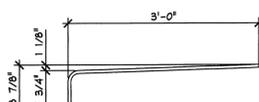
**B-405D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



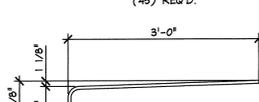
**B-406D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



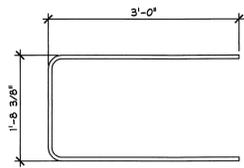
**B-407D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



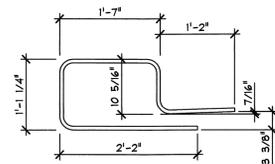
**B-408D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



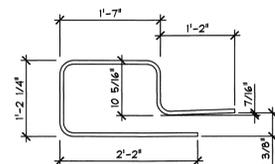
**B-409D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(44) REQ'D.



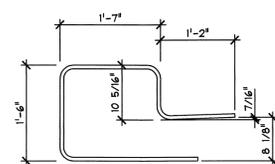
**B-410D**  
#4 BENT BAR  
LEVEL II (DUAL COATED)  
(46) REQ'D.



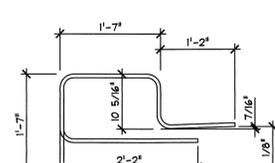
**B-503L**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



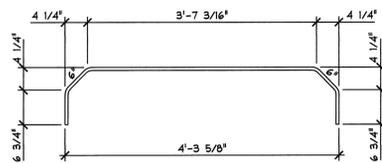
**B-504L**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



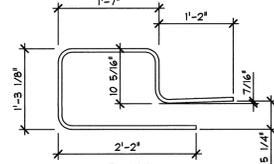
**B-505D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



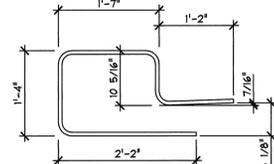
**B-509D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(14) REQ'D.



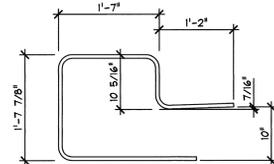
**B-502D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(126) REQ'D.



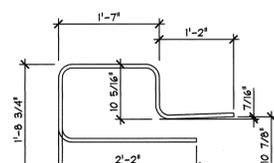
**B-505L**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



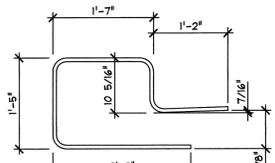
**B-506L**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



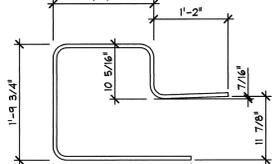
**B-510D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(13) REQ'D.



**B-511D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(13) REQ'D.



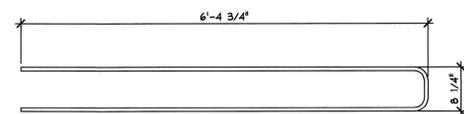
**B-507L**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.



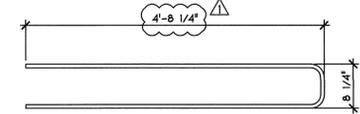
**B-512D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(15) REQ'D.

| MISCELLANEOUS MATERIALS |        |      |   | P/S NEXT BEAMS |               |
|-------------------------|--------|------|---|----------------|---------------|
| ITEM                    | MARK   | QTY. | DESCRIPTION                                     | REMARKS        |               |
| 1                       | B-401D | 366  | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 2                       | B-402D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 3                       | B-403D | 44   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 4                       | B-404D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 5                       | B-405D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 6                       | B-406D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 7                       | B-407D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 8                       | B-408D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 9                       | B-409D | 44   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 10                      | B-410D | 46   | #4 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 11                      | B-502D | 126  | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 12                      | B-503D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 13                      | B-504D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 14                      | B-505D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 15                      | B-506D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 16                      | B-507D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 17                      | B-508D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 18                      | B-509D | 14   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 19                      | B-510D | 13   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 20                      | B-511D | 13   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 21                      | B-512D | 15   | #5 BENT BAR (LEVEL II, DUAL COATED)             |                |               |
| 22                      |        |      |   |                |               |
| 23                      |        | 61   | #4 x 8'-9 1/2" (LEVEL II, DUAL COATED)          |                | (+1 SAMPLE) Δ |
| 24                      |        | 541  | #5 x 8'-9 1/2" (LEVEL II, DUAL COATED)          |                | (+1 SAMPLE) Δ |
| 25                      |        | 39   | #5 x 46'-6" (LEVEL II, DUAL COATED)             |                |               |
| 26                      |        | 39   | #5 x 52'-3" (LEVEL II, DUAL COATED)             |                |               |
| 27                      |        | 12   | SET OF (4) 0.60" STRAND LIFTING LOOPS           |                |               |
| 28                      | PK-BA1 | 44   | 3/4" F42 FERRULE INSERT (GALV.)                 |                |               |
| 29                      | PK-BA2 | 22   | DAYTON C-24 TYPE 4-APR DECK FORM HANGER (GALV.) |                |               |

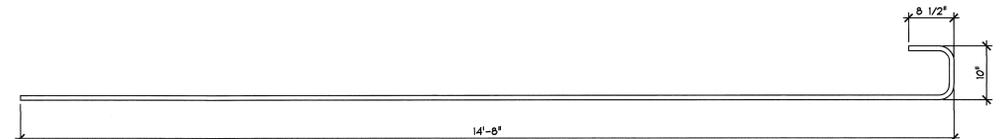
| MISCELLANEOUS MATERIALS |         |      |  | P/C APPROACH SLABS |               |
|-------------------------|---------|------|--|--------------------|---------------|
| ITEM                    | MARK    | QTY. | DESCRIPTION                                | REMARKS            |               |
| 1                       | BA-501D | 116  | #5 BENT BAR (LEVEL II, DUAL COATED)        |                    |               |
| 2                       | BA-502D | 58   | #5 BENT BAR (LEVEL II, DUAL COATED) Δ      |                    |               |
| 3                       | BA-601  | 89   | #6 BENT BAR (LEVEL I)                      |                    | (+1 SAMPLE) Δ |
| 4                       |         |      |  |                    |               |
| 5                       |         |      |  |                    |               |
| 6                       |         | 88   | #6 x 14'-8" (LEVEL I)                      |                    |               |
| 7                       |         | 8    | #5 x 5'-2" (LEVEL I)                       |                    |               |
| 8                       |         | 8    | #5 x 5'-6" (LEVEL I)                       |                    |               |
| 9                       |         |      |  |                    |               |
| 10                      |         | 32   | DAYTON 4T x 7 1/8" SWIFT LIFT (DOMESTIC) Δ |                    |               |



**BA-502D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(58) REQ'D.



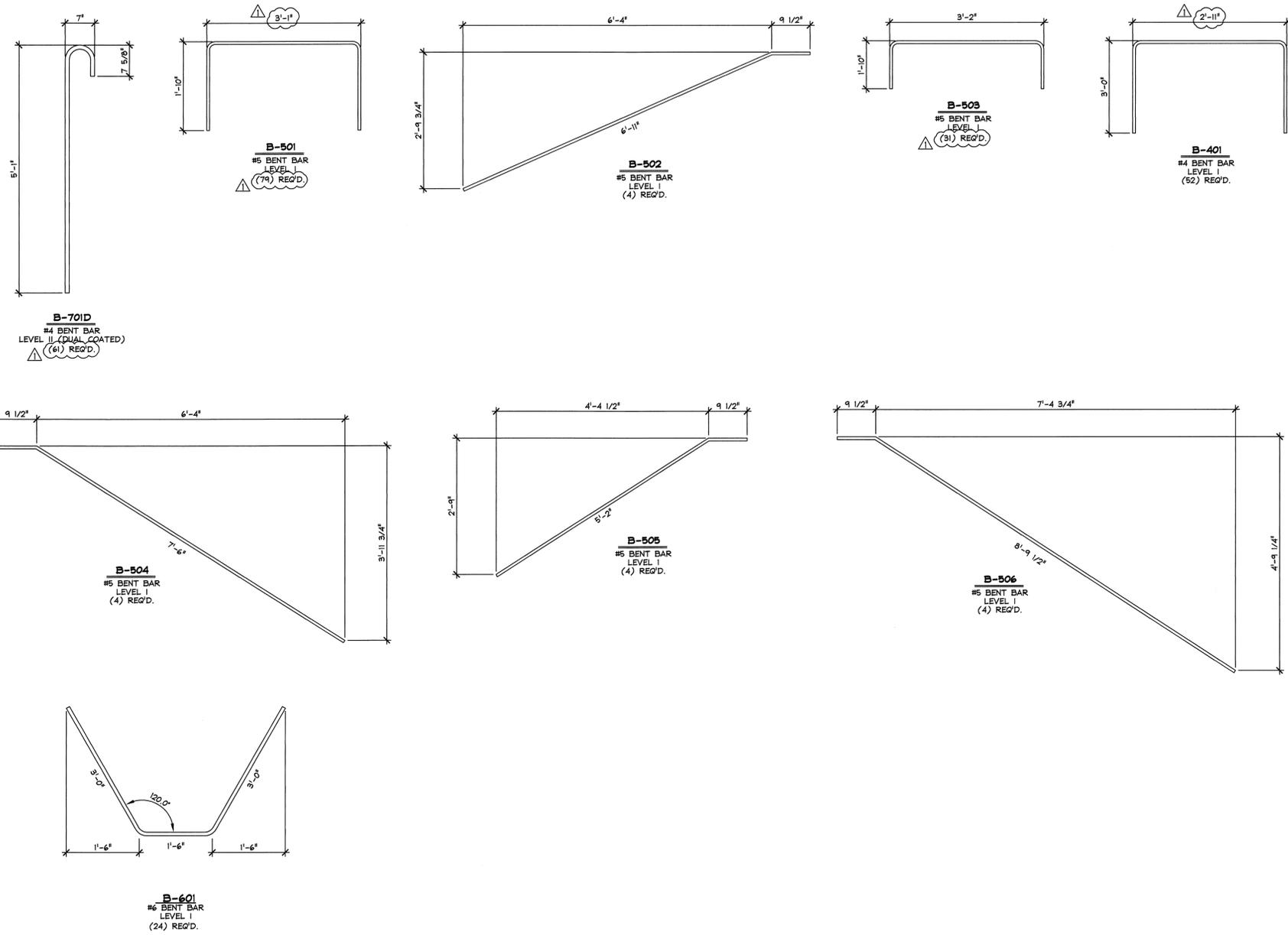
**BA-501D**  
#5 BENT BAR  
LEVEL II (DUAL COATED)  
(116) REQ'D.



**BA-601**  
#6 BENT BAR  
LEVEL I  
(89) REQ'D. Δ

5/28/2015 REVISED AS NOTED T.D.

|                 |   |  |  |  |
|-----------------|---|--|--|--|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>2844 CASE ST., WOODBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 |  | <b>J.P. Sicard</b><br>CONTRACTOR<br>BARTON, VERMONT    |  |
|                 | STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                    |  |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  |  | SCALE: NOTED   |  |
|                 | NEXT BEAM MATERIAL LIST   |  | CHKD: - DFTM: T.D.<br>JOB NO: 23462-015<br>DWG. NO: M1 |  |



| MISCELLANEOUS MATERIALS |          |      |   |               |
|-------------------------|----------|------|---|---------------|
| ITEM                    | MARK     | QTY. | DESCRIPTION                                       | REMARKS       |
| 1                       | B-401    | 52   | #4 BENT BAR (LEVEL 1)                             |               |
| 2                       | △ B-501  | 79   | #5 BENT BAR (LEVEL 1)                             |               |
| 3                       | B-502    | 4    | #5 BENT BAR (LEVEL 1)                             |               |
| 4                       | △ B-503  | 3    | #5 BENT BAR (LEVEL 1)                             |               |
| 5                       | B-504    | 4    | #5 BENT BAR (LEVEL 1)                             |               |
| 6                       | B-505    | 4    | #5 BENT BAR (LEVEL 1)                             |               |
| 7                       | B-506    | 4    | #5 BENT BAR (LEVEL 1)                             |               |
| 8                       | B-601    | 24   | #6 BENT BAR (LEVEL 1)                             |               |
| 9                       | △ B-701D | 61   | #7 BENT BAR (LEVEL II, DUAL COATED)               | (+1 SAMPLE) △ |
| 10                      |          |      |   |               |
| 11                      |          | 46   | #5 x 3'-10" (LEVEL II, DUAL COATED)               |               |
| 12                      | △        | 52   | #5 x 4'-6" (LEVEL II, DUAL COATED)                |               |
| 13                      |          |      |   |               |
| 14                      |          | 4    | #5 x 2'-0" (LEVEL 1)                              |               |
| 15                      |          | 4    | #5 x 3'-7" (LEVEL 1)                              |               |
| 16                      |          | 2    | #5 x 3'-3" (LEVEL 1)                              |               |
| 17                      |          | 2    | #5 x 3'-0" (LEVEL 1)                              | △             |
| 18                      |          | 2    | #5 x 4'-7" (LEVEL 1)                              |               |
| 19                      |          | 6    | #5 x 5'-1" (LEVEL 1)                              |               |
| 20                      |          | 2    | #5 x 5'-6" (LEVEL 1)                              | △             |
| 21                      |          | 2    | #5 x 6'-2" (LEVEL 1)                              |               |
| 22                      |          | 2    | #5 x 6'-8" (LEVEL 1)                              |               |
| 23                      |          | 4    | #5 x 7'-1" (LEVEL 1)                              |               |
| 24                      |          |      |   |               |
| 25                      |          | 4    | #6 x 1'-3" (LEVEL 1)                              |               |
| 26                      | △        | 8    | #6 x 2'-1" (LEVEL 1)                              |               |
| 27                      | △        | 8    | #6 x 2'-2" (LEVEL 1)                              |               |
| 28                      |          | 8    | #6 x 3'-3" (LEVEL 1)                              |               |
| 29                      |          | 4    | #6 x 4'-3" (LEVEL 1)                              | △             |
| 30                      |          | 32   | #6 x 4'-10" (LEVEL 1)                             |               |
| 31                      |          | 14   | #6 x 19'-7" (LEVEL 1)                             |               |
| 32                      |          | 14   | #6 x 21'-7" (LEVEL 1)                             |               |
| 33                      |          | 14   | #6 x 21'-8" (LEVEL 1)                             |               |
| 34                      |          | 12   | #6 x 22'-7" (LEVEL 1)                             |               |
| 35                      |          | 2    | #6 x 21'-11" (LEVEL 1)                            |               |
| 36                      |          |      |   |               |
| 37                      |          | 68   | #7 x 5'-9" (LEVEL 1)                              |               |
| 38                      |          | 68   | #7 x 6'-1" (LEVEL 1)                              |               |
| 39                      |          | 4    | #7 x 5'-8" (LEVEL 1)                              |               |
| 40                      |          | 2    | #7 x 6'-3" (LEVEL 1)                              |               |
| 41                      |          | 2    | #7 x 7'-8" (LEVEL 1)                              |               |
| 42                      |          | 4    | #7 x 7'-7" (LEVEL 1)                              |               |
| 43                      |          | 4    | #7 x 6'-11" (LEVEL 1)                             |               |
| 44                      |          | 2    | #7 x 6'-4" (LEVEL 1)                              |               |
| 45                      |          | 2    | #7 x 7'-6" (LEVEL 1)                              |               |
| 46                      |          | 2    | #7 x 8'-2" (LEVEL 1)                              |               |
| 47                      |          | 2    | #7 x 8'-3" (LEVEL 1)                              |               |
| 48                      |          | 4    | #7 x 8'-0" (LEVEL 1)                              |               |
| 49                      |          | 2    | #7 x 8'-6" (LEVEL 1)                              |               |
| 50                      |          | 2    | #7 x 8'-7" (LEVEL 1)                              |               |
| 51                      |          | 4    | #7 x 8'-9" (LEVEL 1)                              |               |
| 52                      |          | 2    | #7 x 8'-10" (LEVEL 1)                             |               |
| 53                      |          | 2    | #7 x 9'-3" (LEVEL 1)                              |               |
| 54                      |          | 2    | #7 x 9'-2" (LEVEL 1)                              |               |
| 55                      |          | 4    | #7 x 9'-4" (LEVEL 1)                              |               |
| 56                      |          | 4    | #7 x 9'-7" (LEVEL 1)                              |               |
| 57                      |          | 2    | #7 x 9'-8" (LEVEL 1)                              |               |
| 58                      |          | 4    | #7 x 9'-11" (LEVEL 1)                             |               |
| 59                      |          | 4    | #7 x 10'-3" (LEVEL 1)                             |               |
| 60                      |          | 8    | #7 x 10'-4" (LEVEL 1)                             |               |
| 61                      |          | 2    | #7 x 10'-0" (LEVEL 1)                             |               |
| 62                      |          |      |   |               |
| 63                      |          | 4    | 2'-0"φ x 6'-2 7/8" CORRUGATED STEEL PIPE (GALV.)  |               |
| 64                      |          | 4    | 2'-0"φ x 6'-7 1/8" CORRUGATED STEEL PIPE (GALV.)  |               |
| 65                      |          | 1    | 2'-0"φ x 9'-3 1/2" CORRUGATED STEEL PIPE (GALV.)  |               |
| 25                      |          | 1    | 2'-0"φ x 7'-11 1/8" CORRUGATED STEEL PIPE (GALV.) |               |
| 25                      |          | 1    | 2'-0"φ x 8'-8" CORRUGATED STEEL PIPE (GALV.)      |               |
| 25                      |          | 1    | 2'-0"φ x 8'-7 1/2" CORRUGATED STEEL PIPE (GALV.)  |               |
| 25                      | △        | 8    | SET OF (4) 0.60"φ STRAND LIFTING LOOPS            |               |

F:\V1-Bridges\23462-14 Barton\23462-M2.dwg, 6/1/2015 12:03:03 PM

5/28/2015 REVISED AS NOTED T.D.

|                 |   |  |  |
|-----------------|---|--|--|
| APPROVAL STAMP: | <b>J.P. CARRARA &amp; SONS INC.</b><br>Precast & Prestress Manufacturer<br>244 GSE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 |  | J.P. Sicard<br>CONTRACTOR<br>BARTON, VERMONT           |
|                 | STATE OF VERMONT AGENCY OF TRANSPORTATION<br>COUNTY OF ORLEANS  |  | DATE: FEB. 25, 2015                                    |
|                 | TOWN OF BARTON<br>ROARING BROOK ROAD TH #2, RURAL MINOR COLLECTOR<br>BRIDGE NO.: 8 PROJECT NO.: BRO 1449(31)  |  | SCALE: NOTED   |
|                 | PRECAST ABUTMENT<br>MATERIAL LIST   |  | CHKD: - DFTM: T.D.<br>JOB NO: 23462-015<br>DWG. NO: M2 |