



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

Submittal Data Sheet

Submittal #: _____ 5

Submission #: _____ 2

Date: _____ 2/19/2015

Project Name: _____ Randolph BRO (1444) Bridge Replacement

Owner: _____ Town of Randolph, VT

Engineer: _____ VTrans

Contractor: _____ J.P. Sicard, Inc.

Item Number: _____ 900.64

Supplier: _____ J.P. Carrara & Sons, Inc.

Description of Item: _____ Precast Concrete Structure (NEXT Beam/Superstructure)

Substitution: _____ NO

Engineers Review Comments: _____

Submitted By: _____ Brad Drake

Title: _____ Project Manager

Company: _____ JP Sicard, Inc.

JOSEPH P. CARRARA & SONS, INC.

LETTER OF TRANSMITTAL

2464 CASE STREET
MIDDLEBURY, VERMONT 05753

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

TO: **J.P. Sicard, Inc**
761 May Pond Road PO Box 508
Barton, VT 05822

DATE : February 16, 2015	JOB NO. : 23449-014
ATTENTION : Brad Drake	
RE : Palmer Road Bridge #35	
Randolph, VT	
VTAOT Project BRO 144(57)	
P 802-525-9506	F 802-525-4616

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

Shop Drawings Prints Plans Samples Specifications

Copy of Letter Change Order Other: _____

COPIES	DATE	NO.	DESCRIPTION
1			Shop Drawings: Dated 11/18/14 REVISION #1 DATED 2/12/15 Sheets: F1-F5, AB1-AB5, NBI-NB3, WW1-WW2, M1

THESE ARE TRANSMITTED as checked below :

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:

Brad

See REVISION #1 drawings w/ VTAOT comments addressed.

Smooth troweled "semi circular" area on top of abutments on sheets AB2-AB5, are areas for shooting/taking elevation shots during erection, (means and methods).

We will make sure to provide J.P. Sicard w/ extra NMB splice sleeves for you to submit to VTAOT lab.

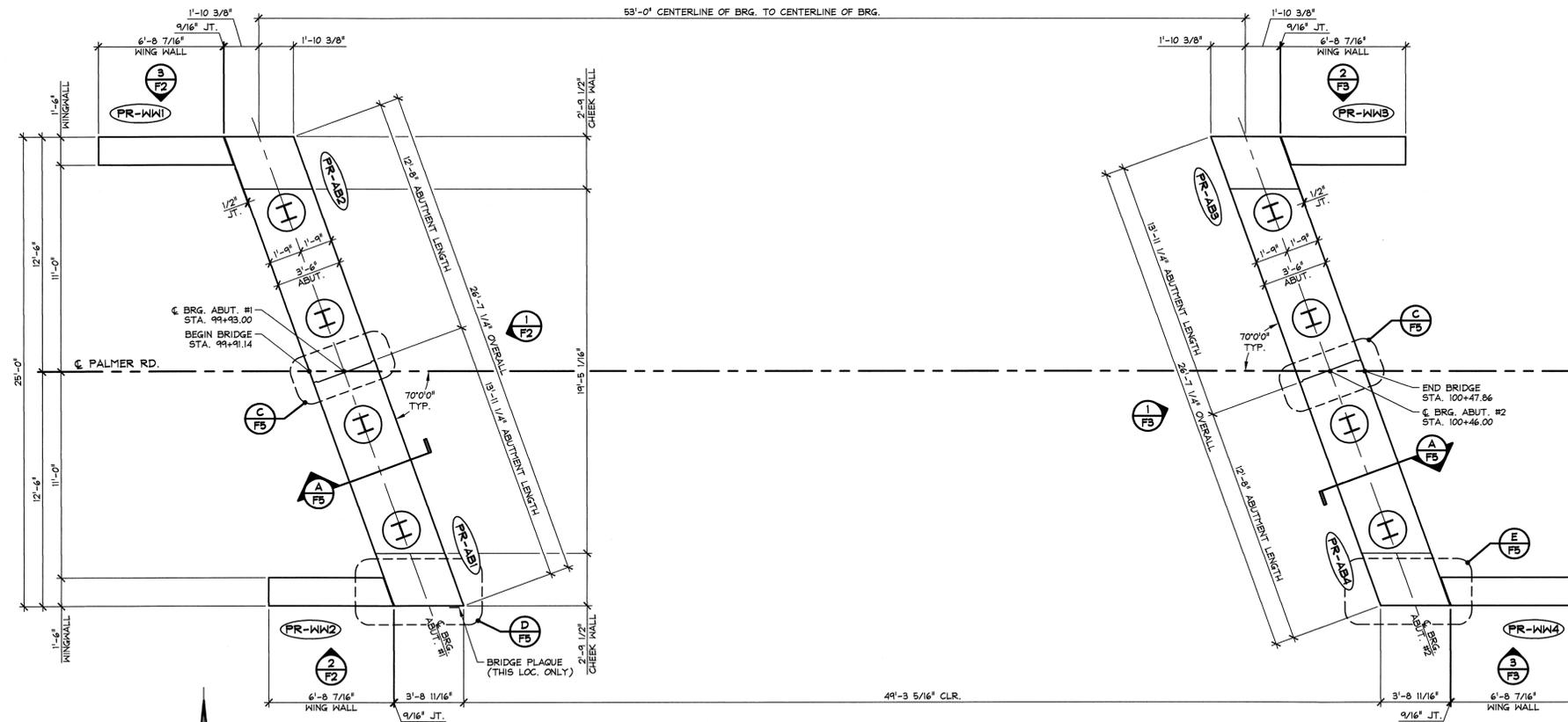
COPY TO :

SIGNED : _____
Michael A. Davis

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

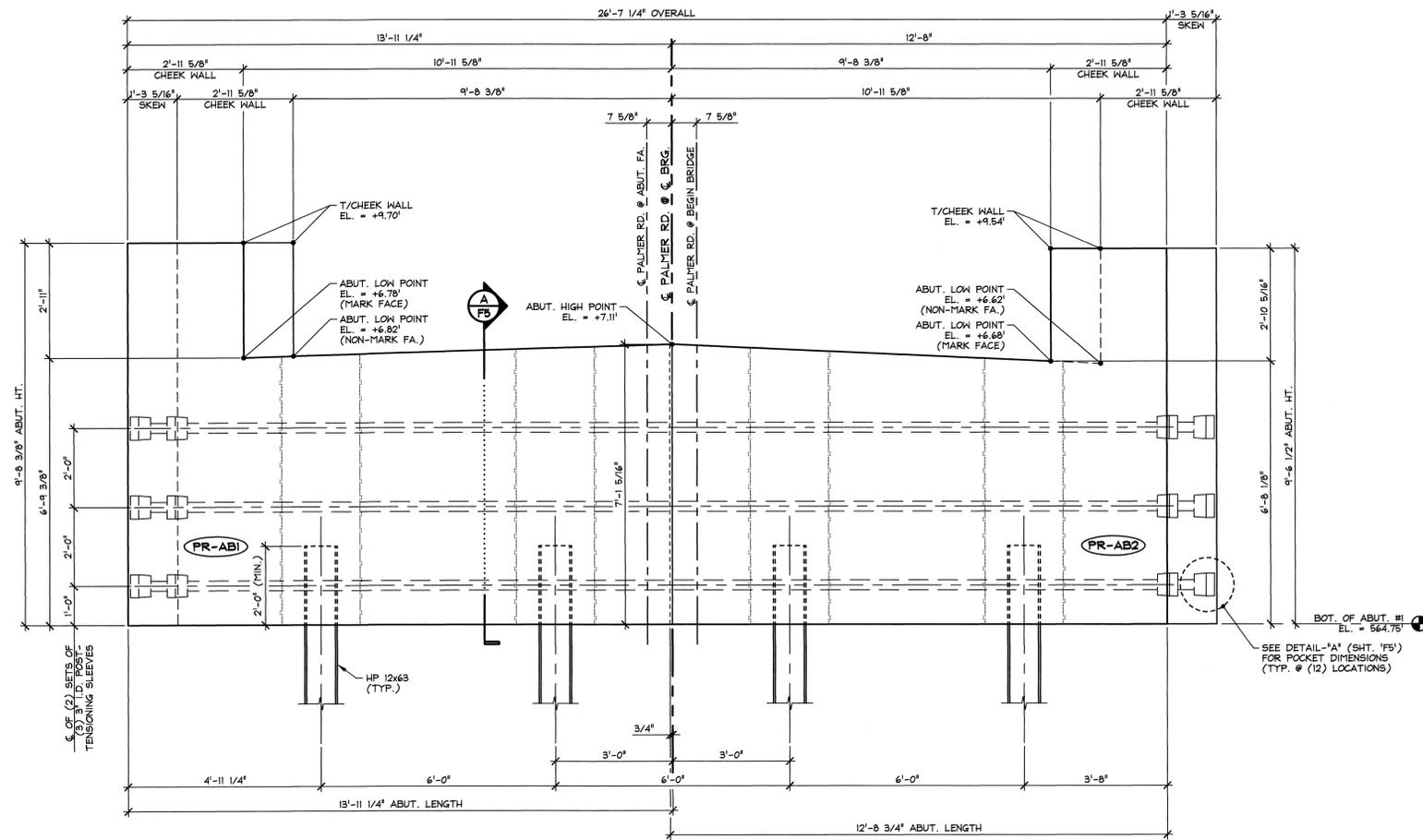
ABUTMENT & WING WALL GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL 1 (EPOXY COATED) OR LEVEL 1 (BLACK STEEL) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF ABUTMENTS SHALL RECEIVE A RAKE FINISH ROUGHENED TO 1/4" AMPLITUDE (UNLESS NOTED OTHERWISE).
5. THE TOP OF WING WALLS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
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 54" POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
7. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
 DESIGN MIX:
 WING WALLS: J.P.C. BRIDGE MIX #445MSCC
 ABUTMENTS: J.P.C. BRIDGE MIX #445MSCC
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 POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED.
10. ABUTMENT POST-TENSIONING SEQUENCE:
 A. ERECT PRECAST CONCRETE ABUTMENTS, AND POST-TENSION CENTER TENDON TO APPROXIMATELY 5,000 LBS.
 B. GROUT SHEAR KEY.
 C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI, POST-TENSION TENDONS TO 32,000 LBS.

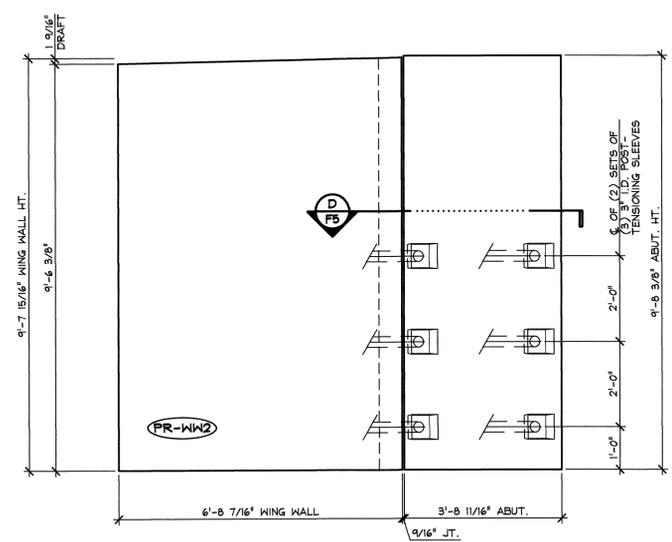


1 PRECAST ABUTMENT LAYOUT
 1/4" = 1'-0"

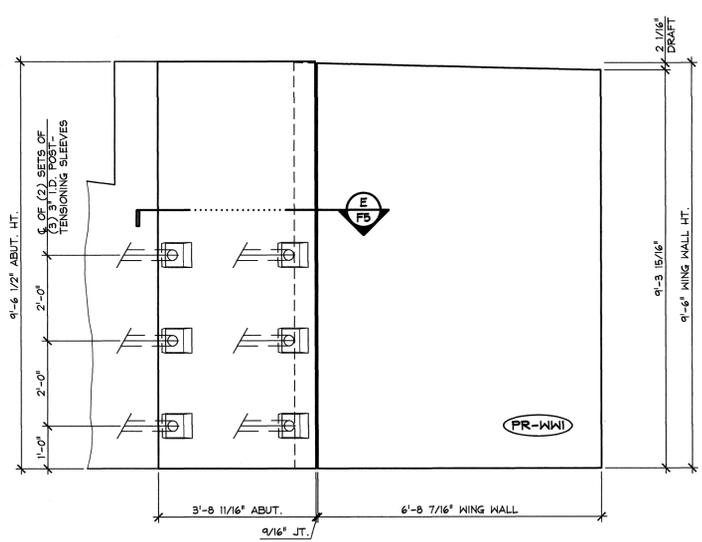
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer <small>2444 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010</small>		J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		SCALE: NOTED
	PRECAST ABUTMENT & WING WALL LAYOUT		CHKD: B.C. DFTM: B.L. JOB NO: 23449-014 DWG. NO: F1



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

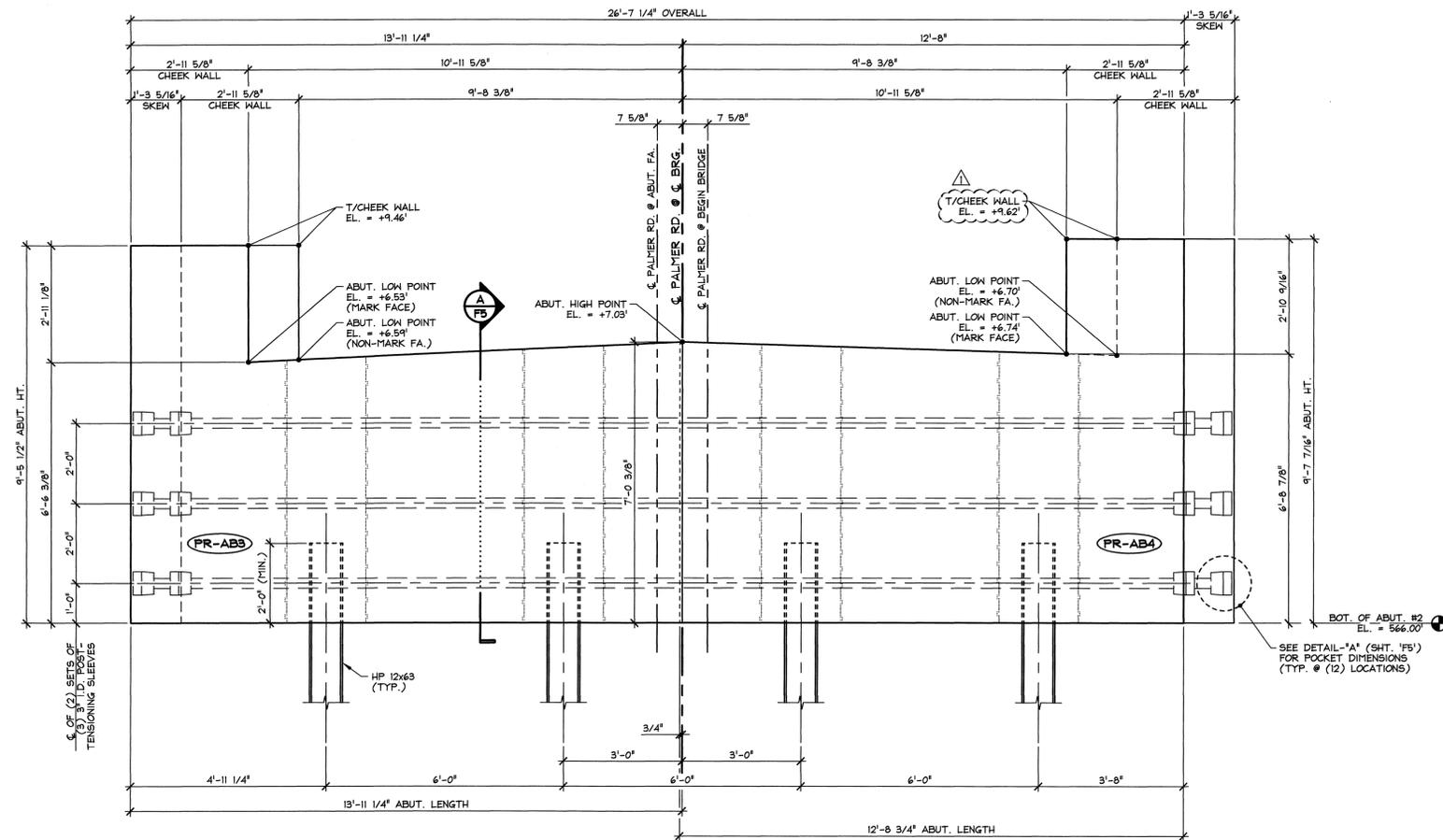


2 WING WALL ELEVATION "PR-WW2"
F2 1/2" = 1'-0"

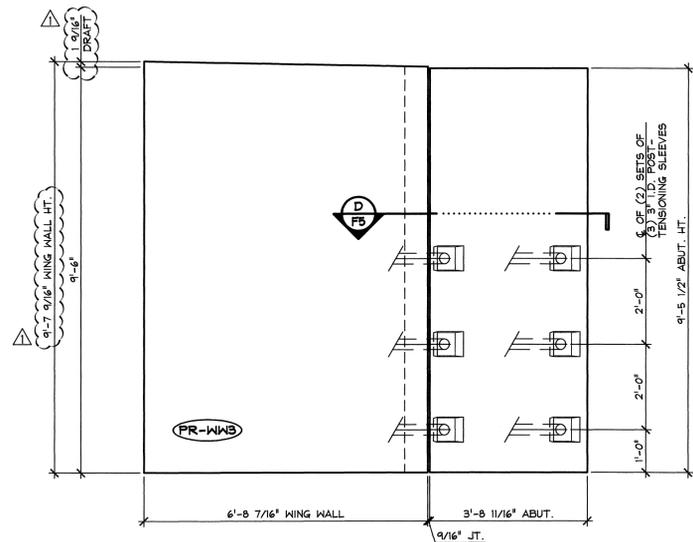


3 WING WALL ELEVATION "PR-WW1"
F2 1/2" = 1'-0"

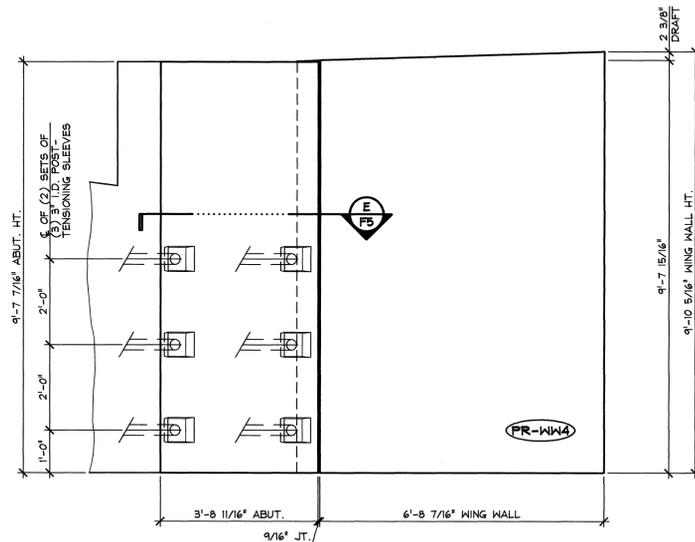
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 244 GAGE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010		J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT
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	PRECAST ABUTMENT #1 ELEVATIONS		DWG. NO: F2



1 ABUTMENT #2 ELEVATION
 F3
 1/2" = 1'-0"



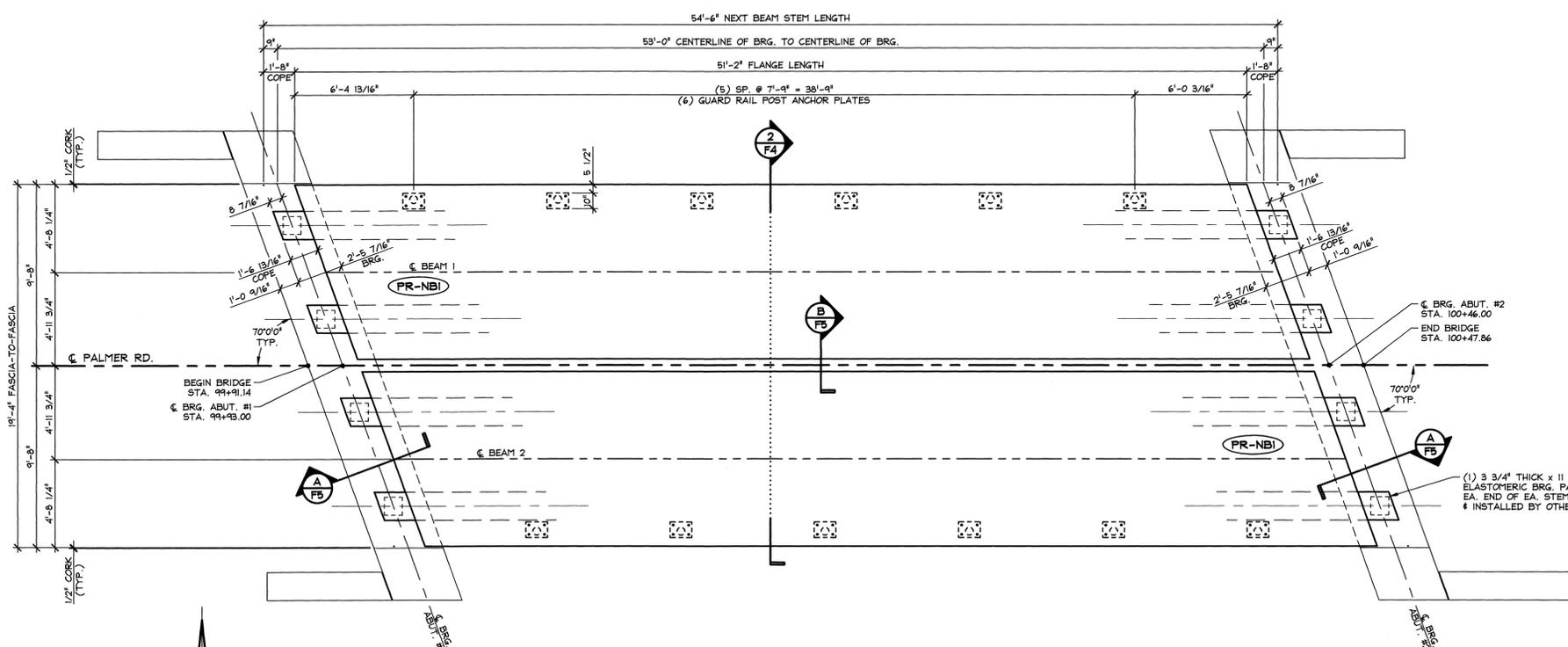
2 WING WALL ELEVATION "PR-WW3"
 F3
 1/2" = 1'-0"



3 WING WALL ELEVATION "PR-WW4"
 F3
 1/2" = 1'-0"

2-12-15 REVISED PER VT AOT COMMENTS

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, INC. CONTRACTOR BARTON, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014 SCALE: NOTED	
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		CHKD: B.C. DFM: B.L. JOB NO: 23449-014	
	PRECAST ABUTMENT #2 ELEVATIONS		DWG. NO: F3	



1 PRESTRESSED NEXT BEAM LAYOUT
 1/4" = 1'-0"

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

SIZE & GRADE: 0.60" ϕ x 270 KSI
 AREA: 0.217 IN²
 TENSION: 44,000 LB. EACH STRAND
 GRIP-TO-GRIP: 252'-0" = 252.00'
 $E_s = 28,600,000$ 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 $\pm 5\%$)
 Δ UPPER LIMIT = $1.05 \times 19.977" = 20.98" = 21"$
 Δ LOWER LIMIT = $0.95 \times 19.977" = 18.98" = 19"$

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:
 $\Delta P = \frac{0.5 \times 41,000}{19.977} = 1,026$ LBS.

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

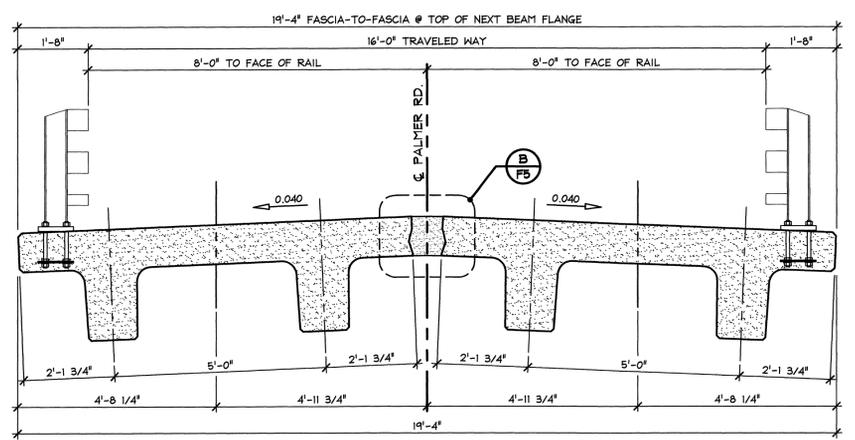
STRAND TENSIONING PROCEDURE:

- 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".

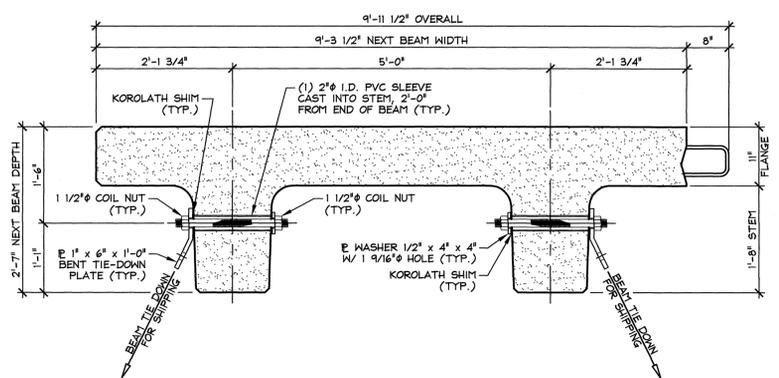
* NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

- NEXT BEAM GENERAL NOTES**
- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 6,000 PSI.
 - MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,800 PSI.
 - REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL 1 (EPOXY COATED).
 - PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203) AND SHALL CONSIST OF 0.60" ϕ 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 EPOXY PAINTED.
 - ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" (UNLESS NOTED OTHERWISE).
 - THE TOP OF BEAMS SHALL RECEIVE A LONGITUDINAL LIGHT BROOK 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 #425M1 (NO DCI)
 - 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 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.
 - OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED AND/OR EPOXYED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED AND/OR EPOXYED SHEAR KEYS.

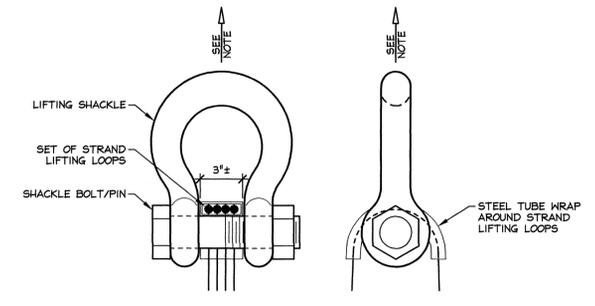
DESIGN LIVE LOAD: HL-93



2 TRANSVERSE SECTION
 1/2" = 1'-0"



MODIFIED NEXT BEAM 28D HOLD-DOWN DETAIL FOR SHIPPING
 3/4" = 1'-0"

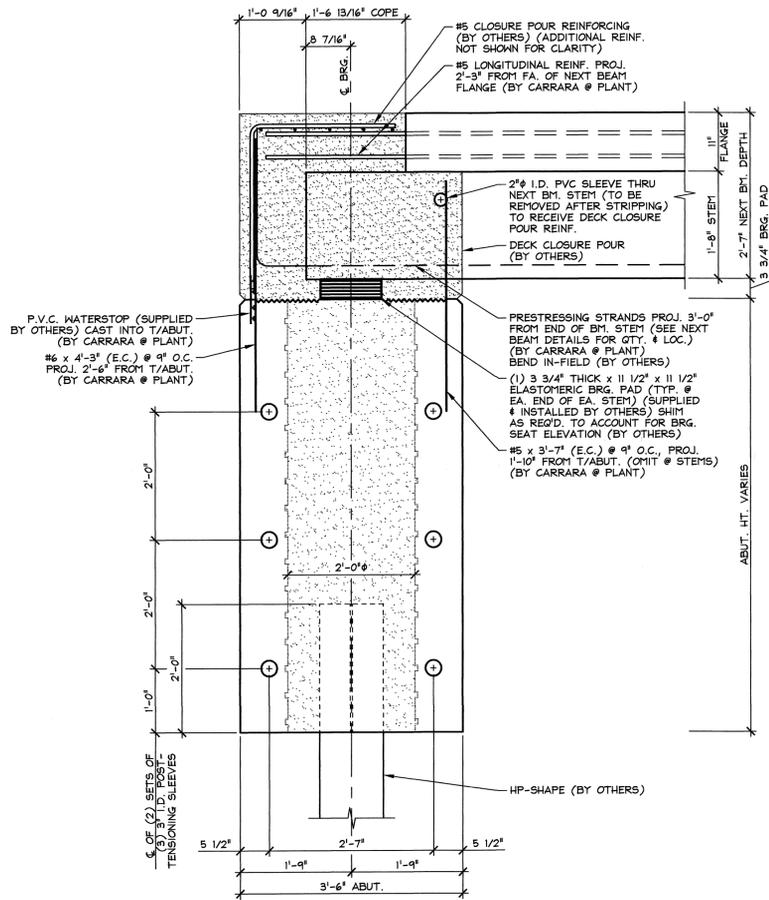


NOTE: BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL AND VERTICAL FORCES ARE APPLIED TO EACH SET OF LIFTING LOOPS AT EACH END OF THE BEAM. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN. DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER.

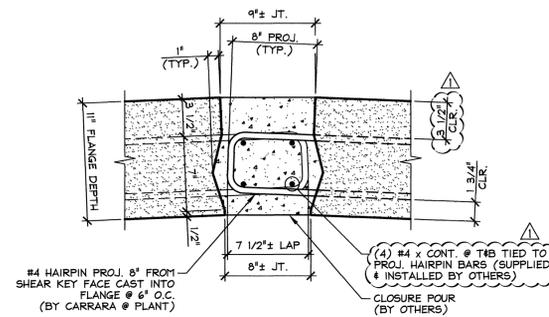
LIFTING SHACKLE DETAILS
 N.T.S.

2-12-15 REVISED PER VT AOT COMMENTS

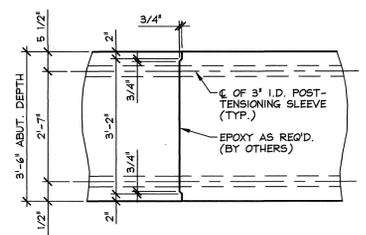
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE	DATE: NOV. 18, 2014 SCALE: NOTED
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)	CHKD: B.C. DFTM: B.L. JOB NO: 23449-014
	PRESTRESSED NEXT BEAM LAYOUT & SECTION	DWG. NO: F4



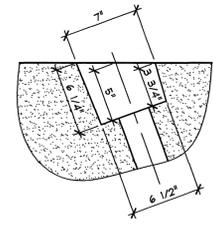
A BEARING SECTION
 F5 NEXT BEAM STEM BEARING 3/4" = 1'-0"



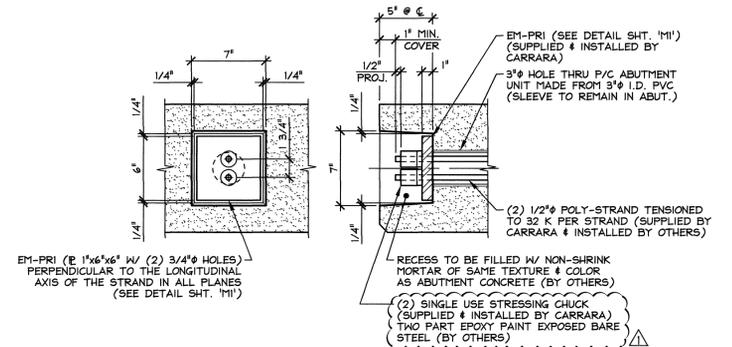
B NEXT BEAM CLOSURE POUR
 F5 1/2" = 1'-0"



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

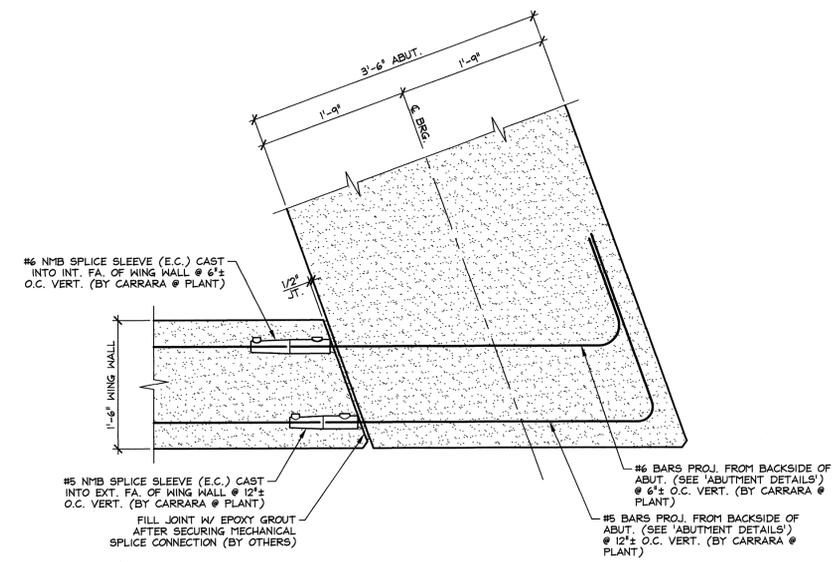


PLAN OF POCKET

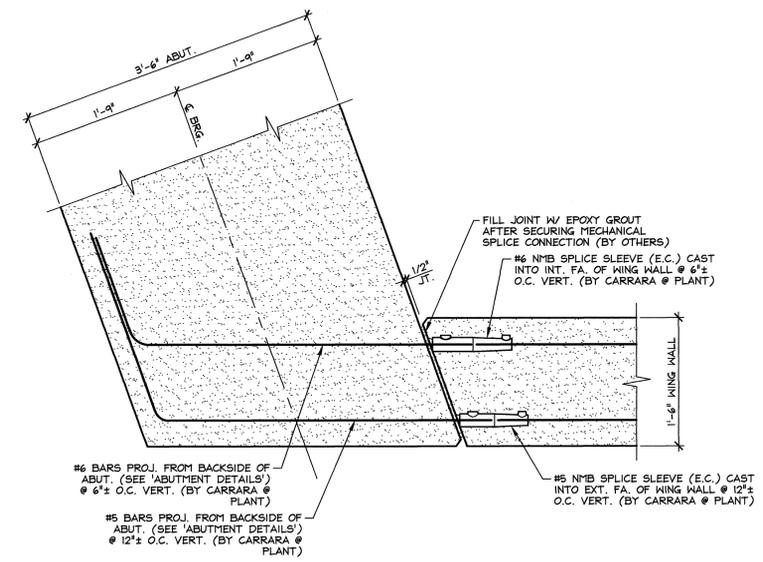


ABUTMENT ELEVATION SECTION AT CENTERLINE

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



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

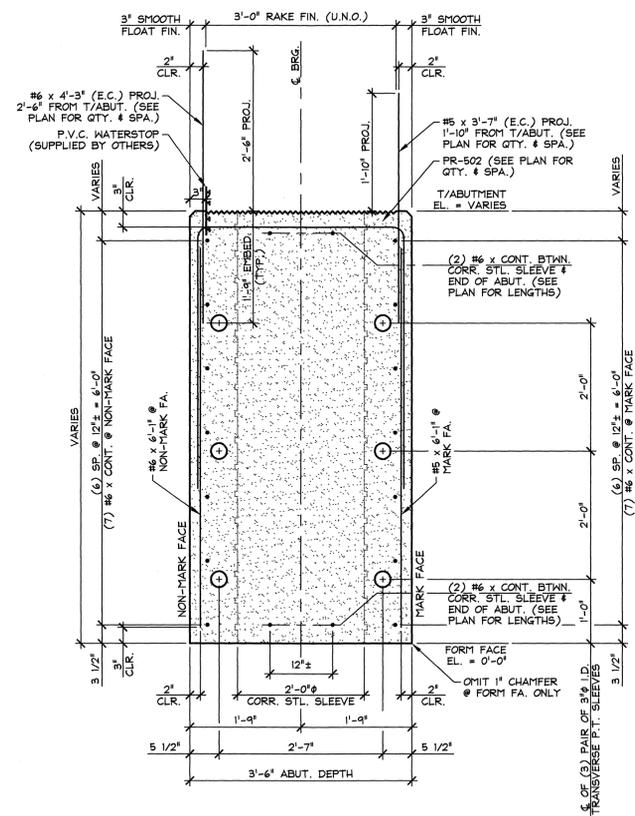


E WING WALL CONNECTION DETAIL
 F5 1" = 1'-0"

GENERAL NOTE:
 ALL SPLICE SLEEVES TO BE GROUTED W/
 NMB SS MORTAR PER MANUFACTURERS
 INSTRUCTION, (BY OTHERS)

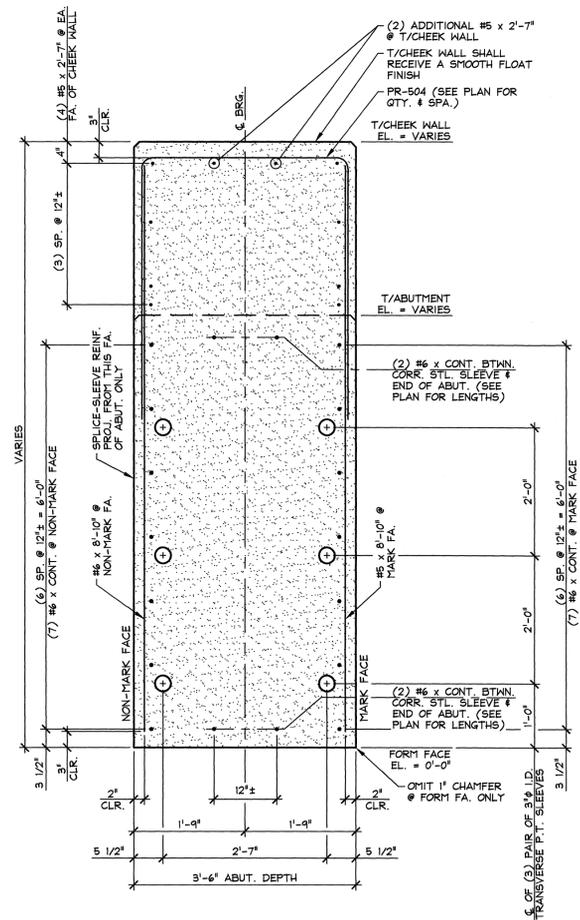
2-12-15 REVISED PER VT AOT COMMENTS

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 244 GEE STR., WOODSBURY, VERMONT 05735 Phone: (802)388-6361 Fax: (802)388-9010		J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014	SCALE: NOTED
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		CHKD: B.C.	DFTM: B.L.
	ABUTMENT SECTIONS & DETAILS		JOB NO: 23449-014	DWG. NO: F5



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

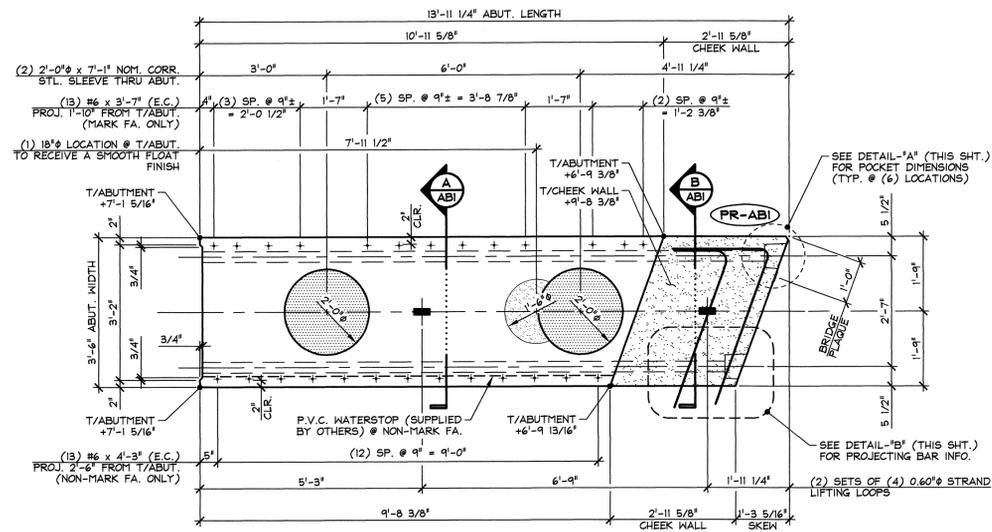
SHOP NOTE:
 ALL EDGES OF ABUTMENT SHALL
 RECEIVE A 1" CHAMFER (U.N.O.)



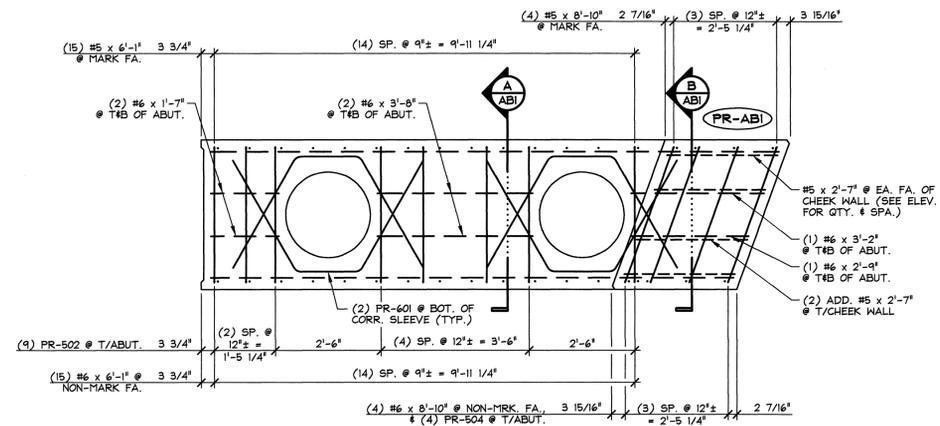
B ABUTMENT SECTION
 ABI
 3/4" = 1'-0"

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

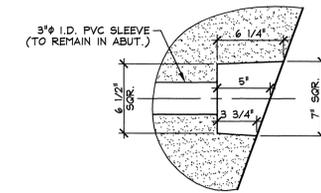
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010		J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014 SCALE: NOTED	
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	PRECAST ABUTMENT DETAILS		DWG. NO: ABI	



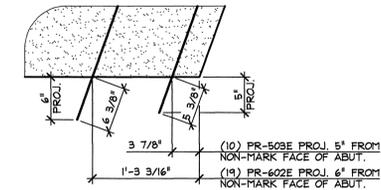
1 PRECAST ABUTMENT PLAN VIEW IN FORM
AB2 1/2" = 1'-0"



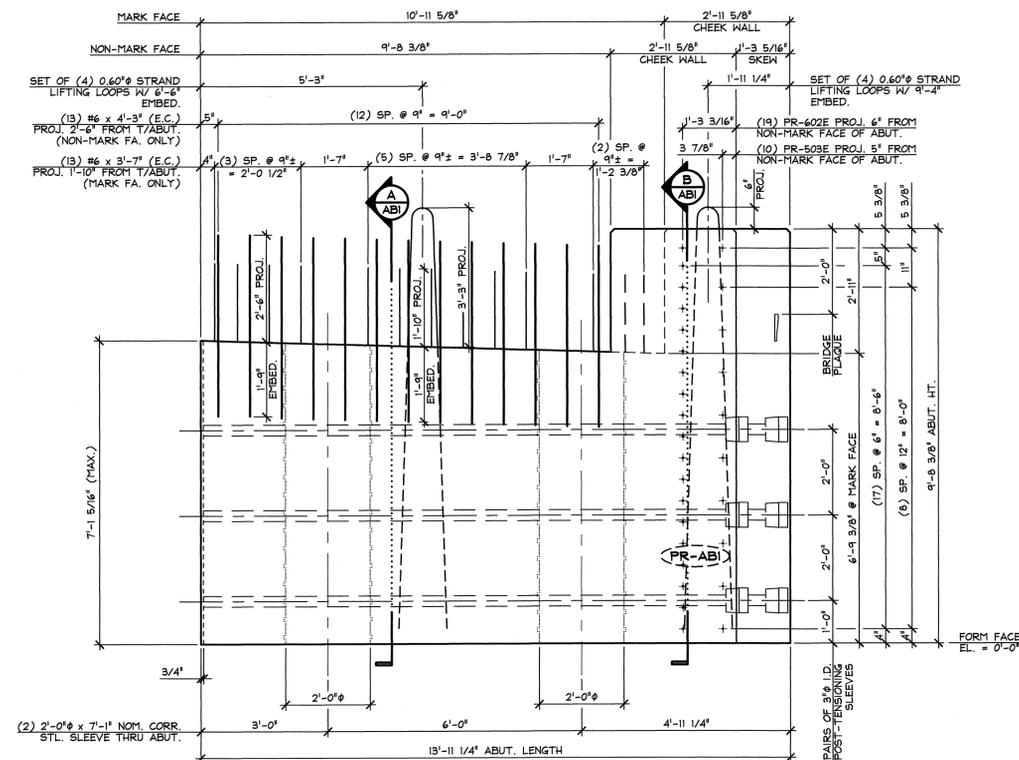
3 REINFORCING PLAN VIEW IN FORM
AB2 1/2" = 1'-0"



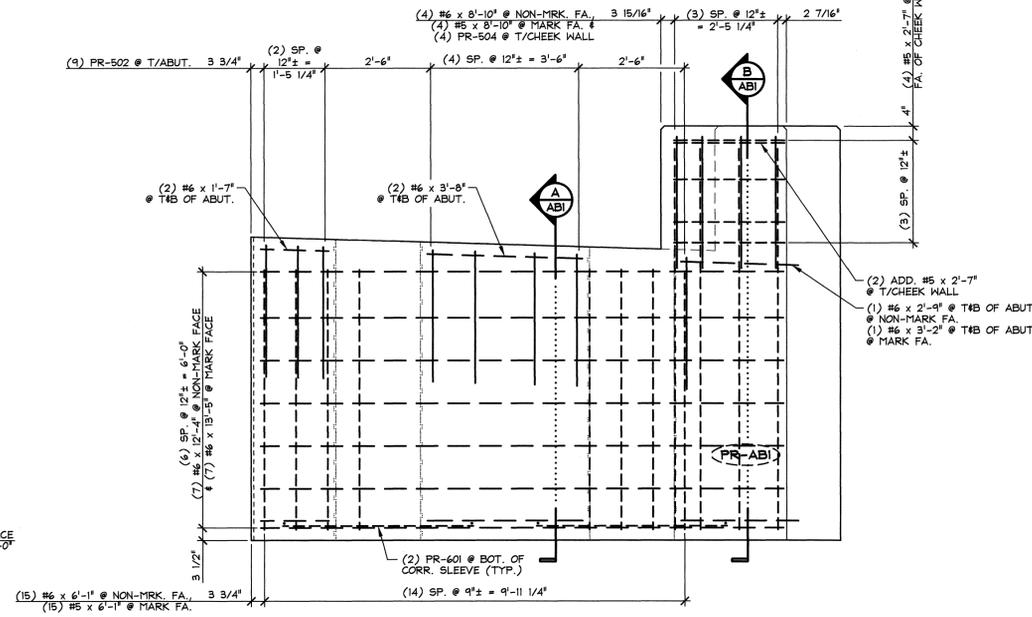
DETAIL - "A"
1 1/2" = 1'-0"



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



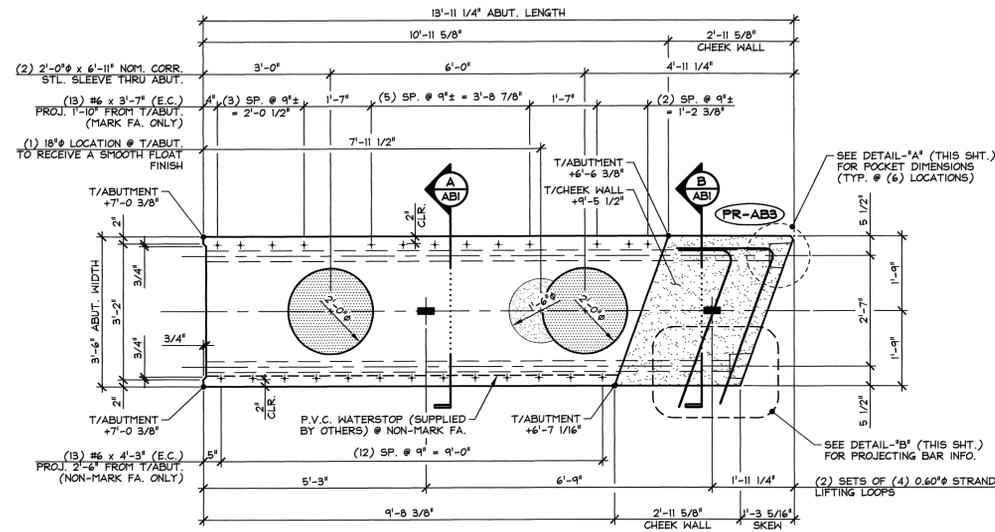
2 PRECAST ABUTMENT ELEVATION
AB2 NON-MARK FACE 1/2" = 1'-0"



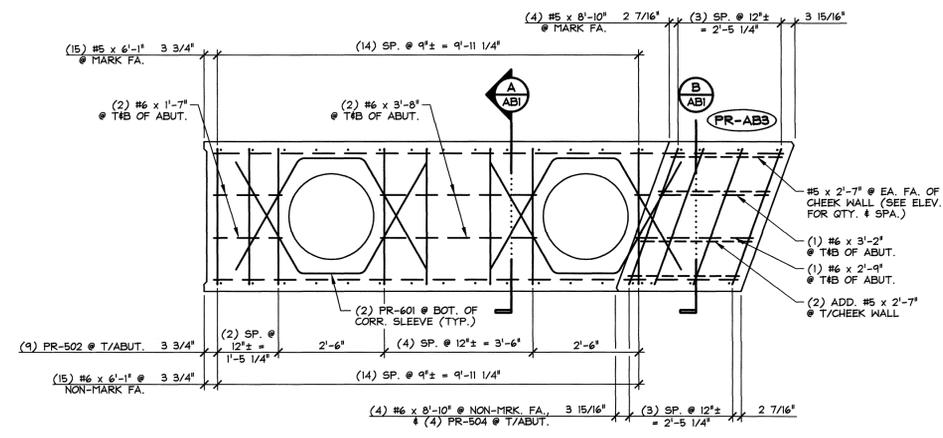
4 REINFORCING ELEVATION
AB2 NON-MARK FACE 1/2" = 1'-0"

MARK: PR-ABI		QTY.: 1	WT.: 23.08 T	VOL.: 11.40 cy
MATERIAL LIST / ABUTMENT				
ITEM	MARK	DESCRIPTION	QTY.	
1	PR-502	#5 BENT BAR	9	
2	PR-502E	#5 BENT BAR (EPOXY COATED)	10	
3	PR-504	#5 BENT BAR	4	
4		#5 x 2'-7"	10	
5		#5 x 6'-1"	15	
6		#5 x 8'-10"	4	
7				
8	PR-601	#6 BENT BAR	4	
9	PR-602E	#6 BENT BAR (EPOXY COATED)	19	
10		#6 x 4'-3" (EPOXY COATED)	13	
11		#6 x 3'-7" (EPOXY COATED)	13	
12		#6 x 6'-1"	15	
13		#6 x 12'-4"	7	
14		#6 x 13'-5"	7	
15		#6 x 1'-7"	4	
16		#6 x 3'-8"	4	
17		#6 x 2'-9"	2	
18		#6 x 3'-2"	2	
19		#6 x 8'-10"	4	
20				
21		P.V.C. WATERSTOP (SUPPLIED BY OTHERS)	9.67 LF	
22		BRIDGE PLAQUE (SUPPLIED BY OTHERS)	1	
23		2'-0" x 7'-1" (NOM.) CORRUGATED STEEL SLEEVE	2	
24		SET OF (4) 0.60" STRAND LIFTING LOOPS	2	
25				

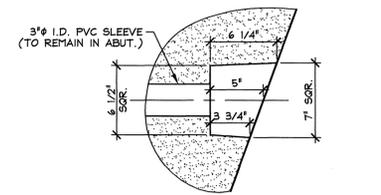
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	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE	DATE: NOV. 18, 2014
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	PRECAST ABUTMENT DETAILS	CHKD: B.C. DFTM: B.L. JOB NO: 23449-014 DWG. NO: AB2



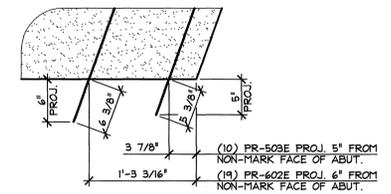
1 PRECAST ABUTMENT PLAN VIEW IN FORM
 AB3
 1/2" = 1'-0"



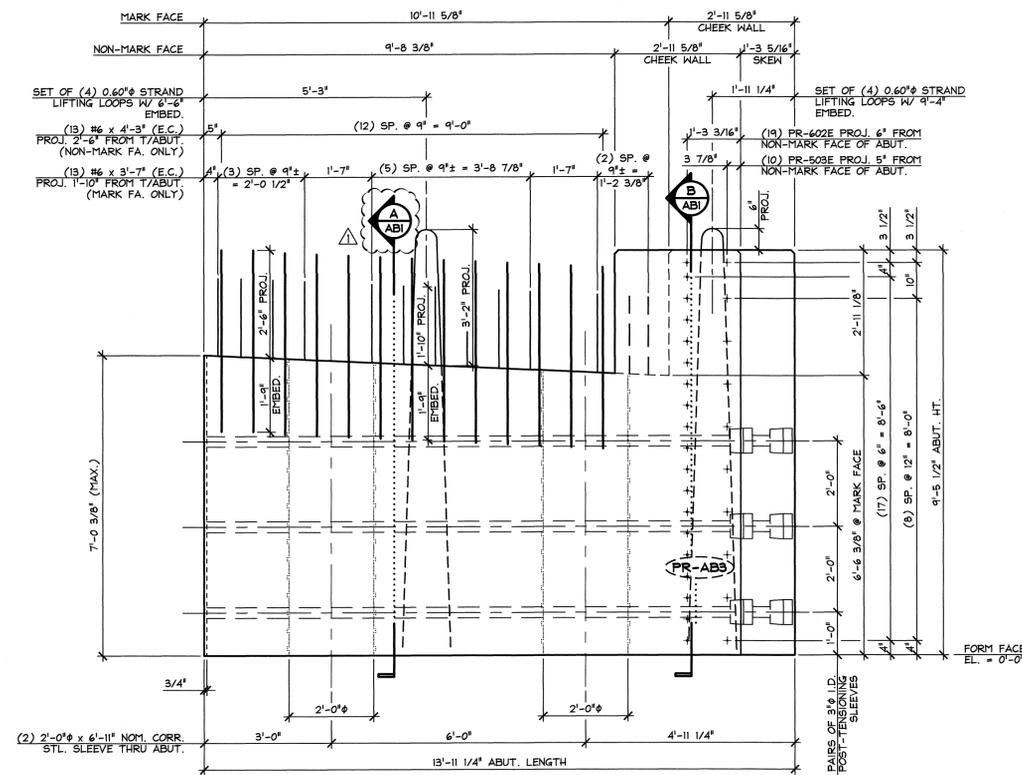
3 REINFORCING PLAN VIEW IN FORM
 AB3
 1/2" = 1'-0"



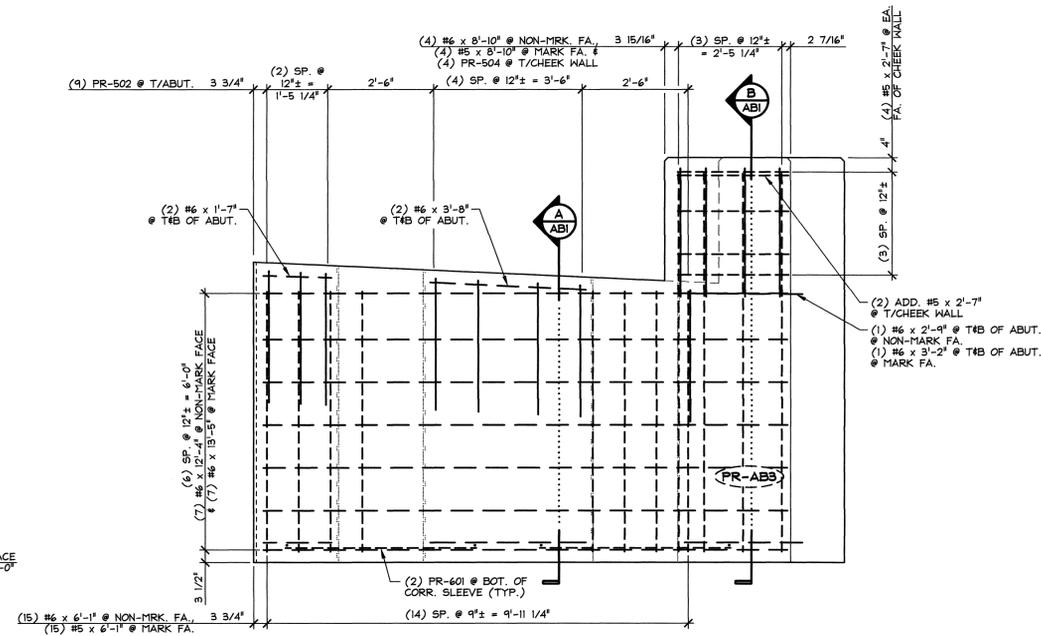
DETAIL - "A"
 1 1/2" = 1'-0"



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



2 PRECAST ABUTMENT ELEVATION
 AB3 NON-MARK FACE
 1/2" = 1'-0"



4 REINFORCING ELEVATION
 AB3 NON-MARK FACE
 1/2" = 1'-0"

MARK: PR-AB3 QTY.: 1 WT.: 22.57 T VOL.: 11.14 cy			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	PR-502	#5 BENT BAR	9
2	PR-503E	#5 BENT BAR (EPOXY COATED)	10
3	PR-504	#5 BENT BAR	4
4		#5 x 2'-7" @ T/CHEEK WALL	10
5		#5 x 6'-1" @ T/CHEEK WALL	15
6		#5 x 8'-10" @ T/CHEEK WALL	4
7			
8	PR-601	#6 BENT BAR	4
9	PR-602E	#6 BENT BAR (EPOXY COATED)	19
10		#6 x 4'-3" (EPOXY COATED)	10
11		#6 x 3'-7" (EPOXY COATED)	13
12		#6 x 6'-1" @ T/CHEEK WALL	15
13		#6 x 12'-4" @ T/CHEEK WALL	7
14		#6 x 13'-5" @ T/CHEEK WALL	7
15		#6 x 1'-7" @ T/CHEEK WALL	4
16		#6 x 3'-8" @ T/CHEEK WALL	4
17		#6 x 2'-9" @ T/CHEEK WALL	2
18		#6 x 3'-2" @ T/CHEEK WALL	2
19		#6 x 8'-10" @ T/CHEEK WALL	4
20			
21		P.V.C. WATERSTOP (SUPPLIED BY OTHERS)	9.67 LF
22		2'-0" x 6'-11" (NOM.) CORRUGATED STEEL SLEEVE	2
23		SET OF (4) 0.60" STRAND LIFTING LOOPS	2
24			
25			

2-12-15 REVISED PER VT AOT COMMENTS

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
 Precast & Prestress Manufacturer
 2484 OASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

J.P. SICARD, INC.
 CONTRACTOR
 BARTON, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ORANGE

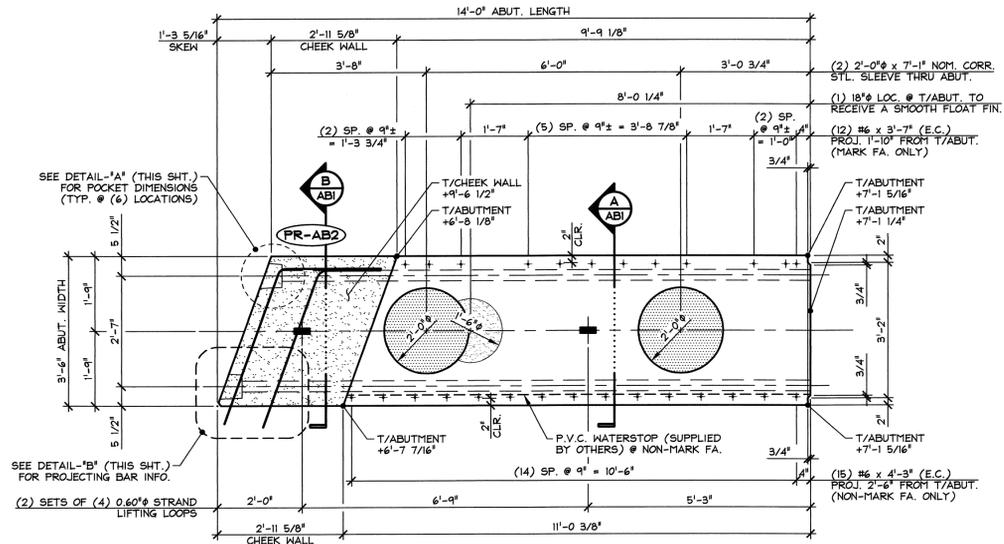
DATE: NOV. 18, 2014
 SCALE: NOTED

TOWN OF RANDOLPH
 TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD
 BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)

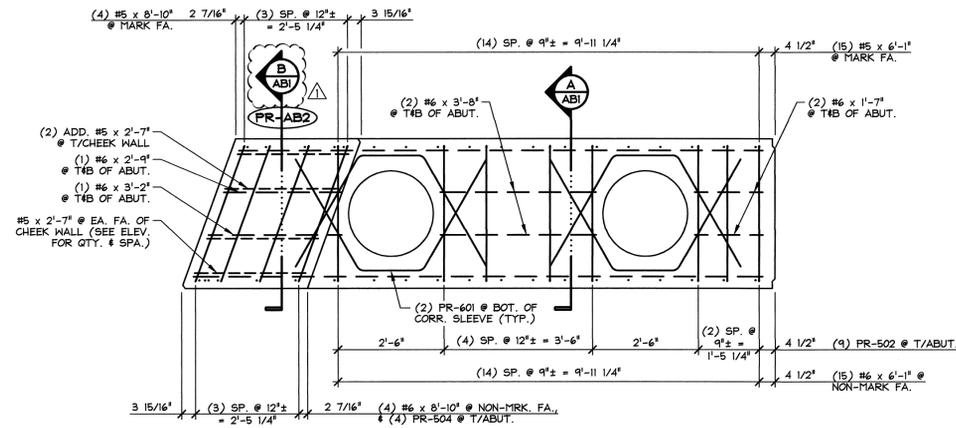
CHKD: B.C. DFTM: B.L.
 JOB NO: 23449-014

PRECAST ABUTMENT DETAILS

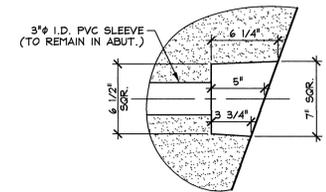
DWG. NO: **AB3**



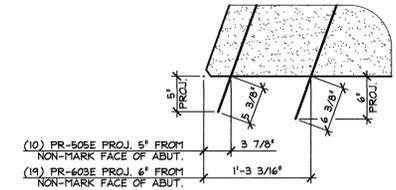
1 PRECAST ABUTMENT PLAN VIEW IN FORM
 AB4 1/2" = 1'-0"



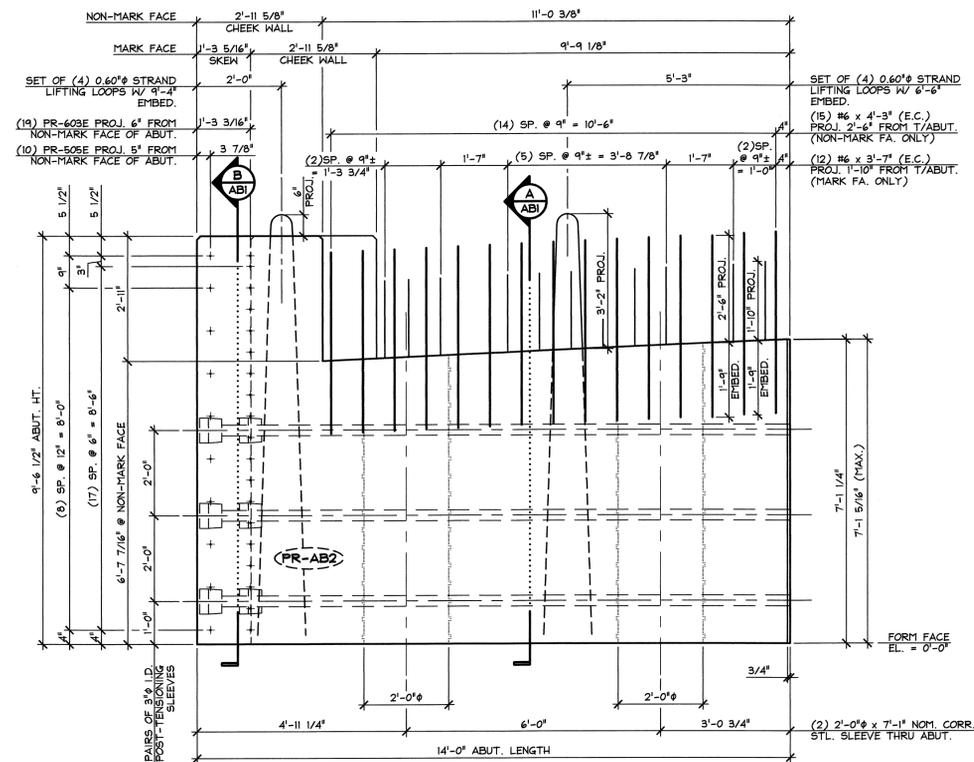
3 REINFORCING PLAN VIEW IN FORM
 AB4 1/2" = 1'-0"



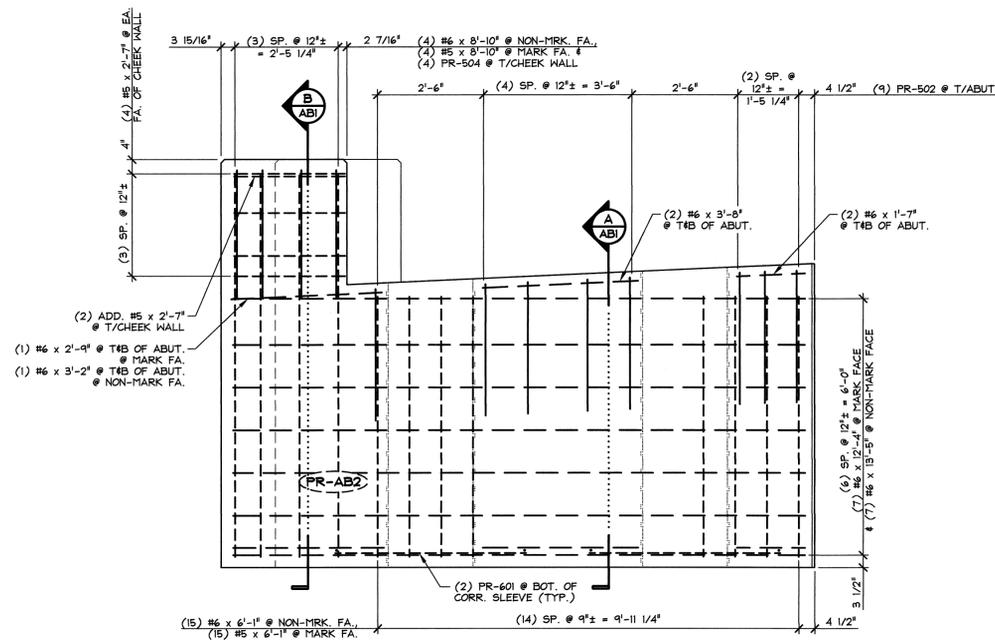
DETAIL - "A"
 1/2" = 1'-0"



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



2 PRECAST ABUTMENT ELEVATION
 AB4 NON-MARK FACE 1/2" = 1'-0"



4 REINFORCING ELEVATION
 AB4 NON-MARK FACE 1/2" = 1'-0"

MARK: PR-AB2 QTY.: 1 WT.: 22.96 T VOL.: 11.34 cy			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	PR-502	#5 BENT BAR	9
2	PR-504	#5 BENT BAR	4
3	PR-505E	#5 BENT BAR (EPOXY COATED)	10
4		#5 x 2'-7"	10
5		#5 x 6'-1"	15
6		#5 x 8'-10"	4
7			
8	PR-601	#6 BENT BAR	4
9	PR-603E	#6 BENT BAR (EPOXY COATED)	19
10		#6 x 4'-3" (EPOXY COATED)	15
11		#6 x 3'-7" (EPOXY COATED)	12
12		#6 x 6'-1"	15
13		#6 x 12'-4"	7
14		#6 x 13'-5"	7
15		#6 x 1'-7"	4
16		#6 x 3'-8"	4
17		#6 x 2'-9"	2
18		#6 x 3'-2"	2
19		#6 x 8'-10"	4
20			
21		P.V.C. WATERSTOP (SUPPLIED BY OTHERS)	11 LF
22		2'-0" x 7'-1" (NOM.) CORRUGATED STEEL SLEEVE	2
23		SET OF (4) 0.60" STRAND LIFTING LOOPS	2
24			
25			

2-12-15 REVISED PER VT AOT COMMENTS

APPROVAL STAMP:

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

J.P. SICARD, INC.
 CONTRACTOR
 BARTON, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ORANGE

DATE: NOV. 18, 2014

SCALE: NOTED

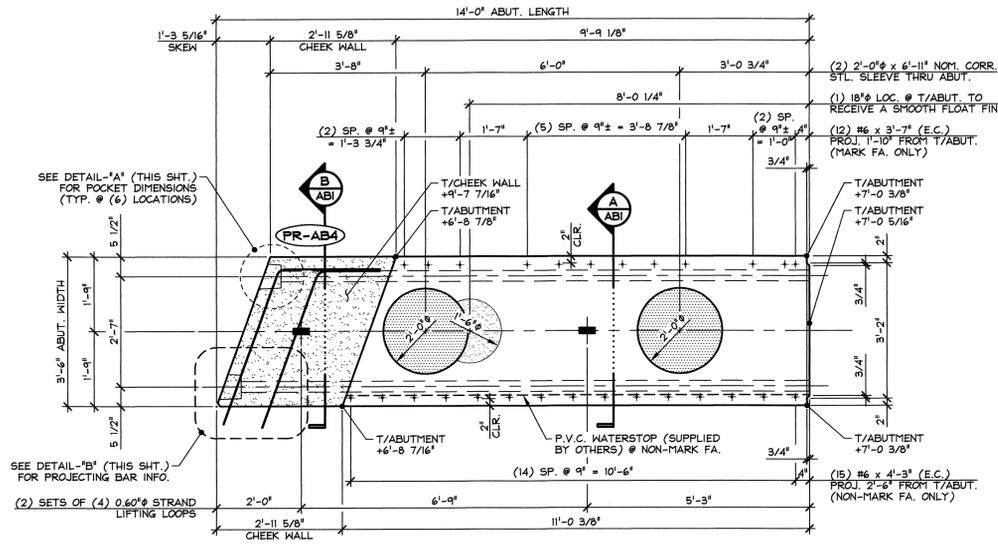
TOWN OF RANDOLPH
 TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD
 BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)

CHKD: B.C. DFTM: B.L.

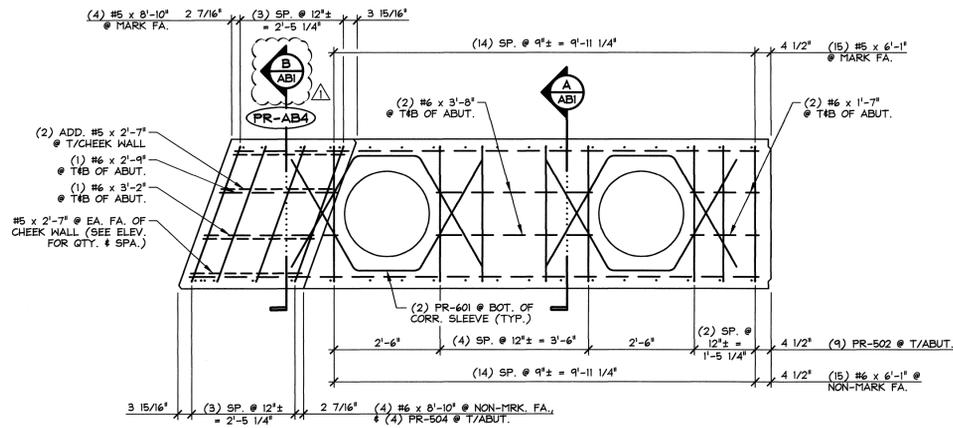
JOB NO: 23449-014

PRECAST ABUTMENT DETAILS

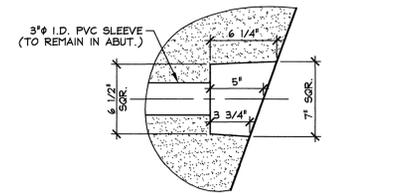
DWG. NO: **AB4**



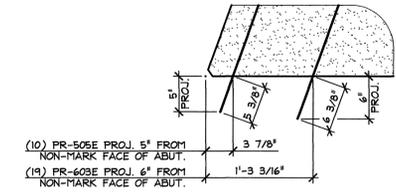
1 PRECAST ABUTMENT PLAN VIEW IN FORM
 ABS 1/2" = 1'-0"



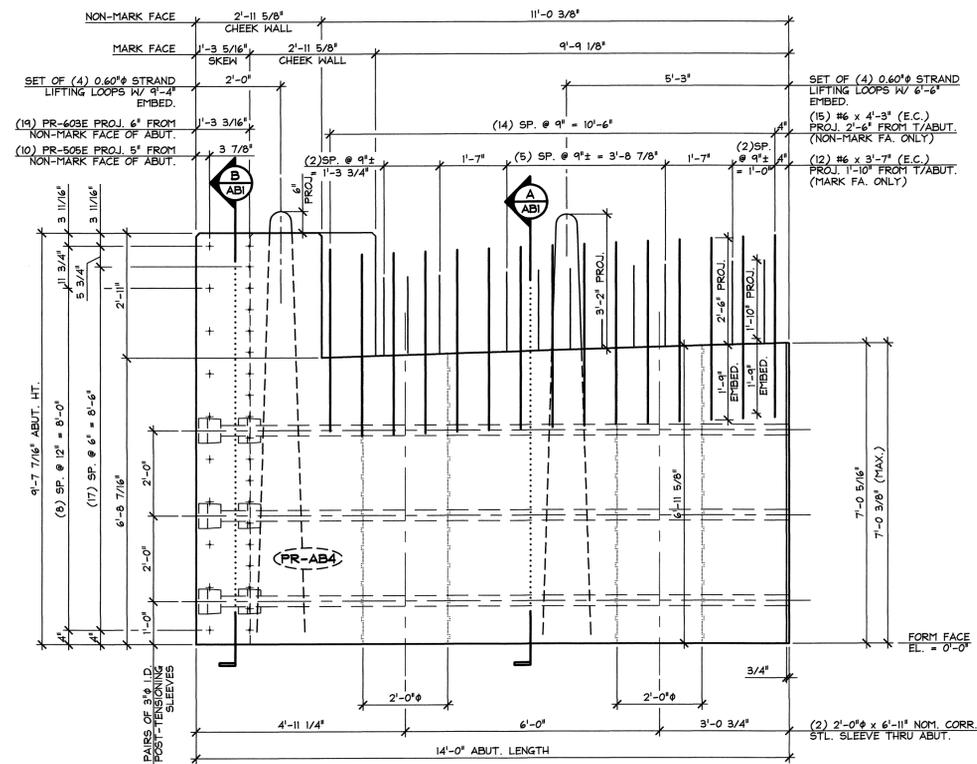
3 REINFORCING PLAN VIEW IN FORM
 ABS 1/2" = 1'-0"



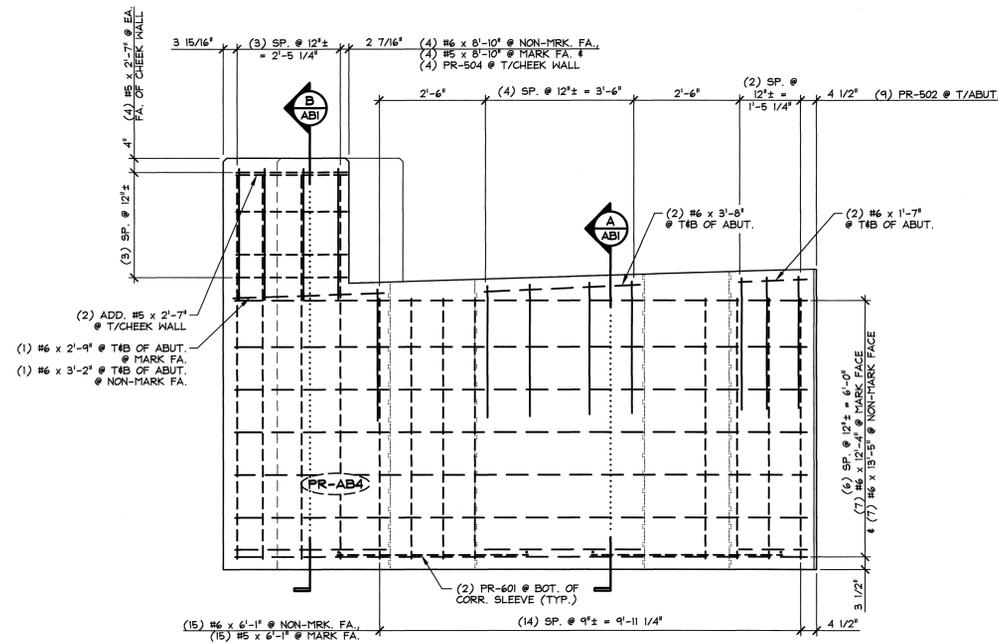
DETAIL - 1A
 1/2" = 1'-0"



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



2 PRECAST ABUTMENT ELEVATION NON-MARK FACE
 ABS 1/2" = 1'-0"



4 REINFORCING ELEVATION NON-MARK FACE
 ABS 1/2" = 1'-0"

MARK: PR-AB4 QTY.: 1 WT.: 23.12 T VOL.: 11.42 cy			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	PR-502	#5 BENT BAR	4
2	PR-504	#5 BENT BAR	4
3	PR-505E	#5 BENT BAR (EPOXY COATED)	10
4		#5 x 2'-7"	8
5		#5 x 6'-1"	15
6		#5 x 8'-10"	4
7			
8	PR-601	#6 BENT BAR	4
9	PR-603E	#6 BENT BAR (EPOXY COATED)	19
10		#6 x 4'-3" (EPOXY COATED)	15
11		#6 x 3'-7" (EPOXY COATED)	12
12		#6 x 6'-1"	15
13		#6 x 12'-4"	7
14		#6 x 13'-5"	7
15		#6 x 1'-7"	4
16		#6 x 3'-8"	4
17		#6 x 2'-9"	2
18		#6 x 3'-2"	2
19		#6 x 8'-10"	4
20			
21		P.V.C. WATERSTOP (SUPPLIED BY OTHERS)	11 LF
22		2'-0" x 6'-11" (NOM.) CORRUGATED STEEL SLEEVE	2
23		SET OF (4) 0.60" STRAND LIFTING LOOPS	2
24			
25			

2-12-15 REVISED PER VT AOT COMMENTS

APPROVAL STAMP:

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

J.P. SICARD, INC.
 CONTRACTOR
 BARTON, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ORANGE

DATE: NOV. 18, 2014

SCALE: NOTED

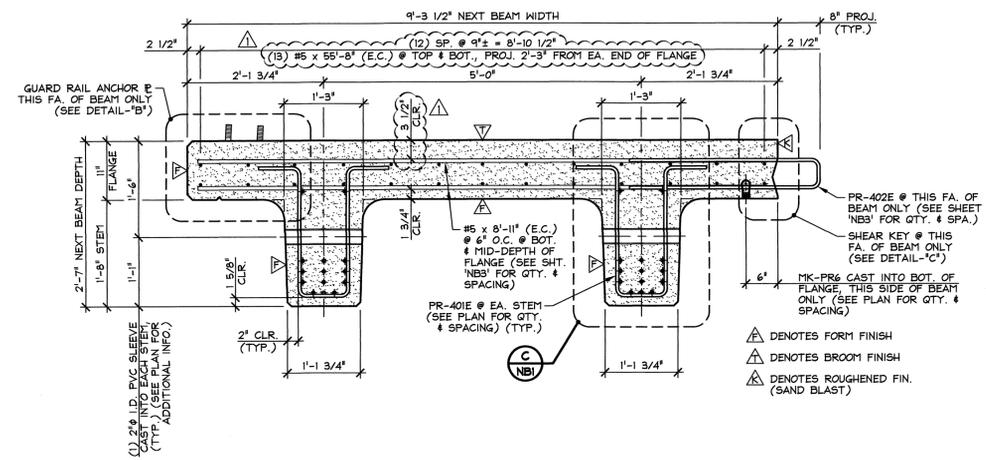
TOWN OF RANDOLPH
 TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD
 BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)

CHKD: B.C. DFTM: B.L.

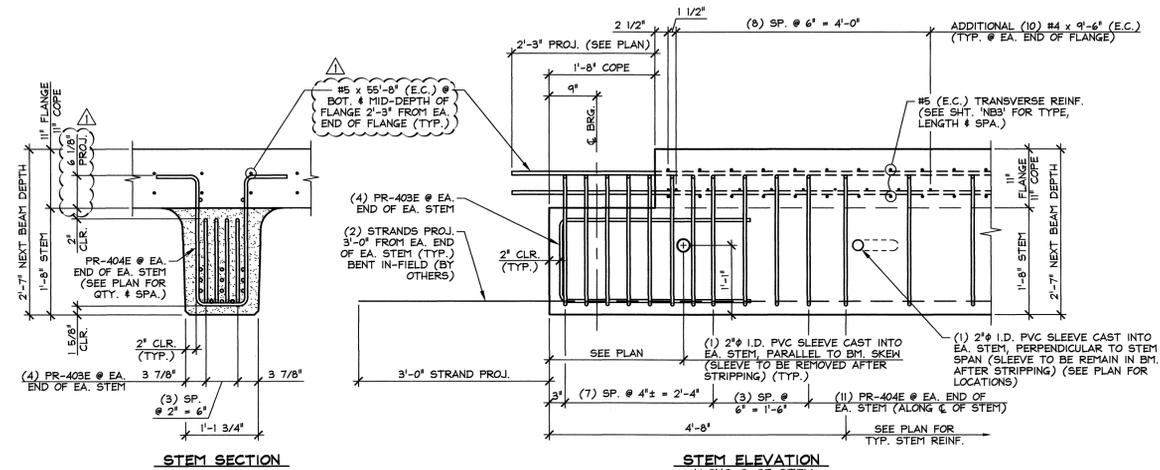
JOB NO: 23449-014

PRECAST ABUTMENT DETAILS

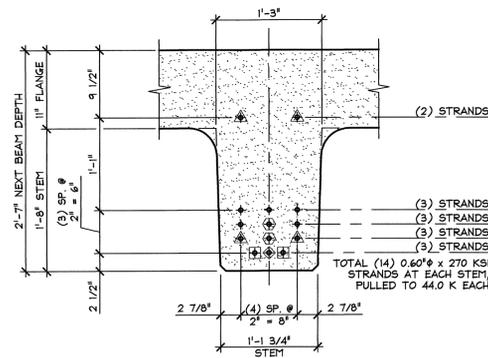
DWG. NO: **AB5**



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

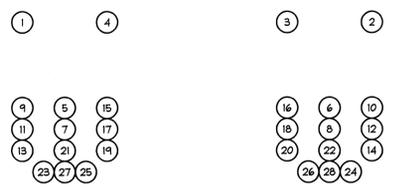


B END BLOCK STEM REINFORCING DETAILS
 3/4" = 1'-0"

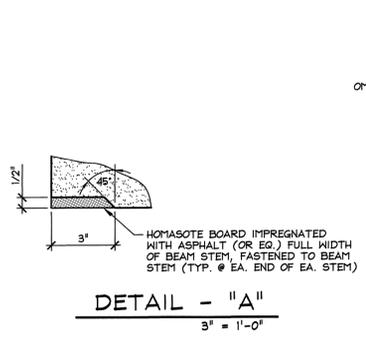


C STEM STRAND PATTERN
 1" = 1'-0"

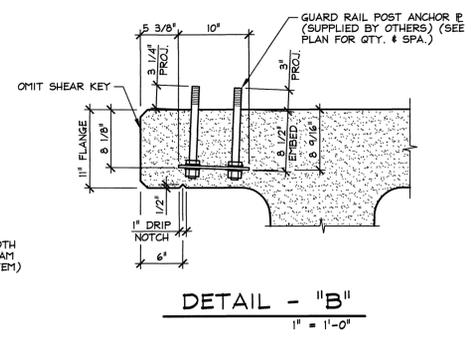
- PRESTRESSING NOTATIONS**
- ◆ DENOTES STRAIGHT STRANDS TO BE CUT FLUSH WITH EA. END OF EA. STEM
 - ⊕ DENOTES STRAIGHT STRANDS TO PROJECT 3'-0" FROM EA. END OF EA. STEM
 - ⊖ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
 - ⊗ DENOTES STRAIGHT STRANDS TO BE DEBONDED 4'-0" FROM EA. END OF EA. STEM
 - ⊙ DENOTES STRAIGHT STRANDS TO BE DEBONDED 6'-0" FROM EA. END OF EA. STEM



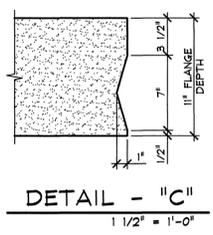
DETENSIONING SCHEDULE
 N.T.S.



DETAIL - "A"
 3" = 1'-0"



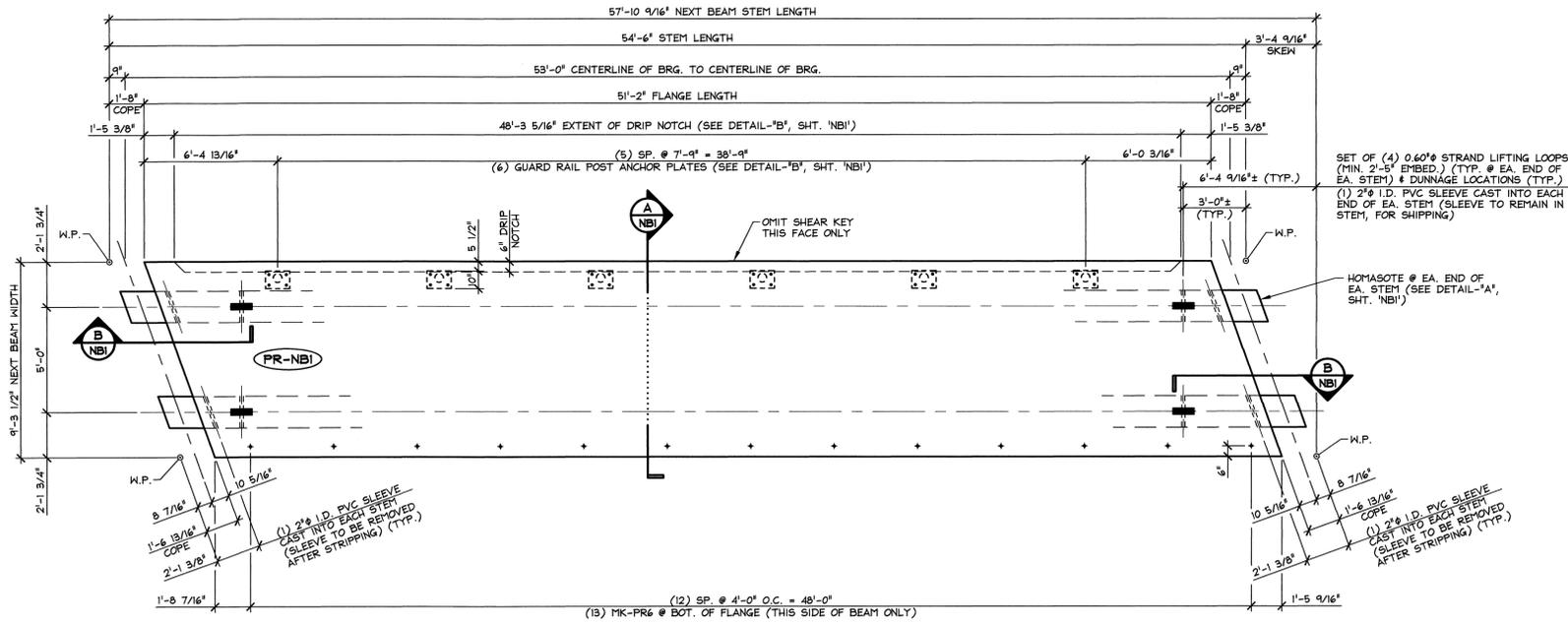
DETAIL - "B"
 1" = 1'-0"



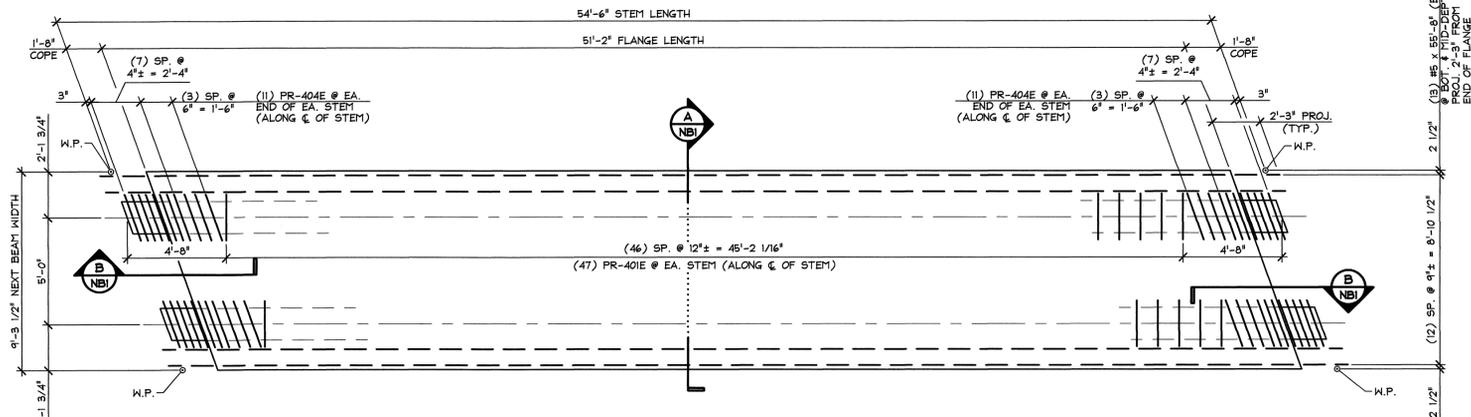
DETAIL - "C"
 1 1/2" = 1'-0"

2-12-15 REVISED PER VT AOT COMMENTS

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, INC. CONTRACTOR BARTON, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014	
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		SCALE: NOTED	
	PRESTRESSED NEXT BEAM DETAILS		CHKD: B.C. DFTM: B.L. JOB NO: 23449-014 DWG. NO: NBI	



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

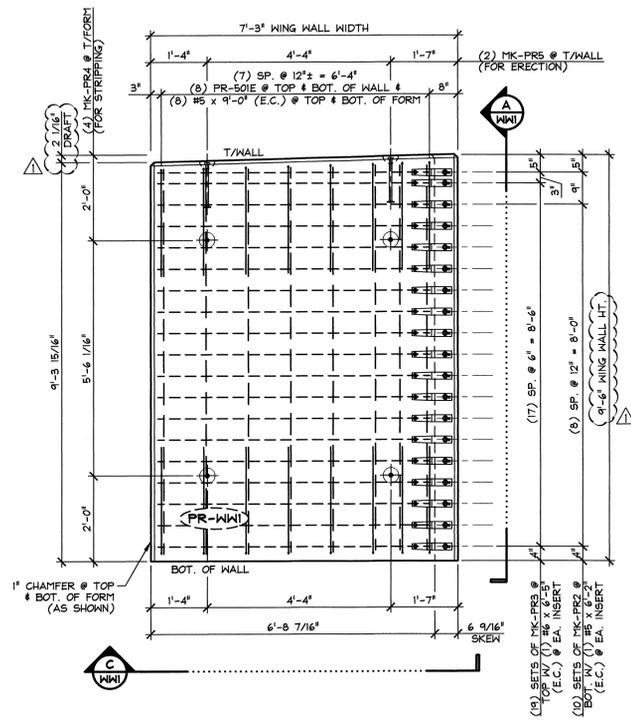


2 REINFORCING PLAN VIEW IN FORM
NB2 SEE SHEET 'NB3' FOR TRANSVERSE AND SHEAR KEY REINFORCING 1/4" = 1'-0"

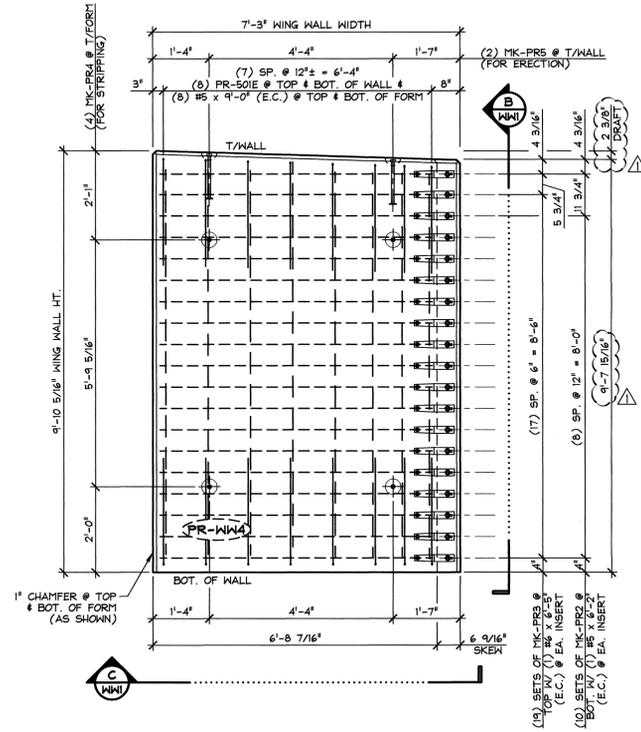
ITEM	MARK	DESCRIPTION	QTY.
1	PR-401E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	94
2	PR-402E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	79
3	PR-403E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	16
4	PR-404E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	44
5	PR-405E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	21
6	PR-406E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	2
7	PR-407E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	2
8	PR-408E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	2
9	PR-409E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	2
10		#4 x 9'-6" (LEVEL 1, EPOXY COATED)	20
11		#4 x 5'-0" (LEVEL 1, EPOXY COATED)	46
12		#4 x 9'-1/2" (LEVEL 1, EPOXY COATED)	46
13		#4 x 5'-0" (LEVEL 1, EPOXY COATED)	46
14			
15		#5 x 4'-0" (LEVEL 1, EPOXY COATED)	16
16		#5 x 8'-11" (LEVEL 1, EPOXY COATED)	154
17		#5 x 8'-11 3/4" (LEVEL 1, EPOXY COATED)	4
18		#5 x 9'-1" (LEVEL 1, EPOXY COATED)	4
19		#5 x 9'-3" (LEVEL 1, EPOXY COATED)	4
20		#5 x 9'-6" (LEVEL 1, EPOXY COATED)	36
21		#5 x 55'-8" (LEVEL 1, EPOXY COATED)	26
22			
23	MK-PR6	DAYTON 3/4" F-42 LOOP FERRULE INSERT (GALV.)	13
24		GUARD RAIL ANCHOR PLATE (SUPPLIED BY OTHERS)	6
25		SET OF (4) 0.60" STRAND LIFTING LOOPS	4

2-12-15 REVISED PER VT AOT COMMENTS

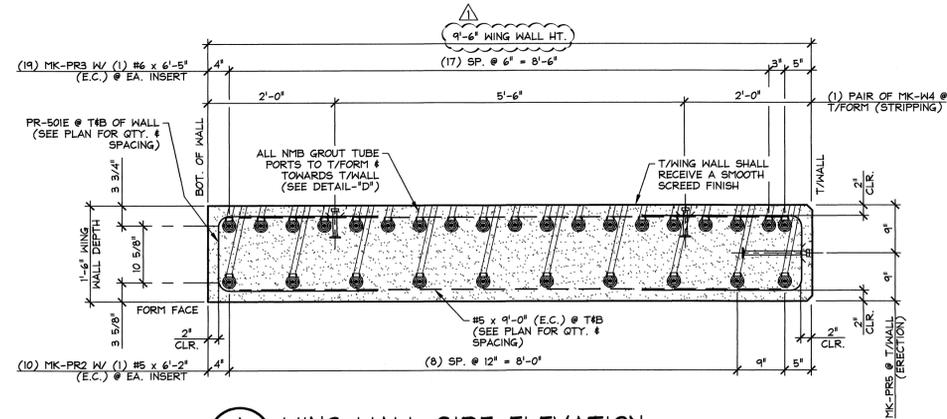
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010		J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014	
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		SCALE: NOTED	
	PRESTRESSED NEXT BEAM PLANS		CHKD: B.C. DFTM: B.L. JOB NO: 23449-014 DWG. NO: NB2	



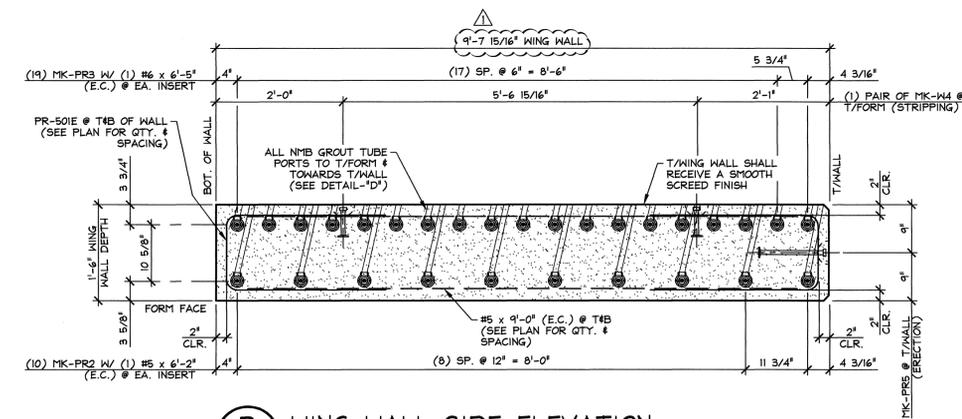
PLAN VIEW IN FORM - "PR-WW1"
1/2" = 1'-0"



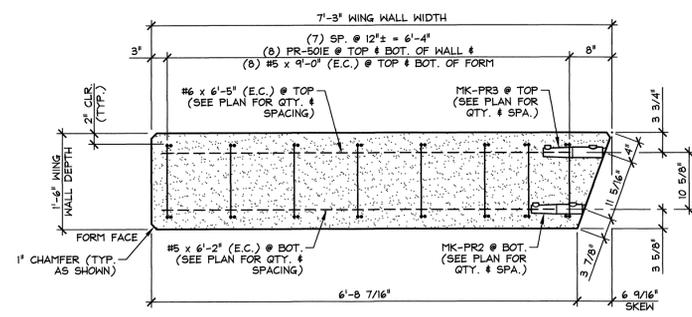
PLAN VIEW IN FORM - "PR-WW4"
1/2" = 1'-0"



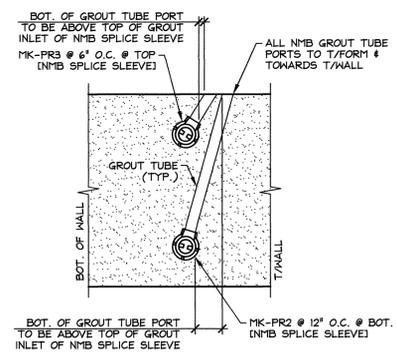
A WING WALL SIDE ELEVATION
3/4" = 1'-0"



B WING WALL SIDE ELEVATION
3/4" = 1'-0"



C WING WALL BOTTOM ELEVATION
3/4" = 1'-0"



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

MARK: PR-WW1	QTY.: 1	WT.: 7.39 T	VOL.: 3.65 cy
MARK: PR-WW4	QTY.: 1	WT.: 7.65 T	VOL.: 3.78 cy

MATERIAL LIST / WING WALL				
ITEM	MARK	DESCRIPTION	QTY./WALL	
			WW1	WW4
1	PR-501E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	16	16
2		#5 x 6'-2" (LEVEL 1, EPOXY COATED)	10	10
3		#5 x 9'-0" (LEVEL 1, EPOXY COATED)	16	16
4				
5		#6 x 6'-5" (LEVEL 1, EPOXY COATED)	19	19
6				
7				
8				
9				
10				
11	MK-PR2	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	10	10
12	MK-PR3	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	19	19
13	MK-PR4	4T x 5 1/2" SWIFT LIFT LIFTER	4	4
14	MK-PR5	8T x 13 3/8" SWIFT LIFT LIFTER	2	2
15				

2-12-15 REVISED PER VT AOT COMMENTS

APPROVAL STAMP:

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Precast & Prestress Manufacturer
2404 OASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ORANGE

TOWN OF RANDOLPH
TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD
BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)

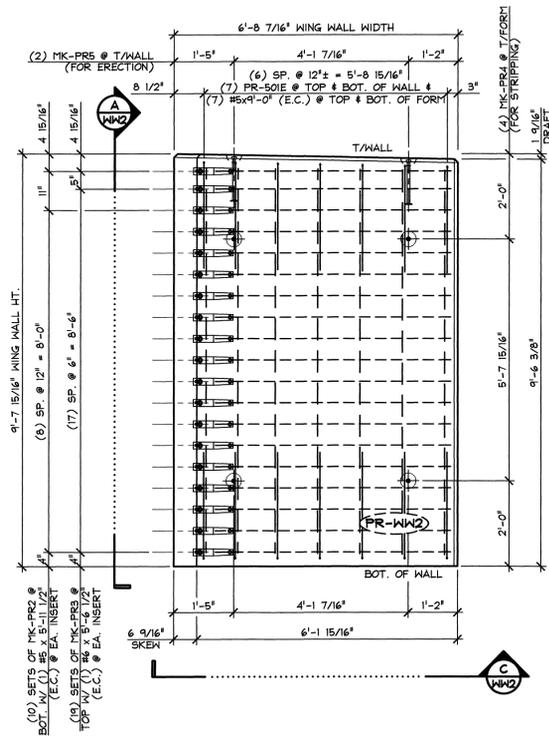
PRECAST WING WALL DETAILS

J.P. SICARD, INC.
CONTRACTOR
BARTON, VERMONT

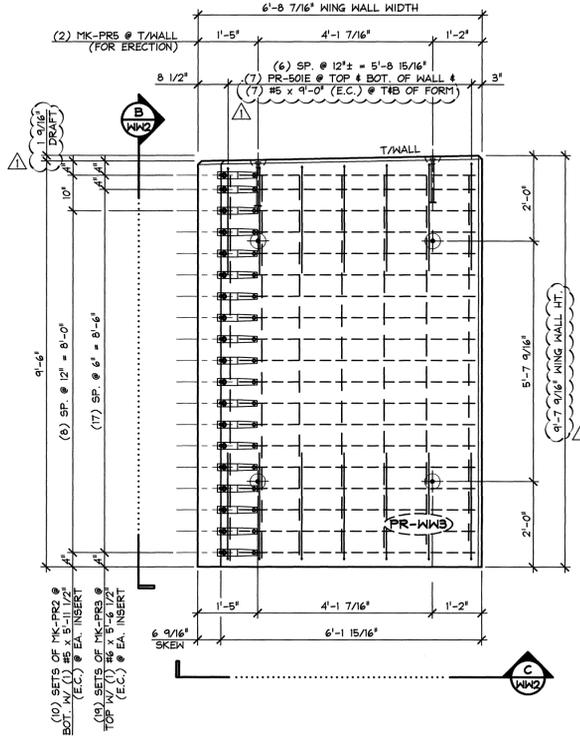
DATE: NOV. 18, 2014
SCALE: NOTED

CHKD: B.C. DFTM: B.L.
JOB NO: 23449-014

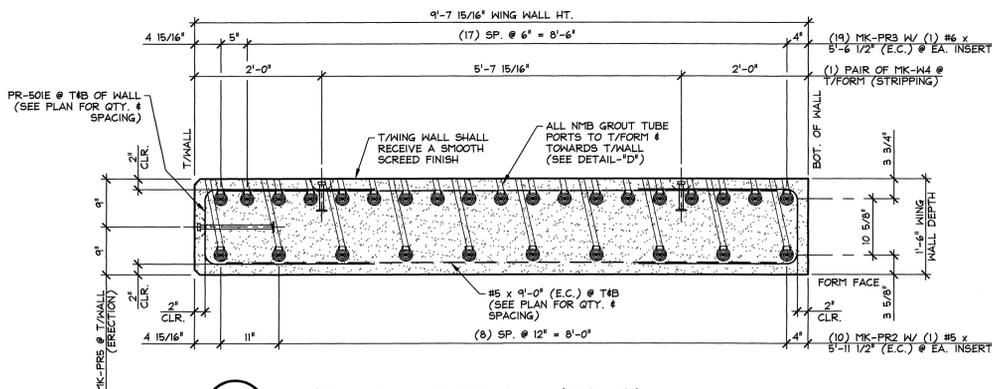
DWG. NO: WW1



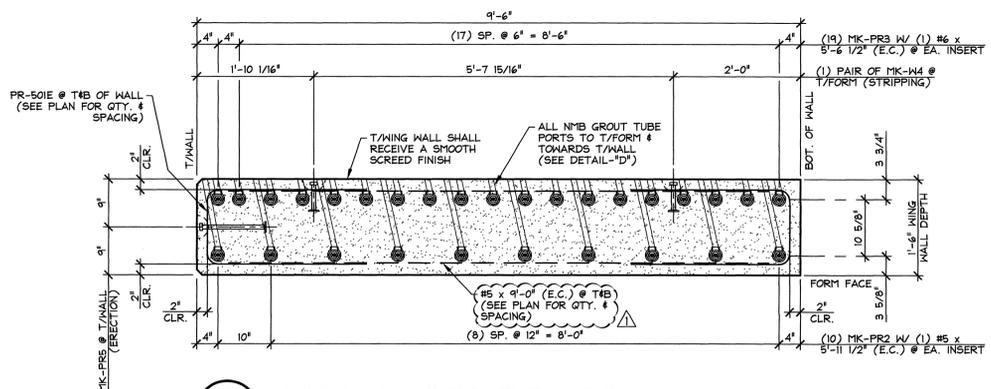
PLAN VIEW IN FORM - "PR-WW2"
1/2" = 1'-0"



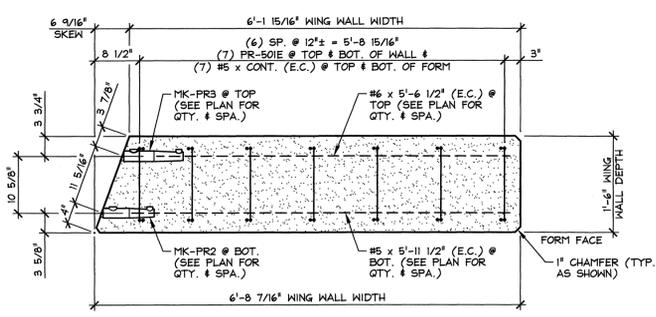
PLAN VIEW IN FORM - "PR-WW3"
1/2" = 1'-0"



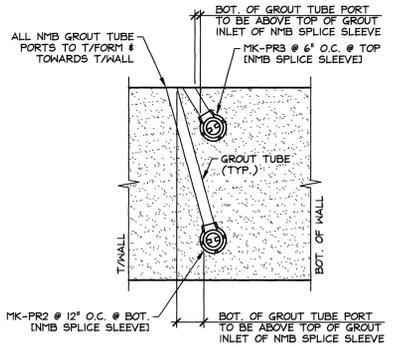
A WING WALL SIDE ELEVATION
WW2
3/4" = 1'-0"



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



C WING WALL BOTTOM ELEVATION
WW2
3/4" = 1'-0"



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

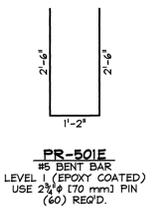
MARK: PR-WW2	QTY.: 1	WT.: 6.94 T	VOL.: 3.42 cy
MARK: PR-WW3	QTY.: 1	WT.: 6.94 T	VOL.: 3.42 cy

MATERIAL LIST / WING WALL				
ITEM	MARK	DESCRIPTION	QTY./WALL	
			WW2	WW3
1	PR-501E	#5 BENT BAR (LEVEL I, EPOXY COATED)	14	14
2		#5 x 5'-11 1/2" (LEVEL I, EPOXY COATED)	10	10
3		#5 x 9'-0" (LEVEL I, EPOXY COATED)	14	14
4		#5 x 9'-0" (E.C.) @ T4B (SEE PLAN FOR QTY. & SPACING)		
5				
6		#6 x 5'-6 1/2" (LEVEL I, EPOXY COATED)	19	19
7				
8				
9				
10				
11	MK-PR2	N#B SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	10	10
12	MK-PR3	N#B SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	19	19
13	MK-PR4	4T x 5 1/2" SWIFT LIFT LIFTER	4	4
14	MK-PR5	8T x 13 3/8" SWIFT LIFT LIFTER	2	2
15				

2-12-15 REVISED PER VT AOT COMMENTS

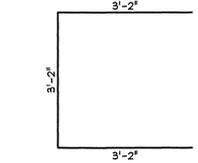
APPROVAL STAMP:

J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer <small>2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010</small>	J.P. SICARD, INC. CONTRACTOR BARTON, VERMONT
	DATE: NOV. 18, 2014 SCALE: NOTED
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE	CHKD: B.C. DFTM: B.L. JOB NO: 23449-014
TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)	DWG. NO: WW2
PRECAST WING WALL DETAILS	

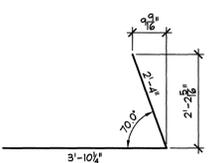


PR-501E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2 3/4" (70 mm) PIN
(60) REQ'D.

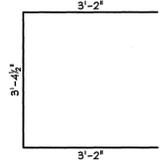
PRECAST WING WALLS



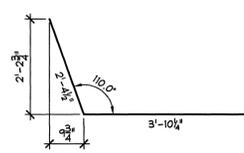
PR-502
#5 BENT BAR
LEVEL 1 (BLACK STEEL)
USE 2 3/4" (70 mm) PIN
(36) REQ'D.



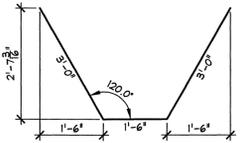
PR-503E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2 3/4" (70 mm) PIN
(20) REQ'D.



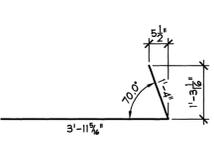
PR-504
#5 BENT BAR
LEVEL 1 (BLACK STEEL)
USE 2 3/4" (70 mm) PIN
(16) REQ'D.



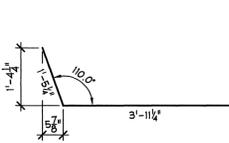
PR-505E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2 3/4" (70 mm) PIN
(20) REQ'D.



PR-601
#6 BENT BAR
LEVEL 1 (BLACK STEEL)
USE 4" (100 mm) PIN
(4) REQ'D.

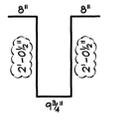


PR-602E
#6 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 4" (100 mm) PIN
(38) REQ'D.

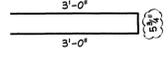


PR-603E
#6 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 4" (100 mm) PIN
(38) REQ'D.

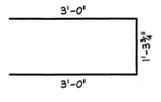
PRECAST ABUTMENTS



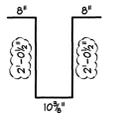
PR-401E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(188) REQ'D.



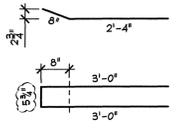
PR-402E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(158) REQ'D.



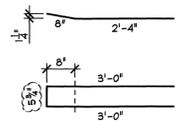
PR-403E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(32) REQ'D.



PR-404E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(88) REQ'D.



PR-405E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(42) REQ'D.



PR-406E
#4 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2" (50 mm) PIN
(4) REQ'D.



PR-407E
THIS BAR HAS BEEN OMITTED

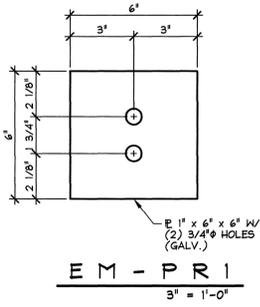


PR-408E
THIS BAR HAS BEEN OMITTED



PR-409E
THIS BAR HAS BEEN OMITTED

PRESTRESSED NEXT BEAMS



EM-PR1
3" = 1'-0"

MISCELLANEOUS MATERIALS				
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		20	#5 x 5'-11 1/2" (LEVEL 1, EPOXY COATED)	
2		20	#5 x 6'-2" (LEVEL 1, EPOXY COATED)	
3		60	#5 x 9'-0" (LEVEL 1, EPOXY COATED)	
4			#5 x 9'-0" (LEVEL 1, EPOXY COATED)	
5			#5 x 9'-0" (LEVEL 1, EPOXY COATED)	
6		38	#6 x 5'-6 1/2" (LEVEL 1, EPOXY COATED)	
7		38	#6 x 6'-5" (LEVEL 1, EPOXY COATED)	
8				
9				
10				
11	MK-PR2	40	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	
12	MK-PR3	76	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	
13	MK-PR4	16	4T x 5 1/2" SWIFT LIFT LIFTER	
14	MK-PR5	8	8T x 13 3/8" SWIFT LIFT LIFTER	
15				
16	EM-PR1	24	E 1" x 6" x 6" W/ (2) 3/4" HOLES (GALV.)	FOR ERECTION: SEE DETAIL THIS SHEET
17		24	1/2" x 24'-4" POLY-STRAND	FOR ERECTION
18		48	1/2" SINGLE USE STRESSING CHUCK	FOR ERECTION
19				
20		40	#5 x 2'-7"	
21		60	#5 x 6'-1"	
22		16	#5 x 8'-10"	
23				
24		56	#6 x 4'-3" (LEVEL 1, EPOXY COATED)	
25		50	#6 x 3'-7" (LEVEL 1, EPOXY COATED)	
26		60	#6 x 6'-1"	
27		28	#6 x 12'-4"	
28		28	#6 x 13'-5"	
29		16	#6 x 1'-7"	
30		16	#6 x 3'-8"	
31		8	#6 x 2'-9"	
32		8	#6 x 3'-2"	
33		16	#6 x 8'-10"	
34				
35		41.33 LF	P.V.C. WATERSTOP	SUPPLIED BY OTHERS
36		1	BRIDGE PLAQUE	SUPPLIED BY OTHERS
37		4	2'-0" x 7'-1" (NOM.) CORRUGATED STEEL SLEEVE	
38		4	2'-0" x 6'-1" (NOM.) CORRUGATED STEEL SLEEVE	
39		8	SET OF (4) 0.60" STRAND LIFTING LOOPS	
40				
41		40	#4 x 9'-6" (LEVEL 1, EPOXY COATED)	
42			#4 x 9'-6" (LEVEL 1, EPOXY COATED)	
43		42	#4 x 9'-1 1/2" (LEVEL 1, EPOXY COATED)	
44		20	#4 x 5'-10" (LEVEL 1, EPOXY COATED)	
45				
46		32	#5 x 4'-0" (LEVEL 1, EPOXY COATED)	
47		308	#5 x 8'-11" (LEVEL 1, EPOXY COATED)	
48		8	#5 x 8'-11 3/4" (LEVEL 1, EPOXY COATED)	
49		8	#5 x 9'-1" (LEVEL 1, EPOXY COATED)	
50		8	#5 x 9'-3" (LEVEL 1, EPOXY COATED)	
51		72	#5 x 9'-6" (LEVEL 1, EPOXY COATED)	
52		52	#5 x 5'-8" (LEVEL 1, EPOXY COATED)	
53				
54	MK-PR6	26	DAYTON 3/4" F-42 LOOP FERRULE INSERT	GALVANIZE
55		12	GUARD RAIL ANCHOR PLATE	SUPPLIED BY OTHERS
56		8	SET OF (4) 0.60" STRAND LIFTING LOOPS	
57				
58				
59				
60				

PRECAST WING WALLS

PRECAST ABUTMENTS

PRESTRESSED NEXT BEAMS

2-12-15 REVISED PER VT AOT COMMENTS

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, INC. CONTRACTOR BARTON, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ORANGE		DATE: NOV. 18, 2014 SCALE: NOTED
	TOWN OF RANDOLPH TOWN HIGHWAY 65 (PALMER ROAD) CLASS 3 LOCAL ROAD BRIDGE NO.: 35 PROJECT NO.: BRO 1444(57)		CHKD: B.C. DFTM: B.L. JOB NO: 23449-014
	MATERIALS LIST		DWG. NO: M1