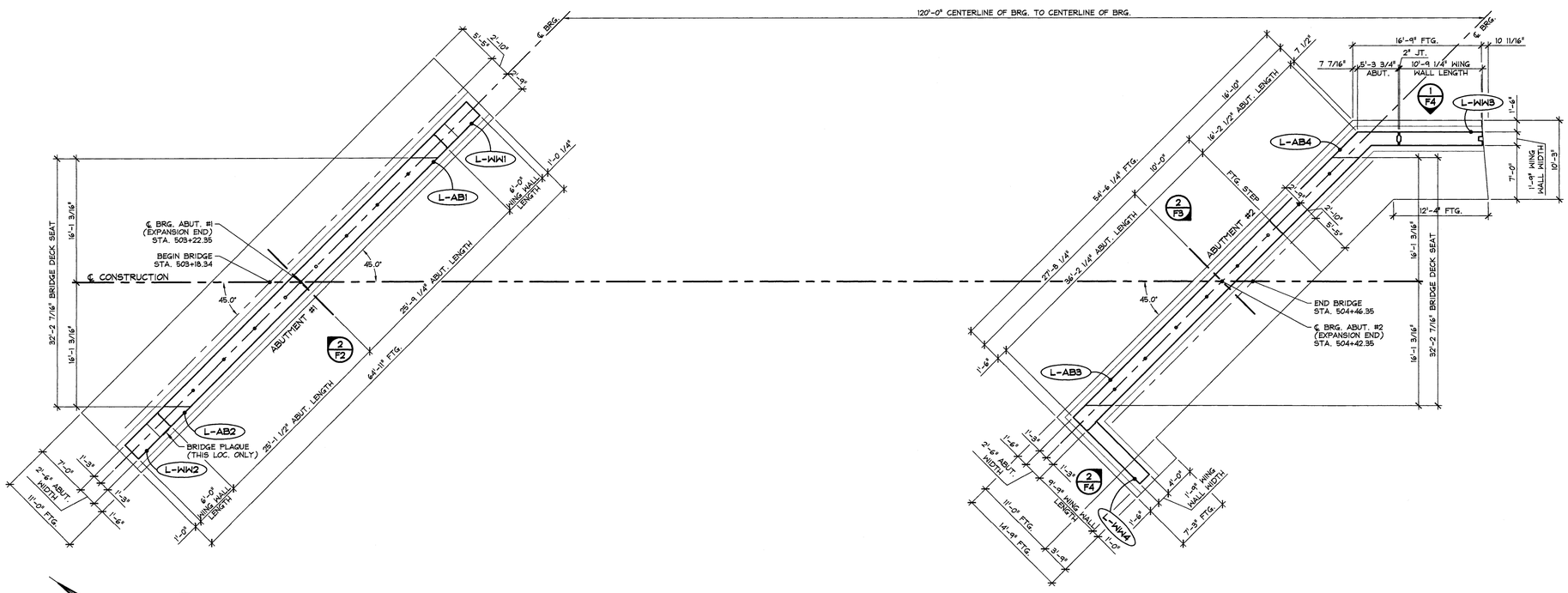

1/F1 PRECAST ABUTMENT & WING WALL LAYOUT

1/8" = 1'-0"

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 I (EPOXY COATED) OR LEVEL I (BLACK STEEL) (AS NOTED ON SHOP DRAWINGS).
4. SEE INDIVIDUAL ABUTMENT DRAWINGS FOR CONCRETE FINISHES AND EXTENT OF WATERPROOF SEALER APPLICATION.
5. SEE INDIVIDUAL WING WALL DRAWINGS FOR CONCRETE FINISHES AND EXTENT OF WATERPROOF SEALER APPLICATION.
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 8th 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 #4461MSCC

   ABUTMENTS: J.P.C. BRIDGE MIX #4461MSCC
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. EPOXY SHEAR KEY (AS REQUIRED) (BY OTHERS).
    C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI; POST-TENSION TENDONS TO 32,000 LBS.

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST ABUTMENT & WING WALL LAYOUT

DATE:	FEB. 6, 2015
SCALE:	NOTED
CHKD: M.W.	DFTM: B.L.
JOB NO:	23459-015
DWG. NO:	F1

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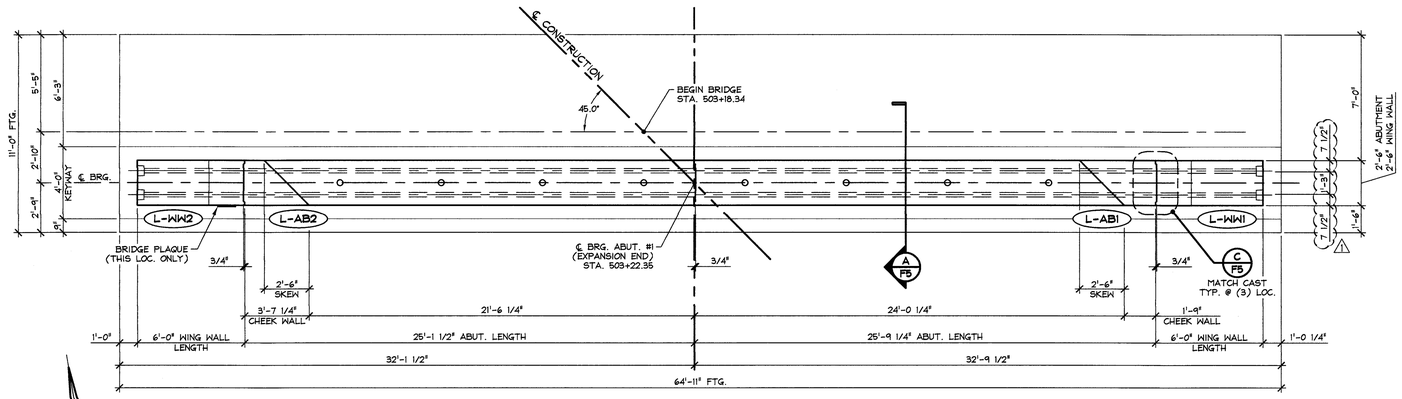
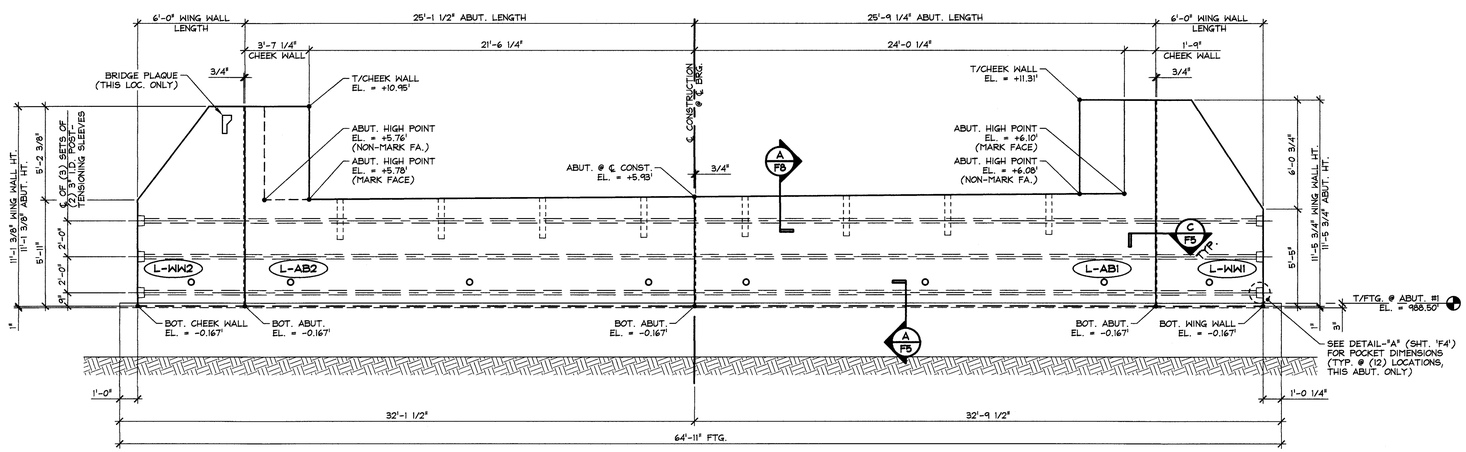


1 / F2 PRECAST ABUTMENT #1 & WING WALL LAYOUT

1/4" = 1'-0"



2 / F2 PRECAST ABUTMENT #1 & WING WALL SOUTH ELEVATION

1/4" = 1'-0"

POUR SCHEDULE	
POUR 1	L-WW1 & L-WW2
POUR 2	L-AB1
POUR 3	L-AB2

⚠ 4-27-15 REVISED AS NOTED

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

ABUTMENT #1
PLAN & ELEVATION

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: F2

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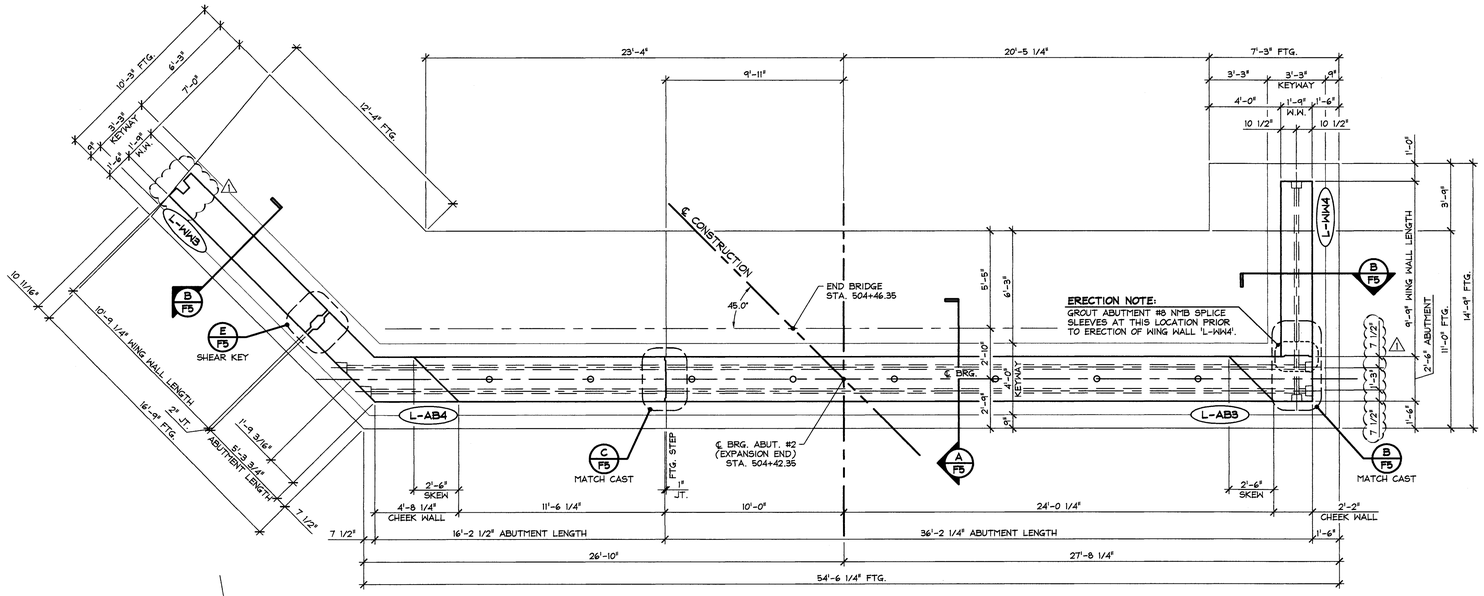
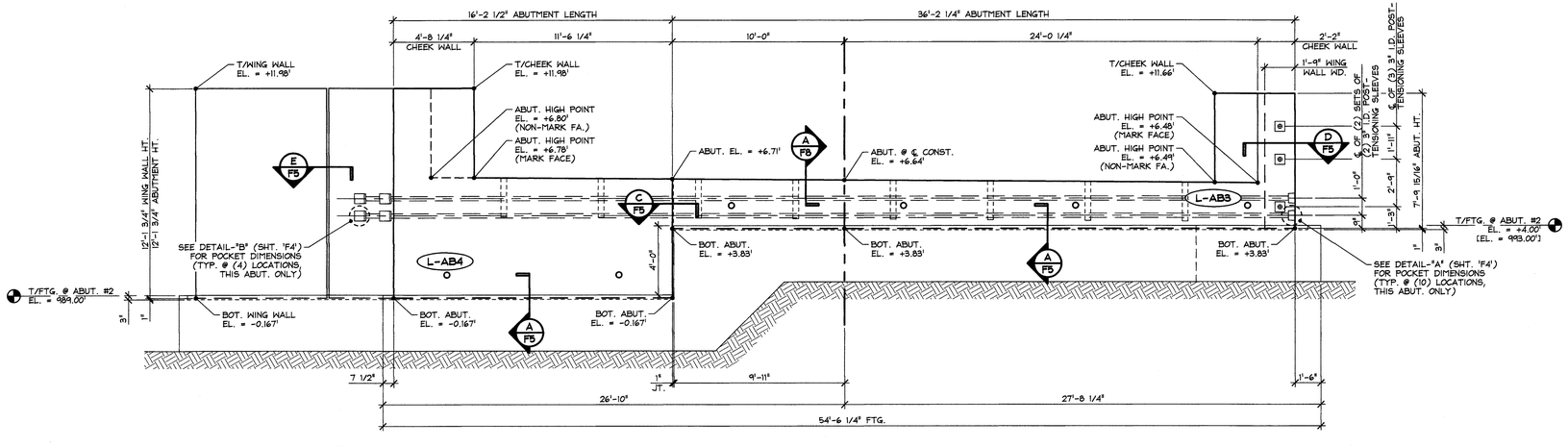


1 / F3 PRECAST ABUTMENT #2 & WING WALL LAYOUT

1/4" = 1'-0"



2 / F3 PRECAST ABUTMENT #2 & WING WALL NORTH ELEVATION

1/4" = 1'-0"

POUR SCHEDULE	
POUR 6	L-WW4 & L-WW3
POUR 7	L-AB3
POUR 8	L-AB4

△1 4-27-15 REVISED AS NOTED

APPROVAL STAMP:

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

J.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

ABUTMENT #2
PLAN & ELEVATIONS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: F3

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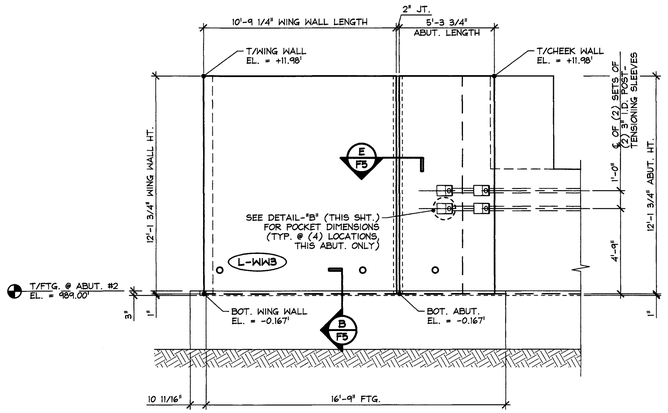
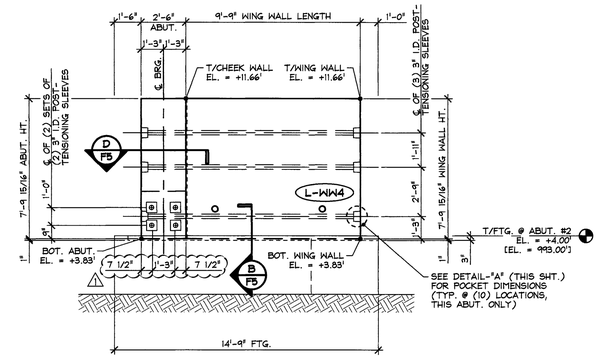


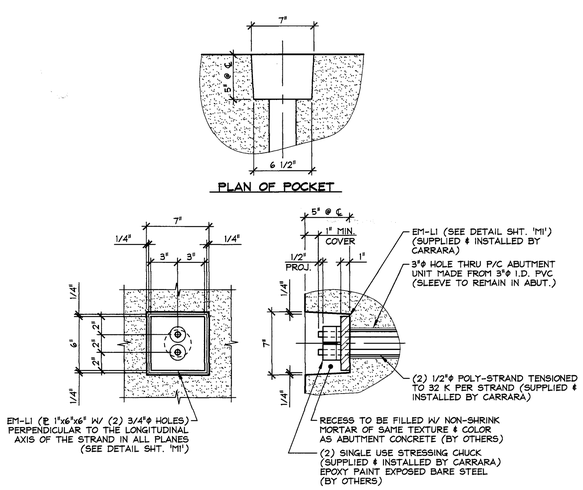
1 / F4 WING WALL #3 EAST ELEVATION

1/4" = 1'-0"



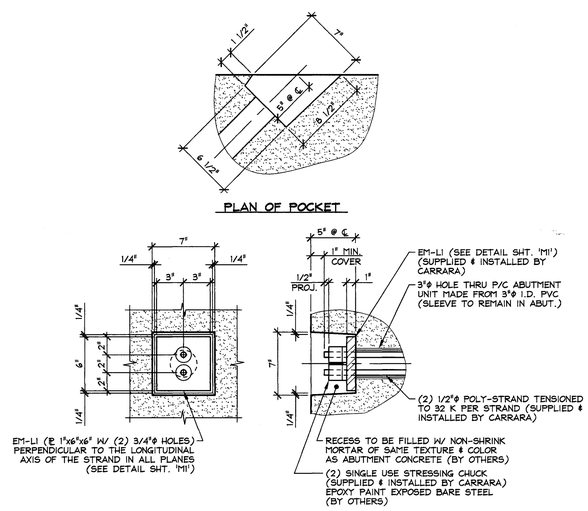
2 / F4 WING WALL #4 WEST ELEVATION

1/4" = 1'-0"



DETAIL - "A"

1 1/2" = 1'-0"



DETAIL - "B"

1 1/2" = 1'-0"

⚠1 4-27-15 REVISED AS NOTED

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

J.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

WING WALL ELEVATIONS & POST-TENSIONING POCKET DETAILS

DWG. NO: F4

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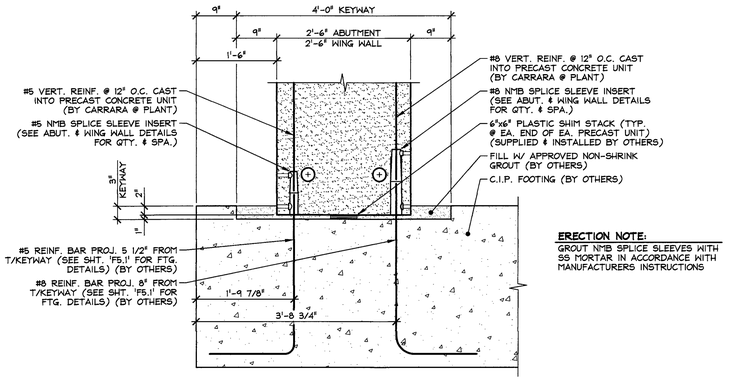
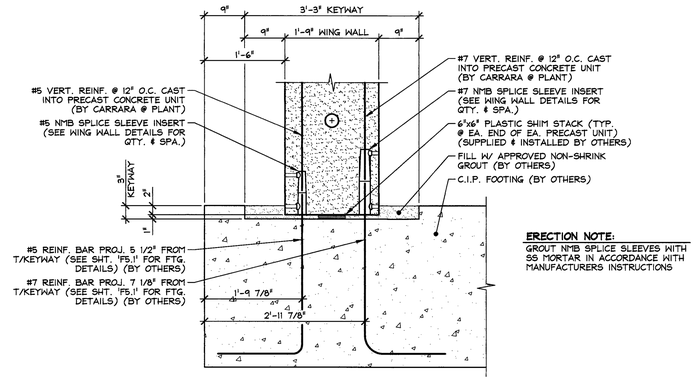


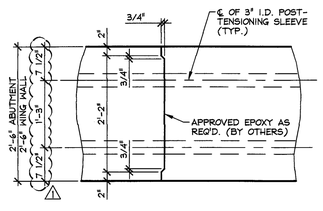
ERECTION NOTE:
GROUT NMB SPLICE SLEEVES WITH SS MORTAR IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

A/F5 STEM JOINT SECTION
3/4" = 1'-0"

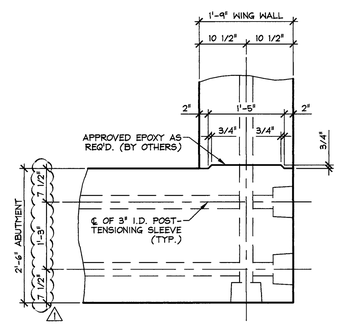


ERECTION NOTE:
GROUT NMB SPLICE SLEEVES WITH SS MORTAR IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

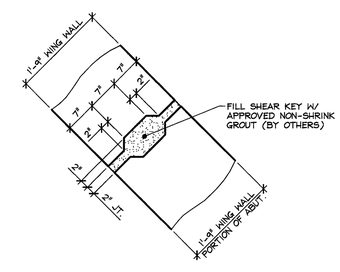
B/F5 STEM JOINT SECTION
3/4" = 1'-0"



C/F5 MATCH CAST SECTION @ P.T. SLEEVE
3/4" = 1'-0"



D/F5 MATCH CAST SECTION @ P.T. SLEEVE
3/4" = 1'-0"



E/F5 SHEAR KEY SECTION @ WING WALL
3/4" = 1'-0"

△1 4-27-15 REVISED AS NOTED

APPROVAL STAMP:

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

J.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

ABUTMENT DETAILS

DWG. NO: F5

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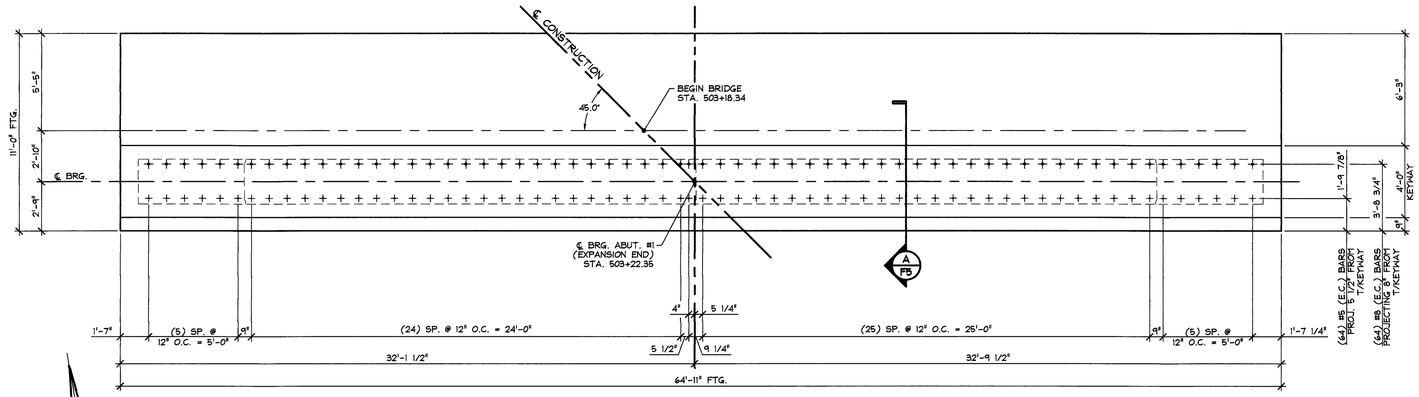
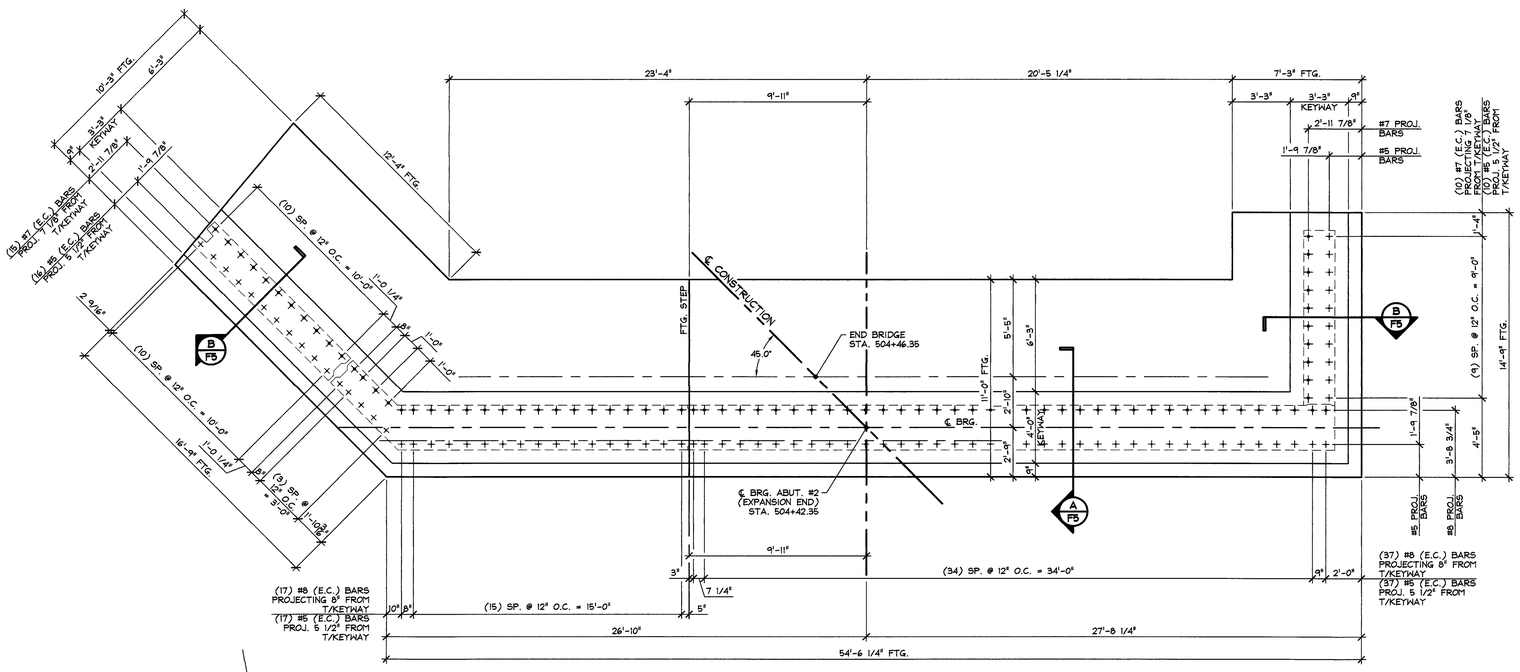


1 / F5.1 ABUTMENT #1 STEM JOINT PROJECTING BAR LAYOUT

1/4" = 1'-0"



2 / F5.1 ABUTMENT #2 STEM JOINT PROJECTING BAR LAYOUT

1/4" = 1'-0"

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

STEM JOINT
PROJECTING BAR LAYOUTS

DWG. NO: F5.1

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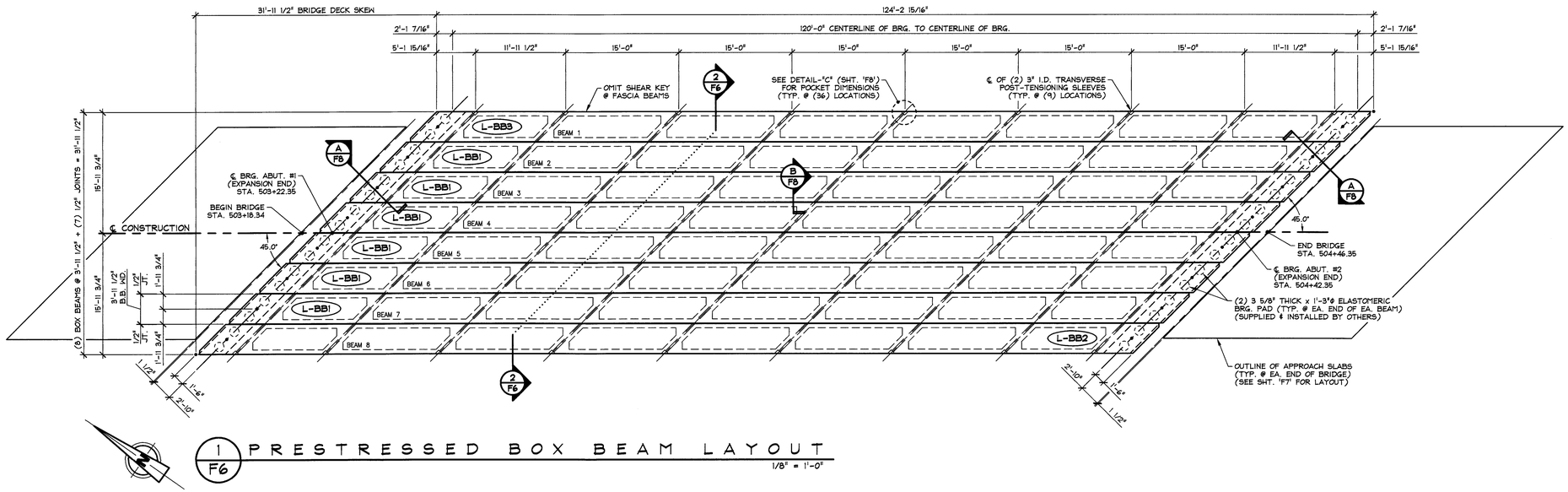
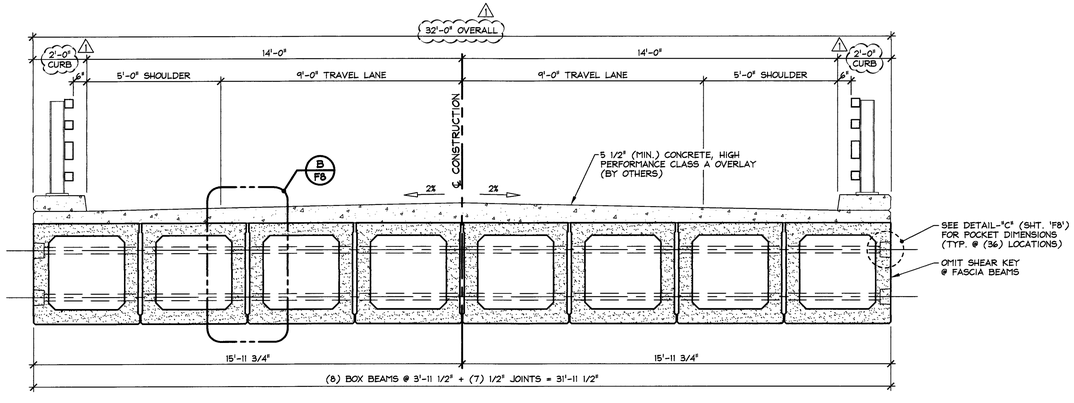


1/F6 PRESTRESSED BOX BEAM LAYOUT

1/8" = 1'-0"



2/F6 TRANSVERSE BOX BEAM SECTION

3/8" = 1'-0"

BOX BEAM GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 8,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 6,000 PSI.
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED).
4. 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.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF **44.0 K** AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
6. ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF BOX BEAM (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" (UNLESS NOTED OTHERWISE).
8. THE TOP OF BEAMS SHALL RECEIVE A TRANSVERSE RAKE FINISH ROUGHENED TO 1/4" AMPLITUDE (UNLESS NOTED OTHERWISE).
9. SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
10. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH OF THE TWO LIFTING LOOPS AT EACH END OF THE SLAB. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, SHEET 'F8'.** BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE BEAM ENDS, SET PERPENDICULAR TO BEAM SPAN, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.

    ONCE BOX BEAMS HAVE BEEN ERECTED, CUT LIFTING LOOPS AT RECESS, EPOXY PAINT AND PATCH AS REQUIRED (BY OTHERS).
11. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

    DESIGN MIX: J.P.C. BRIDGE MIX #426M (NO DCI)
12. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
13. CURING METHOD: AS SOON AS THE TOP OF BEAM IS FINISHED, COVER WITH INSULATED POLY. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 70°F. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS, SPACED NOT MORE THAN 100' APART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED. EACH CHART SHALL BE MARKED WITH THE CASTING DATED AND LOCATION OF THE RECORDER. IF NECESSARY TO MAINTAIN CASTING BED TEMPERATURE PRIOR TO CONCRETE PLACEMENT OR TO ACCELERATE EARLY AGE STRENGTH GAIN, EXTERNAL RADIANT HEAT MAY BE EMPLOYED VIA HOT WATER DUCTS BENEATH AND WITHIN THE PERIPHERY OF THE CASTING BED. MAXIMUM CURING TEMPERATURE SHALL NOT EXCEED PCI SPECIFIED LIMITS.
14. TRANSVERSE POST-TENSIONING SEQUENCE:
    A. ERECT BOX BEAMS, AND POST-TENSION TENDONS TO APPROXIMATELY 5,000 LBS.
    B. GROUT SHEAR KEYS.
    C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI, POST TENSION TENDONS TO 47,000 LBS.
15. OWNER 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.

EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

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

EXAMPLE:

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

THEREFORE: (TOLERANCES ± 5%)
Δ UPPER LIMIT = 1.05 x 19.977" = 20.98" = 21"
Δ LOWER LIMIT = 0.95 x 19.977" = 18.98" = 19"

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

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

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

STRAND TENSIONING PROCEDURE:

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

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

DESIGN LIVE LOAD: HL-93

△ 4-27-15 REVISED AS NOTED

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM LAYOUT & SECTION

DATE:	FEB. 6, 2015
SCALE:	NOTED
CHKD: M.W.	DFTM: B.L.
JOB NO:	23459-015
DWG. NO:	F6

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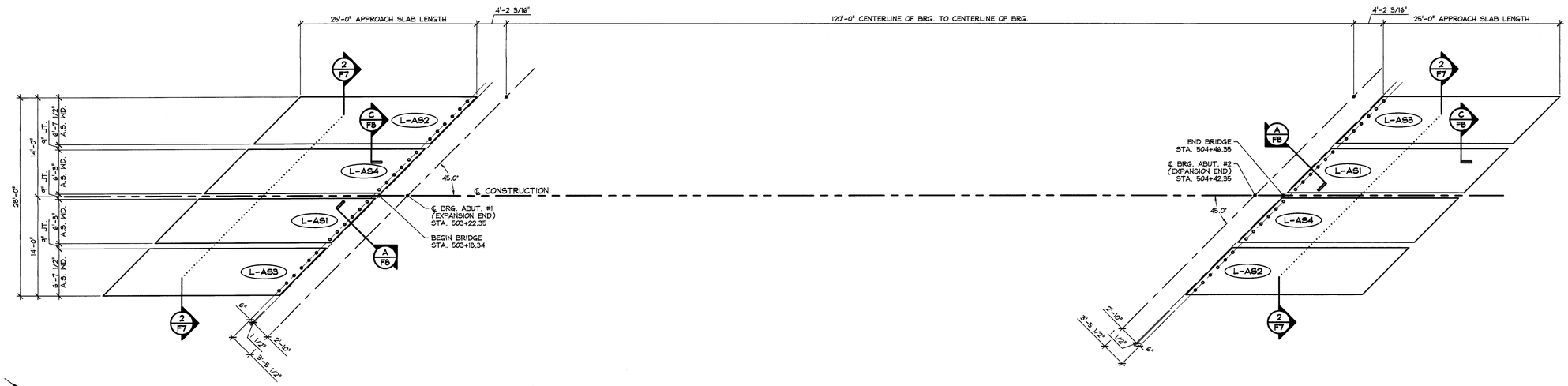
APPROACH SLAB GENERAL NOTES

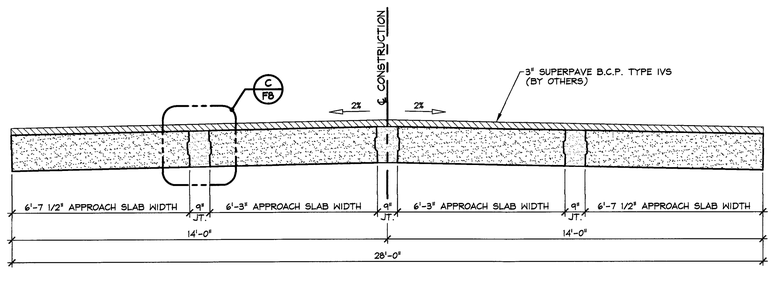
1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF APPROACH SLABS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. SHEAR KEY SURFACES SHALL BE POWER WASHED WITH WATER PRIOR TO PLACEMENT.
6. PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
7. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

   DESIGN MIX: 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 RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED.



1/F7 PRECAST APPROACH SLAB LAYOUT

1/8" = 1'-0"



2/F7 TRANSVERSE APPROACH SLAB SECTION

3/8" = 1'-0"

△1 4-27-15 REVISED AS NOTED

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

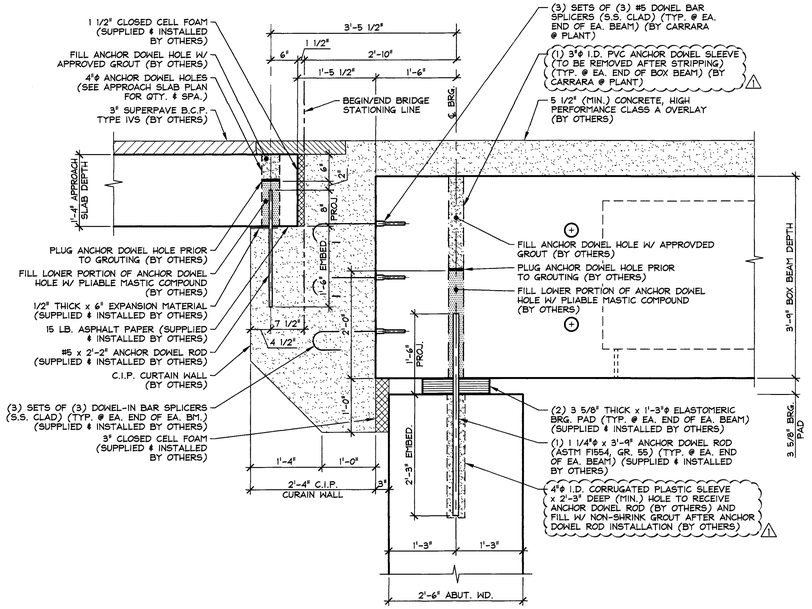
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

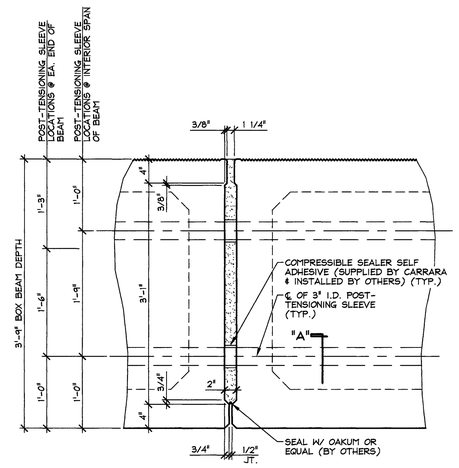
PRECAST APPROACH SLAB LAYOUT & SECTION

DATE:	FEB. 6, 2015
SCALE:	NOTED
CHKD: M.W.	DFTM: B.L.
JOB NO:	23459-015
DWG. NO:	F7

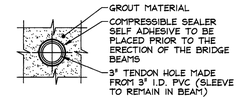
F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-F7.dwg, 4/28/2015 2:25:03 PM



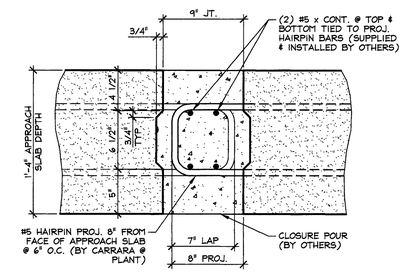
A F8 BEARING SECTION
3/4" = 1'-0"



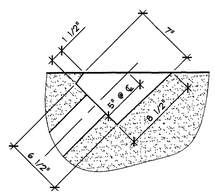
B F8 SHEAR KEY SECTION @ P.T. SLEEVE
1" = 1'-0"



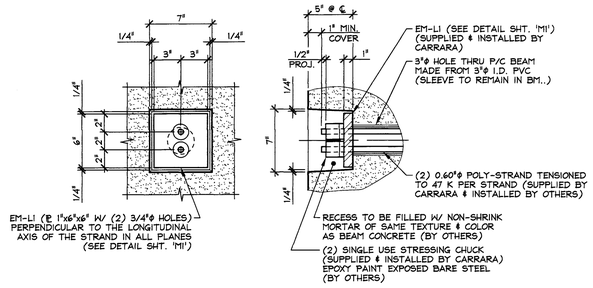
SECTION - "A"
1 1/2" = 1'-0"



C F8 SHEAR KEY SECTION @ APPROACH SLABS
1 1/2" = 1'-0"

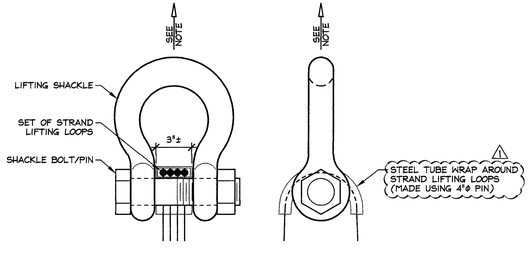


PLAN OF POCKET



FASCIA ELEVATION — SECTION AT CENTERLINE

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



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

LIFTING SHACKLE DETAILS
N.T.S.

△1 4-27-15 REVISED AS NOTED

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

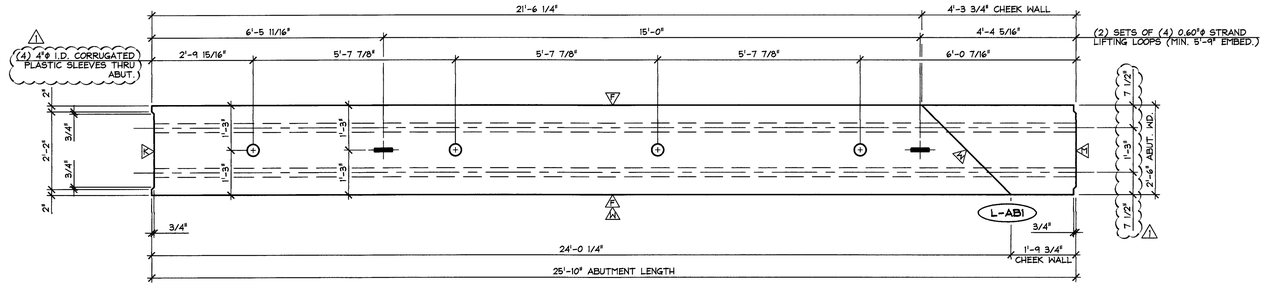
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM SECTIONS & DETAILS

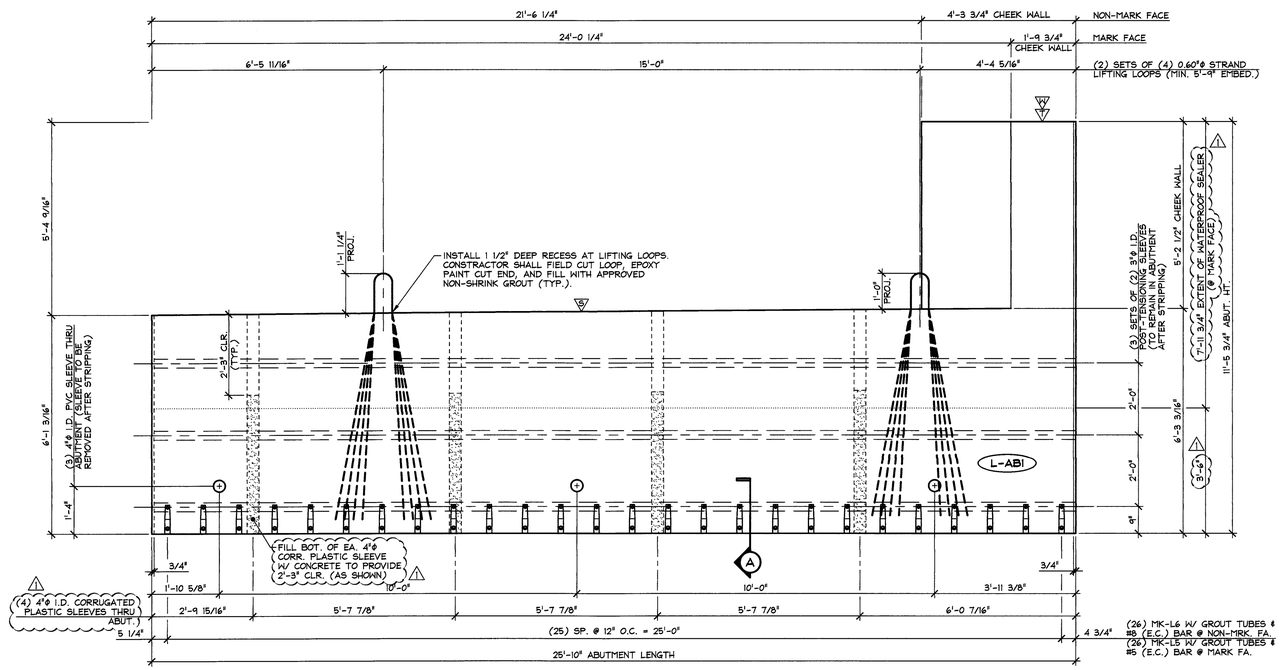
DATE:	FEB. 6, 2015
SCALE:	NOTED
CHKD: M.W.	DFTM: B.L.
JOB NO:	23459-015
DWG. NO:	F8

F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-F8.dwg, 4/28/2015 2:26:48 PM



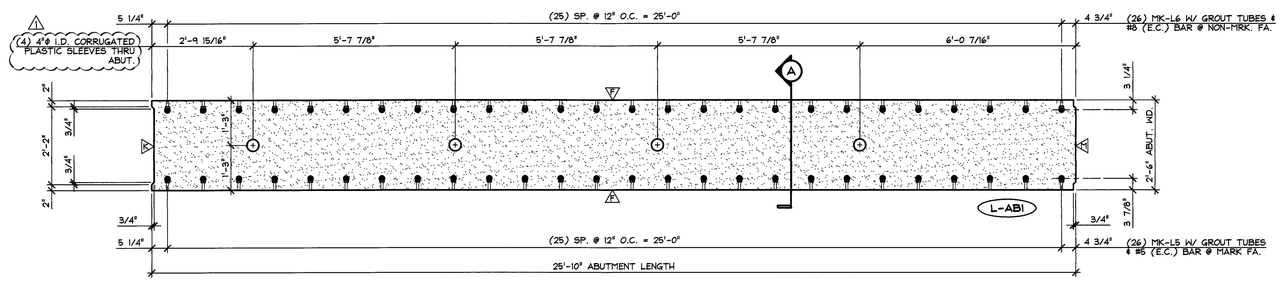
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



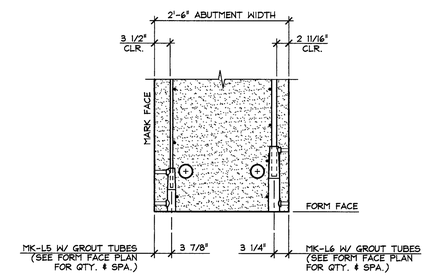
MARK FACE ELEVATION

1/2" = 1'-0"



BOTTOM OF FORM - NMB SPLICE SLEEVE PLAN

1/2" = 1'-0"



A SPLICE SLEEVE DETAIL

3/4" = 1'-0"

△5 DENOTES SMOOTH SCREED FINISH
△4 DENOTES (1) COAT WATERPROOF SEALER
△3 DENOTES FORM FINISH
△2 DENOTES ROUGHENED FINISH
△1 DENOTES STEEL TROWEL FINISH
△A DENOTES MATCH CAST

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AB1	QTY.: 1	WT.: 32.88 T	VOL.: 16.24 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	26
2	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	26
3			
4		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2
5			
6	△1	4"ϕ I.D. x 6'-3" CORRUGATED PLASTIC SLEEVE	4
7			
8			
9			
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST ABUTMENT
DIMENSIONAL DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: AB1

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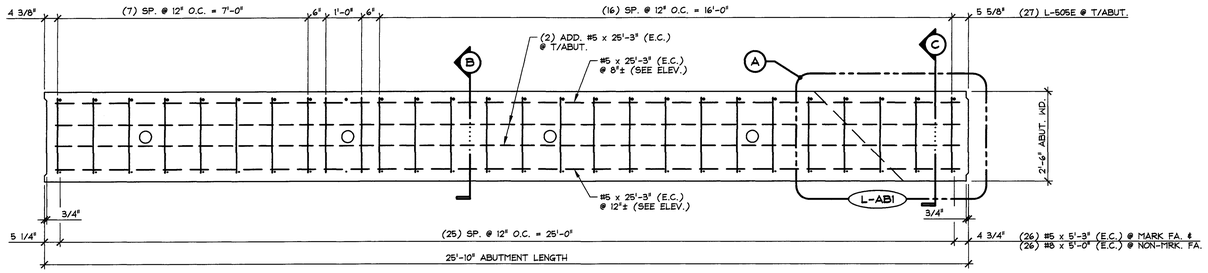
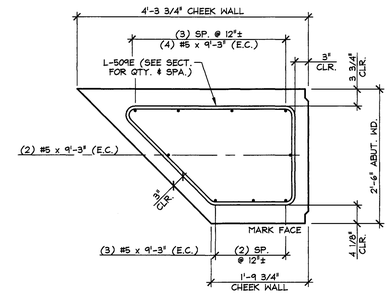


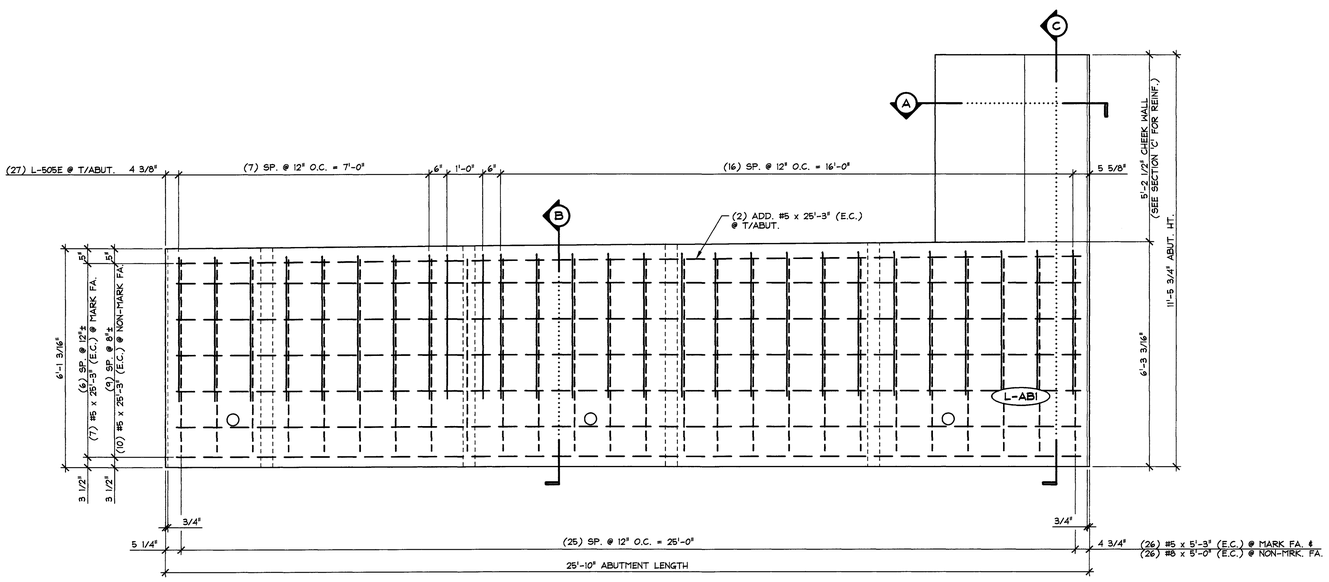
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



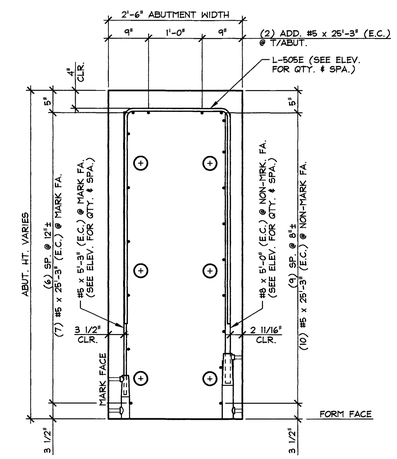
A CHEEK WALL REINF. PLAN

3/4" = 1'-0"



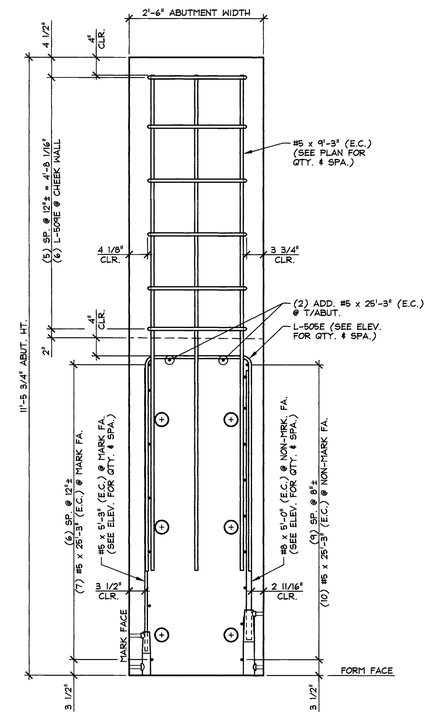
MARK FACE REINFORCING ELEVATION

1/2" = 1'-0"



B REINFORCING SECTION

3/4" = 1'-0"



C REINFORCING SECTION

3/4" = 1'-0"

MARK: L-AB1 | QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	L-505E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	27
2	L-509E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
3		#5 x 25'-3" (LEVEL 1, EPOXY COATED)	19
4		#5 x 5'-3" (LEVEL 1, EPOXY COATED)	26
5		#5 x 9'-3" (LEVEL 1, EPOXY COATED)	9
6			
7		#8 x 5'-0" (LEVEL 1, EPOXY COATED)	26
8			
9			
10			

⚠ 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST ABUTMENT
REINFORCING DETAILS

DWG. NO: AB1.1

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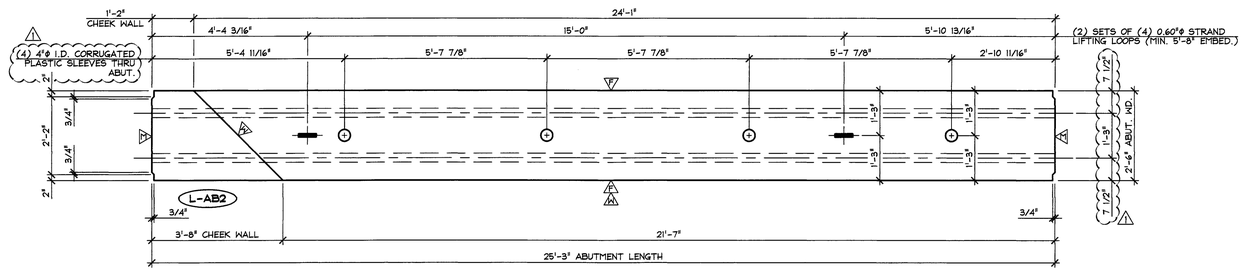
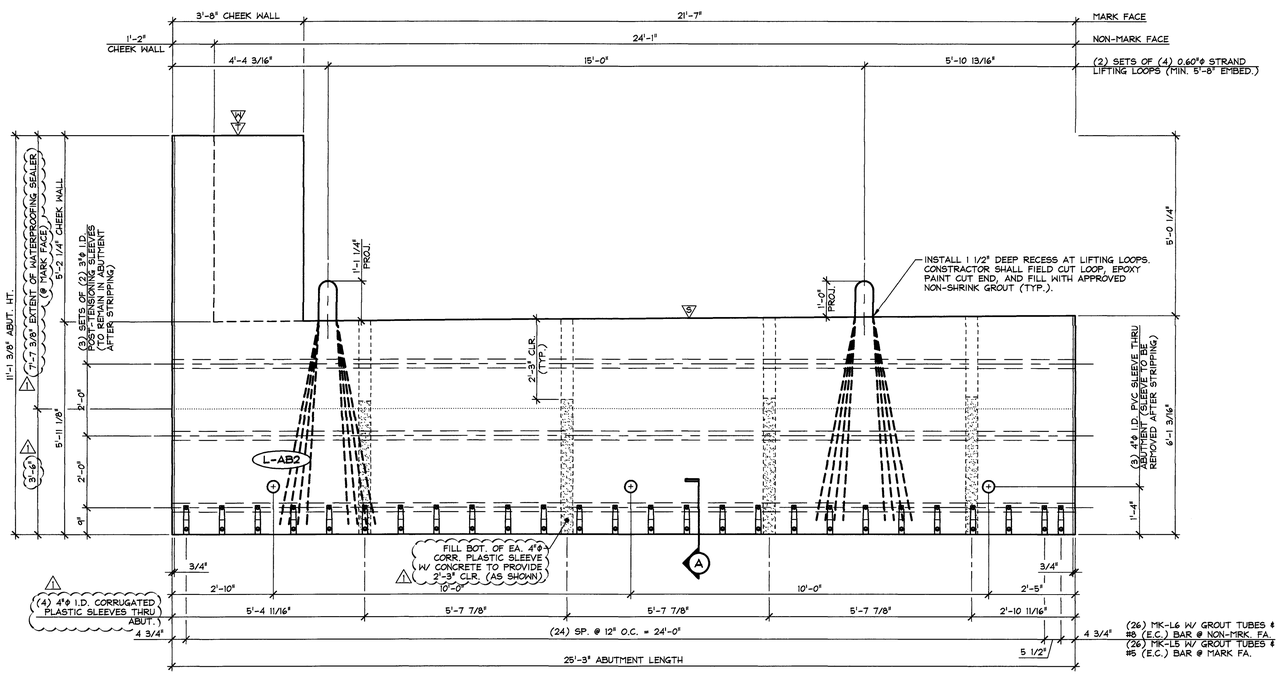


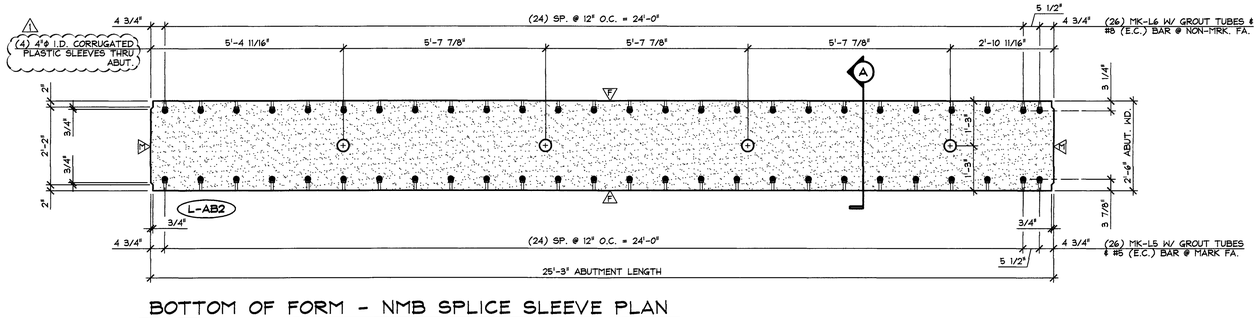
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



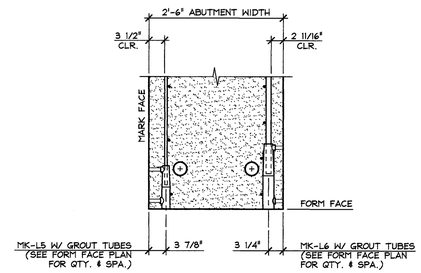
MARK FACE ELEVATION

1/2" = 1'-0"



BOTTOM OF FORM - NMB SPLICE SLEEVE PLAN

1/2" = 1'-0"



(A) SPLICE SLEEVE DETAIL

3/4" = 1'-0"

△5 DENOTES SMOOTH SCREED FINISH
△4 DENOTES (1) COAT WATERPROOF SEALER
△3 DENOTES FORM FINISH
△2 DENOTES ROUGHENED FINISH
△1 DENOTES STEEL TROWEL FINISH
△A DENOTES MATCH CAST

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AB2	QTY.: 1	WT.: 30.79 T	VOL.: 15.21 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	26
2	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	26
3			
4		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2
5			
6	△1	4"ϕ I.D. x 6'-1" CORRUGATED PLASTIC SLEEVE	4
7			
8			
9			
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST ABUTMENT
DIMENSIONAL DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: AB2

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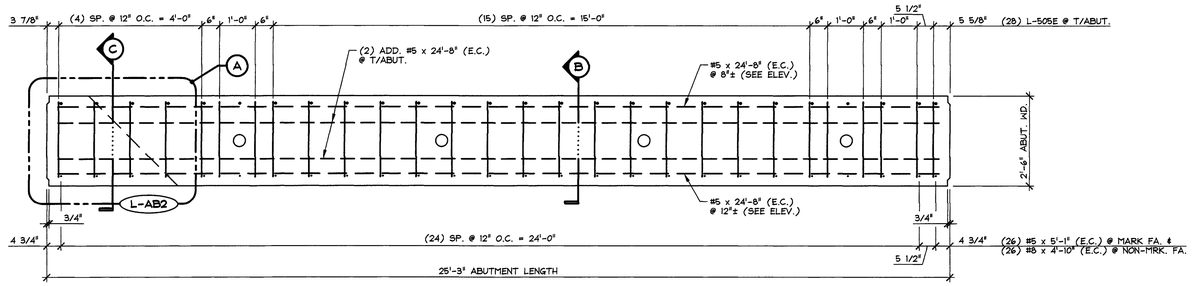
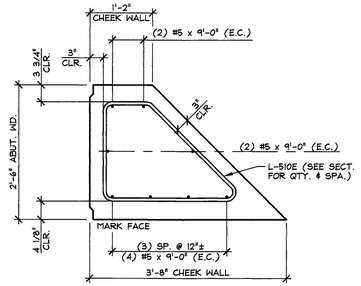


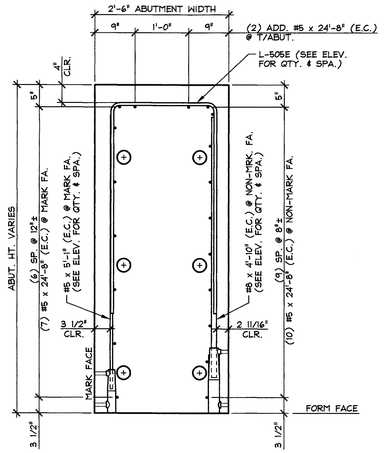
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



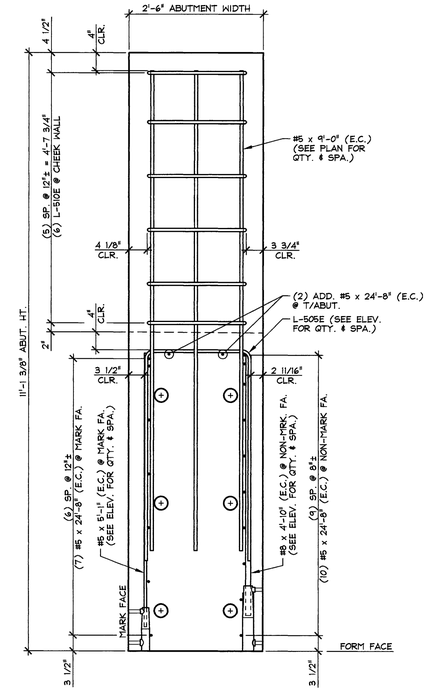
(A) CHEEK WALL REINF. PLAN

3/4" = 1'-0"



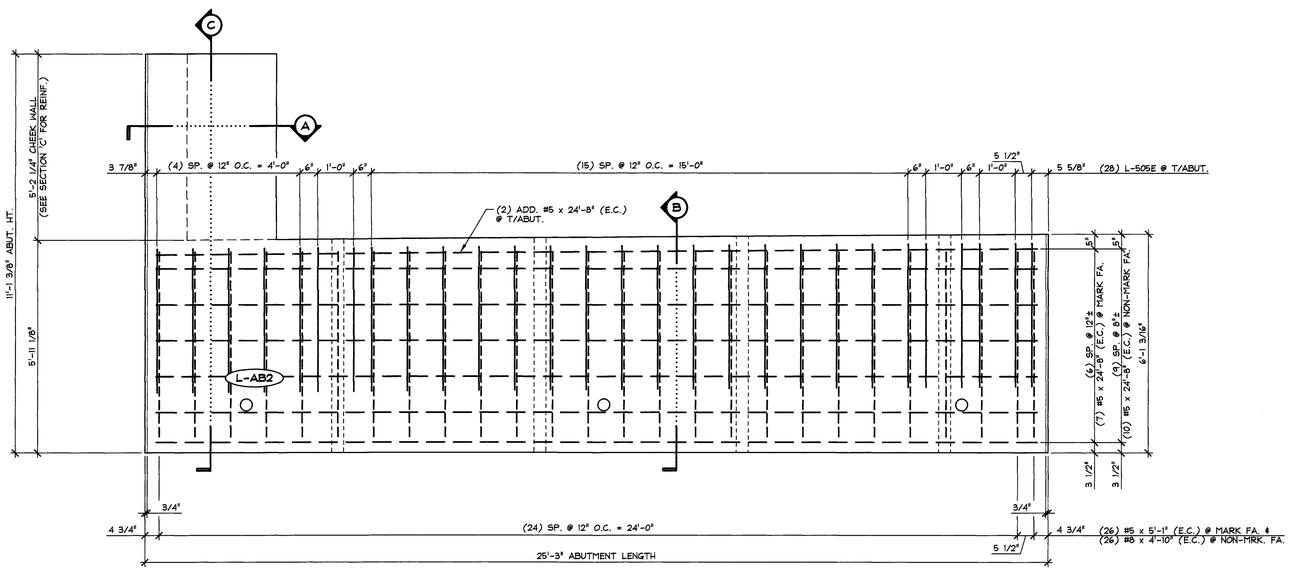
(B) REINFORCING SECTION

3/4" = 1'-0"



(C) REINFORCING SECTION

3/4" = 1'-0"



MARK FACE REINFORCING ELEVATION

1/2" = 1'-0"

MARK: L-AB2 | QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	L-505E	#5 BENT BAR (LEVEL I, EPOXY COATED)	28
2	L-510E	#5 BENT BAR (LEVEL I, EPOXY COATED)	6
3		#5 x 24'-8" (LEVEL I, EPOXY COATED)	19
4		#5 x 5'-1" (LEVEL I, EPOXY COATED)	26
5		#5 x 9'-0" (LEVEL I, EPOXY COATED)	8
6			
7		#8 x 4'-10" (LEVEL I, EPOXY COATED)	26
8			
9			
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST ABUTMENT
REINFORCING DETAILS

DWG. NO: AB2.1

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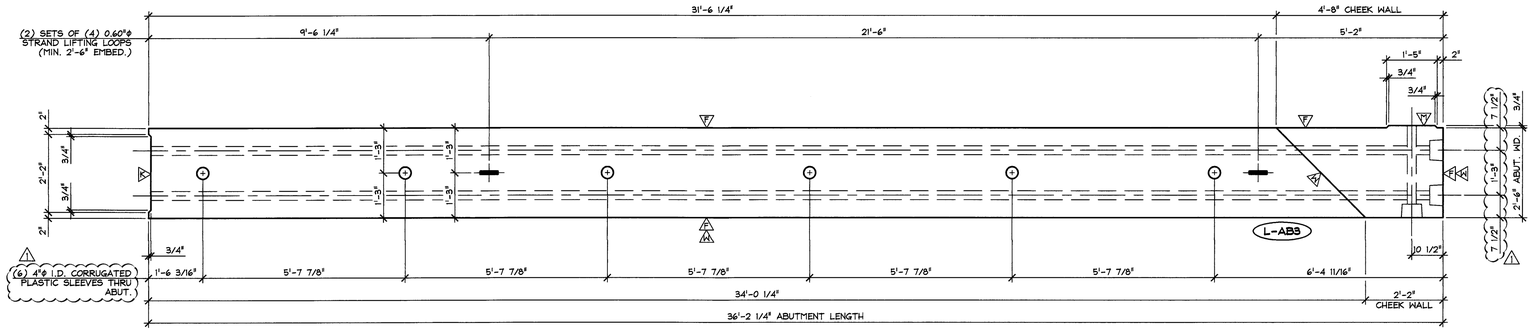
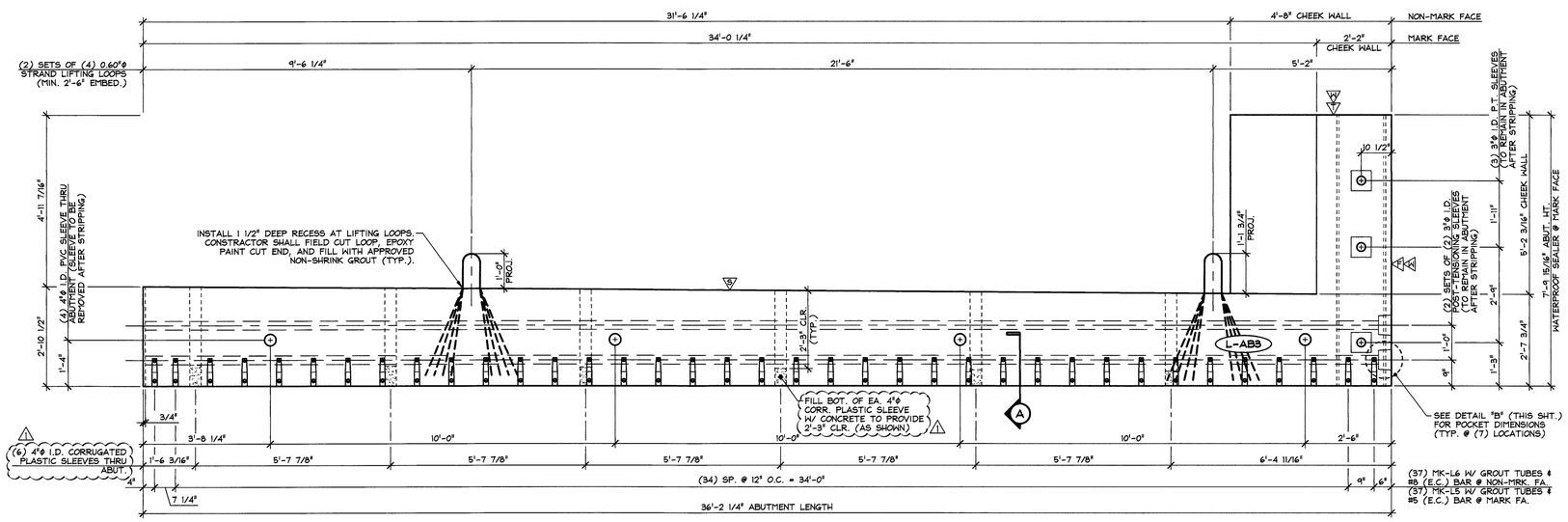


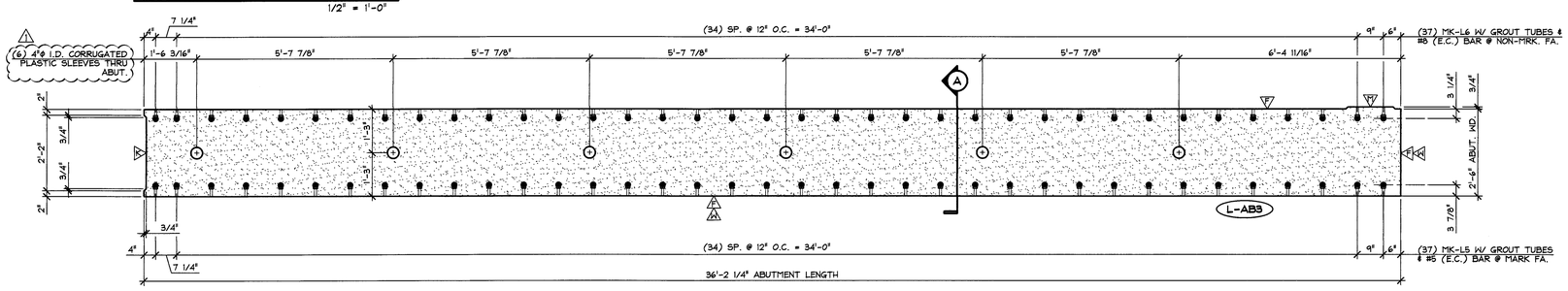
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



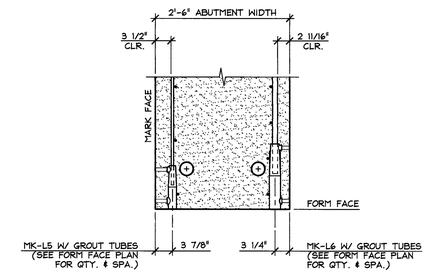
MARK FACE ELEVATION

1/2" = 1'-0"



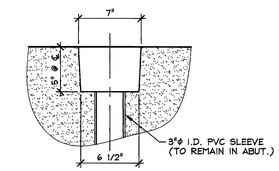
BOTTOM OF FORM - NMB SPLICE SLEEVE PLAN

1/2" = 1'-0"



A SPLICE SLEEVE DETAIL

3/4" = 1'-0"



B P.T. POCKET DETAIL

1 1/2" = 1'-0"

- (S) DENOTES SMOOTH SCREED FINISH
- (W) DENOTES (1) COAT WATERPROOF SEALER
- (F) DENOTES FORM FINISH
- (R) DENOTES ROUGHENED FINISH
- (T) DENOTES STEEL TROWEL FINISH
- (M) DENOTES MATCH CAST

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AB3	QTY.: 1	WT.: 22.05 T	VOL.: 10.89 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	37
2	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	37
3			
4		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2
5			
6	△1	4"ϕ I.D. x 2'-10 1/2" CORRUGATED PLASTIC SLEEVE	6
7			
8			
9			
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

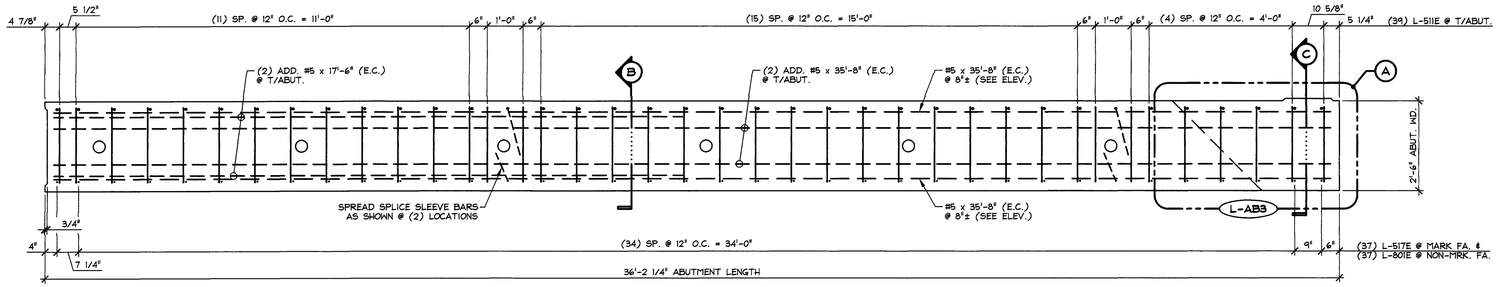
TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST ABUTMENT
DIMENSIONAL DETAILS

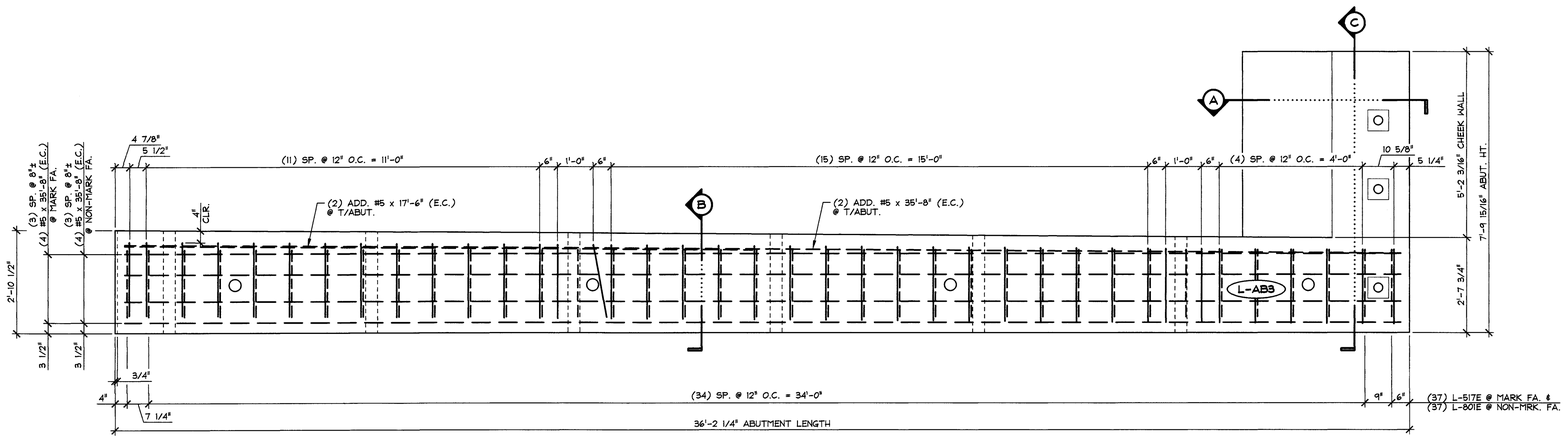
DWG. NO: AB3

F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-AB3.dwg, 4/28/2015 2:50:32 PM



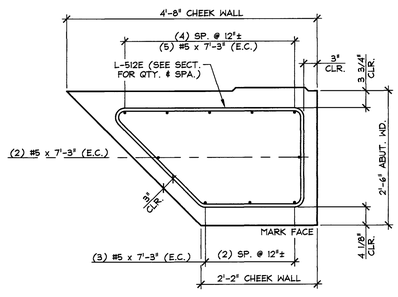
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



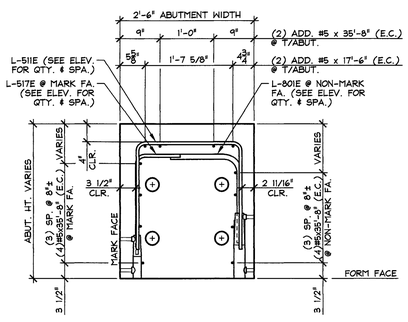
MARK FACE REINFORCING ELEVATION

1/2" = 1'-0"



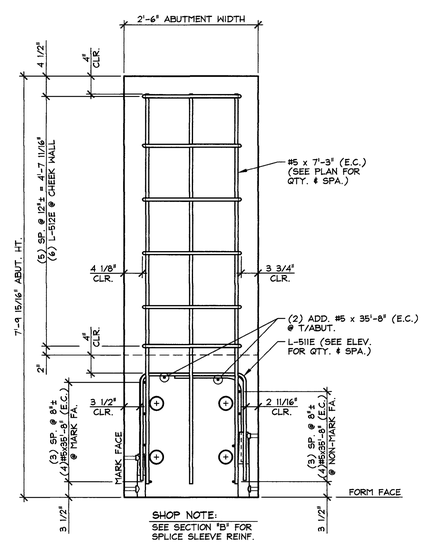
A CHEEK WALL REINF. PLAN

3/4" = 1'-0"



B REINFORCING SECTION

3/4" = 1'-0"



C REINFORCING SECTION

3/4" = 1'-0"

△1 4-27-15 GENERAL REVISIONS

MARK: L-AB3 | QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	L-511E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	39
2	L-512E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
3	L-517E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	37
4		#5 x 35'-8" (LEVEL 1, EPOXY COATED)	10
5		#5 x 7'-3" (LEVEL 1, EPOXY COATED)	10
6		#5 x 17'-6" (LEVEL 1, EPOXY COATED)	2
7			
8	L-801E	#8 BENT BAR (LEVEL 1, EPOXY COATED)	37
9			
10			

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST ABUTMENT
REINFORCING DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: AB3.1

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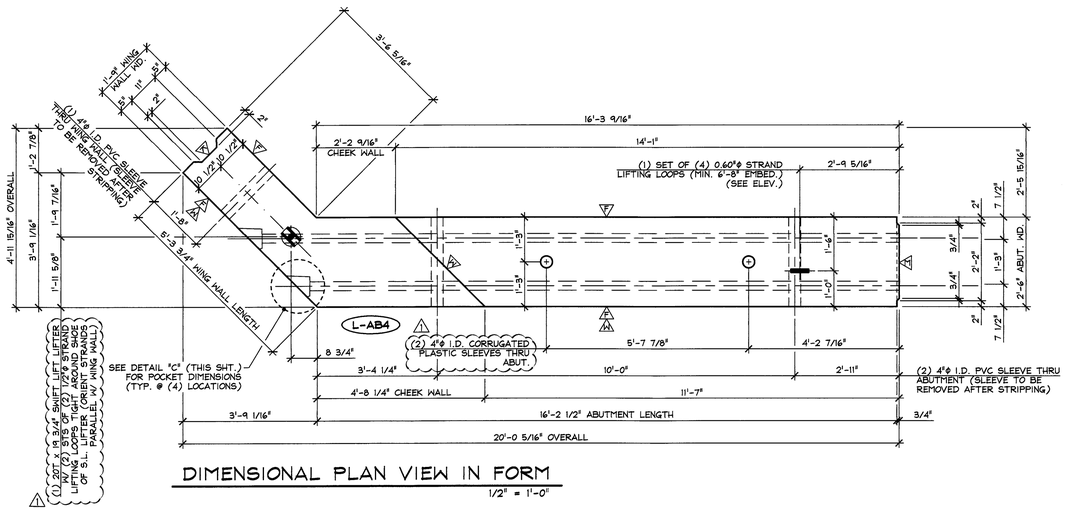
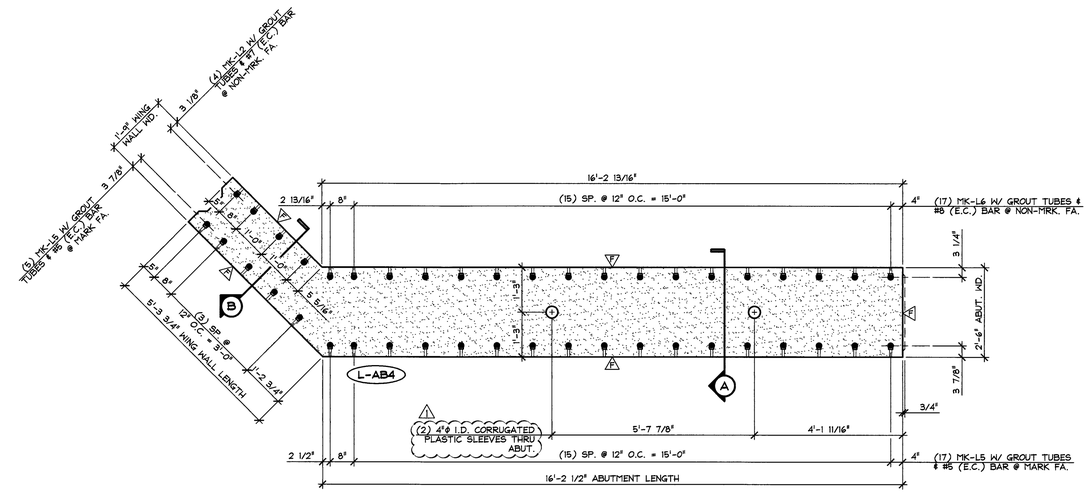


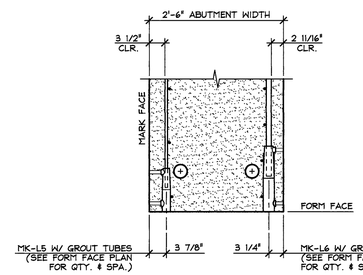
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



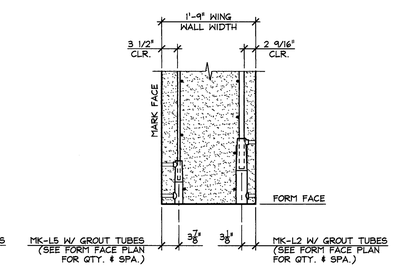
BOTTOM OF FORM - NMB SPLICE SLEEVE PLAN

1/2" = 1'-0"



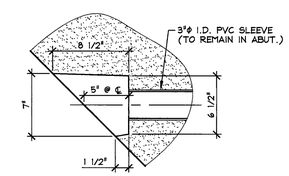
A SPLICE SLEEVE DETAIL

3/4" = 1'-0"



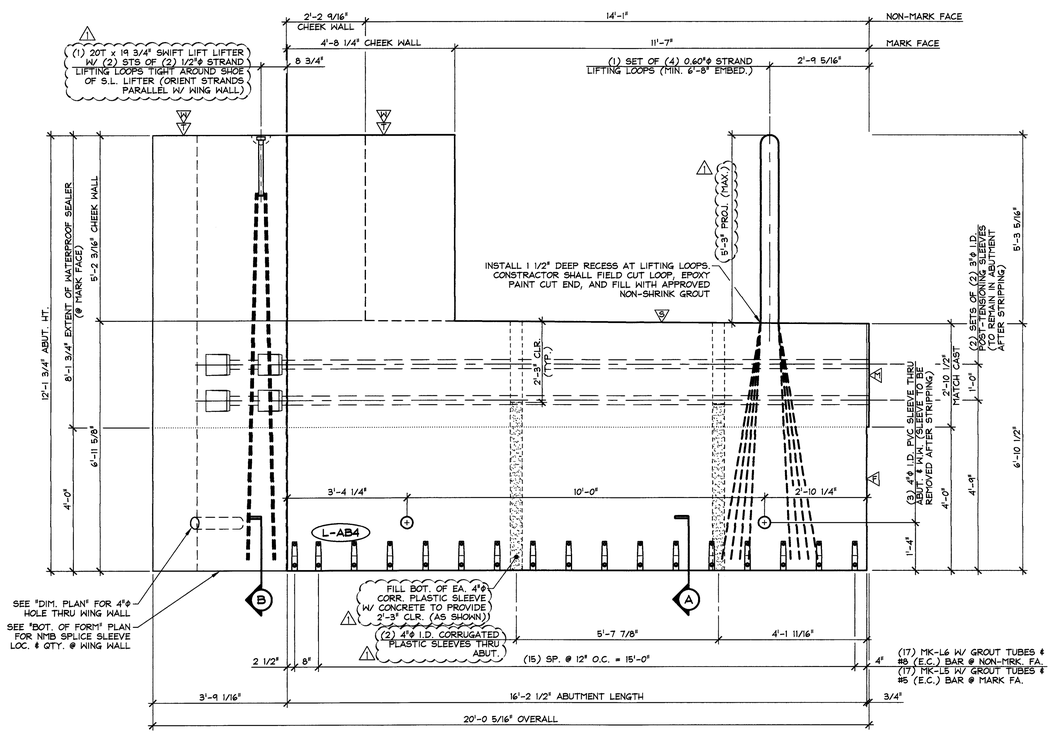
B SPLICE SLEEVE DETAIL

3/4" = 1'-0"



C P.T. POCKET DETAIL

1 1/2" = 1'-0"



MARK FACE ELEVATION

1/2" = 1'-0"

△ DENOTES ROUGHENED FINISH
△ DENOTES STEEL TROWEL FINISH
△ DENOTES MATCH CAST
△ DENOTES SMOOTH SCREED FINISH
△ DENOTES (1) COAT WATERPROOF SEALER
△ DENOTES FORM FINISH

△ SHOP NOTE:
f'c = 5,000 PSI
f'ci = 5,000 PSI
MIX #445MSCC

MARK: L-AB4	QTY.: 1	WT.: 31.38 T	VOL.: 15.50 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L2	NMB SPLICE SLEEVE 7U-X(PG) (EPOXY COATED)	4
2	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	22
3	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	17
4			
5		20T x 19 3/4" SWIFT LIFT LIFTER (GALV.)	1
6		SET OF (2) 1/2"ϕ STRAND LIFTING LOOPS	2
7		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	1
8			
9	△1	4"ϕ I.D. x 6'-11" CORRUGATED PLASTIC SLEEVE	2
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST ABUTMENT
DIMENSIONAL DETAILS

DWG. NO: AB4

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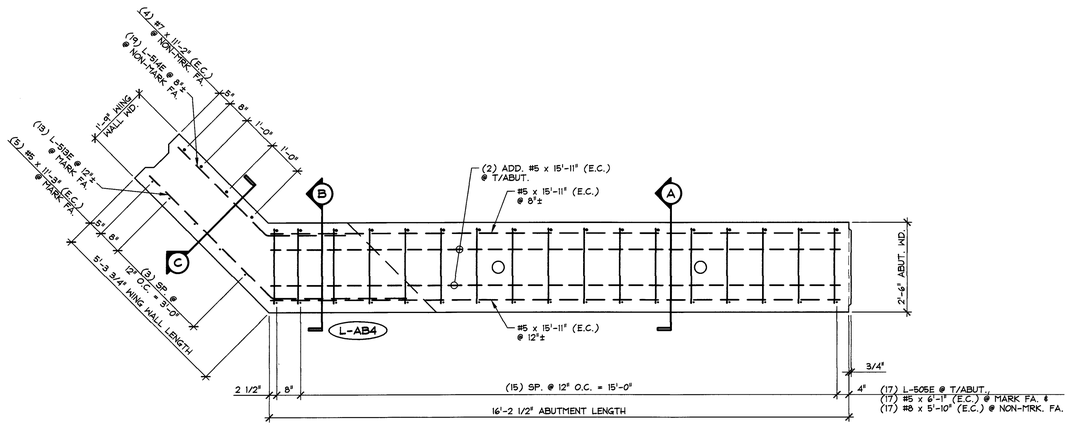
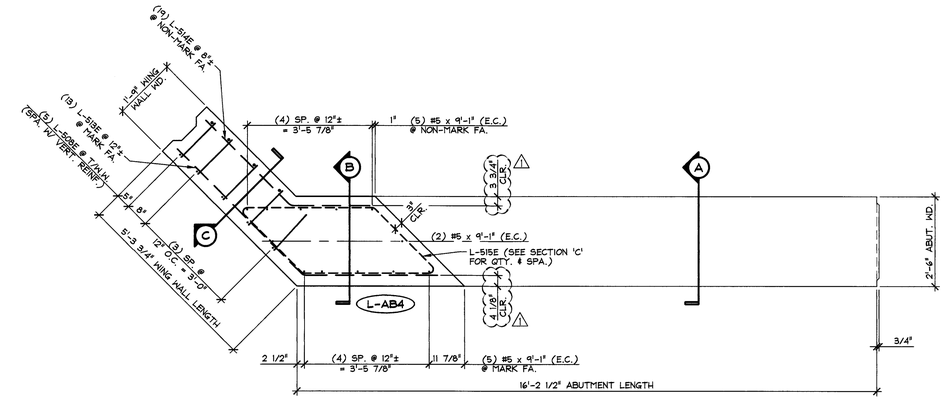


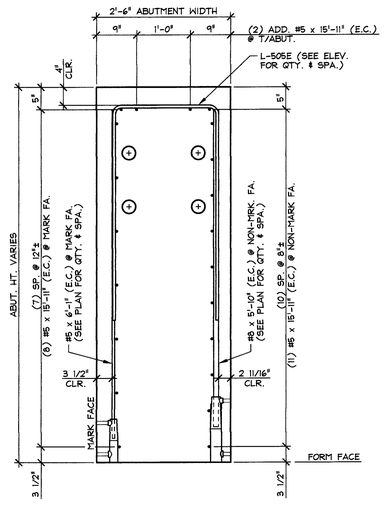
REINFORCING PLAN VIEW IN FORM

ABUTMENT & WING WALL 1/2" = 1'-0"



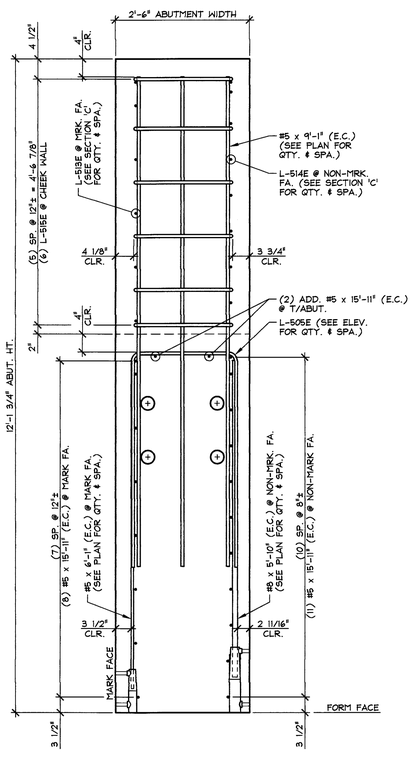
REINFORCING PLAN VIEW IN FORM

CHEEK WALL & WING WALL 1/2" = 1'-0"



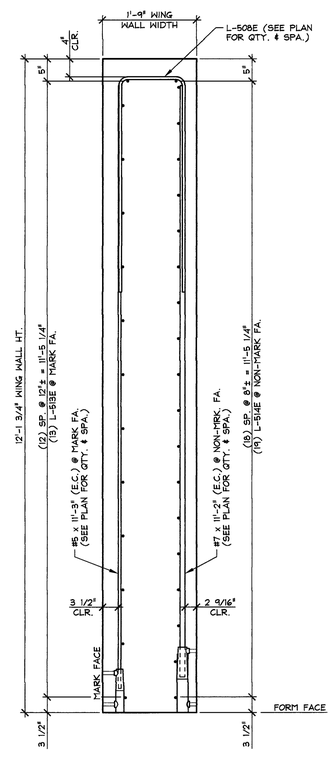
A REINFORCING SECTION

ABUTMENT 3/4" = 1'-0"



B REINFORCING SECTION

ABUTMENT & CHEEK WALL 3/4" = 1'-0"



C REINFORCING SECTION

WING WALL 3/4" = 1'-0"

MARK: L-AB4 QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	L-505E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	17
2	L-508E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	5
3	L-513E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	13
4	L-514E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	19
5	L-515E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
6		#5 x 15'-11" (LEVEL 1, EPOXY COATED)	21
7		#5 x 6'-1" (LEVEL 1, EPOXY COATED)	17
8		#5 x 11'-3" (LEVEL 1, EPOXY COATED)	5
9		#5 x 9'-1" (LEVEL 1, EPOXY COATED)	12
10			
11		#7 x 11'-2" (LEVEL 1, EPOXY COATED)	4
12			
13		#8 x 5'-10" (LEVEL 1, EPOXY COATED)	17
14			
15			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST ABUTMENT
REINFORCING DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: AB4.1

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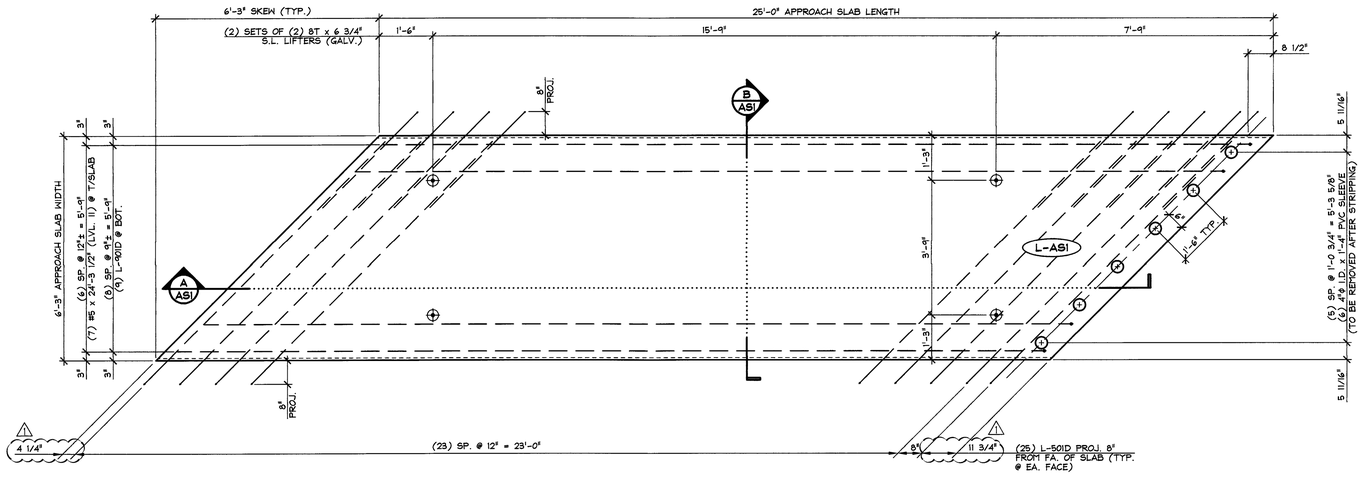
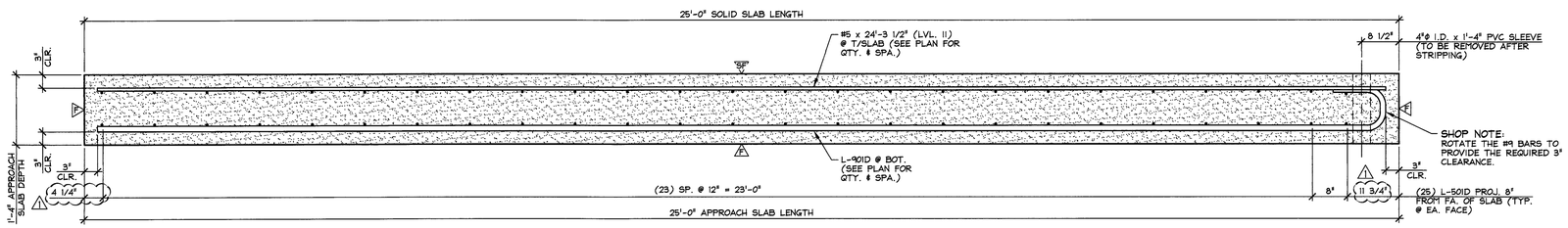


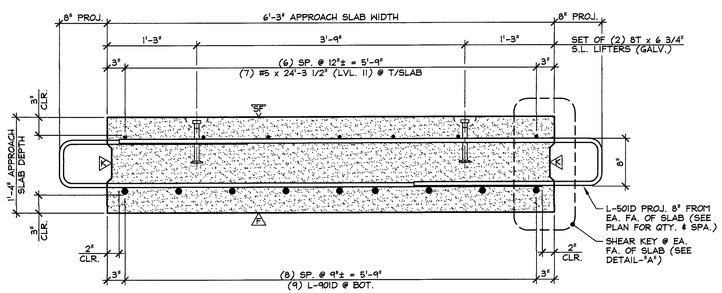
1 / AS1 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



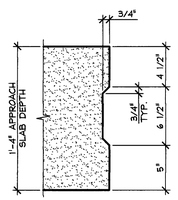
A / AS1 LONGITUDINAL SECTION

3/4" = 1'-0"



B / AS1 LONGITUDINAL SECTION

1" = 1'-0"



DETAIL - "A"

1 1/2" = 1'-0"

△A DENOTES FORM FINISH

△B DENOTES SMOOTH FLOAT FINISH

△C DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AS1	QTY.: 2	WT.: 15.52 T	VOL.: 7.66 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	L-501D	#5 BENT BAR (LEVEL II, DUAL COATED)	50
2		#5 x 24'-3 1/2" (LEVEL II, DUAL COATED)	7
3			
4			
5	L-901D	#9 BENT BAR (LEVEL II, DUAL COATED)	9
6			
7			
8		4"ϕ I.D. x 1'-4" PVC SLEEVE	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST APPROACH SLAB DETAILS

DWG. NO: AS1

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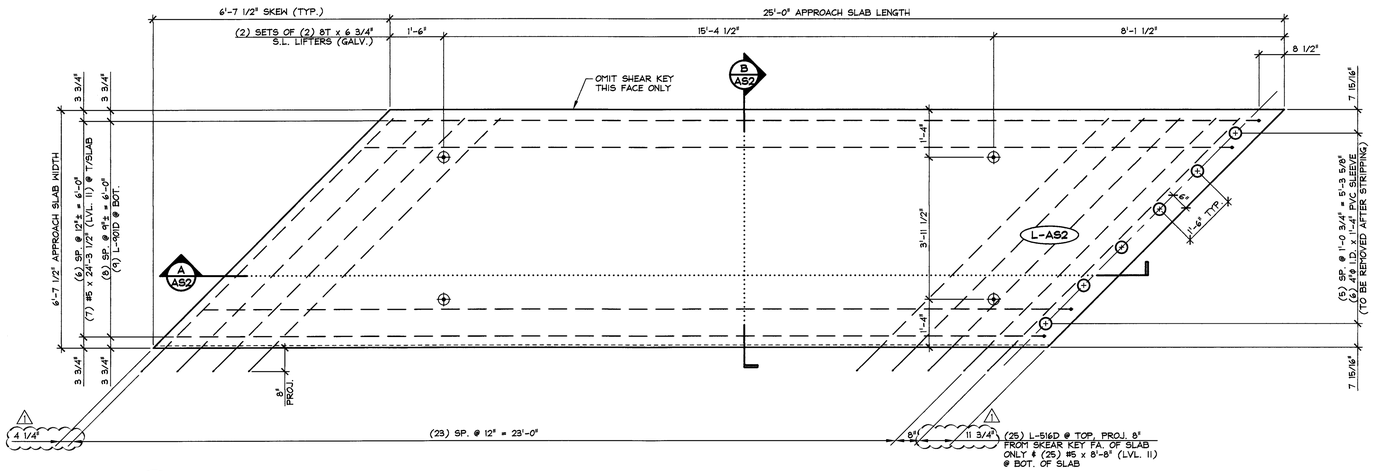
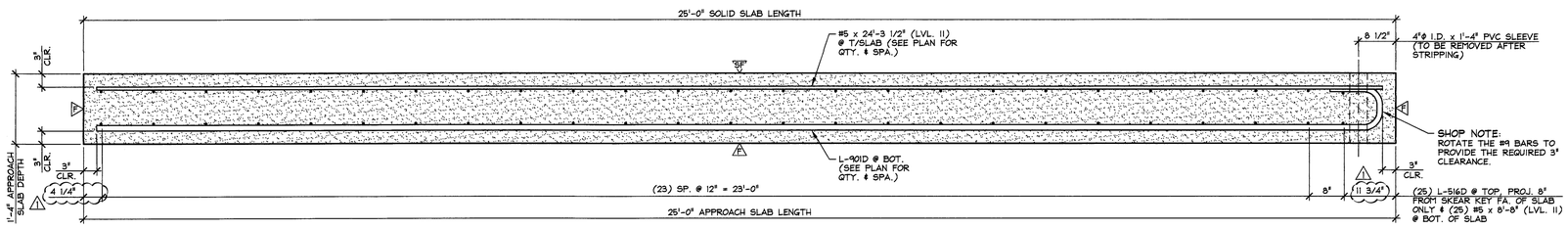


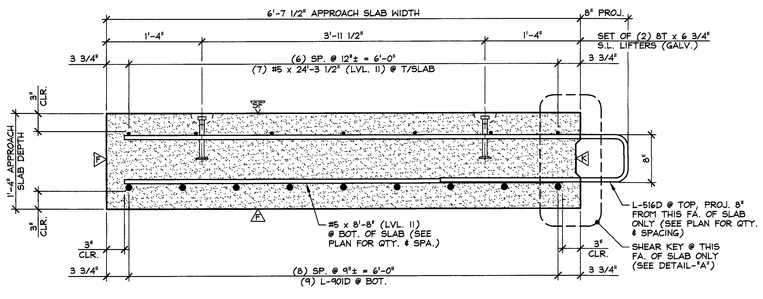
1 / AS2 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



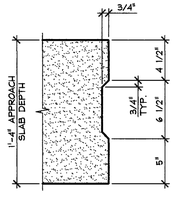
A / AS2 LONGITUDINAL SECTION

3/4" = 1'-0"



B / AS2 LONGITUDINAL SECTION

1" = 1'-0"



DETAIL - "A"

1 1/2" = 1'-0"

DENOTES FORM FINISH

DENOTES SMOOTH FLOAT FINISH

DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AS2	QTY.: 2	WT.: 16.51 T	VOL.: 8.15 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	L-516D	#5 BENT BAR (LEVEL II, DUAL COATED)	25
2		#5 x 8'-8" (LEVEL II, DUAL COATED)	25
3		#5 x 24'-3 1/2" (LEVEL II, DUAL COATED)	7
4			
5	L-901D	#9 BENT BAR (LEVEL II, DUAL COATED)	9
6			
7			
8		4"ø I.D. x 1'-4" PVC SLEEVE	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
10			

1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST APPROACH SLAB DETAILS

DWG. NO: AS2

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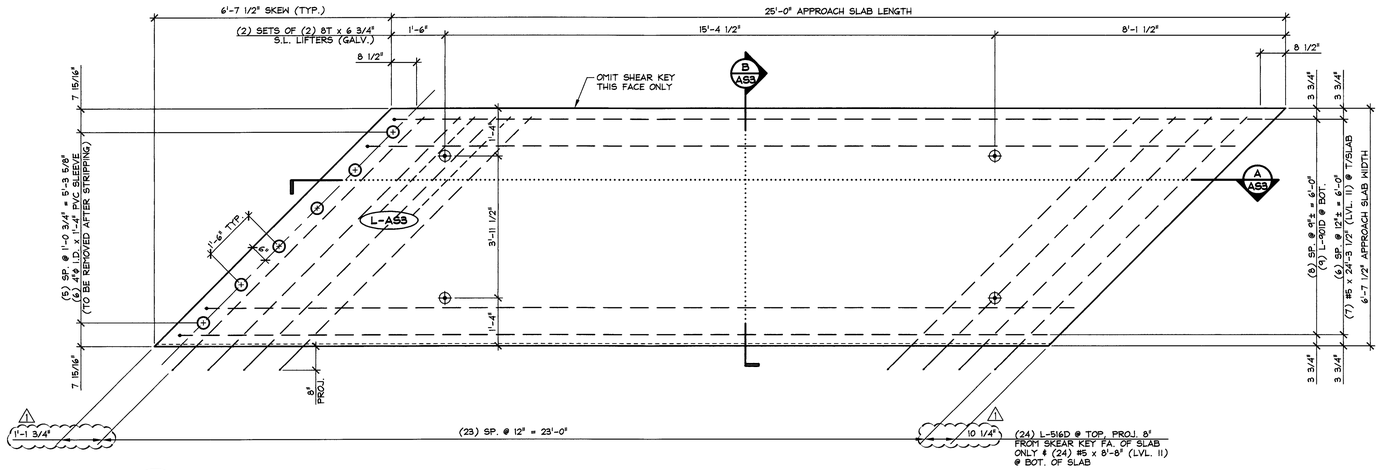
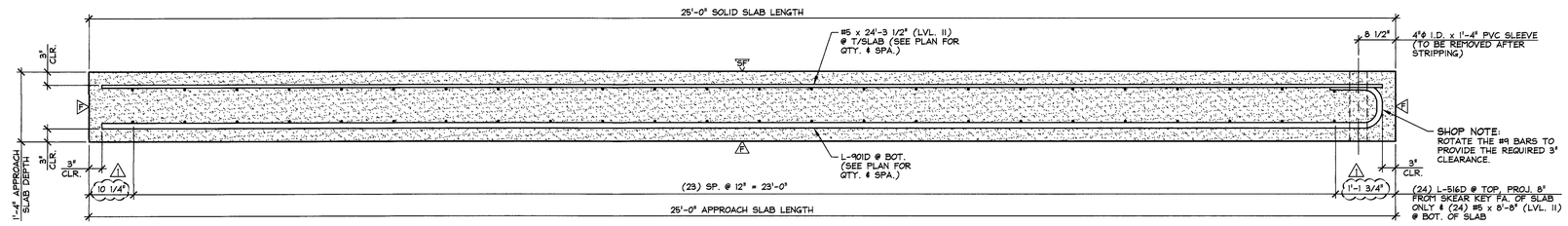


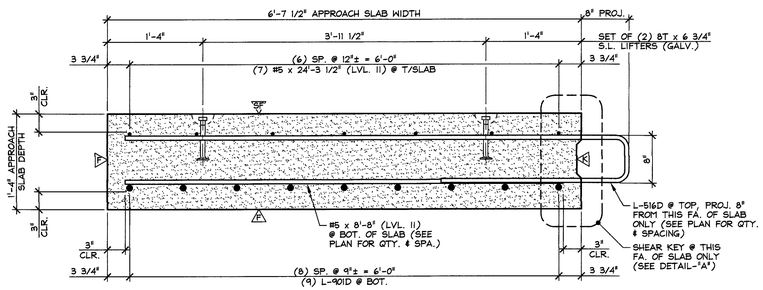
1 / AS3 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



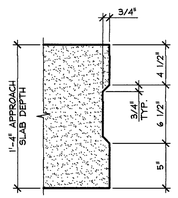
A / AS3 LONGITUDINAL SECTION

3/4" = 1'-0"



B / AS3 LONGITUDINAL SECTION

1" = 1'-0"



DETAIL - "A"

1 1/2" = 1'-0"

△A DENOTES FORM FINISH

△B DENOTES SMOOTH FLOAT FINISH

△C DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445M15CC

MARK: L-AS3	QTY.: 2	WT.: 16.51 T	VOL.: 8.15 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	L-516D	#5 BENT BAR (LEVEL II, DUAL COATED)	24
2		#5 x 8'-8" (LEVEL II, DUAL COATED)	24
3		#5 x 24'-3 1/2" (LEVEL II, DUAL COATED)	7
4			
5	L-901D	#9 BENT BAR (LEVEL II, DUAL COATED)	9
6			
7			
8		4"ϕ I.D. x 1'-4" PVC SLEEVE	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
10			

△1 4-27-15 GENERAL REVISIONS

APPROVAL STAMP:

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

J.A. McDONALD, INC.
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST APPROACH SLAB DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: AS3

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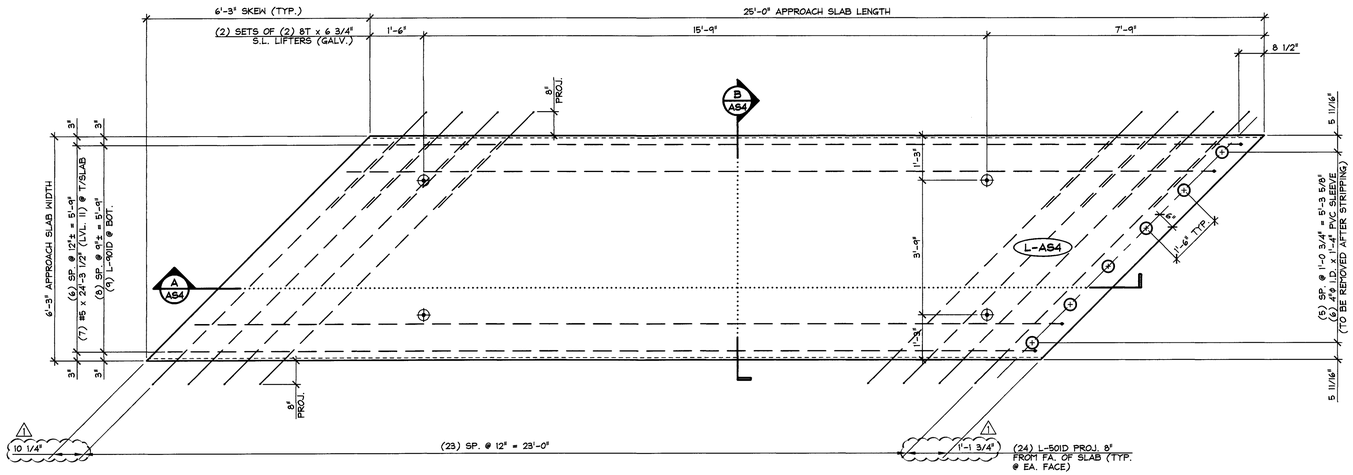
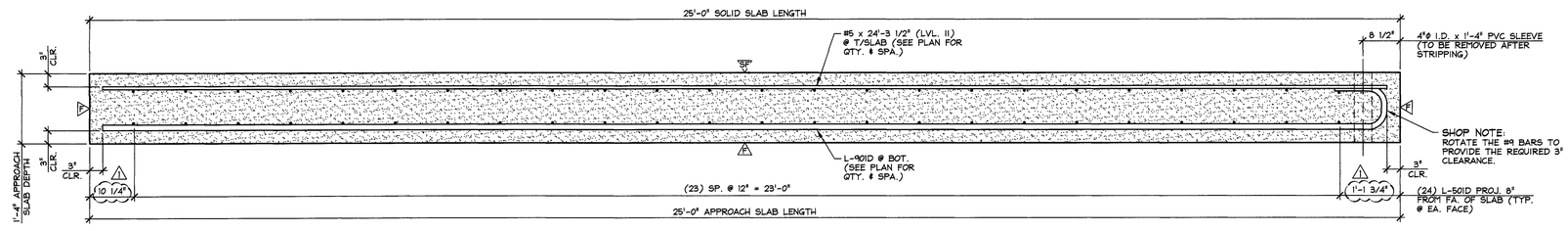


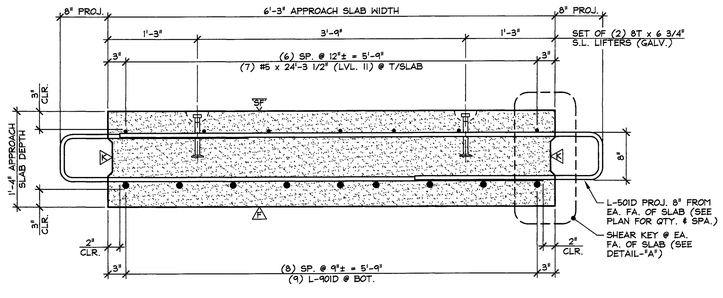
1 / AS4 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



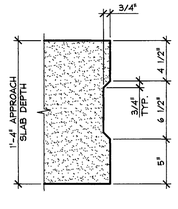
A / AS4 LONGITUDINAL SECTION

3/4" = 1'-0"



B / AS4 LONGITUDINAL SECTION

1" = 1'-0"



DETAIL - "A"

1 1/2" = 1'-0"

△ DENOTES FORM FINISH

△ DENOTES SMOOTH FLOAT FINISH

△ DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-AS4	QTY.: 2	WT.: 15.52 T	VOL.: 7.66 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	L-50ID	#5 BENT BAR (LEVEL II, DUAL COATED)	48
2		#5 x 24'-3 1/2" (LEVEL II, DUAL COATED)	7
3			
4			
5	L-90ID	#9 BENT BAR (LEVEL II, DUAL COATED)	9
6			
7			
8		4"ϕ I.D. x 1'-4" PVC SLEEVE	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST APPROACH SLAB DETAILS

DWG. NO: AS4

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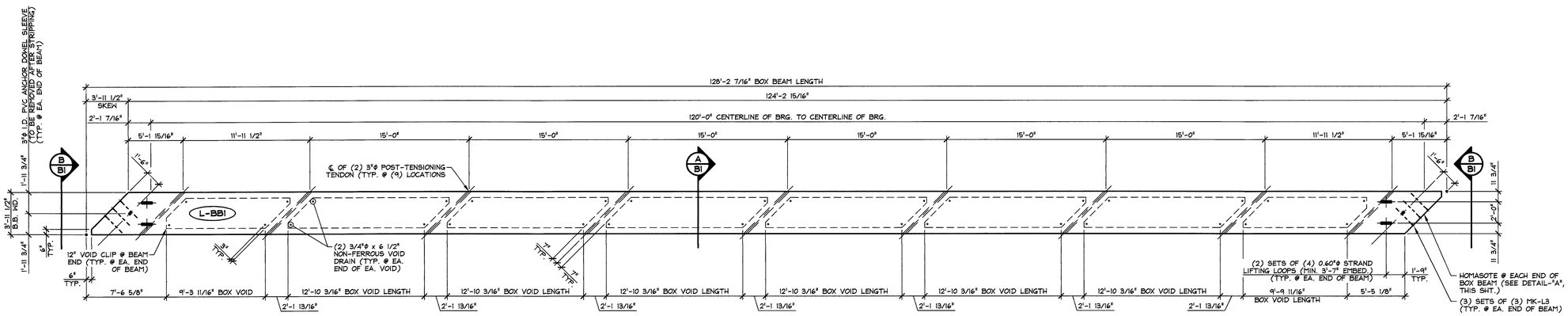
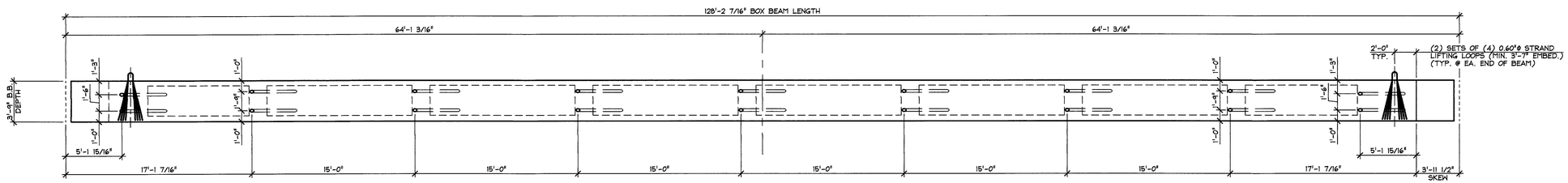


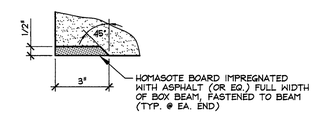
1/B1 DIMENSIONAL PLAN VIEW IN FORM

3/16" = 1'-0"



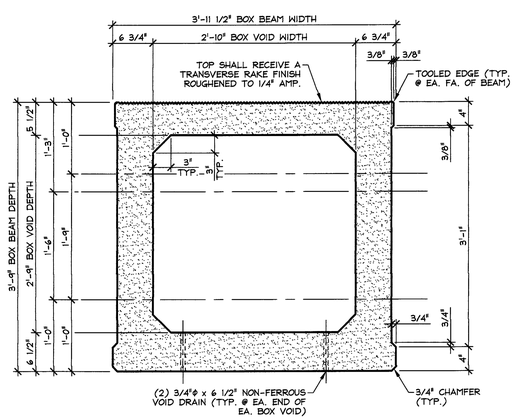
2/B1 DIMENSIONAL ELEVATION

3/16" = 1'-0"



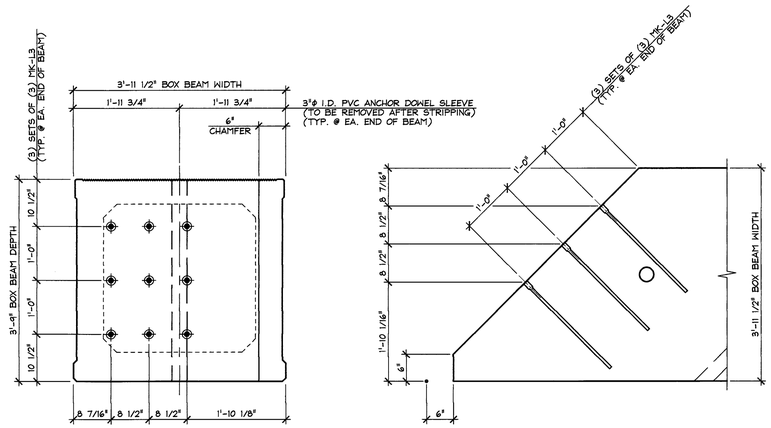
DETAIL - "A"

3" = 1'-0"



A/B1 DIMENSIONAL SECTION

1" = 1'-0"



END ELEVATION

PLAN VIEW

B/B1 BEAM END DETAILS

3/4" = 1'-0"

SHOP NOTE:
f'c = 8,000 PSI
f'ci = 6,000 PSI
MIX #426M (NO DCI)

MARK: L-BB1	QTY.: 6	WT.: 76.64 T	VOL.: 37.84 cy

MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1			
2			
3	MK-L3	DAYTON #5 x 2'-3" D-101-A STRAIGHT DOWEL BAR SPLICER (STAINLESS STEEL CLAD)	18
4			
5			
6		3/4"ϕ x 6 1/2" NON-FERROUS VOID DRAIN	32
7		2'-10" x 2'-9" x 9'-9 11/16" BOX VOID	2
8		2'-10" x 2'-9" x 12'-10 3/16" BOX VOID	6
9		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	4
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

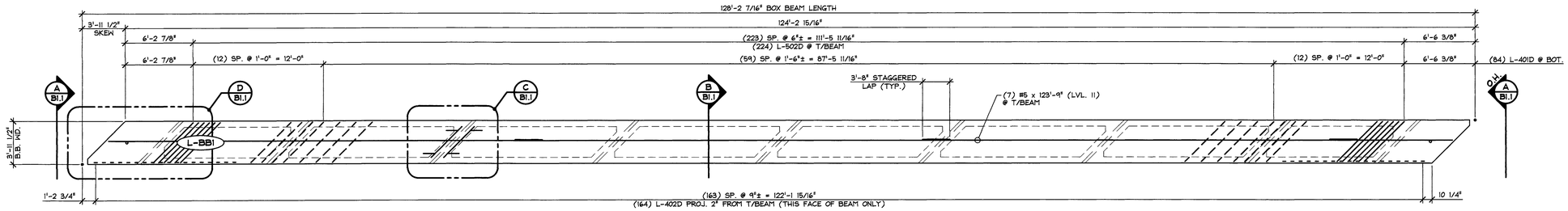
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM
DIMENSIONAL DETAILS

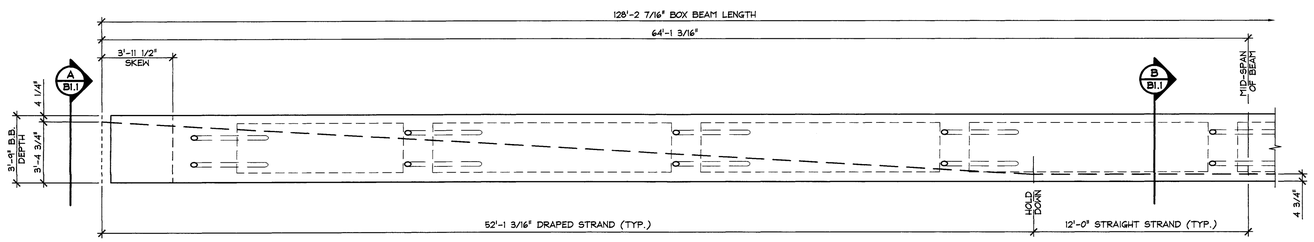
DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: B1

F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-B1.dwg, 4/28/2015 3:30:03 PM



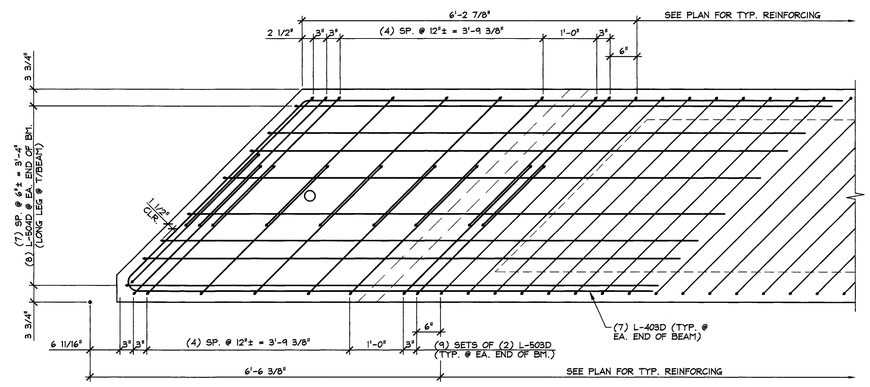
1 / B1.1 DIMENSIONAL PLAN VIEW IN FORM

3/16" = 1'-0"



2 / B1.1 PARTAIL DRAPED STRAND ELEVATION

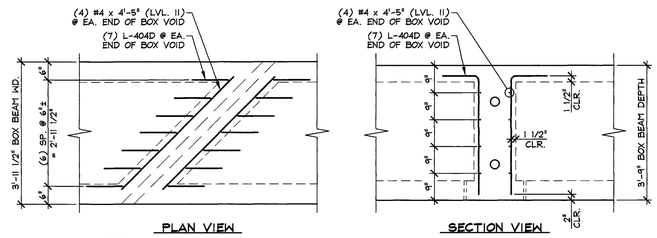
1/4" = 1'-0"



D / B1.1 END BLOCK REINFORCING PLAN

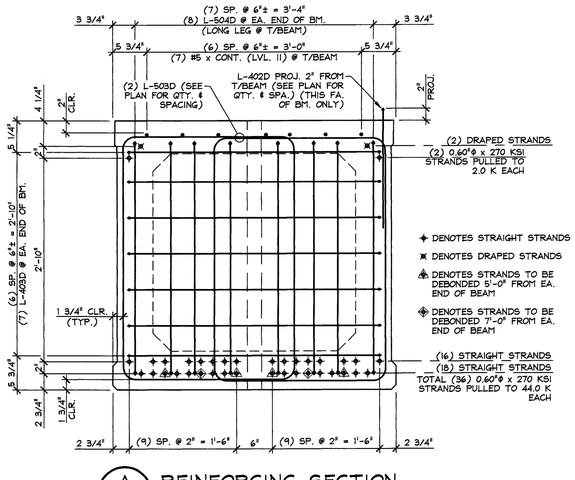
LONGITUDINAL REINFORCING & COMPOSITE REINFORCING NOT SHOWN FOR CLARITY

3/4" = 1'-0"



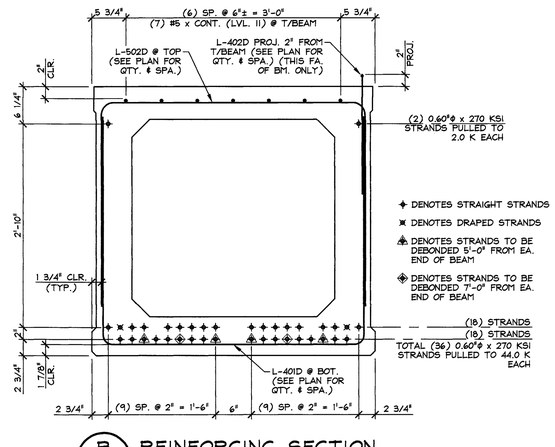
C / B1.1 DIAPHRAGM REINFORCING DETAILS

1/2" = 1'-0"



A / B1.1 REINFORCING SECTION @ BEAM END

1" = 1'-0"



B / B1.1 REINFORCING SECTION @ MID-SPAN

1" = 1'-0"

1. DETENSION STRANDS 1 THRU 4 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
2. DETENSION DRAPED STRANDS 5 AND 6 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
3. RELEASE HOLD DOWN PINS BY CUTTING COIL ROD JUST ABOVE "RABBIT".
4. DETENSION STRANDS 7 THRU 38 (IN SEQUENCE) BY CUTTING STRANDS AT BULK HEADS AND IN BETWEEN BEAMS.
5. CUTTING OF STRANDS IS ACCOMPLISHED BY GRADUALLY HEATING STRANDS AND THEN BURNING THROUGH THEM USING A TORCH.

DETENSIONING SCHEDULE

N.T.S.

MARK: L-BB1 | QTY.: 6

MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	L-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	84
2	L-402D	#4 HAIRPIN (LEVEL II, DUAL COATED)	164
3	L-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	14
4	L-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	112
5		#4 x 4'-5" (LEVEL II, DUAL COATED)	64
6			
7			
8			
9	L-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	224
10	L-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	36
11	L-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	16
12		#5 x 123'-9" (LEVEL II, DUAL COATED) W/ (3) 3'-8" STAG. LAPS	7
13			
14			
15			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRESTRESSED BOX BEAM
REINFORCING DETAILS

DWG. NO: B1.1

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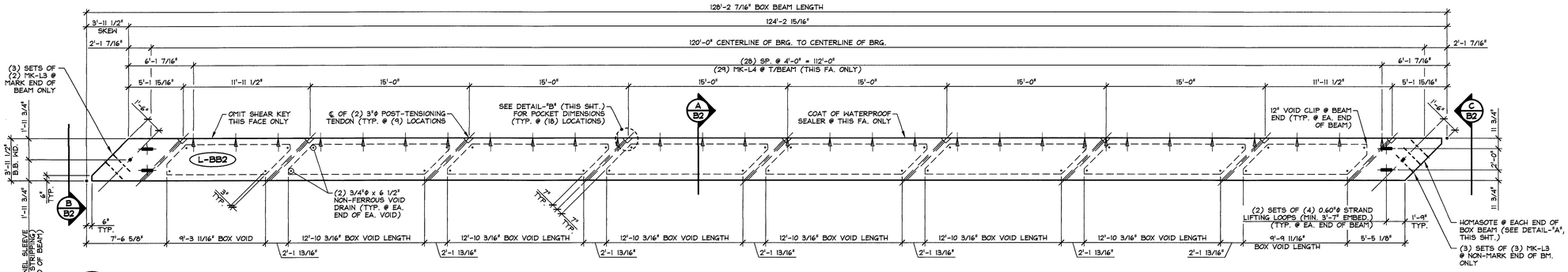
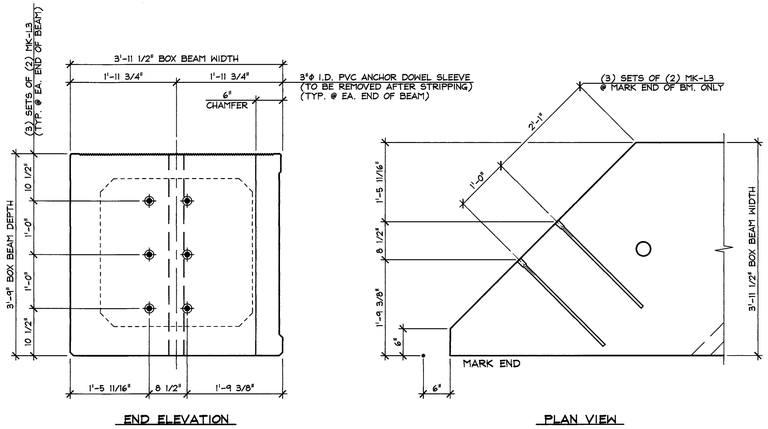


1/B2 DIMENSIONAL PLAN VIEW IN FORM

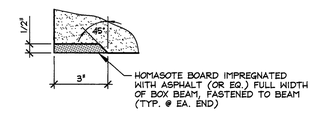
3/16" = 1'-0"

SHOP NOTE:
SEE "2/B1" FOR BEAM ELEVATION FOR POST-TENSIONING TENDON VERTIAL LOCATIONS.



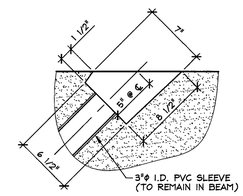
B/B2 BEAM END DETAILS

3/4" = 1'-0"



DETAIL - "A"

3" = 1'-0"



DETAIL - "B"

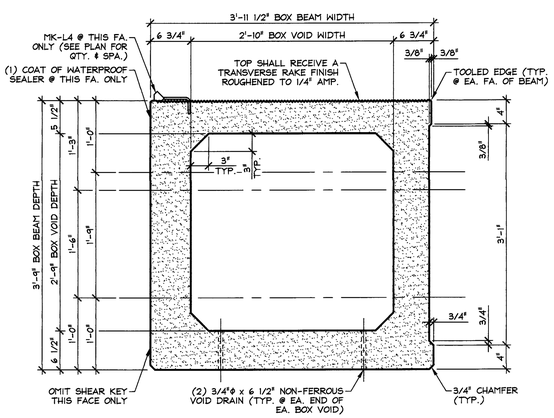
1 1/2" = 1'-0"

SHOP NOTE:
F'c = 8,000 PSI
F'ci = 6,000 PSI
MIX #426M (NO DCI)

MARK: L-BB2	QTY.: 1	WT.: 78.51 T	VOL.: 38.77 cy

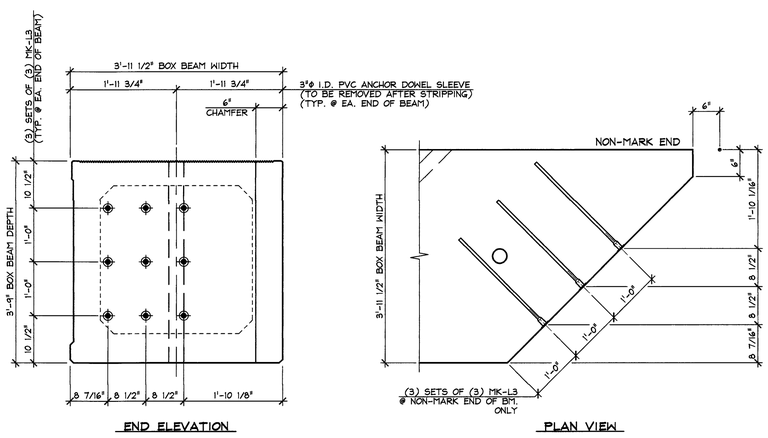
MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1			
2			
3	MK-L3	DAYTON #5 x 2'-3" D-101-A STRAIGHT DOWEL BAR SPLICER (STAINLESS STEEL CLAD)	15
4	MK-L4	DAYTON C-24 TYPE 4-APR DECK FORM HANGER (GALV.)	29
5			
6		3/4"ϕ x 6 1/2" NON-FERROUS VOID DRAIN	32
7		2'-10" x 2'-9" x 9'-9 11/16" BOX VOID	2
8		2'-10" x 2'-9" x 12'-10 3/16" BOX VOID	6
9		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	4
10			



A/B2 DIMENSIONAL SECTION

1" = 1'-0"



C/B2 BEAM END DETAILS

3/4" = 1'-0"

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM
DIMENSIONAL DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: B2

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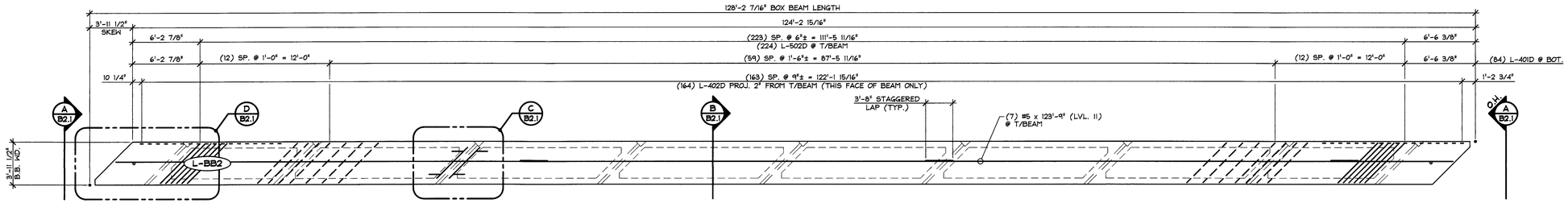
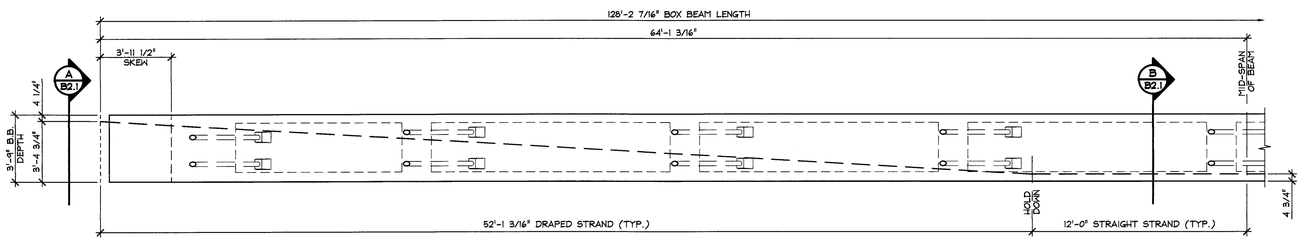


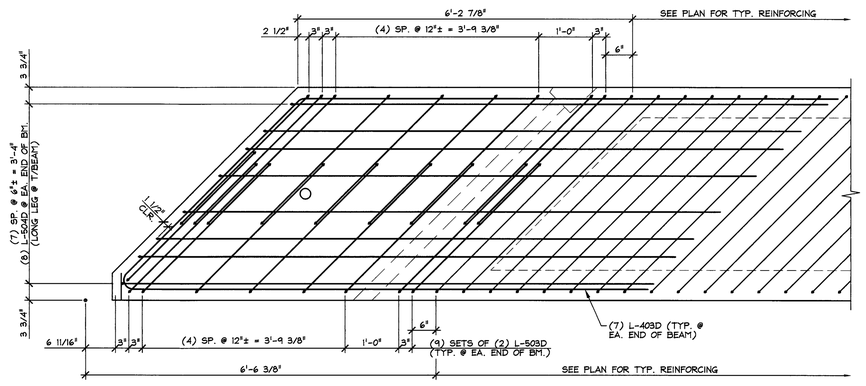
1 B2.1 DIMENSIONAL PLAN VIEW IN FORM

3/16" = 1'-0"



2 B2.1 PARTAIL DRAPED STRAND ELEVATION

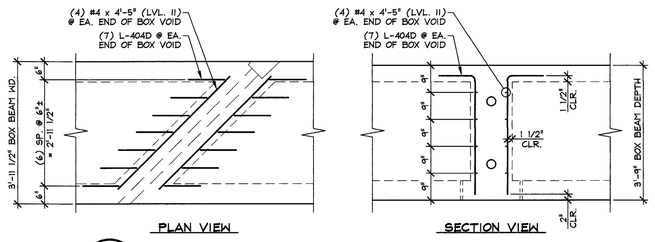
1/4" = 1'-0"



D B2.1 END BLOCK REINFORCING PLAN

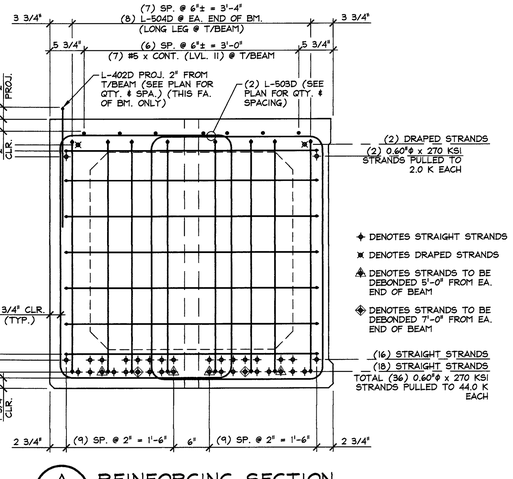
LONGITUDINAL REINFORCING & COMPOSITE REINFORCING NOT SHOWN FOR CLARITY

3/4" = 1'-0"



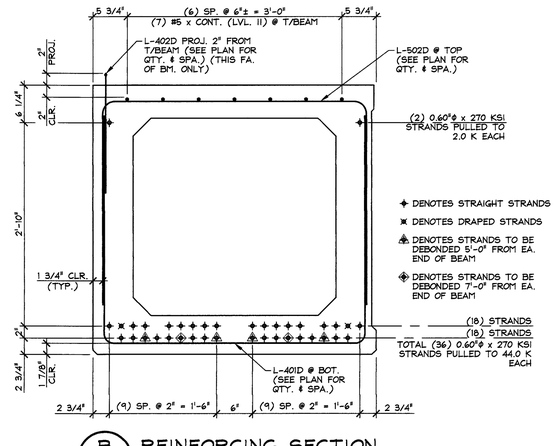
C B2.1 DIAPHRAGM REINFORCING DETAILS

1/2" = 1'-0"



A B2.1 REINFORCING SECTION @ BEAM END

1" = 1'-0"



B B2.1 REINFORCING SECTION @ MID-SPAN

1" = 1'-0"

1. DETENSION STRANDS 1 THRU 4 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
2. DETENSION DRAPED STRANDS 5 AND 6 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
3. RELEASE HOLD DOWN PINS BY CUTTING COIL ROD JUST ABOVE "RABBIT".
4. DETENSION STRANDS 7 THRU 38 (IN SEQUENCE) BY CUTTING STRANDS AT BULK HEADS AND IN BETWEEN BEAMS.
5. CUTTING OF STRANDS IS ACCOMPLISHED BY GRADUALLY HEATING STRANDS AND THEN BURNING THROUGH THEM USING A TORCH.

DETENSIONING SCHEDULE

N.T.S.

MARK: L-BB2 | QTY.: 1

MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	L-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	84
2	L-402D	#4 HAIRPIN (LEVEL II, DUAL COATED)	164
3	L-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	14
4	L-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	112
5		#4 x 4'-5" (LEVEL II, DUAL COATED)	64
6			
7			
8			
9	L-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	224
10	L-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	36
11	L-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	16
12		#5 x 123'-9" (LEVEL II, DUAL COATED) W/ (3) 3'-8" STAG. LAPS	7
13			
14			
15			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. | DFTM: B.L.
JOB NO: 23459-015

PRESTRESSED BOX BEAM
REINFORCING DETAILS

DWG. NO: B2.1

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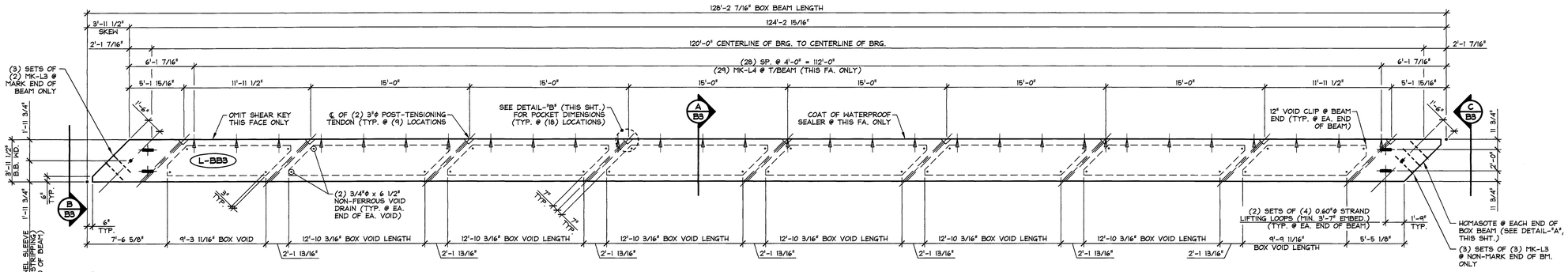
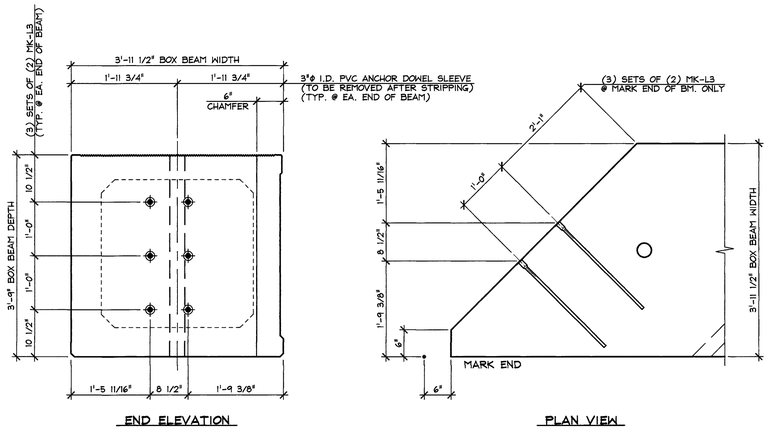


1 / B3 DIMENSIONAL PLAN VIEW IN FORM

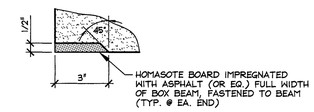
3/16" = 1'-0"

SHOP NOTE:
SEE "2/B1" FOR BEAM ELEVATION FOR POST-TENSIONING TENDON VERTIAL LOCATIONS.



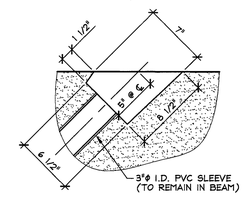
B / B3 BEAM END DETAILS

3/4" = 1'-0"



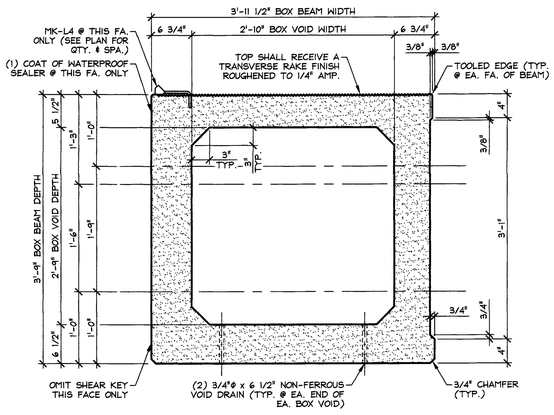
DETAIL - "A"

3" = 1'-0"



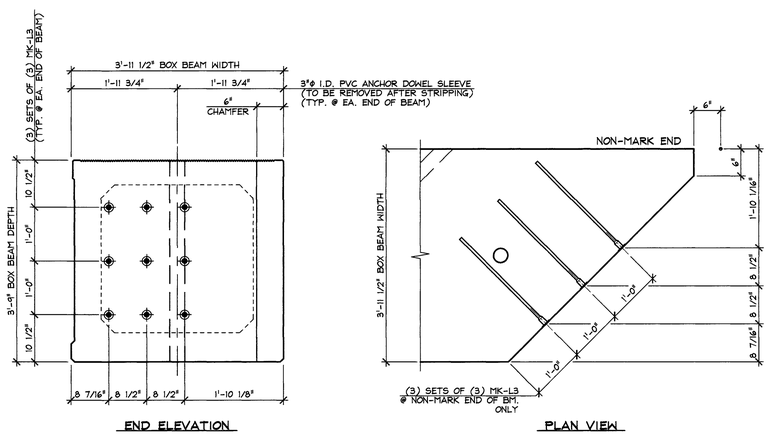
DETAIL - "B"

1 1/2" = 1'-0"



A / B3 DIMENSIONAL SECTION

1" = 1'-0"



C / B3 BEAM END DETAILS

3/4" = 1'-0"

SHOP NOTE:
f'c = 8,000 PSI
f'ci = 6,000 PSI
MIX #426M (NO DCI)

MARK: L-BB3	QTY.: 1	WT.: 78.51 T	VOL.: 38.77 cy

MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1			
2			
3	MK-L3	DAYTON #5 x 2'-3" D-101-A STRAIGHT DOWEL BAR SPLICER (STAINLESS STEEL CLAD)	15
4	MK-L4	DAYTON C-24 TYPE 4-APR DECK FORM HANGER (GALV.)	29
5			
6		3/4"ϕ x 6 1/2" NON-FERROUS VOID DRAIN	32
7		2'-10" x 2'-9" x 9'-9 11/16" BOX VOID	2
8		2'-10" x 2'-9" x 12'-10 3/16" BOX VOID	6
9		SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	4
10			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

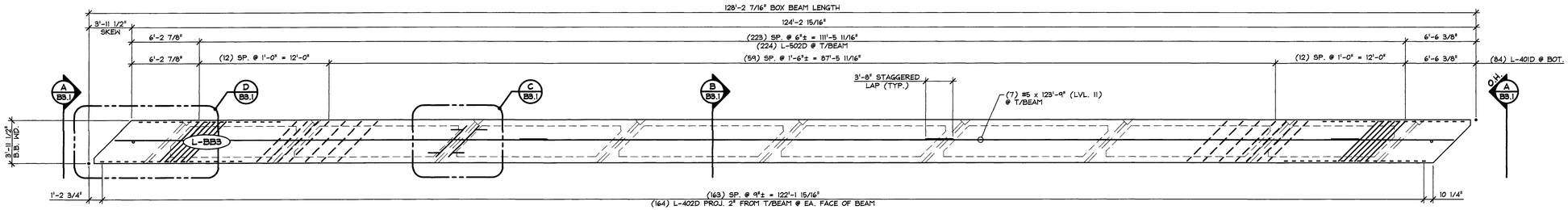
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM
DIMENSIONAL DETAILS

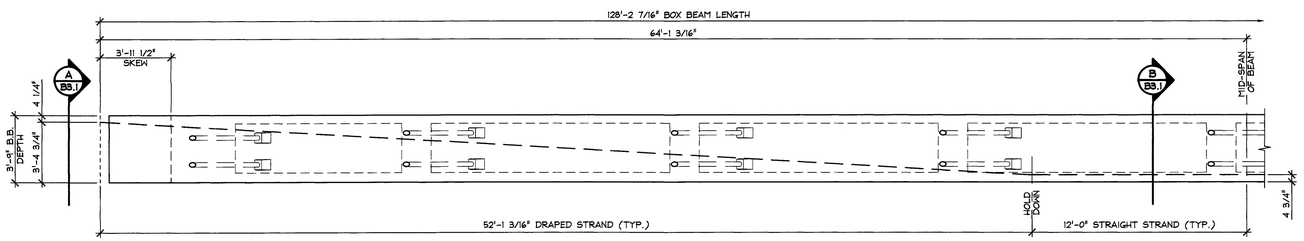
DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: B3

F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-B3.dwg, 4/28/2015 3:42:52 PM



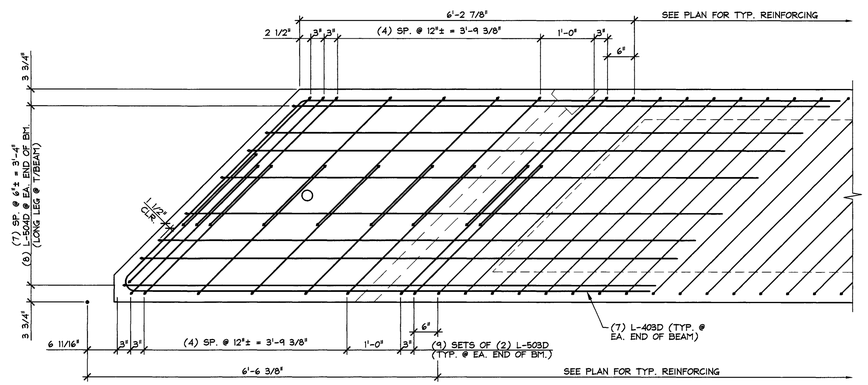
1 / B3.1 DIMENSIONAL PLAN VIEW IN FORM

3/16" = 1'-0"



2 / B3.1 PARTAIL DRAPED STRAND ELEVATION

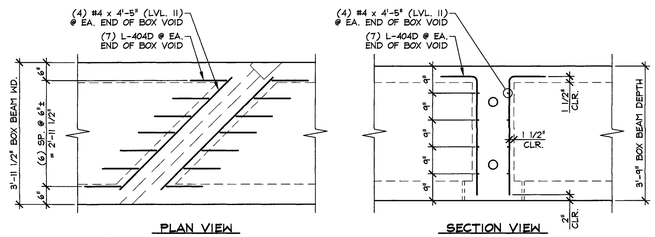
1/4" = 1'-0"



D / B3.1 END BLOCK REINFORCING PLAN

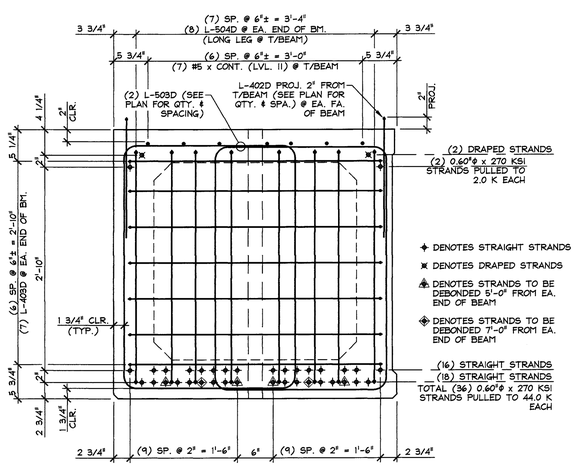
LONGITUDINAL REINFORCING & COMPOSITE REINFORCING NOT SHOWN FOR CLARITY

3/4" = 1'-0"



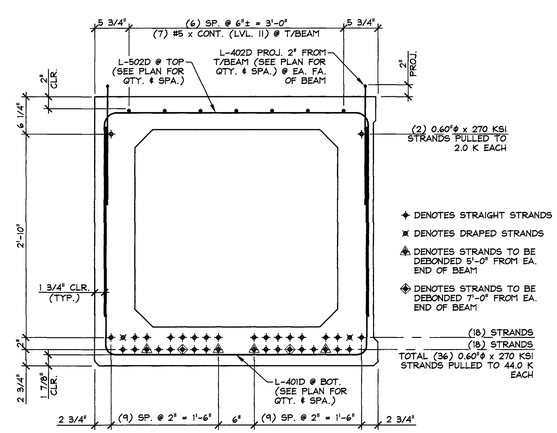
C / B3.1 DIAPHRAGM REINFORCING DETAILS

1/2" = 1'-0"



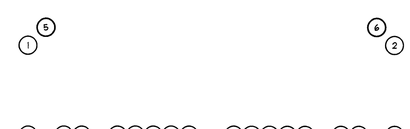
A / B3.1 REINFORCING SECTION @ BEAM END

1" = 1'-0"



B / B3.1 REINFORCING SECTION @ MID-SPAN

1" = 1'-0"



1. DETENSION STRANDS 1 THRU 4 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
2. DETENSION DRAPED STRANDS 5 AND 6 BY CUTTING STRANDS AT BULKHEADS AND IN BETWEEN BEAMS.
3. RELEASE HOLD DOWN PINS BY CUTTING COIL ROD JUST ABOVE "RABBIT".
4. DETENSION STRANDS 7 THRU 38 (IN SEQUENCE) BY CUTTING STRANDS AT BULK HEADS AND IN BETWEEN BEAMS.
5. CUTTING OF STRANDS 19 ACCOMPLISHED BY GRADUALLY HEATING STRANDS AND THEN BURNING THROUGH THEM USING A TORCH.

DETENSIONING SCHEDULE

N.T.S.

MARK: L-BB3 | QTY.: 1

MATERIAL LIST / BOX BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	L-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	84
2	L-402D	#4 HAIRPIN (LEVEL II, DUAL COATED)	328
3	L-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	14
4	L-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	112
5		#4 x 4'-5" (LEVEL II, DUAL COATED)	64
6			
7			
8			
9	L-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	224
10	L-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	36
11	L-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	16
12		#5 x 123'-9" (LEVEL II, DUAL COATED) W/ (3) 3'-8" STAG. LAPS	7
13			
14			
15			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRESTRESSED BOX BEAM REINFORCING DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: B3.1

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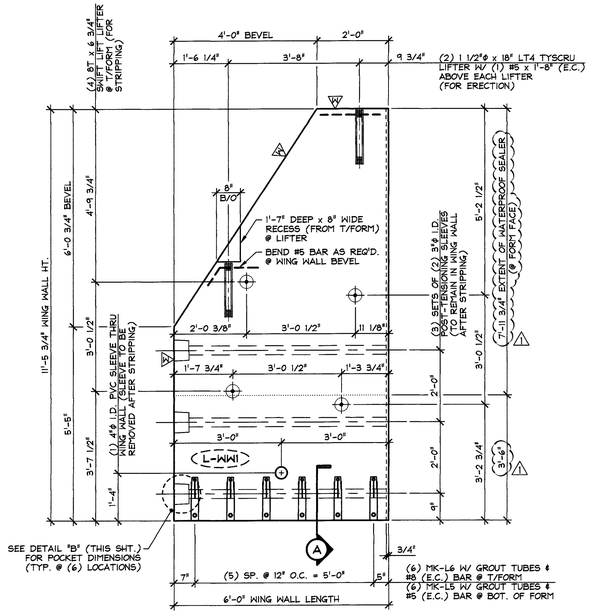
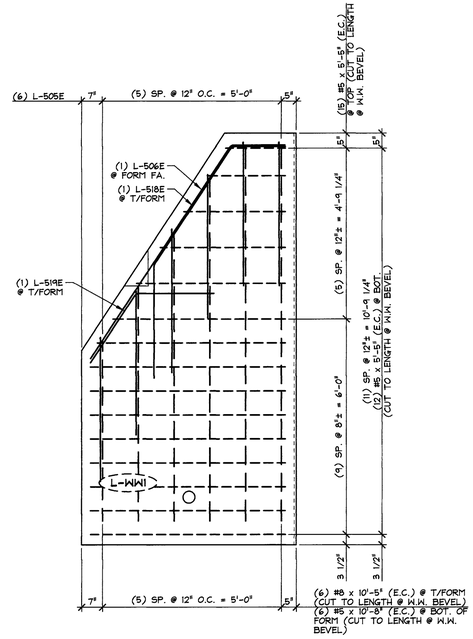


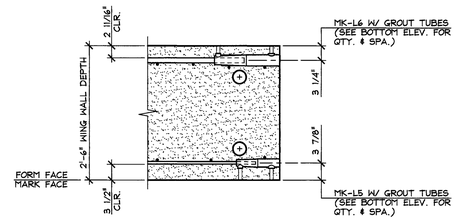
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



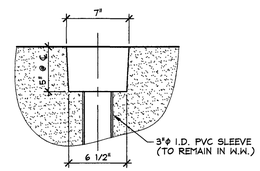
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



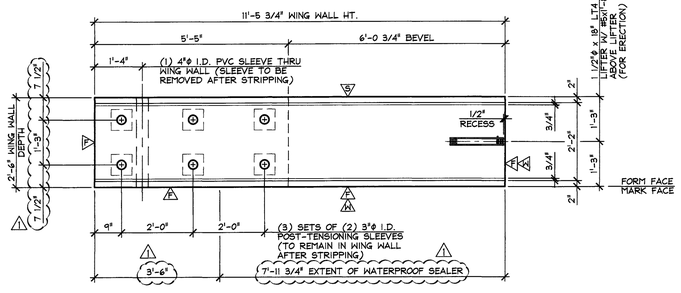
A SPLICE SLEEVE DETAIL

3/4" = 1'-0"



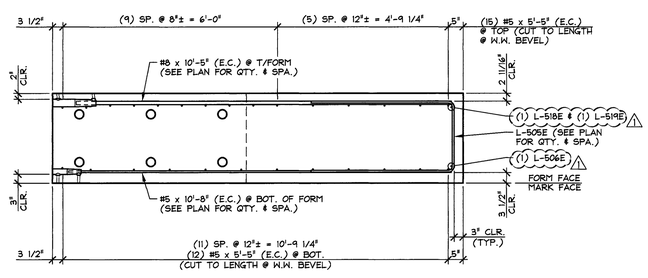
B P.T. POCKET DETAIL

1 1/2" = 1'-0"



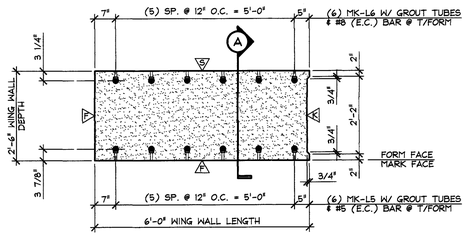
WING WALL ELEVATION @ SHEAR KEY FACE

1/2" = 1'-0"



LONGITUDINAL REINFORCING SECTION

1/2" = 1'-0"



BOTTOM ELEVATION

1/2" = 1'-0"

△5 DENOTES SMOOTH SCREED FINISH
△4 DENOTES (1) COAT WATERPROOF SEALER
△3 DENOTES FORM FINISH
△2 DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-WW1	QTY.: 1	WT.: 10.53 T	VOL.: 5.20 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	6
2	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	6
3			
4	L-505E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
5	L-506E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
6	L-518E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
7	L-519E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
8		#5 x 10'-8" (LEVEL 1, EPOXY COATED)	6
9		#5 x 5'-5" (LEVEL 1, EPOXY COATED)	27
10		#5 x 1'-8" (LEVEL 1, EPOXY COATED)	2
11			
12		#8 x 10'-5" (LEVEL 1, EPOXY COATED)	6
13			
14		1 1/2"ϕ x 18" LT4 TYSCRU LIFTER (GALV.)	2
15		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST WING WALL DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: WW1

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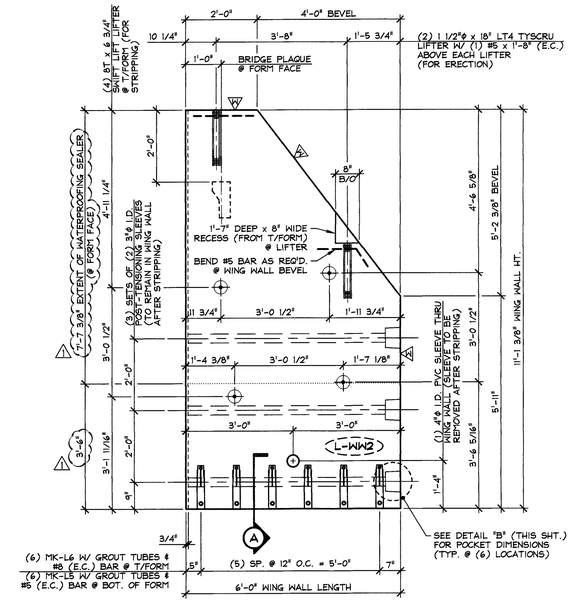
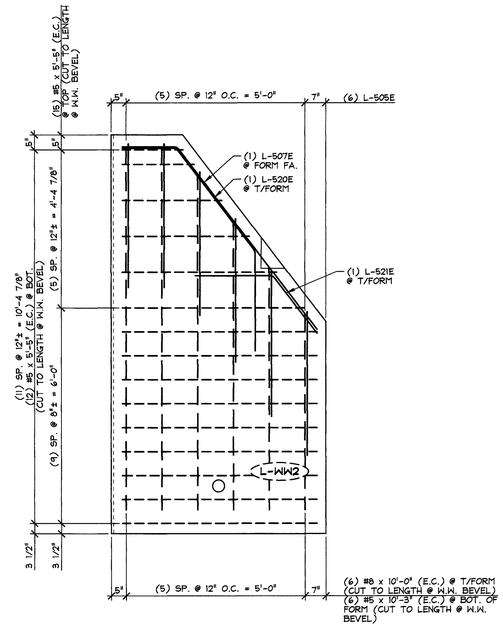


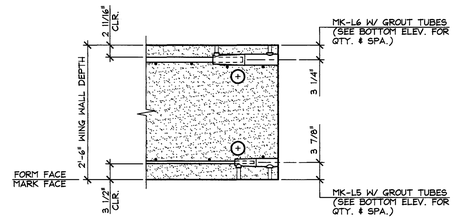
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



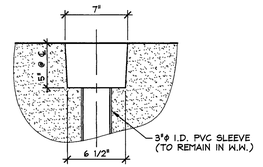
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



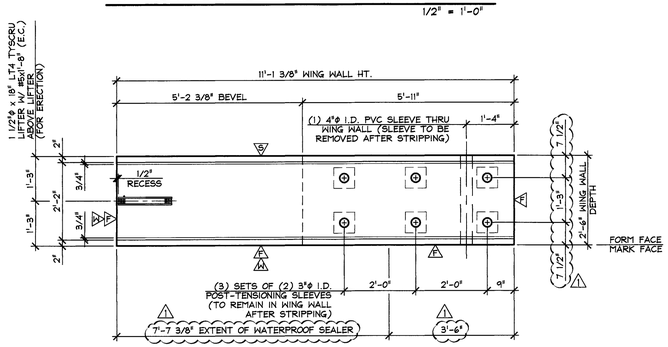
(A) SPLICE SLEEVE DETAIL

3/4" = 1'-0"



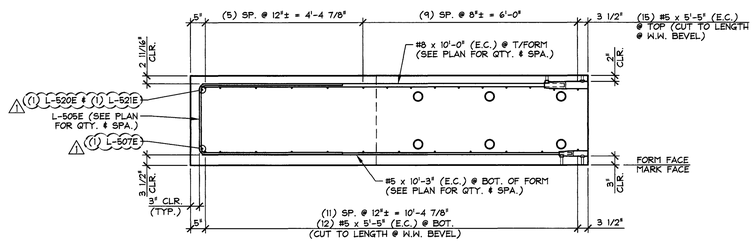
(B) P.T. POCKET DETAIL

1 1/2" = 1'-0"



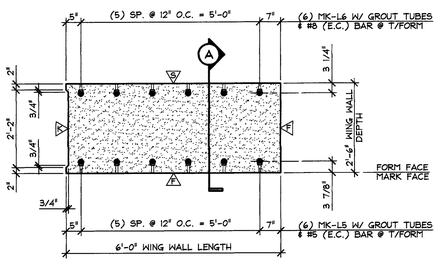
WING WALL ELEVATION @ SHEAR KEY FACE

1/2" = 1'-0"



LONGITUDINAL REINFORCING SECTION

1/2" = 1'-0"



BOTTOM ELEVATION

1/2" = 1'-0"

△ DENOTES SMOOTH SCREED FINISH
△ DENOTES (1) COAT WATERPROOF SEALER
△ DENOTES FORM FINISH
△ DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-WW2	QTY.: 1	WT.: 10.45 T	VOL.: 5.16 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	6
2	MK-L6	NMB SPLICE SLEEVE 8U-X(PG) (EPOXY COATED)	6
3	L-505E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
4	L-507E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
5	L-520E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
6	L-521E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	1
7		#5 x 10'-3" (LEVEL 1, EPOXY COATED)	6
8		#5 x 5'-5" (LEVEL 1, EPOXY COATED)	27
9		#5 x 1'-8" (LEVEL 1, EPOXY COATED)	2
10			
11		#8 x 10'-0" (LEVEL 1, EPOXY COATED)	6
12			
13		1 1/2"ϕ x 18" LT4 TYSCRU LIFTER (GALV.)	2
14		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
15		BRIDGE PLAQUE (SUPPLIED BY OTHERS)	1

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST WING WALL DETAILS

DWG. NO: WW2

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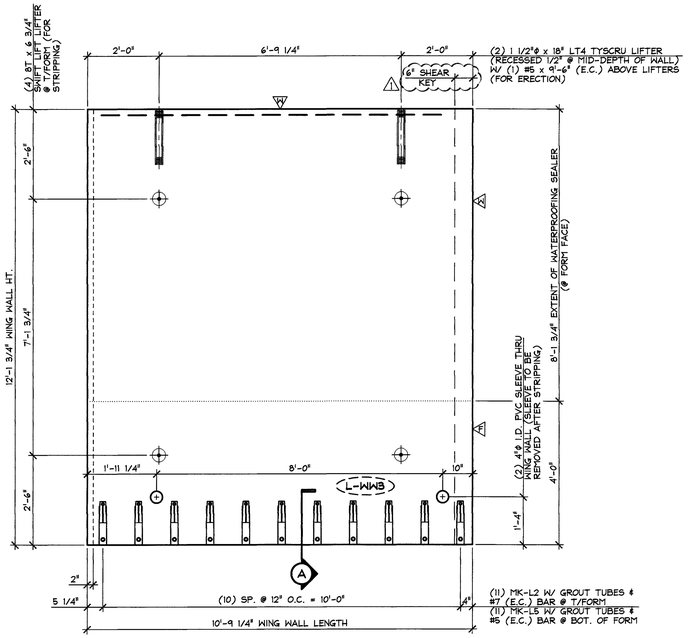
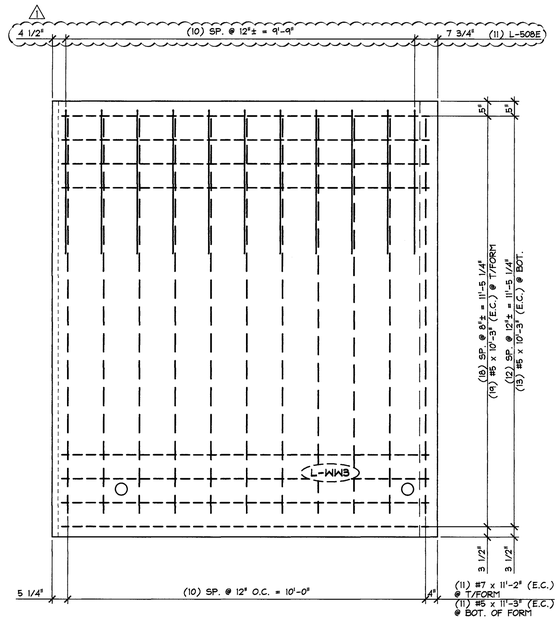


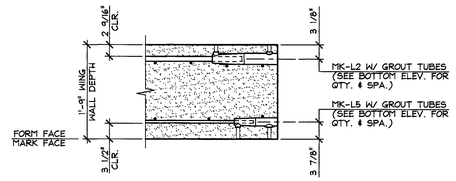
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



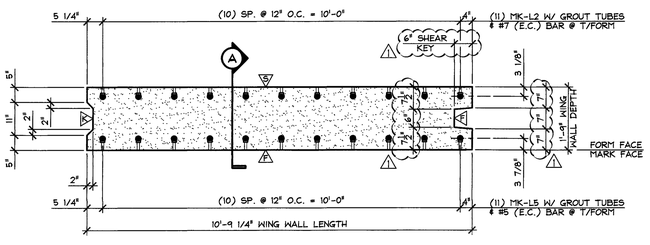
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



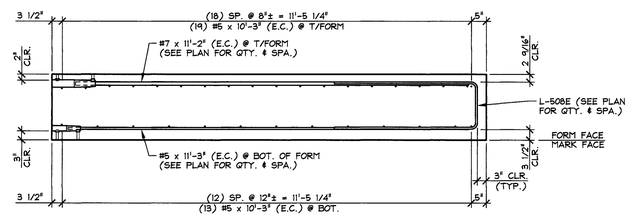
A SPLICE SLEEVE DETAIL

3/4" = 1'-0"



BOTTOM ELEVATION

1/2" = 1'-0"



LONGITUDINAL REINFORCING SECTION

1/2" = 1'-0"

△5 DENOTES SMOOTH SCREED FINISH
△4 DENOTES (1) COAT WATERPROOF SEALER
△3 DENOTES FORM FINISH
△2 DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #448MSCC

MARK: L-WW3	QTY.: 1	WT.: 17.06 T	VOL.: 8.42 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L2	NMB SPLICE SLEEVE 7U-X(PG) (EPOXY COATED)	11
2	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	11
3			
4	L-508E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	11
5		#5 x 11'-3" (LEVEL 1, EPOXY COATED)	11
6		#5 x 10'-3" (LEVEL 1, EPOXY COATED)	32
7		#5 x 9'-6" (LEVEL 1, EPOXY COATED) △1	1
8			
9		#7 x 11'-2" (LEVEL 1, EPOXY COATED)	11
10			
11			
12		1 1/2"ϕ x 18" LT4 TYSCRU LIFTER (GALV.)	2
13		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
14			
15			

△1 4-27-15 GENERAL REVISIONS

APPROVAL STAMP:

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

J.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

DATE: FEB. 6, 2015
SCALE: NOTED

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015

PRECAST WING WALL DETAILS

DWG. NO: WW3

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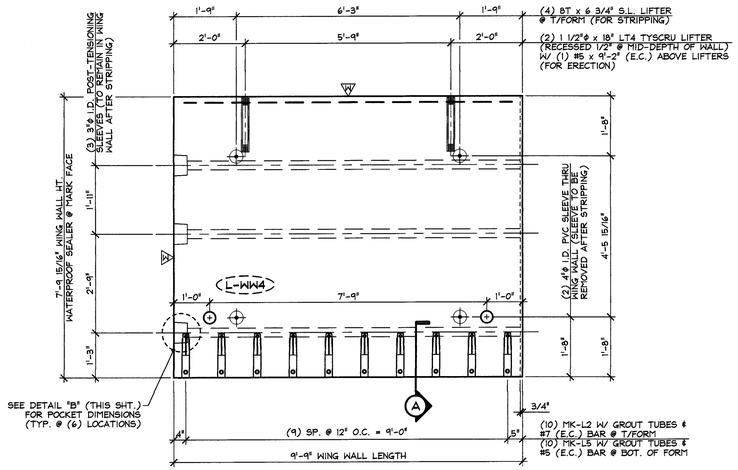
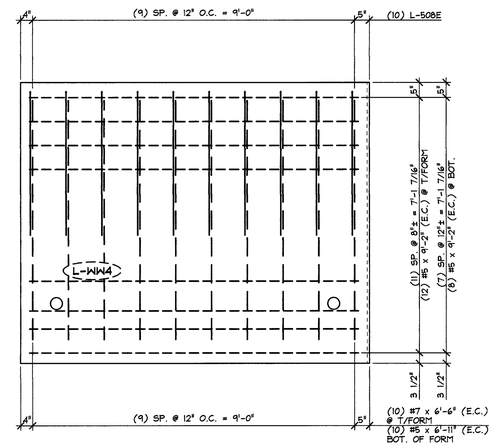


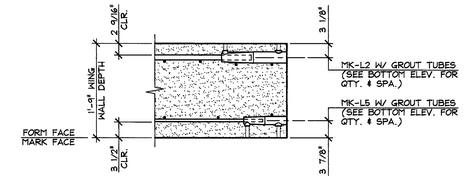
DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



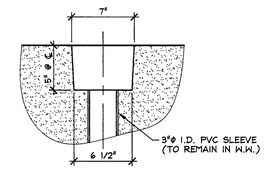
REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



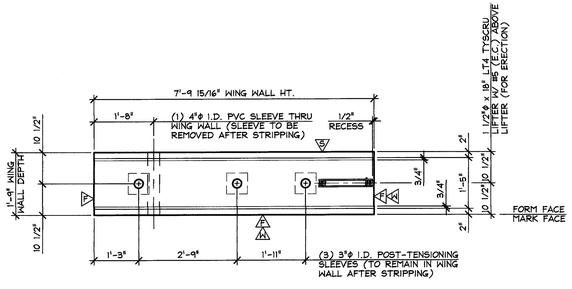
A SPLICE SLEEVE DETAIL

3/4" = 1'-0"



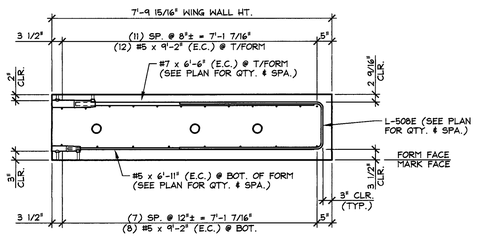
B P.T. POCKET DETAIL

1 1/2" = 1'-0"



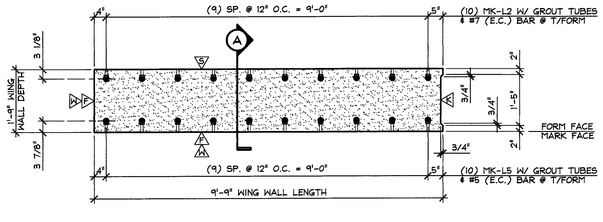
WING WALL ELEVATION @ SHEAR KEY FACE

1/2" = 1'-0"



LONGITUDINAL REINFORCING SECTION

1/2" = 1'-0"



BOTTOM ELEVATION

1/2" = 1'-0"

△5 DENOTES SMOOTH SCREED FINISH
△4 DENOTES (1) COAT WATERPROOF SEALER
△3 DENOTES FORM FINISH
△2 DENOTES ROUGHENED FINISH

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445MSCC

MARK: L-WW4	QTY.: 1	WT.: 9.97 T	VOL.: 4.92 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MK-L2	NMB SPLICE SLEEVE 7U-X(PG) (EPOXY COATED)	10
2	MK-L5	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	10
3			
4	L-508E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	10
5		#5 x 6'-11" (LEVEL 1, EPOXY COATED)	10
6		#5 x 9'-2" (LEVEL 1, EPOXY COATED)	21
7			
8		#7 x 6'-6" (LEVEL 1, EPOXY COATED)	10
9			
10			
11			
12		1 1/2"ϕ x 18" LT4 TYSCRU LIFTER (GALV.)	2
13		8T x 6 3/4" SHIFT LIFT LIFTER (GALV.)	4
14			
15			

△1 4-27-15 GENERAL REVISIONS

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.A. McDONALD, INC.
CONTRACTOR
LYNDON CENTER, VERMONT

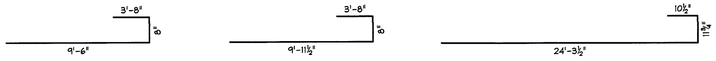
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

PRECAST WING WALL DETAILS

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: WW4

F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-WW4.dwg, 4/28/2015 3:58:55 PM

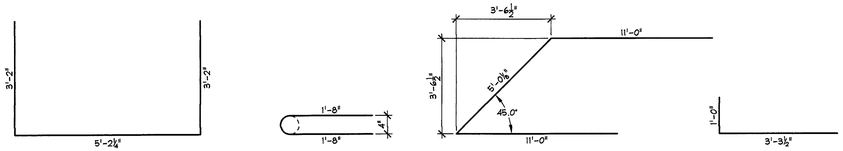


L-501D
#5 BENT BAR
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(196) REQ'D.

L-516D
#5 BENT BAR
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(98) REQ'D.

L-901D
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 4½"ϕ PIN
(72) REQ'D.

PRECAST APPROACH SLABS

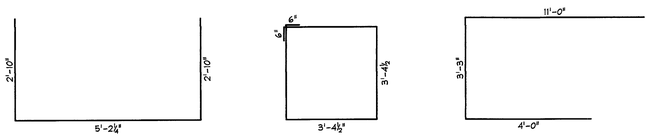


L-401D
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 2"ϕ PIN
(672) REQ'D.

L-402D
#4 HAIRPIN
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(1,476) REQ'D.

L-403D
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 2"ϕ PIN
(112) REQ'D.

L-404D
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 2"ϕ PIN
(896) REQ'D.

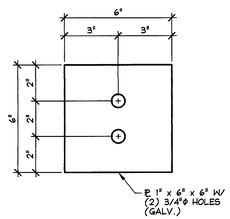


L-502D
#5 BENT BAR
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(1,792) REQ'D.

L-503D
#5 BENT BAR
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(288) REQ'D.

L-504D
#5 BENT BAR
LEVEL II (DUAL COATED)
USE 3"ϕ PIN
(128) REQ'D.

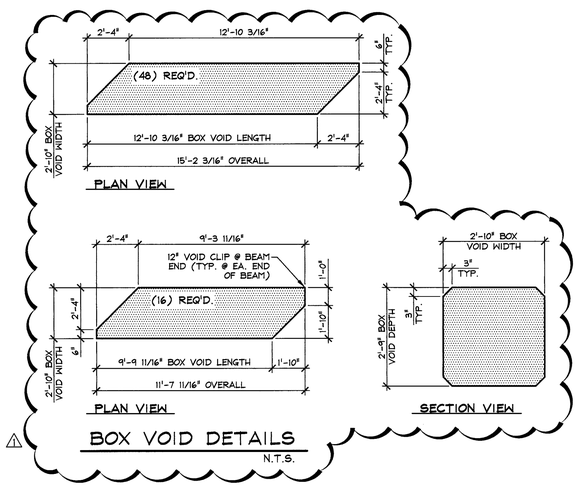
PRESTRESSED BOX BEAMS



E M - L 1
3" = 1'-0"

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1					PRECAST APPROACH SLABS
2		98	#5 x 8'-8" (LEVEL II, DUAL COATED)		
3		56	#5 x 24'-3 1/2" (LEVEL II, DUAL COATED)		
4					
5		48	4"ϕ I.D. x 1'-4" PVC SLEEVE		
6		32	8T x 6 3/4" SWIFT LIFT LIFTER	GALVANIZED	
7					
8					
9					
10					
11	EM-L1	36	PL 1" x 6" x 6" W/ (2) 3/4"ϕ HOLES (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET	PRESTRESSED BOX BEAMS
12		36	0.60"ϕ x 270 KSI x 47'-2" LONG POLY-STRAND	FOR ERECTION	
13		72	0.60"ϕ SINGLE USE STRESSING CHUCK	FOR ERECTION	
14		126	COMPRESSIBLE SEALER SELF ADHESIVE	FOR ERECTION	
15					
16		512	#4 x 4'-5" (LEVEL II, DUAL COATED)		
17		56	#5 x 123'-9" (LEVEL II, DUAL COATED) W/ (3) 3'-8" STAG. LAPS		
18					
19	MK-L3	138	DAYTON #5 x 2'-3" D-101-A STRAIGHT DOWEL BAR SPLICER	STAINLESS STEEL CLAD	
20	MK-L4	58	DAYTON C-24 TYPE 4-APR DECK FORM HANGER	GALVANIZED	
21		256	3/4"ϕ x 6 1/2" NON-FERROUS VOID DRAIN		
22		16	2'-10" x 2'-9" x 9'-6 11/16" BOX VOID	SEE BOX VOID DETAILS △1	
23		48	2'-10" x 2'-9" x 12'-10 3/16" BOX VOID	SEE BOX VOID DETAILS	
24		32	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	MADE USING 4"ϕ PIN	
25					



△1 **BOX VOID DETAILS**
N.T.S.

△1 4-27-15 REVISED AS NOTED

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
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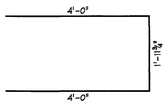
TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

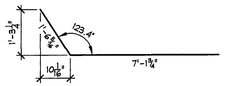
MATERIALS LIST

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: M1

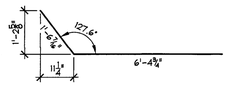
F:\VT-Bridges\23459-15 Lincoln Bridge 19\23459-M1.dwg, 4/28/2015 4:12:51 PM



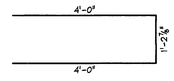
L-505E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(72) REQ'D.



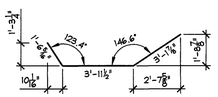
L-506E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(1) REQ'D.



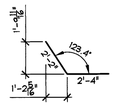
L-507E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(2) REQ'D.



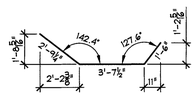
L-508E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(21) REQ'D.



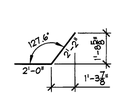
L-518E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(1) REQ'D.



L-519E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(1) REQ'D.

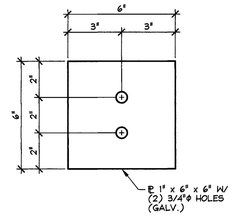


L-520E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(1) REQ'D.

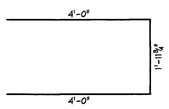


L-521E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(1) REQ'D.

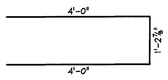
PRECAST WING WALLS



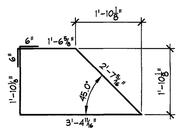
EM - L1
3" = 1'-0"



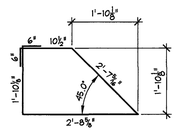
L-505E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(72) REQ'D.



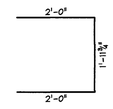
L-508E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(5) REQ'D.



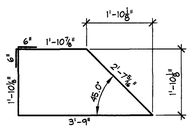
L-509E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(6) REQ'D.



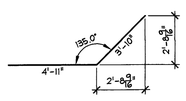
L-510E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(6) REQ'D.



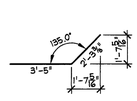
L-511E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(39) REQ'D.



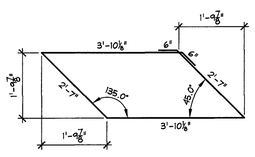
L-512E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(6) REQ'D.



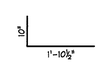
L-513E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(13) REQ'D.



L-514E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(18) REQ'D.



L-515E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(6) REQ'D.



L-517E
#5 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 2¾"Φ (70 mm) PIN
(37) REQ'D.

L-801E
#8 BENT BAR
LEVEL 1 (EPOXY COATED)
USE 6"Φ PIN
(37) REQ'D.

PRECAST ABUTMENTS

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1	EM-L1	26	PL 1" x 6" x 6" W/ (2) 3/4"Φ HOLES (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET	ABUTMENTS & WING WALLS
2		6	1/2"Φ x 270 KSI x 65'-8" LONG POLY-STRAND	FOR ERECTION	
3		2	1/2"Φ x 270 KSI x 55'-8" LONG POLY-STRAND	FOR ERECTION	
4		2	1/2"Φ x 270 KSI x 57'-2" LONG POLY-STRAND	FOR ERECTION	
5		3	1/2"Φ x 270 KSI x 15'-0" LONG POLY-STRAND	FOR ERECTION	
6		26	1/2"Φ SINGLE USE STRESSING CHUCK	FOR ERECTION	
7					
8					
9					
10	MK-L2	21	NMB SPLICE SLEEVE 7U-X(PG)	EPOXY COATED	PRECAST WING WALLS
11	MK-L5	33	NMB SPLICE SLEEVE 5U-X(PG)	EPOXY COATED	
12	MK-L6	12	NMB SPLICE SLEEVE 8U-X(PG)	EPOXY COATED	
13					
14		6	#5 x 10'-8" (LEVEL 1, EPOXY COATED)		
15		54	#5 x 5'-5" (LEVEL 1, EPOXY COATED)		
16		38	#5 x 10'-3" (LEVEL 1, EPOXY COATED)		
17		11	#5 x 11'-3" (LEVEL 1, EPOXY COATED)		
18		10	#5 x 6'-11" (LEVEL 1, EPOXY COATED)		
19		4	#5 x 1'-8" (LEVEL 1, EPOXY COATED)		
20		1	#5 x 9'-6" (LEVEL 1, EPOXY COATED) △1		
21		21	#5 x 9'-2" (LEVEL 1, EPOXY COATED)		
22					
23		11	#7 x 11'-2" (LEVEL 1, EPOXY COATED)		
24		10	#7 x 6'-6" (LEVEL 1, EPOXY COATED)		
25					
26		6	#8 x 10'-5" (LEVEL 1, EPOXY COATED)		
27		6	#8 x 10'-0" (LEVEL 1, EPOXY COATED)		
28					
29		8	1 1/2"Φ x 18" LT4 TYSCRU LIFTER	GALVANIZE	
30		16	8T x 6 3/4" SWIFT LIFT LIFTER	GALVANIZE	
31		1	BRIDGE PLAQUE	SUPPLIED BY OTHERS	
32					
33	MK-L2	4	NMB SPLICE SLEEVE 7U-X(PG)	EPOXY COATED	PRECAST ABUTMENTS
34	MK-L5	111	NMB SPLICE SLEEVE 5U-X(PG)	EPOXY COATED	
35	MK-L6	106	NMB SPLICE SLEEVE 8U-X(PG)	EPOXY COATED	
36					
37		19	#5 x 25'-3" (LEVEL 1, EPOXY COATED)		
38		26	#5 x 5'-3" (LEVEL 1, EPOXY COATED)		
39		9	#5 x 9'-3" (LEVEL 1, EPOXY COATED)		
40	△1	19	#5 x 24'-8" (LEVEL 1, EPOXY COATED)		
41		26	#5 x 5'-1" (LEVEL 1, EPOXY COATED)		
42		8	#5 x 9'-0" (LEVEL 1, EPOXY COATED)		
43		10	#5 x 35'-8" (LEVEL 1, EPOXY COATED)		
44		10	#5 x 7'-3" (LEVEL 1, EPOXY COATED)		
45		2	#5 x 17'-6" (LEVEL 1, EPOXY COATED)		
46		21	#5 x 15'-11" (LEVEL 1, EPOXY COATED)		
47		17	#5 x 6'-1" (LEVEL 1, EPOXY COATED)		
48		5	#5 x 11'-3" (LEVEL 1, EPOXY COATED)		
49		12	#5 x 9'-1" (LEVEL 1, EPOXY COATED)		
50					
51		4	#7 x 11'-2" (LEVEL 1, EPOXY COATED)		
52					
53		17	#8 x 5'-10" (LEVEL 1, EPOXY COATED)		
54		26	#8 x 4'-10" (LEVEL 1, EPOXY COATED)		
55		26	#8 x 5'-0" (LEVEL 1, EPOXY COATED)		
56					
57					
58		2	4"Φ I.D. x 6'-11" CORRUGATED PLASTIC SLEEVE		
59		6	4"Φ I.D. x 2'-10 1/2" CORRUGATED PLASTIC SLEEVE		
60		4	4"Φ I.D. x 6'-3" CORRUGATED PLASTIC SLEEVE		
61		4	4"Φ I.D. x 6'-1" CORRUGATED PLASTIC SLEEVE		
62		1	20T x 19 3/4" SWIFT LIFT LIFTER	GALVANIZE	
63		2	SET OF (2) 1/2"Φ STRAND LIFTING LOOPS	MADE USING 4"Φ PIN	
64	△1	7	SET OF (4) 0.60"Φ STRAND LIFTING LOOPS	MADE USING 4"Φ PIN	
65					

△1 4-27-15 REVISED AS NOTED

APPROVAL STAMP:

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Precast & Prestress Manufacturer
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LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF ADDISON

TOWN OF LINCOLN
TH 1 (RURAL MAJOR COLLECTOR) OVER NEW HAVEN RIVER
BRIDGE NO.: 19 PROJECT NO.: BRF 0188 (8)

MATERIALS LIST

DATE: FEB. 6, 2015
SCALE: NOTED
CHKD: M.W. DFTM: B.L.
JOB NO: 23459-015
DWG. NO: M2

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