Pipes (to avoid confusion on material specification) (typ, all sheets)

Unless otherwise noted (ASTM A 706 specified on sheet M1 for Mark MK-FA2)

ASTM A 1055

Reinforcing steel steel projecting from approach slabs will be covered during sand blasting so that coating is not damaged.

ASTM A 1055

using an abrasive wheel

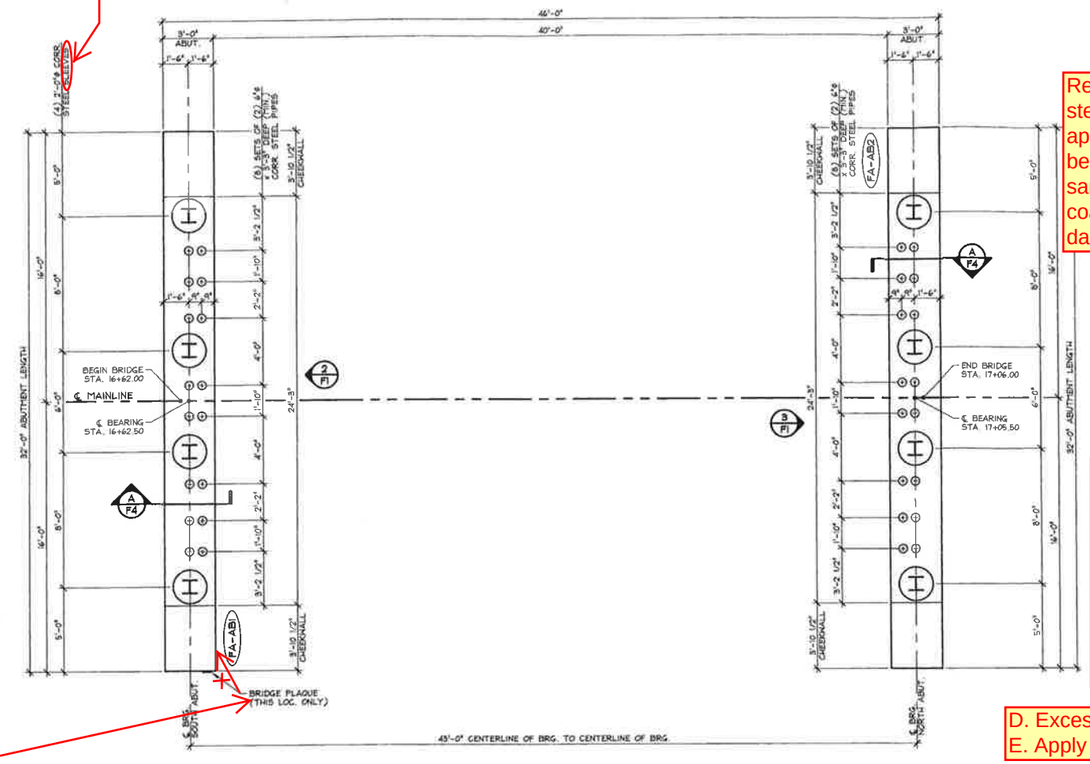
two part

A template shall be used to layout the anchor bolt ducts in the abutments. The same template shall be used to layout the anchor bolt ducts in the solid slabs (required per note 7, sheet 27/69 of contract plans). A template shall be used to layout the #6 approach slab dowels in the abutments. The same template shall be used to layout the dowel ducts in the approach slabs (required per note 2, sheet 28/69 of contract plans). All templates shall be clearly marked to identify location and orientation.

D. Excess tendon length shall be cut using an abrasive wheel.
E. Apply 2 part epoxy to exposed tendon and chuck.

Place on front face so it will not be covered by fill (dimensions for location noted on sheet AB1)

Omit length (determined by others)



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

ABUTMENT & 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) OR LEVEL I (BLACK STEEL), (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF PRECAST CONCRETE UNITS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
6. APPROACH SLABS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. APPROACH SLABS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
7. ABUTMENTS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, SHEET F4'.** THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. ABUTMENTS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
   ONCE ABUTMENTS HAVE BEEN ERECTED, CUT LIFTING LOOPS AT RECESS, EPOXY PAINT AND PATCH AS REQUIRED (BY OTHERS).
8. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
   DESIGN MIX:
   APPROACH SLABS: J.P.C. BRIDGE MIX #44SM5CC
   ABUTMENTS: J.P.C. BRIDGE MIX #44SM5CC
9. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
10. 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.

SOLID SLAB 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"ø x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 44.0 K AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
6. ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF SOLID SLABS (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" (UNLESS NOTED OTHERWISE).
8. THE TOP OF SLABS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
9. SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
10. SLABS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH OF THE TWO LIFTING INSERTS AT EACH END OF THE SLAB. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. SLABS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE SLAB ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
11. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
    DESIGN MIX: J.P.C. BRIDGE MIX #42SM1 (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 SLAB IS FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNITS. 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 ACCELERATE EARLY AGE STRENGTH GAIN, LIVE STEAM MAY BE UTILIZED. ACCELERATED CURING PER PCI MNL 116 4.19 REQUIREMENTS.
14. TRANSVERSE POST-TENSIONING SEQUENCE:
    A. ERECT SOLID SLABS, AND POST-TENSION TENDONS TO APPROXIMATELY 3,000 PSI.
    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"ø x 270 KSI
AREA: 0.217 IN^2
TENSION: 44,000 LB. EACH STRAND
GRIP-TO-GRIP: 252'-0" = 252.00'
Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE:

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

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

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

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

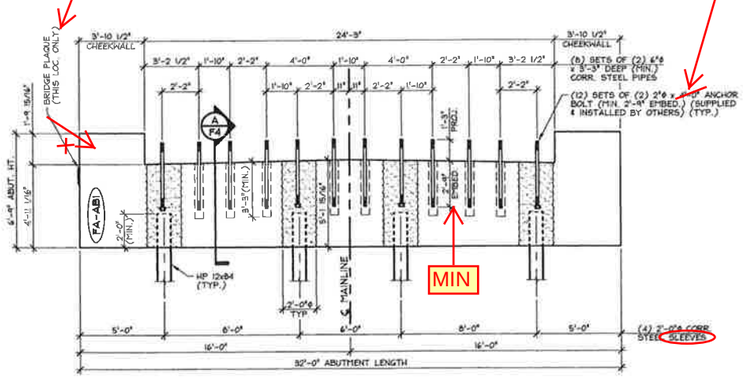
TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.

STRAND TENSIONING PROCEDURE:

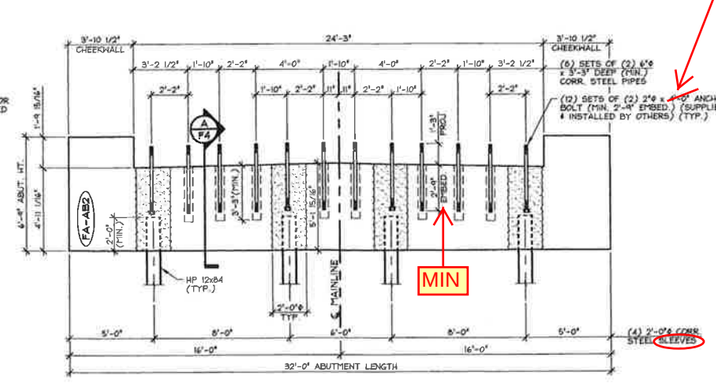
1. PULL EACH STRAND INITIALLY TO 3,000# LBS. AND MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026# LBS. AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 19"# AND 21"#.

\# 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



2 / F1 SOUTH ABUTMENT ELEVATION
1/4" = 1'-0"



3 / F1 NORTH ABUTMENT ELEVATION
1/4" = 1'-0"

Vermont Agency of Transportation
RECEIVED
CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

Submitted 1/12/15

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
244 OLD STR., WOODBURY, VERMONT 05753 Phone:(802)386-8361 Fax:(802)388-9010

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

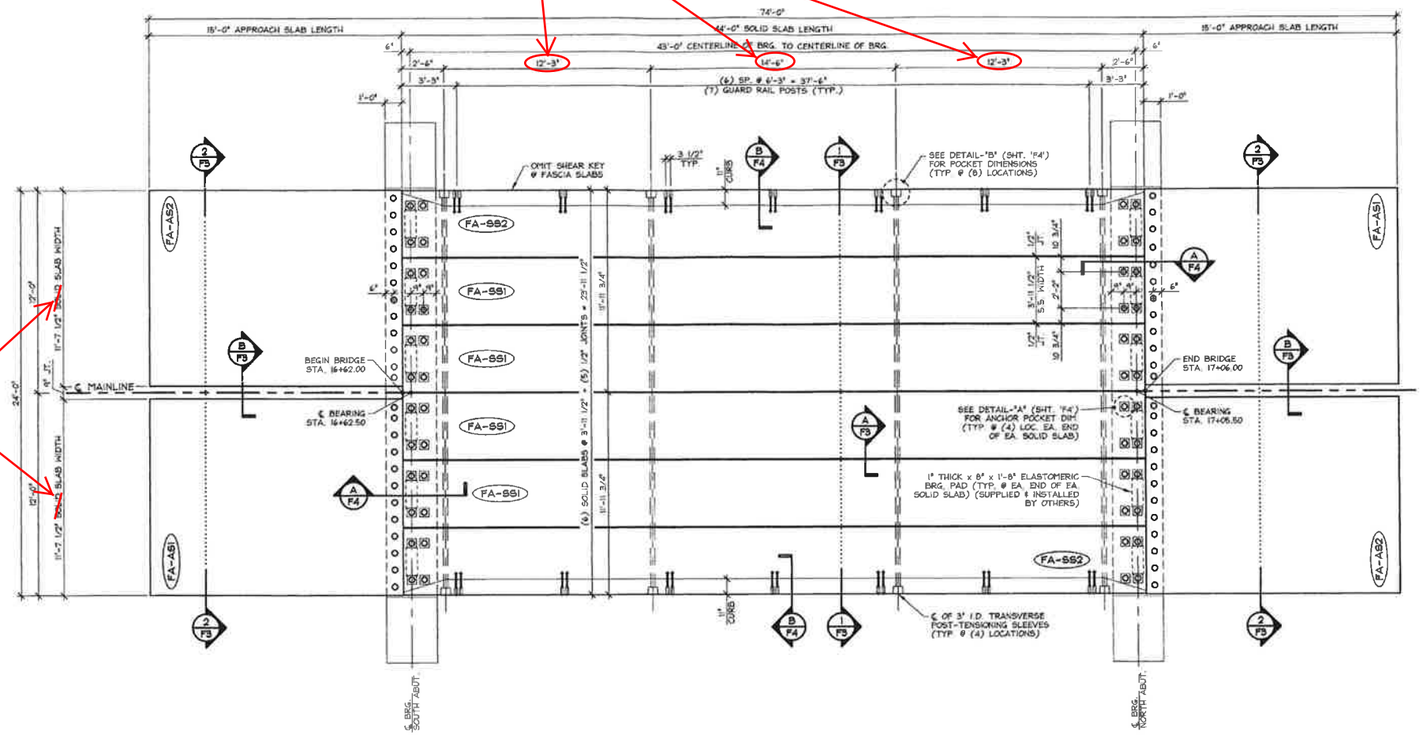
PRECAST ABUTMENT LAYOUT & ELEVATION

DATE: NOV. 10, 2014	
SCALE: NOTED	
CHKD: B.C.	DFTM: B.L.
JOB NO: 23446-014	
DWG. NO: F1	

F:\VT-Bridges\23446-14 Fairfield\South; Road\23446-F1.dwg, 1/12/2015 9:17:48 AM

Transverse PT duct spacing should be 12'/15'/12' per sheet 22/69 of contract plans (typ sheets SS1 and SS2)

Approach



1 / F2 PRESTRESSED SOLID SLAB & PRECAST APPROACH SLAB LAYOUT

1/4" = 1'-0"

Vermont Agency of Transportation

RECEIVED

CK'D BY RK/JW OK'D BY RY

January 14, 2015

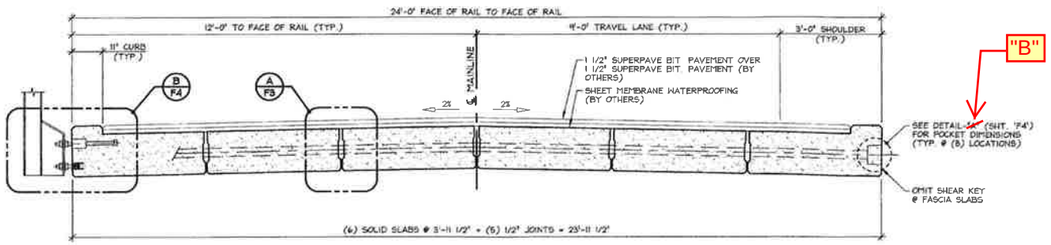
RESUBMIT No Approved AsNoted

BY RY DATE 02/05/2015

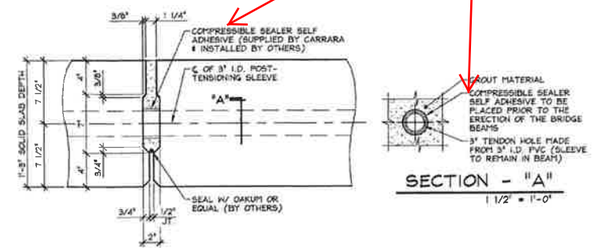
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	A.L. St. ONGE CONTRACTOR MONTOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: NOV. 10, 2014 / SCALE: NOTED
	TOWN OF FAIRFIELD SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR) BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)	CHKD: B.C. / DFTM: B.L. / JOB NO: 23446-014
	PRESTRESSED SOLID SLAB & PRECAST APPROACH SLAB LAYOUT	DWG. NO: F2

F:\VT-Bridges\23446-14 Fairfield\South Road\02_J6-F2.dwg, 1/6/2015 5:03:26 PM

Compressible sealer not necessary per VTrans Structures Design Manual Section 5.3.6.4

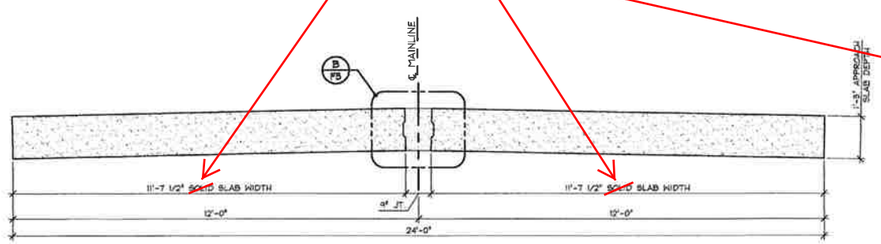


1 / F3 PRESTRESSED SOLID SLAB TRANSVERSE SECTION
1/2" = 1'-0"

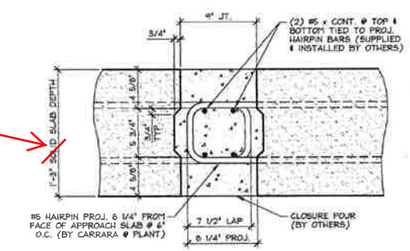


A / F3 SHEAR KEY SECTION @ P.T. SLEEVE
1 1/2" = 1'-0"

Approach



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



B / F3 SHEAR KEY SECTION @ APPROACH SLABS
1 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
Permit Attachments Please Submit in ea. dwg. sequence.pdf

CK'D BY RK/JW OK'D BY RY

January 14, 2015

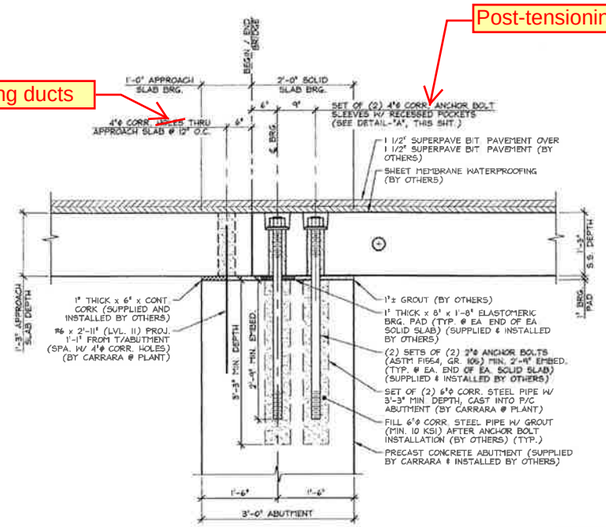
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CROE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-8361 Fax:(802)388-9010	A.L. St. ONGE CONTRACTOR MONTOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR) BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)	CHKD: B.C. DFTM: B.L. JOB NO: 23446-014
	TRANSVERSE SECTIONS	DWG. NO: F3

F:\VT-Bridges\23446-14 Fairfield\South Road\025 \46-F3.dwg, 1/9/2015 5:04:11 PM

Post-tensioning duct

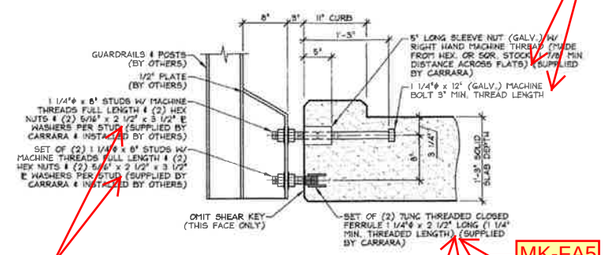
Post-tensioning ducts



A/F4 BEARING SECTION

3/4" = 1'-0"

MK-FA4

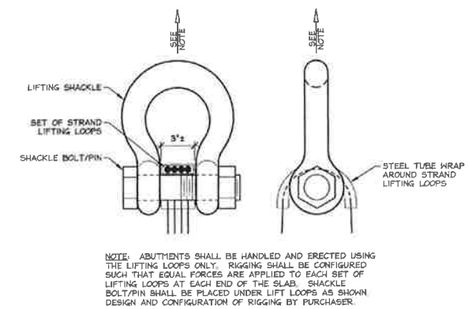


Galv.

MK-FA5

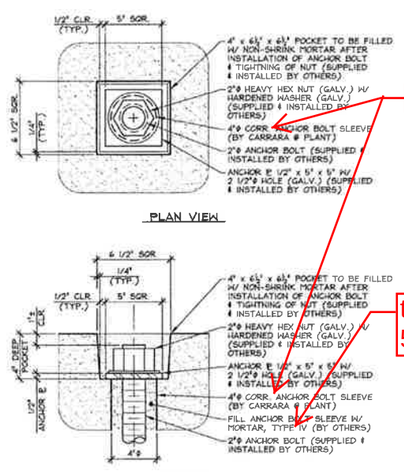
B/F4 GUARDRAIL ANCHORAGE SECTION

1" = 1'-0"



LIFTING SHACKLE DETAILS

N.T.S.

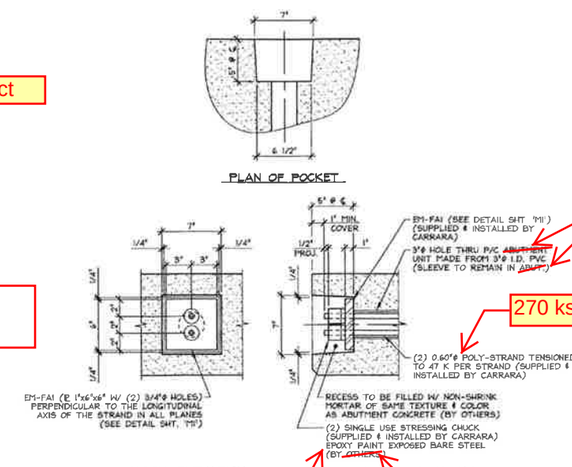


Post-tensioning duct

type IV min is 5000psi

DETAIL - "A"

2" = 1'-0"



Solid slab

270 ksi, low relaxation seven-wire

Carrara

two part epoxy

DETAIL - "B"

1 1/2" = 1'-0"

Vermont Agency of Transportation

RECEIVED

CK'D BY RK/JW OK'D BY RY

January 14, 2015

RESUBMIT No Approved AsNoted

BY RY DATE 02/05/2015

APPROVAL STAMP:

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

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

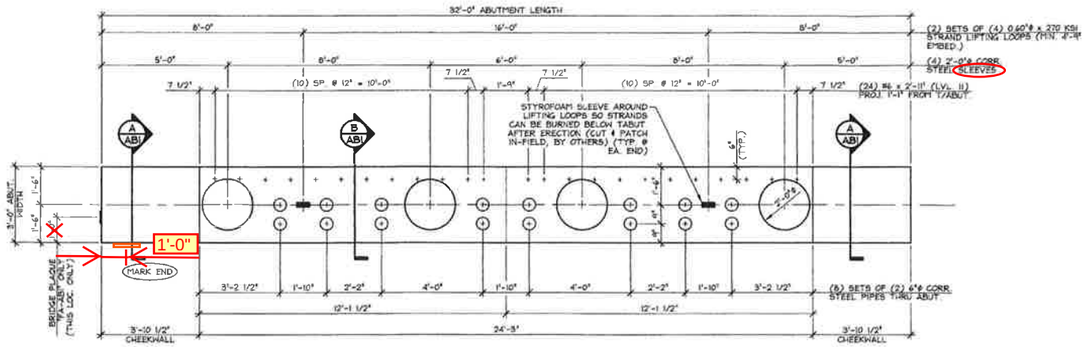
TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 25446-014

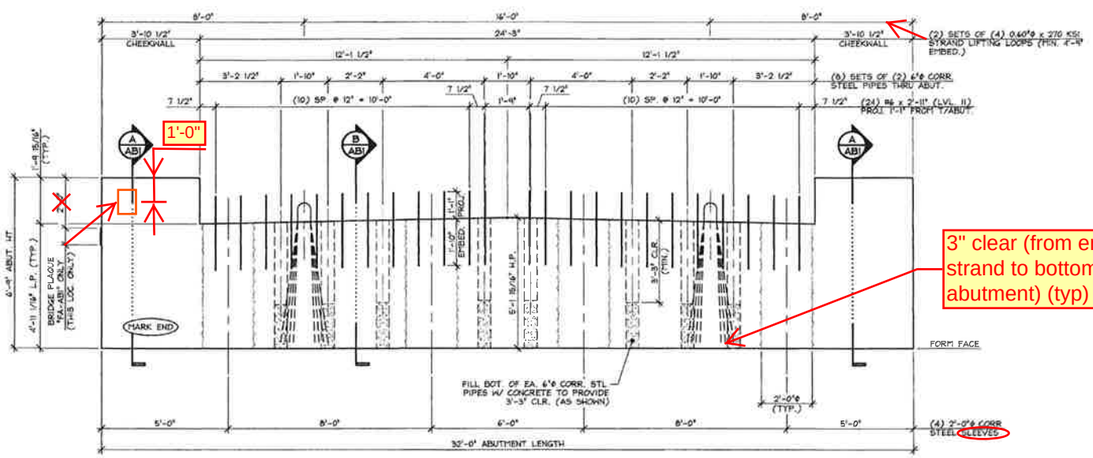
SECTIONS & DETAILS

DWG. NO: F4

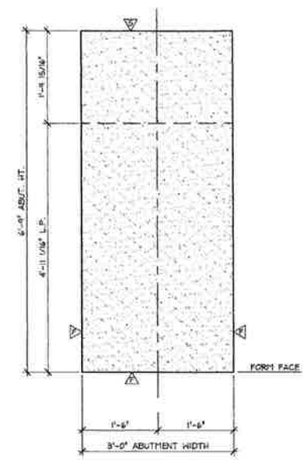
F:\VT-Bridges\25446-14 Fairfield\South Road\25446-F4.dwg, 1/9/2015 5:05:16 PM



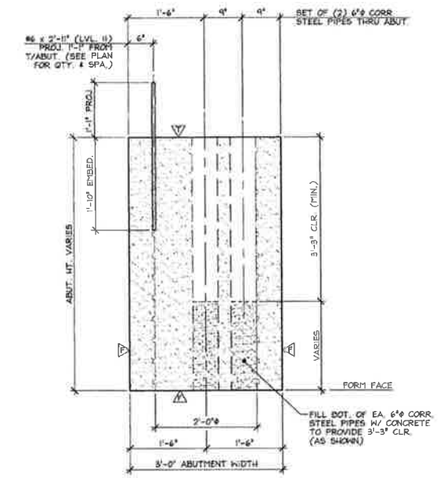
1 ABI DIMENSIONAL PLAN VIEW IN FORM
3/8" = 1'-0"



2 ABI DIMENSIONAL ELEVATION VIEW IN FORM
3/8" = 1'-0"



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



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

△ DENOTES FORM FINISH
△ DENOTES FLOAT FINISH
△ DENOTES SMOOTH TROWEL FINISH

MARK: FA-AB1	QTY.: 1	WT.: 34.54 T	VOL.: 17.06 cy				
MARK: FA-AB2	QTY.: 1	WT.: 34.54 T	VOL.: 17.06 cy				

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY./ABUT. FA-AB1	QTY./ABUT. FA-AB2
1		#6 x 2'-11" (LEVEL II, DUAL COATED)	24	24
2				
3				
4				
5				
6		BRIDGE PLAQUE (SUPPLIED BY OTHERS)	1	
7		SET OF (4) 0.60"ϕ x 270 KSI STRAND LIFTING LOOPS	2	2
8		6"ϕ x 5'-1 3/4" (MAX.) CORRUGATED STEEL SLEEVE (GALV.)	16	16
9		2'-0"ϕ x 5'-1 1/2" CORRUGATED STEEL SLEEVE (GALV.)	4	4
10				

Pipe, AASHTO M 36, Type I

Vermont Agency of Transportation
RECEIVED
Project 88B0100/Structure Submittal 1 of 2015_response.pdf
CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

APPROVAL STAMP:

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

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

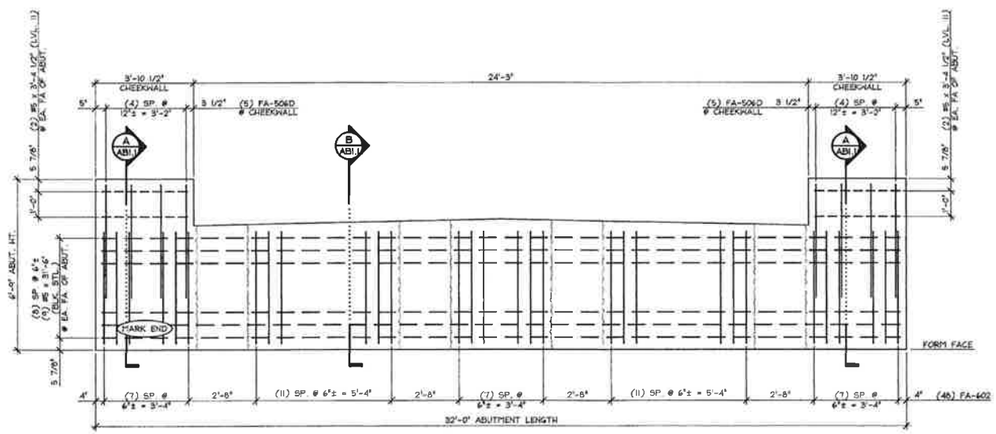
TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 29446-014

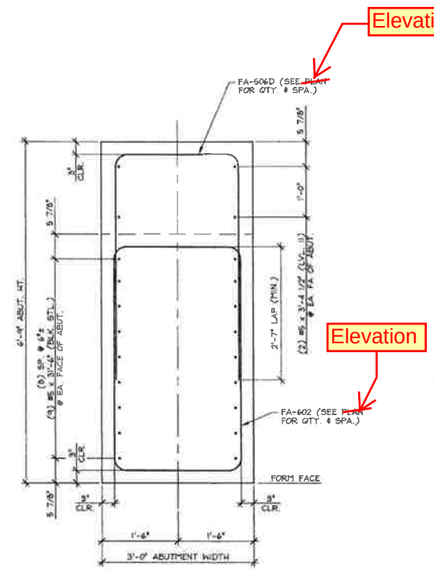
PRECAST ABUTMENT
DIMENSIONAL DETAILS

DWG. NO: AB1

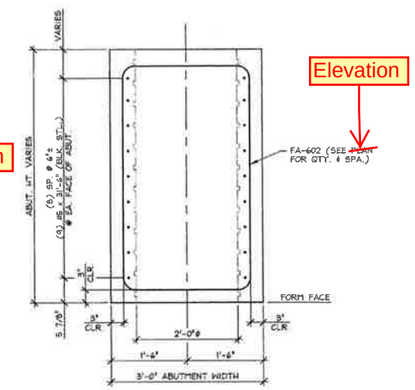
F:\V7-Bridges\29446-14 Fairfield\South Road\29446-AB1.dwg, 1/9/2015 5:33:38 PM



1 / AB1.1 REINFORCING ELEVATION VIEW IN FORM
3/8" = 1'-0"



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



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

MARK: FA-AB1	QTY.: 1
MARK: FA-AB2	QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1		#5 x 31'-6" (LEVEL I, BLACK STEEL)	18
2		#5 x 3'-4 1/2" (LEVEL II, DUAL COATED)	8
3			
4	FA-506D	#5 BENT BAR (LEVEL II, DUAL COATED)	10
5			
6	FA-602	#6 BENT BAR (LEVEL I, BLACK STEEL)	46
7			
8			
9			
10			

Vermont Agency of Transportation
RECEIVED
Digitally signed by Jon Phelps: Date: 2015.01.14 09:06:_ Jonathan.pdf

CK'D BY RK/JW OK'D BY RY

January 14, 2015

RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2404 CASE STR., MIDDLEBURY, VERMONT 05753 Phone (802)388-6361 Fax (802)388-9510

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 23446-014

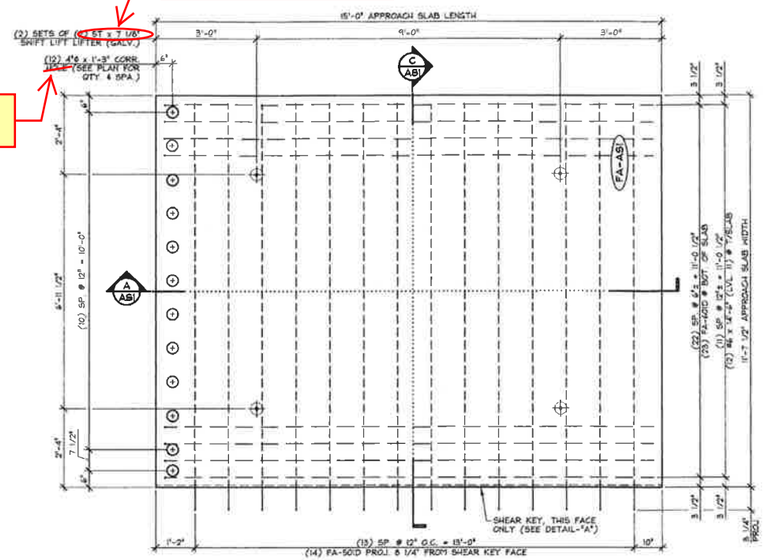
PRECAST ABUTMENT
REINFORCING DETAILS

DWG. NO: AB1.1

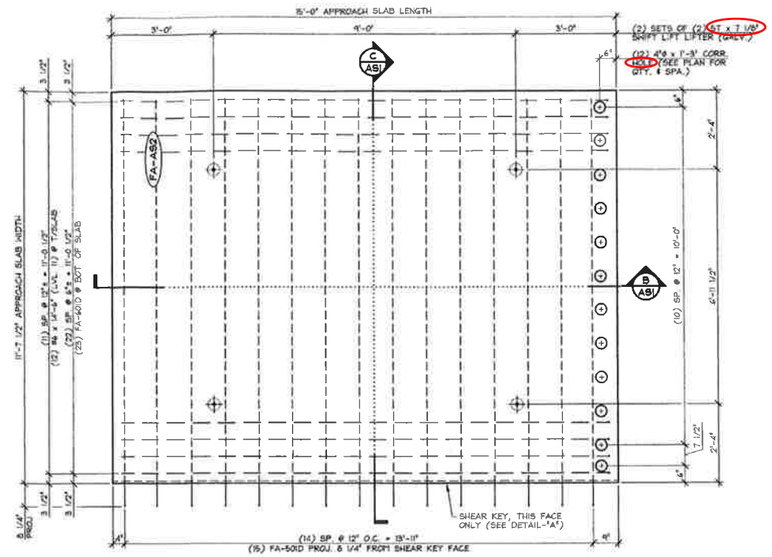
F:\VT-Bridges\23446-14 Fairfield\South Road\23446-AB1-1.dwg, 1/9/2015 5:35:19 PM

Revise lifting calcs (typ)

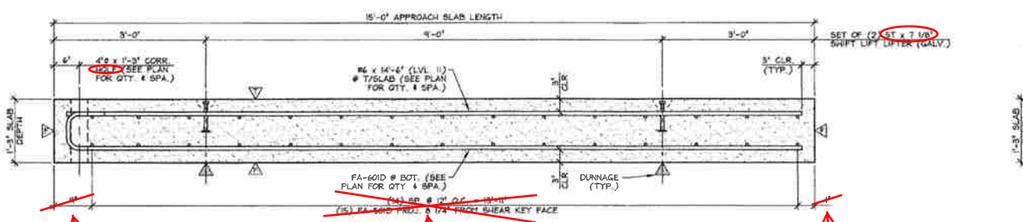
Post-tensioning duct (typ)



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

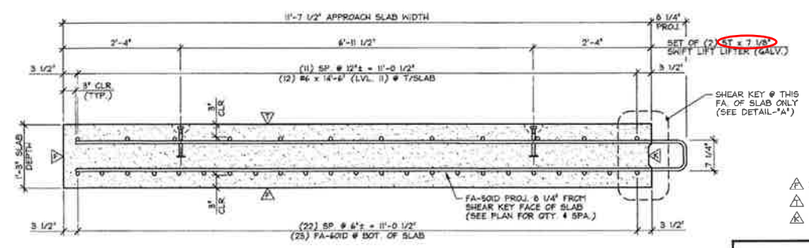


2 ASI DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



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

See plan view



C ASI TRANSVERSE SECTION
3/4" = 1'-0"

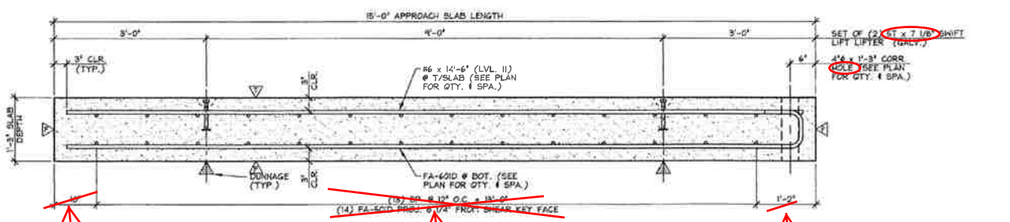
DENOTES FORM FINISH
DENOTES FLOAT FINISH
DENOTES ROUGHENED FINISH

MARK: FA-AS1	QTY.: 2	WT.: 16.32 T	VOL.: 8.06 cy
MARK: FA-AS2	QTY.: 2	WT.: 16.32 T	VOL.: 8.06 cy

MATERIAL LIST / APPROACH SLAB

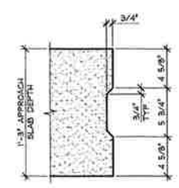
ITEM	MARK	DESCRIPTION	QTY./SLAB AS1	QTY./SLAB AS2
1	FA-50ID	#5 BENT BAR (LEVEL II, DUAL COATED)	14	15
2				
3	FA-60ID	#6 BENT BAR (LEVEL II, DUAL COATED)	23	23
4		#6 x 14'-6" (LEVEL II, DUAL COATED)	12	12
5				
6				
7				
8				
9		5T x 7 1/8" SHIFT LIFT LIFTER (GALV.)	4	4
10				

Corrugated Post-tensioning duct (material per note 20, sheet 8/69 of contract plans)



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

See plan view



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

Vermont Agency of Transportation
RECEIVED

CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
1964 CODE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

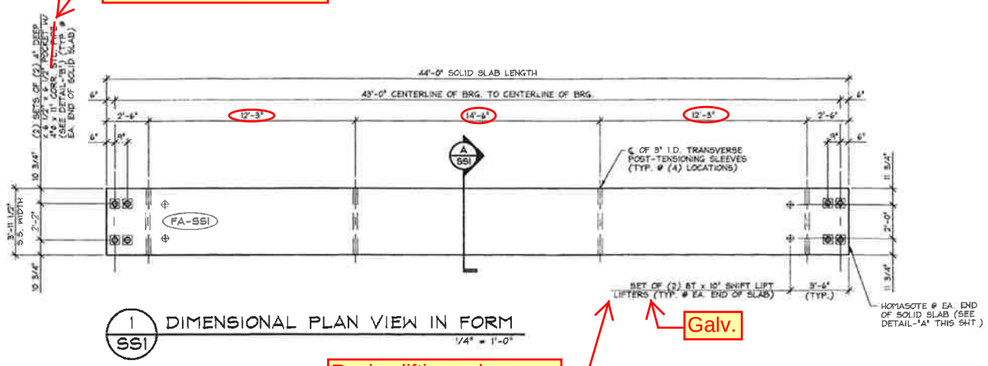
CHKD: B.C. DFTM: B.L.
JOB NO: 23446-014

PRECAST APPROACH SLAB DETAILS

DWG. NO: AS1

F:\VT-Bridges\023446-14 Fairfield\South Road\23446-AS1.dwg, 1/9/2015 5:52:51 PM

Post-tensioning duct



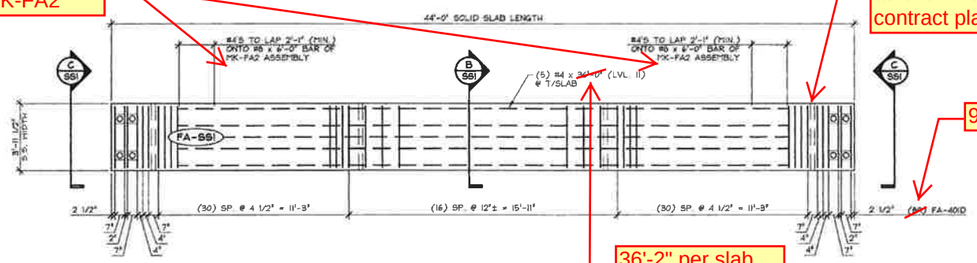
1 SSI DIMENSIONAL PLAN VIEW IN FORM
1/4" = 1'-0"

Galv.

Revise lifting calcs

and lap 8'-1" (min) onto #8 x 12'-0" bar of MK-FA2

Bundle 2 bars each side of duct as shown on sheet 23/69 of contract plans (typ each end)

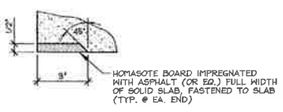


93 (with bundled bars)

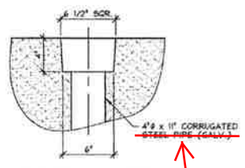
2 SSI REINFORCING PLAN VIEW IN FORM
1/4" = 1'-0"

36'-2" per slab elevation on sheet 22/69 of contract plans

MK-FA2 not shown for clarity. End of MK-FA2 shall be located 2 1/4" from end of slab. CL of 2 1/2" bar shall be located 10 1/2" from end of slab. (typ each end)



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

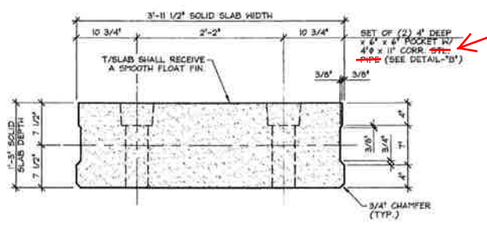


DETAIL - "B"
1 1/2" = 1'-0"

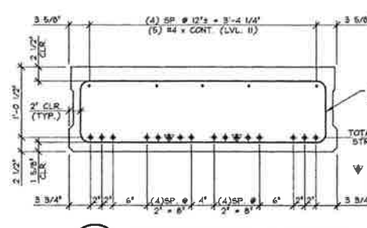
Post-tensioning duct

(1)(3)(5) (7)(9)(11)(13)(15) (16)(14)(12)(10)(8) (6)(4)(2)

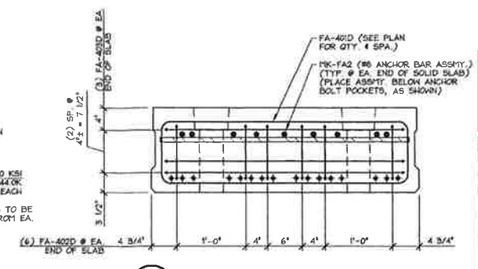
DETENSIONING SCHEDULE
N.T.S.



A SSI DIMENSIONAL SECTION
1" = 1'-0"



B SSI REINFORCING SECTION @ MID-SPAN
1" = 1'-0"



C SSI REINFORCING SECTION @ BEAM END
1" = 1'-0"

Post-tensioning duct (material per note 20, sheet 8/69 of contract plans)

Vermont Agency of Transportation
RECEIVED
CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

MARK: FA-SSI	QTY.: 4	WT.: 16.02 T	VOL.: 7.91 cy

MATERIAL LIST / SOLID SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	FA-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	~~37~~ 93
2	FA-402D	#4 BENT BAR (LEVEL II, DUAL COATED)	12
3	FA-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	6
4		#4 x ~~36'-0"~~ 36'-2" (LEVEL II, DUAL COATED)	5
5			
6			
7			
8	MK-FA2	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-8" (ASTM A36) W/ (3) #8 x 12'-0" & (6) #5 x 8'-0" (ASTM A-706) (GALV. ASSMY.)	2
9		~~8T~~ x 10" SHIFT LIFT LIFTERS	4
10		4"ø x 11" CORRUGATED ~~STEEL PIPE (GALV.)~~	8

Galv.

APPROVAL STAMP:

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

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 23446-014

PRESTRESSED SOLID SLAB DETAILS

DWG. NO: SS1

F:\VT-Bridges\23446-14 Fairfield\South Road\023446-SS1.dwg, 1/8/2015 6:02:57 PM

35'-0" (stop 3' from face of abutment per SD-502.00)

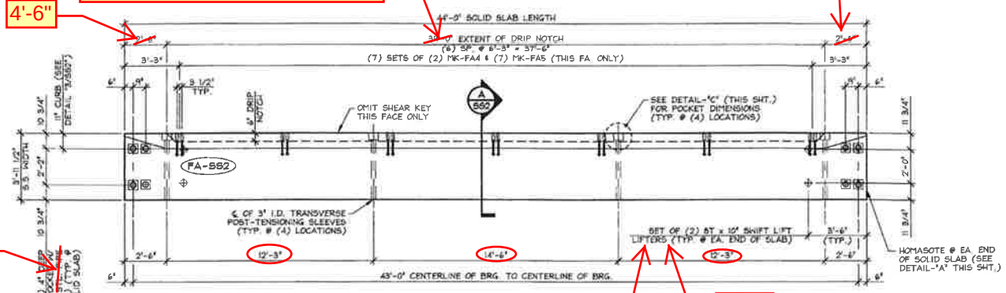
4'-6"

4'-6"

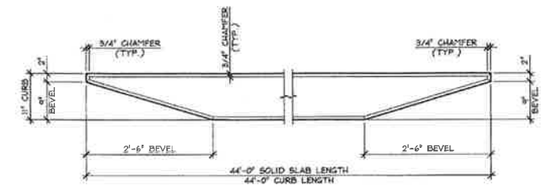
Post-tensioning duct

Galv.

Revise lifting calcs



1 SS2 DIMENSIONAL PLAN VIEW IN FORM
1/4" = 1'-0"



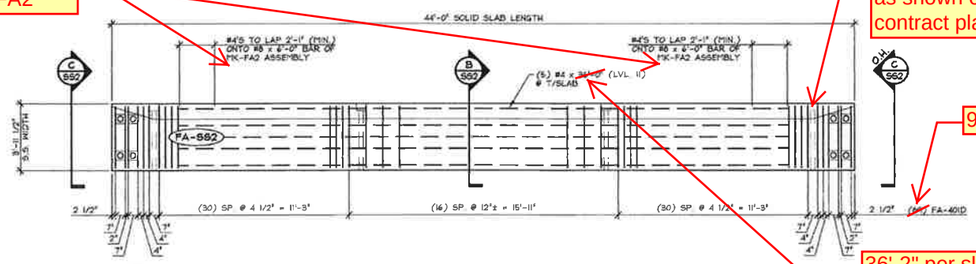
3 SS2 CURB DETAIL
3/4" = 1'-0"

and lap 8'-1" (min) onto #8 x 12'-0" bar of MK-FA2

Bundle 2 bars each side of duct as shown on sheet 23/69 of contract plans (typ each end)

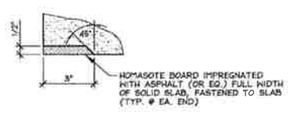
93 (with bundled bars)

36'-2" per slab elevation on sheet 22/69 of contract plans

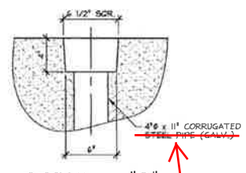


2 SS2 REINFORCING PLAN VIEW IN FORM
1/4" = 1'-0"

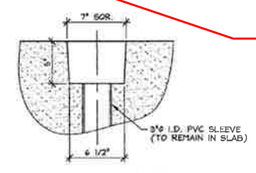
MK-FA2 not shown for clarity. End of MK-FA2 shall be located 2 1/4" from end of slab. CL of 2 1/2" bar shall be located 10 1/2" from end of slab. (typ each end)



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



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

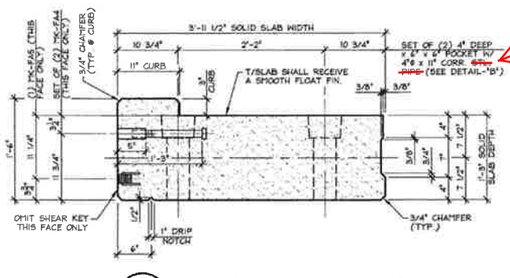


DETAIL - "C"
1 1/2" = 1'-0"

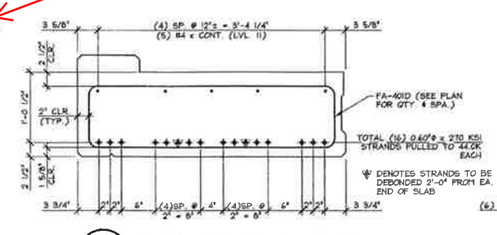
Post-tensioning duct

1	3	5	7	9	11	13	15	16	14	12	10	8	6	4	2

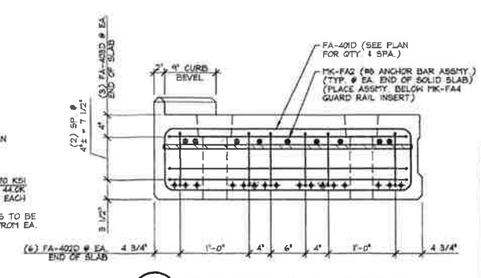
DETENSIONING SCHEDULE
N.T.S.



A SS2 DIMENSIONAL SECTION
1" = 1'-0"



B SS2 REINFORCING SECTION @ MID-SPAN
1" = 1'-0"



C SS2 REINFORCING SECTION @ BEAM END
1" = 1'-0"

Post-tensioning duct (material per note 20, sheet 8/69 of contract plans)

Galv.

Vermont Agency of Transportation
RECEIVED
CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

MARK: FA-SS2	QTY.: 2	WT.: 16.90 T	VOL.: 8.35 cy

MATERIAL LIST / SOLID SLAB

ITEM	MARK	DESCRIPTION	QTY
1	FA-401D	#4 BENT BAR (LEVEL I, DUAL COATED)	~~14~~ 93
2	FA-402D	#4 BENT BAR (LEVEL II, DUAL COATED)	12
3	FA-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	6
4		#4 x ~~34'-0"~~ 36'-2 (LEVEL II, DUAL COATED)	5
5			
6	MK-FA2	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-8" (ASTM A36) W/ (3) #8 x 12'-0" & (6) #8 x 6'-0" (ASTM A-706) (GALV. ASSMY.)	2
7	MK-FA4	5" LG. SLEEVE NUT (GALV.) & 1 1/4"Ø x 12" MACHINE BOLT (GALV.)	14
8	MK-FA5	2-BOLT FERRULE GUARD RAIL INSERT 1 1/4"Ø-7UNC (GALV.)	7
9		~~8T~~ x 10" SHIFT LIFT LIFTERS	4
10		4"Ø x 11" CORRUGATED STEEL PIPE (GALV.)	8

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 OKE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-5381 Fax:(802)388-9010

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

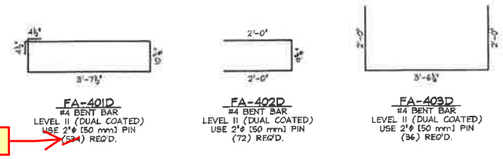
TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 23446-014

PRESTRESSED SOLID SLAB DETAILS

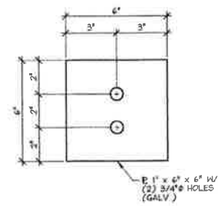
DWG. NO: SS2

F:\VT-Bridges\23446-14 Fairfield\South Road\23446-SS2.dwg, 10/9/2015 8:04:01 PM



558

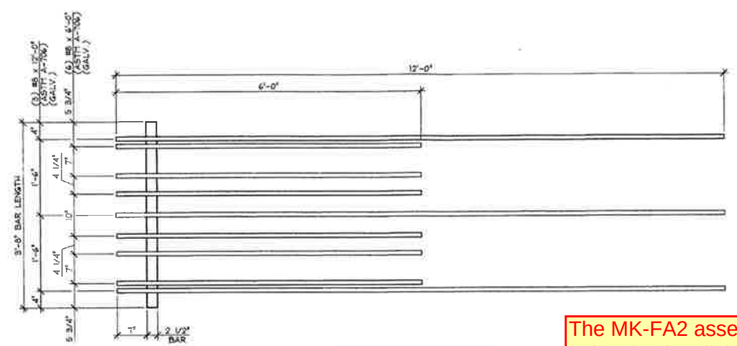
PRESTRESSED SOLID SLABS

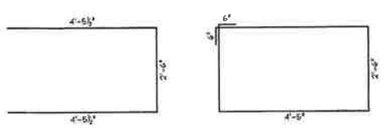


E M - F A 1

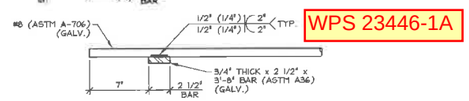
3" = 1'-0"

PRECAST APPROACH SLABS





PRECAST ABUTMENTS



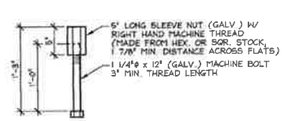
WPS 23446-1A

M K - F A 2

N.T.S.

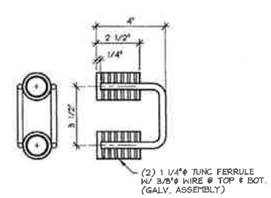
The MK-FA2 assemblies shall not be galvanized until the Agency has visited the plant to inspect the fabrication and given approval to Carrara to proceed with galvanizing the assemblies.

Note: After MK-FA2 assembly has been galvanized, entire assembly shall be coated with two part epoxy repair material in accordance with Level II, Dual Coated reinforcing steel manufacturer instructions.



M K - F A 4

1" = 1'-0"



M K - F A 5

3" = 1'-0"

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1	EM-FA1	8	PL 1" x 6" x 6" W/ (2) 3/4"ϕ HOLES (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET	PRESTRESSED SOLID SLABS
2		8	0.60"ϕ x 26'-9" POLY-STRAND	FOR ERECTION	
3		16	0.60"ϕ SINGLE USE STRESSING CHUCK	FOR ERECTION	
4					
5					
6		30	#4 x ~~36'-0"~~ (LEVEL II, DUAL COATED)		
7					
8	MK-FA2	12	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-8" (ASTM A36) W/ (3) #8 x 12'-0" & (6) #8 x 6'-0" (ASTM A-706)	GALVANIZED ASSEMBLY, SEE DETAIL THIS SHEET	
9	MK-FA4	28	5" LG. SLEEVE NUT (GALV.) & 1 1/4"ϕ x 12" MACHINE BOLT	GALVANIZED, SEE DETAILTHIS SHEET	
10	MK-FA5	14	2-BOLT FERRULE GUARD RAIL INSERT 1 1/4"ϕ-TUNC	GALVANIZED, SEE DETAILTHIS SHEET	
11		24	8T x 10" SHIFT LIFT LIFTERS		PRECAST APPROACH SLABS
12		48	4"ϕ x 11" CORRUGATED ~~STEEL PIPE~~	~~GALVANIZED~~	
13					
14		48	#6 x 14'-6" (LEVEL II, DUAL COATED)		
15					
16		16	5T x 7 1/8" SHIFT LIFT LIFTER	GALVANIZED	
17					
18					
19					
20					
21					
22					
23		36	#5 x 31'-6" (LEVEL I, BLACK STEEL)		PRECAST ABUTMENTS
24		16	#5 x 3'-4 1/2" (LEVEL II, DUAL COATED)		
25					
26		48	#6 x 2'-11" (LEVEL II, DUAL COATED)		
27					
28		1	BRIDGE PLAQUE	SUPPLIED BY OTHERS	
29		32	6"ϕ x 5'-1 3/4" (MAX.) CORRUGATED STEEL ~~SLEEVE~~	GALVANIZED	
30		8	2'-0"ϕ x 5'-1 1/2" CORRUGATED STEEL ~~SLEEVE~~	GALVANIZED	
31		4	SET OF (4) 0.60"ϕ x 270 KSI STRAND LIFTING LOOPS		
32					
33					
34					
35					

270 ksi, low relaxation, seven-wire

36'-2"

and epoxy coated

Galvanized

post-tensioning duct

material per note 20, sheet 8/69 of contract plans

Pipe, AASHTO M36, Type 1

Vermont Agency of Transportation
RECEIVED
CK'D BY RK/JW OK'D BY RY
January 14, 2015
RESUBMIT No Approved AsNoted
BY RY DATE 02/05/2015

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STREET, MIDDLEBURY, VERMONT 05753 Phone:(802)388-0361 Fax:(802)388-9010

A.L. St. ONGE
CONTRACTOR
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014
SCALE: NOTED

TOWN OF FAIRFIELD
SOUTH ROAD, FAS 0281 (RURAL MAJOR COLLECTOR)
BRIDGE NO.: 14 PROJECT NO.: BRF 0281(25)

CHKD: B.C. DFTM: B.L.
JOB NO: 23446-014

MATERIALS LIST

DWG. NO: M1

F:\VT-Bridges\23446-14 Fairfield\South Road\23446-M1.dwg, 1/9/2015 6:12:29 PM