PITTSFIELD ER BRF 022-1(23)
CONTRACTOR FABRICATED PRE-CAST

REVISED 4/7/14

COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

PITTSFIELD ER BRF 022-1(23)

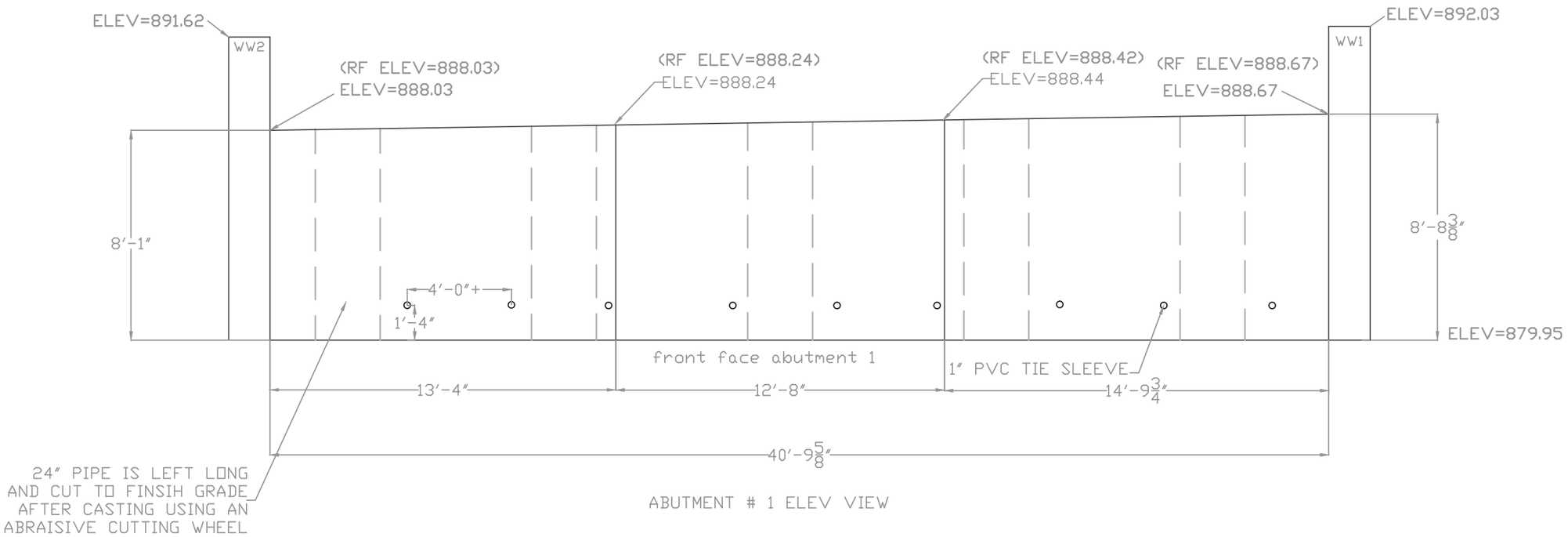
COVER SHEET/INDEX

SHEET NUMBER

COVER

DATE: 10-31-13

scale:



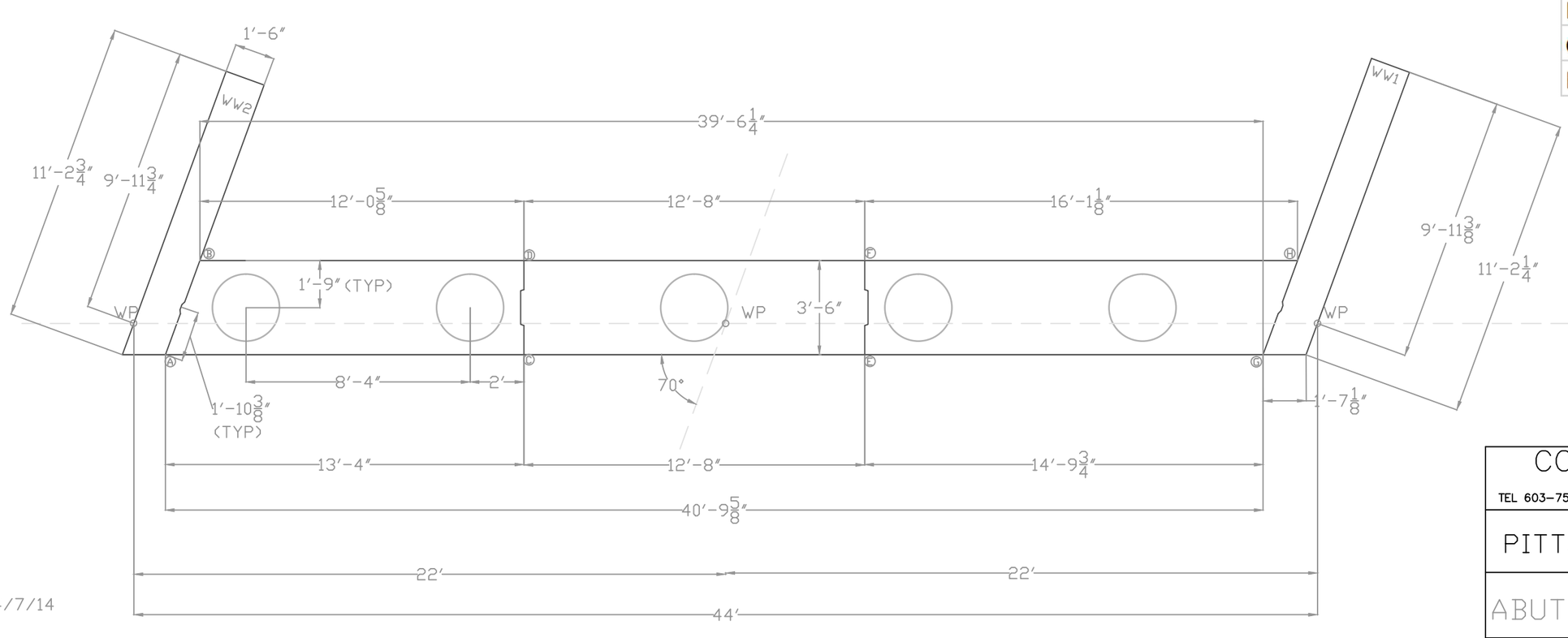
ABUTMENT # 1 ELEV VIEW

***NOTE:

1.PLEASE SEE SHEETS 14,15,16 FOR LIFTING POINT LOCATION

2.IF WEEP PIPES ARE NOT DESIRED 1" PVC CAN BE USED AS A TIE SLEEVE.

ABUTMENT A		
LOCATION	*ELEV*	*HGT*
A	888.03	8'-1"
B	888.03	8'-1"
C	888.24	8'-3 1/2"
D	888.22	8'-3 1/4"
E	888.44	8'-5 7/8"
F	888.42	8'-5 5/8"
G	888.67	8'-8 5/8"
H	888.67	8'-8 5/8"



ABUTMENT # 1 PLAN VIEW

REVISED 4/7/14

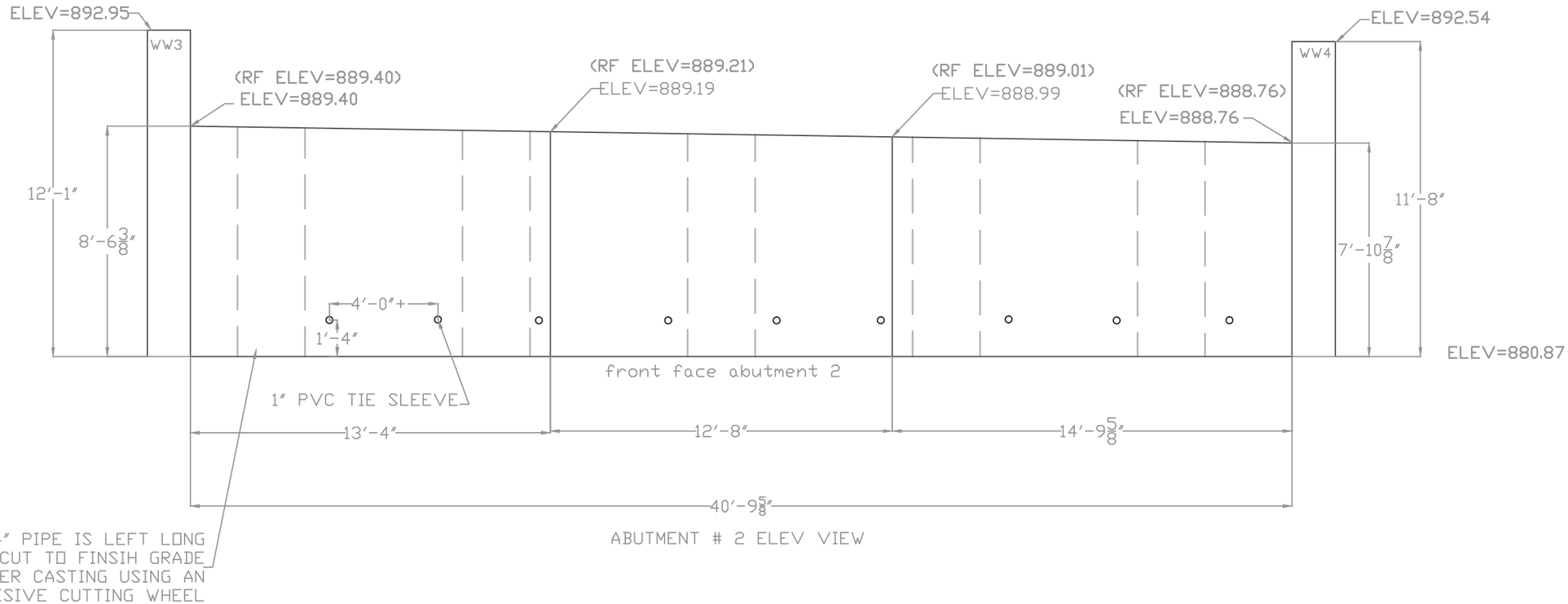
COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

PITTSFIELD ER BRF 022-1(23)

ABUT 1 PLAN/ELEV

SHEET NUMBER 1

DATE: 1-17-14 scale: 1/4"=1'



ABUTMENT # 2 ELEV VIEW

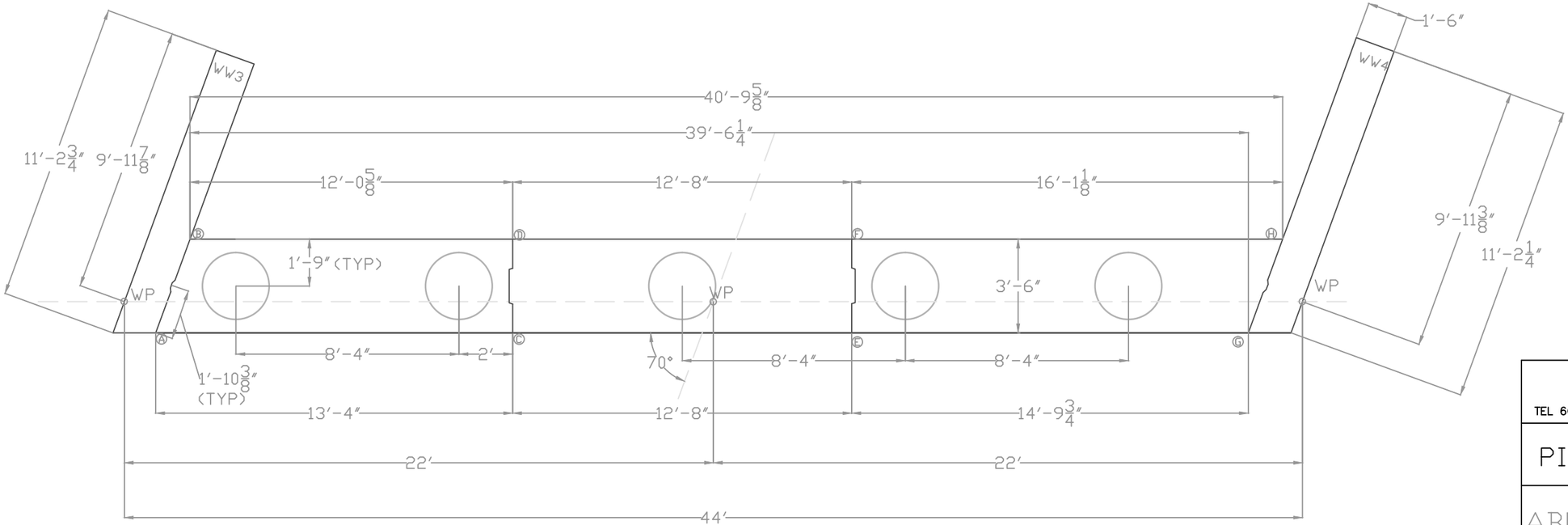
1.PLEASE SEE SHEETS 14,15,16 FOR LIFTING POINT LOCATION

***NOTE:

1.PLEASE SEE SHEETS 14,15,16 FOR LIFTING POINT LOCATION

2.IF WEEP PIPES ARE NOT DESIRED 1" PVC CAN BE USED AS A TIE SLEEVE.

ABUTMENT B		
LOCATION	*ELEV*	*HGT*
A	889.4	8'-6 3/8"
B	889.4	8'-6 3/8"
C	889.19	8'-3 7/8"
D	889.21	8'-4 1/8"
E	888.99	8'-1 1/2"
F	889.01	8'-1 3/4"
G	888.76	7'-10 5/8"
H	888.76	7'-10 5/8"



ABUTMENT # 2 PLAN VIEW

REVISED 4/7/14

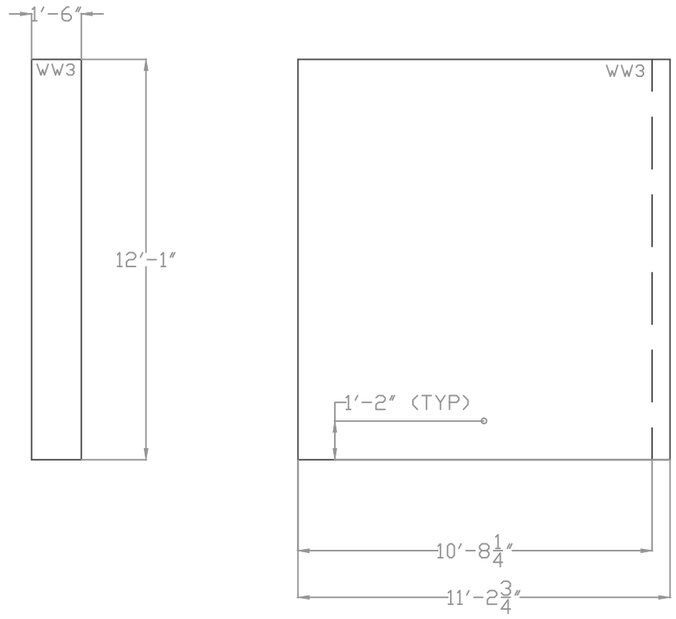
COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

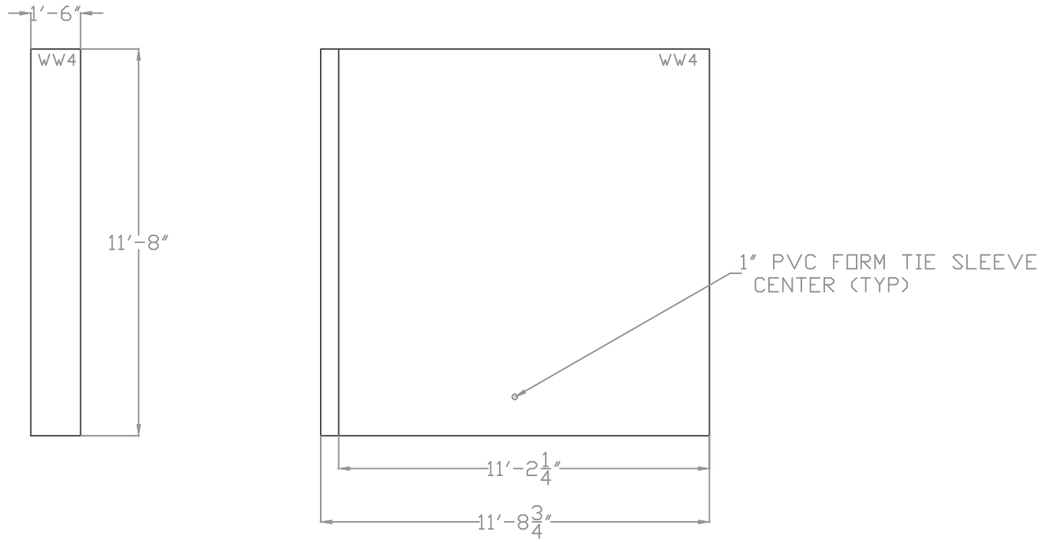
PITTSFIELD ER BRF 022-1(23)

ABUT 2 PLAN/ELEV

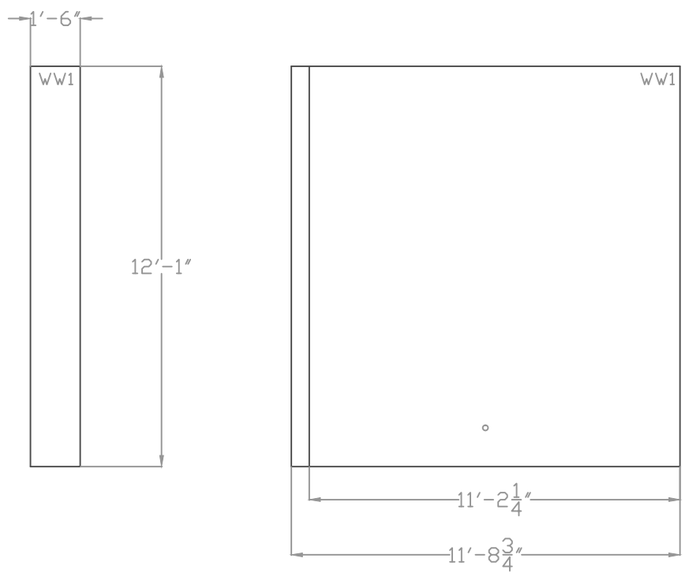
SHEET NUMBER 2

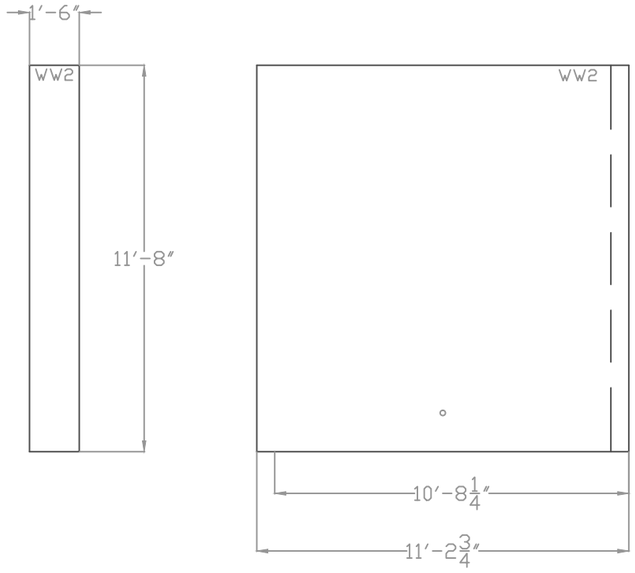
DATE: 1-17-14 scale: 1/4"=1'





***NOTES
1. PLEASE SEE SHEETS 10,11,12,13
FOR LIFTING POINT LOCATION





REVISED 4/7/14

COLD RIVER BRIDGES, LLC
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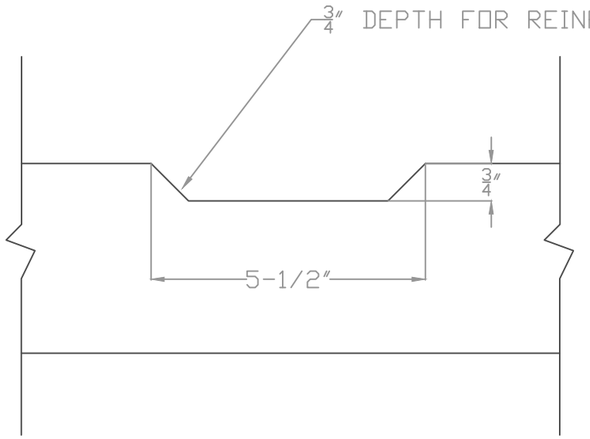
PITTSFIELD ER BRF 022-1(23)

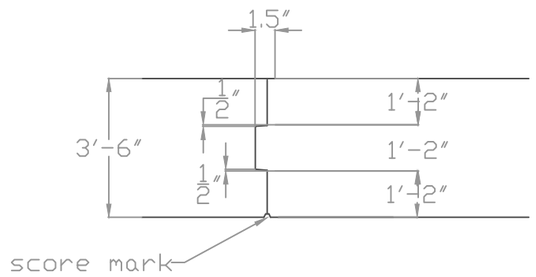
WW PLAN

SHEET NUMBER 3

DATE: 1-17-14 scale: 1/4″=1′



TYPICAL WINGWALL SHEAR KEY



TYPICAL ABUTMENT SHEAR KEY

KEYWAY DETAILS

REVISED 4/7/14

COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

PITTSFIELD ER BRF 022-1(23)

KEYWAY DETAILS

SHEET NUMBER 4

DATE: 2-19-14 scale: 1/4"=1'

CONCRETE NOTES:

1.CAST IN PLACE APPROACH SLABS- CONCRETE CLASS HPC 3500 PSI

2.WINGWALL CONCRETE=5000 PSI

3.ABUTMENT CONCRETE= 5000PSI

4.ALL CONCRETE FOR PRE-CAST OPERATION SHALL BE SUPPLIED BY CARROLL CONCRETE INC.

5.ALL PRE-CAST CONCRETE MIX DESIGNS HAVE OR WILL BE SUBMITTED BY CARROLL CONCRETE INC.

6. CAST IN PLACE APPROACH SLABS WILL HAVE A BROOM FINISH..

7. WINGWALLS TOPS WILL HAVE A FORM FINISH, ABUTMENT TOPS WILL HAVE A ROUGHENED FINISH EXCEPT UNDER BEARING PADS WILL RECEIVE A FLAT FINISH.

8. ABUTMENT INTERNAL BULKHEAD FORMS CAN BE REMOVED AFTER 48 HOURS CURE SHALL CONTINUE WITH THE USE OF DAYTON SUPERIOR J-9A WHITE WAX CURE.

9.ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3./4"

10.ALL PRE-CAST FORM WORK EXCLUDING INTERNAL BULKHEADS WILL BE REMOVED WHEN THE CONCRETE HAS REACHED 85% OF DESIGN STRENGTH

11.WATER REPELLENT SILANE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH SECTION 514 TO ALL EXPOSED CONCRETE ON THE BRIDGE SUB-STRUCTURE

CONSTRUCTION SEQUENCE:

1.CAST WINGWALLS 1,2,3,4 (CAST FLAT, FINISH FACE DOWN)

2.STAND UP `WINGWALLS 1,2,3,4.

3.MATCH CAST ABUTMENTS SECTIONS AS SHOWN IN CASTING SEQUENCE(POUR #1)

4.MATCH CAST REMAINING ABUTMENT SECTIONS (POUR #2)

5.APPLY EPOXY BONDING COMPOUND TO MATCH CAST JOINTS,SET ABUTMENT 1 SECTIONS ON PROPERLY GRADED SUB-GRADE, SET WINGWALLS 1&2, INSTALL STRANDS AND POST TENSION TO 3 KIPS.

6.REPEAT STEP 5 FOR ABUTMENT # 2 AND WW 3&4.

7.FILL PILE CAVITY VOIDS WITH HPC RAPID SET

8.AFTER HPC RAPID SET REACHES 3500 PSI PERFORM FINAL POST TENSION

LIFTING,HANDLING

1.LIFTING DESIGN AND HANDLING STRESSES ARE PART OF ATTACHED CALCULATION PACKAGE.

REVISED 4/7/14

COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

PITTSFIELD ER BRF 022-1(23)

GENERAL NOTES

SHEET NUMBER 5

DATE: 2-19-14 scale:

QUALITY CONTROL PROCEDURES.

1.CARROLL CONCRETE WILL BE RESPONSIBLE FOR THE CONTRACTOR./SUPPLIOR QC TESTING DURING CONCERT PLACEMENT .CARROLL CONCRETE WILL SUPPLY AN ON SITE TECHNICIAN TO MONITOR AND DOCUMENT AIR CONTENT, WATER CEMENT RATIONS AND SLUMP OF EACH TRUCK.CARROLL CONCRETE WILL ALSO PRODUCE CONCRETE TEST CYLINDERS FOR 7,14,28 DAY STRENGTHS.CARROLL CONCRETES QC TECH WILL BE RESPONSIBLE FOR ANY ADJUSTMENTS TO THE CONCRETE AT THE PLANT AND OR IN THE FIELD TO MEET THE REQUIRED SPECIFICATIONS.

2. PRE-PRODUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR AND RESIDENT ENGINEER BEFORE CONCRETE PLACEMENT.

3. VTRANS WILL RETAIN THEIR RESPONSIBILITIES FOR QUALITY ACCEPTANCE TESTING.

4. FOUR EXTRA CYLINDER SETS PER CONCRETE PLACEMENT SHALL BE TAKEN FOR EARLY STRENGTH BREAKS.

5. ALL INSIDE FORM DIMENSION AND R-BAR SPACING AND CLEARANCES SHALL BE REVIEWED AND DOCUMENTED ON THE PRE-POUR INSPECTION SHEET BY THE CONTRACTOR AND THE RESIDENT ENGINEER BEFORE CASTING IS COMMENCED..

6. BEFORE FORMS ARE ERECTED THE CONTRACTOR WILL INSPECT ALL FORM-WORK FOR DAMAGE OR RESIDUAL CONCRETE. ANY DEFICIENCY IN THE FORM WORK SHALL BE CORRECTED BEFORE FORM WORK CONTINUES.

7. FORMS SHALL HAVE A GENEROUS COATING OF FORM OIL APPLIED. . CAUTION WILL BE TAKEN NOT TO HAVE PONDING OF FORM OIL IN THE BASE OF THE FORM OR ON ANY R-BAR.

8. ALL PRE-CAST WILL BE INSPECTED BY BOTH THE CONTRACTOR AND THE RESIDENT ENGINEER AND DOCUMENTED ON THE POST POUR INSPECTION SHEET. ANY MINOR REPAIRS DEFINED PER THE VTRANS CONTRACTOR-FABRICATED PRECAST CONCRETE STRUCTURES SPEC ARE AS FOLLOWS:HOLES,HONEYCOMBING OR SPALLS WHICH ARE 6" IN DIA OR LESS AND DO NOT PENETRATE MORE THAN 1". THESE REPAIRS SHALL BE MADE WITH A VERTICAL AND OVERHEAD PATCH FROM THE APPROVED PRODUCTS LIST. SURFACE VOIDS AND BUG HOLES THAT ARE LESS THAN 6" DIA AND ¼" DEEP ARE NOT REQUIRED TO BE REPAIRED

9. CONCRETE TOLERANCES LENGTH ¼", WIDTH ¼", SQUARENESS ½"

10. REINFORCING TOLERANCES +- ¼"-REINFORCING PLACEMENT +-1/4" COVER AND CLEARANCE 1" BAR SPACING .

11. EACH PIECE OF PRE-CAST SHALL BE MARKED WITH ITS UNIT NUMBER AND DATE OF CASTING

12. CURE METHODS WILL MEET THE REQUIREMENTS OF SECTION 501.17A(5). IF THE CONCRETE TEMPERATURE DROPS BELOW 50 DEGREE OR A WET CONDITION IS NOT MAINTAINED THE CURE WILL BE EXTENDED PER SECTION 501.17 (a)

13. MATCH CAST SURFACES WILL BE COATED WITH DAYTON SUPERIOR J9A WHITE WAX CURE AT A MIN. RATE OF 200 SF PER GALLON. THIS COATING WILL ACT AS A BOND BREAKER DURING MATCH CASTING.

14. PRE-CAST KEYWAYS WILL BE SANDBLASTED TO REMOVE ANY RESIDUAL BOND BREAKER.

15. KEYWAYS SHALL BE AIR BLASTED BEFORE ERECTION TO PREP SURFACE FOR THE APPLICATION OF THE EPOXY BONDING COMPOUND.

16. EPOXY BONDING COMPOUND SHALL BE SIKADUR HI-MOD 32 OR = FROM THE VTRANS APPROVED PRODUCTS LIST.

17. ABUTMENTS SECTIONS AND WINGWALLS WILL BE CAST AND STORED AT OUR STAGING AREA LOCATED ON RT 131 ADJACENT TO THE CAVENDISH ER BRF 0146(13) PROJECT. PRE-CAST SECTIONS WILL BE LOADED ON LOW BED TRAILERS AND TRUCKED TO THE PITTSFIELD PROJECT ON THE DAY OF ERECTION. ALL LIFTING AND HANDLING WILL FOLLOW THE SUBMITTED LIFTING DESIGN.

WINTER WORK PROVISIONS:

1.Cold River Bridges will be constructing the abutments and wingwalls inside of a heated enclosure constructed and used to complete the pre-casting on the Cavendish ER BRF 0146 (13) project.(LOCATED ON RT 131,CAVENDISH VT)

2.Concrete will meet the temperature requirements of section 501.07.

3.Form work and r-bar will be pre-heated inside of the casting enclosure to 50 degrees with the use of radiant heat and supplemental "salamander heaters".This will produce a redundant source of heat.

4.After the placement of concrete a combination of radiant heat and salamanders will be used for the full length of the cure. Maintaining cast concrete temperatures above 50 degrees for cure period.

5. Digital temperature data loggers will be used to monitor cure. 1 data logger will be supplied per unit.

6. Cure water shall be heated to 50 degrees by the use of radiant, propane or electric heat source before the water is applied to the concrete.

REVISED 4/7/14

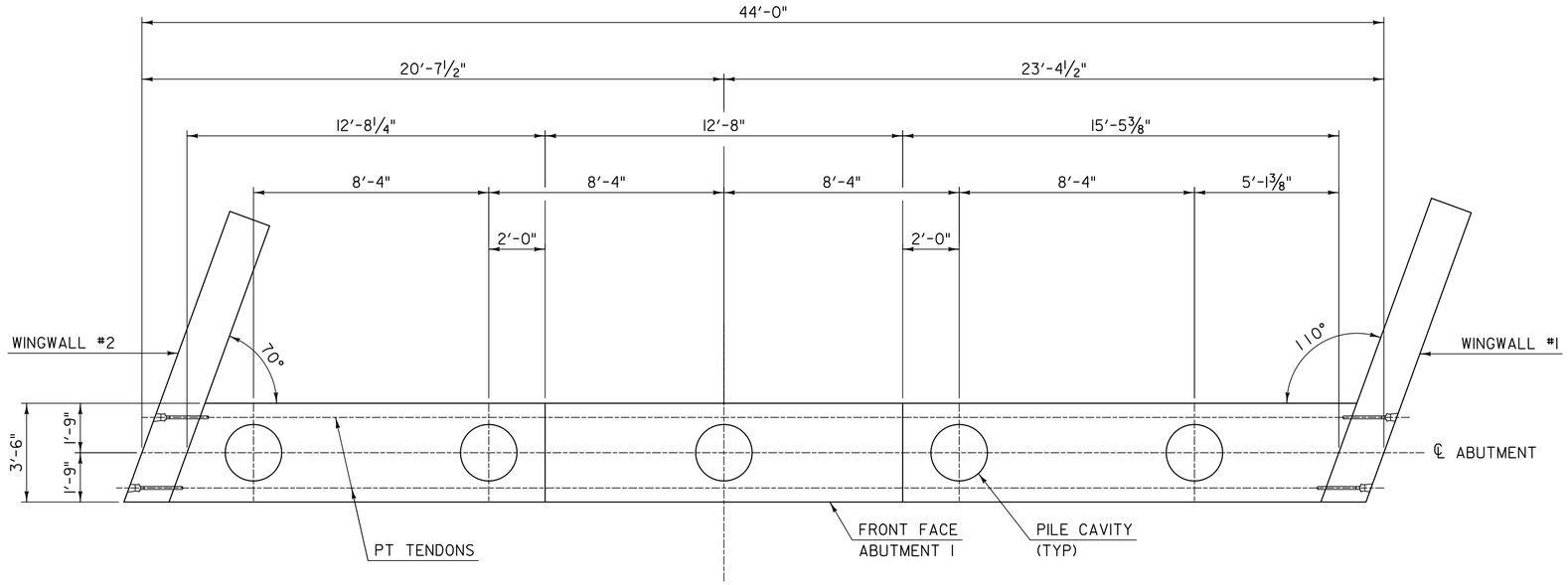
COLD RIVER BRIDGES, LLC
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9303

PITTSFIELD ER BRF 022-1(23)

QC PROCEDURES/PLAN

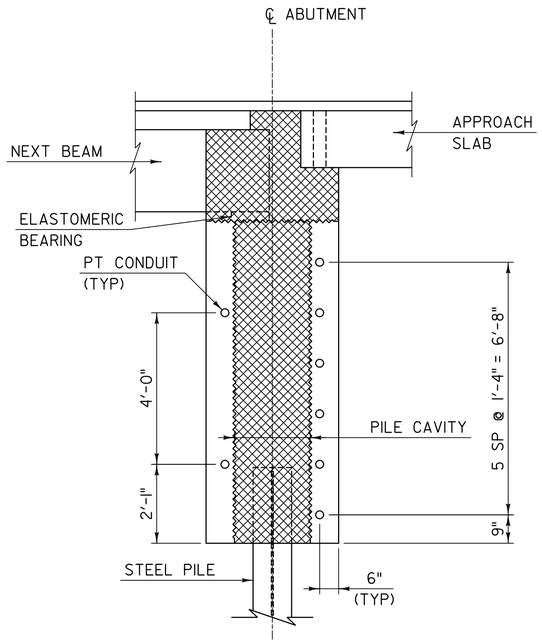
SHEET NUMBER 6

DATE: 10-30-13 scale:



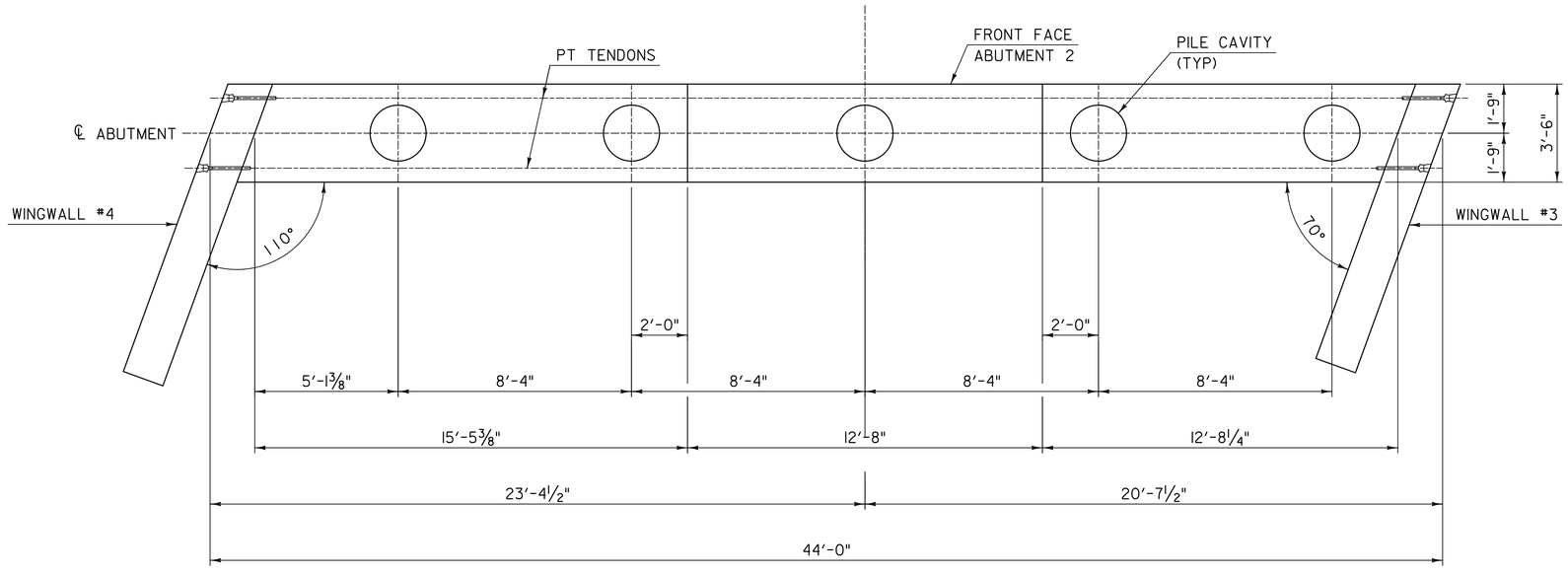
ABUTMENT #1 - PLAN

SCALE: ⅜" = 1'-0"



ABUTMENT TYPICAL

SCALE: ½" = 1'-0"



ABUTMENT #2 - PLAN

SCALE: ⅜" = 1'-0"

NOTES:

1. GEOMETRY SHOWN HEREIN IS AN UNDERSTANDING OF THE CONTRACTOR'S INTENDED PRECAST ABUTMENT CONSTRUCTION AND IS PROVIDED TO QUALIFY THE POST-TENSIONING DESIGN. DETAILS SHOWN HEREIN ARE INTENDED TO CONVEY TRANSVERSE POST-TENSIONING DESIGN ONLY. ALL GEOMETRY, MILD STEEL REINFORCEMENT, PROJECT NOTES, AND DETAILS NOT SHOWN HEREIN SHALL BE IN ACCORDANCE WITH THE ORIGINAL BRIDGE REPLACEMENT PLAN SET PREPARED BY VTRANS.

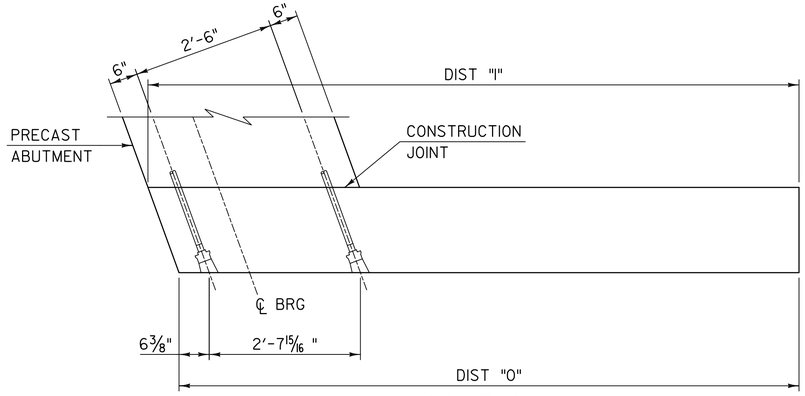
2. THERE SHALL BE A SINGLE POST-TENSIONING TENDON PER DUCT. POST-TENSIONING DESIGN VALUES ARE AS FOLLOWS:
   - -TENDONS SHALL BE 0.6 INCH DIAMETER, AASHTO M 203 LOW RELAXATION 7-WIRE STRANDS.
   - -JACKING FORCE PER TENDON = 42 KIPS.
   - -ANCHOR SET SHALL BE ¼ INCH OR LESS.
   - -APPARENT MODULUS OF ELASTICITY (TENDONS) = 28,500 KSI.

3. TENDON STRESSING SEQUENCE SHALL BEGIN NEAR THE CENTER OF THE ABUTMENT AND PROGRESS OUTWARD.

4. PILE CAVITIES SHALL BE FILLED PRIOR TO FULLY STRESSING THE TENDONS. TENDONS MAY BE JACKED TO 3 KIPS EACH PRIOR TO FILLING PILE CAVITIES.

STATE OF VERMONT
JOSHUA K. OLUND
NO. 72818
Structural Part II
LICENSED
PROFESSIONAL ENGINEER
3/3/14

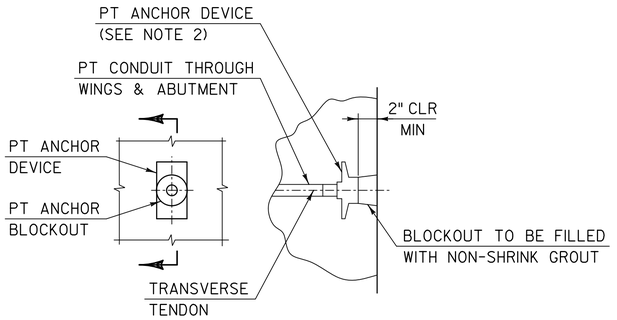
PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	ER BRF 022-1(23)
TY·LIN INTERNATIONAL	
FILE NAME: z86e060bdrabut1.dgn	PLOT DATE: 3/3/2014
PROJECT LEADER: J. OLUND	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: D. MYERS
ABUTMENT 1 & 2 PLAN & SECTION	SHEET 1 OF 2



WWI PLAN

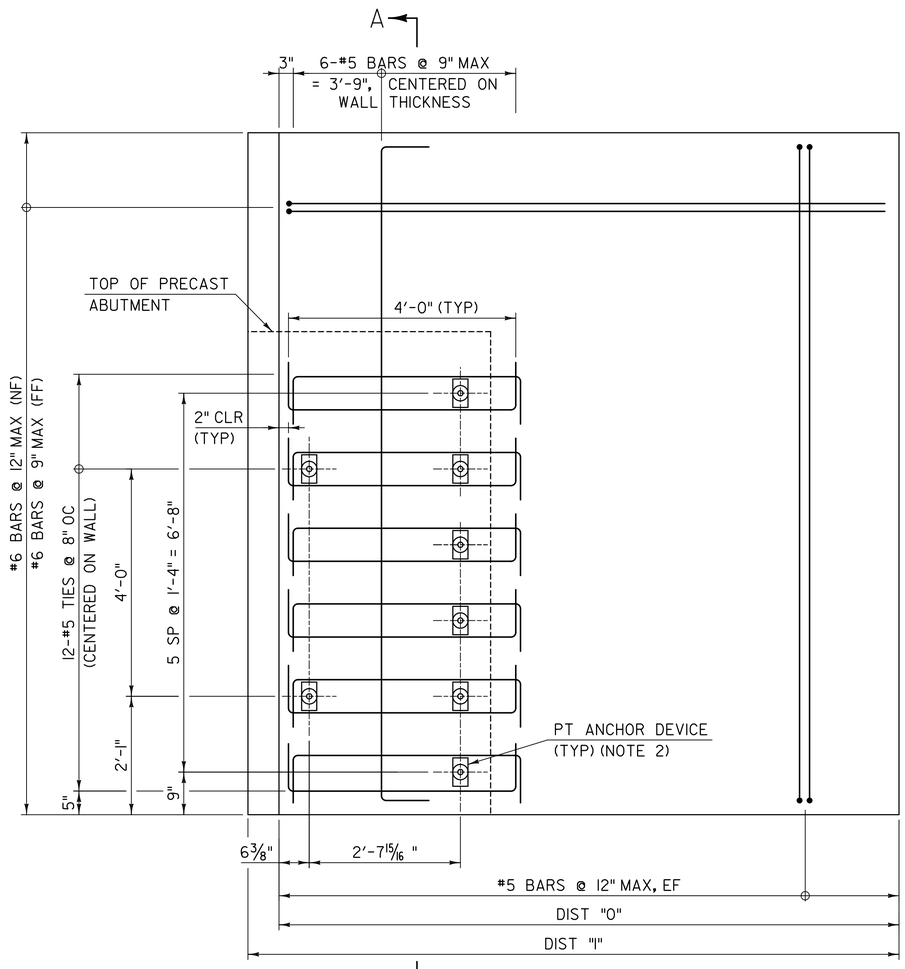
SCALE: 3/4" = 1'-0"
(REINFORCING STEEL NOT SHOWN FOR CLARITY)

WINGWALL DIMENSIONS				
	WINGWALL 1	WINGWALL 2	WINGWALL 3	WINGWALL 4
DIST "I"	11'-8 3/4"	10'-8 1/4"	10'-8 1/4"	11'-8 3/4"
DIST "O"	11'-2 1/4"	11'-2 3/4"	11'-2 3/4"	11'-2 1/4"



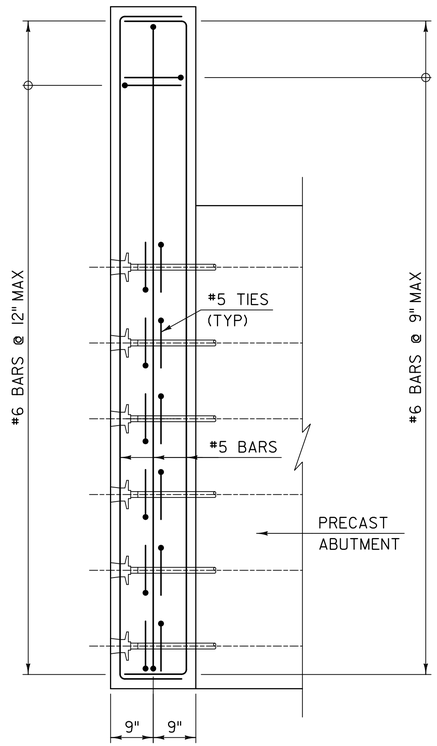
TRANSVERSE TENDON ANCHORAGE DETAIL

NOT TO SCALE



WWI ELEVATION

SCALE: 3/4" = 1'-0"



SECTION A-A WWI TYPICAL

SCALE: 3/4" = 1'-0"

NOTES:

1. WWI SHOWN, OTHERS SHALL BE SIMILAR.
2. POST-TENSIONING ANCHOR DEVICE SHALL BE DYWIDAG ANCHOR CASTING GTI SI-06 OR SIMILAR.
3. PRECAST WINGWALL MILD STEEL REINFORCEMENT SHOWN SHALL BE USED IN PLACE OF REINFORCEMENT DETAILED IN THE ORIGINAL PLAN SET.
4. DIMENSIONS AND ELEVATIONS NOT SHOWN SHALL BE CONSISTENT WITH THE ORIGINAL PLAN SET.

STATE OF VERMONT
JOSHUA K. OLUND
NO. 72818
Structural Part II
LICENSED
PROFESSIONAL ENGINEER
5/2/14

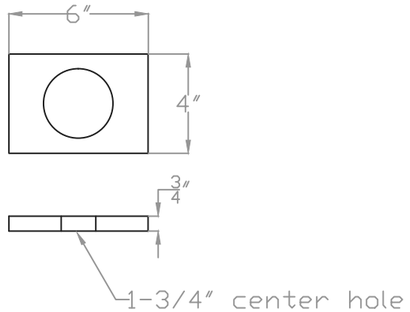
SHEET 8

T.Y.LIN INTERNATIONAL

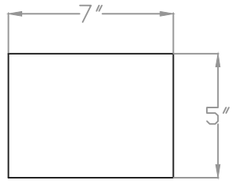
PROJECT NAME: PITTSFIELD
PROJECT NUMBER: ER BRF 022-1(23)

FILE NAME: z86e060bdrabutdet.dgn
PROJECT LEADER: J. OLUND
DESIGNED BY: T. POULIN
WINGWALL DETAILS

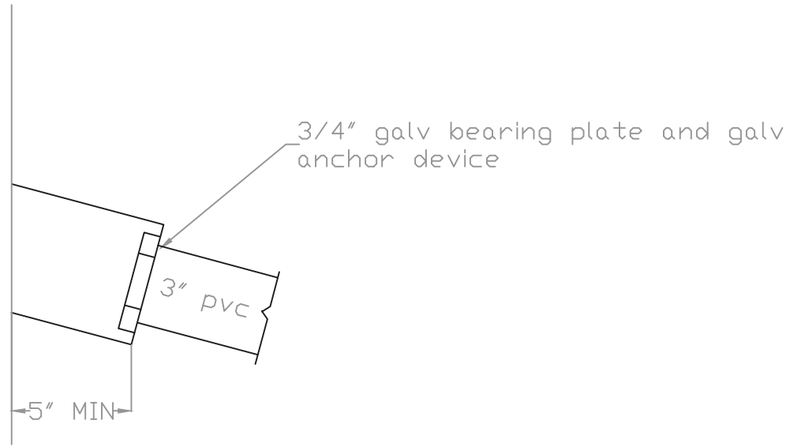
PLOT DATE: 3/3/2014
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 2 OF 2



BEARING PLATE DETAIL
NTS



TYPICAL PT BLOCK OUT
NTS



TYPICAL PT BLOCK OUT
NTS

NOTES:
1. ALL PT HARDWARE SHALL BE GALVANIZED.
2. ALL PT DUCTS ARE 3″ SCH 40 PVC
3. PT DUCTS ARE NOT GROUTED, THE PT BLOCK-OUTS WILL BE GROUTED AFTER FINAL POST TENSIONING. BLOCK-OUTS WILL BE GROUTED WITH A PRODUCT FROM THE VTRANS APPROVED PRODUCTS LIST.
4. ALL POST TENSIONING TO BE COMPLETED BY CONSTRUCTIVE SERVICES, INC
5. PT DETAIL DOES NOT UTILIZE FORM ALIGNER AS SHOWN ON TY-LYN DRAWINGS. SYSTEM IS EQUAL AND HAS BEEN APPROVED BY TY-LYN

REVISED 4/7/14

COLD RIVER BRIDGES, LLC
10 LANBRO LANE
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PITTSFIELD ER BRF 022-1(23)

POST-TENSION DETAILS

SHEET NUMBER
8A

DATE: 4-2-14 scale:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIAL AND RESEARCH SECTION - STRUCTURAL CONCRETE UNIT

STRUCTURAL CONCRETE MIX DESIGN SUBMISSION

Agency Use Only	
Mix ID	PP00-0
Mix Design #	
Approved by	
Approved Date	
Spec Book Year	2013

Concrete class: Precast Prestressed
Additional Description:
Ready Mix Supplier: CARROLL CONCRETE - CHARLESTOWN, NH
Designed By: Scott Jordan
Design strength: 5000 PSI
Design by dry weight or saturated surface dry: SSD

Mix designs are valid for a 12 month period from date of approval or unless there is a change in material, material property or design parameter.

Cement:				Specific Gravity		lb/cy	0.00 cf
701.02	Source:						
	Brand Name:						
Cement Type III:				Specific Gravity		lb/cy	0.00 cf
701.04	Source:						
	Brand Name:						
Blended Cement:				Specific Gravity	3.020	705 lb/cy	3.74 cf
701.06	Source:	LAFARGE - TERCEM - MONTREAL, EAST PLANT					
	Brand Name:						
Cement with Slag:				Specific Gravity		lb/cy	0.00 cf
701.07	Source:						
	Brand Name:						
Pozzolan:				Specific Gravity		lb/cy	0.00 cf
725.03(a)	Source:						
	Brand Name:						
Fly Ash:				Specific Gravity		lb/cy	0.00 cf
725.03(a)	Source:						
	Brand Name:						
Silica Fume:				Specific Gravity		lb/cy	0.00 cf
725.03(b)	Source:						
	Brand Name:						
Slag:				Specific Gravity		lb/cy	0.00 cf
725.03(c)	Source:						
	Brand Name:						
Water					32 gals	267 lb/cy	4.28 cf
Air Content Target					7.0 %		1.89 cf
Coarse Aggregate 3/8"			Absorption	Specific Gravity		lb/cy	0.00 cf
704.02A	Source:						
Coarse Aggregate 3/4"			Absorption 0.80	Specific Gravity	2.880	1688 lb/cy	9.39 cf
704.02B	Source:	COLD RIVER MATERIALS PIT - N WALPOLE, NH					
Coarse Aggregate 1 1/2"			Absorption	Specific Gravity		lb/cy	0.00 cf
704.02C	Source:						
Fine Aggregate:			Absorption 0.90	Specific Gravity	2.670	1283 lb/cy	7.70 cf
704.01	Source:	NEWPORT SAND & GRAVEL - NEWPORT, NH		Fineness Modulus	2.83		
Air Entrainment Admixture				Specific Gravity		1.5 oz/cy	
725.02(b)	Source:	MASTER BUILDERS INC - MESQUITE, TX					
	Brand Name:	MasterAir AE 200 / Micro Air					
Retarder Admixture:				Specific Gravity		1 oz/cwt	
725.02(c)	Source:	MASTER BUILDERS INC - MESQUITE, TX					
	Brand Name:	MasterSet R100 / Pozzolith 100XR					
High Range Water Reducer Admixture:				Specific Gravity		3 oz/cwt	
725.02(h)	Source:	MASTER BUILDERS INC - MESQUITE, TX					
	Brand Name:	MasterGlenium 7500					
Other Admixtures:							
				Specific Gravity		2 oz/cwt	0.00 cf
	Source:						
	Brand Name:	BASF, MasterSure Z60					
				Specific Gravity			0.00 cf
	Source:						
	Brand Name:						
				Specific Gravity			0.00 cf
	Source:						
	Brand Name:						
				TOTAL	47.570	3943 lb	27.00 cf

Maximum Water/Cementitious Ratio: 0.44
Maximum Water (gal/cy): 37.2
Slump Min/Max (inch): 4.0 min — 7.0 max
Air Content Min/Max (%): 5.0 min — 9.0 max
Design Unit Wt. (lb/cf): 146.04

Notes:

2014 Construction season 2011 specification 5000-psi precast 2-10-14

REVISED 4/7/14

COLD RIVER BRIDGES, LL
10 LANBRO LANE
TEL 603-756-9300 WALPOLE, NH FAX 603-756-9

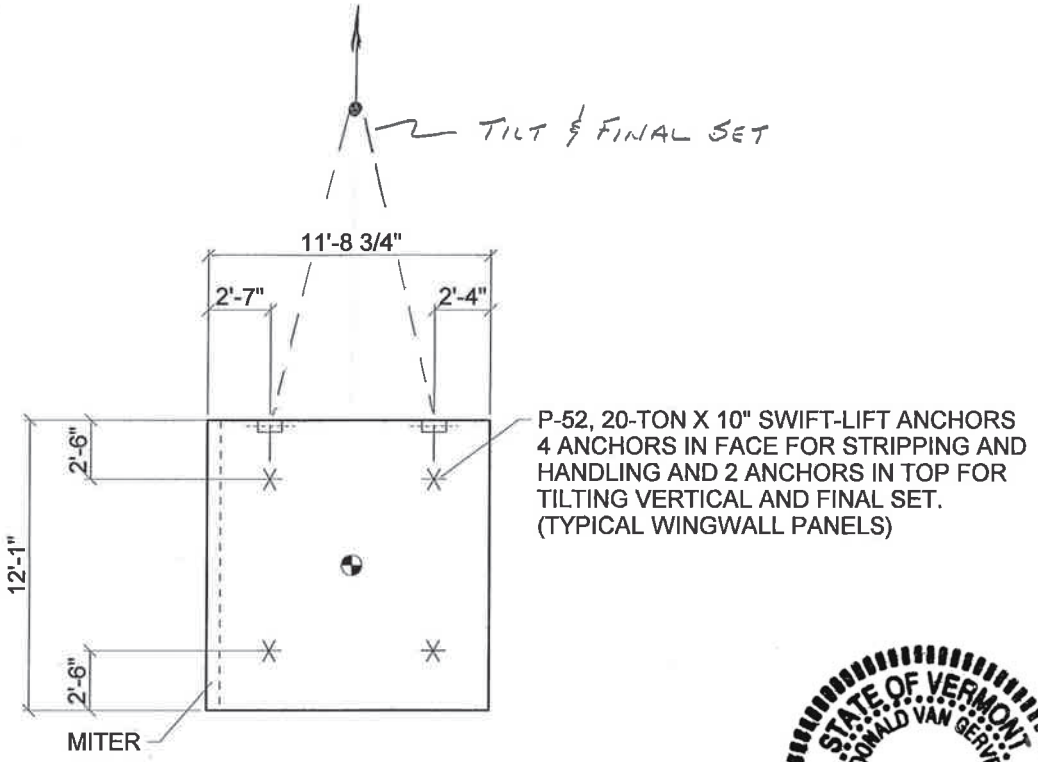
PITTSFIELD ER BRF 022-1(2

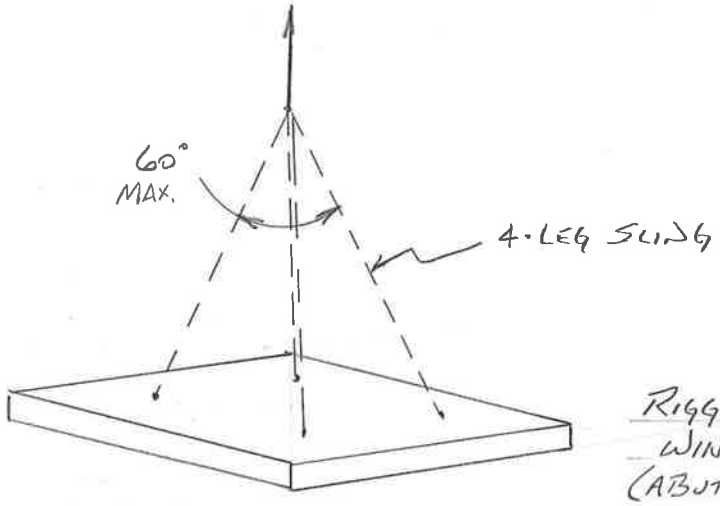
CONCRETE MIX DESIGN

SHEET NUMB 9

DATE: 1-17-14 scale: 1/4"=1'

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	18 1/8"	31.4 kips	11'-8 3/4"	12'-1"	1	WW1





RIGGING DETAIL
WING-WALL PANELS
(ABUTMENTS SIMILAR)

STATE OF VERMONT
DONALD VAN GERVE
NO. 8012
STRUCTURAL
LICENSED
PROFESSIONAL ENGINEER
3/14/14

W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

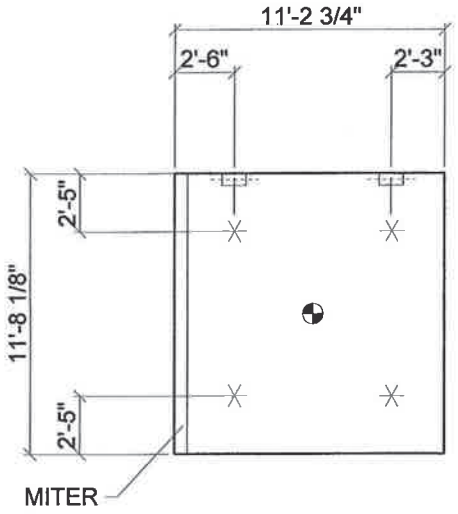
GROUND RELEASE II TILT-UP SYSTEM

This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 5'-11 15/16"	△X .13 >	CY= 7.7	SCALE:	RIGGING DETAILS
$\bar{Y}$ 6'-0 1/2"	2△X .26	GROSS AREA 141.7	1/8"	F32
PANEL VIEWED FROM:	CHECKED BY	NET AREA 141.7	JOB NO.	SHEET
INSIDE	LAYOUT BY BP	DATE 3/14/14	14120	1 OF 20

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	18"	28.8 kips	11'-2 3/4"	11'-8 1/8"	1	WW2



W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

GROUND RELEASE II TILT-UP SYSTEM

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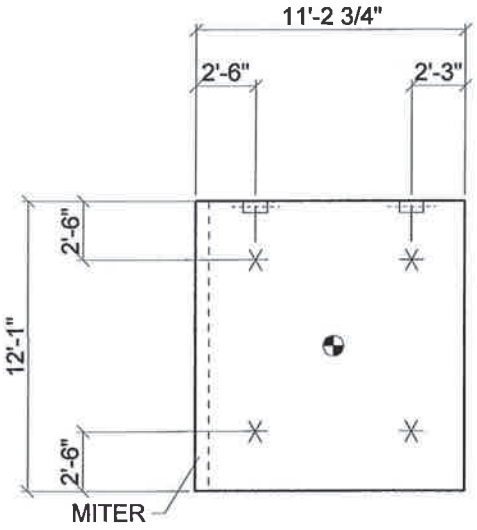
$\bar{X}$ 5'-8 15/16"	△X .13 >	CY= 7.1	SCALE:	RIGGING DETAILS
$\bar{Y}$ 5'-10 1/16"	2△X .26	GROSS AREA 131.1	1/8"	F32
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 131.1	JOB NO.	SHEET
	LAYOUT BY BP	DATE 3/14/14	14120	2 OF 20

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	18"	29.8 kips	11'-2 3/4"	12'-1"	1	WW3



STATE OF VERMONT
DONALD VAN GERVE
NO. 8012
STRUCTURAL
LICENSED
PROFESSIONAL ENGINEER
3/14/14

W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	84 mph	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:

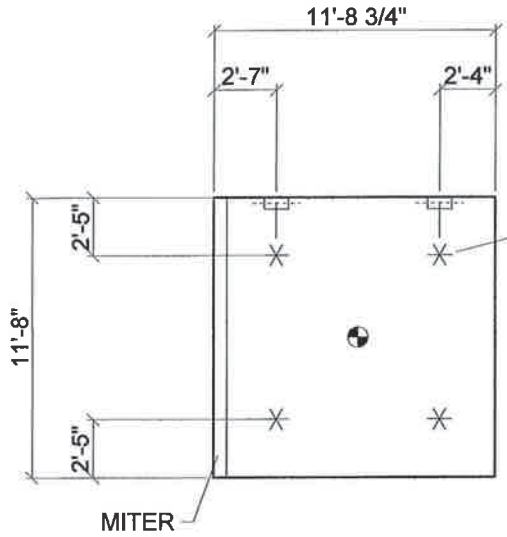
GROUND RELEASE II TILT-UP SYSTEM

This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 5'-8 15/16"	△X .13 >	CY= 7.4	SCALE:	RIGGING DETAILS
$\bar{Y}$ 6'-0 1/2"	2△X .26	GROSS AREA 135.7	1/8"	F32
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 135.7	JOB NO.	SHEET
	LAYOUT BY BP	DATE 3/14/14	14120	3 OF 20

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	18"	30.1 kips	11'-8 3/4"	11'-8"	1	WW4



P-52, 20-TON X 10" SWIFT-LIFT ANCHORS
4 ANCHORS IN FACE FOR STRIPPING AND HANDLING AND 2 ANCHORS IN TOP FOR TILTING VERTICAL AND FINAL SET.

3/14/14

W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

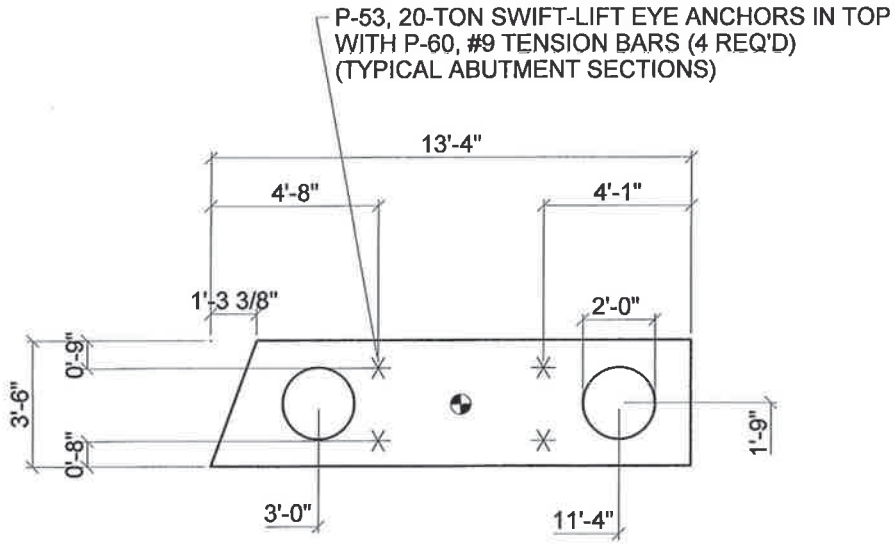
GROUND RELEASE II TILT-UP SYSTEM

This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 5'-11 15/16"	△X .13 >	CY= 7.4	SCALE:	RIGGING DETAILS
$\bar{Y}$ 5'-10"	2△X .26	GROSS AREA 136.8	1/8"	F32
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 136.8	JOB NO.	SHEET
	LAYOUT BY BP	DATE 3/14/14	14120	4 OF 20

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	98 3/8"	46.9 kips	13'-4"	3'-6"	1	13.33ft. ABUTMENT SECTION



W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

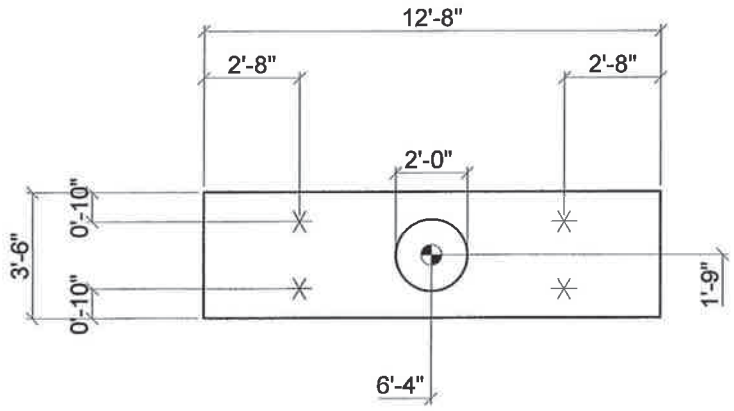
GROUND RELEASE II TILT-UP SYSTEM

This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 6'-11 7/16"	△X .28 >	CY= 11.6	SCALE:	RIGGING DETAILS
$\bar{Y}$ 1'-8 9/16"	2△X .57	GROSS AREA 46.7	3/16"	F22
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 38.1	JOB NO.	SHEET
	LAYOUT BY BP	DATE 3/14/14	14120	5 OF 20

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	100 1/2"	51.8 kips	12'-8"	3'-6"	2	12.67ft. ABUTMENT SECTION



W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

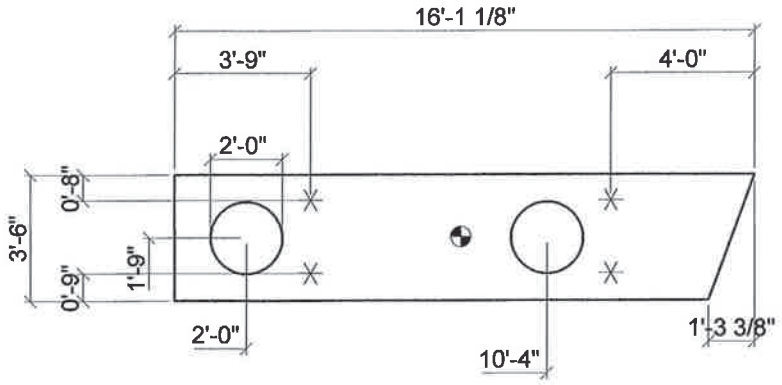
GROUND RELEASE II TILT-UP SYSTEM

This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 6'-4"	△X .0 <	CY= 12.8	SCALE: 3/16"	RIGGING DETAILS F22
$\bar{Y}$ 1'-9"	2△X .0	GROSS AREA 44.3		
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 41.2	JOB NO. 14120	SHEET 6 OF 20
	LAYOUT BY BP	DATE 3/14/14		

NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

NON STR. THK.	STRUCT. THK.	WEIGHT	WIDTH	HEIGHT	NO. REQ'D.	PANEL NUMBER OR TYPE
	103"	61.5 kips	16'-1 1/8"	3'-6"	1	16.09ft. ABUTMENT SECTION



W B F

VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

Construction Period Design Wind Speed	TOTAL BRACE LOAD =	B=	W=	F=	BRACE REQ'D.:
84 mph					

GROUND RELEASE II TILT-UP SYSTEM

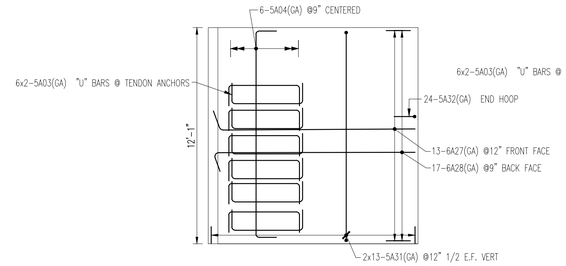
This drawing is furnished solely for the purpose of clarifying the proper use, installation and application of products supplied by Dayton Superior. Dayton Superior does not assume any responsibility for the correctness of structural designs or dimensions furnished by others. These drawings are intended merely to supplement the architectural and structural drawings and are to be used only in conjunction with them. In no way are these drawings to be interpreted as shop drawings for panel fabrication.

$\bar{X}$ 7'-11 1/4"	△X -.11 <	CY= 15.2	SCALE:	RIGGING DETAILS
$\bar{Y}$ 1'-9 5/16"	2△X -.22	GROSS AREA 56.3	3/16"	F22
PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 47.8	JOB NO.	SHEET
	LAYOUT BY BP	DATE 3/14/14	14120	7 OF 20

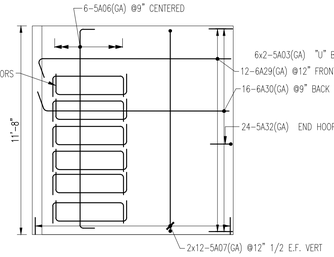
NOTE: INSERT AND BRACING DESIGN SHOWN IS BASED ON THE USE OF DAYTON SUPERIOR PRODUCTS ONLY!

Drawing Sheet : R01A — BAR LIST

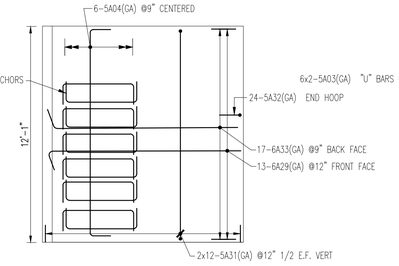
Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'X'
5A03	68	#5	6'-4"	17		1'-2"	4'-0"	1'-2"								
5A04	12	#5	13'-11"	17		1'-2"	11'-7"	1'-2"								
5A06	12	#5	12'-10"	2	10"	11'-2"						10"				
5A07	50	#5	13'-7"	17		1'-2"	11'-3"	1'-2"								
5A31	50	#5	14'-0"	17		1'-2"	11'-8"	1'-2"								
5A32	96	#5	5'-4"	17		1'-2"	1'-0"	1'-2"								
6A27	13	#6	12'-9"	3		10'-10 K"	1'-1 K"						1'-1 K"		4"	11'-2 K"
6A28	17	#6	12'-3"	H91		1'-9"	11'-2 K"						1'-1"		3 K"	
6A29	25	#6	11'-9 K"	H91		1'-9"	10'-9"						1'-1"		3 K"	
6A30	16	#6	11'-5 K"	3		10'-4"	1'-1 K"						1'-1 K"		4"	10'-8"
6A33	17	#6	11'-4 K"	3		10'-3"	1'-1 K"						1'-1 K"		4"	10'-7"
6A35	16	#6	12'-3 K"	H91		1'-9"	11'-3"						1'-1"		3 K"	
6A36	12	#6	11'-11 K"	3		10'-10"	1'-1 K"						1'-1 K"		4"	11'-2"
9A01	79	#9	20'-11"	1	1'-3"	19'-8"								11 K"		



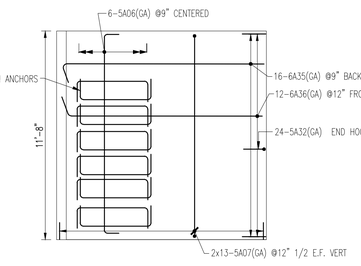
WINGWALL ELEVATION #1 REINF



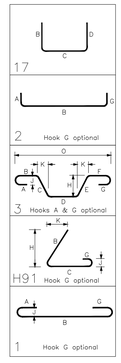
WINGWALL ELEVATION #2 REINF



WINGWALL ELEVATION #3 REINF



WINGWALL ELEVATION #4 REINF



(GA) IS FOR DUAL COATED REINF

LAP CHART-U.N.O.

SIZE	TOP BARS ★	OTHER BARS
#11		
#10		
#9		
#8		
#7		
#6		
#5		
#4		
#3		

★ -Top bars are horiz. bars with more than 12" of concrete cast below the bars.

SHEET 17

No.	Description	Date	By
1	CORRECTION/APPROVAL	4-2-14	TRH
0	APPROVAL	3-14-14	TRH

Revisions and Issue Record

The full intent and purpose of this drawing is the placing of reinforcing steel bars ONLY. It is NOT to be used as a means of communication between the Architect, Engineer, Contractor or any other Sub-trades.

THIS DRAWING IS NOT TO BE SCALED.

HarrisRebar Barker Steel — National Strength. Local Service.

DETAILED AT:
CANAAN
NEW HAMPSHIRE

Project: PITTSFIELD ER BRF 022
PITTSFIELD, VT

Drawing: WINGWALLS & APPROACH SLABS

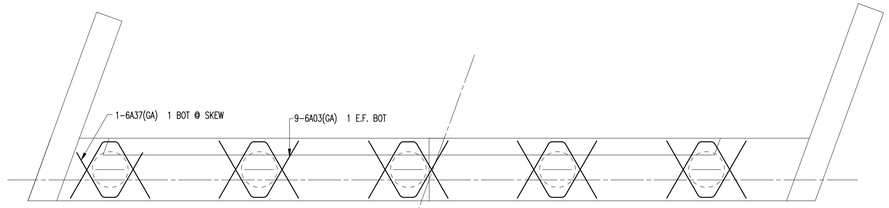
Customer: COLD RIVER BRIDGES

Engineer:

Refer to Release:

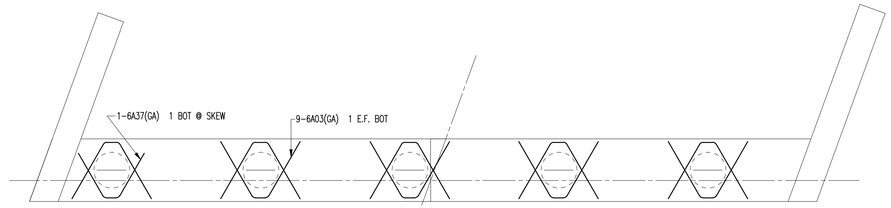
Date	Drawn	Chkd.	JOB No.	Dwg. No.
3-7-14	TRH		33505152	R01A

W:\hill\Projects\33505152\Placing Drawings\DWGs\R01.dwg

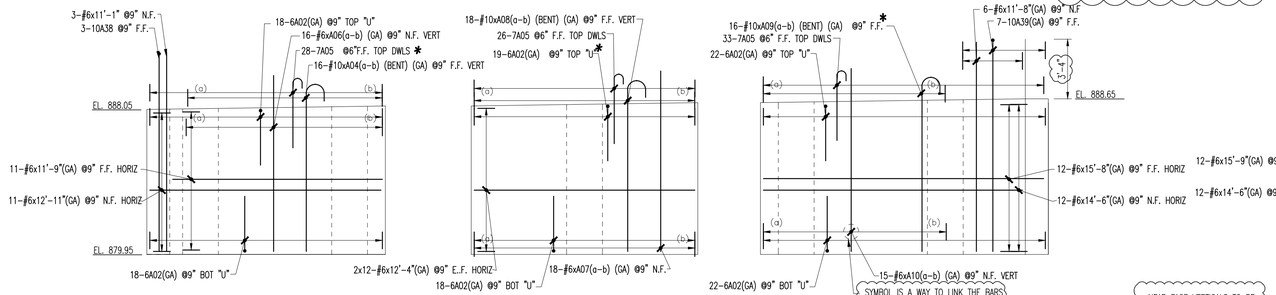


POST TENSION DUCTS NOT SHOWN FOR CLARITY

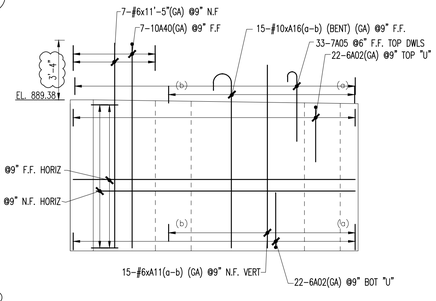
ABUTMENT #1 PLAN VIEW

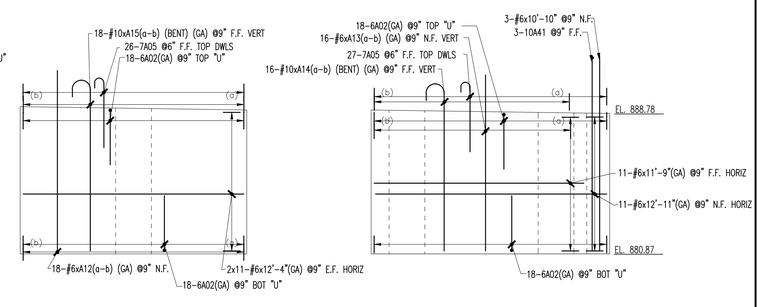


ABUTMENT #2 PLAN VIEW



ABUTMENT 1 ELEVATION

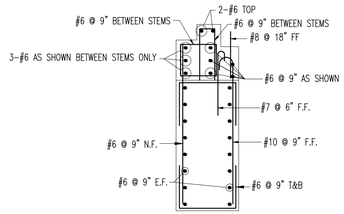




ABUTMENT 2 ELEVATION

(GA) IS FOR DUAL COATED REINF

DUAL COATED MEETS ASTM A 1055-10
STEEL IS ASTM A 615 OR A 706



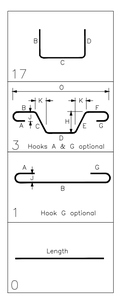
REINFORCING TYPICAL

Drawing Sheet : R01 — BAR LIST

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
6A02	233	#6	9'-3"	17		3'-1"	3'-1"	3'-1"								
6A03	18	#6	8'-1 K"	3			3'-7 K"	10"	3'-7 K"				3'-2 K"		1'-9 K"	4'-4 K"
7A05	173	#7	4'-9"	1	10"	3'-11"								7"		
A04a	14	#10	10'-8"	1	1'-5"	9'-3 K"								1'-1 K"		
A04b	2	#10	10'-10 K"	1	1'-5"	9'-5 K"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																
A06a	14	#6	9'-9"			9'-9"										
A06b	2	#6	9'-11"			9'-11"										
First and Last Bar in Vary Group Shown Only																
A08a	17	#10	10'-10 K"	1	1'-5"	9'-5 K"								1'-1 K"		
A08b	1	#10	11'-4 K"	1	1'-5"	9'-7 K"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																
A07a	17	#6	10'-0"			10'-0"										
A07b	1	#6	10'-2"			10'-2"										
First and Last Bar in Vary Group Shown Only																
A10a	13	#6	10'-2"			10'-2"										
A10b	2	#6	10'-4"			10'-4"										
First and Last Bar in Vary Group Shown Only																
A09a	12	#10	11'-4"	1	1'-5"	9'-7 K"								1'-1 K"		
A09b	4	#10	11'-3"	1	1'-5"	9'-10"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																
A16a	8	#10	10'-11"	1	1'-5"	9'-6"								1'-1 K"		
A16b	7	#10	11'-0"	1	1'-5"	9'-7 K"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																
A11a	8	#6	10'-0"			10'-0"										
A11b	7	#6	10'-1"			10'-1"										
First and Last Bar in Vary Group Shown Only																
A14a	9	#10	10'-6"	1	1'-5"	9'-1"								1'-1 K"		
A14b	7	#10	10'-7"	1	1'-5"	9'-2 K"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																
A13a	9	#6	9'-7"			9'-7"										
A13b	7	#6	9'-8"			9'-8"										
First and Last Bar in Vary Group Shown Only																
A15a	12	#10	10'-8"	1	1'-5"	9'-3"								1'-1 K"		
A15b	6	#10	10'-10"	1	1'-5"	9'-5"								1'-1 K"		
First and Last Bar in Vary Group Shown Only																

Drawing Sheet : R01 — BAR LIST

Bar Mark	Qty	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
A12a	12	#6	9'-9"			9'-9"										
A12b	6	#6	9'-11"			9'-11"										
First and Last Bar in Vary Group Shown Only																



LAP CHART-U.N.O.		
#11		
#10		
#9		
#8		
#7		
#6		
#5		
#4		
#3		
SIZE	TOP BARS ★	OTHER BARS

★ -Top bars are horiz. bars with more than 12" of concrete cast below the bars.

SHEET 18

No.	Description	Date	By
1	CORRECTIONS/ APPROVAL	4-8-14	TRH
0	APPROVAL	3-14-14	TRH

Revisions and Issue Record

The full intent and purpose of this drawing is the placing of reinforcing steel bars ONLY. It is NOT to be used as a means of communication between the Architect, Engineer, Contractor or any other Sub-trades.

THIS DRAWING IS NOT TO BE SCALED.

HarrisRebar Northeast — National Strength. Local Service.

DETAILED AT:
CANAAN
NEW HAMPSHIRE

Project: PITTSFIELD ER BRF 022
PITTSFIELD, VT

Drawing: ABUTMENT REINF

Customer: COLD RIVER BRIDGES

Engineer:

Refer to Release:

Date	Drawn	Chkd.	JOB No.	Dwg. No.
3-7-14	TRH		33505152	R01

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