

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

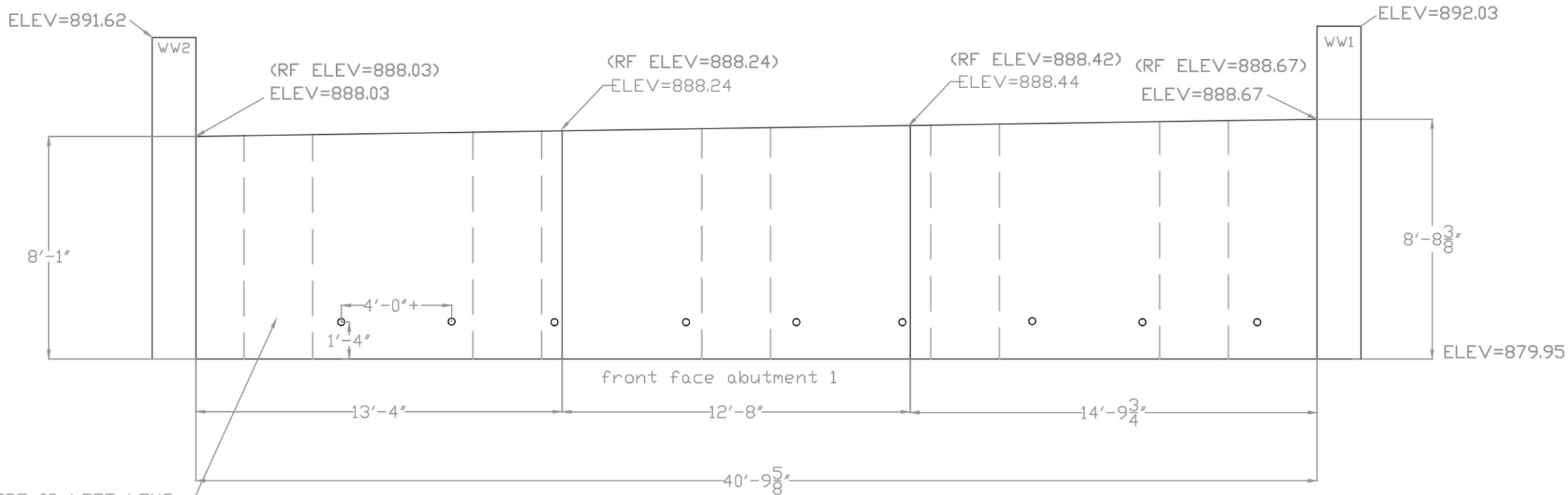
SHEET1:ABUTMENT #1 PLAN
SHEET2:ABUTMENT #2 PLAN
SHEET3:WING WALL PLAN
SHEET4:TYPICAL KEY WAY DETAILS
SHEET5:GENERAL NOTES
SHEET6:QC PROCEDURES/PLAN
SHEET7:POST TENSIONING DETAILS
SHEET8:POST TENSIONING DETAILS
SHEET8A:POST TENSIONING DETAILS
SHEET9:CONCRETE MIX DESIGN
SHEET10-16 LIFTING POINTS

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:

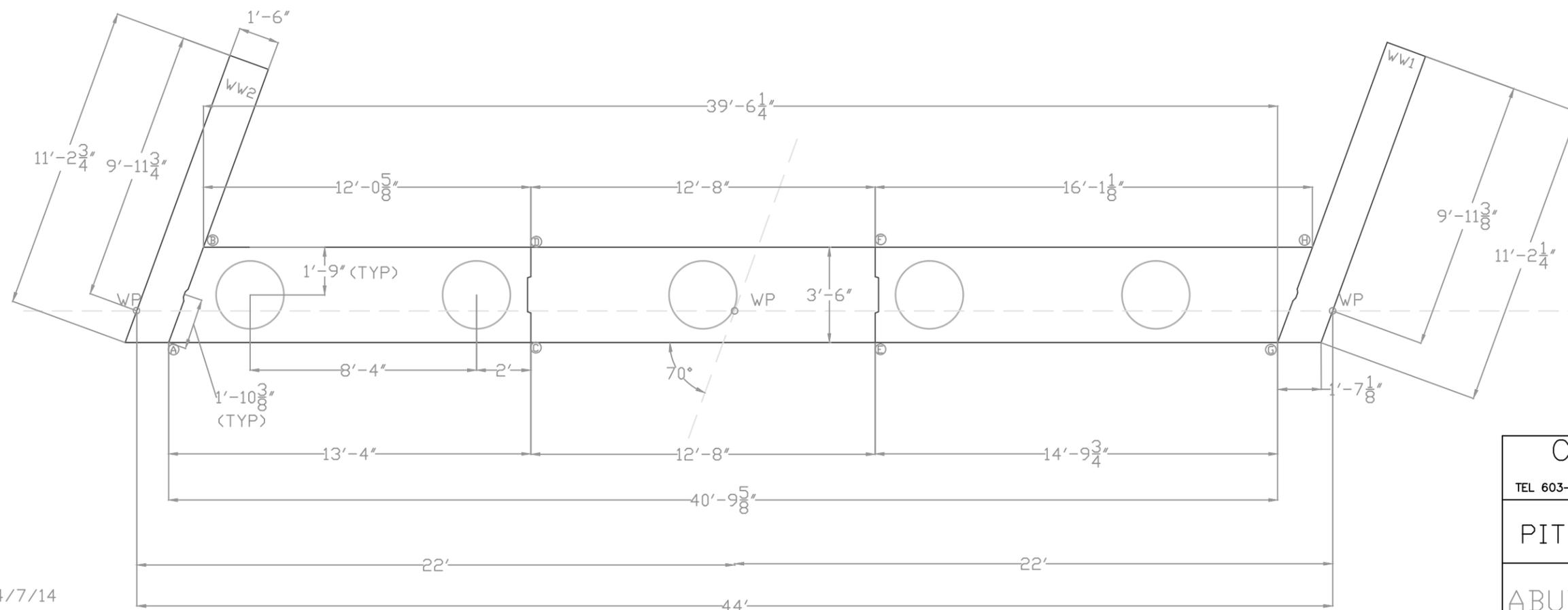
REVISED 4/7/14



***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 ELEV VIEW



ABUTMENT # 1 PLAN VIEW

24" PIPE IS LEFT LONG AND CUT TO FINISH GRADE AFTER CASTING USING AN ABRASIVE CUTTING WHEEL

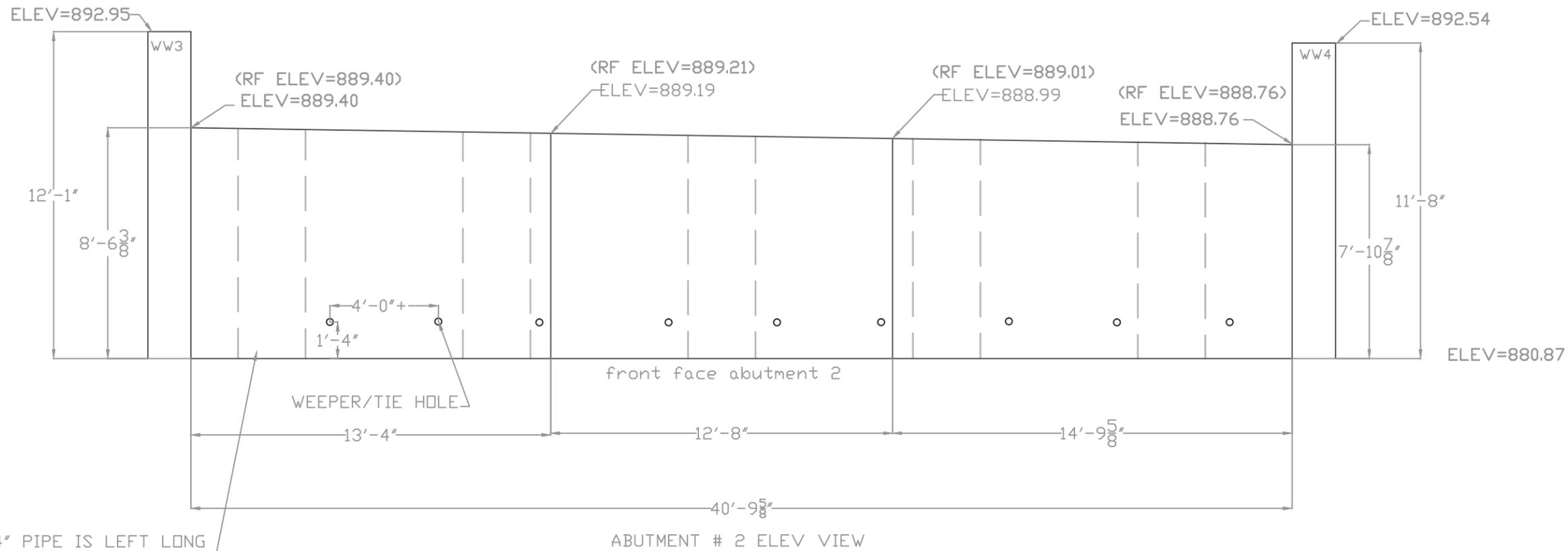
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COLD RIVER BRIDGES, LLC 10 LANBRO LANE WALPOLE, NH TEL 603-756-9300 FAX 603-756-9303	
PITTSFIELD ER BRF 022-1(23)	
ABUT 1 PLAN/ELEV	SHEET NUMBER 1
DATE: 1-17-14	scale: 1/4"=1'

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

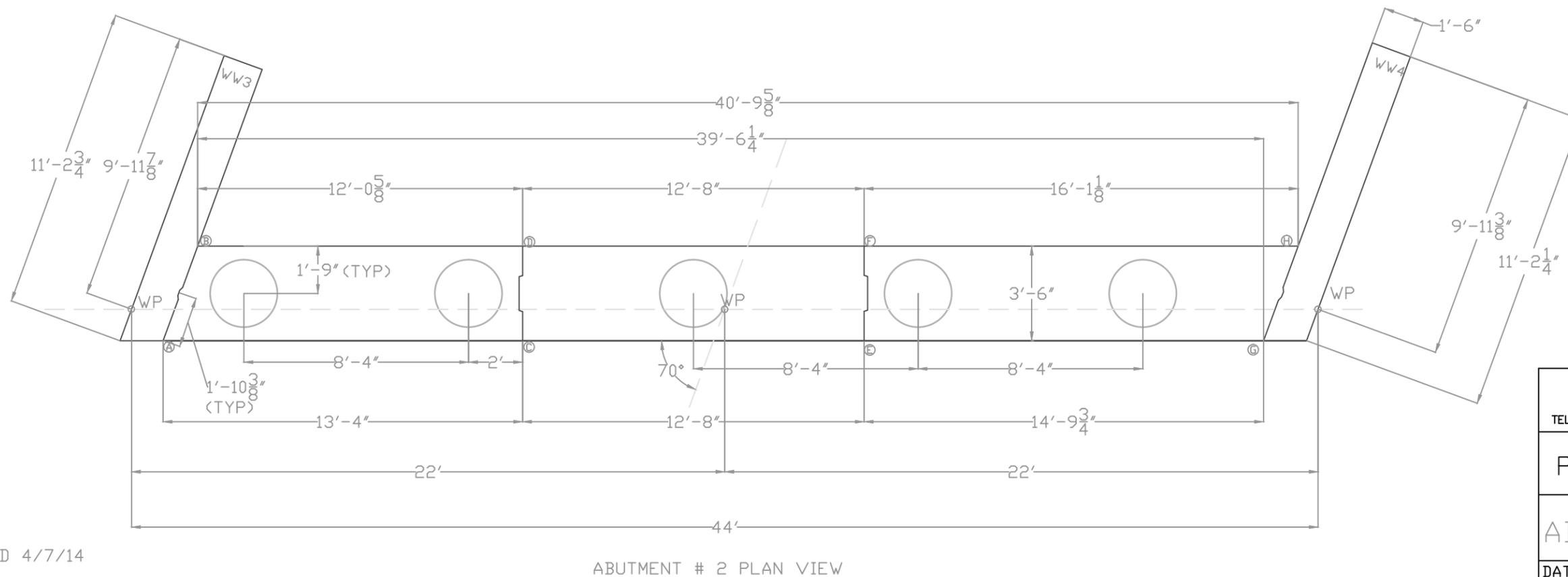
***NOTE:

- 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.



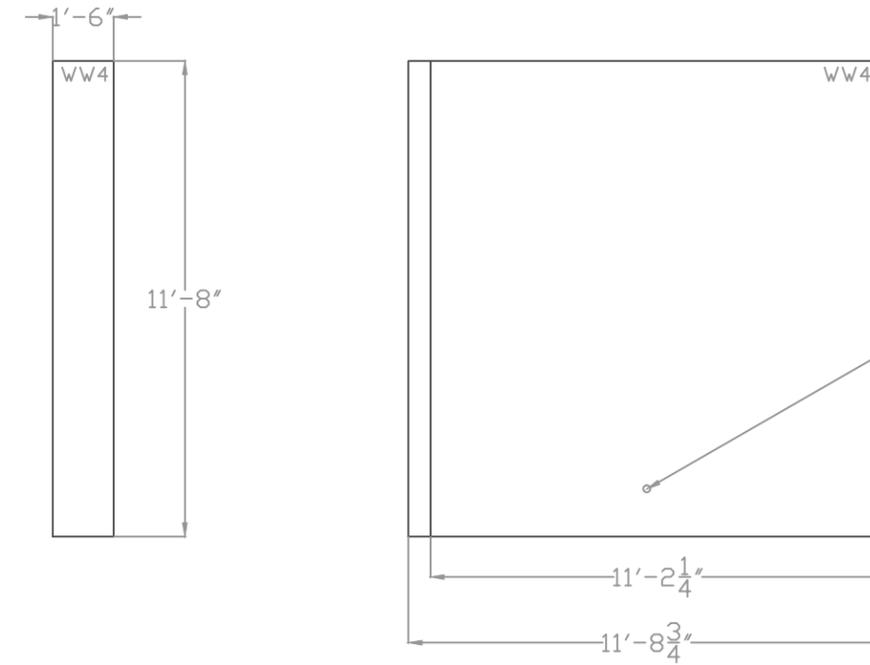
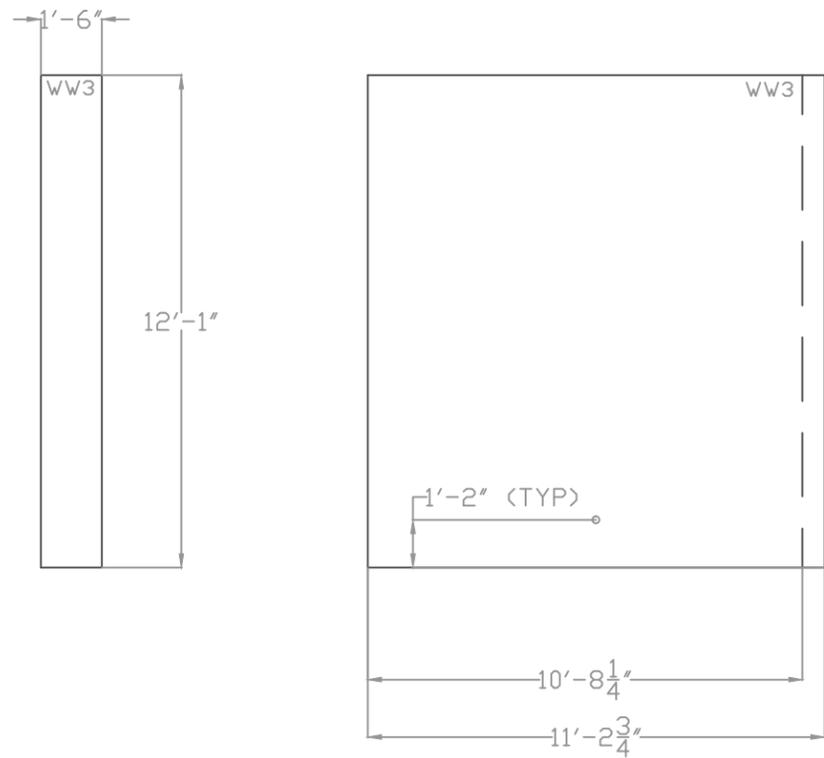
24" PIPE IS LEFT LONG AND CUT TO FINISH GRADE AFTER CASTING USING AN ABRASIVE CUTTING WHEEL

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 "



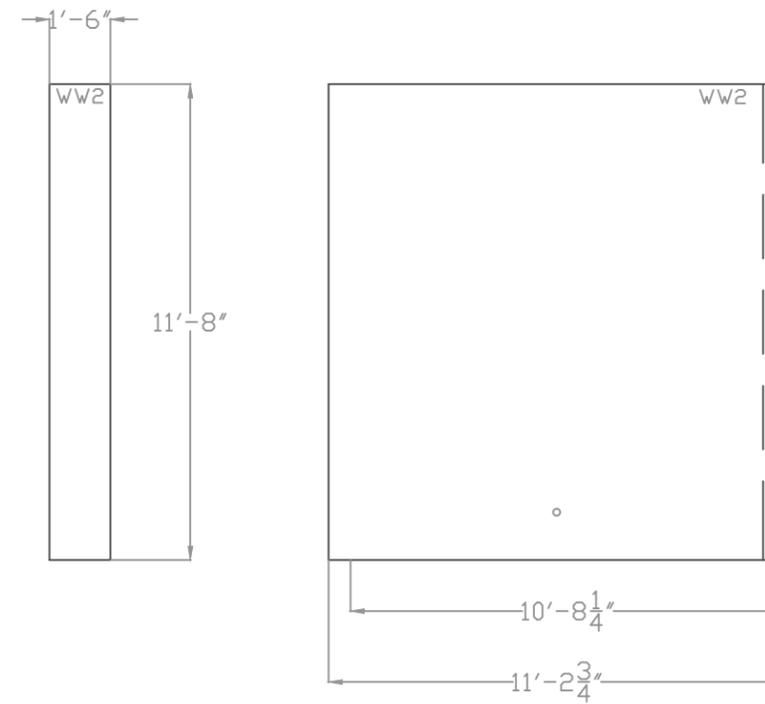
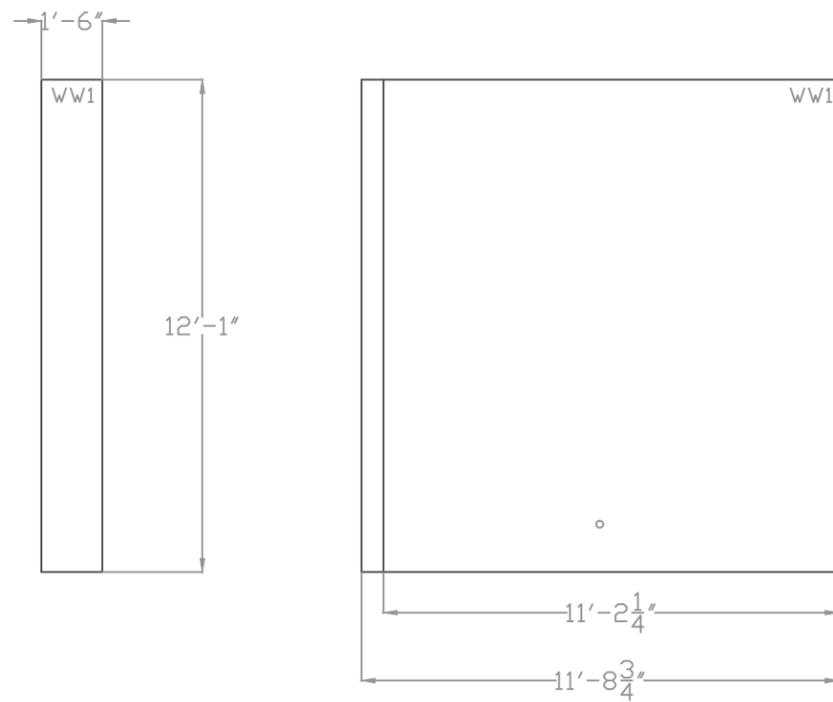
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COLD RIVER BRIDGES, LLC	
10 LANBRO LANE	
TEL 603-756-9300	WALPOLE, NH FAX 603-756-9303
PITTSFIELD ER BRF 022-1(23)	
ABUT 2 PLAN/ELEV	SHEET NUMBER
DATE: 1-17-14	scale: 1/4"=1'
	2

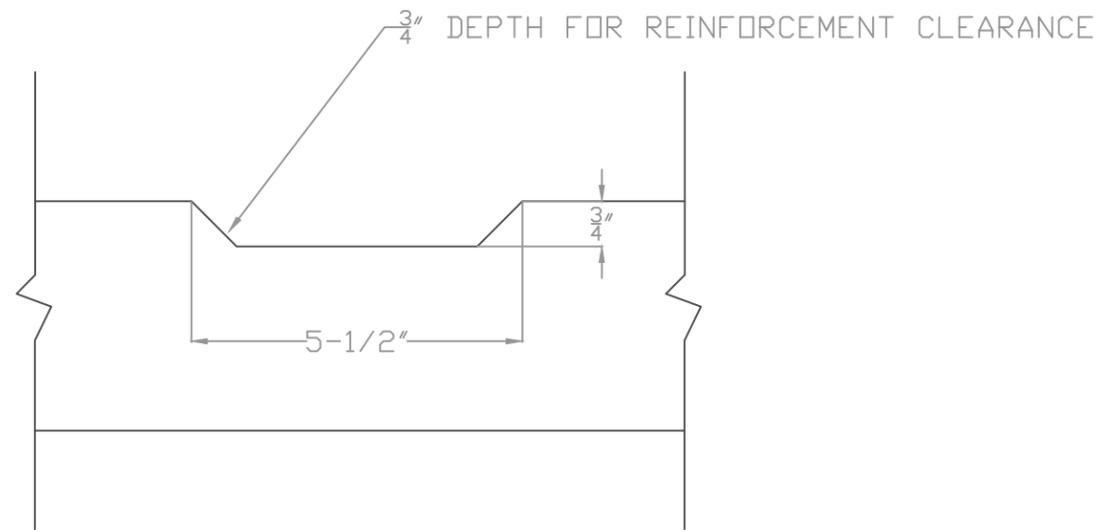


1" PVC FORM TIE SLEEVE
CENTER (TYP)

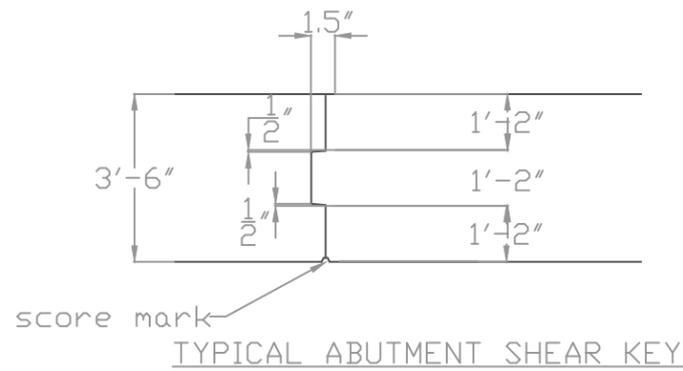
***NOTES
1. PLEASE SEE SHEETS 10,11,12,13
FOR LIFTING POINT LOCATION



COLD RIVER BRIDGES, LLC 10 LANBRO LANE TEL 603-756-9300 WALPOLE, NH FAX 603-756-9	
PITTSFIELD ER BRF 022-1(2)	
WW PLAN	SHEET NUMB 3
DATE: 1-17-14	scale: 1/4"=1'



TYPICAL WINGWALL 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
DATE: 2-19-14	4
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.PERFORM FINAL POST TENSION

COLD RIVER BRIDGES, LLC 10 LANBRO LANE WALPOLE, NH TEL 603-756-9300 FAX 603-756-9303	
PITTSFIELD ER BRF 022-1(23)	
GENERAL NOTES	SHEET NUMBER
DATE: 2-19-14	5
scale:	

LIFTING,HANDLING

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

REVISED 4/7/14

QUALITY CONTROL PROCEDURES.

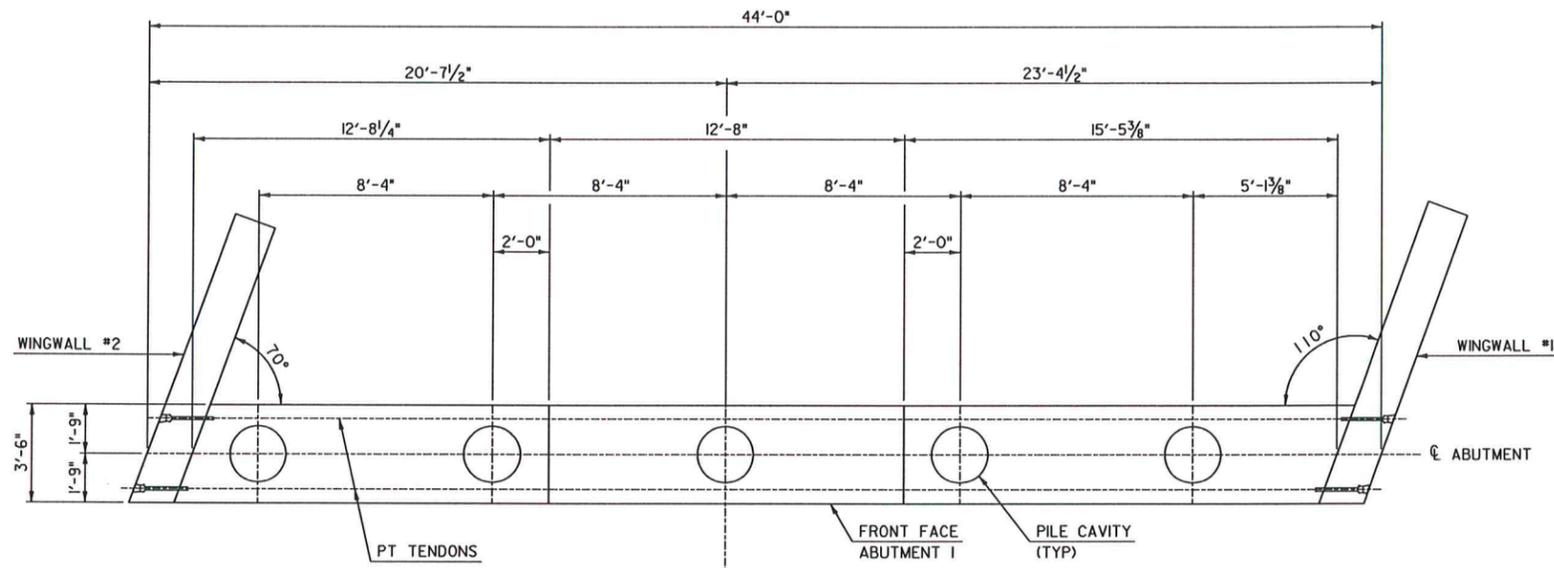
1. CARROLL CONCRETE WILL BE RESPONSIBLE FOR THE CONTRACTOR./SUPPLIER QC TESTING DURING CONCRETE PLACEMENT .CARROLL CONCRETE WILL SUPPLY AN ON SITE TECHNICIAN TO MONITOR AND DOCUMENT AIR CONTENT, WATER CEMENT RATIOS AND SLUMP OF EACH TRUCK.CARROLL CONCRETE WILL ALSO PRODUCE CONCRETE TEST CYLINDERS FOR 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 1/4" DEEP ARE NOT REQUIRED TO BE REPAIRED
9. CONCRETE TOLERANCES LENGTH 1/4", WIDTH 1/4", SQUARENESS 1/2"
10. REINFORCING TOLERANCES +- 1/4"-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:

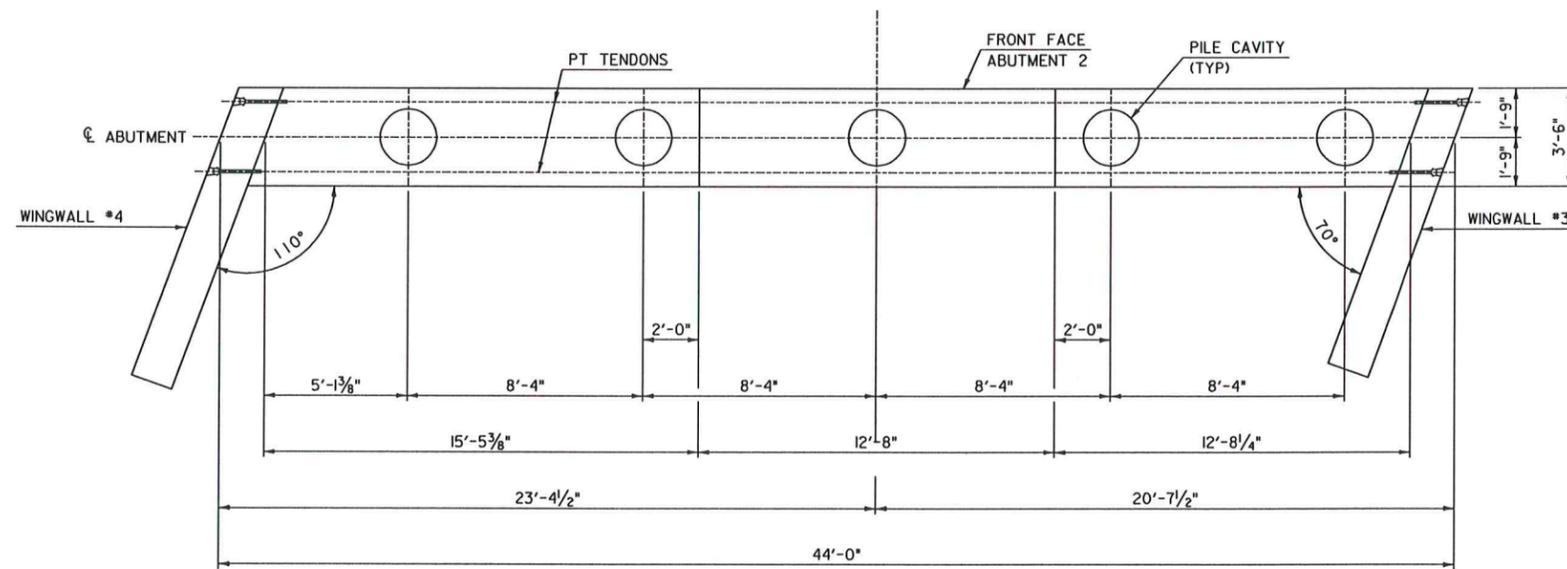
- 1.Cold River Bridges will be constructing the abutments and wingwalls inside of a heated enclosure constructed and used to complete the pre-casting on the Cavendish ER BRF 0146 (13) project.(LOCATED ON RT 131,CAVENDISH VT)
- 2.Concrete will meet the temperature requirements of section 501.07.
- 3.Form 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.

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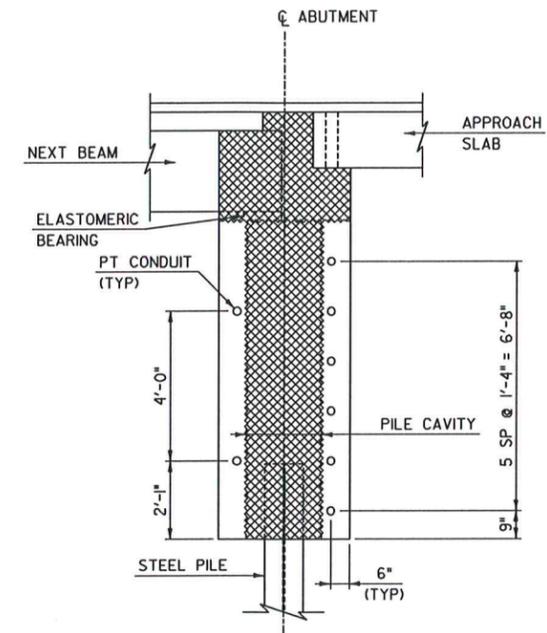
COLD RIVER BRIDGES, LLC 10 LANBRO LANE WALPOLE, NH TEL 603-756-9300 FAX 603-756-9303	
PITTSFIELD ER BRF 022-1(23)	
QC PROCEDURES/PLAN	SHEET NUMBER 6
DATE: 10-30-13	Scale:



ABUTMENT #1 - PLAN
SCALE: 3/8" = 1'-0"



ABUTMENT #2 - PLAN
SCALE: 3/8" = 1'-0"



ABUTMENT TYPICAL
SCALE: 1/2" = 1'-0"

NOTES:

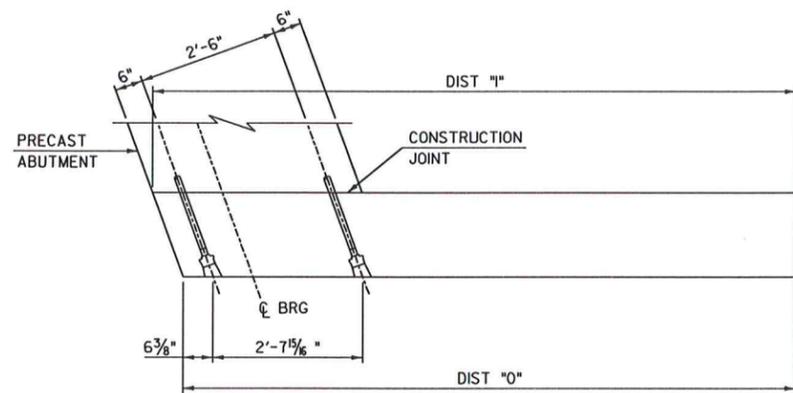
1. GEOMETRY SHOWN HEREIN IS AN UNDERSTANDING OF THE CONTRACTOR'S INTENDED PRECAST ABUTMENT CONSTRUCTION AND IS PROVIDED TO QUALIFY THE POST-TENSIONING DESIGN. DETAILS SHOWN HEREIN ARE INTENDED TO CONVEY TRANSVERSE POST-TENSIONING DESIGN ONLY. ALL GEOMETRY, MILD STEEL REINFORCEMENT, PROJECT NOTES, AND 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 1/4 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.



TYLINTERNATIONAL

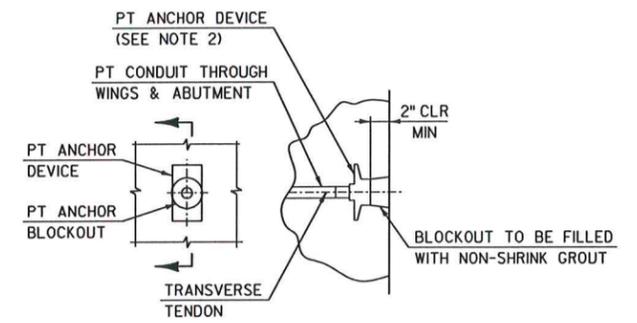
SHEET # 7

PROJECT NAME: PITTSFIELD	
PROJECT NUMBER: ER BRF 022-(123)	
FILE NAME: z86e060bdrabu1.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

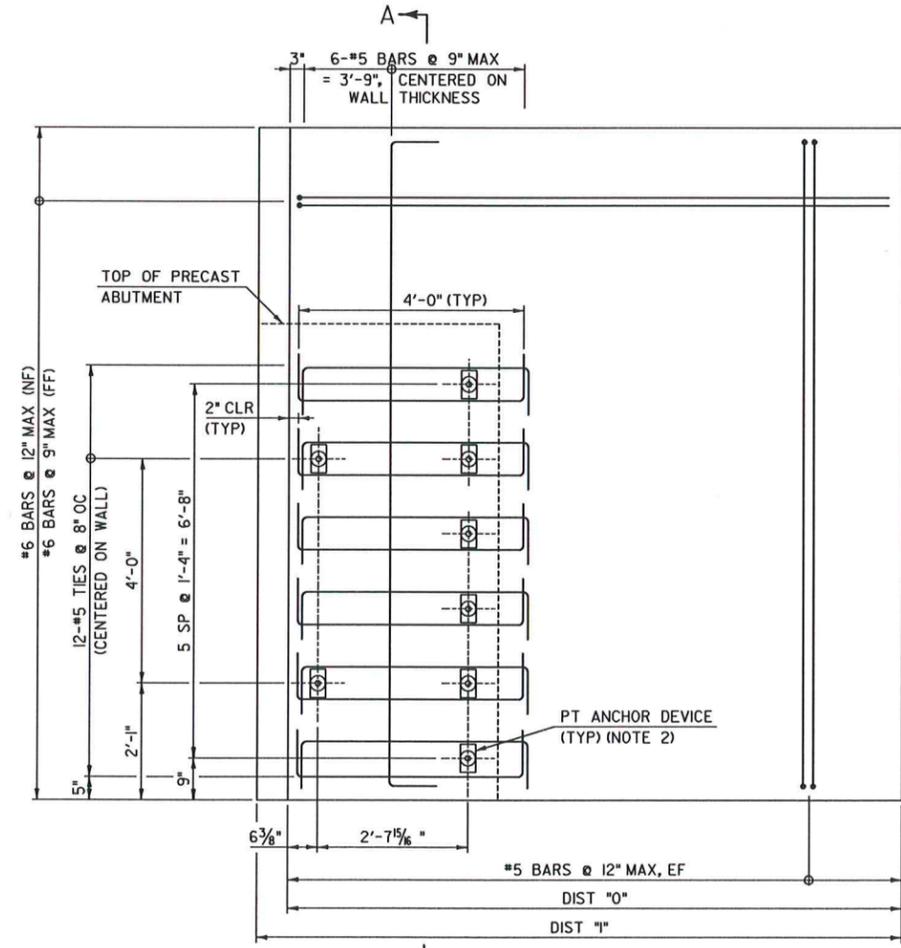


WWI PLAN
SCALE: 3/4" = 1'-0"
(REINFORCING STEEL NOT SHOWN FOR CLARITY)

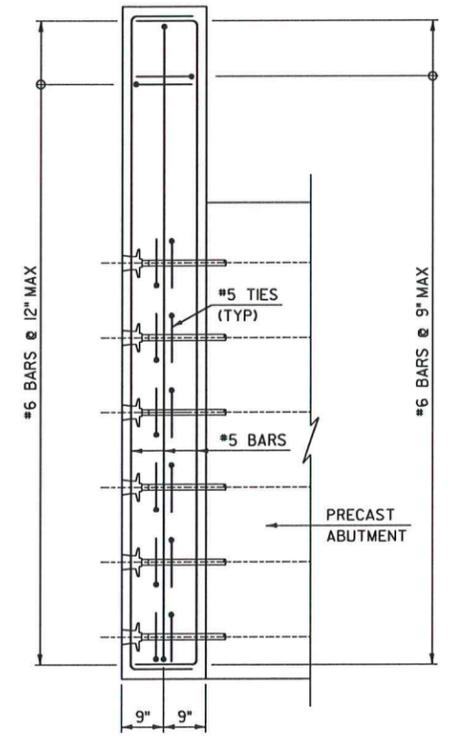
WINGWALL DIMENSIONS				
	WINGWALL 1	WINGWALL 2	WINGWALL 3	WINGWALL 4
DIST "1"	11'-8 3/4"	10'-8 1/4"	10'-8 1/4"	11'-8 3/4"
DIST "0"	11'-2 1/4"	11'-2 3/4"	11'-2 3/4"	11'-2 1/4"



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 GTISI-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.



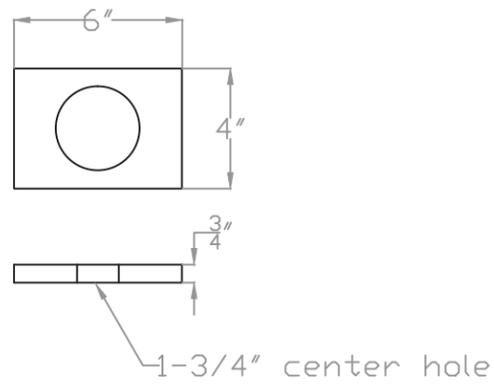
SHEET # 8

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: ER BRF 022-(K23)

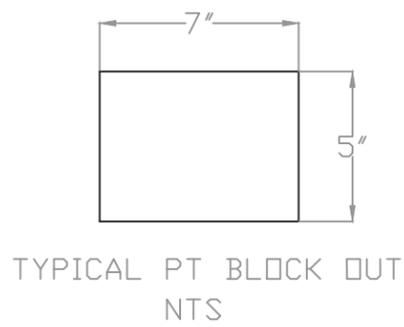
TYL INTERNATIONAL

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

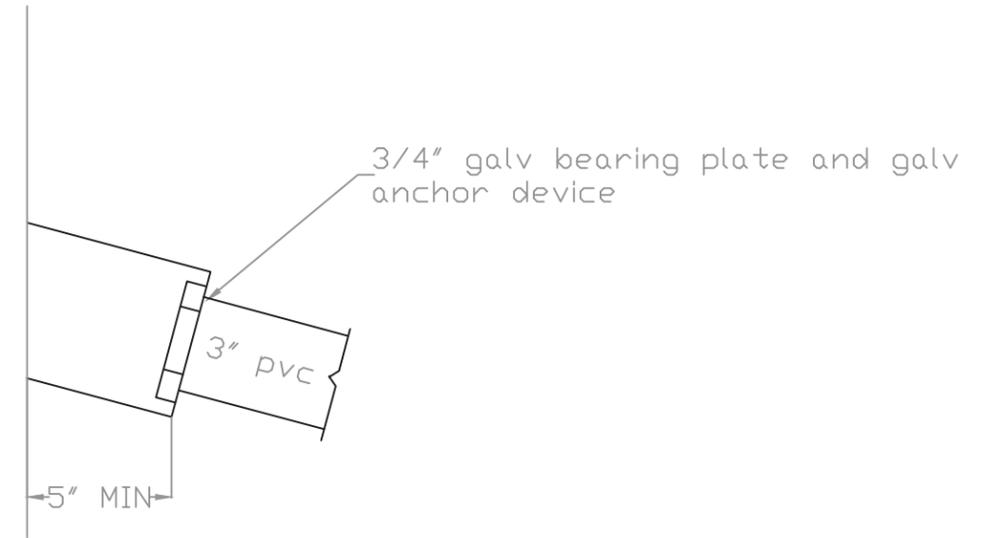
PLOT DATE: 3/3/2014
DRAWN BY: S. MORGAN
CHECKED BY: J. OLUND
SHEET 2 OF 2



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

REVISED 4/7/14

COLD RIVER BRIDGES, LLC 10 LANBRO LANE WALPOLE, NH TEL 603-756-9300 FAX 603-756-9303	
PITTSFIELD ER BRF 022-1(23)	
POST-TENSION DETAILS	SHEET NUMBER
DATE: 4-2-14	scale:
8A	

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

STRUCTURAL CONCRETE MIX DESIGN SUBMISSION

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

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

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.

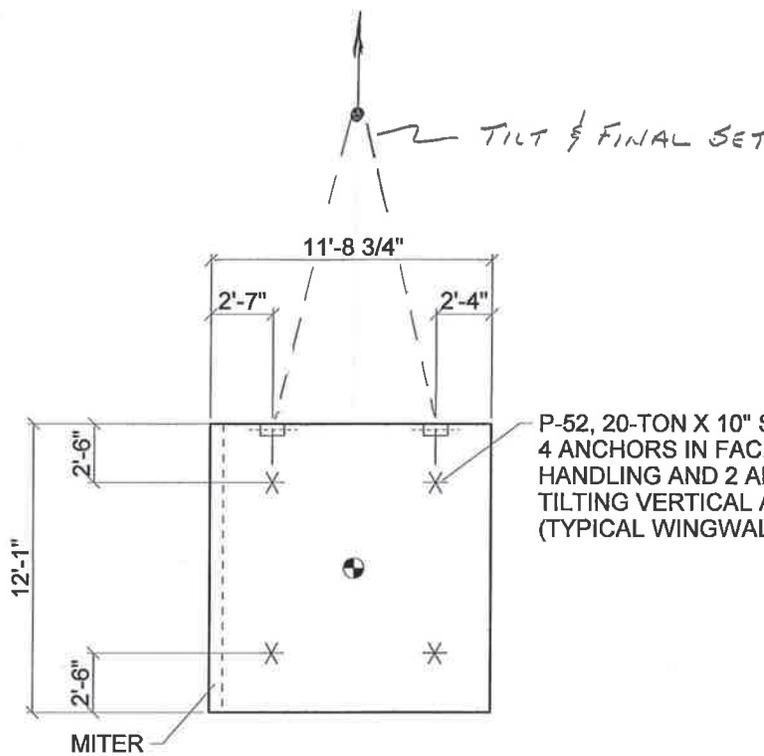
Cement:							
701.02	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Cement Type III:							
701.04	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Blended Cement:							
701.06	Source: <u>LAFARGE - TERCEM - MONTREAL, EAST PLANT</u>		Specific Gravity	<u>3.020</u>	<u>705</u> lb/cy	<u>3.74</u>	cf
	Brand Name: _____						
Cement with Slag:							
701.07	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Pozzolan:							
725.03(a)	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Fly Ash:							
725.03(a)	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Silica Fume:							
725.03(b)	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Slag:							
725.03(c)	Source: _____		Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
	Brand Name: _____						
Water							
Air Content Target							
Coarse Aggregate 3/8"							
704.02A	Source: _____	Absorption _____	Specific Gravity	<u>32</u> gals <u>7.0</u> %	<u>267</u> lb/cy	<u>4.28</u> cf	<u>1.89</u> cf
							<u>0.00</u> cf
Coarse Aggregate 3/4"							
704.02B	Source: <u>COLD RIVER MATERIALS PIT - N WALPOLE, NH</u>	Absorption <u>0.80</u>	Specific Gravity	<u>2.880</u>	<u>1688</u> lb/cy	<u>9.39</u>	cf
Coarse Aggregate 1 1/2"							
704.02C	Source: _____	Absorption _____	Specific Gravity	_____	_____ lb/cy	_____	0.00 cf
Fine Aggregate:							
704.01	Source: <u>NEWPORT SAND & GRAVEL - NEWPORT, NH</u>	Absorption <u>0.90</u>	Specific Gravity	<u>2.670</u>	<u>1283</u> lb/cy	<u>7.70</u>	cf
		Fineness Modulus <u>2.83</u>					
Air Entrainment Admixture							
725.02(b)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u>		Specific Gravity	_____	<u>1.5</u> oz/cy		
	Brand Name: <u>MasterAir AE 200 / Micro Air</u>						
Retarder Admixture:							
725.02(c)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u>		Specific Gravity	_____	<u>1</u> oz/cwt		
	Brand Name: <u>MasterSet R100 / Pozzolith 100XR</u>						
High Range Water Reducer Admixture:							
725.02(h)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u>		Specific Gravity	_____	<u>3</u> oz/cwt		
	Brand Name: <u>MasterGlenium 7500</u>						
Other Admixtures:							
	Source: _____		Specific Gravity	_____	<u>2</u> oz/cwt	<u>0.00</u>	cf
	Brand Name: <u>BASF, MasterSure Z60</u>						
	Source: _____		Specific Gravity	_____	_____	<u>0.00</u>	cf
	Brand Name: _____						
	Source: _____		Specific Gravity	_____	_____	<u>0.00</u>	cf
	Brand Name: _____						
	Source: _____		Specific Gravity	_____	_____	<u>0.00</u>	cf
	Brand Name: _____						
			TOTAL	<u>47.570</u>	<u>3943</u> lb	<u>27.00</u>	cf
			Maximum Water/Cementitious Ratio	<u>0.44</u>			
			Maximum Water (gal/cy)	<u>37.2</u>			
			Slump Min/Max (inch)	<u>4.0</u> min	<u>7.0</u> max		
			Air Content Min/Max (%)	<u>5.0</u> min	<u>9.0</u> max		
			Design Unit Wt. (lb/cf)	<u>146.04</u>			

Notes:

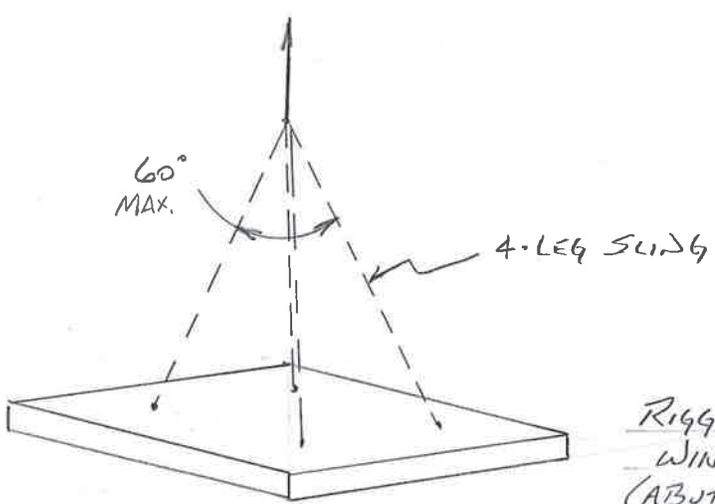
2014 Construction season 2011 specification 5000-psi precast 2-10-14

COLD RIVER BRIDGES, LLC 10 LANBRO LANE WALPOLE, NH	
TEL 603-756-9300	FAX 603-756-9303
PITTSFIELD ER BRF 022-1(23)	
SHEET NUMBER	
CONCRETE MIX DESIGN	
DATE: 1-17-14	scale: 1/4"=1'
9	

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



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.
 (TYPICAL WINGWALL PANELS)



*RIGGING DETAIL
 WING-WALL PANELS
 (ADJUSTMENTS SIMILAR)*

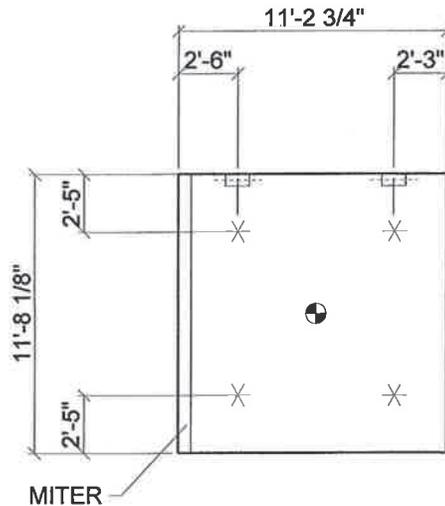


VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL MINIMUM COMPRESSIVE STRENGTH REQ'D.= 4,000 PSI

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'-11 15/16"	ΔX .13 >	CY= 7.7	SCALE:	RIGGING DETAILS	
	\bar{Y} 6'-0 1/2"	$2\Delta X$.26	GROSS AREA 141.7	1/8"	F32	
	PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 141.7	JOB NO.	SHEET	
	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



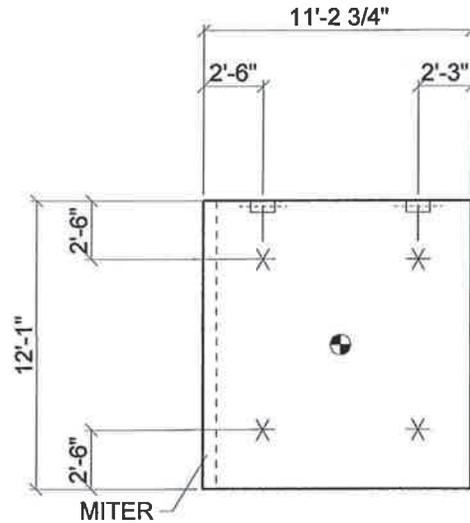
VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

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.	X	5'-8 15/16"	ΔX	.13 >	CY= 7.1	SCALE:	RIGGING DETAILS
	Y	5'-10 1/16"	$2\Delta X$.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



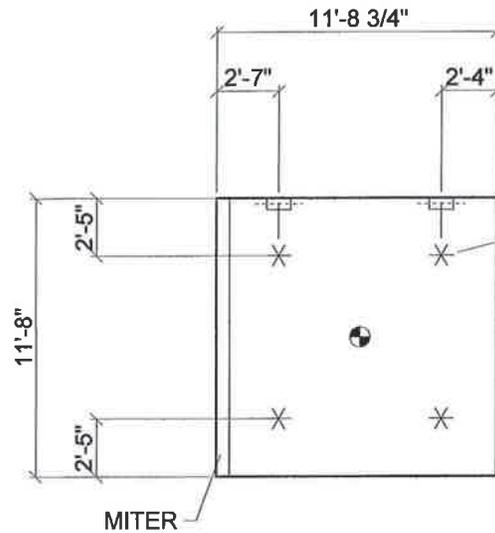
VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

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"	ΔX .13 >	CY= 7.4	SCALE:	RIGGING DETAILS	
	\bar{Y} 6'-0 1/2"	$2\Delta X$.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.



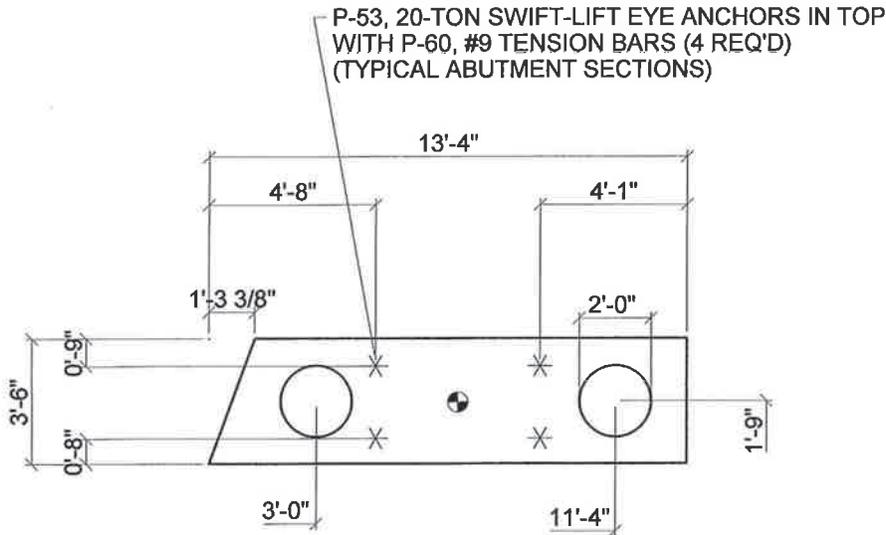
VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

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'-11 15/16"	ΔX .13 >	CY= 7.4		SCALE:	RIGGING DETAILS
	\bar{Y} 5'-10"	$2\Delta X$.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



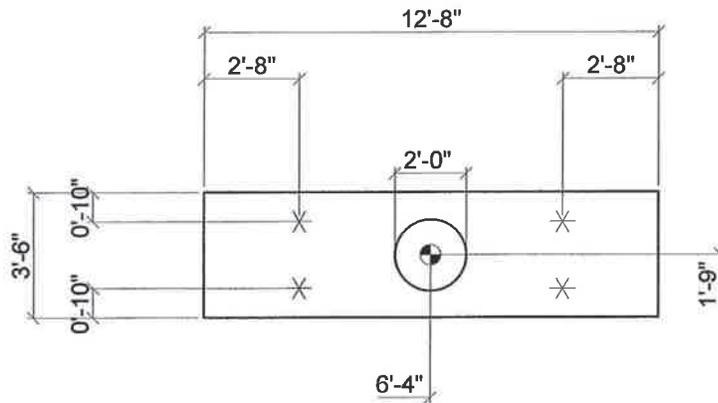
VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

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.	X	6'-11 7/16"	ΔX	.28 >	CY=	11.6	SCALE:	RIGGING DETAILS	
	Y	1'-8 9/16"	2ΔX	.57	GROSS AREA	46.7	3/16"	F22	
	PANEL VIEWED FROM:		INSIDE		CHECKED BY	NET AREA	38.1	JOB NO.	SHEET
					LAYOUT BY	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



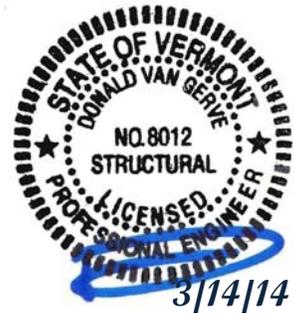
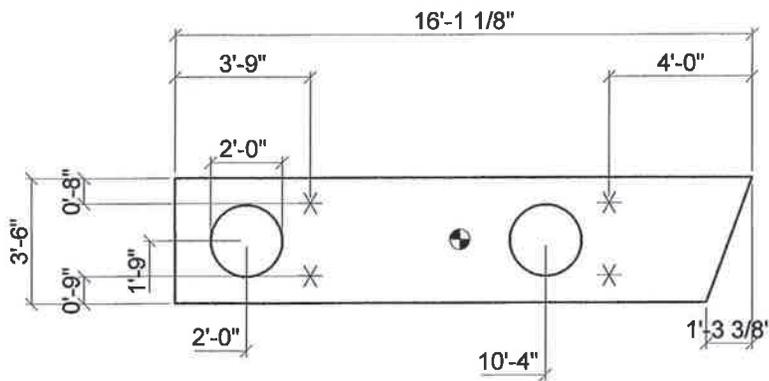
VERIFY ALL DIMENSIONS PRIOR TO POURING PANEL

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} 6'-4"	ΔX .0 <	CY= 12.8	SCALE:	RIGGING DETAILS	
	\bar{Y} 1'-9"	$2\Delta X$.0	GROSS AREA 44.3	3/16"	F22	
	PANEL VIEWED FROM: INSIDE	CHECKED BY	NET AREA 41.2	JOB NO.	SHEET	
		LAYOUT BY BP	DATE 3/14/14	14120	6 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
	103"	61.5 kips	16'-1 1/8"	3'-6"	1	16.09ft. ABUTMENT SECTION



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.	X	7'-11 1/4"	ΔX	-0.11 <	CY=	15.2	SCALE:	RIGGING DETAILS	
	Y	1'-9 5/16"	2ΔX	-0.22	GROSS AREA	56.3	3/16"	F22	
	PANEL VIEWED FROM:		CHECKED BY	NET AREA	JOB NO.	SHEET			
	INSIDE		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!