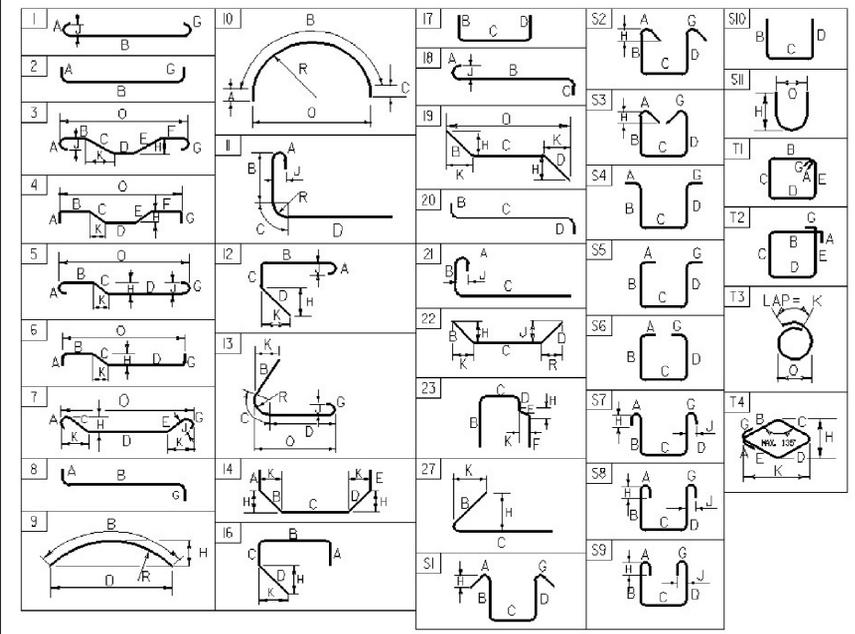


ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ASU #1																																			
8	9	20'-6"	1AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	1AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-6"	1AP501	STR	19'-6"																														
21	5	13'-10"	1AP503	S11									6'-9"				0'-7"																		
ASU #2																																			
8	9	20'-6"	1AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	1AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-6"	1AP501	STR	19'-6"																														
42	5	12'-3"	1AP502	S11									5'-11"				0'-7"																		
ASU #3																																			
8	9	20'-6"	1AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	1AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-6"	1AP501	STR	19'-6"																														
42	5	12'-3"	1AP502	S11									5'-11"				0'-7"																		
ASU #4																																			
8	9	20'-6"	1AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	1AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
21	5	13'-10"	1AP503	S11									6'-9"				0'-7"																		
ASU #5																																			
8	9	20'-5"	2AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-5"	2AP601	STR	19'-6"																														
4	6	3'-6"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-5"	2AP501	STR	19'-6"																														
2	5	15'-1"	2AP511	S11									7'-4"				0'-7"																		
2	5	14'-11"	2AP512	S11									7'-3"				0'-7"																		
2	5	14'-10"	2AP513	S11									7'-3"				0'-7"																		
2	5	14'-8"	2AP514	S11									7'-2"				0'-7"																		
2	5	14'-7"	2AP515	S11									7'-1"				0'-7"																		
2	5	14'-5"	2AP516	S11									7'-0"				0'-7"																		
2	5	14'-4"	2AP517	S11									7'-0"				0'-7"																		
2	5	14'-2"	2AP518	S11									6'-11"				0'-7"																		
2	5	14'-1"	2AP519	S11									6'-10"				0'-7"																		
2	5	13'-11"	2AP520	S11									6'-9"				0'-7"																		
2	5	13'-10"	2AP521	S11									6'-9"				0'-7"																		
ASU #6																																			
8	9	20'-6"	2AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	2AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-6"	2AP501	STR	19'-6"																														
42	5	12'-3"	2AP502	S11									5'-11"				0'-7"																		
ASU #7																																			
8	9	20'-6"	2AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	2AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
4	5	19'-6"	2AP501	STR	19'-6"																														
42	5	12'-3"	2AP502	S11									5'-11"				0'-7"																		
ASU #8																																			
8	9	20'-6"	2AP901	1	1'-0"	19'-6"											0'-9"																		
8	6	19'-6"	2AP601	STR	19'-6"																														
4	6	3'-7"	1AP602	4	--	1'-1"	0'-8"	--	0'-8"	1'-1"	--	0'-6"																							
2	5	13'-9"	2AP501	S11									6'-8"				0'-7"																		
2	5	13'-8"	2AP501	S11									6'-8"				0'-7"																		
2	5	13'-6"	2AP501	S11									6'-7"				0'-7"																		
2	5	13'-5"	2AP502	S11									6'-6"				0'-7"																		
2	5	13'-4"	2AP503	S11									6'-6"				0'-7"																		
2	5	13'-2"	2AP504	S11									6'-5"				0'-7"																		
2	5	13'-1"	2AP506	S11									6'-4"				0'-7"																		
2	5	12'-11"	2AP507	S11									6'-3"				0'-7"																		
2	5	12'-10"	2AP508	S11									6'-3"				0'-7"																		
2	5	12'-8"	2AP509	S11									6'-2"				0'-7"																		
2	5	12'-7"	2AP510	S11									6'-1"				0'-7"																		

No test bars shown?

~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- .3 IN BAR MARK SUFFIX DENOTES LEVEL III REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

Vermont Agency of Transportation
RECEIVED
 CK'D BY D.PETERSON OK'D BY J. REED
 May 9, 2015
 RESUBMIT YES Rejected
 BY C. CARLSON DATE 05/19/2015

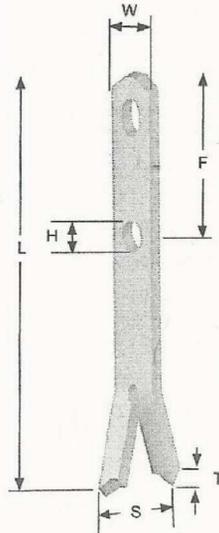


FLAT STEEL



SPREAD ANCHOR

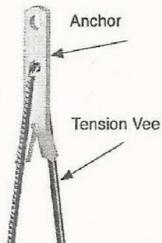
Used for both stripping and erecting. With proper edge distances can be pulled in any direction.



TON	SYS CODE	PART NUMBER	BODY LENGTH (L)	BODY WIDTH (W)	BODY THICK. (T)	BASE SPREAD (S)	HOLE LOCA. (F)	HOLE DIA. (H)	SWL TENSION (LBS)	UML TENSION (LBS)
2	2.5	F SP 02 048	4-3/4"	1-1/4"	3/16"	2-3/4"	None	None	2000	8000
2	2.5	F SP 02 040	4"	1-1/4"	3/8"	2-3/4"	None	None	2530	16000
2	2.5	F SP 02 055	5-1/2"	1-1/4"	3/8"	2-3/4"	None	None	4000	16000
4	5	F SP 04 040	4"	1-1/2"	1/2"	3-3/8"	None	None	2670	24000
4	5	F SP 04048	4-3/4"	1-1/2"	1/2"	3-3/8"	3-3/4"	7/8"	3590	24000
4	5	F SP 04 068	6-3/4"	1-1/2"	1/2"	3-3/8"	3-3/4"	7/8"	4960	32000
4	5	F SP 04 063	6-1/4"	1-1/2"	5/8"	3-3/8"	3-3/4"	11/16"	5850	32000
4	5	F SP 04 095	9-1/2"	1-1/2"	5/8"	3-3/8"	3-3/4"	11/16"	8000	32000
6	10	F SP 06 110	11"	2-1/2"	5/8"	5-1/4"	5"	1"	12000	48000
8	10	F SP 08 110	11"	2-1/2"	3/4"	5-1/4"	5"	1"	16000	64000
22	22	F SP 22 150	15"	3-1/8"	3/4"	6-1/4"	9"	1-3/8"	32800	136000
22	22	F SP 22 189	18-7/8"	3-1/8"	1"	6-1/4"	13"	1-3/8"	44000	176000

UML= Ultimate Mechanical Load in tension
Safe working loads based on 4:1 Safety Factor in 3,500 psi normal weight concrete.

TENSION VEES	REQUIRED TO DEVELOPE REINFORCED ALLOWABLE TENSION CAPACITY	Concrete Strength [psi]				
		2,000	3,000	4,000	5,000	6,000
		Length of rebar before bending [in]				
2 Ton	#3	31	25	22	19	18
4 Ton	#4	41	33	29	26	24
6 Ton	#5	51	42	36	32	29
8 Ton	#6	61	50	43	39	35
22 Ton	#9	114	93	81	72	66



Edge distance calc?

Meet buy America?

Are these galvanized/stainless?

15" slab - 11" = 4" where is this located what is the cover?

3500 psi design strength. Plan to move at .85 design strength so even less.

How will this be cut off or recessed so that the required cover is achieved in the final

USE #6 BAR AND BEND AS NECESSARY TO MAINTAIN 3" MIN AT BOTTOM OF SLAB

Vermont Agency of Transportation
RECEIVED
CK'D BY D. PETERSON OK'D BY J. REED
May 9, 2015
RESUBMIT YES Rejected
BY C. CARLSON DATE 05/19/2015



Ronald K. Bell



PROJECT NAME/ LOCATION: ANDOVER BHF 016-1(29)
SHEET #: 1 OF 1
CALCULATED BY: RON BELL DATE: 4-26-2015
CHECKED BY: DATE:
SCALE:

APPROACH SLABS: CALCULATE CENTROIDS OF TRAPEZOIDAL SLABS TO LOCATE LIFTING HOOK LOCATIONS:

$$A = \frac{1}{2}(a+b)h$$

$$A\bar{y} = \int_0^h x f(x) dx = \frac{1}{6}h^2(2a+b)$$

$$\bar{y} = \frac{\frac{1}{6}h^2(2a+b)}{\frac{1}{2}h(a+b)}$$

$$A\bar{y} = \int_0^h \frac{1}{2}f^2(x) dx = \frac{1}{6}h^2(b^2+ba+a^2)$$

ASU #5 CENTROID = 9.853, 3.315
ASU #8 CENTROID = 9.838, 3.002

LIFTING HOOK LOCATIONS TO HAVE SAME RADIUS DIMENSION FROM CENTROID WITH EQUAL ANGLES ABOUT X-Y AXIS

FOR LARGEST SLAB 8' x 20' x 1.25' x 150 pcf = 30,000#
30,000# / 4 hook = 7,500
USE 8 TON ANCHOR
7500 MIN. ALLOWABLE RIGGING ANGLE

REV. NO. DATE: **R**ENAUD BROS. INC.
283 FT. BRIDGEMAN RD. VERNON VT. 05554
PH. (802) 251-7585 FAX (802) 251-7508

SHEET NAME: APPROACH SLAB PLANS
PROJECT NAME: ANDOVER
PROJECT NO: BHF 016-1 (29)
DRAWN BY: CE
CHK'D BY: DATE: 05/08/2015
SHEET NO. 3 OF 5

BELL ENGINEERING
CIVIL & ENVIRONMENTAL
17 ECHO COVE WAY
SPOFFORD, NEW HAMPSHIRE 03462
(603) 363-9966

PROJECT NAME/LOCATION: ANDOVER BHF 06-1 (29)
SHEET #: 1 OF 5
CALCULATED BY: RON BELL DATE: 5-06-2015
CHECKED BY: DATE:
SCALE:

CHECK IF THERE IS SUFFICIENT REINFORCEMENT IN SLABS TO RESIST MOMENTS + SHEARS WHEN LIFTING SLABS FROM PROPOSED LIFTING POINTS

WORST CASE IS 8' x 20' SLAB
PROPOSED LIFT POINTS: 1.5' FROM SIDES
4 POINTS 3.0' FROM ENDS

FACTORED GRAVITY LOADS:
 $q_u = 1.2 WD$
 $= (1.2) (15/12) (150)$
 $= 225 \text{ lb/ft}^2$

FROM ACI DIRECT DESIGN METHOD
ACI EQ. 13-4 GIVES STATIC MOMENT FOR A PANEL AS
 $M_o = q_u l_2 l_n$ $l_2 = \perp$ to long span between supports
 $l_n =$ long.itudinal length between supports

$M_o = \frac{225 \text{ lb/ft}^2 (5 \text{ ft}) (14 \text{ ft})^2}{8}$
 $= \frac{1000 \text{ lb/ft}^2 (5 \text{ ft}) (14 \text{ ft})^2}{8}$
 $= 27.56 \text{ KIP-FT}$

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(603) 363-9966

PROJECT NAME/LOCATION: ANDOVER BHF 06-1 (29)
SHEET #: 2 OF 5
CALCULATED BY: RON BELL DATE: 5-6-2015
CHECKED BY: DATE:
SCALE:

FROM ACI 13.6.3 THE TOTAL POSITIVE MOMENT ACROSS THE PANEL IS:
 $M_m = 0.35 M_o$
 $= 9.646 \text{ KIP-FT}$

FROM ACI 13.6.4 THE COLUMN STRIP (i.e. PICK POINT STRIP) POSITIVE MOMENT IS
 $M_{cm} = 0.60 M_m$
 $= 5.788 \text{ KIP-FT (CONTROLS)}$

FROM ACI 13.6.6 THE MIDDLE STRIP POSITIVE MOMENT IS:
 $M_{MN} = M_m - M_{cm}$
 $= 3.858 \text{ FT-KIP}$

FROM ACI 13.6.3 THE TOTAL NEGATIVE MOMENT IS: $M_c = 0.65 M_o$
 $= 17.914 \text{ FT-KIP}$

FROM 13.6.4 THE NEGATIVE MOMENT AT THE SUPPORT (I.E. PICK POINT)
 $= 0.75 M_c$
 $= 13.43 \text{ (CONTROLS)}$

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(603) 363-9966

PROJECT NAME/LOCATION: ANDOVER BHF 06-01-(29)
SHEET #: 3 OF 5
CALCULATED BY: RON BELL DATE: 5-6-2015
CHECKED BY: DATE:
SCALE:

FROM 13.6.6 THE NEGATIVE MOMENT IN THE MIDDLE STRIP IS
 $M_{mc} = M_c - M_{cm}$
 $= 4.479 \text{ KIP-FT}$

THE NOMINAL RESISTANCE IS CALCULATED: $M_N = A_s f_y d (1 - \frac{0.59 A_s f_y}{b_w d \rho_c})$

FOR THE POSITIVE MOMENT:
 $A_s = \#9 \text{ BARS @ } 12" \text{ O.C.} = 1.00 \text{ in}^2$
 $d = 13"$
 $M_n = \frac{(1.0) (60 \text{ KIPS/IN}^2) (13 \text{ in}) \times (1 - \frac{(0.59) (1.00 \text{ in}^2) (60 \text{ KIPS/IN}^2)}{(12 \text{ in}) (13 \text{ in}) (4 \text{ KIPS/IN}^2)})}{12 \text{ IN/FT}}$
 $= 61.313 \text{ KIPS-FT}$

$61.313 >>> 5.788 \text{ OK}$

3500 psi design strength concrete

BELL ENGINEERING
CIVIL & ENVIRONMENTAL
17 ECHO COVE WAY
SPOFFORD, NEW HAMPSHIRE 03462
(603) 363-9966

PROJECT NAME/LOCATION: ANDOVER BHF 06-1 (29)
SHEET #: 4 OF 5
CALCULATED BY: RON BELL DATE: 5-20-2015
CHECKED BY: DATE:
SCALE:

FOR THE NEGATIVE MOMENT:
 $A_s = \#7 \text{ BARS @ } 12" \text{ O.C.} = 0.60 \text{ in}^2$
 $d = 14"$
 $M_n = \frac{(0.60) (60) (14) \times (1 - \frac{(0.59) (0.60) (60)}{(12) (14) (4)})}{12}$
 $= 40.673$

$40.673 >>> 13.43 \text{ OK}$

CHEK IF SHEAR STRENGTH OK THE FACTORED LOAD FROM PREVIOUS = 225 lb/ft²

IN WIDE BEAM SHEAR, THE ENTIRE WIDTH OF A CRITICAL SECTION - TAKEN AT A DISTANCE d FROM THE FACE OF SUPPORT GIVES A DESIGN RESISTANCE OF:
 $V_u = q_u l_2 (\frac{l_n}{2} - d)$
 $= 225 \text{ lb/ft}^2 (5 \text{ ft}) (\frac{14 \text{ ft}}{2} - \frac{15 \text{ in}}{12})$
 $= 6468.75 \text{ lbs}$

BELL ENGINEERING
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(603) 363-9966

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SHEET #: 5 OF 5
CALCULATED BY: RON BELL DATE: 5-6-2015
CHECKED BY: DATE:
SCALE:

$\phi V_c = 2 \phi \sqrt{f'_c} B d$
 $= (2) (0.75) \sqrt{4000 \text{ lb/in}^2} (5 \text{ ft}) (12 \text{ in/ft}) (15 \text{ in})$
 $= 85,381.49 \text{ #S}$

$85,381.49 \text{ lbs} >>> 76,468.75 \text{ lbs OK}$

Vermont Agency of Transportation
RECEIVED
CK'D BY D. PETERSON OK'D BY J. REED
May 9, 2015
RESUBMIT YES Rejected
BY C. CARLSON DATE 05/19/2015

RENAUD BROS., INC.
CONCRETE PRE-PLACEMENT INSPECTION

PRE-INSPECTION
Inspector: _____ Date: _____
Concrete Supplier: _____ Mix Design: _____
Item Placing: _____ Date on Forming and Reinforcing Drawings: _____

FORMS
Form Condition: _____
Form Cleanliness: _____
Form Joints: _____ End and Edge Details: _____
Adequate Ties: _____
Squareness: _____
Design Depth (ft/in): _____ Set-Up Depth (ft/in): _____
Design Length (ft/in): _____ Set-Up Length (ft/in): _____
Design Width (ft/in): _____ Set-Up Width (ft/in): _____
Release Agent/Retarder: _____

REINFORCING STEEL
Reinforcing Cleanliness: _____
Reinforcing Type: _____
Size of Reinforcing: _____
Spacing of Reinforcing: _____

Lifting Devices
Blockouts: _____
Plates and Inserts: _____

Finish

REMARKS:

cover? →

Finish during pre-placement? →

REV. NO. DATE: _____

RENAUD BROS. INC.
283 FT. BRIDGE MAN RD. VERNON VT. 05354
PH. (802) 251-7585 FAX: (802) 251-7308

SHEET NAME: APPROACH SLAB PLANS

PROJECT NAME: ANDOVER
PROJECT NO: BHF 016-1 (29)

DRAWN BY: CE
CHK'D BY: _____
DATE: 05/08/2015

SHEET NO. 4 OF 5

ANDOVER BHF 016-1 (29) - CONTRACTOR FABRICATED APPROACH SLABS QUALITY CONTROL PLAN

THE QUALITY CONTROL MANAGER FOR THIS PROJECT IS MIKE RENAUD. HE WILL BE CHECKING THE FORMS, REINFORCING, CONCRETE PLACEMENT, CURING, STORAGE, TRANSPORTATION, FINAL SETTING, AND JOINING IN THE FIELD. THE USE OF SUPPLIERS AND EMPLOYEES TO ASSIST IN THE PERFORMANCE OF THE WORK WILL BE NECESSARY. RENAUD BROTHERS HAS BEEN PLACING CONCRETE FOR VERMONT AGENCY OF TRANSPORTATION WITH SUCCESS FOR OVER TEN YEARS. DUE TO THE LIMITED SPACE OF RENAUD BROTHERS CASTING BEDS ONLY TWO UNITS WILL BE CAST AT ONE TIME.

What QC will take place?

How will the post pour inspection be documented?

CARROLL CONCRETE WILL BE RESPONSIBLE FOR SUPPLYING THE HIGH PERFORMANCE CLASS B CONCRETE MIX DESIGN AND THE QUALITY CONTROL TESTING FOR IT. THE ONSITE TECHNICIAN WILL PERFORM AND REPORT ALL QUALITY CONTROL TESTING AND TAKE NECESSARY CYLINDERS FOR THE SUPPLIERS USE. THE QUALITY CONTROL TECHNICIAN WILL MONITOR THE CONCRETE FROM ITS RAW MATERIAL STATE TO IT'S PLACEMENT IN THE FORMS. THE QUALITY CONTROL TECHNICIAN WILL COMMUNICATE ANY POBLEMS OR ADJUSTMENTS WITH THE CONCRETE MIX TO RENAUD BROTHERS AND THE RESIDENT ENGINEER.

Pre-production meeting is supposed to be 7 days prior to placement.

A PRE-PRODUCTION METING WILL BE SCHEDULED UPON ACEPTANCE OF THIS SUBMITTAL WHERE VERMONT AGENCY OF TRANSPORTATION WILL PERFORM THERE INITIAL QUALITY ASSURANCE CHECKS. THE ATTACHED INSPECTION FORM WILL BE UTILIZED BY RENAUD BROTHRS FOR THE MEETING. THE CONCRETE PLACEMENT WILL BE SCHEDULED FOR THE FOLLOWING DAY AT A TIME ESTABLISHED AT THE PRE-PRODUCTION MEETING. DURING EACH PLACEMENT VERMONT AGENCY OF TRANSPORTATION WILL HAVE THE OPORTUNITY TO PERFORM THEIR CONCRETE QUALITY CONTROL TESTING.

THE **FORMOK** WILL BE INSPECTED PRIOR TO INITIAL FORMING FOR CLEANLINESS AND FLATNESS. ONCE ERECTED THE DIMENSIONS WILL BE CHECKED FOR COMPLIANCE. JUST BEFORE REINFORCING IS INSTALLED A RELEASE AGENT WILL BE APPLIED TO THE FORMS.

Tolerance?

THE REINFORCING STEEL WILL BE CHECKED FOR PROPER DIMENSIONS, AND CONFIGURATION PRIOR TO PLACEMENT IN THE FORMS. IF ANY REINFORCING IS FOUND TO BE OUT OF COMPLIANCE IT WILL BE REMOVED FROM THE WORK LOCATION AND REPLACED WITH NEW REINFORCING. THE REINFORCING WILL BE INSTALLED WITH THE TOLERENCE OF 1/4" +- ON PLACEMENT AND 1/4" +- ON CLEAR COVER AND CLEARANCE TO AN EXTERIOR EDGE.

THE LIFTING ANCHORS WILL BE PLACED IN THE SLABS DURING THE REINFORCING PHASE. THE ANCHORS WILL BE CHECKED FOR LOCATION AND HEIGHT COMPARED TO THE SURFACE OF THE SLAB. THE ANCHORS SPECIFIED WILL BE THE ANCHORS USED.

Are you using a screed? Below you just mention a bull float?

ONCE ALL CHECKS HAVE BEEN MADE AND RENAUD BROTHERS HAS PERMISSION TO PLACE THE CONCRETE WILL BE BATCHED AND PLACED. THERE WILL BE INDIVIDUALS DEDICATED TO EACH TASK OF THE PLACEMENT ie VIBRATOR, SCREED OPERATOR, RAKERS, AND FINISHERS. THE SURFACE FINISH FOR THE APPROACH SLABS WILL BE A MAG FLOAT FINISH OBTAINED BY USE OF MAG FLOATS AND A BULL FLOAT. A TAG WITH THE PIECE MARK AND DATE CAST WILL BE ATTACHED TO THE SLABS.

How will tag be attached?

WET BURLAP AND CLEAR PLASTIC SHEETING WILL BE PLACED ON THE SLABS WHEN THEY HAVE CURED ENOUGH SO PLACEMENT WILL NOT DAMAGE THEM. THE SLABS WILL BE WET CURED FOR TEN DAYS.

What QC takes place during the cure period?

How will cure be

AFTER FOUR DAYS THE FIRST SET OF CYLINDERS WILL BE TESTED. IF THE TESTING YEILDS 85% OF DESIGN STRENGTH THE FORMS WILL BE STRIPED AND THE SLABS WILL BE MOVED TO THE FINAL CURING LOCATION. THE SLABS WILL REST ON WOOD SUPPORTS SPACED FIVE FEET APART UNTIL TRANSPORT.

How will the rebar be protected during the sand blasting?

No water added? This will not stay we for 10 days.

BEFORE THE SLABS ARE LOADED FOR TRANSPORT THEY SHALL BE CHECKED BY RENAUD BROTHERS AND VERMONT AGENCY OF TRANSPORTATION FOR CONFORMANCE. THE TOLERENCES ON THE FINAL SIZING COMPARED TO THE DESIGN SIZE ARE AS FOLLOWS: 1/4" +- LENGTH AND WIDTH AND 1/2" +- ON SQUARENESS. ALL CONNECTING KEYWAYS WILL BE SAND BLASTED AND AIR BLASTED PRIOR TO SETTING AND CLOSURE PLACEMENT. ANY HOLES, HONEYCOMBING OR SPALLS WHICH ARE BIGGER THEN 5/8" AND 6 INCH OR LESS IN DIAMETER AND PENETRATE A 1/4 INCH BUT NO DEEPER THAN 1 INCH INTO THE CONCRETE WILL BE REPAIRED. ANY DEFECTS LARGER THEN 6 INCHES WILL BE CAUSE FOR REJECTION. ANY CRACKING WILL BE EVALUATED AND REPAIRED IF NECESSARY. ALL REPAIR MATERIAL WILL BE PRE-APPROVED OVERHEAD AND VERTICAL CONCRETE REPAIR.

More detail to the repair procedure is needed.

flatness and warping tolerances are not mentioned.

THE PIECES WILL BE SUPPORTED DURING TRANSPORT ON WOOD EVERY FIVE FEET OR CONTIUOUSLY BY THE TRAILER DECK. RUBBER MATS MAY BE USED BETWEEN THE SLABS AND TRAILER DECK. THE PIECES WILL BE SECURED TO THE TRAILER WITH EVENNLY SPACED ROAD WORTHY NYLON STRAPS OR PROTECTED CHAINS. THE SLABS WILL BE INSPECTED ONCE MORE UPON ARIVAL AT THE SITE FOR CHIPS AND CRACKING.

AFTER THE SUBGRADE HAS BEEN PREPARED TO THE APROPRIATE GRADE AND COMPACTION THE SLABS WILL BE SET TO THEIR FINAL LOCATION. THE CLOSURE POUR LONGITUDINAL REINFORCEMENT WILL BE INSTALLED AND THE HIGH PERFORMANCE RAPID SET WILL BE PLACED IN THE CLOSURE VOIDS.

No mention of how or where the pieces will be formed. Flatness matters

Vermont Agency of Transportation
RECEIVED
 CK'D BY D.PETERSON OK'D BY J. REED
 May 9, 2015
 RESUBMIT YES Rejected
 BY C. CARLSON DATE 05/19/2015



Ronald K. Reed

REV. NO.	DATE

R RENAUD BROS. INC.
 283 FT. BRIDGEMAN RD. VERNON VT. 05354
 PH. (802) 251-7585 FAX (802) 251-7508

SHEET NAME: APPROACH SLAB PLANS		
PROJECT NAME: ANDOVER	SHEET NO. 5	
PROJECT NO: BHF 016-1 (29)	OF 5	
DRAWN BY: CE	CHK'D BY:	DATE: 05/08/2015

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

STRUCTURAL CONCRETE MIX DESIGN SUBMISSION

Concrete class: HPC B
 Additional Description _____
 Ready Mix Supplier: CARROLL CONCRETE - BRATTLEBORO, VT
 Designed By: Scott Jordan
 Design strength: 3500 PSI
 Mix Design Style: Conventional
 Agg weight - SSD or Dry: SSD

Agency Use Only	
Mix ID	HP15-B-050
Mix Design #	050
Approved by	jwild
Approved Date	5/4/2015
Spec Book Year	2011

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	_____ cf
701.02	Source: _____ Brand Name: _____				
Cement Type III:		Specific Gravity	_____	_____ lb/cy	_____ cf
701.04	Source: _____ Brand Name: _____				
Blended Cement:		Specific Gravity	<u>2.980</u>	<u>564</u> lb/cy	<u>3.03</u> cf
701.06	Source: <u>LAFARGE - TERCEM - MONTREAL, EAST PLANT</u> Brand Name: _____				
Cement with Slag:		Specific Gravity	_____	_____ lb/cy	_____ cf
701.07	Source: _____ Brand Name: _____				
Pozzolan:		Specific Gravity	_____	_____ lb/cy	_____ cf
725.03(a)	Source: _____ Brand Name: _____				
Fly Ash:		Specific Gravity	_____	_____ lb/cy	_____ cf
725.03(a)	Source: _____ Brand Name: _____				
Silica Fume:		Specific Gravity	_____	_____ lb/cy	_____ cf
725.03(b)	Source: _____ Brand Name: _____				
Slag:		Specific Gravity	_____	_____ lb/cy	_____ cf
725.03(c)	Source: _____ Brand Name: _____				
Water					
Air Content Target			<u>29</u> gals	<u>242</u> lb/cy	<u>3.88</u> cf
Coarse Aggregate 3/8"			<u>7.0</u> %		<u>1.89</u> cf
704.02A	Absorption _____ Source: _____	Specific Gravity	_____	_____ lb/cy	_____ cf
Coarse Aggregate 3/4"		Absorption	<u>1.00</u>	Specific Gravity	<u>2.670</u>
704.02B	Source: <u>LANE CONST INC PIT - NORTHFIELD, MA</u>			<u>1078</u> lb/cy	<u>6.47</u> cf
Coarse Aggregate 1 1/2"		Absorption	<u>0.60</u>	Specific Gravity	<u>2.870</u>
704.02C	Source: <u>COLD RIVER MATERIALS PIT - N WALPOLE, NH</u>			<u>718</u> lb/cy	<u>4.01</u> cf
Fine Aggregate:		Absorption	<u>1.20</u>	Specific Gravity	<u>2.690</u>
704.01	Source: <u>LANE CONST INC PIT - NORTHFIELD, MA</u>	Fineness Modulus	<u>2.77</u>	<u>1296</u> lb/cy	<u>7.72</u> cf
Air Entrainment Admixture		Specific Gravity	_____	<u>1.5</u> oz/cy	
725.02(b)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u> Brand Name: <u>MasterAir AE200</u>				
Retarder Admixture:		Specific Gravity	_____	<u>1</u> oz/cwt	
725.02(c)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u> Brand Name: <u>MasterSet R100</u>				
High Range Water Reducer Admixture:		Specific Gravity	_____	<u>3</u> oz/cwt	
725.02(h)	Source: <u>MASTER BUILDERS INC - MESQUITE, TX</u> Brand Name: <u>MasterGlenium 7500</u>				
Other Admixtures:		Specific Gravity	_____	_____	<u>0.00</u> cf
	Source: _____ Brand Name: _____				
	Source: _____ Brand Name: _____	Specific Gravity	_____	_____	<u>0.00</u> cf
	Source: _____ Brand Name: _____				
	Source: _____ Brand Name: _____	Specific Gravity	_____	_____	<u>0.00</u> cf
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