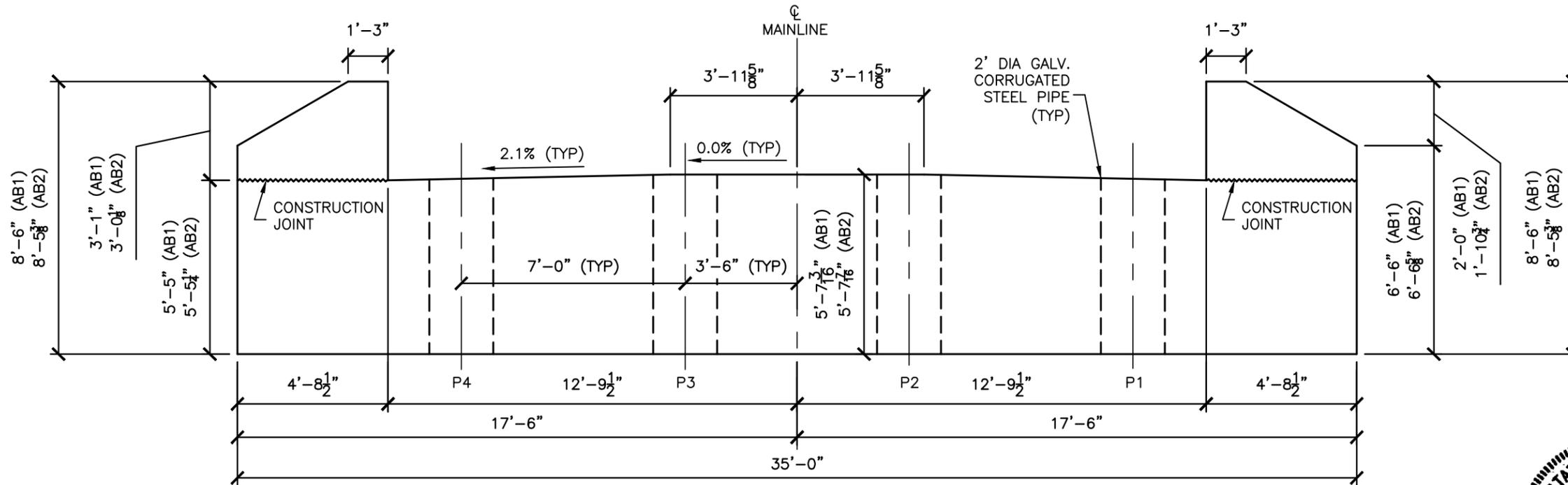


TYPICAL ABUTMENT PLAN

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



TYPICAL ABUTMENT ELEVATION

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

Vermont Agency of Transportation
RECEIVED

CK'D BY GL OK'D BY JS

June 19, 2015

RESUBMIT NO Approved
BY RY DATE 6-23-2015



1

PREPARED BY: KFM
CHECKED BY: TRF
DATE: 05/20/15

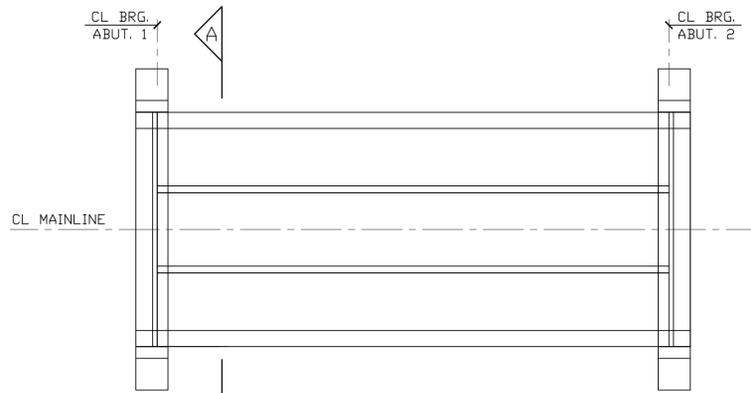
CAMBRIDGE BRO 1448(39)
Abutments #1 and #2

Cambridge, VT

T. R. FELLOWS
NH
VT

ENGINEERING
CIVIL - STRUCTURAL

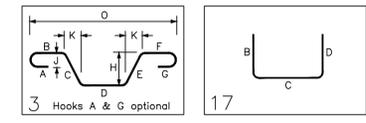
PO BOX 56
ROCHESTER, VT 05767
TEL: 802.318.7853
FAX: 802.318.5151
trfello@myairpoint.net



DECK PLAN
CONTRACT DWG. REF. 16

- LIST 1 (F.F.) (2 THUS)**
- 3 #6 X 8'-0" (Z) F.F.
 - 1 #6 X 7'-10" (Z) F.F.
 - 1 #6 X 7'-7" (Z) F.F.
 - 1 #6 X 7'-3" (Z) F.F.
 - 1 #6 X 7'-0" (Z) F.F.
 - 1 #6 X 6'-8" (Z) F.F.
 - 1 #6 X 6'-5" (Z) F.F.
 - 1 #6 X 6'-1" (Z) F.F.
- LIST 2 (N.F.) (2 THUS)**
- 2 #5 X 8'-0" (Z) N.F.
 - 1 #5 X 7'-10" (Z) N.F.
 - 1 #5 X 7'-3" (Z) N.F.
 - 1 #5 X 6'-8" (Z) N.F.
 - 1 #5 X 6'-1" (Z) N.F.
- LIST 3 (F.F.) (2 THUS)**
- 3x1 #5 X 4'-2" (Z) F.F.
 - 1 #5 X 3'-8" (Z) F.F.
 - 1 #5 X 2'-9" (Z) F.F.
 - 1 #5 X 1'-11" (Z) F.F.
- LIST 4 (N.F.) (2 THUS)**
- 1 #5 X 4'-2" (Z) N.F.
 - 1 #5 X 3'-8" (Z) N.F.
 - 1 #5 X 1'-11" (Z) N.F.

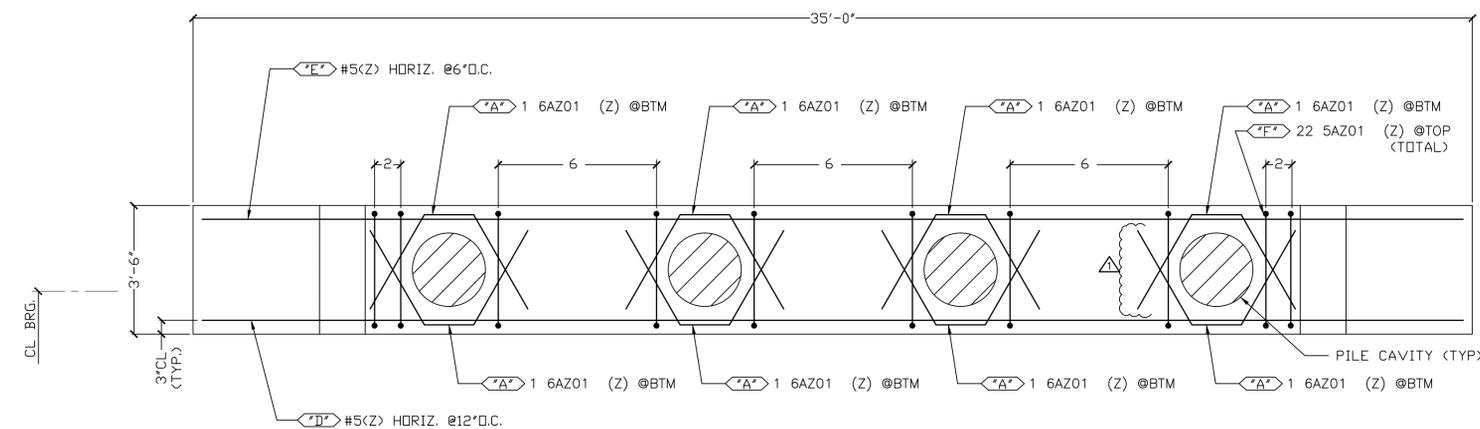
| Release Number: | | | | | BAR LIST | | | | | | | | | | | |
|-----------------|-----|------|--------------|------|----------|-----|------------|--------|------------|-----|-----|-----|--------|-----|-------|-------|
| Bar Mark | Qty | Size | Total Length | Type | 'A' | 'B' | 'C' | 'D' | 'E' | 'F' | 'G' | 'H' | 'J' | 'K' | 'O' | 'R' |
| 5AZ01 | 46 | #5 | 8'-8" | 17 | | | 2'-10" | 3'-0" | 2'-10" | | | | | | | |
| 5AZ02 | 4 | #5 | 4'-9" | 3 | | | 0'-11" | 3'-10" | | | | | 1'-11" | | 3'-4" | 4'-3" |
| 6AZ01 | 8 | #6 | 7'-5 1/2" | 3 | | | 2'-11 1/4" | 1'-6" | 2'-11 1/4" | | | | 2'-7" | | 1'-6" | 4'-6" |



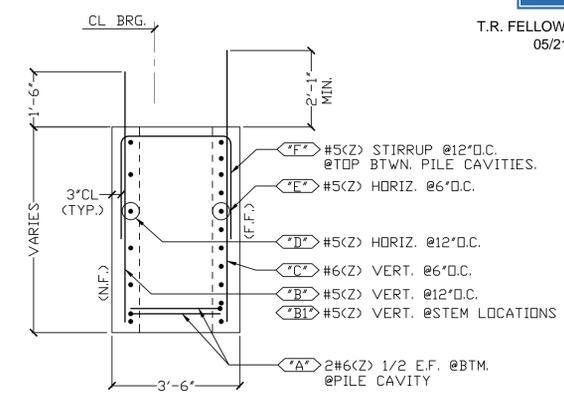
LIFTING POINT LOCATIONS & ANCHORS
- BY OTHERS/G.C.

4 #7 SHEAR BAR FOR WIRE ANCHORS
4 #7 X 4'-0" (Z) TOTAL

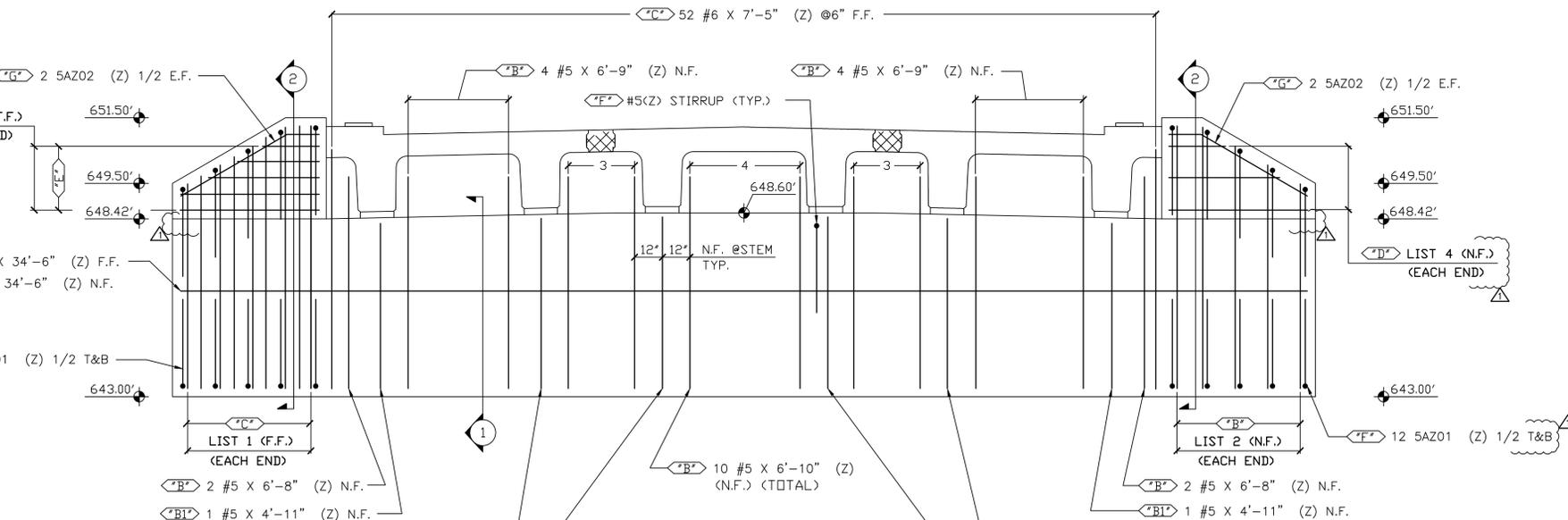
BAR MARKS MAY CHANGE, DUE TO REVISIONS



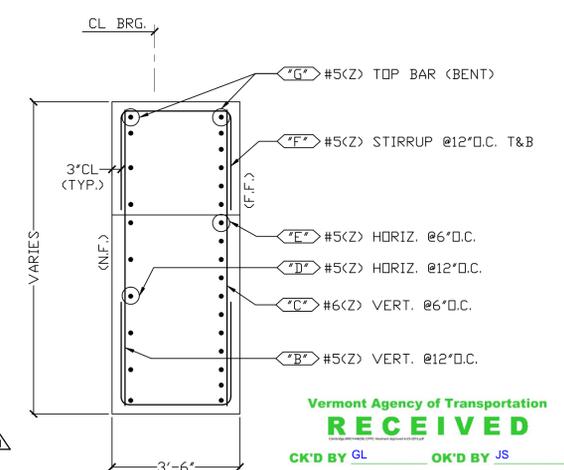
ABUTMENT #1 PLAN
(VERTICALS NOT SHOWN FOR CLARITY)
CONTRACT DWG. REF. 20



SECTION 1
(REINF. @ BRIDGE SEAT)
CONTRACT DWG. REF. 20



ABUTMENT #1 - ELEVATION A-A
(PILE CAVITIES NOT SHOWN FOR CLARITY)
CONTRACT DWG. REF. 20



SECTION 2
(REINF. @ CHEEK WALL)
CONTRACT DWG. REF. 20

APPROVED
T.R. FELLOWS ENGINEERING
05/21/2015

FOR APPROVAL

LEGEND:
CONT.-CONTINUOUS
TRANS.-TRANSVERSE
DWLS.-DOWELS
VERTS.-VERTICAL
HORIZ.-HORIZONTAL
T&B -TOP & BOTTOM
I.F.-INNER FACE
O.F.-OUTER FACE
E.E.-EACH END
E.F.-EACH FACE
N.F.-NEAR FACE
F.F.-FAR FACE
E.W.-EACH WAY
D.C.-DN CENTER
L.W.-LONG WAY
S.W.-SHORT WAY

| LAP CHART | |
|-----------|--------------|
| #5, #6 | 2'-7" (U.N.) |

**ALL REINF. BARS
LEVEL II - DUAL COATED**

ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR DIMENSIONAL CONSTRUCTION.

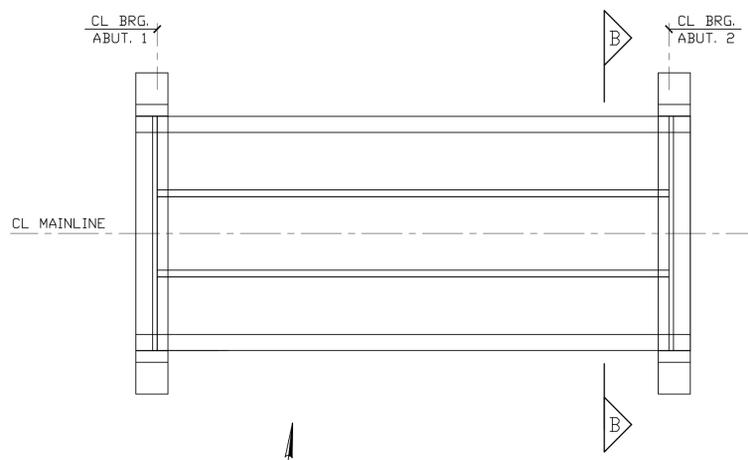
DUAL COATED REINF. BARS ASTM A615 GRADE 60, MARKED (Z)

VERIFICATION OF UNCLEAR INFORMATION MAY BE REQUESTED ON THIS DRAWING. SHOULD VERIFICATION BE LEFT UN-ADDRESSED IT WILL REMAIN AS SHOWN AND ASSUME TO BE CORRECT.

Vermont Agency of Transportation
RECEIVED
CK'D BY GL OK'D BY JS
June 19, 2015
RESUBMIT NO Approved
BY RY DATE 6-23-2015

| DATE | REV.# | SENT FOR |
|---------|-------|----------------------|
| 5/21/15 | | REVISED PER APPROVAL |
| 1/29/15 | | FOR APPROVAL |

| | | |
|------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| | | 2000 7TH STREET SCOTSDALE, N.Y. 12030 PH: (518) 374-1936 FAX: (518) 374-4830 www.dimensionfabricators.com |
| STRUCTURE: | VTAOT CAMBRIDGE BRO 1448(39) | |
| LOCATION: | CAMBRIDGE, VERMONT | |
| ARCHITECT: | | |
| ENGINEER: | | |
| CUSTOMER: | BLOW & COTE, INC. | |
| DRAWN BY: | DATE: | OFF #: |
| KRIS J | 1/23/15 | 9127 |
| DRAWING COVERS: | | DRAWING #: |
| WEST ABUTMENT #1 | | A |

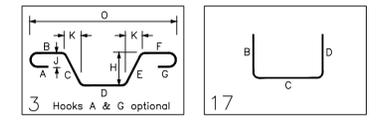


DECK PLAN
CONTRACT DWG. REF. 16

- LIST 1 (F.F.) (2 THUS)**
- 3 #6 X 7'-11" (Z) F.F.
 - 1 #6 X 7'-10" (Z) F.F.
 - 1 #6 X 7'-6" (Z) F.F.
 - 1 #6 X 7'-3" (Z) F.F.
 - 1 #6 X 7'-0" (Z) F.F.
 - 1 #6 X 6'-9" (Z) F.F.
 - 1 #6 X 6'-5" (Z) F.F.
 - 1 #6 X 6'-2" (Z) F.F.
- LIST 2 (N.F.) (2 THUS)**
- 2 #5 X 7'-11" (Z) N.F.
 - 1 #5 X 7'-10" (Z) N.F.
 - 1 #5 X 7'-3" (Z) N.F.
 - 1 #5 X 6'-9" (Z) N.F.
 - 1 #5 X 6'-2" (Z) N.F.
- LIST 3 (F.F.) (2 THUS)**
- 3x1 #5 X 4'-2" (Z) F.F.
 - 1 #5 X 3'-8" (Z) F.F.
 - 1 #5 X 2'-9" (Z) F.F.
 - 1 #5 X 1'-10" (Z) F.F.
- LIST 4 (N.F.) (2 THUS)**
- 1 #5 X 4'-2" (Z) N.F.
 - 1 #5 X 3'-8" (Z) N.F.
 - 1 #5 X 1'-10" (Z) N.F.

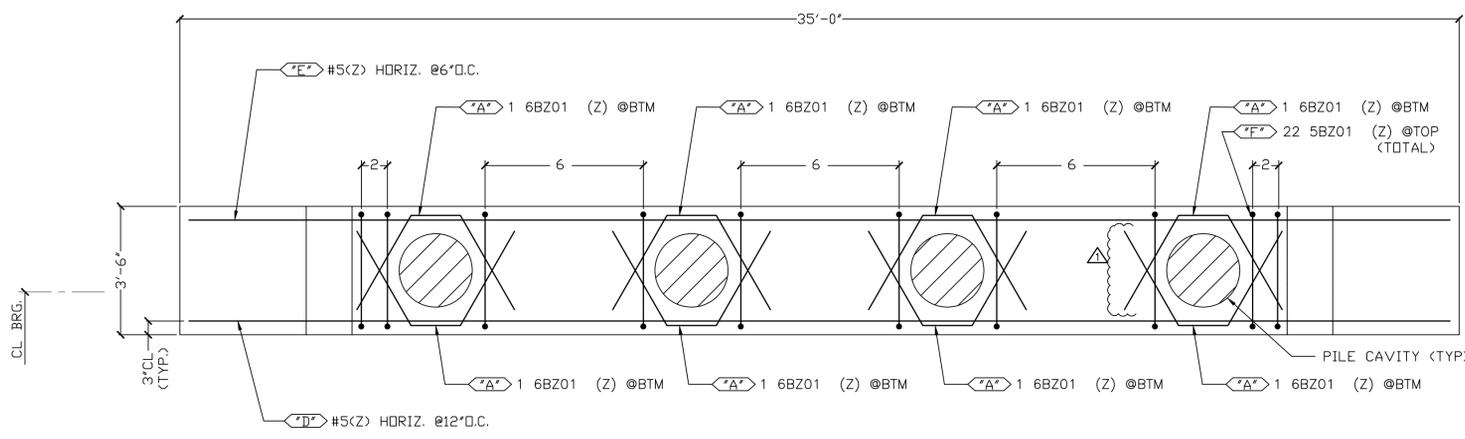
Release Number: _____ BAR LIST

| Bar Mark | Qty | Size | Total Length | Type | 'A' | 'B' | 'C' | 'D' | 'E' | 'F' | 'G' | 'H' | 'J' | 'K' | 'O' | 'R' |
|----------|-----|------|--------------|------|-----|--------|------------|--------|------------|-----|-----|-----------|-----|-----------|-----------|-----|
| 5BZ01 | 46 | #5 | 8'-8" | 17 | | 2'-10" | 3'-0" | 2'-10" | | | | | | | | |
| 5BZ02 | 4 | #5 | 4'-7 1/2" | 3 | | 0'-11" | 3'-8 1/2" | | | | | 1'-9 1/2" | | 3'-3 1/2" | 4'-2 1/2" | |
| 6BZ01 | 8 | #6 | 7'-5 1/2" | 3 | | | 2'-11 1/2" | 1'-6" | 2'-11 1/2" | | | 2'-7" | | 1'-6" | 4'-6" | |

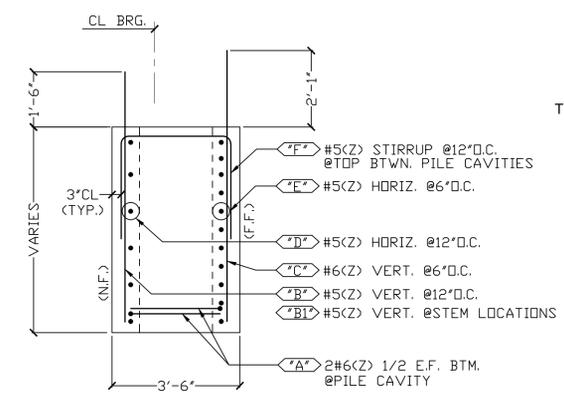


LIFTING POINT LOCATIONS & ANCHORS
- BY OTHERS/G.C.

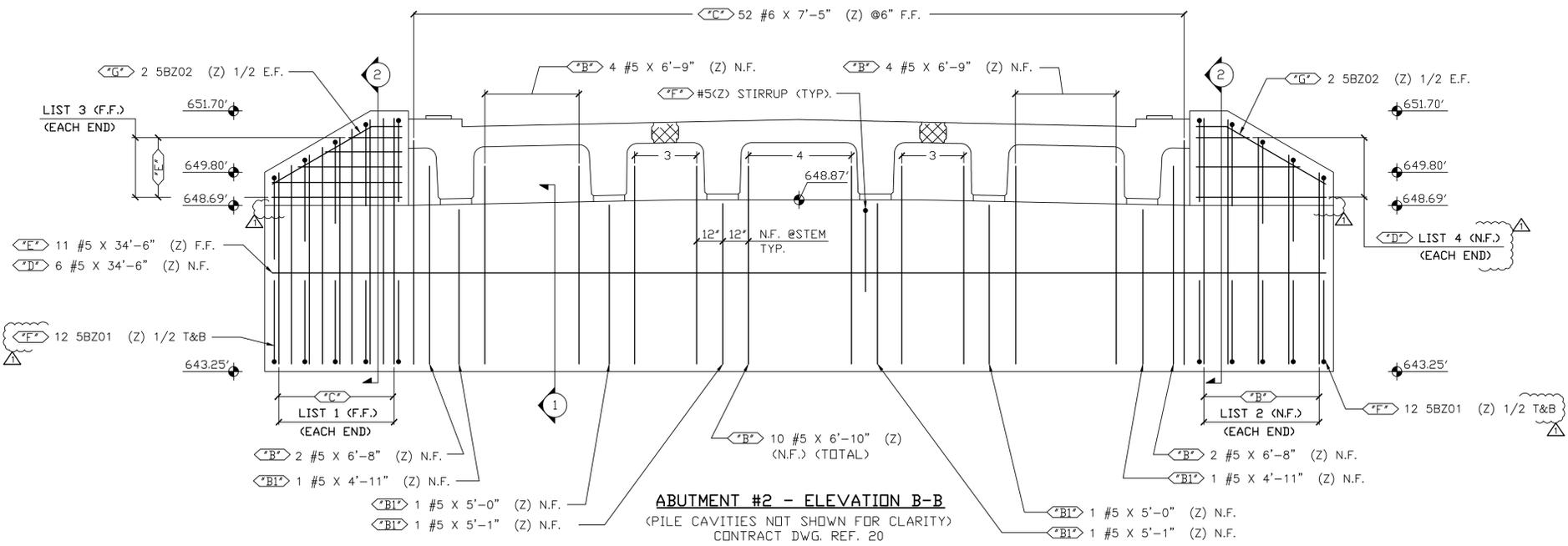
4 #7 SHEAR BAR FOR WIRE ANCHORS
4 #7 X 4'-0" (Z) TOTAL



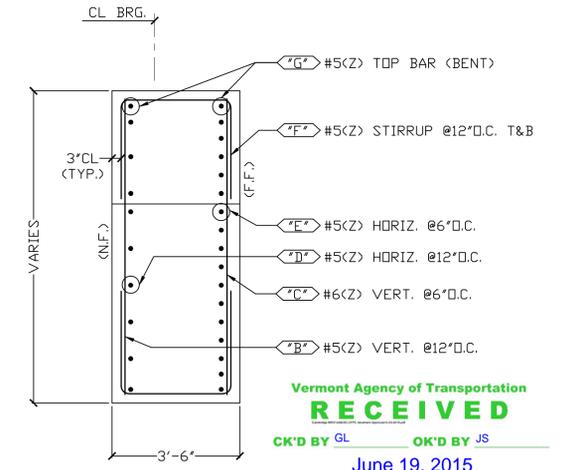
ABUTMENT #2 PLAN
(VERTICALS NOT SHOWN FOR CLARITY)
CONTRACT DWG. REF. 20



SECTION 1
(REINF. @ BRIDGE SEAT)
CONTRACT DWG. REF. 20



ABUTMENT #2 - ELEVATION B-B
(PILE CAVITIES NOT SHOWN FOR CLARITY)
CONTRACT DWG. REF. 20



SECTION 2
(REINF. @ CHEEK WALL)
CONTRACT DWG. REF. 20

APPROVED
T.R. FELLOWS ENGINEERING
05/21/2015

FOR APPROVAL

LAP CHART

| | |
|--------|--------------|
| #5, #6 | 2'-7" (U.N.) |
|--------|--------------|

**ALL REINF. BARS
LEVEL II - DUAL COATED**

ELEVATIONS & DIMENSIONS SHOWN ON THIS DWG. ARE FOR REINF. DETAILING PURPOSES ONLY AND ARE NOT INTENDED FOR DIMENSIONAL CONSTRUCTION.

DUAL COATED REINF. BARS ASTM A615 GRADE 60, MARKED (Z)

VERIFICATION OF UNCLEAR INFORMATION MAY BE REQUESTED ON THIS DRAWING. SHOULD VERIFICATION BE LEFT UN-ADDRESSED IT WILL REMAIN AS SHOWN AND ASSUME TO BE CORRECT.

| | | | |
|--------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------|--|
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | 5/21/15 | REVISED PER APPROVAL | |
| 1 | 1/29/15 | FOR APPROVAL | |
| DATE | REV.# | SENT FOR | |
| DIMENSION | | | |
| DIMENSION FABRICATORS INC. | | | |
| 2000 7TH STREET SCOTIA, N.Y. 13202 PH: (518) 374-1936 FAX: (518) 374-4830 www.dimensionfabricators.com | | | |
| STRUCTURE | VTAOT CAMBRIDGE BRO 1448(39) | | |
| LOCATION | CAMBRIDGE, VERMONT | | |
| ARCHITECT | | | |
| ENGINEER | | | |
| CUSTOMER | BLOW & COTE, INC. | | |
| DRAWN BY | DATE | OFF # | |
| KRIS J | 1/23/15 | 9127 | |
| DRAWING COVERS | | DRAWING # | |
| EAST ABUTMENT #2 | | B | |

Vermont Agency of Transportation
RECEIVED
CK'D BY GL OK'D BY JS
June 19, 2015
RESUBMIT NO Approved
BY RY DATE 6-23-2015

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|-----------------------------|-------------------------|
| Sample ID: dnelson1375105929 | Sampled By: Nelson, Douglas | Sample Type: Acceptance |
| Lab/Ref : C130266 | Station: | Sample Date: 06/26/2013 |
| Lot #: | Sampled From: Truck chute | Sample Time: 11:00 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 44.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Pier #1 Hammer Head | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRF 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRF 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 44.00 CM |

Concrete Field Test:

| In Compliance | Results | Min | Max | Out of Tol. |
|---------------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 5.7 | 5.5 | 8.5 | |
| T119 Slump in: | 5.50 | 0 | 7.0 | |
| Total Water gal/cy: | 29.90 | | | |
| W/c Ratio: | 0.410 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 77.0 | 50 | 85 | |
| Ambient Temperature °F: | 75.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|--------|--------|-------|------------------------|----------|---------------------------|-------------|------------|
| Cylinder No.: | Unit Density: | Age | Design | Cure | Area in ² : | Cylinder | Break | | |
| | | Broke: | Age: | Type | | Dia in: | Type: | Load LBF: | Break PSI: |
| HH-3 | 149.00 | 7 | 7 | Field | 12.57 | 4 | | 57300 | 4560 |
| HH-4 | 149.00 | 7 | 7 | Field | 12.57 | 4 | | 57200 | 4550 |
| | | | | | | | Average Break lbf: | 4555 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|--------|--------|----------|------------------------|----------|---------------------------|-------------|-------------|
| Cylinder No.: | Unit Density: | Age | Design | Cure | Area in ² : | Cylinder | Break | | Out of Tol: |
| | | Broke: | Age: | Type | | Dia in: | Type: | Load LBF: | Break PSI: |
| HH-1 | 150.00 | 28 | 28 | Standard | 12.57 | 4 | | 91900 | 7310 |
| HH-2 | 150.00 | 28 | 28 | Standard | 12.57 | 4 | | 93700 | 7460 |
| | | | | | | | Average Break lbf: | 7385 | |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|-----------------|-------------|---------------|-----------------|
| 1 | SC-CYL-28 | Wyluda, Eric | 07/24/2013 | Wild, Jim | 07/25/2013 |
| 1 | SC-CYL-7 | Nelson, Douglas | 07/05/2013 | Wild, Jim | |
| 1 | SC-FIELD | Nelson, Douglas | 07/05/2013 | Wild, Jim | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|---------------------------|-------------------------|
| Sample ID: ewyluda137V091745 | Sampled By: Wilcox, Greg | Sample Type: Acceptance |
| Lab/Ref : C130354 | Station: | Sample Date: 07/20/2013 |
| Lot #: | Sampled From: Truck Chute | Sample Time: 8:30 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 44.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Pier #2 | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRF 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRF 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 44.00 CM |

Concrete Field Test:

| In Compliance | Results | Min | Max | Out of Tol. |
|--------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 7.0 | 5.5 | 8.5 | |
| T119 Slump in: | 5.00 | 0 | 7.0 | |
| Total Water gal/cy: | 31.34 | | | |
| W/c Ratio: | 0.430 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 79.0 | 50 | 85 | |
| Ambient Temperature °F: | 72.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 |
|---------------|---------------|------|--------|----------|------------------------|----------|---------------------------|----------------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | |
| | Broke: | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: |
| P2H-3 | 146.00 | 6 | 6 | Field | 12.57 | 4 | | 43000 3420 |
| P2H-4 | 144.00 | 6 | 6 | Standard | 12.57 | 4 | | 43200 3440 |
| | | | | | | | Average Break lbf: | 3430 |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 |
|---------------|---------------|------|--------|-------|------------------------|----------|---------------------------|----------------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | |
| | Broke: | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: |
| P2H-5 | 145.00 | 9 | 9 | Field | 12.57 | 4 | | 55870 4450 |
| P2H-6 | 146.00 | 9 | 9 | Field | 12.57 | 4 | | 58260 4640 |
| | | | | | | | Average Break lbf: | 4545 |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|------|--------|----------|------------------------|----------|---------------------------|----------------------|-------------|
| In Compliance | | Age | Design | Cure | Area in ² : | Cylinder | Break | | Out of Tol: |
| Cylinder No.: | Unit Density; | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: | |
| P2H-1 | 144.00 | 28 | 28 | Standard | 12.57 | 4 | | 73500 5850 | |
| P2H-2 | 146.00 | 28 | 28 | Standard | 12.57 | 4 | | 73500 5850 | |
| | | | | | | | Average Break lbf: | 5850 | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|---------------------------|-------------------------|
| Sample ID: ewyluda137V091745 | Sampled By: Wilcox, Greg | Sample Type: Acceptance |
| Lab/Ref : C130354 | Station: | Sample Date: 07/20/2013 |
| Lot #: | Sampled From: Truck Chute | Sample Time: 8:30 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 44.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Pier #2 | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRF 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRF 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 44.00 CM |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|---------------|-------------|-----------------|-----------------|
| 1 | SC-CYL-28 | Lackey, Larry | 08/19/2013 | Ljungvall, Mark | 08/19/2013 |
| 1 | SC-CYL-G | Lackey, Larry | 07/31/2013 | Ljungvall, Mark | |
| 2 | SC-CYL-G | Lackey, Larry | 07/31/2013 | Ljungvall, Mark | |
| 1 | SC-FIELD | Lessard, Dan | 07/31/2013 | Ljungvall, Mark | |
| 1 | SC-FIELD | Lackey, Larry | 07/31/2013 | Ljungvall, Mark | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|------------------------------|-------------------------|
| Sample ID: cmoulton138L110708 | Sampled By: Connolly, Darren | Sample Type: Acceptance |
| Lab/Ref : C130435 | Station: | Sample Date: 08/12/2013 |
| Lot #: | Sampled From: Truck | Sample Time: 1:50 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 40.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Abut #2 | | Truck #: Trk #61 |
| Contract: 12072701 CAMBRIDGE BRG 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRG 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 40.00 CM |

Concrete Field Test:

| In Compliance | Results | Min | Max | Out of Tol. |
|---------------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 7.0 | 5.5 | 8.5 | |
| T119 Slump in: | 5.00 | 0 | 7.0 | |
| Total Water gal/cy: | 32.00 | | | |
| W/c Ratio: | 0.437 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 80.0 | 50 | 85 | |
| Ambient Temperature °F: | 78.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 |
|---------------|---------------|------|--------|-------|------------------------|----------|---------------------------|----------------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | |
| | Broke: | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: |
| ABT2-3 | 146.00 | 10 | 10 | Field | 12.57 | 4 | | 50200 3990 |
| ABT2-4 | 146.00 | 10 | 10 | Field | 12.57 | 4 | | 51700 4110 |
| | | | | | | | Average Break lbf: | 4050 |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 |
|---------------|---------------|------|--------|-------|------------------------|----------|---------------------------|----------------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | |
| | Broke: | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: |
| ABT2-5 | 146.00 | 14 | 14 | Field | 12.57 | 4 | | 59300 4720 |
| ABT2-6 | 147.00 | 14 | 14 | Field | 12.57 | 4 | | 61600 4900 |
| | | | | | | | Average Break lbf: | 4810 |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|------|--------|----------|------------------------|----------|---------------------------|----------------------|-------------|
| In Compliance | | Age | Design | Cure | Area in ² : | Cylinder | Break | | Out of Tol: |
| Cylinder No.: | Unit Density; | Age: | Age: | Type | | Dia in: | Type: | Load LBF: Break PSI: | |
| ABT2-1 | 146.00 | 28 | 28 | Standard | 12.57 | 4 | | 73300 5830 | |
| ABT2-2 | 145.00 | 28 | 28 | Standard | 12.57 | 4 | | 75100 5980 | |
| | | | | | | | Average Break lbf: | 5905 | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|------------------------------|-------------------------|
| Sample ID: cmoulton138L110708 | Sampled By: Connolly, Darren | Sample Type: Acceptance |
| Lab/Ref : C130435 | Station: | Sample Date: 08/12/2013 |
| Lot #: | Sampled From: Truck | Sample Time: 1:50 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 40.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Abut #2 | | Truck #: Trk #61 |
| Contract: 12072701 CAMBRIDGE BRG 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRG 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 40.00 CM |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|----------------|-------------|---------------|-----------------|
| 1 | SC-CYL-14 | Allen, Allyson | 08/26/2013 | Wild, Jim | 10/04/2013 |
| 1 | SC-CYL-28 | Allen, Allyson | 09/18/2013 | Wild, Jim | |
| 1 | SC-CYL-28 | Lackey, Larry | 09/09/2013 | Wild, Jim | |
| 1 | SC-CYL-G | Allen, Allyson | 08/22/2013 | Wild, Jim | |
| 1 | SC-FIELD | Allen, Allyson | 08/21/2013 | Wild, Jim | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
G. Wilcox

| | | |
|---------------------------------------------------------------------|--------------------------|-------------------------|
| Sample ID: cstevens139P091158 | Sampled By: Wilcox, Greg | Sample Type: Acceptance |
| Lab/Ref : C130569 | Station: | Sample Date: 09/14/2013 |
| Lot #: | Sampled From: Pump Hose | Sample Time: 10:30 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 30.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Deck pour | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRG 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRG 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 30.00 CM |

Concrete Field Test:

| In Compliance | Results | Min | Max | Out of Tol. |
|---------------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 5.5 | 5.5 | 8.5 | |
| T119 Slump in: | 4.00 | 0 | 7.0 | |
| Total Water gal/cy: | 31.80 | | | |
| W/c Ratio: | 0.437 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 72.0 | 50 | 85 | |
| Ambient Temperature °F: | 52.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|--------|--------|-------|------------------------|----------|---------------------------|-------------|------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | Load LBF: | Break PSI: |
| | | Broke: | Age: | Type | | Dia in: | Type: | | |
| DECK-7 | 148.00 | 13 | 14 | Field | 12.57 | 4 | Shear | 74000 | 5890 |
| DECK-8 | 148.00 | 13 | 14 | Field | 12.57 | 4 | Shear | 72800 | 5790 |
| | | | | | | | Average Break lbf: | 5840 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | | |
|---------------|---------------|--------|--------|----------|------------------------|----------|---------------------------|-------------|------------|-------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | Load LBF: | Break PSI: | Out of Tol: |
| | | Broke: | Age: | Type | | Dia in: | Type: | | | |
| DECK - 5 | 149.00 | 27 | 28 | Standard | 12.57 | 4 | Shear | 97000 | 7720 | |
| DECK - 6 | 149.00 | 27 | 28 | Standard | 12.57 | 4 | Shear | 95000 | 7560 | |
| | | | | | | | Average Break lbf: | 7640 | | |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|------------------|-------------|-----------------|-----------------|
| 1 | SC-CYL-28 | Davison, Timothy | 10/11/2013 | Ljungvall, Mark | 10/21/2013 |
| 1 | SC-CYL-G | Coletta, Trent | 09/30/2013 | Ljungvall, Mark | |
| 1 | SC-CYL-G | Ljungvall, Mark | 10/18/2013 | Ljungvall, Mark | |
| 1 | SC-CYL-G | Allen, Allyson | 10/18/2013 | Ljungvall, Mark | |
| 1 | SC-FIELD | Allen, Allyson | 09/25/2013 | Ljungvall, Mark | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
Greg Wilcox

| | | |
|---------------------------------------------------------------------|--------------------------|-------------------------|
| Sample ID: cstevens139P113946 | Sampled By: Wilcox, Greg | Sample Type: Acceptance |
| Lab/Ref : C130571 | Station: | Sample Date: 09/14/2013 |
| Lot #: | Sampled From: Pump Hose | Sample Time: 1:00 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 30.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-280 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Deck pour | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRF 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRF 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 30.00 CM |

Concrete Field Test:

| Not In Compliance | Results | Min | Max | Out of Tol. |
|--------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 5.0 | 5.5 | 8.5 | -0.5 |
| T119 Slump in: | 5.25 | 0 | 7.0 | |
| Total Water gal/cy: | 31.90 | | | |
| W/c Ratio: | 0.436 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 72.0 | 50 | 85 | |
| Ambient Temperature °F: | 55.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 |
|---------------|---------------|-----|--------|-------|------------------------|----------|---------------------------|----------------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | |
| Deck-15 | 147.00 | 11 | 11 | Field | 12.57 | 4 | Type: | Load LBF: Break PSI: |
| Deck-15 | 147.00 | 11 | 11 | Field | 12.57 | 4 | | 63000 5010 |
| Deck-16 | 147.00 | 11 | 11 | Field | 12.57 | 4 | | 61000 4850 |
| | | | | | | | Average Break lbf: | 4930 |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|-----|--------|----------|------------------------|----------|---------------------------|----------------------|-------------|
| Cylinder No.: | Unit Density; | Age | Design | Cure | Area in ² : | Cylinder | Break | | Out of Tol: |
| DECK - 13 | 147.00 | 27 | 28 | Standard | 12.57 | 4 | Type: | Load LBF: Break PSI: | |
| DECK - 13 | 147.00 | 27 | 28 | Standard | 12.57 | 4 | Shear | 96100 7650 | |
| DECK - 14 | 147.00 | 27 | 28 | Standard | 12.57 | 4 | Shear | 97000 7720 | |
| | | | | | | | Average Break lbf: | 7685 | |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|------------------|-------------|---------------|-----------------|
| 1 | SC-CYL-28 | Davison, Timothy | 10/11/2013 | Wild, Jim | 10/16/2013 |
| 1 | SC-CYL-G | Allen, Allyson | 09/26/2013 | Wild, Jim | |
| 1 | SC-FIELD | Allen, Allyson | 09/26/2013 | Wild, Jim | |

**Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Sample Report**

Requested By:
G. Wilcox

| | | |
|---------------------------------------------------------------------|--------------------------|-------------------------|
| Sample ID: cstevens139P094353 | Sampled By: Wilcox, Greg | Sample Type: Acceptance |
| Lab/Ref : C130572 | Station: | Sample Date: 09/19/2013 |
| Lot #: | Sampled From: Truck | Sample Time: 12:15 |
| Material: Concrete Concrete (501 and 541) | | Quantity: 30.00 CM |
| Supplier: HARRISON REDI-MIX, GEORGIA, VT | | Mix Design: HP13-A-291 |
| Manufacturer: HARRISON REDI-MIX, GEORGIA, VT | | |
| Comment: Deck pour | | Truck #: |
| Contract: 12072701 CAMBRIDGE BRG 027-1(4) & CAMBRIDGE STP 030-2(27) | | |
| Project: 78F163 CAMBRIDGE BRG 027-1(4) | | Quantity |
| Pay Item: 0485 501.33 CONCRETE, HIGH PERFORMANCE CLASS A | | 30.00 CM |

Concrete Field Test:

| In Compliance | Results | Min | Max | Out of Tol. |
|--------------------------|---------|-----|------|-------------|
| T121 Unit Weight pcf: | 0 | | | |
| T152 Air Content %: | 5.8 | 5.5 | 8.5 | |
| T119 Slump in: | 6.50 | 0 | 7.0 | |
| Total Water gal/cy: | 28.50 | | | |
| W/c Ratio: | 0.389 | | 0.44 | |
| ASTM C1064 Conc Temp °F: | 70.0 | 50 | 85 | |
| Ambient Temperature °F: | 58.0 | 10 | 90 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | |
|---------------|---------------|------|-------------|------------|-----------|------------------|---------------------------|-------------|------------|
| Cylinder No.: | Unit Density: | Age: | Design Age: | Cure Type: | Area in²: | Cylinder Dia in: | Break Type: | Load LBF: | Break PSI: |
| Deck-25 | 147.00 | 7 | 7 | Field | 12.57 | 4 | Shear | 65700 | 5230 |
| Deck-26 | 147.00 | 7 | 7 | Field | 12.57 | 4 | Shear | 63900 | 5090 |
| | | | | | | | Average Break lbf: | 5160 | |

AASHTO T22 Concrete Cylinder Break

| | | | | | | | Design Break lbf: | 4000 | | |
|---------------|---------------|------|-------------|------------|-----------|------------------|---------------------------|-------------|------------|-------------|
| Cylinder No.: | Unit Density: | Age: | Design Age: | Cure Type: | Area in²: | Cylinder Dia in: | Break Type: | Load LBF: | Break PSI: | Out of Tol: |
| Deck-23 | 147.00 | 28 | 28 | Standard | 12.57 | 4 | Shear | 93400 | 7430 | |
| Deck-24 | 147.00 | 28 | 28 | Standard | 12.57 | 4 | Shear | 90800 | 7230 | |
| | | | | | | | Average Break lbf: | 7330 | | |

| | Template | Tested By | Tested Date | Authorized By | Authorized Date |
|---|-----------|----------------|-------------|---------------|-----------------|
| 1 | SC-CYL-28 | Lackey, Larry | 10/17/2013 | Wild, Jim | 10/31/2013 |
| 1 | SC-CYL-7 | Lessard, Dan | 09/30/2013 | Wild, Jim | |
| 1 | SC-FIELD | Allen, Allyson | 09/25/2013 | Wild, Jim | |

Guidelines for Use

Dosage: There is no standard dosage for Micro Air admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique.

The amount of Micro Air admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mixture, use 1/8 to 1-1/2 fl oz/cwt (8-98 mL/100 kg) of cement. In mixtures containing water-reducing or set-control admixtures, the amount of Micro Air admixture needed is somewhat less than the amount required in plain concrete. Due to possible changes in the factors that can affect the dosage of Micro Air admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement. If an unusually high or low dosage of Micro Air admixture is required to obtain the desired air content, consult your BASF Construction Chemicals representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add Micro Air admixture to the concrete mixture using a dispenser designed for air-entraining admixtures; or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount. For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate or with the initial batch water. If the concrete mixture contains lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions to air-entrained concrete. Furthermore, an air content check should be performed after any post-batching addition to an air-entrained concrete mixture.

BASF Construction Chemicals, LLC
Admixture Systems

www.masterbuilders.com

United States 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544 ☎ Tel: 800 628-9990 ☎ Fax: 216 839-8821
Canada 1800 Clark Boulevard, Brampton, Ontario L6T 4M7 ☎ Tel: 800 387-5862 ☎ Fax: 905 792-0651

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Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Micro Air admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: Micro Air admixture may be used in combination with any BASF Construction Chemicals admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mixture.

Storage and Handling

Storage Temperature: Micro Air admixture should be stored and dispensed at 35 °F (2 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If it freezes, thaw and reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: Micro Air admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Micro Air admixture has been exceeded.

Safety: Micro Air admixture is a caustic solution. Chemical goggles and gloves are recommended when transferring or handling this material. (See MSDS and/or product label for complete information.)

Packaging

Micro Air admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Micro Air admixture.

Additional Information

For suggested specification information or for additional product data on Micro Air admixture, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

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| | | |
|--------|----------|--------------------------------------------------------------------------------------------------------|
| 3 4 | 03 30 00 | Product Data Cast-in-Place Concrete Precast Concrete Mass Concrete Masonry Grouting |
| | 03 40 00 | |
| | 03 70 00 | |
| | 04 05 16 | |

Description

GLENIUM® 7500 high-range water-reducing admixture is based on the next generation of polycarboxylate technology found in all of the Glenium 7000 series products. This technology combines state-of-the-art molecular engineering with a precise understanding of regional cements to provide specific and exceptional value to all phases of the concrete construction process.

GLENIUM 7500 admixture is very effective in producing concrete mixtures with different levels of workability including applications that require self-consolidating concrete (SCC). The use of GLENIUM 7500 admixture results in faster setting characteristics as well as improved early age compressive strength. GLENIUM 7500 admixture will meet ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Concrete with varying water reduction requirements (5-40%)
- Concrete where control of workability and setting time is critical
- Concrete where high flowability, increased stability, high early and ultimate strengths, and improved durability are needed
- Production of Rheodynamic® Self-Consolidating Concrete (SCC) mixtures
- 4x4™ Concrete for fast-track construction
- Pervious Concrete mixtures

GLENIUM® 7500

High-Range Water-Reducing Admixture

Features

- Excellent early strength development
- Controls setting characteristics
- Optimizes slump retention/setting relationship
- Consistent air entrainment
- Dosage flexibility

Benefits

- Faster turnover of forms due to accelerated early strength development
- Reduces finishing labor costs due to optimized set times
- Use in fast track construction
- Minimizes the need for slump adjustments at the jobsite
- Less jobsite QC support required
- Fewer rejected loads
- Optimizes concrete mixture costs

Performance Characteristics

Concrete produced with GLENIUM 7500 admixture achieves significantly higher early age strength than first generation polycarboxylate high-range water-reducing admixtures. GLENIUM 7500 admixture also strikes the perfect balance between workability retention and setting characteristics in order to provide efficiency in placing and finishing concrete.

Guidelines for Use

Dosage: GLENIUM 7500 admixture has a recommended dosage range of 2-15 fl oz/cwt (130-975 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 5-8 fl oz/cwt (325-520 mL/100 kg) will provide excellent performance. For high performance and Rheodynamic Self-Consolidating Concrete mixtures, dosages of up to 12 fl oz/cwt (780 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, jobsite conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local BASF Admixtures representative.

Mixing: GLENIUM 7500 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

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Product Data: GLENIUM® 7500

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: GLENIUM 7500 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of GLENIUM 7500 admixture.

Compatibility: GLENIUM 7500 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, air-entrainers, accelerators, retarders, extended set control admixtures, corrosion inhibitors, and shrinkage reducers.

Do not use GLENIUM 7500 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

Storage and Handling

Storage Temperature: GLENIUM 7500 admixture must be stored at temperatures above 40 °F (5 °C). If GLENIUM 7500 admixture freezes, thaw and reconstitute by mechanical agitation.

Shelf Life: GLENIUM 7500 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Admixtures representative regarding suitability for use and dosage recommendations if the shelf life of GLENIUM 7500 admixture has been exceeded.

Packaging

GLENIUM 7500 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: GLENIUM 7500 admixture.

Additional Information

For additional information on GLENIUM 7500 admixture or on its use in developing concrete mixtures with special performance characteristics, contact your BASF Admixtures representative.

BASF Admixtures is a leading provider of innovative chemical admixtures and silica fume for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets in the United States and Canada. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

www.basf-admixtures.com

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Description

Pozzolith 100 XR ready-to-use liquid admixture is used for producing more uniform and predictable quality concrete. Placing and finishing requirements are facilitated because this admixture retards setting time. Pozzolith 100 XR admixture meets ASTM C 494/C 494M requirements for Type B, retarding, and Type D, water-reducing and retarding, admixtures.

Applications

Recommended for use in:

- Prestressed concrete
- Precast concrete
- Reinforced concrete
- Shotcrete
- Lightweight or normal weight concrete
- Pumped concrete
- 4x4™ Concrete
- Pervious Concrete
- Rheodynamic®Self-Consolidating Concrete

POZZOLITH® 100 XR

Set Retarding Admixture

Features

- Reduced water content required for a given workability
- Retarded setting characteristics
- Controlled retardation – depending on the addition rate
- Dead-load deflection can take place (before concrete sets) in extended pours for bridge decks, cantilevers, nonshored structural elements, etc.

Benefits

- Improved workability
- Reduced segregation
- Superior finishing characteristics for flatwork and cast surfaces
- Flexibility in scheduling of placing and finishing operations
- Offsets effects of early stiffening during extended delays between mixing and placing
- Helps eliminate cold joints
- Peak temperature and/or rate of temperature rise in mass concrete lowered thereby reducing thermal cracking
- Increased compressive and flexural strength

Performance Characteristics

Rate of Hardening: The temperature of the concrete mixture and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete stiffens more rapidly which may cause problems with placing and finishing. Pozzolith 100 XR admixture retards the set of concrete. Within the normal dosage range, it will generally extend the setting time of concrete containing normal portland cement approximately 1-1/2 to 8 hours compared to that of a plain concrete mixture, depending on job materials and temperatures. Trial mixtures should be made with materials approximating job conditions to determine the dosage required.

Compressive Strength: Concrete produced with Pozzolith 100 XR admixture will have rapid strength development after initial set occurs. If retardation is within the normal ASTM C 494/C 494M Types B and D specifications, Pozzolith 100 XR admixture will develop higher early (24-hour) and ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

When Pozzolith 100 XR admixture is used in heat-cured concrete, the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

Product Data: POZZOLITH® 100 XR

Guidelines for Use

Dosage: Pozzolith 100 XR admixture is recommended for use at a dosage of 3 ± 1 fl oz/cwt (195 ± 65 mL/100 kg) of cementitious materials for most concrete mixtures using typical concrete ingredients. Because of variations in job conditions and concrete materials, dosage rates other than the recommended amounts may be required. In such cases, contact your local sales representative.

Pozzolith 100 XR admixture may be used at less than the recommended dosage for the purpose of retardation only.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Pozzolith 100 XR admixture will neither initiate nor promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally-added calcium chloride or other chloride-based ingredients.

Compatibility: Pozzolith 100 XR admixture may be used in combination with any BASF Construction Chemicals admixtures. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mix.

Storage and Handling

Storage Temperature: If this product freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: Pozzolith 100 XR admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of Pozzolith 100 XR admixture has been exceeded.

Packaging

Pozzolith 100 XR admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Material Safety Data Sheets: Pozzolith 100 XR admixture.

Additional Information

For additional information on Pozzolith 100 XR admixture or its use in developing a concrete mix with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets throughout the North American region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

BASF Construction Chemicals
Admixture Systems

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND MATERIALS BUREAU

CONCRETE BATCH PLANT
DAILY REPORT

Day & Date Friday, May 29, 2015

Plant Harrison Redi-Mix

Location Georgia, VT

| 1 1/2" Stone | | 3/4" Stone | | 3/8" Stone | | Fine Aggregate | |
|--------------|-----------|------------|-----------|------------|-----------|----------------|-----------|
| Sieve | % passing | Sieve | % passing | Sieve | % passing | Sieve | % passing |
| | | | | | | 3/8" | 100 |
| 1 3/4" | 100 | 1" | 100 | 1/2" | 100 | 4 | 100 |
| 1 1/2" | 93 | 3/4" | 97 | 3/8" | | 8 | 88 |
| 1" | 36 | 1/2" | 69 | 1/4" | | 16 | 70 |
| 3/4" | 5 | 3/8" | 48 | 4 | | 30 | 48 |
| 1/2" | 4 | 4 | 8 | 8 | | 50 | 23 |
| 3/8" | 2 | 8 | 3 | 16 | | 100 | 6 |
| flats | | | | | FM | 2.65 | |
| fractured | | | | | Color | | |

1 1/2 Stone Rainville Quarry Georgia
 3/4 Stone Rainville Quarry Georgia
 3/8 Stone N/A
 Fine Agg. Airport Sand and Fill - Highgate, VT
 Cement Ciment Quebec Type II
 Silica Fume BASF Rheomac SF100
 Fly Ash Headwaters, Brayton Pt. MA
 Slag _____
 Air Entrainer Micro Air
 Retarder Pozz 100XR
 Water Reducer Glenium 7500
 Choose _____

| Class → | DRY BATCH WEIGHTS | | | MOISTURE TEST | | | CLASS → | WET BATCH WEIGHTS | | |
|----------------|-------------------|--|--|------------------------------------------|------|---------|---------|-------------------|--|--|
| | HPC B | | | PERCENT | TIME | PERCENT | | HPC B | | |
| 1 1/2" Stone | 888 | | | 0.9 | | 0.2 | | 896 | | |
| 3/4" Stone | 888 | | | 1.1 | | 0.2 | | 898 | | |
| 3/8" Stone | | | | | | N/A | | | | |
| Fine Aggregate | 1242 | | | 4.1 | | 1.3 | | 1293 | | |
| Cement | 412 | | | Air Entrainment (oz/cy) | | | | 10.00 | | |
| Silica Fume | 40 | | | Retarding Admixture (oz/cwt) | | | | 105.00 | | |
| Fly Ash / Slag | 113 | | | High Range/ Water Red Admixture (oz/cwt) | | | | 210.00 | | |

| PROJECT | | | PROJECT | | | PROJECT | | |
|---------------|--------------|----------|---------------|----------|---------------|----------|----------|--|
| Name | Jericho | | Name | | | Name | | |
| Number | STP FTBR (3) | | Number | | | Number | | |
| Class | Mix # | QUANTITY | Class | QUANTITY | Class | QUANTITY | QUANTITY | |
| HPC B | HP15-B-280 | 10 CY | | | | | | |
| Cement Sample | No | | Cement Sample | | Cement Sample | | | |
| Wear Sample | No | | Wear Sample | | Wear Sample | | | |

Time required at plant 9:25 AM 1:30 PM Visitors at plant _____

Remarks Line item number 0410

Plant Inspector D. Connolly

June 19, 2015

Quality Control Procedures

Blow & Cote QC Control Manager: Marc Cote*

1. A pre-production meeting shall be held a minimum of seven calendar days prior to the beginning of concrete placement. The pre-production meeting will be attended by the Project Superintendent, QC Control Manager, the Concrete Producer's QC, the Resident Engineer, the Project Manager and the Composite Materials Engineer.
2. VTrans will retain their responsibilities for Quality Acceptance testing.
3. Four extra cylinder sets per concrete placement shall be taken for early strength breaks or confirmation strength breaks.
4. All inside form dimensions, rebar spacing and clearances shall be reviewed and documented on the pre-pour inspection sheet (see page 10) by the Project Superintendent, the QC Control Manager and the resident engineer before casting is commenced.
5. Before forms are erected the contractor will inspect all form work for damage or residual concrete. Any deficiency in the form material shall be corrected prior to being incorporated into the form work. Forming shall conform to 2011 Standard Specification 541.09.
6. Forms shall be coated with form oil as needed prior to installing rebar. Caution will be taken not to over-oil the forms so no oil gets on the rebar. Oiled forms will be wet before concrete placement. Any wood forms or oil that may discolor the concrete will not be used.
7. Concrete tolerance to be +/- 1/4"; Reinforcing steel placement tolerances to be +/- 1/4" for cover and clearance and 1" for spacing of bars; Horizontal clearances shall be 3" top and bottom with vertical clearance of 3" both faces. Support material to maintain clearance will be plastic.
8. All precast will be inspected by both the contractor and resident engineer and documented on the post-pour inspection sheet (see page 11). Any minor repairs (defined as holes, honeycombing, or spalls, which are 150 mm (6 inches) or less in diameter, that do not penetrate deeper than 25 mm (1 inch) into the concrete) will be repaired with a vertical or overhead patch from the approved products list. Any issues requiring repair for an area over 6" in diameter will be cause for rejection. Cracks less than 0.25 mm (0.01 inch) in width shall be sealed by a method approved by the Engineer. Cracks in excess of 0.25 mm (0.01 inch) may be cause for rejection.
9. The date of manufacture, the production lot number, and the piece mark shall be clearly marked on each individual piece of precast concrete. The mark shall be in a location that will not be visible in the finished product.
10. Todd Nelson of Harrison Redi-Mix will be responsible for the QC for supplying the concrete to the project. See page 4 of this submittal for the approved mix design by Harrison Redi-Mix. Harrison to run aggregate gradations prior to producing concrete. Harrison will test concrete on project before placing it into forms to verify compliance to specifications. Should modifications need to be made in the field to comply with specifications, it will be done at this point (i.e. air content is low, more air entraining agent will be added as needed). The precast concrete will then be retested to confirm compliance with specification.

*Marc Cote's previous experience in this area:

1. Bristol BRO 1445(32): Cast-in-place abutments and deck
2. Fairground Road Bridge, Northfield, VT: Cast-in-place abutments, overlay.

Contractor Fabricated Precast Concrete Notes

1. Concrete abutment minimum compressive strength: 5,000 psi at 28 days
2. Only construction joints in abutments are between cheek walls and bridge seat, therefore no post-tensioning is required. All reinforcing will be tied and in place prior to placement of concrete below bridge seat. Construction joints will be constructed in accordance with VAOT Standard Spec 501.13.
3. All concrete to be supplied by Harrison Redi-Mix.
4. See page 4 of this submittal for the 5000 psi mix design by Harrison Redi-Mix
5. Concrete abutment bridge seats will have textured surface raked finish roughened to ¼" amplitude except area under bearing pads shall be troweled smooth to the proposed slope.
6. Tops of wingwalls to have smooth float finish.
7. All exposed concrete edges shall be chamfered 1"x1".
8. All lifting devices embedded in concrete shall be galvanized.
9. Abutments to be wet cured with forms in place per Table 501.17A "curing concrete components". The forms will be removed after 7 day cylinder breaks show a minimum design strength of 4,000 psi. The precast structure will not be handled and lifted until the cure period and the required 28 day design strength has been attained as demonstrated by field cured cylinder breaks.

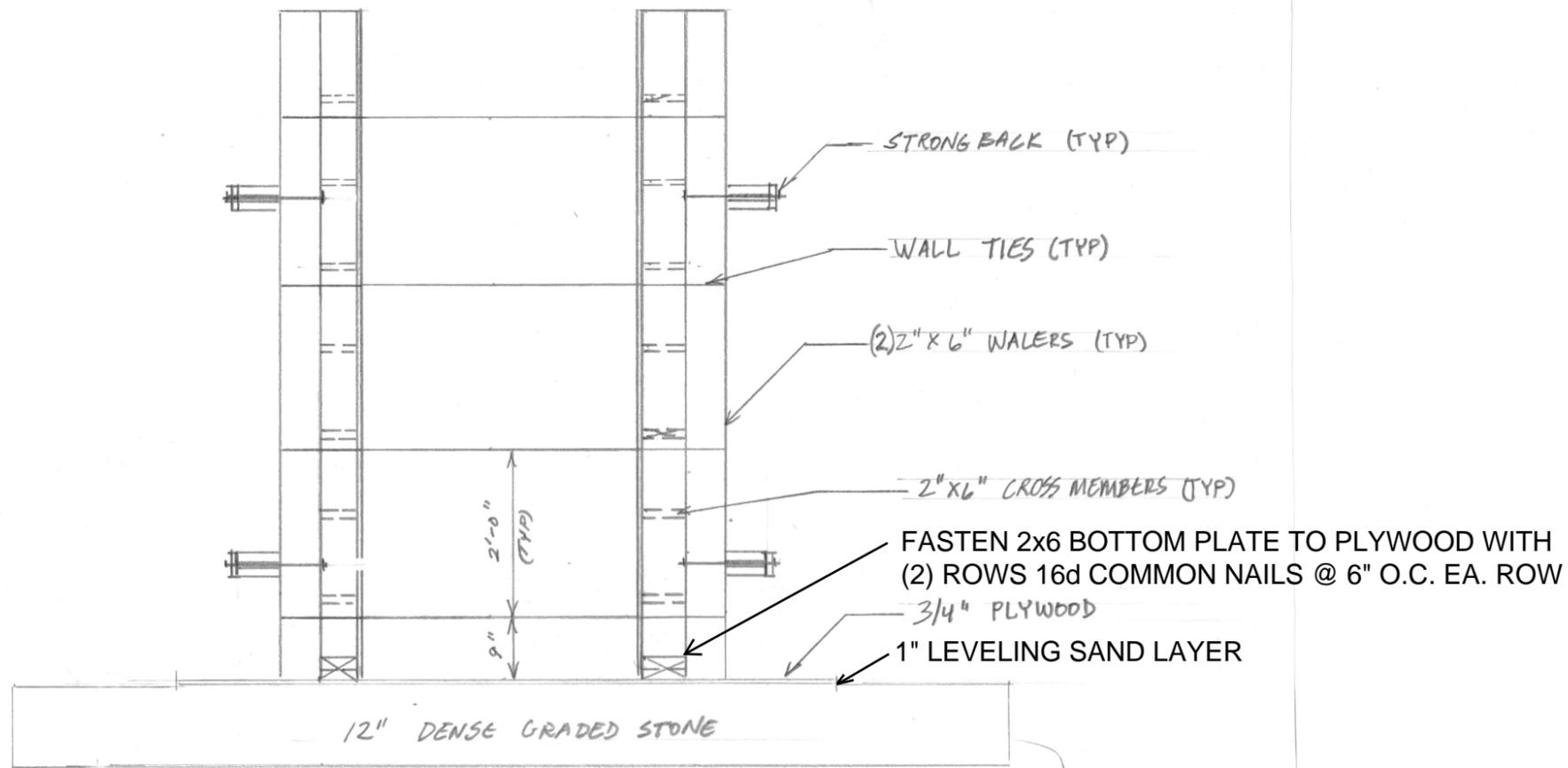
Vermont Agency of Transportation
RECEIVED
Cambridge BRO1448(39) CFPC Abutment Approved 6-23-2015.pdf
CK'D BY GL, GW, JW OK'D BY JS
June 19, 2015
RESUBMIT NO Approved
BY RY DATE 6-23-2015

Form Construction Notes

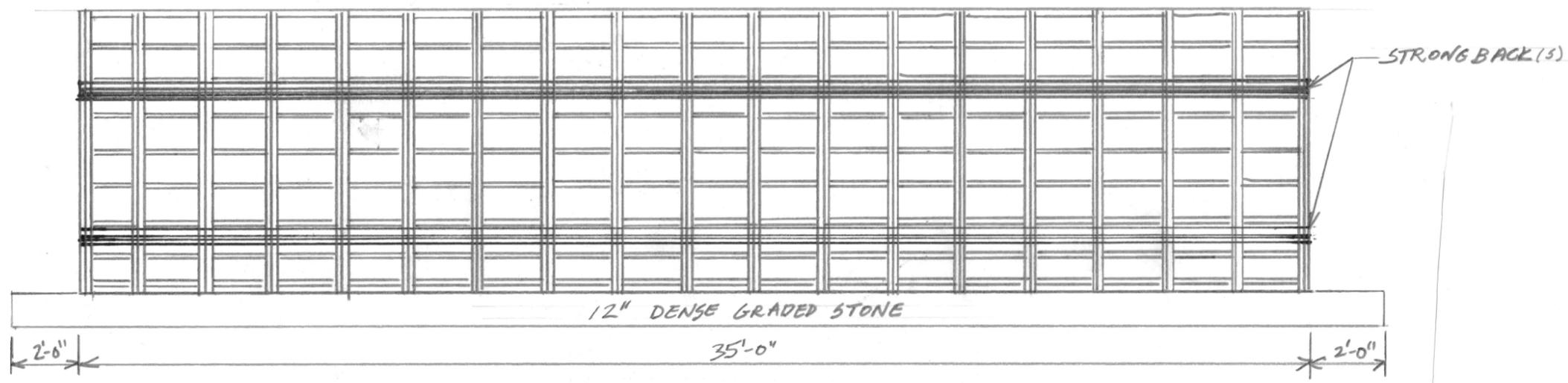
(Refer to page 8, Precast Form Details, for additional information)

- Level 8' x 40' area and compact native soil to construct abutments. Add 12" of compacted, dense graded stone with a ±1" shim layer of sand above and compact to a finished level surface.
- Lay down ¾" x 8' x 40' area of exterior plywood as a base to build abutments on. Attach 2"x6" plate to the ¾" plywood floor to maintain the correct exterior dimensions at the base of the abutment vertical forms. 2"x6" plate shall be fastened to plywood floor with (2) rows 16d common nails @ 6" o.c. each row, or equivalent.
- The exterior forms are ¾" exterior plywood with 2"x6" backers at 12" on center as shown on Page 8, Precast Form Details.
- (2)-2x6 walers @ 24" on center will be installed outboard of the 2"x6" backers on the form and be bolted thru to the wall ties inside the form to hold the assembly together.
- Strong backs will be installed approximately 18" and 6'-0" above the base. Strong backs to be made of (2)-2"x6" bolted to the walers to keep forms in alignment.
- 2x4 and 2x6 diagonal braces and kicker supports will be installed as required to hold the forms plumb.
- All rebar, pipes, lifting devices will be installed prior to building the second side of the form which will mirror the first side. The ends will be closed in last with ¾" plywood and similar backer, waler, and strong back construction as the long sides. Chamfer strips will be installed as needed to grade.
- Placement and curing of concrete in abutment forms as described above will be in accordance with State of Vermont Standard Specifications for Construction 2011 Edition, Subsection 501.10. All concrete will be placed in daylight and not in any adverse weather conditions.
- 1" form tie breakback per 501.09(f) will be achieved using Dayton/Richmond B-3 Screw-On Coil Ties with Dayton/Richmond B-30 Screw-On Plastic Cones (see pages 9-10).
- Vertical and horizontal spacing of forms ties shall be 24" o.c. maximum. First (lowest) row of form ties shall be 9" above the plywood floor as shown on page 8.





TYPICAL FORM SECTION
 1/2" = 1'-0"



TYPICAL FORM ELEVATION
 1/4" = 1'-0"

Vermont Agency of Transportation
RECEIVED

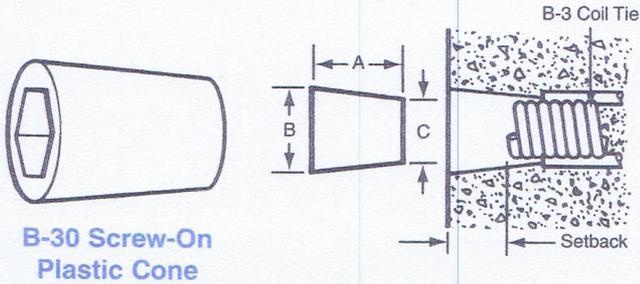
CK'D BY GL OK'D BY JS
 June 19, 2015
 RESUBMIT NO Approved
 BY RY DATE 6-23-2015



| | |
|------------------------|--------------|
| BLOW & COTE, INC. | |
| CAMBRIDGE BRO 1448(39) | |
| PRECAST FORM DETAILS | |
| SCALE: AS SHOWN | Page 8 of 38 |
| | 2 FEB 15 |

B-30 Screw-On Plastic Cones

Dayton Richmond Screw-On Plastic Cones are designed to thread onto the protruding coil of a B-3 Screw-On Coil Tie. Use a B-15 Cone Removal Wrench to back the cone off the tie and out of the concrete. B-30 plastic cones are normally reusable.



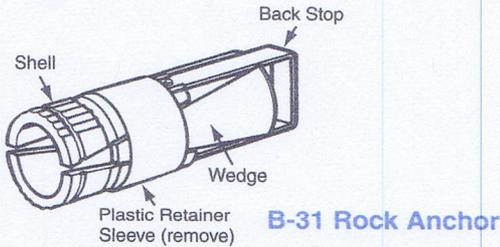
| Bolt Dia. | Setback | A | B | C |
|-----------|---------|--------|--------|----------|
| 1/2" | 1" | 1-3/8" | 1-1/4" | 1" |
| 1/2" | 1-1/2" | 1-7/8" | 1-1/4" | 1" |
| 1/2" | 2" | 2-3/8" | 1-1/4" | 1" |
| 3/4" | 1" | 1-1/2" | 1-5/8" | 1-7/16" |
| 3/4" | 2" | 2-1/2" | 1-3/4" | 1-7/16" |
| 1" | 2" | 2-1/2" | 2-1/8" | 1-13/16" |
| 1-1/4" | 2" | 2-1/2" | 2-3/8" | 2-1/8" |

Warning: Cones are to be used for spreader action only and are not designed for scaffold bracket or other accessory loads.

B-31 Rock Anchor

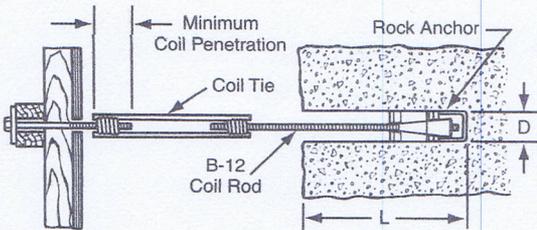
Dayton Richmond B-31 Rock Anchor is a preassembled unit tapped with 1/2", 3/4" or 1" diameter coil thread. NC thread is available on special order. Rock anchors used in sound rock or concrete allows one-sided forming of walls or similar applications to be completed quickly and economically.

The rock anchor is threaded onto the coil rod until the rod hits the backstop of the anchor. The plastic retaining sleeve is removed and the rock anchor/coil rod assembly is placed into the bore hole. The assembly is installed so that the anchor backstop "bottoms" in the bore hole. Tightening the coil rod will draw the anchor wedges forward to expand the anchor's shell. Care should be taken to not overtighten the anchor.



| Coil Rod Diameter | Minimum Hole Depth "L" * | Required Hole Diameter "D" | Safe Working Load Tension (lbs.) ** |
|-------------------|--------------------------|----------------------------|-------------------------------------|
| 1/2" | 6" | 1-3/8" | 4,500 |
| 3/4" | 8" | 1-5/8" | 9,000 |
| 1" | 10" | 1-3/4" | 18,000 |

SWL provides a factor of safety of approximately 2 to 1.



***NOTE:** It is extremely important to drill the proper size bore hole for the appropriate rock anchor. Avoid "dog leg" or "rifled" holes, they will hinder anchor installation. It is also important to avoid letting the drill dwell at the bottom of the hole. This can cause an enlargement at the bottom of the hole and result in a loss of anchorage strength.

The bore hole for the rock anchor must be drilled perpendicular to the exposed bearing surface. The load carrying capacity of the rock anchor is greatly reduced when there is an angle between the nut on the coil rod and the bearing surface.

The B-31 Rock Anchor is not a reusable device. After the rock anchor has been set and the forming completed, do not attempt to reuse the rock anchor.

To Order:
Specify: (1) quantity, (2) name, (3) coil rod diameter.

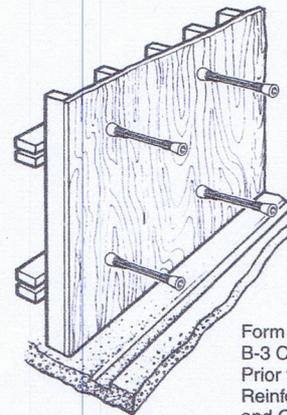
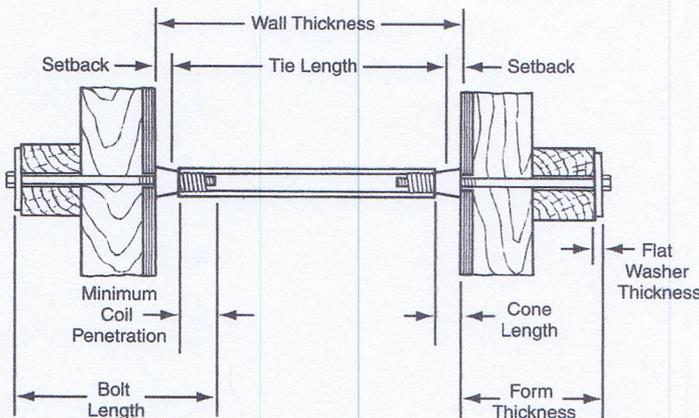
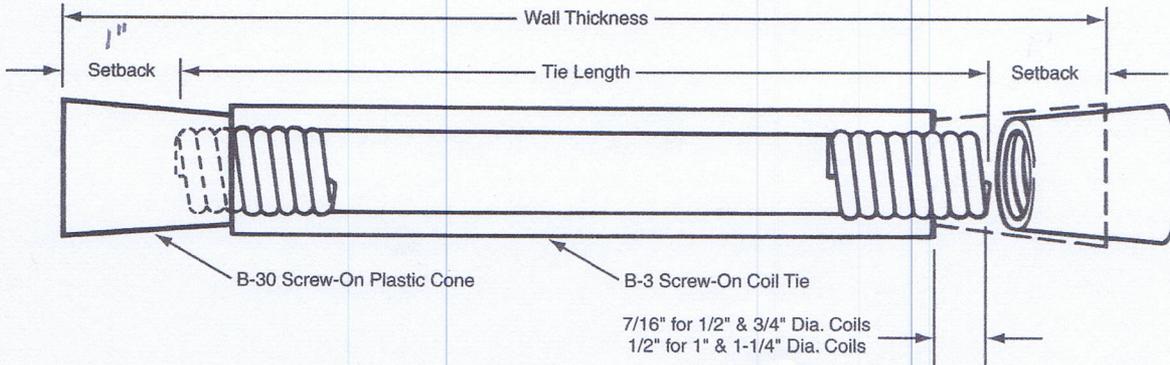
Example:
600 pcs. B-31 Rock Anchor, 1/2" coil thread.

****WARNING:** For safe construction practice, the most critical factor to consider is the actual anchorage capacity provided by the rock strata or concrete in which the rock anchor is to be installed. Correct hole depth and actual rock anchor capacity must always be determined by field tests before placing rock anchors into general use on a project.

B-3 Screw-On Coil Tie

Dayton Richmond Screw-On Coil Tie is designed with longer coils that extend beyond the end of the struts. Plastic cones screw onto the projections to provide a positive setback and act as a fixed internal form spreader.

To determine proper screw-on coil tie length, subtract the required total setback (both sides) from the wall thickness.



Form Panel Showing B-3 Coil Ties in Place Prior to Installation of Reinforcing Steel and Closure Form.

| Type | Bolt Diameter | Number of Strut Wires | Safe Working Load Tension (lbs.) |
|--------------|---------------|-----------------------|----------------------------------|
| B-3 Standard | 1/2" | 2 | 4,500 |
| B-3 Heavy | 1/2" | 2 | 6,750 |
| B-3 Standard | 3/4" | 2 | 6,750 |
| B-3 Heavy | 3/4" | 2 | 9,000 |
| B-3 Standard | 1" | 2 | 13,500 |
| B-3 Standard | 1" | 4 | 18,000 |
| B-3 Standard | 1-1/4" | 4 | 27,000 |

To Order:
 Specify: (1) quantity, (2) name, (3) safe working load, (4) bolt diameter, (5) tie length, (6) wall thickness, (7) setback.
Example:
 1,500 pcs. B-3 Screw-On Coil Tie, 6,750 lbs. SWL, 1/2" diameter, 22 long for a 24" wall, 1" setback.

CHECK CAPACITY:
 DETERMINE MAX TENSION PER TIE:
 $T = yh \times \text{horizontal spacing} \times \text{vertical spacing}$
 $T = 150 \text{ pcf} \times 5.67 \text{ ft} \times 2 \text{ ft} \times 2 \text{ ft}$
 $T = 3402 \text{ lbs} < 4500 \text{ lbs OK}$

SWL provides a factor of safety of approximately 2 to 1.
 Warning: See Page 3.6 for minimum bolt length.

* SETBACKS ARE FILLED WITH A 3 PARTS SAND TO 1 PART CEMENT MIXTURE FROM ABUTMENT CONCRETE PRODUCER.

June 19, 2015

Prepour Inspection Form

RESUBMIT NO Approved
 BY RY DATE 6-23-2015

Product or Job: _____

| Inspection Date: | Mon | Tue | Wed | Thu | Fri | Sat |
|---------------------------|-----|-----|-----|-----|-----|-----|
| Form Condition | | | | | | |
| Form Cleanliness | | | | | | |
| Form Joints | | | | | | |
| Release Agent / Retarder | | | | | | |
| Design Length (ft/in) | | | | | | |
| Set Up Length (ft/in) | | | | | | |
| Design Width (ft/in) | | | | | | |
| Set Up Width (ft/in) | | | | | | |
| Design Depth (ft/in) | | | | | | |
| Set Up Depth (ft/in) | | | | | | |
| Blockouts | | | | | | |
| Squareness | | | | | | |
| End and Edge Details | | | | | | |
| Reinforcing Steel | | | | | | |
| Reinforcing Size | | | | | | |
| Reinforcing Spacing | | | | | | |
| Reinforcing Rustification | | | | | | |
| Cast-in Items | | | | | | |
| Lifting Devices | | | | | | |

Comments: _____

QC Inspector: _____ Date: _____

June 19, 2015

Post Pour Inspection Form

RESUBMIT NO Approved
 BY RY DATE 6-23-2015

Product or Job: _____

| | Mon | Tue | Wed | Thu | Fri | Sat |
|--------------------------------|-----|-----|-----|-----|-----|-----|
| Casting Date: | | | | | | |
| Inspection Date: | | | | | | |
| Stripping Strength (psi) | | | | | | |
| Casting Finish | | | | | | |
| Coating Finish (if applicable) | | | | | | |
| Cast Length (ft/in) | | | | | | |
| Cast Width (ft/in) | | | | | | |
| Cast Depth (ft/in) | | | | | | |
| Cracks or Spalls | | | | | | |
| Squareness | | | | | | |
| Honeycombing / Bugholes | | | | | | |
| Bowing / Camber | | | | | | |
| Exposed reinforcement | | | | | | |
| Embedment Item Locations | | | | | | |
| Openings and Blockouts | | | | | | |
| Lifting Devices | | | | | | |
| Markings | | | | | | |
| Outside temp <= 25 deg F. | | | | | | |
| *Outside temp > 25 deg F. | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: _____

QC Inspector: _____ Date: _____