

GENERAL NOTES:

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, WITH ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH INTERIMS THROUGH 2009.
- SUPERSTRUCTURE REPLACEMENT DESIGN IS FOR HL-93 LIVE LOADING.
- SUBSTRUCTURE ANALYSIS IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS, 17th EDITION, ASD METHOD. DESIGN LIVE LOAD IS HS20.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE BASED ON 45°F OR AS NOTED OTHERWISE.
- THE MINIMUM COVER FOR NEW REINFORCING STEEL IN THE SUBSTRUCTURE SHALL BE TWO INCHES ALONG THE WALL FACES AGAINST EARTH, THREE INCHES ALONG SURFACES EXPOSED TO DEICING SALTS AND THREE INCHES ELSEWHERE UNLESS DETAILED OTHERWISE.
- REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:
 SPACING +/- 1"
 CLEARANCE +/- 1/4"
- ALL REINFORCING STEEL IN THE CONCRETE DECK, BRIDGE CURBS, CURTAIN WALLS, AND BACKWALL SHALL BE EPOXY COATED. WHEN EPOXY COATED REINFORCEMENT STEEL IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCEMENT STEEL WILL NOT BE PERMITTED.
- PROVIDE ALL REINFORCING STEEL ACCORDING TO ASTM SPECIFICATION A706 OR AASHTO M31 (ASTM A615) GRADE 60. PROVIDE FIELD BENT STIRRUPS AND OTHER FIELD BENT BARS ACCORDING TO ASTM SPECIFICATION A706. USE THE FOLLOWING SPLICE LENGTHS UNLESS OTHERWISE SHOWN. SPLICE LENGTHS ARE FOR 3500 PSI CONCRETE, CLASS B.

| BAR SIZE | | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 | #14 | #18 |
|---------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------------|-----|
| SPLICE LENGTH | UNCOATED | 2'-0" | 2'-0" | 2'-0" | 2'-0" | 2'-9" | 3'-6" | 4'-6" | 5'-7" | 6'-10" | NOT PERMITTED | |

- SPLICE REINFORCING STEEL AT ALTERNATE BARS, STAGGERED AT LEAST ONE SPLICE LENGTH OR AS FAR AS POSSIBLE, UNLESS SHOWN OTHERWISE.
- INCREASE ALL SPLICE LENGTHS 40% FOR HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE BAR.
- SUPPORT OF REINFORCING ON FORMS, GROUND AND OTHER REINFORCING WILL BE IN ACCORDANCE WITH VTRANS STANDARDS.

CONCRETE NOTES:

- ALL PORTIONS OF THE SUPERSTRUCTURE DECK, CONTINUITY DIAPHRAGMS AT THE PIERS, AND ABUTMENT BACKWALLS SHALL BE "CONCRETE, HIGH PERFORMANCE-CLASS A, LOW CEMENT."
- THE APPROACH SLABS AND WINGWALLS SHALL BE "CONCRETE, HIGH PERFORMANCE - CLASS B."
- F-BARRIER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIAL PROVISION (BRIDGE RAILING, F-SHAPE CONCRETE).
- CONCRETE PEDESTALS SHALL BE "CONCRETE, HIGH PERFORMANCE-CLASS AA, LOW CEMENT" WITH 3/8" MAXIMUM AGGREGATE.
- SURFACE OF CONCRETE PADS UNDER THE BEARING DEVICES SHALL BE SLOPED AS DETAILED ON THE PLANS. THE SURFACE OF THE CONCRETE PADS SHALL BE GIVEN A MAGNESIUM FLOAT FINISH.
- CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALLS, ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS, SHALL NOT BE PLACED UNTIL THE FINISH GRADE HAS BEEN DETERMINED BY THE DESIGN ENGINEER.
- THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".

10. ALL EXPOSED CONCRETE SURFACES EXCEPT UNDERSIDE OF SUPERSTRUCTURE BETWEEN DRIP NOTCHES, SHALL RECEIVE A SILANE WATER REPELLENT COATING IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 514-WATER REPELLENT, SILANE OF THE VTRANS STANDARD SPECIFICATIONS.

- THE CONCRETE DECK SHALL BE FINISHED USING A 'TURF DRAG' METHOD IN ACCORDANCE WITH SPECIAL PROVISION "HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT" AND LONGITUDINAL DECK GROOVING IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.

PRESTRESSED CONCRETE NOTES

- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH SECTION 510 - PRESTRESSED CONCRETE OF THE VTRANS STANDARD SPECIFICATIONS.
- PRESTRESSING STRANDS SHALL BE 0.6 INCH DIAMETER, 7-WIRE LOW RELAXATION CONFORMING TO AASHTO M203 (ASTM A416), GRADE 270, SUPPLEMENT 1 AND 713.06 OF THE VTRANS STANDARD SPECIFICATIONS.

BASIC DESIGN STRESSES

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| CONCRETE: PRESTRESSED: | f'c = 8,000 psi f'ci = 6,200 psi SPAN A AND SPAN B BEAMS f'ci = 6,000 psi SPAN C BEAMS |
| DECK & DIAPHRAGMS: | f'c = 4,000 psi |
| CONCRETE PADS: | f'c = 4,000 psi |
| F BARRIER: | f'c = 4,000 psi |
| ALL OTHER: | f'c = 3,500 psi |
| REINFORCING STEEL: | fY = 60,000 psi (AASHTO M31, MODULUS OF ELASTICITY Es = 29,000 ksi.) |
| PRESTRESSING STEEL: | fpu = 270,000 psi (AASHTO M223, APPARENT MODULUS OF ELASTICITY Ep = 28,500 ksi.) |

BASIC DESIGN VALUES

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| PRESTRESSING: | AT-RELEASE STRESS LIMITS: TENSION = 200 psi (WITHOUT MILD REINFORCEMENT) TENSION = 598 psi (WITH MILD REINFORCEMENT-SPANS A AND B) TENSION = 588 psi (WITH MILD REINFORCEMENT- SPAN C) COMPRESSION = 3,720 psi (0.6*f'ci) SPAN A AND SPAN B COMPRESSION = 3,600 psi (0.6*f'ci) SPAN C |
| | FINAL STRESS LIMITS: TENSION (SERVICE III) = 268 psi (0.0948*sqrt(f'c)) COMPRESSION UNDER FULL DEAD LOADS AND PS = 3,600 psi (0.45 * f'c) COMPRESSION (SERVICE I) = 4,800 psi (0.60 * f'c) |

BEARING NOTES:

- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH SECTION 531 - BEARING DEVICES OF THE VTRANS STANDARD SPECIFICATIONS.
- ELASTOMERS SHALL HAVE A MINIMUM SHEAR MODULUS OF 0.140 KSI AND BE AASHTO GRADE 4 ELASTOMER.
- STEEL LAMINATES SHALL CONFORM TO ASTM A1011 GRADE 36 OR HIGHER. LAMINATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST AND MILL SCALE. LAMINATES SHALL BE FREE OF SHARP EDGES AND BURRS.

| REVISION # | DESCRIPTION | DATE |
|------------|--------------|----------|
| REVISION 1 | CHANGED NOTE | 09/21/11 |

**RFC PLANS - WORK PACKAGE #7
BRIDGE 5N
SEPTEMBER 21, 2011**

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: IM 091-(150)

**AS BUILT
RECORD PLANS**

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| BECK & BELLUCCI, INC. | TYLIN INTERNATIONAL | FILE NAME: ZB-100-BR5-102.dgn PROJECT LEADER: Brian W. Clogston P.E. DESIGNED BY: Richard Bollinger P.E. GENERAL NOTES | PLOT DATE: 9/21/2011 DRAWN BY: W. Roberts CHECKED BY: J. E. Krajewski SHEET ZB-100-BR5-102 |
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