



- THE GENERAL NOTE PERTAINING TO SPECIFICATIONS, MATERIALS, AND CONSTRUCTION IS SHOWN ON STANDARD DRAWING SCB-D1-75. OTHER GENERAL NOTES ON THE STANDARD, NOT OTHERWISE SHOWN OR MODIFIED ON THESE PLANS, ARE NOTES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, AND 16.
- THE STRUCTURE IS DESIGNED FOR AN HS-25-44 LIVE LOAD WITH NO FUTURE PAVEMENT ALLOWANCE.
- FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET.
- WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BOTH SUBSTRUCTURE AND SUPERSTRUCTURE, EXCEPT THE BOTTOM OF THE DECK BETWEEN DRIP BEADS.
- THE ABUTMENTS AND PIERS ARE DESIGNED TO SET ON FRICTION PILES WITH A DESIGN LOAD CAPACITY OF 90 KIPS PER PILE.
- DRIP PLATES ON GIRDERS 1 AND 5 ARE TO BE PLACED ACCORDING TO DETAIL "C" ON STANDARD SHEET SCB-D7-71.
- IN ALL HORIZONTAL CONSTRUCTION JOINTS, THE SHEAR KEYS SHALL BE FORMED AS DETAILED ON STANDARD DRAWING SCB-D6-73 DETAIL B, AND THEY SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. AN UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- SEE STANDARD DRAWING SCB-D6-73 DETAIL F FOR DETAILS OF FILLET AT FACE OF CURB AND OTHER DETAILS NOT SHOWN OR MODIFIED ON "CURB AND RAIL DETAIL", SHEET BR 509.
- SEE STANDARD DRAWING SCB-D9-71 DETAIL B, SECTION A-A, C-C, AND D-D FOR POLYURETHANE JOINT SEALER DETAILS TO BE USED BETWEEN CURBS ON SUPERSTRUCTURE AND CURBS ON WINGWALLS AT ABUTMENTS 2 AND 4. PAYMENT TO BE SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT. OMIT WATERSTOP.
- ALL WEEP PIPES SHALL NOT BE PLACED MORE THAN TEN (10) FEET APART OR WITHIN TWO (2) HORIZONTAL FEET OF ABUTMENTS, PIER CAPS, OR DIAPHRAGMS. WEEP PIPES SHALL BE LOCATED ONLY BETWEEN THE PIERS AND ABUTMENTS.
- THERE ARE FOUR (4) PILE LOADING TESTS INCLUDED IN THE ESTIMATE, ADDITIONAL PILE LOADING TESTS ARE TO BE USED AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.
- MODIFY STANDARD DRAWING SCB-D4-76, DETAIL "B", BY OMITTING PARAFFIN AT JOINTS IN CURBS AND BY RUNNING REINFORCING STEEL THROUGH JOINTS.

LIST OF SHEETS

|        |  |
|--------|--|
| BR 501 | PRELIMINARY INFORMATION                          |
| BR 502 | QUANTITY SHEETS                                  |
| BR 503 | BORINGS  |
| BR 504 | W.B. PLAN AND ELEVATION                          |
| BR 505 | E.B. PLAN AND ELEVATION                          |
| BR 506 | W.B. SUPERSTRUCTURE DETAILS                      |
| BR 507 | E.B. SUPERSTRUCTURE DETAILS                      |
| BR 508 | CURTAIN WALL, APPROACH SLAB & DECK STEEL DETAILS |
| BR 509 | DIAPHRAGM AND CURB DETAILS                       |
| BR 510 | EXPANSION JOINT DETAILS                          |
| BR 511 | BEARING DEVICE DETAILS                           |
| BR 512 | BEARING DETAILS, CAMBER DIAGRAMS, POUR SEQUENCES |
| BR 513 | ABUTMENT # 1 DETAILS                             |
| BR 514 | ABUTMENT # 2 DETAILS                             |
| BR 515 | ABUTMENT # 3 DETAILS                             |
| BR 516 | ABUTMENT # 4 DETAILS                             |
| BR 517 | ABUTMENT FOOTING STEEL DETAILS                   |
| BR 518 | ABUTMENT PILE LAYOUT                             |
| BR 519 | PIER # 1 AND # 2 DETAILS                         |
| BR 520 | PIER # 3 AND # 4 DETAILS                         |
| BR 521 | REINFORCING STEEL SCHEDULE                       |
| BR 522 | REINFORCING STEEL SCHEDULE                       |
| BR 523 | REINFORCING STEEL SCHEDULE                       |

LIST OF STANDARD DRAWINGS

|           |                         |            |
|-----------|-------------------------|------------|
| STD. DWG. | SB-R4A-82               | 9/7/83 R   |
| STD. DWG. | SB-R4B-82               | 9/7/83 R   |
| STD. DWG. | SCB-D1-75               | 9/14/81 R  |
| STD. DWG. | SCB-D4-76               | 1/8/76     |
| STD. DWG. | SCB-D6-73, DET. B, D, F | 1/3/79 R   |
| STD. DWG. | SCB-D7-71, DET. C       | 12/15/76 R |
| STD. DWG. | SCB-D9-71, DET. B       | 1/27/75 R  |

REFERENCE SHEETS

|                           |                           |            |
|---------------------------|---------------------------|------------|
| U.S. RTE. 4 PLAN SHEET    | STA. 924+00---940+00      | (1 SHEET)  |
| U.S. RTE. 4 PROFILE SHEET | STA. 924+00---940+00      | (1 SHEET)  |
| DORR DRIVE PROFILE SHEET  | STA. 20+00---30+00        | (1 SHEET)  |
| U.S. RTE. 4 SECTIONS      | W.B. STA. 929+00---932+50 | (4 SHEETS) |
| DORR DRIVE SECTIONS       | STA. 24+00---28+00        | (1 SHEET)  |
| U.S. RTE. 4 SECTIONS      | E.B. STA. 930+00---932+50 | (3 SHEETS) |

EXISTING STRUCTURE

- STRUCTURE TYPE: N/A OVERALL LENGTH: \_\_\_\_\_ INVENTORY RATING: \_\_\_\_\_
- SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: \_\_\_\_\_
- CLEAR SPAN LENGTH(S) NORMAL TO STREAM: \_\_\_\_\_
- WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): \_\_\_\_\_ VERTICAL CLEARANCE ABOVE STREAMBED: \_\_\_\_\_
- WATER SURFACE ELEVATION @ Q 2.33: \_\_\_\_\_ WATER SURFACE ELEVATION @ Q: \_\_\_\_\_
- WATER SURFACE ELEVATION AT FLOOD OF RECORD: \_\_\_\_\_ YEAR: \_\_\_\_\_ ESTIMATED DISCHARGE: \_\_\_\_\_
- DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?
- ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF: \_\_\_\_\_
- TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL: \_\_\_\_\_
- DISPOSITION OF STRUCTURE: \_\_\_\_\_

NEW STRUCTURE

- STRUCTURE GEOMETRY:
- STRUCTURE TYPE: 3 SPAN CONTINUOUS PLATE GIRDER BRIDGE OVERALL LENGTH: EB=207'-0 1/2" WB=247'-0 1/2"
  - SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: E.B. = 60'-9 3/4" 50' W.B. = 81'-9 3/4" 64'
  - VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER: EB = 28.5' WB = 33.7'
  - CLEAR SPAN LENGTH(S) NORMAL TO STREAM: N/A
  - WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): N/A
  - ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA:

- Q 2.33: N/A WATER ELEVATION: \_\_\_\_\_ VELOCITY: \_\_\_\_\_
- Q 10: \_\_\_\_\_ WATER ELEVATION: \_\_\_\_\_ VELOCITY: \_\_\_\_\_
- Q 25: \_\_\_\_\_ WATER ELEVATION: \_\_\_\_\_ VELOCITY: \_\_\_\_\_
- Q 50: \_\_\_\_\_ WATER ELEVATION: \_\_\_\_\_ VELOCITY: \_\_\_\_\_
- Q 100: \_\_\_\_\_ WATER ELEVATION: \_\_\_\_\_ VELOCITY: \_\_\_\_\_
- DRAINAGE AREA: \_\_\_\_\_ CHARACTER OF TERRAIN: \_\_\_\_\_
- ARE THERE OBJECTIONS TO A PIER IN THE STREAM? \_\_\_\_\_
- DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? \_\_\_\_\_ IS ORDINARY RISE RAPID? \_\_\_\_\_
- NATURE OF NATURAL STREAMBED: \_\_\_\_\_
- ESTIMATED SCOUR DEPTH: \_\_\_\_\_ COMMENT ON: DRIFT: \_\_\_\_\_ ICE: \_\_\_\_\_
- WILL ALL WATER PASS THROUGH NEW STRUCTURE? \_\_\_\_\_ IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? \_\_\_\_\_
- ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF: \_\_\_\_\_
- VERTICAL CLEARANCE ABOVE Q: \_\_\_\_\_
- ALLOWABLE WATER SURFACE ELEVATION: \_\_\_\_\_ LIMITED BY: \_\_\_\_\_
- IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? \_\_\_\_\_ IF YES, DESCRIBE: \_\_\_\_\_
- AVERAGE DAILY LOW FLOW: \_\_\_\_\_ DEPTH: \_\_\_\_\_ AVERAGE DAILY HIGH FLOW: \_\_\_\_\_ DEPTH: \_\_\_\_\_
- STREAMBANK OR CHANNEL PROTECTION REQUIRED: \_\_\_\_\_
- DISTANCE TO EXISTING UPSTREAM STRUCTURE: \_\_\_\_\_ SPAN: \_\_\_\_\_ WATERWAY AREA OF FULL OPENING: \_\_\_\_\_ Q: \_\_\_\_\_
- DISTANCE TO EXISTING DOWNSTREAM STRUCTURE: \_\_\_\_\_ SPAN: \_\_\_\_\_ WATERWAY AREA OF FULL OPENING: \_\_\_\_\_ Q: \_\_\_\_\_

ALLOWABLE STRESSES:

- DESIGN LIVE LOAD AASHTO: HS-25-44
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: N/A ON LEDGE: N/A
- ALLOWABLE LOAD FOR PILING: 90 KIPS TYPE: HP 12X53 ESTIMATED LENGTH: ABUTMENTS-44'±, PIERS-16'±
- ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A 588 TENSION: 27,000 PSI
- ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION: 24,000 PSI COMPRESSION: 20,000 PSI
- ALLOWABLE STRESS FOR CONCRETE CLASS A f<sub>c</sub>: 3,500 PSI f<sub>t</sub>: 4,400 PSI CLASS B f<sub>c</sub>: 3,500 PSI f<sub>t</sub>: 4,400 PSI

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE: N/A OR ON TEMPORARY BRIDGE: N/A
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY: \_\_\_\_\_ TRAFFIC CONTROL SIGNALS REQUIRED: \_\_\_\_\_
- MINIMUM CLEAR SPAN: \_\_\_\_\_ MINIMUM CLEAR HEIGHT: \_\_\_\_\_ MINIMUM WATERWAY AREA: \_\_\_\_\_
- ARE SIDEWALKS REQUIRED? \_\_\_\_\_ IF SO, ON WHAT SIDE? \_\_\_\_\_

ADDITIONAL DESIGN CONSIDERATIONS

| EASTBOUND          |  |       |    |     |        |         |         |         |                    | WESTBOUND |    |    |     |        |         |         |                    |           |  |    |    |     |        |         |         |         |  |
|--------------------|--|-------|----|-----|--------|---------|---------|---------|--------------------|-----------|----|----|-----|--------|---------|---------|--------------------|-----------|--|----|----|-----|--------|---------|---------|---------|--|
| LOAD RATING (TONS) |  |       |    |     |        |         |         |         |                    |           |    |    |     |        |         |         |                    |           |  |    |    |     |        |         |         |         |  |
| STRESS LEVELS      |  | TRUCK |    |     |        |         |         |         |                    |           |    |    |     |        |         |         |                    |           |  |    |    |     |        |         |         |         |  |
|                    |  | H     | HS | 3S2 | 6 AXLE | 3A STR. | 4A STR. | 5A SEMI |                    |           | H  | HS | 3S2 | 6 AXLE | 3A STR. | 4A STR. | 5A SEMI            |           |  | H  | HS | 3S2 | 6 AXLE | 3A STR. | 4A STR. | 5A SEMI |  |
| INVENTORY          |  | 41    | 49 |     |        |         |         |         | INVENTORY          |           | 40 | 47 |     |        |         |         |                    | INVENTORY |  | 40 | 47 |     |        |         |         |         |  |
| 0.55 Fy = 27.0 Ksi |  |       |    |     |        |         |         |         | 0.55 Fy = 27.0 Ksi |           |    |    |     |        |         |         | 0.55 Fy = 27.0 Ksi |           |  |    |    |     |        |         |         |         |  |
| POSTED             |  | 58    |    | 83  |        | 63      | 63      | 75      | POSTED             |           | 56 |    | 79  |        | 58      | 60      | 70                 | POSTED    |  | 56 |    | 79  |        | 58      | 60      | 70      |  |
| 0.67 Fy = 33.0 Ksi |  |       |    |     |        |         |         |         | 0.67 Fy = 33.0 Ksi |           |    |    |     |        |         |         | 0.67 Fy = 33.0 Ksi |           |  |    |    |     |        |         |         |         |  |
| OPERATING          |  |       |    | 101 | 117    |         |         |         | OPERATING          |           |    |    | 95  | 110    |         |         | OPERATING          |           |  |    | 95 | 110 |        |         |         |         |  |
| 0.75 Fy = 37.5 Ksi |  |       |    |     |        |         |         |         | 0.75 Fy = 37.5 Ksi |           |    |    |     |        |         |         | 0.75 Fy = 37.5 Ksi |           |  |    |    |     |        |         |         |         |  |

RECOMMENDED FOR APPROVAL: Warren B. Jones 4/14/83  
 STRUCTURES ENGINEER DATE  
 RECOMMENDED FOR APPROVAL: Arthur J. Jones 4/14/83  
 CHIEF OF DESIGN DATE  
 APPROVED BY: S. J. Chase 4-14-83  
 DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF: RUTLAND Bridge No. 5  
 HIGHWAY NO.: U.S. RTE. 4 Surv. Sta. 1/2 350+81 321+32  
U.S. RTE. 4 OVER DORR DRIVE  
**PRELIMINARY INFORMATION**  
 Designed by: J.B. McCARTHY Drawn by: L.C. GATES  
 Checked by: \_\_\_\_\_ Bridge Design Supervisor  
J.B. McCARTHY date 3/83 F.W. Bolcum date 4/83  
 PROJECT: WEST RUTLAND - RUTLAND PROJECT NO. F-EGG-F-020-1(10)  
 Bridge Sheet No. BR 501 Sheet 91 of 459

REVISIONS

| NO. | DESCRIPTION | BY & DATE |
|-----|-------------|-----------|
|     |             |           |