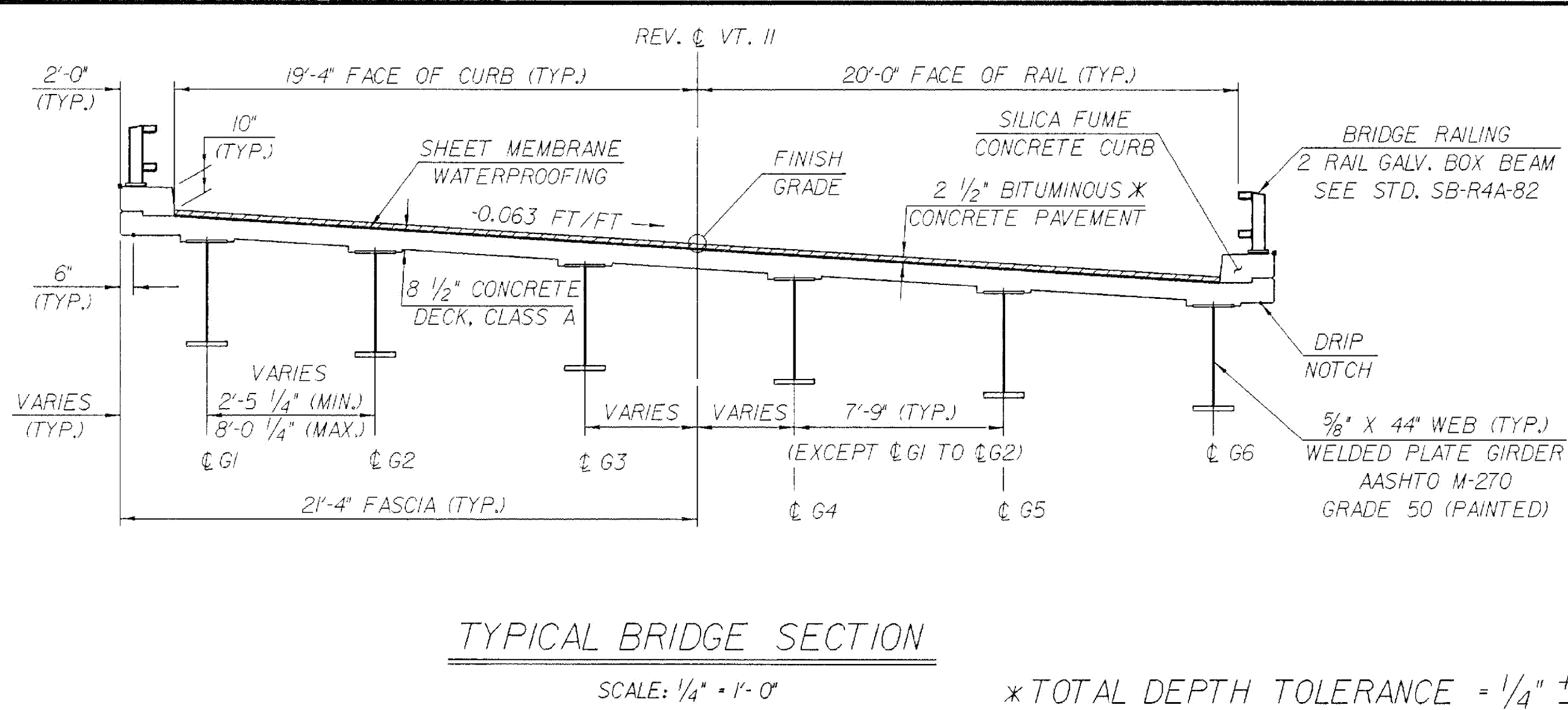




## LIST OF SHEETS

|           |                                         |
|-----------|-----------------------------------------|
| BRI00     | PRELIMINARY INFORMATION                 |
| BRI01     | GENERAL NOTES                           |
| BRI02     | BRIDGE QUANTITY SHEET                   |
| BRI03     | PLAN & ELEVATION                        |
| BRI04     | BORING SHEET                            |
| BRI05     | TYPICAL SECTION & DECK REINFORCING PLAN |
| BRI06     | FRAMING PLAN                            |
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| BRI08     | MISCELLANEOUS STRUCTURAL STEEL DETAILS  |
| BRI09     | APPROACH SLAB DETAILS                   |
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| BRI15     | WINGWALL DETAILS                        |
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| BRI17     | END BRIDGE RAIL DETAILS                 |
| BRI18     | EXPANSION JOINT DETAILS                 |
| BRI19     | HOPPER & DOWNSPOUT DETAILS              |
| BRI20     | SCUPPER DETAILS                         |
| BRI21     | REINFORCING STEEL SCHEDULE              |
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## LIST OF STANDARDS

|           |           |
|-----------|-----------|
| SB-R4a-82 | 9-18-89 R |
| SB-R4b-82 | 3-30-88 R |

### EXISTING STRUCTURE

|                                                                                                                   |                        |                                    |                               |                     |         |
|-------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------|-------------------------------|---------------------|---------|
| 1. STRUCTURE TYPE                                                                                                 | 3 SPAN CONCRETE T-BEAM | OVERALL LENGTH                     | 130 FT                        | INVENTORY RATING    |         |
| 2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS                                                                    |                        |                                    | 38 FT - 54 FT - 38 FT         |                     |         |
| 3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM                                                                          |                        |                                    | 28 FT - 37 FT - 23 FT - 88 FT |                     |         |
| 4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)                                                               | 625 SF                 | VERTICAL CLEARANCE ABOVE STREAMBED | 10 FT                         |                     |         |
| 5. WATER SURFACE ELEVATION @ 0.2.33                                                                               | 791.0                  | WATER SURFACE ELEVATION @ 0.100    | 795.6                         |                     |         |
| 6. WATER SURFACE ELEVATION AT FLOOD OF RECORD                                                                     | UNKNOWN                | YEAR                               | 1938                          | ESTIMATED DISCHARGE | UNKNOWN |
| 7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? |                        |                                    |                               |                     |         |
| 8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL                                                                       | SILTY SAND AND GRAVEL  |                                    |                               |                     |         |
| 9. DISPOSITION OF STRUCTURE                                                                                       | REMOVE                 |                                    |                               |                     |         |

### NEW STRUCTURE

|                                                     |                          |                |           |           |  |
|-----------------------------------------------------|--------------------------|----------------|-----------|-----------|--|
| STRUCTURE GEOMETRY:                                 |                          |                |           |           |  |
| 1. STRUCTURE TYPE                                   | SIMPLE SPAN PLATE GIRDER | OVERALL LENGTH | 113.78 FT | 117.84 FT |  |
| 2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS      |                          |                |           |           |  |
| 3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER |                          |                |           |           |  |
| 4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM            |                          |                | 68 FT     |           |  |
| 5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) |                          |                | 695 SF    |           |  |
| 6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?  |                          |                |           |           |  |

|                                                                                                           |                                                     |                         |                                        |                               |          |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------|----------------------------------------|-------------------------------|----------|
| HYDRAULIC DATA:                                                                                           |                                                     |                         |                                        |                               |          |
| 1. Q 2.33                                                                                                 | 1150 CFS                                            | WATER ELEVATION         | 791.2                                  | VELOCITY                      | 8.5 FPS  |
| Q 1.0                                                                                                     | 2550 CFS                                            | WATER ELEVATION         | 793.0                                  | VELOCITY                      | 10.7 FPS |
| Q 25                                                                                                      | 3700 CFS                                            | WATER ELEVATION         | 794.1                                  | VELOCITY                      | 11.8 FPS |
| Q 50                                                                                                      | 4700 CFS                                            | WATER ELEVATION         | 795.0                                  | VELOCITY                      | 12.6 FPS |
| Q 100                                                                                                     | 5650 CFS                                            | WATER ELEVATION         | 795.8                                  | VELOCITY                      | 13.4 FPS |
| 2. DRAINAGE AREA                                                                                          | 27.2 SQ MI                                          | CHARACTER OF TERRAIN    | ROLLING TO HILLY                       |                               |          |
| 3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM?                                                          |                                                     |                         | N/A                                    |                               |          |
| 4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?                                            | YES                                                 | IS ORDINARY RISE RAPID? | YES                                    |                               |          |
| 5. NATURE OF NATURAL STREAMBED                                                                            | SILT, SAND & GRAVEL - ARMORED WITH ROCKS & BOULDERS |                         |                                        |                               |          |
| 6. ESTIMATED SCOUR DEPTH                                                                                  | 4 FT                                                | COMMENT ON: DRIFT       | MODERATE                               | ICE                           | MODERATE |
| 7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? |                                                     |                         |                                        |                               | N/A      |
| 8. VERTICAL CLEARANCE ABOVE D 50                                                                          | 0.4 FT AVERAGE                                      |                         |                                        |                               |          |
| 9. ALLOWABLE WATER SURFACE ELEVATION                                                                      | 795.4                                               | LIMITED BY              | AVERAGE BOTTOM OF LOW GIRDER ELEVATION |                               |          |
| 10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?                                        | NO                                                  | IF YES, DESCRIBE        | N/A                                    |                               |          |
| 11. AVERAGE DAILY LOW FLOW                                                                                | 25 CFS                                              | DEPTH                   | 2.0 FT                                 | AVERAGE DAILY HIGH FLOW       | 500 CFS  |
| 12. STREAMBANK OR CHANNEL PROTECTION REQUIRED                                                             |                                                     |                         |                                        | STONE FILL TYPE III           |          |
| 13. DISTANCE TO EXISTING UPSTREAM STRUCTURE                                                               | 1,800 FT                                            | SPAN                    | 70 FT                                  | WATERWAY AREA OF FULL OPENING | 0        |
| 14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE                                                             | 4,000 FT                                            | SPAN                    | 40 FT                                  | WATERWAY AREA OF FULL OPENING | 0        |

|                                                            |                          |                          |            |                  |     |
|------------------------------------------------------------|--------------------------|--------------------------|------------|------------------|-----|
| ALLOWABLE STRESSES:                                        |                          |                          |            |                  |     |
| 1. DESIGN LIVE LOAD AASHTO                                 | HS 25                    |                          |            |                  |     |
| 2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL              | 4 KSF                    | ON LEDGE                 | N/A        |                  |     |
| 3. ALLOWABLE LOAD FOR PILING                               | N/A                      | TYPE                     | N/A        | ESTIMATED LENGTH | N/A |
| 4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M-270      | GR 50 PAINTED            | TENSION                  | 27,000 PSI |                  |     |
| 5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION | 24,000 PSI               | COMPRESSION              | 20,000 PSI |                  |     |
| 6. ALLOWABLE STRESS FOR CONCRETE CLASS A                   | f <sub>c</sub> 3,500 PSI | f <sub>c</sub> 1,400 PSI |            |                  |     |
| CLASS B                                                    | f <sub>c</sub> 3,500 PSI | f <sub>c</sub> 1,400 PSI |            |                  |     |

|                                                  |       |                                  |      |                        |     |
|--------------------------------------------------|-------|----------------------------------|------|------------------------|-----|
| TRAFFIC MAINTENANCE:                             |       |                                  |      |                        |     |
| 1. IS TRAFFIC TO BE MAINTAINED?                  | YES   | IF YES, ON EXISTING STRUCTURE    | NO   | OR ON TEMPORARY BRIDGE | YES |
| 2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY | X     | TRAFFIC CONTROL SIGNALS REQUIRED | X    |                        |     |
| MINIMUM CLEAR SPAN                               | 50 FT | MINIMUM CLEAR HEIGHT             | 8 FT | MINIMUM WATERWAY AREA  |     |
| ARE SIDEWALKS REQUIRED?                          | NO    | IF SO, ON WHAT SIDE              | N/A  |                        |     |

\* SEE ROADWAY DESIGN DETAILS

### ADDITIONAL DESIGN CONSIDERATIONS

STATEWIDE - SOUTHEAST  
REGION  
BHF MEMB(21)

SHEET 16 OF 34  
BRIDGE 46  
FOR REFERENCE ONLY

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ON CADD

| LOAD RATING (TONS)                                 |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
|----------------------------------------------------|---------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|--|--|
| STRESS LEVELS                                      | TRUCK                                                                                 |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
|                                                    | H                                                                                     | HS | 3S2                                                                                   | 5 AXLE                                                                                | 3A. STR.                                                                              | 4A. STR.                                                                              | 5A. SEM                                                                               |                                                                                       |                                                                                       |                            |  |  |
| INVENTORY<br>0.55 F <sub>y</sub> =                 | 42                                                                                    | 47 |  |  |  |  |  |  |  |                            |  |  |
| POSTED<br>0.67 F <sub>y</sub> =                    | 69                                                                                    | 76 | 86                                                                                    |  | 72                                                                                    | 75                                                                                    | 82                                                                                    |  |  |                            |  |  |
| OPERATING<br>0.75 F <sub>y</sub> =                 |  | 94 | 106                                                                                   | 121                                                                                   | 89                                                                                    | 93                                                                                    |  |  |  |                            |  |  |
| REVISIONS                                          |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| NO.                                                | DESCRIPTION                                                                           |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       | BY & DATE                                                                             |                                                                                       |                                                                                       |                            |  |  |
|                                                    |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| STATE OF VERMONT<br>AGENCY OF TRANSPORTATION       |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| Town Of                                            |                                                                                       |    |                                                                                       |                                                                                       | CHESTER                                                                               |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Bridge No. 46              |  |  |
| Highway No.                                        |                                                                                       |    |                                                                                       |                                                                                       | VT. II                                                                                |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Log Sta. 110+16            |  |  |
|                                                    |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Surv. Sta. 15+00           |  |  |
| VT. ROUTE II OVER THE MIDDLE BRANCH WILLIAMS RIVER |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| PRELIMINARY INFORMATION                            |                                                                                       |    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| Designed By D. J. HOYNE                            |                                                                                       |    |                                                                                       |                                                                                       | Drawn By G. ROY                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                            |  |  |
| Checked By                                         |                                                                                       |    |                                                                                       |                                                                                       | Date                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Bridge Design Supervisor   |  |  |
| D.J.HOYNE                                          |                                                                                       |    |                                                                                       |                                                                                       | 10-91                                                                                 |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Date                       |  |  |
| PROJECT                                            |                                                                                       |    |                                                                                       |                                                                                       | CHESTER                                                                               |                                                                                       |                                                                                       |                                                                                       |                                                                                       | PROJECT NO. BRF-F 016-1(3) |  |  |
| I.G.C. Info.                                       |                                                                                       |    |                                                                                       |                                                                                       | ZHI&3072377B015BRG.DGN                                                                |                                                                                       |                                                                                       |                                                                                       |                                                                                       | 77B015PI.PRF               |  |  |
| Bridge Sheet No. BRI00                             |                                                                                       |    |                                                                                       |                                                                                       | Sheet 23                                                                              |                                                                                       |                                                                                       |                                                                                       |                                                                                       | of 68                      |  |  |