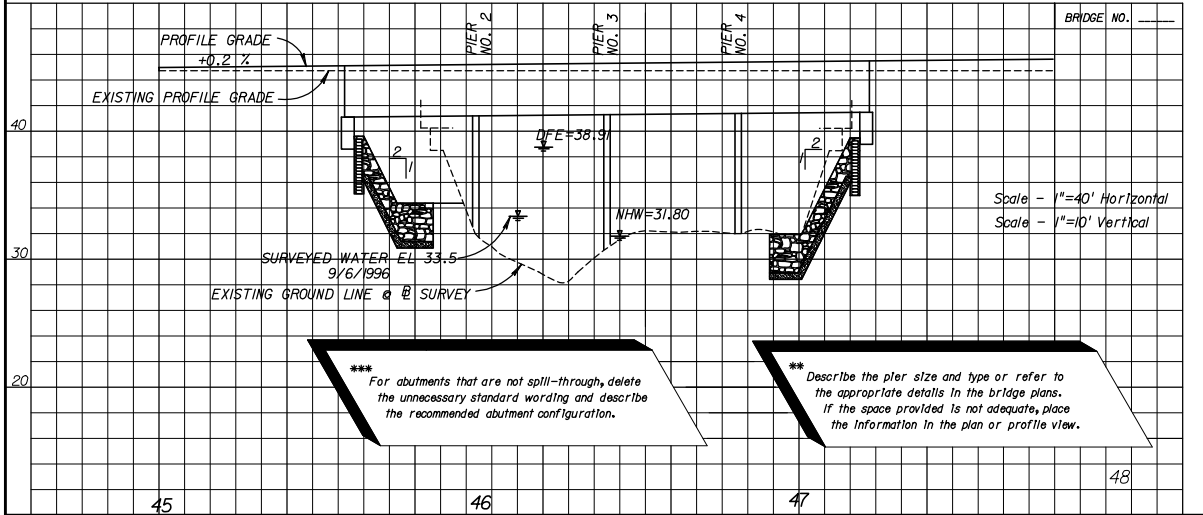


| (REFERENCE)            | (1)         | (2)              | (3) | (4) | PROPOSED STRUCTURE |
|------------------------|-------------|------------------|-----|-----|--------------------|
| FOUNDATION             | Conc. Piles | Timber           |     |     | Conc. Piles        |
| OVERALL LENGTH         | 135         | 200              |     |     | 164 (rem. #4)      |
| SPAN LENGTH            | 5 @ 27      | 20 @ 10          |     |     | 4 @ 41             |
| TYPE CONSTRUCTION      | Concrete    | Timber           |     |     | Concrete           |
| AREA OF OPENING @ D.F. | 1000        | Unknown          |     |     | 1020               |
| BRIDGE WIDTH           | 28'         | Railroad (South) |     |     | 44'                |
| ELEV. LOW MEMBER       | 40.35       | 38.32            |     |     | 41.17              |

**HYDRAULIC DESIGN DATA**

**NOTE:**  
The hydraulic data is shown for informational purposes only to indicate the flood discharges and water surface elevations which may be anticipated in any given year. This data was generated using highly variable factors determined by a study of the watershed. Many judgements and assumptions are required to establish these factors. The resultant hydraulic data is sensitive to changes, particularly antecedent conditions, urbanization, channelization and land use. Users of this data are cautioned against the assumption of precision which cannot be obtained.

This sheet has been included in the plans for documentation.  
DO NOT USE FOR CONSTRUCTION PURPOSES.



**TERMS:**  
Design Flood: Utilized to assure a desired level of hydraulic performance.  
Base Flood: Has a 1% chance of being exceeded in any given year (100 year frequency)  
Overtopping Flood: Causes flow over the highway, over a watershed divide, or thru emergency relief structures.  
Greatest Flood: The most severe that can be predicted where overtopping is not practicable.

| WATER SURFACE ELEVATIONS: | N.H.W. (Non-Tidal) | 31.80 | M.H.W. (Tidal) |  |
|---------------------------|--------------------|-------|----------------|--|
| CONTROL (Non-Tidal)       |                    |       | M.L.W. (Tidal) |  |

| FLOOD DATA:             | MAX. EVENT OF RECORD | DESIGN FLOOD | BASE FLOOD | OVERTOPPING or GREATEST FLOOD |
|-------------------------|----------------------|--------------|------------|-------------------------------|
| STAGE ELEV. (ft)        | 38.7 (rem. #2)       | 38.91        | 39.27      | 39.57                         |
| DISCHARGE (cfs)         | unknown              | 3280         | 3950       | 4630                          |
| AVERAGE VELOCITY (ft/s) |                      | 3.22         | 3.58       | 4.13                          |
| EXCEEDANCE PROB. (%)    |                      | 2            | 1          | 0.2                           |
| FREQUENCY (yr.)         |                      | 50           | 100        | 500                           |

| SCOUR PREDICTIONS FOR PROPOSED STRUCTURE DESCRIBED ABOVE: |                  | TOTAL SCOUR ELEVATION |                                  |
|---|------------------|-----------------------|----------------------------------|
| NUMBERS   | PIER INFORMATION | LONG TERM SCOUR ELEV. | WORST CASE < 100 yr. FREQ. (yr.) |
| 2 & 3   | ** SIZE AND TYPE | N/A                   | 100                              |
| 4 (rem. #3)   | 24" Conc. Piles  | N/A                   | 16.4                             |
|   | 24" Conc. Piles  | N/A                   | 25.6                             |

**HYDRAULIC RECOMMENDATIONS**

- BEGIN BRIDGE STATION 45+58.00 END BRIDGE STATION 47+22.00 SKEW ANGLE 0°
- CLEARANCE PROVIDED: NAV. HORIZ. 39.0 VERT. 8.04 ABOVE EL. 33.14 DRIFT: HORIZ. 39.0 VERT. 2.26 ABOVE EL. 38.91
- MINIMUM CLEARANCE: NAV. HORIZ. 10.0 VERT. 6.0 ABOVE EL. 33.14 DRIFT: HORIZ. N/A VERT. 2.0 ABOVE EL. 38.91
- ABUTMENTS: BEGIN BRIDGE END BRIDGE

\*\*\* RUBBLE GRADE: Bank and Shore

SLOPE: 1:2

BURIED OR NON-BURIED: Non-Buried

TOE DISTANCE: 10

LIMIT OF PROTECTION: 15' Lt., 20' Rt.

DECK DRAINAGE: Spread is contained in shoulder. Runoff captured by inlets at begin bridge.

**REMARKS:** (1) Bridge lengthened to accommodate predicted channel migration to the west.  
(2) Based on mark provided by local resident of 43 years.  
(3) Due to predicted channel migration to the west and lack of meander cutoff, Pier No. 4 will not experience main channel scour depths.

**EXHIBIT BHD-1**  
Date: 1/1/08

| REVISIONS |             |      |             | STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION |        |                      | BRIDGE HYDRAULIC RECOMMENDATIONS | SHEET NO. |
|-----------|-------------|------|-------------|---|--------|----------------------|----------------------------------|-----------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION | ROAD NO.                                      | COUNTY | FINANCIAL PROJECT ID |                                  |           |
|           |             |      |             | 70  | LEON   | 123456-1-52-01       |                                  |           |

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 68G5-23.003, F.A.C.

