

Existing Structure: Single Span Reinforced Concrete Deck on Closed Concrete Abutments with Concrete Wingwalls and Concrete Railings. ±23'-0" Bk.-Bk. Abutments, ±16'-9" Clear Deck Width. ±0° Skew. Existing Structure No. 042-3075.

Benchmarks: BM#1 - 60d Nail & Washer in Power Pole
16.5' Rt. Sta. 9+71 El. 100.00(Assumed)
BM#2 - 60d Nail & Washer in Power Pole
23' Rt. Sta. 12+25 El. 102.39

| RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------|---------|--------|--------------|-----------|
| T.R.140 | * | JERSEY | 8 | 4 |

PROJECT BROS-083(039)
* 05-05112-00-BR
CONTRACT NO. 97292

TOTAL BILL OF MATERIAL

| Item | Super | Sub | Total |
|---|---------|------|-------|
| Channel Excavation | Cu. Yd. | | 338 |
| Stone Dumped Riprap, Class A4 | Ton | | 297 |
| Filter Fabric | Sq. Yd. | | 512 |
| Removal of Existing Structures | Each | | 1 |
| Structure Excavation | Cu. Yd. | | 102 |
| Concrete Structures | Cu. Yd. | 34 | 34 |
| Concrete Encasement | Cu. Yd. | 2.2 | 2.2 |
| Precast Prestressed Concrete Deck Beams (21" Depth) | Sq. Ft. | 1421 | 1421 |
| Reinforcement Bars | Pound | 3190 | 3190 |
| Steel Railing, Type S1 | Foot | 108 | 108 |
| Furnishing Steel Piles HP 10x42 | Foot | 91 | 91 |
| Driving Piles | Foot | 91 | 91 |
| Test Pile, Steel HP 10x42 | Each | 1 | 1 |
| Name Plates | Each | 1 | 1 |

WATERWAY INFORMATION

| Drainage Area = 1.61 Sq. Miles | | Low Grade Elev. = 100.5 | | @ Sta. 10+00 | | |
|--------------------------------|------------------------|-------------------------|-----------------|--------------|-----------------------|----------------------------|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | Nat. H.W.E. | Head-Ft. Exist. Prop. | Headwater El. Exist. Prop. |
| Design | 15 | 861 | 144 265 | 96.5 | 0.3 0.0 | 96.9 96.5 |
| Base | 100 | 1436 | 169 319 | 97.6 | 2.3 0.0 | 99.9 97.6 |
| Exist. Overtop | 200 | 1615 | | | | |
| Prop. Overtop | Greater than 500 Years | | | | | |
| Max. Calc. | 500 | 1923 | 188 363 | 98.2 | 3.9 0.4 | 102.2 98.6 |

DESIGN STRESSES

FIELD UNITS

$f_c = 1400$ psi
 $v_c = 56.2$ psi
 $f_s = 24000$ psi
 $n = 9$

PRECAST PRESTRESSED UNITS

$f'_c = 5000$ psi
 $f'_{ci} = 4000$ psi
 $f'_s = 270000$ psi
 $f'_{si} = 201960$ psi
1/2" Strands

GENERAL NOTES

See Proposal for Boring Data.
Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See "Special Provisions".
The layout of the riprap slopedwall may be varied to suit conditions in the field as determined by the engineer.
The contractor shall drive one test pile in a permanent location at the North Abutment as directed by the Engineer in the field. The Contractor shall drive test piles to 1/10 of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of piles.

DESIGN SPECIFICATIONS

2002 A.A.S.H.T.O. Specifications and 2003 & 2004 Interim Specifications.

LOADING HS 20-44

Allow 50#/sq. ft. for future wearing surface.

LITTLE PIASA CREEK
BUILT 200 BY
JERSEY COUNTY
SECTION 05-05112-00-BR
STA. 10+39.00
STR. NO. 042-3140 LOADING HS20

NAME PLATE
(Standard 515001)

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

Mark A. Henderson 12/12/2008
Expiration Date 11/30/2008



GENERAL PLAN & ELEVATION
T.R. 140 OVER BRANCH OF
LITTLE PIASA CREEK
SECTION 05-05112-00-BR
JERSEY COUNTY

