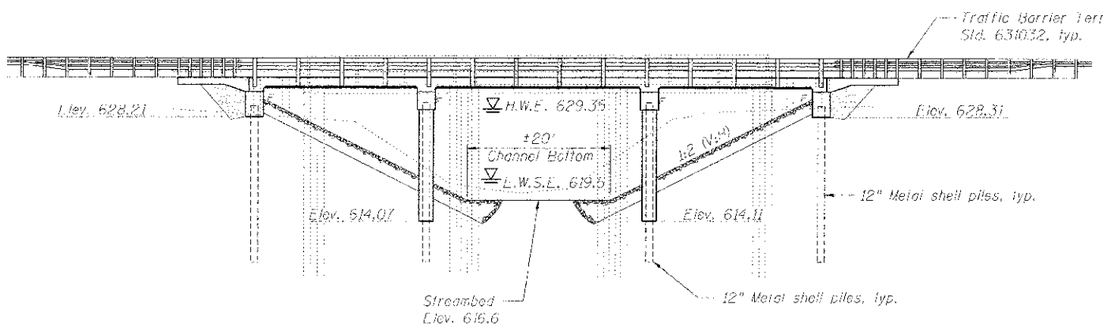
Bench Mark: TBM 1, top of nail on pole STA. 316+01.11, 29.36 RT, Elevation = 628.68

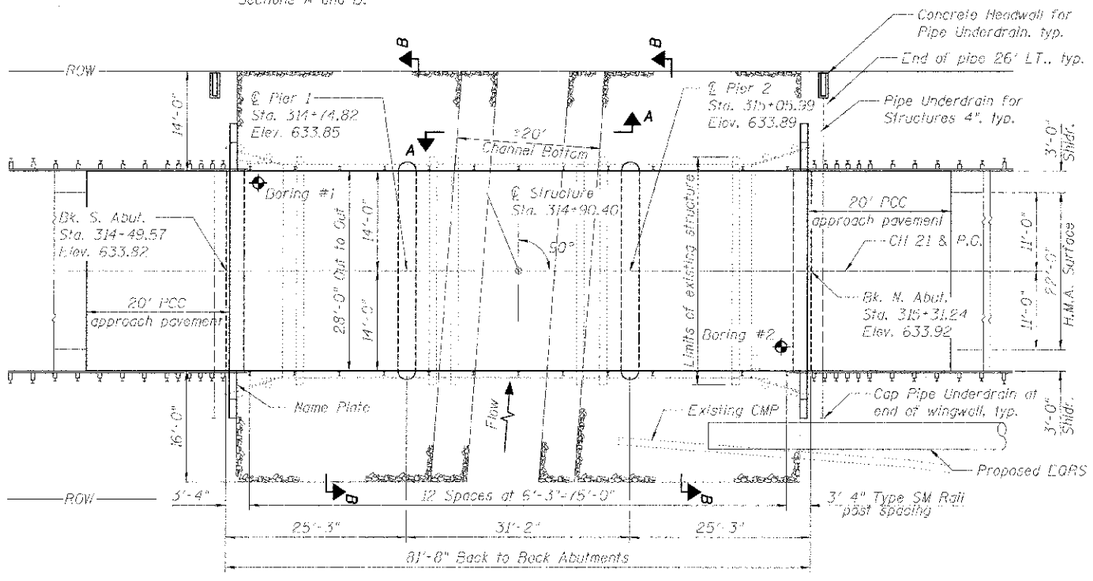
Existing Structure: SN 058 3004 was built in 1933 with a timber substructure and superstructure at STA 314+90.40. In 1972 the superstructure was reconstructed. The bridge has three spans with a reinforced concrete deck on wide flange steel stringers supported on timber pile supported abutments and piers. The bridge length is 66'-0" Bk. to Bk. of abutments with 28'-6" roadway width between 1'-0" wide concrete curbs with steel railing. The existing structure to be removed and replaced. There will be no stage construction.

No salvage.



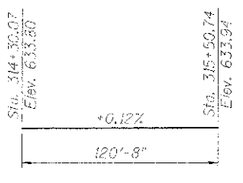
ELEVATION

Note:
See Sheet 2 of 9 for Sections A and B.



PROFILE GRADE

(along ℄ roadway)



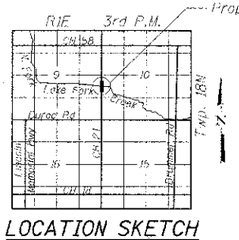
PLAN

I certify that to the best of knowledge, information and belief, this bridge/box culvert 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 AASHTO Standard Specifications for Highway Bridges.

STATE OF ILLINOIS
SEAN M. MARZANO
081-006321
CHAMPAIGN, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Sean Marzano
Structural Engineer
Clark Dietz, Inc.

DATE: 12-21-2012
License Expires 11-30-2014



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 23.1 sq. miles Low Grade Elev. 629.0 @ Sta. 337+31.0

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head Ft. Exist.	Head Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1810	367.9	488.0	628.60	629.06	628.86	0.46	0.26
Design	20	2250	388.0	514.0	629.05	629.65	629.35	0.60	0.30
	50	2860	442.6	540.3	629.46	629.24	629.90	0.76	0.42
Base	100	3330	469.2	561.0	629.76	629.60	630.23	0.84	0.47
Max. Calc.	500	4460	477.4	606.3	630.31	630.79	630.68	0.48	0.37

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	628.6	608.4	608.4	628.7

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Cofferdam Excavation	Cu Yd		94	94
Cofferdam (Type 1) (Location 1)	Each		1	1
Cofferdam (Type 1) (Location 2)	Each		1	1
Filter Fabric	Sq Yd		485	485
Removal Of Existing Structures	Each			1
Structure Excavation	Cu Yd		122	122
Concrete Structures	Cu Yd		183.5	183.5
Concrete Superstructure	Cu Yd	123.9		123.9
* Bridge Deck Grooving	Sq Yd	349		349
* Protective Coat	Sq Yd	439		439
Reinforcement Bars, Epoxy Coated	Pound	24,020	11,990	36,010
Steel Railing, Type SM	Foot	164		164
Furnishing Metal Shell Piles 12" x 0.250"	Foot		146	146
Driving Piles	Foot		746	746
Test Pile Metal Shells	Each		2	2
Name Plates	Each			1
Geocomposite Wall Drain	Sq Yd		32	32
Stone Riprap, Class A4	Sq Yd		496	496
Granular Backfill For Structures	Cu Yd		54	54
Pipe Underdrains for Structures 4"	Foot		98	98

*Quantity includes Bridge Approach Pavement (Special). See roadway plans.

MONTGOMERY BRIDGE
NORTH FORK OF
LAKE FORK CREEK
BUILT BY
MACON COUNTY
SEC. 10-00237-00-BR
F.A.S. 546 STA. 314+90.40
STR. NO. 058-3396 LOADING HL-93

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications 6th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (Sd1) = 0.10g
Design Spectral Acceleration at 0.2 sec. (Sds) = 0.19g
Soil Site Class = C

GENERAL PLAN & ELEVATION
MACON COUNTY CH-21 OVER NORTH FORK OF LAKE FORK CREEK
F.A.S. 546 - SEC. 10-00237-00-BR
STATION 314+90.40
STRUCTURE NO. 058-3396

Clark Dietz Engineers
DESIGN FIRM REGISTRATION No. 184.005612
125 WEST CHURCH STREET CHAMPAIGN, IL 61820 PHONE: (217) 373-4760 FAX: (217) 373-4769

	DESIGNED	SMM	REVISED	-
	CHECKED	RDC	REVISED	-
	DRAWN	SMM	REVISED	-
	CHECKED	RLH	REVISED	-

MACON COUNTY HIGHWAY DEPARTMENT

SHEET NO. 1 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
546	10-00237-00-BR	MACON	25	12

CONTRACT NO. 95694

ILLINOIS FED. AID PROJECT