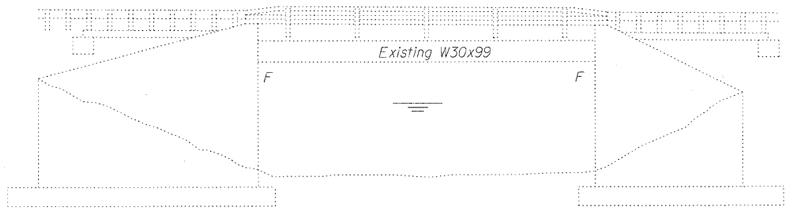
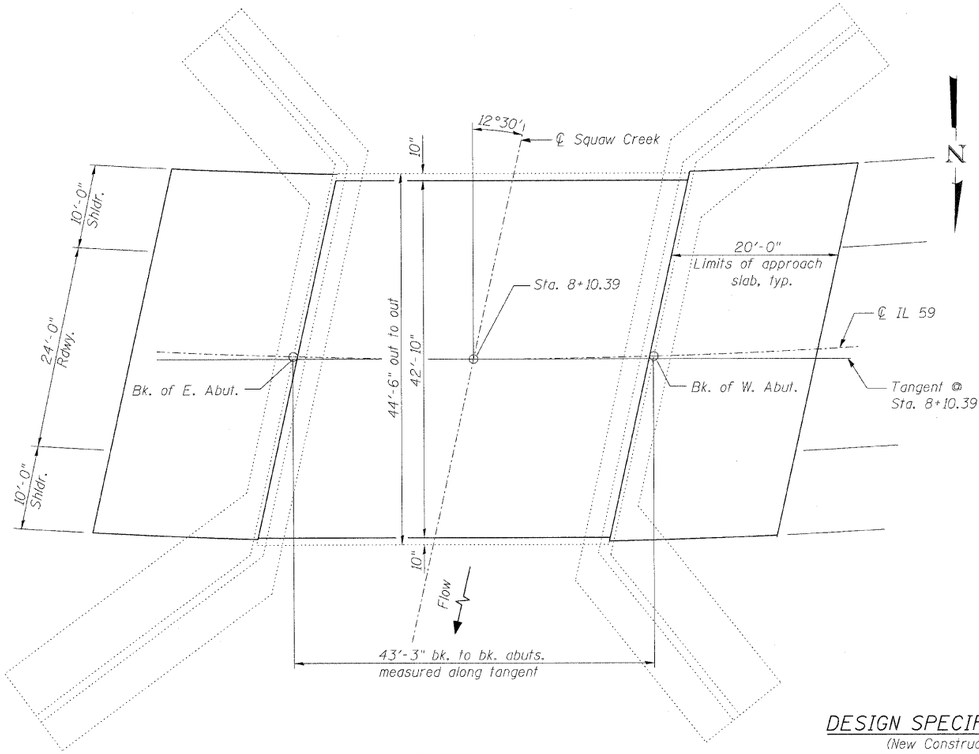
Existing Structure:
Structure No. 049-0017 was built in 1973 as F.A. 59 Section (W&106)W&RS-1. Existing structure is a single span steel superstructure with a 7½" reinforced concrete deck supported on closed abutments, 43'-3" bk. to bk. abutments, 44'-6" out to out deck with a left ahead skew of 12°30'. The existing structure has a 1½" bituminous overlay. Stage construction shall be utilized to maintain traffic during construction.

# STATE OF ILLINOIS
# DEPARTMENT OF TRANSPORTATION




ELEVATION




PLAN

## INDEX OF SHEETS



## SCOPE OF WORK

1. Remove existing bituminous overlay
2. Hydroscarify ½" slab surface
3. Repair deck slab
4. Place overlay on deck and approaches
5. Repair abutment concrete
6. Floor drain modifications
7. Apply Concrete Sealer to top and inside face of existing parapets
8. Apply Protective Coat to top of deck

(1)

## GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

## TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL | |
|---|---|---|---|---|---|
| Bituminous Materials (Prime Coat) | Gallon | 40 | - | 40 | |
| Hot-Mix Asphalt Surface Course, Mix "D", N70, 1¾" | Tons | 20 | - | 20 | (1) |
| Protective Coat | Sq. Yd. | 201 | - | 201 | |
| Hot-Mix Asphalt Surface Removal, 1½" | Sq. Yd. | 196 | - | 196 | |
| Hot-Mix Asphalt Surface Removal (Deck) | Sq. Yd. | 201 | - | 201 | |
| Protective Shield | Sq. Yd. | 199 | - | 199 | |
| Bridge Deck Grooving | Sq. Yd. | 201 | - | 201 | |
| Floor Drain Extension | Each | 4 | - | 4 | |
| Concrete Sealer | Sq. Ft. | 127 | - | 127 | (1) |
| Bridge Deck Hydro-Scarification ½" | Sq. Yd. | 201 | - | 201 | |
| Deck Slab Repair (Full Depth, Type II) | Sq. Yd. | 7.7 | - | 7.7 | (1) |
| Bridge Deck Microsilica Concrete Overlay, 2¼" | Sq. Yd. | 201 | - | 201 | |
| Plug Existing Deck Drains | Each | 2 | - | 2 | |
| Polymer Concrete | Cu. Ft. | 4.2 | - | 4.2 | |
| Structural Repair of Concrete (Depth Equal to or less than 5 in.) | Sq. Ft. | - | 49 | 49 | (1) |

## DESIGN STRESSES

FIELD UNITS

Existing Construction

fc = 1,200 psi (Deck)
fc = 1,000 psi (Substructure)
fs = 20,000 psi (Reinforcement)
fs = 27,000 psi (Structural Steel)

New Construction

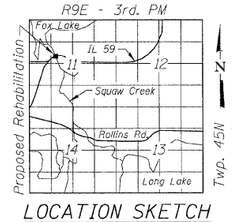
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

## DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

## LOADING HS 20-44

(Original Construction)




LOCATION SKETCH

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
81-5991
CHATHAM
STATE OF ILLINOIS

Michael T. Haley 1/27/10

Michael T. Haley — Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

## GENERAL PLAN AND ELEVATION
## IL 59 OVER SQUAW CREEK
## F.A.P. RTE 104 - SECTION W-EXT-I
## LAKE COUNTY
## STATION 8+10.39
## STRUCTURE NO. 049-0017

LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

Designed By: ESH | Checked By: MTH | Drawn By: ESH
Date: 1/2010 | File: 049-0017.dgn

SHEET NO. 1
6 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 104 | W-EXT-I | LAKE | 21 | 8 |
| | | CONTRACT NO. 60J52 | | |
| FED. ROAD DIST. NO. _ | ILLINOIS | FED. AID PROJECT | | |