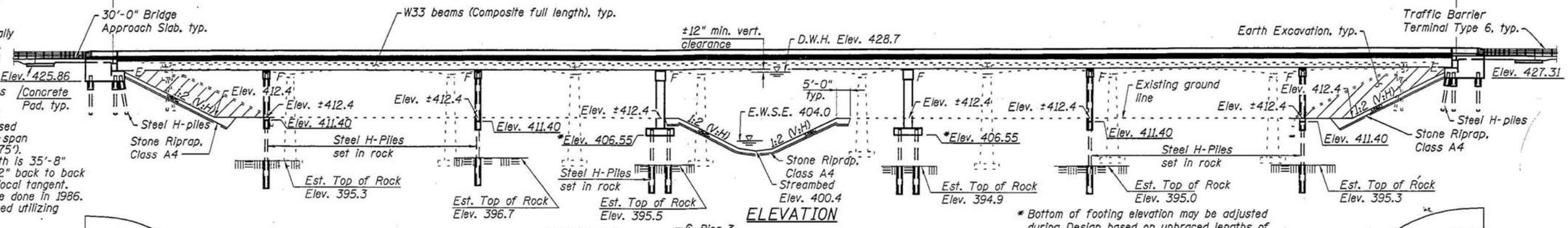
BENCHMARK: BM 807 -Chiseled square on NW corner of SN 051-0015. Elev. 432.70 (NAVD 88)

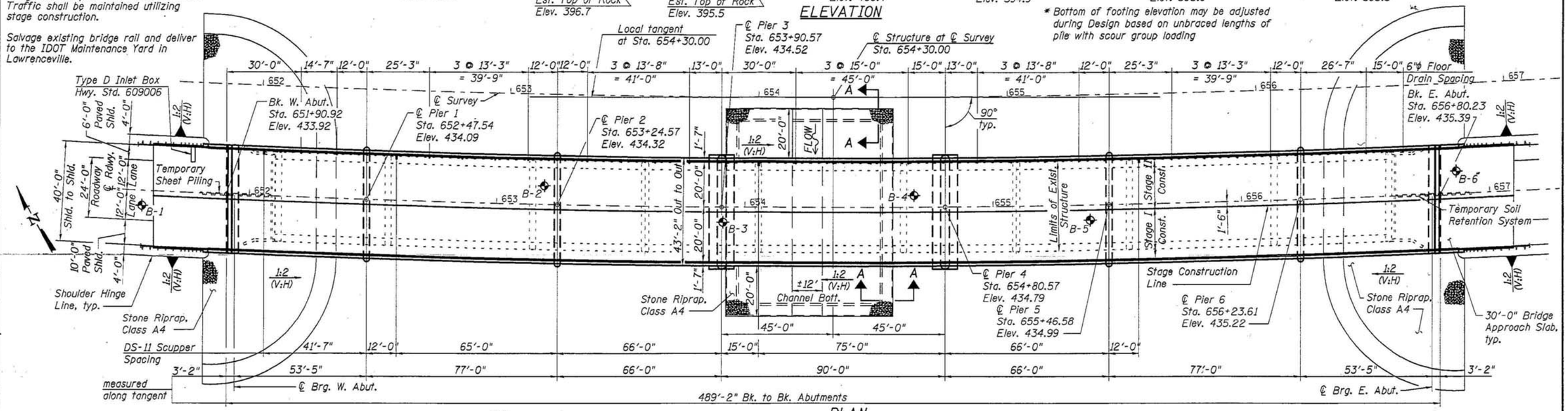
EXISTING STRUCTURE:
SN 051-0015 was originally built in 1959 as FAI 64, Section 51-23B-2. It is a RC deck T-beam superstructure on pile supported stub abutments and solid shaft piers on spread footings. The superstructure is composed of three separate three-span units (44.75'-58.17'-44.75'). The out to out deck width is 35'-8" and the length is 452'-2" back to back of abutments along the local tangent. Bridge deck repairs were done in 1986. Traffic shall be maintained utilizing stage construction.

Salvage existing bridge rail and deliver to the IDOT Maintenance Yard in Lawrenceville.



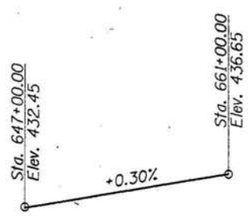
ELEVATION

* Bottom of footing elevation may be adjusted during Design based on unbraced lengths of pile with scour group loading



PLAN

Note:
All horizontal dimensions measured radially unless noted otherwise.



PROFILE GRADE
(Along ℄ Roadway)

℄ SURVEY CURVE DATA
Δ = 27°44'33" (LT)
D = 1°00'01"
R = 5,727.67'
T = 1,414.40'
L = 2,773.32'
E = 172.05'
P.C. Sta. = 647+04.39
P.T. Sta. = 674+77.71
P.I. Sta. = 661+18.79

℄ ROADWAY CURVE DATA
Δ = 27°44'33" (LT)
D = 0°59'34"
R = 5,771.67'
T = 1,425.27'
L = 2,794.62'
E = 173.38'
S.E. = 0.034'/'
P.C. Sta. = 647+04.39
P.T. Sta. = 674+99.01
P.I. Sta. = 661+29.66

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (Ft.)	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	E. Abut.
	425.9	391.7	394.0	392.5	394.9	393.6	398.5	427.3

WATERWAY INFORMATION

Drainage Area = 2350.6 Sq. Mi. Low Grade Elev. 431.60 @ Sta. 640+00

	Freq. Yr.	Exist. SN	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	SN 051-0011	20466	5102	5677	425.5	0.7	0.6	426.2	426.1
		SN 051-0015	19863							
		Total	40329							
Design	50	SN 051-0011	31775	6431	7188	428.7	0.9	0.8	429.6	429.5
		SN 051-0015	28091							
		Total	59866							
Overtop.	80	SN 051-0011	38292	6640	7620	429.6	1.9	1.8	431.5	431.4
		SN 051-0015	27270							
		Total	65562							
Base	100	SN 051-0011	39647	6644	7706	430.1	1.8	1.7	431.9	431.8
		SN 051-0015	28481							
		Total	68128							

HIGHWAY CLASSIFICATION

FAP Route 327 (US 50)
Functional Class: Other Principal Arterial
ADT: 5155 (2010); 7017 (2032)
DHV: 772 (2032)
ADTT: 21.4%
Design Speed: 70 mph (Future)
Posted Speed: 55 mph
Two Way Traffic
Directional Distribution: 51:49

DESIGN SPECIFICATIONS

2010 AASHTO LRFD
Bridge Design Specifications

LOADING HL-93

Allow 50 psf for future wearing surface.

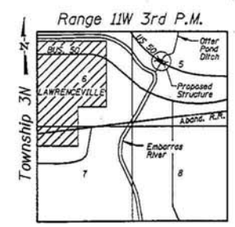
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.158g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.398g
Soil Site Class = C



LOCATION SKETCH

APPROVED
FEB 23 2011
AS A BASIS FOR PREPARATION OF DETAILED PLANS

GENERAL PLAN
US 50 OVER OTTER POND DITCH
FAP ROUTE 327 - SECTION (51-23B-2)B-1
LAWRENCE COUNTY
STATION 654+30.00
STRUCTURE NO. 051-0066

FILE NAME = 0510066-74177-01-TSL.dgn	USER NAME = HAS	DESIGNED - MTD 08/10	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
		DRAWN - DWH/JPC 08/10	REVISED -		
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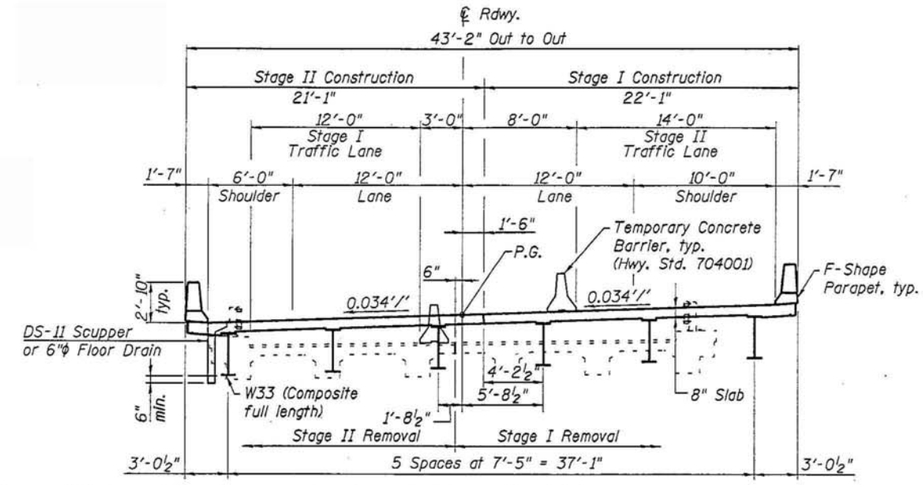
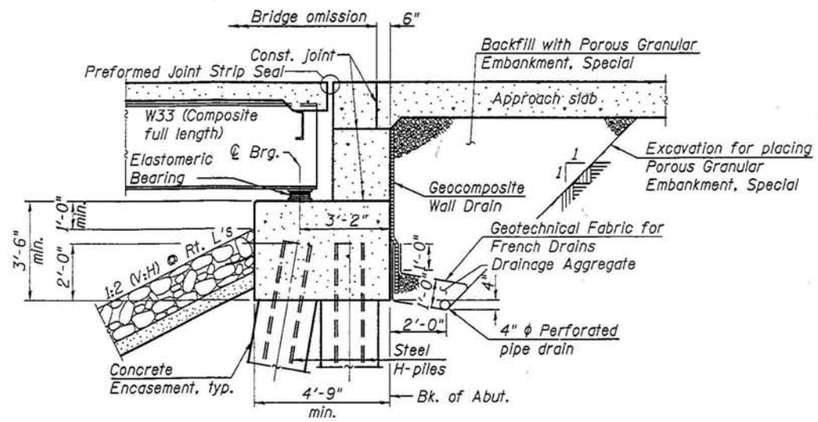
	PLOT DATE = 2/15/2011 1:34:50 PM	DATE - 02/11	REVISED -		SHEET NO. 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(51-23B-2)B-1 -	LAWRENCE	-	-
		CONTRACT NO. 74177		
		ILLINOIS FED. AID PROJECT		

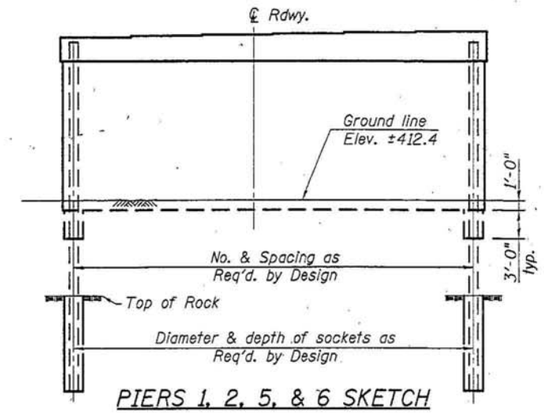


Notes: All horizontal dimensions measured radially unless noted otherwise.
Location of Stage Construction line for substructure units to be determined in final design.

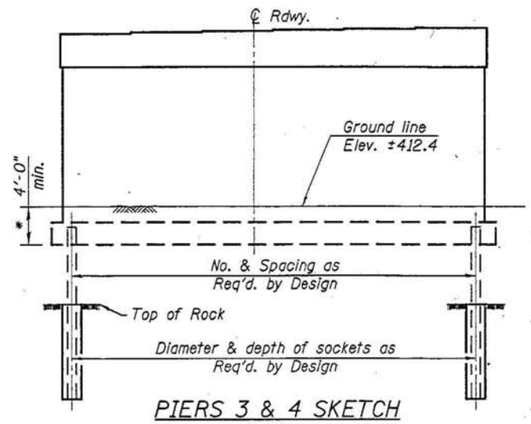
CROSS SECTION
(Looking East)



SECTION THRU PILE SUPPORTED STUB ABUTMENT
(Horiz. dim. @ Rt. L's)

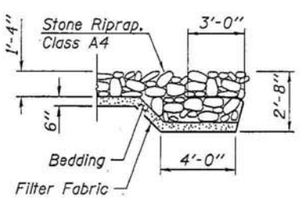


PIERS 1, 2, 5, & 6 SKETCH

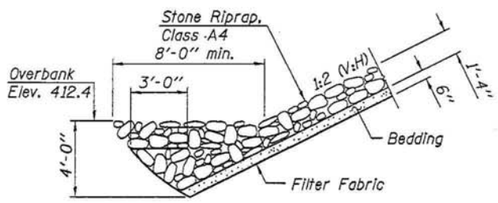


PIERS 3 & 4 SKETCH

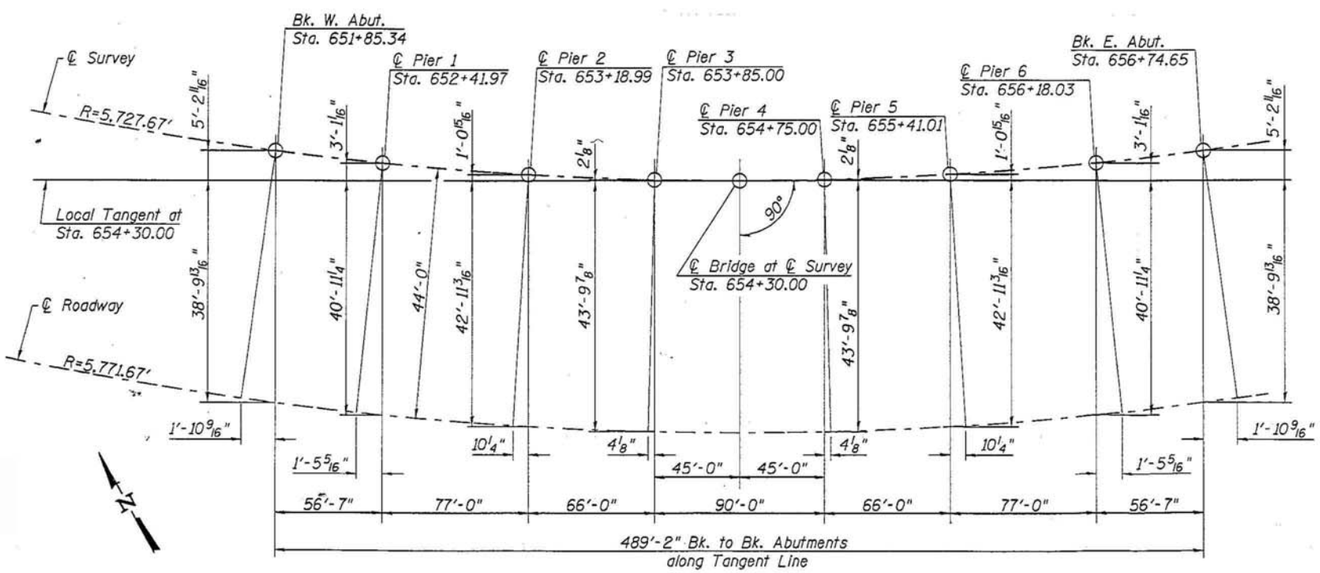
* Bottom of footing elevation may be adjusted during Design based on unbraced lengths of pile with scour group loading



SECTION A-A



STONE RIPRAP ANCHOR DETAIL



OFFSET SKETCH

DETAILS
US 50 OVER OTTER POND DITCH
FAP ROUTE 327 - SECTION (51-23B-2)B-1
LAWRENCE COUNTY
STATION 654+30.00
STRUCTURE NO. 051-0066

FILE NAME = 0510066-74177-02-TSL.dgn	USER NAME = HAS	DESIGNED - MTD 08/10	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(51-23B-2)B-1	LAWRENCE	-	-
		CONTRACT NO. 74177		
		ILLINOIS FED. AID PROJECT		