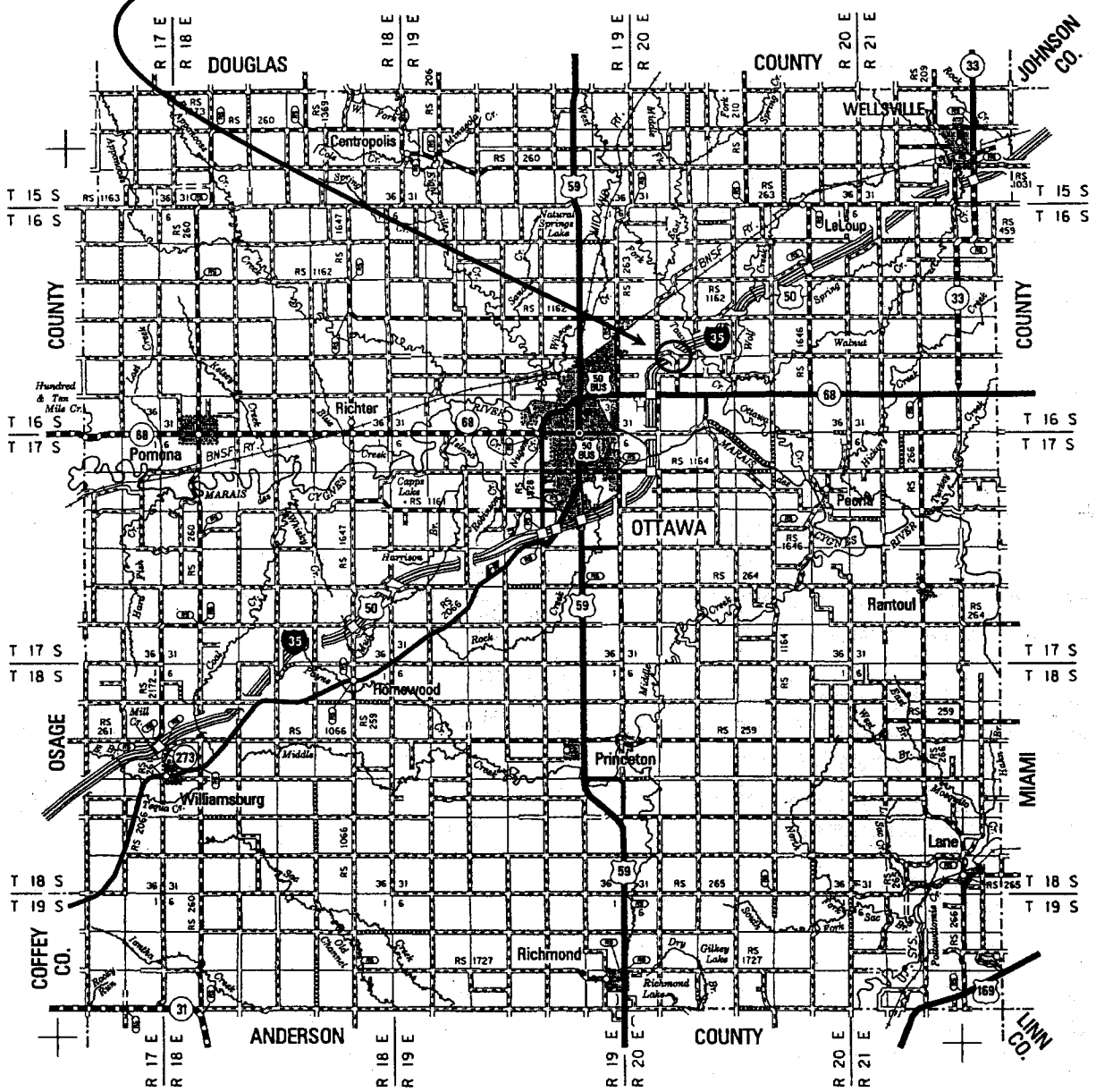
20-16-20E
SE SW

Project 59-30 K-7889-01
US-59 over I-35



Franklin County

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 59-30	SOUNDING NO. CD	SHEET 1 OF 3
BRIDGE STA. 49+91.48; 30.0' Rt. 49+94.52; 30.0' Lt.	PROJ. NO. K-7889-01	BRIDGE NO. 59-30-18.75(100) 59-30-18.76(101)
SITE NAME US-59 over I-35		HOLE STA. 48+25; 35.0' Rt.
GEOLOGIST C. Denesha	SCALE 1 unit = 2 feet	DATE June 2, 2004
DRILLER B. Bergman	RIG TYPE CME-75	TOP HOLE ELEV. 931.68
GW ELEV. ~~+~~ N/A	TOTAL DEPTH 57.5	M/B ELEV. 917.68

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION Tsf	ELASTIC MODULUS	ELEVATION
					T.H.E. = 931.68			
Casing	Soil Mantle			931	Silty Clay, dark brown.			931
				929				929
				927		Shelby #1		927
				925		0.860	25.0	925
				923				926.68 923
				921				921
				919				919
			14.0	917.68				
Core Barrel	Weston Shale Mbr.	1	15.9	917	Shale, clayey, orange-brown, soft, with red-orange, ironstone nodules 0.2' thick.	2.250	54.5	917 916.23
				915.78				
	Southbend Limestone Formation		18.2	915	Limestone, light gray, fossiliferous, and contains a thin shale break at 16.75'. Some dark gray chert nodules at base.	171.0	500000	915 914.38
			19.4	913		293.0	80500	913
		2	19.7	912.28	Sandstone, medium grained, orange, soft, few clayey zones.	285.0	51500	912.83 911.58
				911.98				911
			22.3		Limestone, light to dark gray, laminated, massive, beds of fractured fossils	414.5	70500	909.38
	Rock Lake Shale Formation		22.6	909	909.38 Shale with very thin coal, dark brown, soft, some pyrite "sparkles." light tan to off white limestone bed at 23.4', with thickness of 1.4'. Light to Medium gray, limy shale beneath limestone bed.	121.5	33600	909 907 906.88
		3		907		5.650	81.0	905.18
			27.0	905	904.68			905
	Stoner Limestone Mbr.	4			Limestone, massive, light gray to white, fossiliferous.	44.25	14900	903.08

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 59-30	SOUNDING NO. CD	SHEET 2 OF 3
BRIDGE STA. 49+91.48; 30.0' Rt. 49+94.52; 30.0' Lt.	PROJ. NO. K-7889-01	BRIDGE NO. 59-30-18.75(100) 59-30-18.76(101)
SITE NAME US-59 over I-35		HOLE STA. 48+25; 35.0' Rt.

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION TSF	ELASTIC MODULUS	ELEVATION
Core Barrel	Stoner Limestone Member	4	31.5	901	Limestone, massive, light gray to white, fossiliferous, dark gray, clayey shale seam at 30.8' having a thickness of 0.1'. Abundant shale seams below 31.5', and wavy bedded limestone at 32.0' to 35.2'.	155.0	40450	901.18
		5	36.6	899		510.0	103500	897.58
		6	40.5	897		303.0	76000	891.43
		7	45.0	895		160.5	41800	887.98
	Eudora Shale Member	8	49.5	893	886.88 Shale, dark gray to black, very limy, hard.	2.590	660.0	884.78
		9	53.2	891				
	Captain Creek Limestone Member	10	57.5	889	878.08 Limestone, very cherty, blue-gray to light tan, shale breaks 0.02' thick every 0.2' on average. lower 1.1' has no chert and is less shaley.	368.0	67000	876.78
				887				
				885				
				883				
				881				
				879				
				877				
				875	T.D. = 57.5			
				873				
				871				

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 59-30	SOUNDING NO. CD	SHEET 3 OF 3
BRIDGE STA. 49+91.48; 30.0' Rt. 49+94.52; 30.0' Lt.	PROJ. NO. K-7889-01	BRIDGE NO. 59-30-18.75(100) 59-30-18.76(101)
SITE NAME US-59 over I-35		HOLE STA. 48+25; 35.0' Rt.

BIT TYPE | GEOLOGIC NAME | STRATIGRAPHIC COLUMN | DEPTH | ELEVATION | CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS | UNCONFINED COMPRESSION | ELASTIC MODULUS | ELEVATION

Core	Depth	Elev.	Cut	Rec.	%	RQD
1	14.0	915.78	4.2	3.7	88	85%
2	18.2	913.48	4.4	4.4	100	86%
3	22.6	909.08	4.4	4.8	109	84%
4	27.0	904.68	4.5	4.5	100	84%
5	31.5	900.18	4.5	4.5	100	87%
6	36.0	895.68	4.5	4.5	100	100%
7	40.5	891.18	4.5	4.5	100	95%
8	45.0	886.88	4.5	4.5	100	90%
9	49.5	882.18	3.7	3.7	100	50%
10	53.2	878.48	4.3	4.15	96	86%
Total	57.3	874.38	43.5	43.25	99	XXXX

US-59 Over I-35

Project No. 59-30 K-7889-01

Note: All measurements are in English

	Elevation	Depth		
Core Hole #1	931.68	0.00	Pushed casing. Silty clay.	**Mantle**
Sta. 48+25	917.68	14.00	Shale, weathered, clayey, orange brown, soft, ironstone nodules.	
35 Rt of centerline			Begin coring.	**Weston Shale FM.**
Date Drilled 6/2-3/04				
Geologist: Carrie Denesha				
Driller: Bob Bergman				
Core # 1	917.68	14.00	Shale, weathered, clayey, orange brown, soft, ironstone nodules.	
14.0 to 18.2 ft.	915.78	15.90	Limestone, light gray, fossiliferous, thin shale break.	
Cut 4.2 ft.				**South Bend LS.**
Recovered 3.7 ft.	913.48	18.20	End Core 1.	**Member**
RQD = 85%				
			Sample 1 15.00 to 15.45 Weston Shale	
			Sample 2 16.70 to 17.3 South Bend Limestone	
Core # 2	913.48	18.20	Limestone, massive, light gray, dark gray, chert nodules, tan.	
18.2 to 22.6 ft.	912.28	19.40	Sandstone, orange soft, clayey zones, med. sand.	
Cut 4.4 ft.	911.98	19.70	Limestone, pitted, pits are oxidized, sandy, fossilferous.	
Recovered 4.4 ft.	910.98	20.70	Limestone, light gray grading to dark gray, massive.	
RQD = 86%	910.78	20.90	Limestone, dark gray, laminated, beds of fossils.	
	909.38	22.30	Shale, with thin coal, soft, pyrite.	**Rock Lake Sh. Mbr.**
	909.08	22.60	End Core 2.	
			Sample 3 18.2 to 18.85 Limestone.	
			Sample 4 19.6 to 20.1 Limestone sandy.	
			Sample 5 21.75 to 22.3 Limestone.	
Core # 3	909.08	22.60	Shale, dark gray, clayey, soft.	
22.6 to 27.0 ft.	908.58	23.10	Shale, limy, gray-brown.	
Cut 4.4 ft.	908.28	23.40	Limestone gray-tan, unit bedded.	
Recovered 4.8 ft.	906.88	24.80	Shale, limy, gray.	
RQD = 84%	904.68	27.00	End Core 3.	
			Sample 6 24.1 to 24.8 Limestone	
			Sample 7 25.8 to 26.5 Limy shale.	
Core # 4	904.68	27.00	Limestone, massive, light gray, fossiliferous	**Stoner Ls. Mbr.**
27.0 to 31.5 ft.	900.18	31.50	End Core 4.	
Cut 4.5 ft.				
Recovered 4.5 ft.			Sample 8 28.2 to 28.6 Limestone.	
RQD = 84%			Sample 9 29.8 to 30.5 Limestone.	

US-59 Over I-35

Project No. 59-30 K-7889-01

	Elevation	Depth		
Core # 5	900.18	31.50	Limestone, fossiliferous, light gray, some shale seams.	
31.5 to 36.0 ft.	895.68	36.0	End core 5.	**Stoner Ls. Mbr.**
Cut 4.5 ft.				
Recovered 4.5 ft.				
RQD = 87%			Sample 10 33.2 to 34.1 Limestone.	
Core # 6	895.68	36.00	Limestone, fossiliferous, light gray, some shale seams.	
36.0 to 40.5 ft.	891.18	40.50	End core 6.	
Cut 4.5 ft.				
Recovered 4.5 ft.				
RQD = 100%			Sample 11 39.6 to 40.25 Limestone.	
Core # 7	891.18	40.50	Limestone, fossiliferous, light gray, some shale seams. wavy bedded and clasts in lower portion.	
40.5 to 45.0 ft.				
Cut 4.5 ft.	886.88	44.80	Shale, dark gray, limy,	**Eudora Shale Mbr.**
Recovered 4.5 ft.	886.68	45.00	End Core 7.	
RQD = 95%				
			Sample 12 43.1 to 43.7 Shale, gray.	
Core # 8	886.68	45.00	Shale, black.	
45.0 to 49.5 ft.	882.18	49.50	End Core 8.	
Cut 4.5 ft.				
Recovered 4.5 ft.				
RQD = 90%			Sample 13 46.2 to 46.9 Shale, black.	
Core # 9	882.18	49.50	Shale, black.	
49.5 to 53.2 ft.	878.48	53.20	End Core 9.	
Cut 3.7 ft.				
Recovered 3.7 ft.				
RQD = 50%				
Core # 10	878.48	53.20	Shale, black.	
53.2 to 57.5 ft.	878.08	53.60	Limestone, cherty, blue-gray, wavy bedded.	**Captain Creek Ls. Member**
Cut 4.3 ft.	874.38	57.30	End Core 10. Total depth.	
Recovered 4.15 ft.				
RQD = 86%			Sample 14 54.4 to 54.9 Limestone.	

Kansas Department of Transportation

Report of sample of geology cores &shelby tube

Laboratory N°. 04-1914
Date Reported: 6/21/2004
Date Received: 6/4/2004

Specification N°.	AASHTO T-208	Quantity:	14 cores & 1 tube
Source of Material	59-30 K-7889-01	County:	Franklin
Sampled from	59-30 K-7889-01		
Submitted by:	Carrie Denesha		
Identification marks:	tags on samples		
Project or POV	59-30 K-7889-01		
Description of site:	US 59 over I-35 Sta. 48+25 35 Rt ℄		
Type of Construction	Bridge Foundation		

TEST RESULTS

Sample N°	Station	Offset Feet	Depth Feet	Description	Unconfined Compression Qu (psf)	Elastic Modulus E (psf)	Dry Density γ_d (lb/ft^3)	Moisture Percent % γ_d
S-1			15.0-15.45	Shale, brown, tan	4500	109000	110	20.9
S-2			16.7-17.3	LS,lt gray,fossils	342000	1E+09	166	0.8
S-3			18.2-18.85	LS, gray, cherty	586000	1.61E+08	164	1.0
S-4			19.6-20.1	LS, sandy, pitted	570000	1.03E+08	159	2.1
S-5			21.75-22.3	LS,dk gray,laminated	829000	1.41E+08	155	2.7
S-6			24.1-24.8	LS, lt tan to white	243000	67200000	154	3.2
S-7			25.8-26.5	Sh, liney, med. Gray	11300	162000	127	11.4
S-8			28.2-28.6	LS, hard gray	88500	29800000	164	1.0
S-9			29.8-30.5	LS, med. Gray	310000	80900000	165	0.8
S-10			33.2-34.1	LS, h gray, unit bedded	1020000	2.07E+08	161	1.8
S-11			39.6-40.25	LS, lt gray, minor shale seams	606000	1.52E+08	159	2.2
S-12			43.05-43.7	Shale, black, hard	321000	83600000	149	5.2
S-13			46.2-46.9	Shale, black, hard	5180	1320000	135	9.6
S-14			54.4-54.9	LS, cherty, tan	737000	1.34E+08	164	1.0
1			5.0-7.0	Dk brown SiCl	1720	50000	91	31.8

T.H.E.= 931.68
See attached routine test results

cc: L.S. Ingram
R. Fuller
R. Henthorne
Soil Section
File 18-3

Reported by: _____

Title: Robert Fuller; Soils Engineer

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	59-30 K-7889-01	2006	1	

INDEX OF SHEETS

Volume 1

Volume 2

Volume 3

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

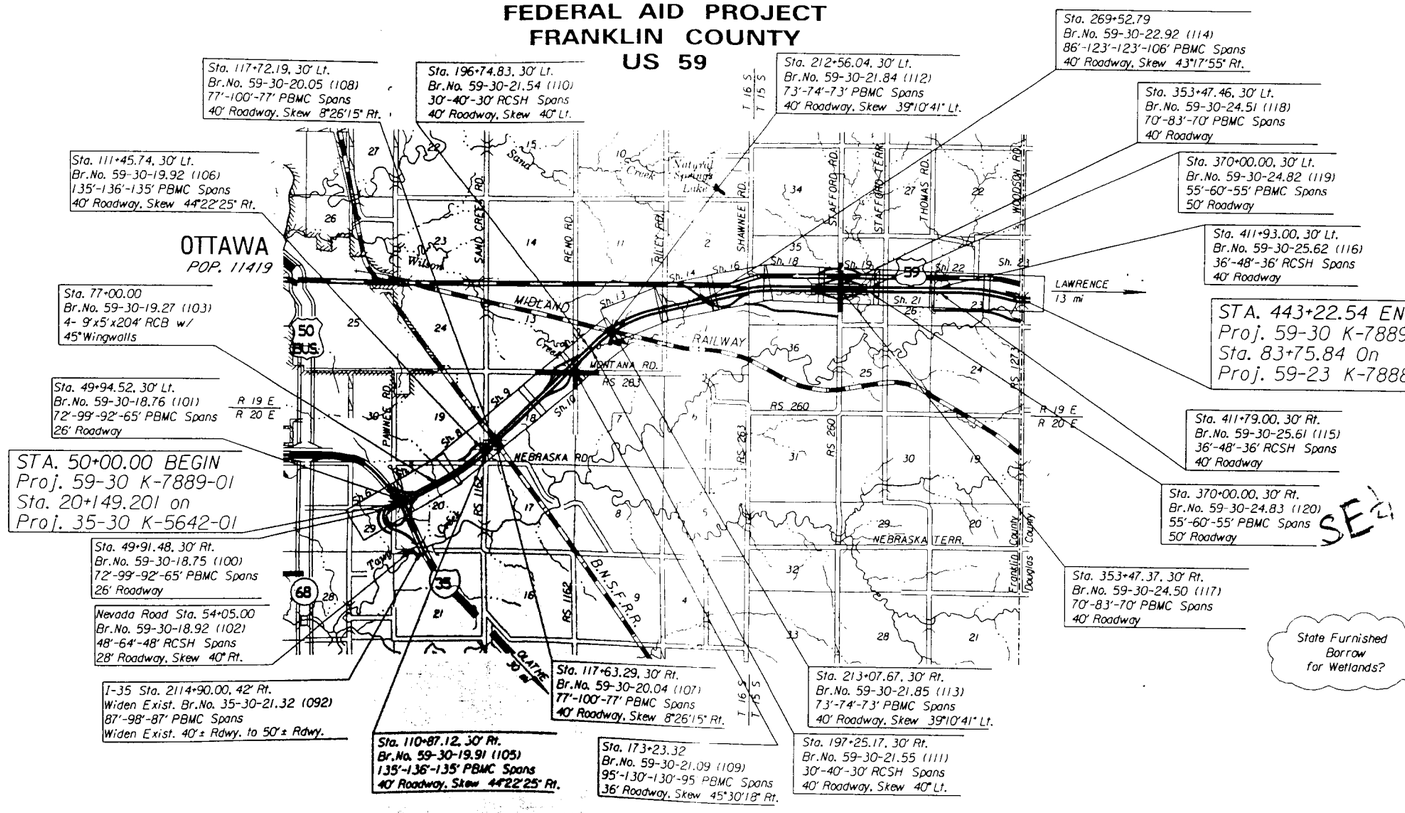
PLAN AND PROFILE OF PROPOSED

STATE HIGHWAY

FEDERAL AID PROJECT
FRANKLIN COUNTY
US 59

PROJ. NO. 59-30 K-7889-01
K788-0(901)

GRADING
BRIDGES
FENCING
SEEDING

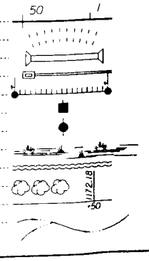


DESIGN DESIGNATION

AADT	(2007)	= 6900
AADT	(2027)	= 10500
DHV		= 11%
D		= 60/40
T		= 7%
V		= 70 mph
C of A		= FULL
Clear Zone		= 34'

CONVENTIONAL SIGNS

COUNTY LINE	CENTER LINE OF PROJECT
CITY LIMITS	TERRACE
STATE OR NATIONAL LINE	CULVERTS
TOWNSHIP, SECTION or GRANT LINE	DROP INLET & STORM SEWER
PROPERTY LINE	ACCESS CONTROL
HIGHWAY FENCE	POWER POLE
EXISTING FENCE	TELEPHONE POLE
GUARD FENCE	MARSH
CONSTRUCTION LIMITS	HEDGE
RIGHT OF WAY LINE	TREES
TRAVELED WAY	PROFILE ELEVATION
RAILROADS	STREAM or CREEK



GROSS LENGTH OF PROJECT	39,322.54	FT.
EXCEPTIONS	None	
ADDITIONS	None	
NET LENGTH OF PROJECT	39,322.54	FT.
NET LENGTH OF BRIDGES	1,511.00	FT.
NET LENGTH OF ROAD	37,811.54	FT.

NOTE: TRAFFIC TO BE CARRIED THRU CONSTRUCTION.
FOR CONSTRUCTION SEQUENCE SEE SH. NO. 141

PLANS PREPARED AND SUBMITTED BY:
GEORGE BUTLER ASSOCIATES, INC.
LENEXA KANSAS

FEB 23 2005

RECOM. FOR APPROVAL-DATE	RECOM. FOR APPROVAL-DATE
CHIEF, BUREAU OF DESIGN KANSAS DEPARTMENT OF TRANSPORTATION	ENGINEER FEDERAL HIGHWAY ADMINISTRATION DEPARTMENT OF TRANSPORTATION
APPROVED - DATE	APPROVED - DATE
STATE TRANSPORTATION ENGINEER KANSAS DEPARTMENT OF TRANSPORTATION	DIVISION ADMINISTRATOR FEDERAL HIGHWAY ADMINISTRATION DEPARTMENT OF TRANSPORTATION