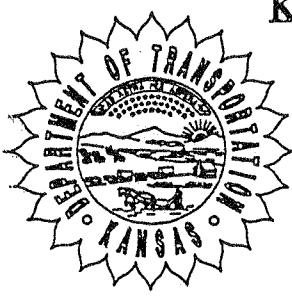


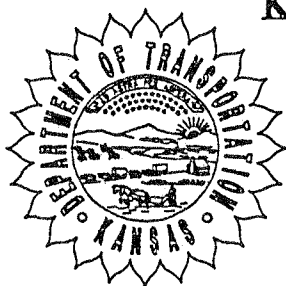
22-11-16E
E2 SE NE



KANSAS DEPARTMENT OF TRANSPORTATION

1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. 4	12. SHEET 01 OF 09
2. BRIDGE STA. 637+48.25	8. PROJECT NO. K-3362-01	13. BRIDGE NO. 28.66
3. DESCRIPTION Oakland Expressway	14. HOLE STA. 610+77	15. DATE 4-6-93
4. GEOLOGIST Billinger	9. VERTICLE SCALE 1"=10'	16. ELEVATION TOP OF HOLE 866.9
5. DRILLER Shull	10. RIG B-61	17. ELEVATION TOP OF ROCK 794.7
6. GROUND WATER ELEV. 856.9	11. TOTAL DEPTH OF HOLE 111'2"	

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV.
Casing	Alluvium		0'	866.9				
			7'	860	Sandy, Silt, brown			
				859.9				
				850	Sand fine to medium.			
				840				
				830				
				820	Sand, medium to coarse and gravel beds			
				810				
				800				
			72'	794.7				

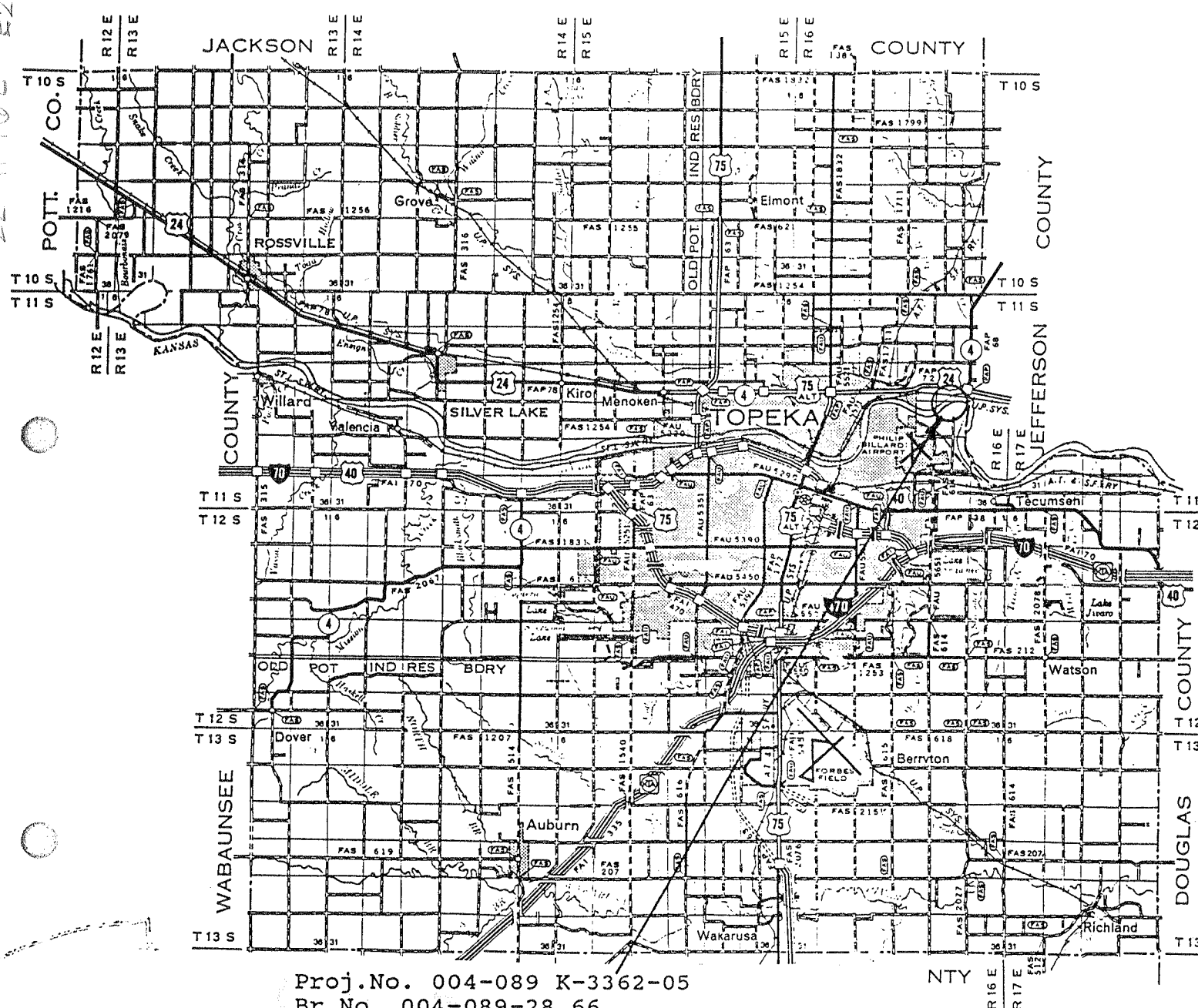


KANSAS DEPARTMENT OF TRANSPORTATION

1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. 4	12. SHEET 02 OF 09
2. BRIDGE STA. 637+48.25	8. PROJECT NO. K-3362-01	13. BRIDGE NO. 28.66
3. DESCRIPTION Oakland Expressway	14. HOLE STA. 610+77	
4. GEOLOGIST Billinger	15. VERTICLE SCALE 1" = 10'	16. DATE 4-6-93
5. DRILLER Shull	17. RIG B-61	18. ELEVATION TOP OF HOLE 866.9
6. GROUND WATER ELEV. 856.9	19. TOTAL DEPTH OF HOLE 111' 2"	20. ELEVATION TOP OF ROCK 794.7

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV.
	Alluvium		722	794.7				
	Tecumseh shale		750	791.9	shale, weathered, clayey, gray	374.8		791.3
	Avoca ls.	1	795	790	Limestone, gray, hard, unit bedded upper, impure	1232.9		790.2
	King Hill shale	2	815	787.9	Shale, gray-green	36.2		785.6
				784.5	limestone, gray hard	448.4		784.5
		3	870	780	shale, limy, gray-green	159.2		782.5
	Beil ls.	4			Limestone, gray, massive, hard.	189.9		778.1
		5	969	770.5		192.9		775.3
	Queen shale	6	995	767.4	Shale, fissile, black	296.7		771.6
	Big Spring ls.	7	1030	763.9	Limestone, gray, hard, unit bedded impure zones	67.7		769.2
	Doniphan	8	109.1	762.8		1174.1		765.7
	Spring Branch ls.			760	Limestone, light gray, massive	519.9		761.7
			1112	755.7	limy shale	150.0		758.9
					limestone	119.9		755.9
				250				

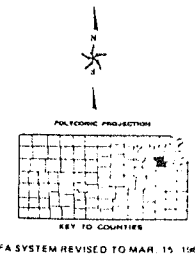
22-1-16 E2 E2



Proj.No. 004-089 K-3362-05
 Br.No. 004-089-28.66
 Oakland Expressway over the Kansas River
 Sta.637+48.25
 Shawnee County

LEGEND

ROADS AND ROADWAY FEATURES		ROAD SYSTEM DESIGNATION	
PRIMITIVE ROAD	-----	FEDERAL-AID INTERSTATE HIGHWAY SYSTEM	-----
UNIMPROVED ROAD	-----	FEDERAL-AID PRIMARY HIGHWAY SYSTEM	-----
GRADED AND DRAINED ROAD	-----	FEDERAL-AID SECONDARY HIGHWAY SYSTEM	-----
SOIL SURFACED ROAD	-----	INTERSTATE NUMBERED HIGHWAY	-----
GRAVEL OR STONE ROAD	-----	U.S. NUMBERED HIGHWAY	-----
NOT GRADED OR DRAINED	-----	STATE HIGHWAY SYSTEM OR	-----
GRAVEL OR STONE ROAD	-----	STATE NUMBERED HIGHWAY	-----
GRAVEL OR STONE ROAD WITH	-----	END OF DESIGNATED SYSTEM OR	-----
STABILIZED SURFACE	-----	MARKED ROUTE	-----
BITUMINOUS ROAD-LOW TYPE	-----		
PAVED ROAD	-----		
DIVIDED HIGHWAY	-----		
HIGHWAY WITH FULL CONTROL OF	-----		
ACCESS AND INTERCHANGE	-----		



**GENERAL HIGHWAY MAP
 SHAWNEE COUNTY
 KANSAS**

PREPARED BY THE
 KANSAS DEPARTMENT OF TRANSPORTATION
 BUREAU OF TRANSPORTATION PLANNING
 IN COOPERATION WITH THE
 U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

FA SYSTEM REVISED TO MAR. 15 1968

1986