

BENCH MARK: BM 454
 STA. 53+62.30, 32.65 RT., EL. 961.413
 TOP OF ROW MARKER SW QUAD OF IL 72
 & FORK CREEK ROAD, EAST OF CULVERT

EXISTING STRUCTURE:
 SINGLE 6'-0" X 4'-6" X 42'-0" CONCRETE BOX CULVERT.

NO SALVAGE.

PROPOSED IMPROVEMENTS:
 EXISTING STRUCTURE TO BE REMOVED AND REPLACED
 WITH A 2 CELL - 5'-0" X 3'-0" PRECAST CONCRETE BOX
 CULVERT WITH CONCRETE BOX CULVERT END SECTIONS.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STATION 38+85.17
 BUILT 200. BY
 STATE OF ILLINOIS
 IL 72 SECT. 114T-1
 LOADING HS20
 STR. NO. 071-1150

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 545	114T-1	OGLE	118	49
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

Contract # 64C31

DESIGN SPECIFICATIONS

AASHTO 2002 SPECIFICATIONS

LOADING HS20-44

ALLOW 50#/SQ. FT. FOR FUTURE WEARING SURFACE.

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ PSI
 $f_y = 60,000$ PSI (REINFORCEMENT)

PRECAST UNITS

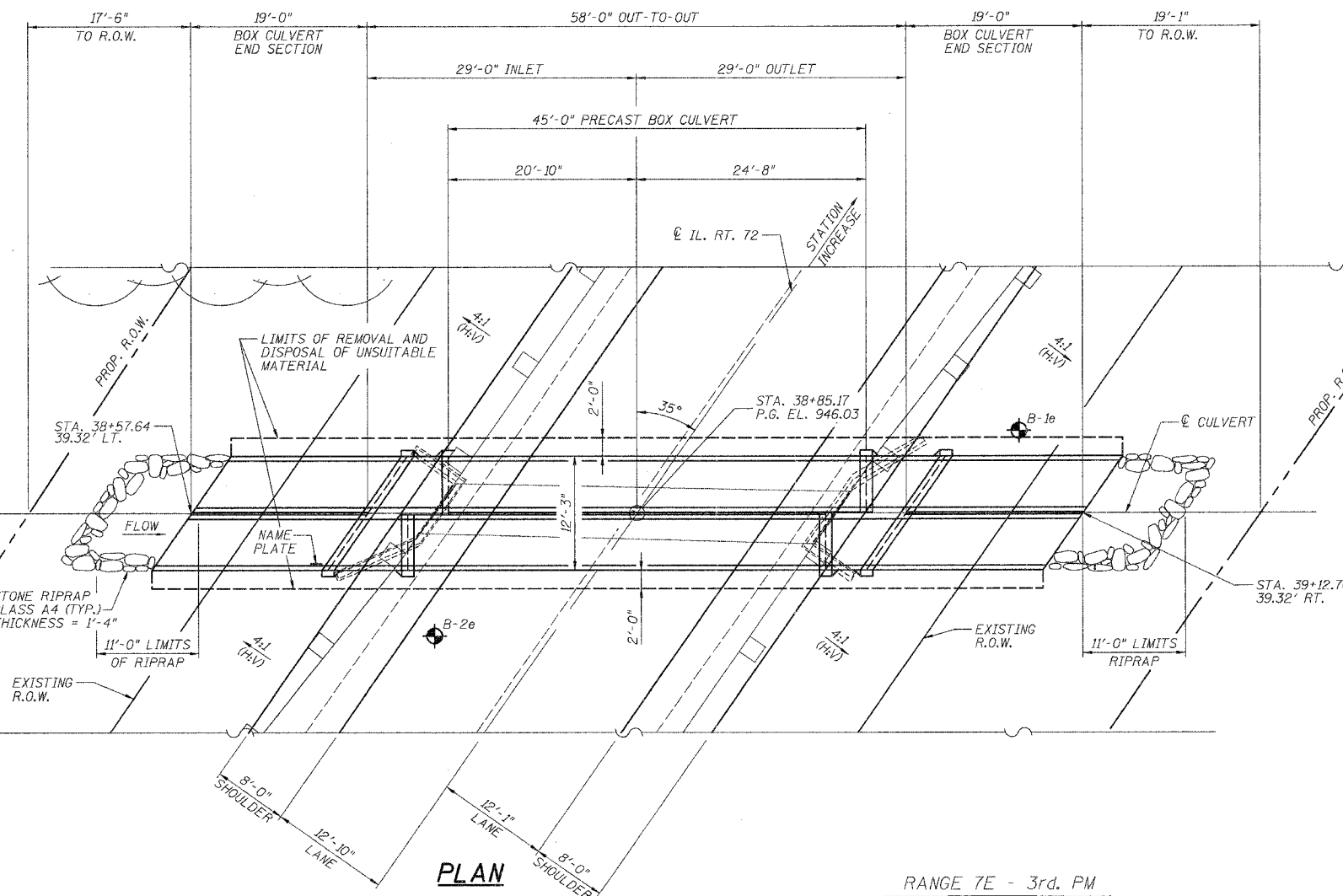
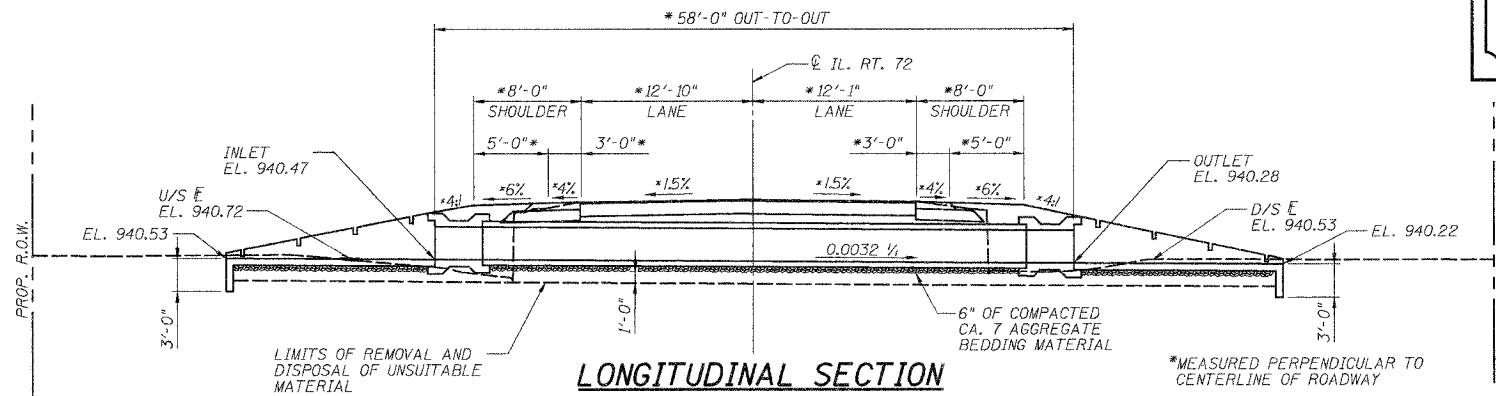
$f'_c = 5,000$ PSI
 $f_y = 60,000$ PSI (REINFORCEMENT)

TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
CONCRETE BOX CULVERTS	CU. YD.	16.5
BOX CULVERT END SECTIONS NO. 2	EACH	4
PRECAST CONCRETE BOX CULVERT 5' x 3'	FOOT	90
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU. YD.	65
BREAKER-RUN CRUSHED STONE	TON	100
REMOVAL OF EXISTING STRUCTURE NO. 4	EACH	1
STONE RIPRAP, CLASS A4	SQ. YD.	35
FILTER FABRIC	SQ. YD.	35
REINFORCEMENT BARS	LB	3,082
NAME PLATES	EACH	1

NAME PLATE

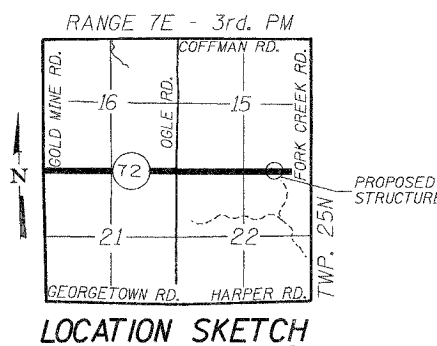
NOTE: SEE STANDARD DRAWING 515001 FOR NAME PLATE DETAILS.



GENERAL NOTES

- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GR 60 (IL MODIFIED), SEE "SPECIAL PROVISION".
- EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
- CULVERT FLOWS MUST BE MAINTAINED THROUGHOUT THE PROJECT. NORMAL FLOW SHALL BE ALLOWED TO PASS AT THE RATE IT ENTERS THE JOBSITE. HIGH FLOWS SHALL BE ALLOWED TO PASS WITHOUT CAUSING DAMAGE TO UPSTREAM PROPERTIES.
- THE CONTRACTOR SHALL CLEAN OUT CULVERT STREAM FLOW TO THE RIGHT OF WAY LINES. THE COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "PRECAST CONCRETE BOX CULVERT 5'x3'".
- STRUCTURE EXCAVATION AND GRADING AROUND ENDS OF CULVERT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "PRECAST CONCRETE BOX CULVERT 5'x3'".
- PLACEMENT AND COMPACTION OF THE BACKFILL FOR CULVERT SHALL CONFORM TO SECTION 502.10 OF THE STANDARD SPECIFICATIONS. EXCEPT THE MATERIAL SHALL CONFORM TO SECTION 1004.05 OF THE STANDARD SPECIFICATION FOR COARSE AGGREGATE FOR TRENCH BACKFILL AND SHALL BE COMPACTED TO MINIMUM OF 95% OF THE STANDARD LABORATORY DENSITY. THE ENTIRE EXCAVATION, WITHIN 2 FEET OUTSIDE OF EACH SHOULDER, SHALL BE BACKFILLED WITH TRENCH BACKFILL MATERIAL TO THE BOTTOM OF THE PROPOSED SUBGRADE. THIS TRENCH BACKFILL MATERIAL WILL NOT BE MEASURED FOR PAYMENT, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE CLASS OF CONCRETE INVOLVED OR OTHER UNIT PRICE ITEM OF THE WORK FOR WHICH IT IS REQUIRED.
- PRECAST CONCRETE BOX CULVERT SLAB & WALL THICKNESS TAKEN FROM AASHTO MATERIAL SPECIFICATIONS. IF FABRICATOR CHOOSES TO ALTER DIMENSIONS, IT MUST BE APPROVED BY THE ENGINEER, AND THE CALCULATIONS SHALL BE PREPARED AND SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER.
- BOX CULVERT END SECTIONS NO. 2 CAN BE EITHER PRECAST OR CAST-IN-PLACE. DETAILS SHOWN ARE FOR CAST-IN-PLACE END SECTIONS. IF THE CONTRACTOR ELECTS TO USE PRECAST END SECTIONS, THE DESIGN OF THE END SECTION IS THE CONTRACTOR'S RESPONSIBILITY AND ALL CALCULATIONS SHALL BE PREPARED AND SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER. IF PRECAST END SECTIONS ARE USED, EACH END SECTION (4 TOTAL) SHALL BE COMPLETELY FABRICATED PRIOR TO SITE DELIVERY.
- THE NEW NUMBER FOR THIS STRUCTURE WILL BE 071-1150.
- THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M273 (DESIGN FILL HEIGHT < 2'-0")

WATERWAY INFORMATION				
DRAINAGE AREA (ACRES) = 135.0		LOW GRADE ELEV. (FEET) EXIST = 946.04 @ STA. 38+85 PROPOSED = 946.04 @ STA. 38+85		
FLOOD	FREQ. YR.	DISCHARGE C.F.S.	HEADWATER ELEVATION	
			EXISTING	PROPOSED
TEN-YEAR	10	92	942.55	941.78
DESIGN	50	189	944.64	943.03
BASE	100	251	945.80	944.33
EX OVT	109	259	946.04	
PR OVT	177	318		946.04



DESIGNED - ASP	200
CHECKED - WSP	EXAMINED
DRAWN - BEM	PASSED
CHECKED - ASP	ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN & ELEVATION
 F.A.P. 545 (IL. RTE. 72)
 SECTION 114T-1
 OGLE COUNTY
 STATION 38+85.17
 STRUCTURE NO. 071-1150

