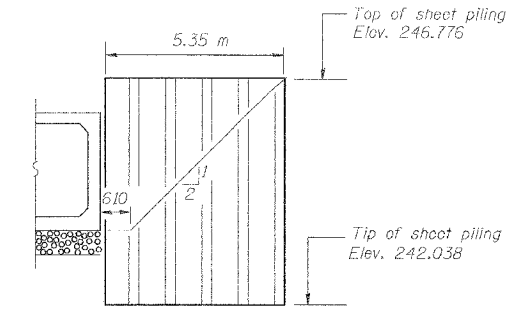
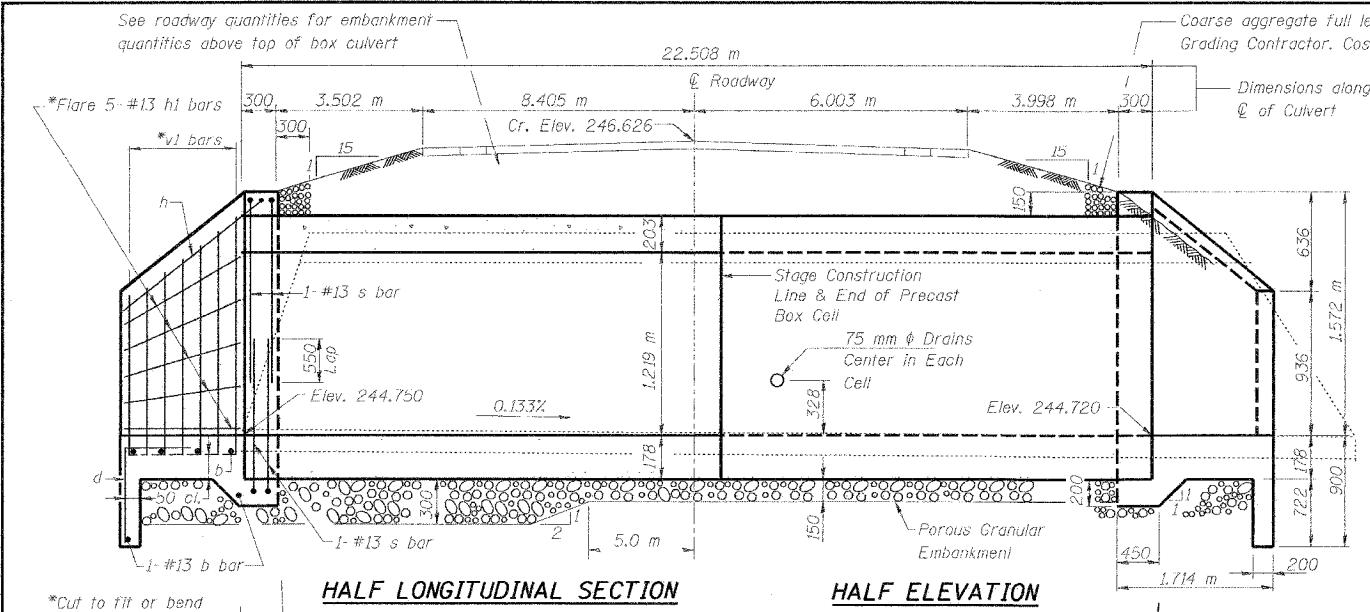
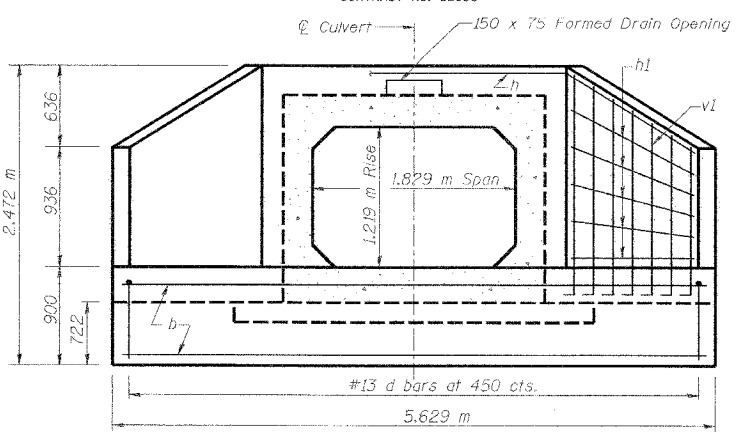


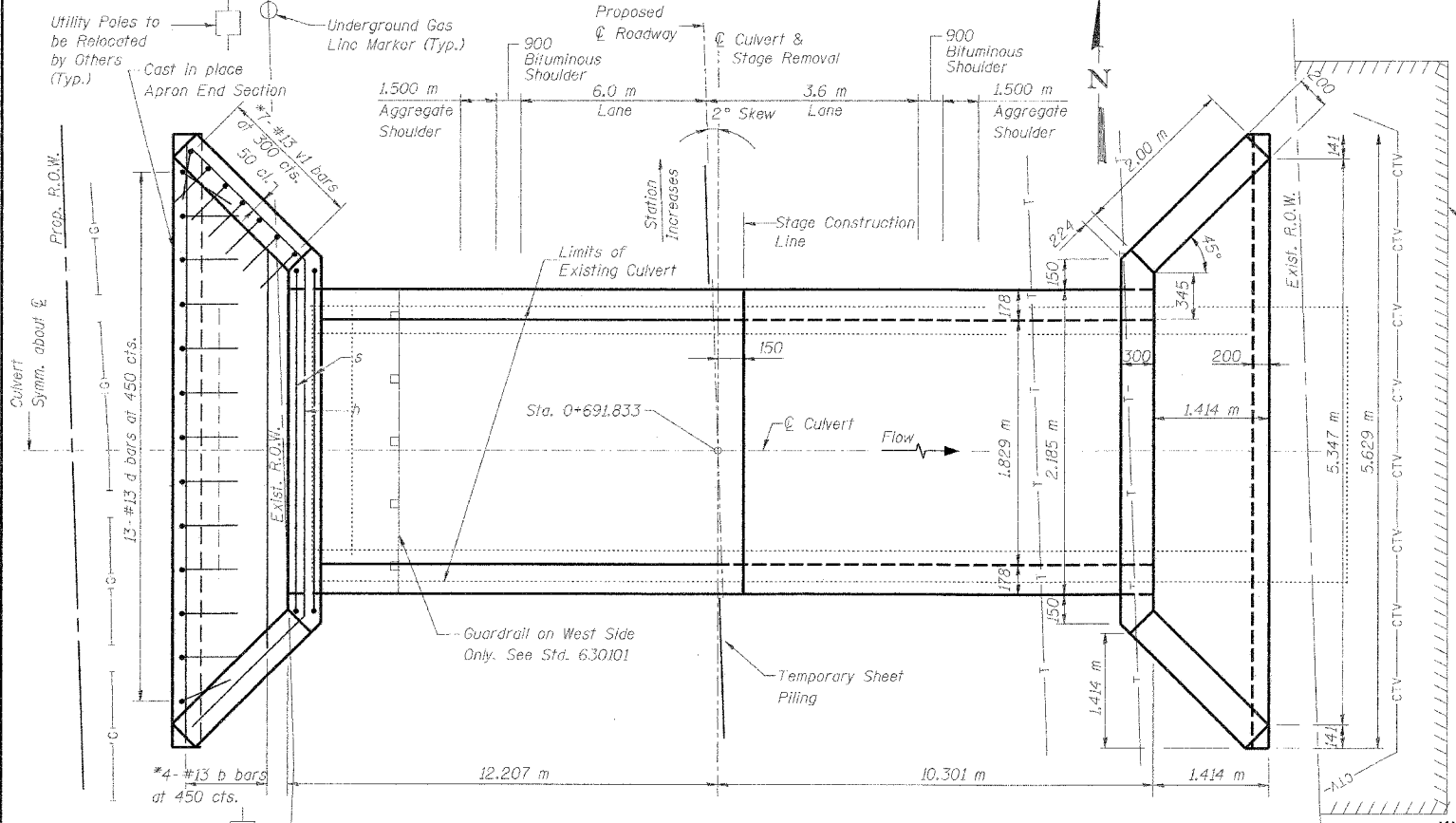
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
337	20 WRS-6	LAKE	3/8	1/8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62030				



TEMPORARY SHEET PILING
 Minimum section modulus of temporary sheet piling shall be $171 \times 10^3 \text{ mm}^3$ per meter of wall. Minimum Embedment = 2.369 m
 See Specifications for Temporary Sheet Piling.



END ELEVATION

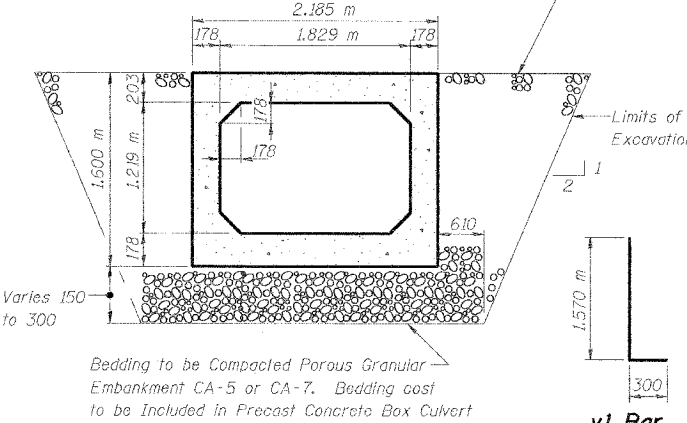


SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN

- ***NOTES:**
- Headwater taken at u/s face of structure.
 - Natural water surface interpolated and taken at u/s face of structure.
 - All elevations shown are on IDOT road survey elevations.



SECTION THRU BARREL

(Precast)
 AASHTO Designation: M273M
 ASTM Designation: C850M

DESIGN STRESSES

AASHTO 1996 with 1997-2000, & 2002 Interims

MS18 LOADING

Allow 2.4 kN/m² for future wearing surface

DESIGN STRESSES

FIELD UNITS
 $f'_c = 24 \text{ MPa}$
 $f_y = 420 \text{ MPa (Reinforcement)}$

PRECAST UNITS
 $f'_c = 35 \text{ MPa}$
 $f_y = 420 \text{ MPa (Welded Wire Fabric)}$

BILL OF MATERIAL

Bar	No.	Size	Length(m)	Shape
b	12	#13	5.53	
d	26	#13	1.60	
h	2	#13	6.84	
h ₁	20	#13	2.13	
s	8	#13	4.84	
v ₁	28	#13	1.87	
Pipe Culvert Removal			m	23.3
Precast Concrete Box Culvert, 1.8 m x 1.2 m			m	22.5
** Box Culvert End Section			Each	2
Temporary Sheet Piling			Sq. m	51.0
Porous Granular Embankment			Cu. m	187.7

**Concrete Class SI = 7.0 m³ and Reinforcement Bars = 250 kg for 2 end sections

NOTES

Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 420. All dimensions are in millimeters (mm) except as noted. All construction joints shall be bonded. See roadway plans for additional information. Contractor to see staging, utility, storm and sanitary drawings for additional information.

WATERWAY INFORMATION

Drainage Area = 168 HA		Existing Low Grade Elev. = 246.40		Proposed Low Grade Elev. = 246.84					
Flood	Freq. Yr.	Q m ³ /s	Opening m ²		Nat. H.W.L.	Head - m		Headwater Elev. ***	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	4.0	1.35	1.73	245.58	0.15	0.06	245.73	245.64
Base	100	5.3	1.41	1.84	245.76	0.76	0.46	246.52	246.22
	500	9.5	1.48	2.12	245.91	0.73	0.98	246.64	246.89

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
QUENTIN ROAD BOX CULVERT
STATION 0+691.833

DATE 3/11/05
 DRAWN BY DF
 CHECKED BY CB