

B.M. #66 -
 Iron rod in cap, Station 657+58.33, Elevation 785.36, Offset 97.73' Right
 North = 2060436.56, East = 2439790.59

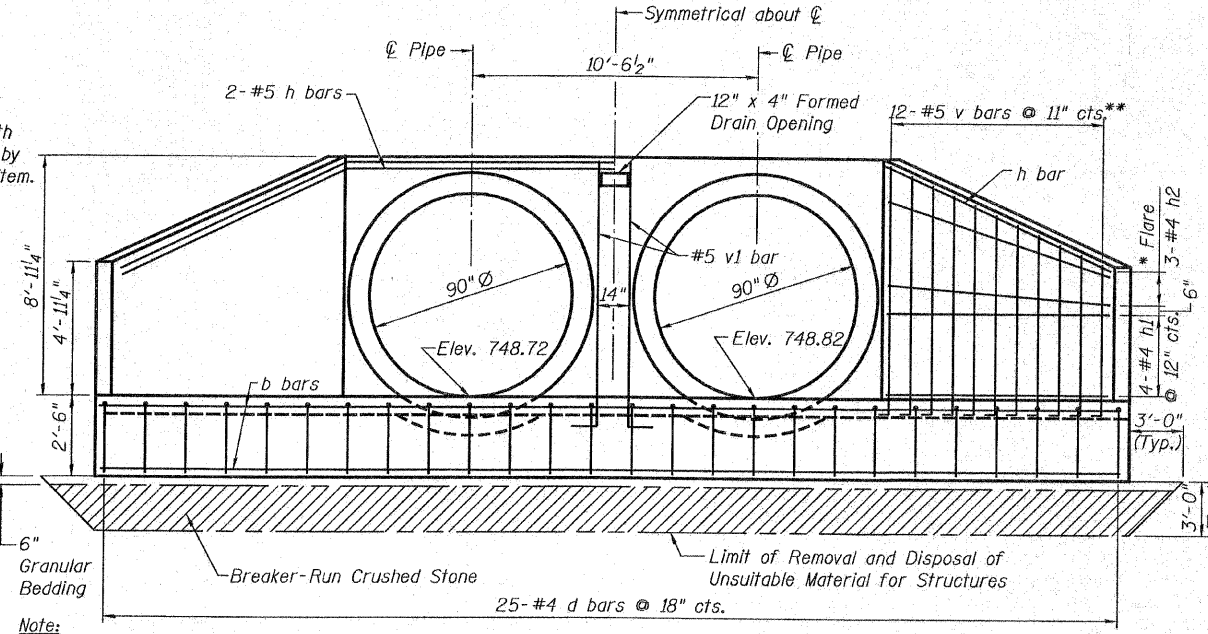
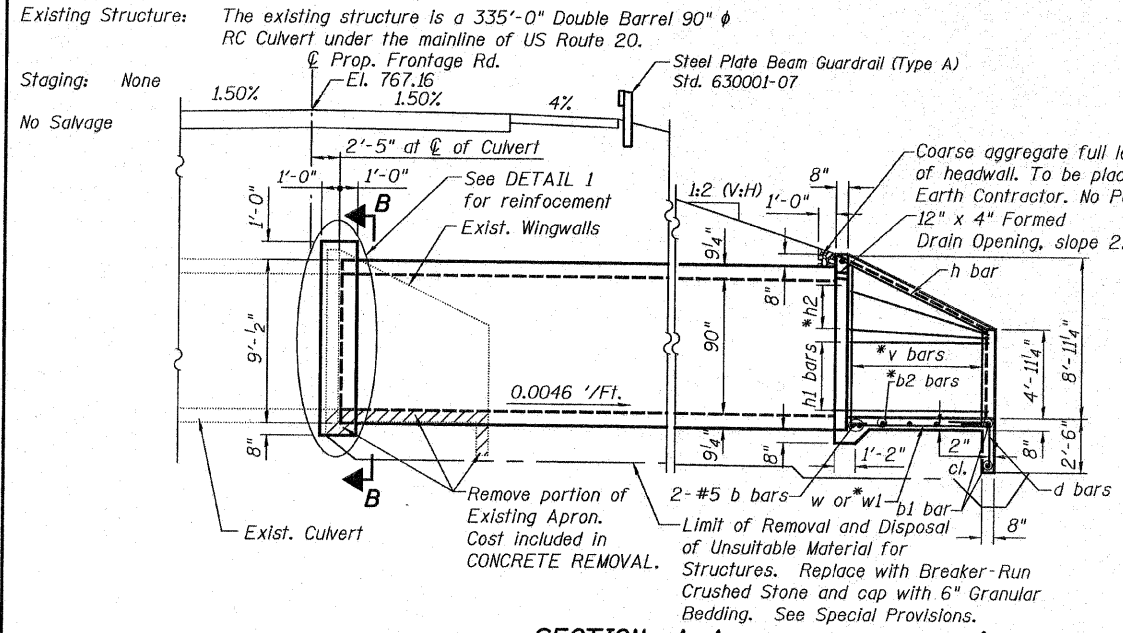
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301	177-2	STEPHENSON	386	140
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract No. 64799

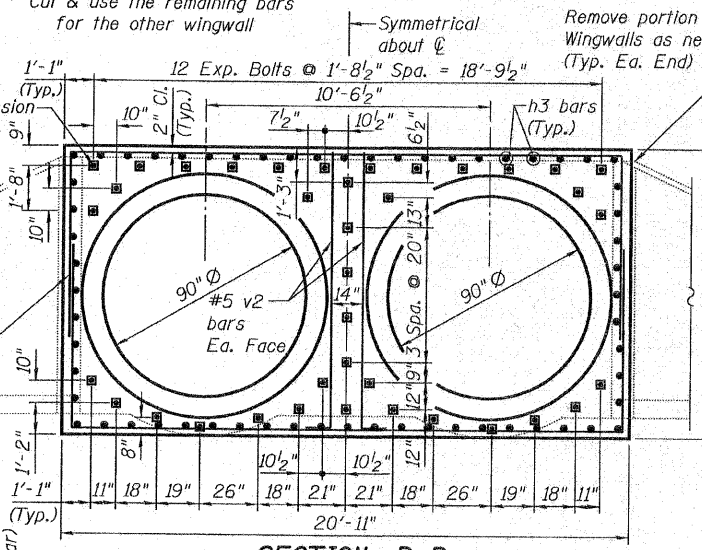
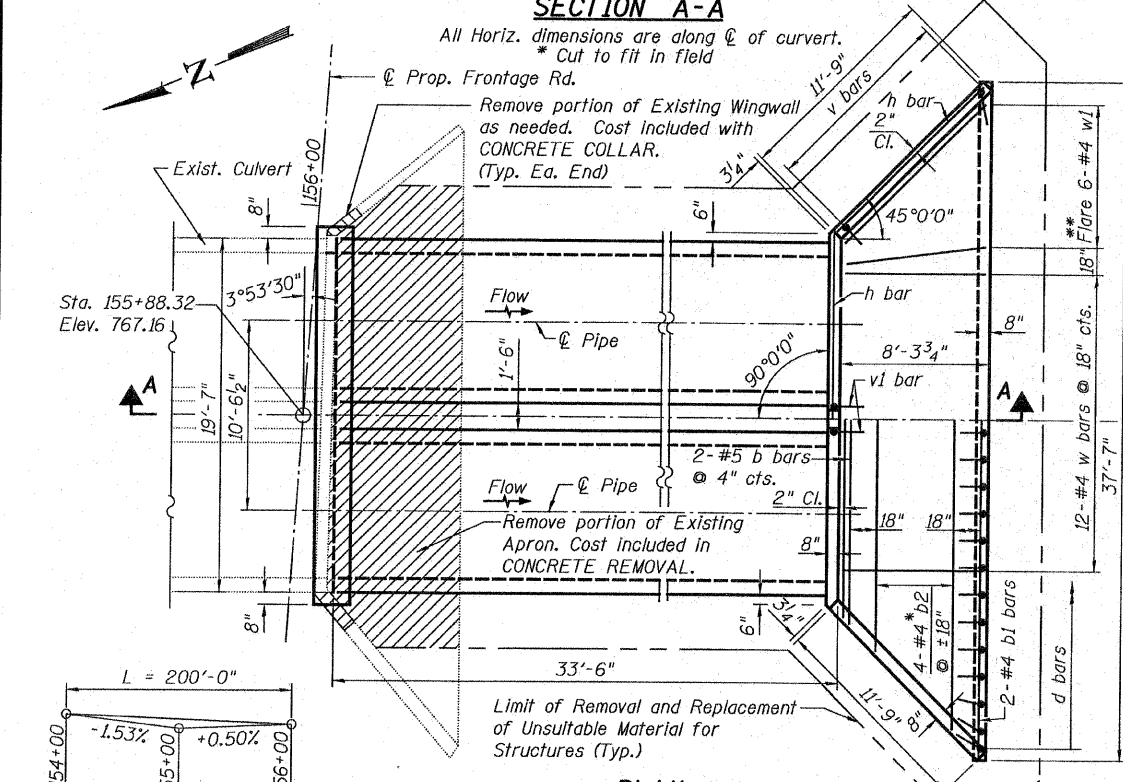
GENERAL NOTES:

- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The Contractor shall be responsible for diverting the water flow from the construction area using a method meeting the approval of the Engineer. The cost of diverting the water flow shall be considered as included in the contract unit price bid for the culvert being constructed and no additional compensation will be allowed. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The concrete for the collar will be paid for CONCRETE COLLAR (Cu.Yd.).
- Expansion bolts will be paid for EXPANSION BOLTS of the size indicated. The price shall include furnishing, drilling holes, and installing the expansion bolts complete in place. These bolts shall extend at least 8 inches into the new concrete.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.

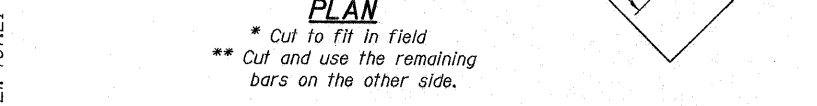
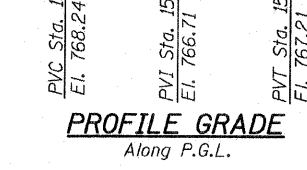


Note:
 The limits and quantities of removal and disposal are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface encountered in the field.

END ELEVATION
 (Downstream Face, Looking Upstream)



Note: Adjust Exp. bolts spacing to clear reinforcement bars. Reinforcement bar spacing not shown for clarity. See DETAIL 1 for bar spacing.

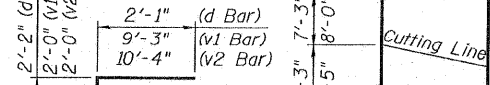
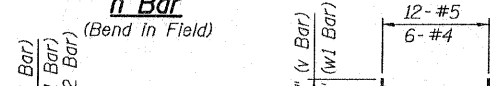
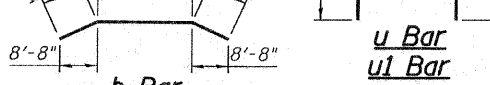
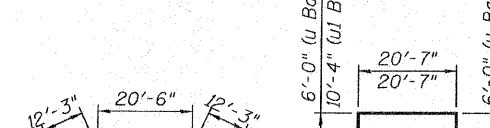
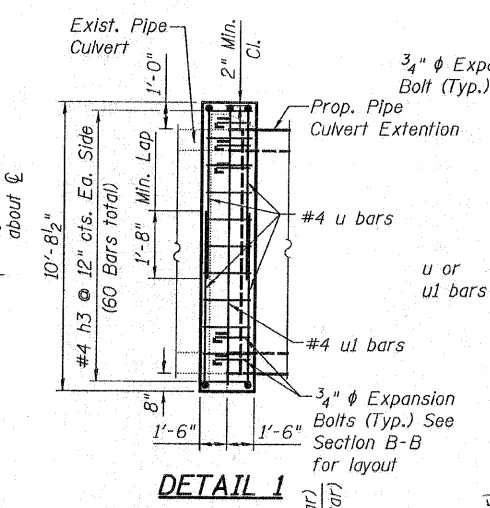


WATERWAY INFORMATION

Exist. Low Grade El. (US20) = 774.7 ft. at Sta. 652+10							
Drainage Area = 1.95 sq. miles							
Prop. Low Grade El. (Frontage Rd.) = 766.91 ft. at Sta. 155+51							
Flood	Freq. Year	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Ten-Year	10	720	44	761.71	2.12	2.22	763.83
Design	50	1136	44	763.40	2.14	2.23	765.54
Base	100	1313	44	765.30	2.15	2.24	767.45
Overtopping	>500						767.54

DESIGNED	J.ZUO/S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	J.ZUO/S.CHELBIAN
CHECKED	J.GRAINAWI

10 Year Velocity through Exist. Culvert = 8.15 fps 10 Year Velocity through Proposed Culvert = 8.15 fps



DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi
 fy = 60,000 psi (Reinf.)



Varies

See Bar Cutting Diagram

Varies

TOTAL BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b	2	5	21'-9"	
b1	2	4	37'-3"	
b2	4	4	34'-3"	
d	25	4	4'-3"	
h	2	5	45'-0"	
h1	8	4	11'-9"	
h2	6	4	12'-3"	
h3	60	4	1'-8"	
u	4	4	32'-7"	
u1	1	4	41'-3"	
v	12	5	18'-6"	
v1	2	5	11'-3"	
v2	4	5	12'-4"	
w	12	4	7'-11"	
w1	6	4	19'-5"	
Item	Unit	Quantity		

Removal and Disposal of Unsuitable Material for Structures	Cu.Yd.	146
Concrete Removal	Cu.Yd.	6.2
Concrete Structures	Cu.Yd.	14.2
Reinforcement Bars	Pound	1,020
Expansion Bolts, 3/4"	Each	38
Concrete Collar	Cu.Yd.	7.1
Pipe Culvert, Class C, Type 3 90"	Foot	67
Breaker-Run Crushed Stone	Ton	89

CULVERT EXTENSION
 FRONTAGE ROAD OVER
 EASTERN TRIBUTARY TO
 PECATONICA RIVER

F.A.P. ROUTE 301 SECTION 177-2-1A
 STEPHENSON COUNTY
 STATION 155+88.32
 STRUCTURE NO. 089-2025



Signed *Jamal Grainawi*
 Jamal I. Grainawi, S.E., IL. Lic. No. 81-5161
 Expires 11-30-2010

Date 1/25/2010



T:\16814A\Struct\Cadd\Profile\US20 Two Cell Culvert Extension_089-2025\000000-64789-000-001.dgn
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