

7612

TR.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	1

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

TR 336A (TROY ROAD  
OVER CANTEEN CREEK)  
SECTION 31BR  
STRUCTURE REPLACEMENT  
MADISON COUNTY  
C-98-002-02

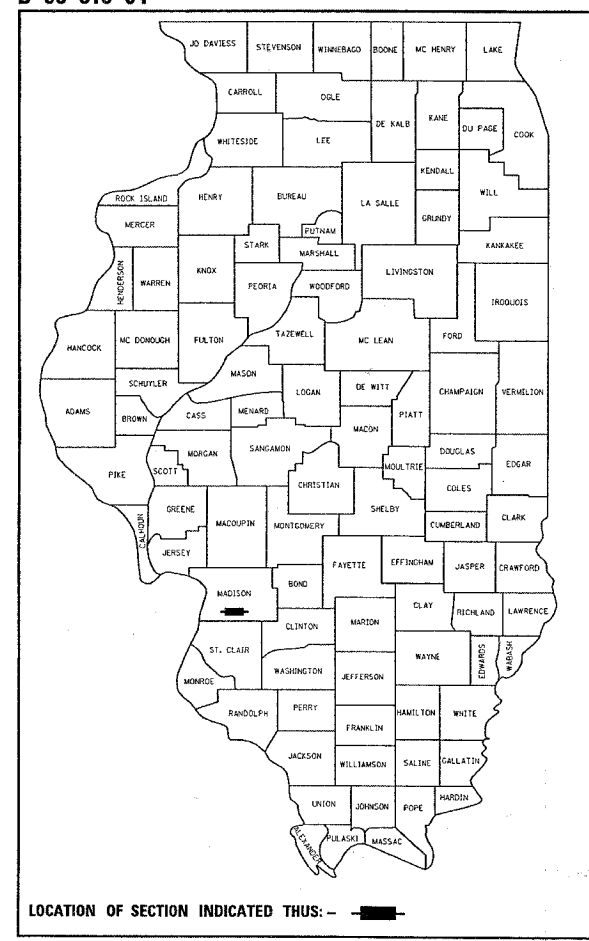
**INDEX OF SHEETS**

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7	CULVERT - CULVERT DETAILS
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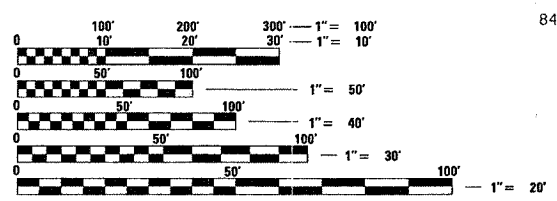
**STANDARDS**

000001-04	630001-06
280001-02	630301-03
482001	665001-01
542101	666001
542301	702001-06
	780001-01

D-98-010-04



MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS

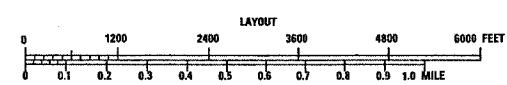
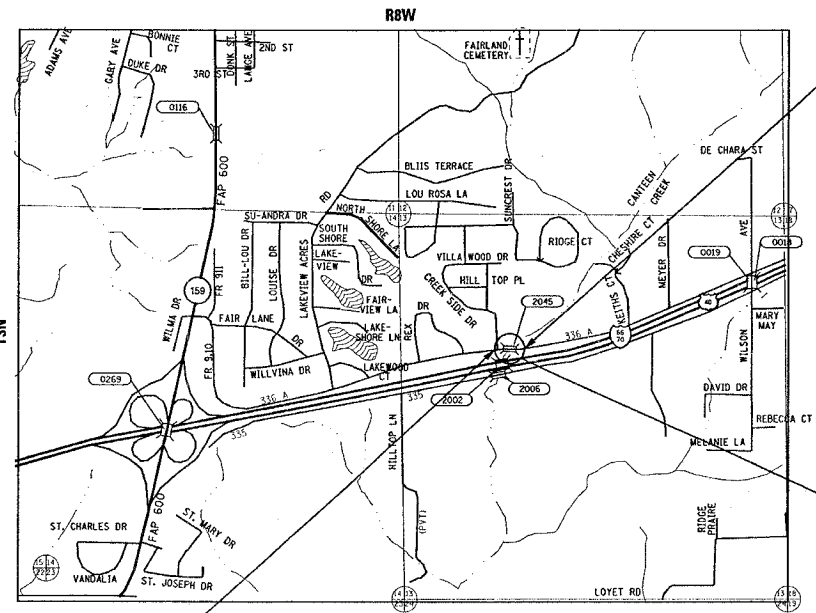


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

**DESIGN DESIGNATION**  
843 (05) LOCAL STREET (URBAN) 0.007 (FD-20)

**TRAFFIC DATA**  
ADT: 1100 (2006)  
ADT: 1500 (2026)  
SU: 1.8%  
MU: 0.5%



GROSS LENGTH = 200.0 FT = 0.0379 MILES  
NET LENGTH = 200.0 FT = 0.0379 MILES

LATITUDE: 38.701118 LONGITUDE: 89.941444

PROJECT ENGINEER: PATTI LeBEAU (618) 346-3179  
SQUAD CONTACT: ART MUEHLFELD (618) 346-3209

CONTRACT NO. 76121

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 27, 2006

Man Chami  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

May 12, 2006  
Mike Stone  
ENGINEER OF DESIGN AND ENVIRONMENT

May 12, 2006  
William P. Sees P.E.  
DIRECTOR, DIVISION OF HIGHWAYS

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

# SUMMARY OF QUANTITIES

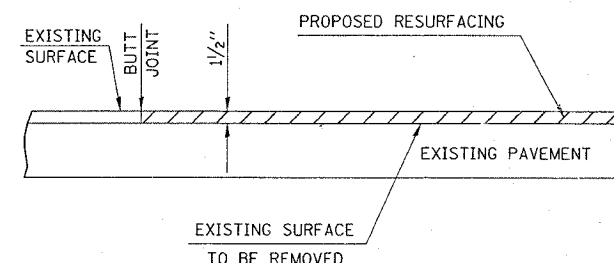
TR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	2
STA.	N/A	TO STA.	N/A	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	I000	X02B-2A
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	48	48	
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	46	46	
20200100	EARTH EXCAVATION	CU YD	414	414	
20200500	EARTH EXCAVATION (WIDENING)	CU YD	11	11	
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	97		97
20700220	POROUS GRANULAR EMBANKMENT	CU YD	97		97
25000200	SEEDING, CLASS 2	ACRE	0.25	0.25	
25100105	MULCH, METHOD 1	ACRE	0.25	0.25	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	17	17	
28000300	TEMPORARY DITCH CHECKS	EACH	8	8	
28100107	STONE RIPRAP, CLASS A4	SQ YD	450		450
28200200	FILTER FABRIC FOR USE WITH RIPRAP	SQ YD	450		450
31101200	SUB-BASE GRANULAR MATERIAL, TYPE B 4"	SQ YD	25	25	
31101400	SUB-BASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	159	159	
35600100	BITUMINOUS CONCRETE BASE COURSE WIDENING 6 INCHES	SQ YD	25	25	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.1	0.1	
40600300	AGGREGATE (PRIME COAT)	TON	0.4	0.4	
44000006	BITUMINOUS SURFACE REMOVAL 1 1/2"	SQ YD	245	245	
44000100	PAVEMENT REMOVAL	SQ YD	145	145	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	43	43	
48202600	BITUMINOUS SHOULDERS SUPERPAVE 8"	SQ YD	60	60	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50105220	PIPE CULVERT REMOVAL	FOOT	209	209	
<del>50200100</del>	<del>STRUCTURE EXCAVATION</del>	<del>CU YD</del>	<del>290</del>		<del>290</del>
50800105	REINFORCEMENT BARS	POUND	31980		31980
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	430		430
51500100	NAME PLATES	EACH	1		1
54003000	CONCRETE BOX CULVERTS	CU YD	168.3		168.3
54213663	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 18"	EACH	3	3	
54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1	1	
54215418	CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 18"	EACH	2	2	
54215424	CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 24"	EACH	1	1	
54248500	CONCRETE HEADWALLS	CU YD	30		30
54248510	CONCRETE COLLAR	CU YD	0.5	0.5	
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	27	27	

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	I000	X02B-2A
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	52	52	
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	169	169	
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	500	500	
* 63000025	STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES	FOOT	50	50	
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4	
66410400	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	FOOT	375	375	
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	10	10	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4	
67100100	MOBILIZATION	L SUM	1	1	
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1	
* 72000100	SIGN PANEL - TYPE 1	SQ FT	5	5	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	824	824	
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	41	41	
X4066614	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	TON	80	80	
78200410	GUARDRAIL MARKERS, TYPE A	EACH	10	10	
78200530	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	

## PAVEMENT MIX

MIXTURE USE	SURFACE	BSE CSE	BINDER	SHOULDERS
AC/PG	PG 64-22	PG 58-22	PG 64-22	PG 58-22
RAP % (MAX)	15%	30%	15%	30%
DESIGN AIR VOIDS	4.0% @ Ndes=50	2.0% @ Ndes=50	4.0% @ Ndes=50	2.0% @ Ndes=30
MIX COMPOSITION (GRADATION MIXTURE)			IL 19.0	
FRICTION AGG.	MIXTURE C	BSE CSE	MIXTURE B	BAM



**MILLING DETAIL**  
 STA. 42+20 TO STA. 42+75  
 STA. 43+65 TO STA. 44+20

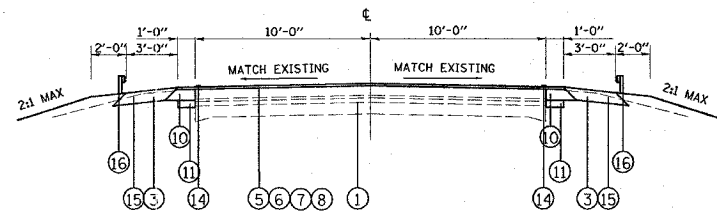
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SUMMARY OF QUANTITIES, PVMT MIX & MILLING DETAIL**  
 TR 336A  
 SECTION 31BR  
 MADISON COUNTY  
 DRAWN BY  
 CHECKED BY  
 DATE

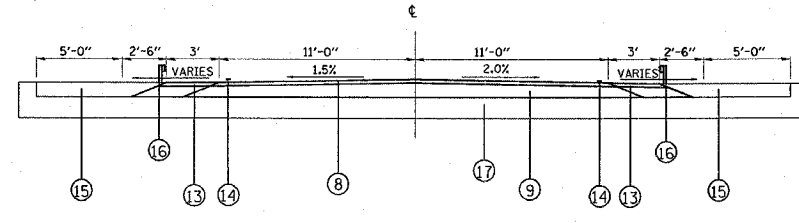
PLT DATE = 3/14/2006  
 FILE NAME = I:\Projects\2005\336A\31BR\SummaryQuantities.dgn  
 PLOT SCALE = 43.9997 / IN.  
 REFERENCE = #REF#

\*SPECIALTY ITEMS

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	3
STA.	N/A	TO STA.	N/A	
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT				

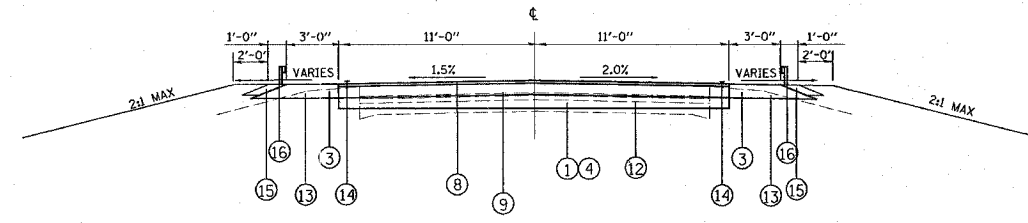


**PROPOSED TYPICAL SECTION**  
 STA. 42+20.00 TO STA. 42+75.00  
 STA. 43+65.00 TO STA. 44+20.00

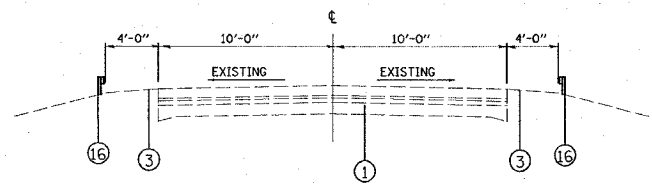


**PROPOSED TYPICAL SECTION**  
 STA. 43+07.50 TO STA. 43+32.50

NOTES: EXTEND BITUMINOUS CONCRETE BINDER TO TOP OF CULVERT.



**PROPOSED TYPICAL SECTION**  
 STA. 42+75.00 TO STA. 42+97.50  
 STA. 43+42.50 TO STA. 43+65.00



**PROPOSED TYPICAL SECTION**  
 STA. 41+34.50 TO STA. 42+20.00 RT.  
 STA. 42+09.50 TO STA. 42+20.00 LT.  
 STA. 44+20.00 TO STA. 44+34.50 RT.  
 STA. 44+20.00 TO STA. 45+09.50 LT.

**LEGEND**

- ① EXISTING PAVEMENT - PCC BASE WITH SAND (6 1/2"), RED BRICK (1 1/2"), AND BITUMINOUS CONCRETE WEARING SURFACE (5 1/2")
- ② EXISTING APPROACH PAVEMENT - PCC BASE WITH REBAR (1 1/4"), RED BRICK (2 1/2"), AND BITUMINOUS CONCRETE WEARING SURFACE (7 1/2")
- ③ EXISTING AGGREGATE SHOULDER
- ④ PROPOSED PAVEMENT REMOVAL
- ⑤ PROPOSED BITUMINOUS SURFACE REMOVAL, 1 1/2" (SEE MILLING DETAIL - SHEET 2)
- ⑥ PROPOSED AGGREGATE (PRME COAT)
- ⑦ PROPOSED BITUMINOUS MATERIAL (PRIME COAT)
- ⑧ PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50 1 1/2"
- ⑨ PROPOSED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, MIX B, N50, 6 1/2"
- ⑩ PROPOSED BITUMINOUS CONCRETE BASE COURSE WIDENING, 6"
- ⑪ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B 4"
- ⑫ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B 6"
- ⑬ PROPOSED BITUMINOUS SHOULDER, SUPERPAVE 8"
- ⑭ PROPOSED PAVEMENT MARKING
- ⑮ PROPOSED AGGREGATE SHOULDERS, TYPE B
- ⑯ PROPOSED STEEL PLATE BEAM GUARD RAIL, TYPE A
- ⑰ PROPOSED DOUBLE BOX CULVERT, 11'X11'

**GENERAL NOTES**

1. SAW CUTTING ON ALL EDGES FOR REMOVAL ITEMS SHALL BE INCLUDED IN THE COST OF THE REMOVAL ITEM AS INDICATED AND IN ACCORDANCE WITH SECTION 400 OF THE STANDARD SPECIFICATIONS.
  2. EXCESS BITUMEN REMOVAL SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
  3. THE THICKNESS OF BITUMINOUS SURFACE REMOVAL, 1 1/2", IS THE NOMINAL THICKNESS AT THE C OF THE ROADWAY. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE. BITUMINOUS SURFACE REMOVAL HAS BEEN INCLUDED IN THE PLANS FOR USE IN ESTABLISHING THE PAVEMENT CROSS SLOPE AND REMOVING SURFACE IRREGULARITIES.
  4. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING BY CALLING J.U.L.I.E. AND BY NOTIFYING NON-J.U.L.I.E. MEMBERS INDIVIDUALLY. FIELD MARKING OF FACILITIES MY ALSO BE OBTAINED BY PROVIDING A MINIMUM OF 96-HOURS ADVANCE NOTICE TO THE RESIDENT ENGINEER SO THAT UTILITY COMPANIES CAN BE NOTIFIED. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
    - SBC
    - CITY OF TROY
    - AMEREN IP
    - VILLAGE OF CASEYVILLE
    - CHARTER COMMUNICATIONS, INC
    - CITY OF COLLINSVILLE
    - VILLAGE OF MARYVILLE
    - CENTERPOINT ENERGY
    - AT&T CORPORATION
- MEMBERS OF J.U.L.I.E. 1-800-892-0123 ARE INDICATED BY •. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

**EROSION CONTROL**

1. THE PLANS INCLUDE ESTIMATED QUANTITIES FOR TEMPORARY EROSION CONTROL ITEMS. THESE ARE THE WORST CASE ESTIMATES, AND DISTURBANCE OF AREAS BEYOND THE LIMITS OF ACTUAL IMPROVEMENT ARE TO BE HELD TO A MINIMUM.
2. FINAL SEEDING (UTILIZING CLASS 2 SEEDING AND METHOD 1 MULCH) SHALL BE PERFORMED AS SOON AS POSSIBLE. ALL AREAS DISTURBED FOR ANY REASON SHALL BE SEEDED WITH CLASS 2SEEDING, AS DIRECTED BY THE ENGINEER. NUTRIENTS SHALL CONFORM TO ARTICLE 250.04 AND WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF "SEEDING, CLASS 2".
3. STRAW BALES, HAY BALES, PERIMETER EROSION BARRIER AND SILT FENCES WILL NOT BE PERMITTED FOR TEMPORARY DITCH CHECKS. DITCH CHECKS SHALL BE COMPOSED OF AGGREGATE, SILT PANELS, ROLLED EXCELSIOR, URETHANE FOAM/GEOTEXTILE (SILT WEDGES), EARTH MEDIAN AND/OR MATERIAL APPROVED BY THE EROSION AND SEDIMENT CONTROL COORDINATOR.
4. TEMPORARY DITCH CHECKS, GEOTEXTILES, ROLLED EXCELSIOR, SILT WEDGES, PANELS SHALL BE LOCATED AT EVERY 15 FT FALL/RISE IN DITCH GRADE.  
 TEMPORARY DITCH CHECK AGGREGATE USES GRADING NO. 3 - REMOVE AT OF CONSTRUCTION
5. TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS/ACRES.
6. TEMPORARY SEEDING ANS MULCH SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND SHALL BE IN ACCORDANCE WITH SECTION 250 OF THE STANDARD SPECIFICATION.
7. MULCH METHOD 1 AS APPLIED TO TEMPORARY SEEDING SHALL CONFORM TO SECTION 261 OF THE STANDARD SPECIFICATIONS. MULCH WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE FOR TEMPORARY SEEDING.
8. CONSTRUCT PERIMETER EROSION CONTROL AT BEGINNING OF CONSTRUCTION REMOVE AT END OF CONSTRUCTION.
9. ALL EROSION CONTROL PRODUCTS SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN PRIOR TO THE APPROVAL AND USE OF THE PRODUCT. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTORIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

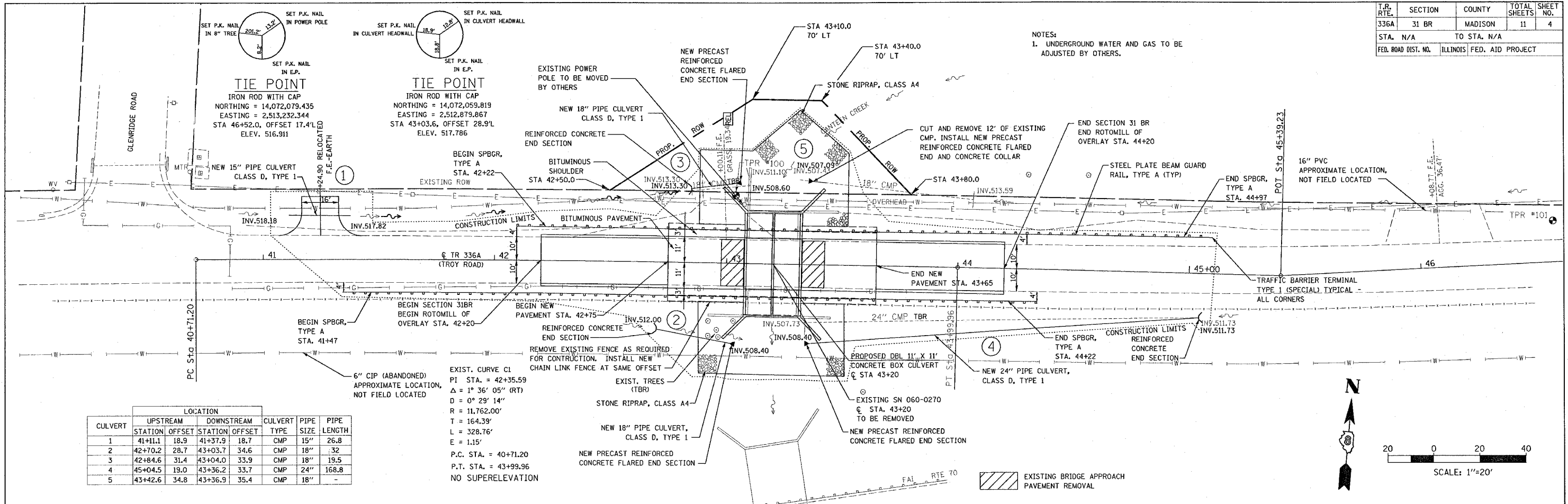
**COMMITMENTS**  
 NONE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TYPICAL SECTIONS AND  
 GENERAL NOTES**  
 TR 336A  
 SECTION 31BR  
 MADISON COUNTY

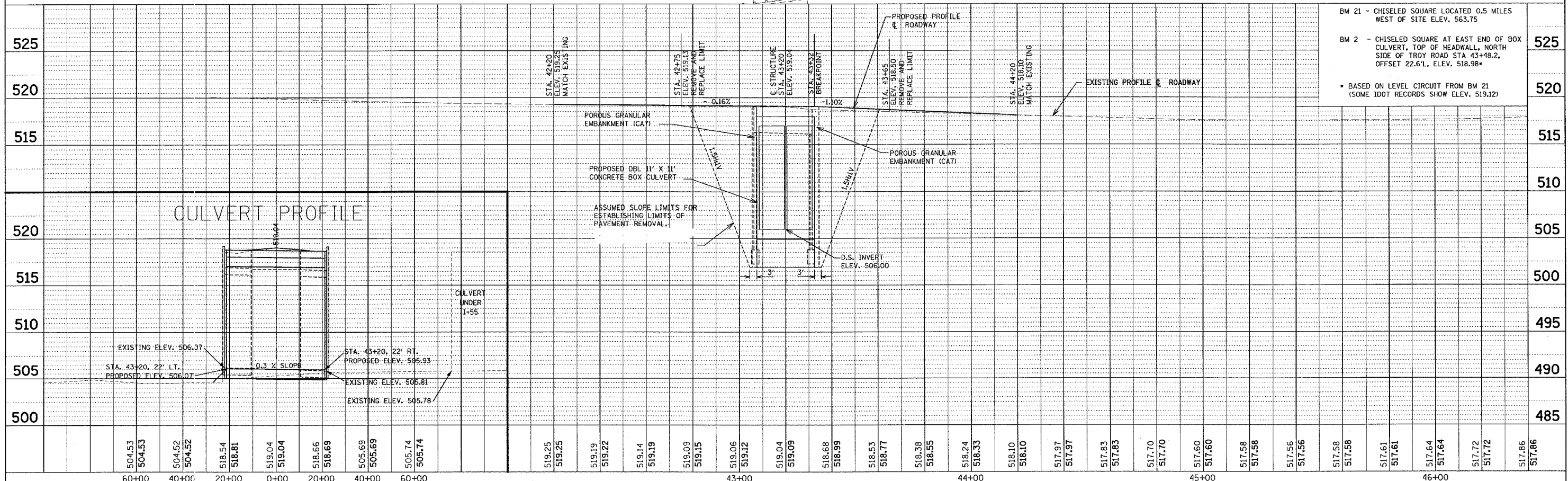
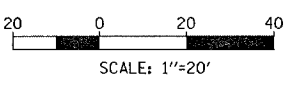
DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31 BR	MADISON	11	4
STA. N/A	TO STA. N/A			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



CULVERT	LOCATION				CULVERT TYPE	PIPE SIZE	PIPE LENGTH
	UPSTREAM STATION	UPSTREAM OFFSET	DOWNSTREAM STATION	DOWNSTREAM OFFSET			
1	41+11.1	18.9	41+37.9	18.7	CMP	15"	26.8
2	42+70.2	28.7	43+03.7	34.6	CMP	18"	32
3	42+84.6	31.4	43+04.0	33.9	CMP	18"	19.5
4	45+04.5	19.0	43+36.2	33.7	CMP	24"	168.8
5	43+42.6	34.8	43+36.9	35.4	CMP	18"	-

EXIST. CURVE C1  
 PI STA. = 42+35.59  
 $\Delta = 1^\circ 36' 05''$  (RT)  
 $D = 0^\circ 29' 14''$   
 $R = 11,762.00'$   
 $T = 164.39'$   
 $L = 328.76'$   
 $E = 1.15'$   
 P.C. STA. = 40+71.20  
 P.T. STA. = 43+99.96  
 NO SUPERELEVATION



BM 21 - CHISELED SQUARE LOCATED 0.5 MILES WEST OF SITE ELEV. 563.75  
 BM 2 - CHISELED SQUARE AT EAST END OF BOX CULVERT, TOP OF HEADWALL, NORTH SIDE OF TROY ROAD STA 43+48.2, OFFSET 22.6'L, ELEV. 518.98\*  
 \* BASED ON LEVEL CIRCUIT FROM BM 21 (SOME IDOT RECORDS SHOW ELEV. 519.12)

PLAN SURVEYED, PLOTTED, CHECKED, REVISIONS, DATE, BY, NO. OF SHEETS, DATE OF WAY CREATION, CAD FILE NAME

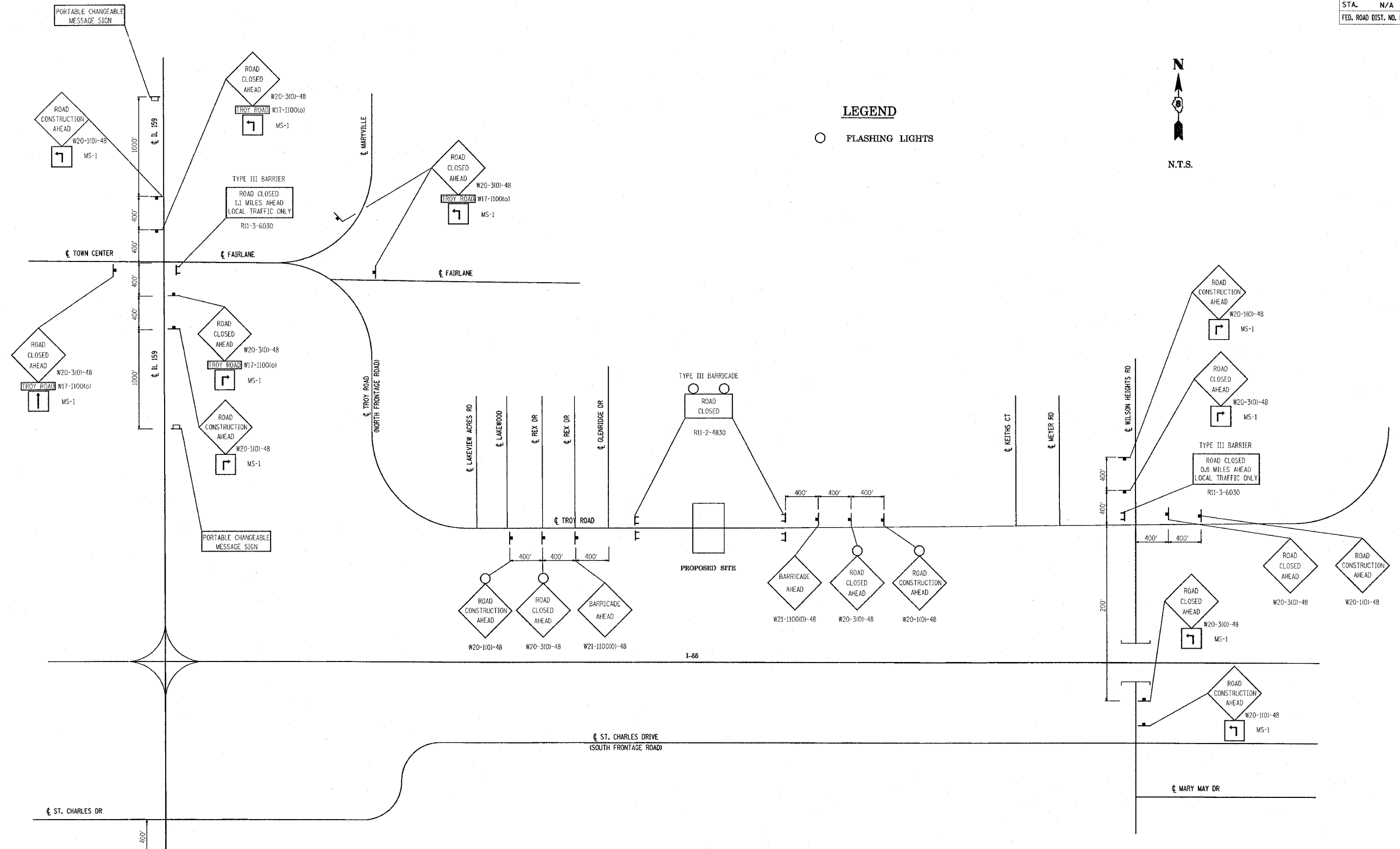
PROFILE SURVEYED, PLOTTED, CHECKED, REVISIONS, DATE, BY, NO. OF SHEETS, DATE OF WAY CREATION, STRUCTURE NOTATIONS CHECKED

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	5
STA.	N/A	TO STA.	N/A	
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT				



**LEGEND**

○ FLASHING LIGHTS



\* SIGN SHALL HAVE FLUORESCENT ORANGE BACKGROUND AND 6" BLACK LETTERS.

TROY ROAD CLOSED AHEAD USE SOUTH FRONTAGE ROAD

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL & PROTECTION**  
 DETOUR SIGNING  
 TR 336A  
 SECTION 31BR  
 MADISON COUNTY

DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	6
STA. N/A		TO STA. N/A		
FED. ROAD DIST. NO. 8		ILLINOIS FED. AID PROJECT		
Contract No. 76121				

**EXISTING STRUCTURE:**

S.N. 060-0270. Original structure is a simple open-span structure, 16' wide, reinforced concrete slab deck supported by concrete abutments, built prior to 1911. The original structure was widened to 20' in 1911 under FA Section P-15d and widened again with a double box culvert, with two 10' x 10' cells on each side in 1931 under SBI II Section 47-B. Existing structure will be removed and replaced with a cast-in-place double box culvert with two 11' x 11' cells. The existing road will be closed to through traffic during construction and detours provided.

Salvage: No salvage.

**STRUCTURAL NOTES:**

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

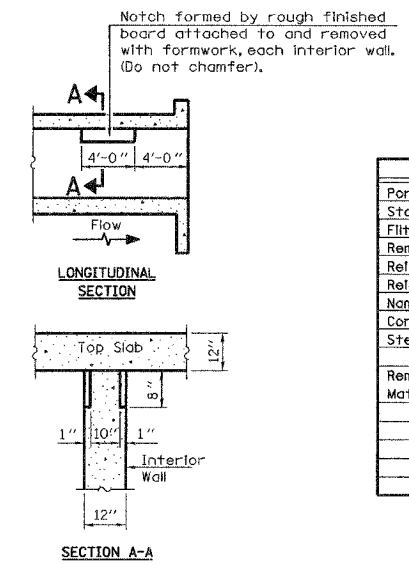
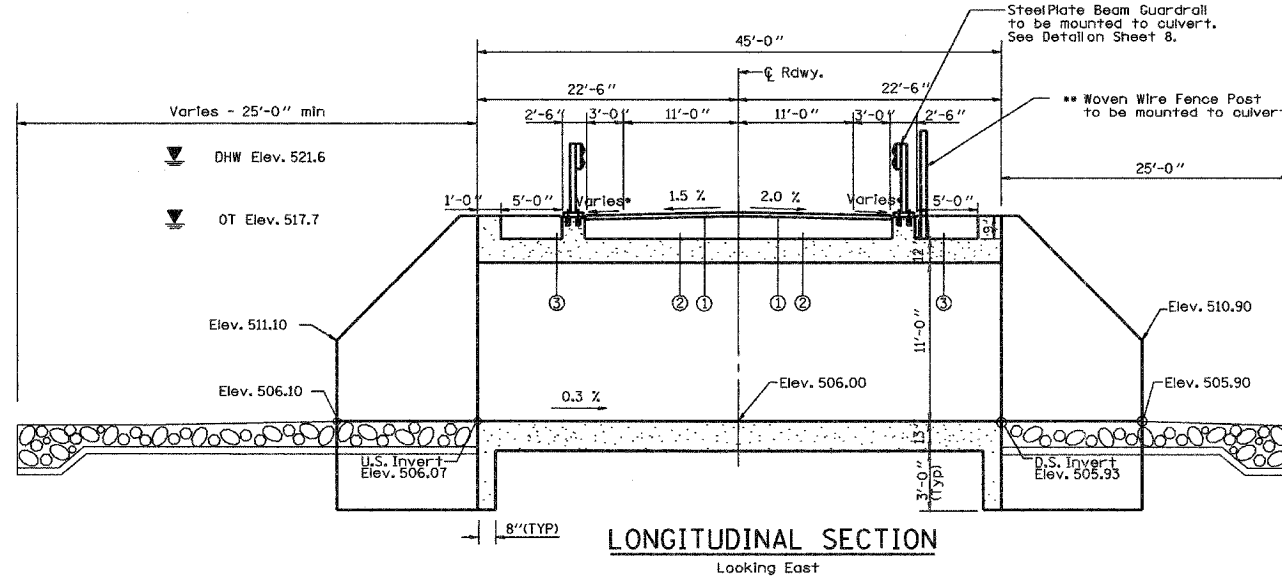
All construction joints shall be bonded.

Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.

Precast alternate is not allowed.

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwall.

Excavation behind existing side walls shall be done before removing the existing top slab.



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	CU YD	97
Stone Riprap, Class A4	SQ YD	450
Filter Fabric	SQ YD	450
Removal of Existing Structures	Each	1
Reinforcement Bars, Epoxy Coated	Pound	31980
Reinforcement Bars, Epoxy Coated	Pound	430
Name Plates	Each	1
Concrete Box Culverts	CU YD	168.3
Steel Plate Beam Guardrail, Attached to Structures	Foot	50
Removal and Disposal of Unsuitable Material	CU YD	97

**LOADING HS20-44**

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

**DESIGN SPECIFICATIONS**

1996 AASHTO WITH 1997 THROUGH 2002 INTERIMS

**DESIGN STRESSES**

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

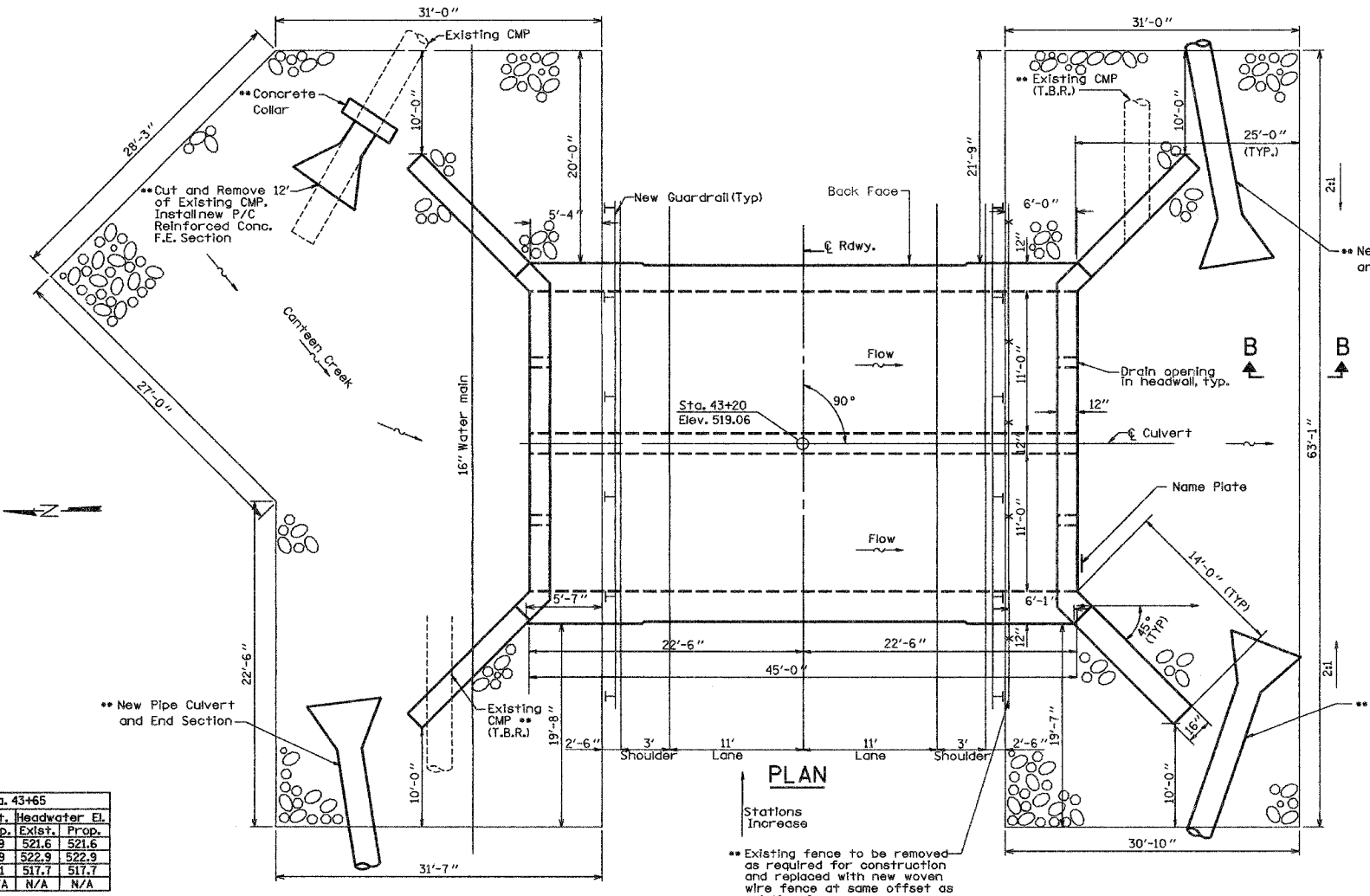
CANTEEN CREEK  
 BUILT 200 BY  
 STATE OF ILLINOIS  
 MADISON COUNTY  
 SEC. 31BR  
 STA. 43+20.00  
 STR. NO. 060-2045 LOADING HS20-44

**NAME PLATE**  
 See Std. 515001

**WATERWAY INFORMATION**

Drainage Area = 4.08 sq. mi Low Grade Elev. 518.5 @ Sta. 43+65

Flood Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	50	732	200.0	242.0	518.7
Base	100	850	200.0	242.0	519.0
Overtopping	6	398	200.0	242.0	516.6
Max. Calc.	500	N/A	N/A	N/A	N/A

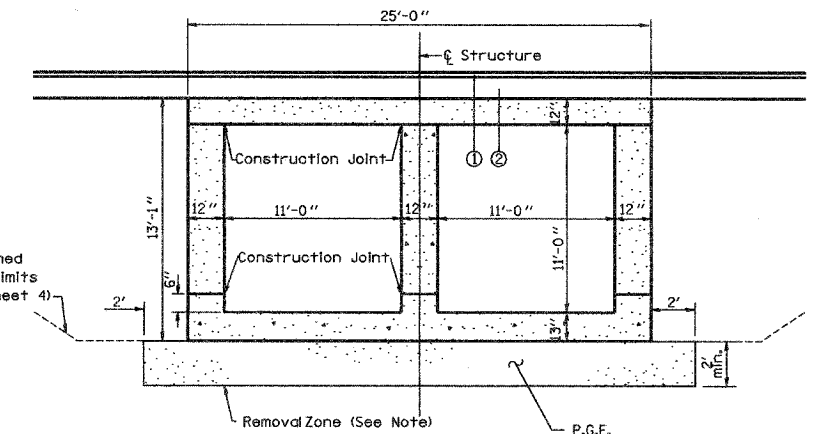
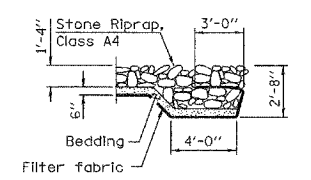


**SECTION A-A PHOEBE NESTING SITE DETAILS (Downstream End Only)**

Shoulder Slope varies from 2.0% to 4.0%

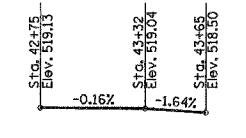
**LEGEND**

- ① Proposed Bituminous Concrete Surface Course \*\*
- ② Proposed Bituminous Concrete Binder Course \*\*
- ③ Proposed Aggregate Shoulders \*\*



Note: Remove two feet of soil beneath the footprint of the box culvert. The footprint will extend two feet beyond the perimeter of the culvert. The contractor shall replace with Porous Granular Embankment. Excavation shall be paid for as Removal and Disposal of Unsuitable Material.

**PROFILE GRADE**  
 along roadway



DESIGNED	<i>Tom Kutsch</i>
CHECKED	<i>R. J. ...</i>
DRAWN	CKB / SDH
CHECKED	TJK PDC

EXAMINED	<i>Thomas J. ...</i>	MAY 3, 2006
PASSED	<i>Robert E. ...</i>	

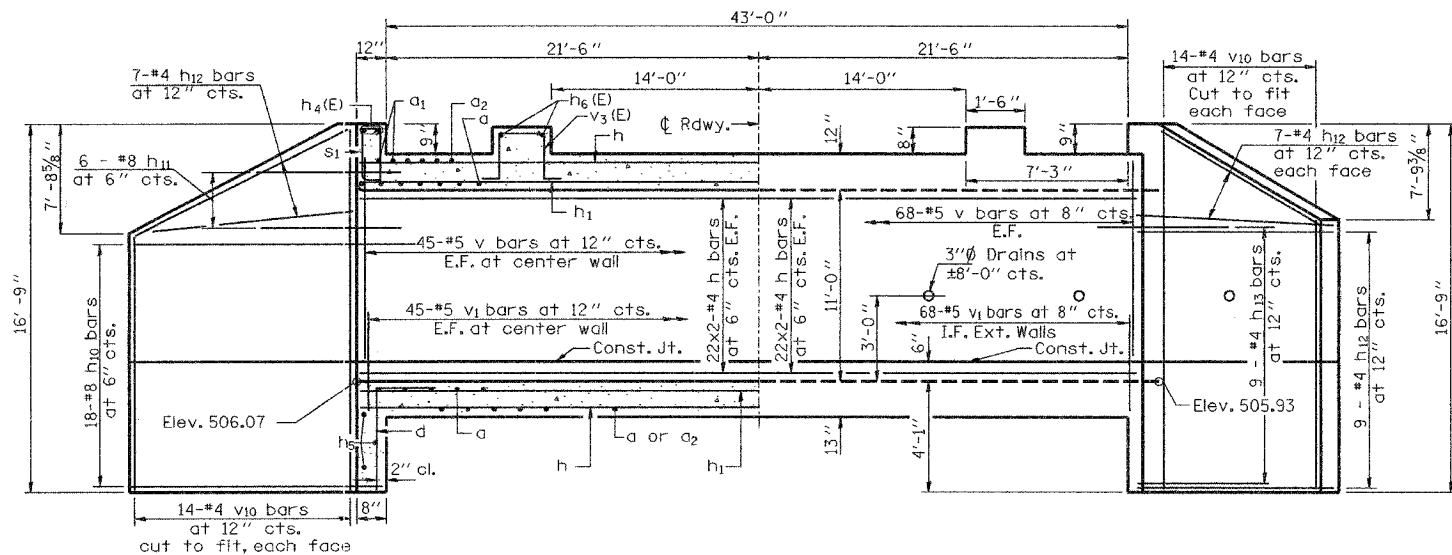


EXPIRES 11-30-2006

Drawing Not to Scale

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CULVERT GENERAL PLAN**  
 STRUCTURE NO. 060-2045  
 TR 336A  
 SECTION 31BR  
 MADISON COUNTY  
 DRAWN BY  
 CHECKED BY  
 DATE

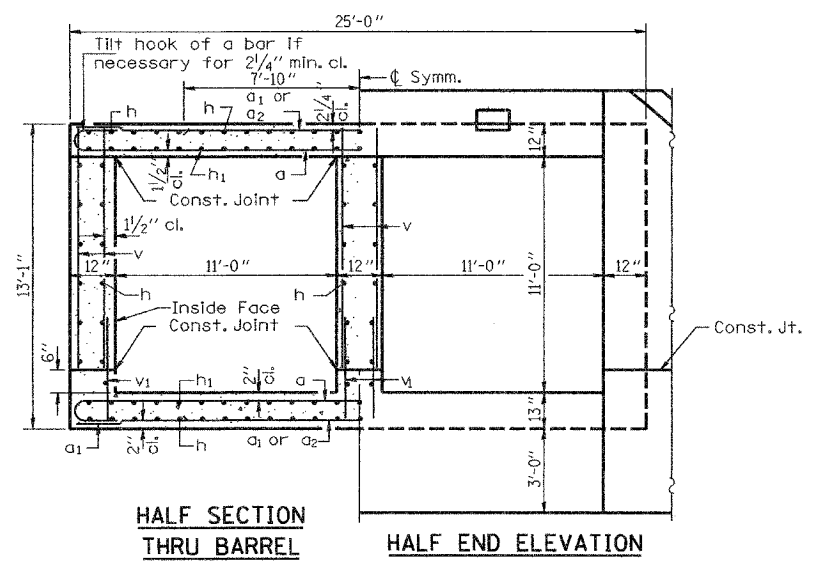


**HALF LONG SECTION**  
Showing bars in Center Wall

**HALF ELEVATION**  
Showing bars in Outside Wall

**REINFORCEMENT FRONT FACE**

**REINFORCEMENT BACK FACE**

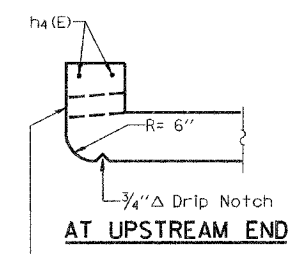


**HALF SECTION THRU BARREL**

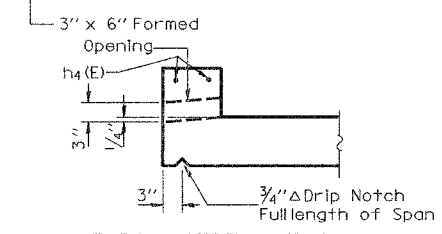
**HALF END ELEVATION**

**CONCRETE BOX CULVERT BILL OF MATERIAL**

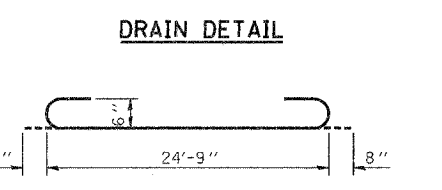
Bar	No.	Size	Length	Shape
a	154	#6	26'-1"	C
a1	60	#6	24'-9"	—
a2	116	#6	15'-8"	—
d	48	#5	5'-6"	—
h	364	#4	23'-6"	—
h1	100	#6	24'-0"	—
h4(E)	4	#6	24'-9"	—
h5	6	#5	24'-9"	—
h6(E)	4	#5	24'-8"	—
h10	72	#8	17'-2"	—
h11	24	#8	8'-0"	—
h12	92	#4	13'-8"	—
h13	36	#4	8'-0"	—
s	24	#4	4'-11"	D
s1	24	#4	4'-9"	D
v	362	#5	11'-3"	—
v1	226	#5	3'-6"	—
v3(E)	50	#4	5'-5"	—
v10	112	#4	16'-5"	—
v11	2	#4	3'-6"	—
Concrete Box Culverts	Cu. Yd.		168.3	
Reinforcement Bars, Epoxy Coated	Pound		430	
Reinforcement Bars	Pound		31980	



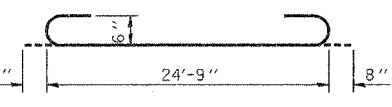
**AT UPSTREAM END**



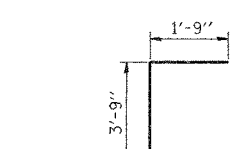
**AT DOWNSTREAM END**



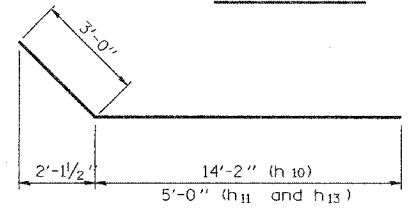
**DRAIN DETAIL**



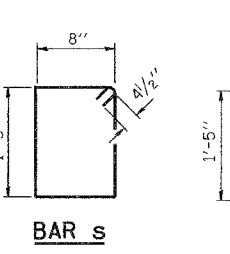
**BAR a**



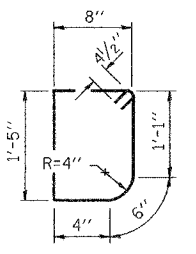
**BAR d**



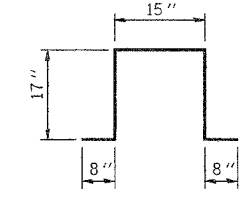
**BAR h10, h11 & h13**



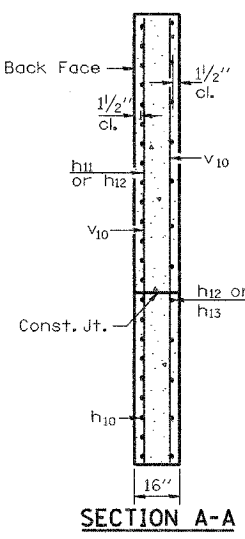
**BAR s**



**BAR s1**

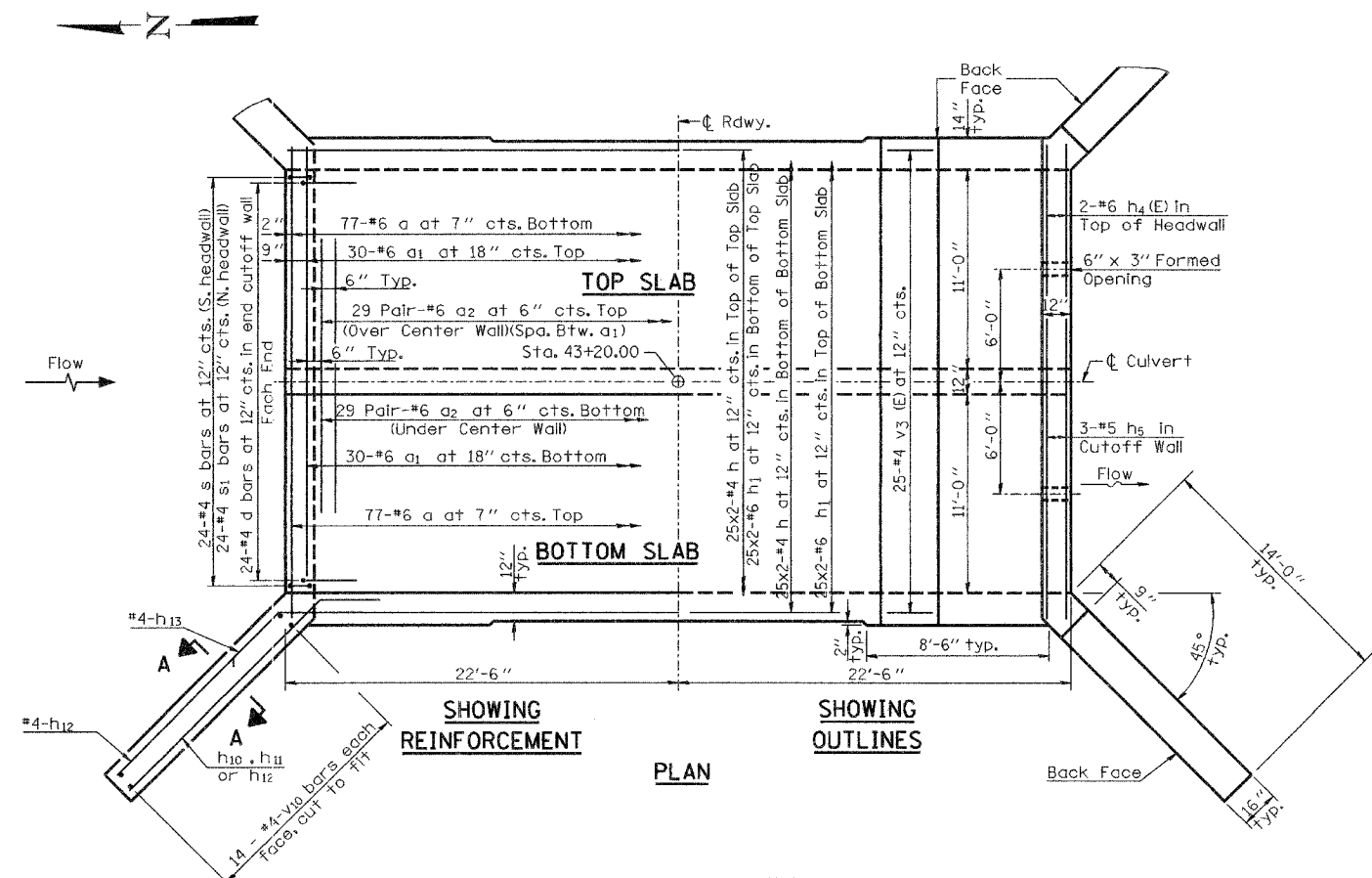


**BAR v3(E)**



**SECTION A-A**

**MINIMUM BAR LAP**  
#4 bars = 1'-4"  
#6 bars = 2'-0"



**SHOWING REINFORCEMENT**

**SHOWING OUTLINES**

**PLAN**

Notes:  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.  
E.F. = Each Face  
I.F. = Inside Face  
The Northeast wingwall and the 16" water main intersect. See detail on sheet 8.

DESIGNED Tom L. Kurtenbach  
CHECKED Pat D. Claussen  
DRAWN JTC  
CHECKED TLC / PDC

May 3, 2006  
EXAMINED Thomas J. Damagalki  
PASSED Ralph E. Anderson

Drawing not to Scale

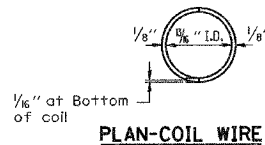
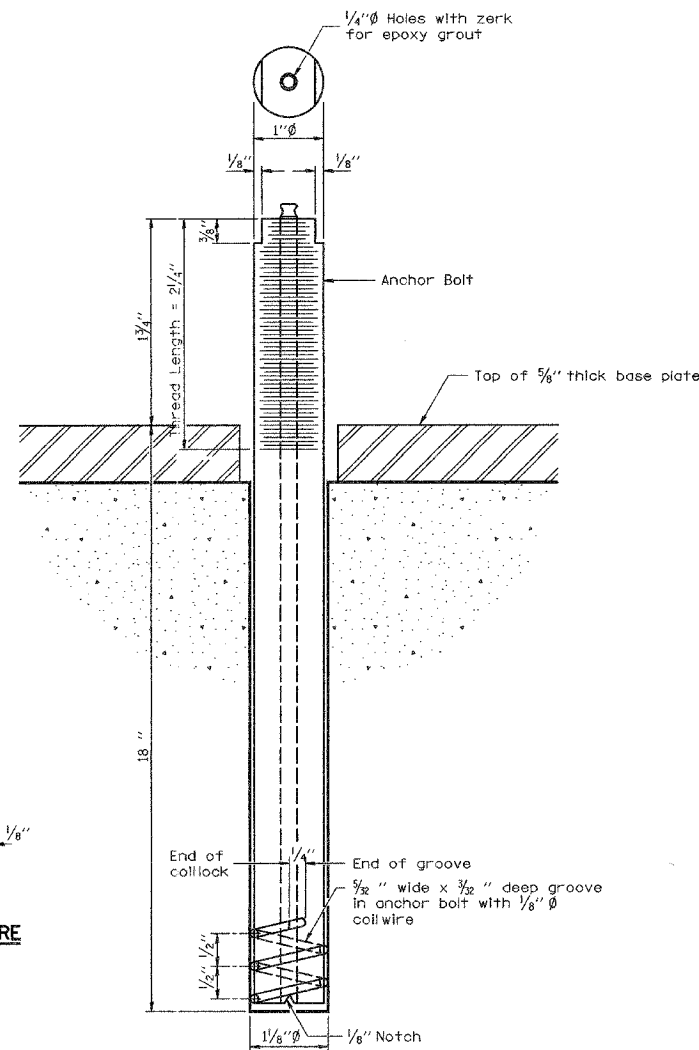
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CULVERT**  
**CULVERT DETAILS**  
STRUCTURE NO. 060-2045  
TR 336A  
SECTION 31BR  
MADISON COUNTY

DATE  
DRAWN BY  
CHECKED BY

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	8
STA.	N/A	TO STA.	N/A	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Contract #76121



**ILLINOIS COIL-LOCK ANCHOR BOLT**

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted. Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming. The anchor bolts, furnished and installed including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Steel Plate Beam Guardrail Attached to Structures.

**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers. The coil wire shall be made of any suitable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade I and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

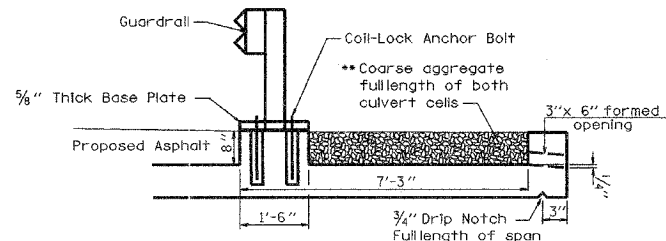
1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:  
 1. A threaded rod stud with nut and washer of the type specified.  
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Guardrail	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.



**DRAIN OPENING AND GUARDRAIL DETAIL**

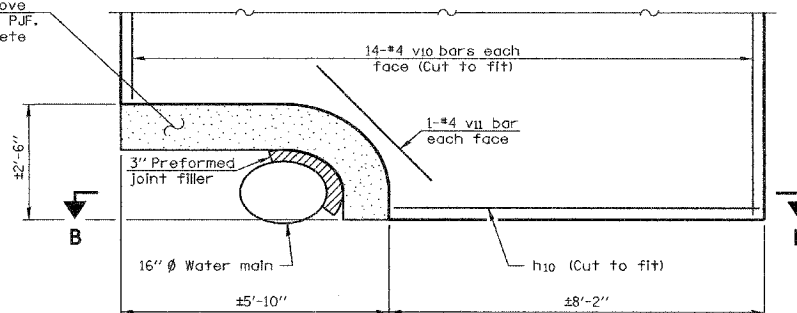
Notes:  
 Attachment of guardrail shall be accomplished by drilling and then epoxy grouting anchor bolts into the slab. Drilling through the entire slab will not be allowed.  
 See Std. 630101 for additional details.

DESIGNED	Tom L. Kurtenbach
CHECKED	Pat D. Claussen
DRAWN	JTC
CHECKED	TLC / PDC

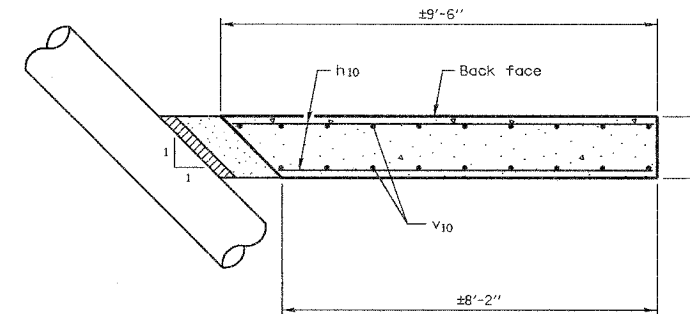
EXAMINED	Thomas J. Demagala ENGINEER OF CIVIL DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

\*\* See roadway plans.

Provide 4'-0" PGE cover above and around water main and P.U.F. Cost is included with Concrete Box Culverts.

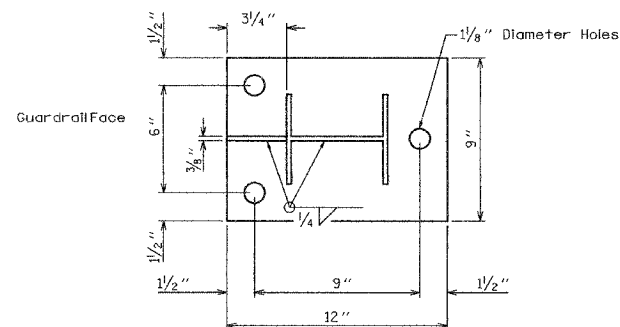


**NORTHEAST WINGWALL DETAIL**  
(Showing water main passing through)



**SECTION B-B**

Note:  
 Opening dimensions are approximate. Location of water main shall be field verified. Place 3" preformed joint filler between water main and wingwall. Cost included with Concrete Box Culverts.



**5/8" THICK BASE PLATE DETAIL**

Drawing not to Scale

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CULVERT**  
**GUARDRAIL DETAILS**  
 STRUCTURE NO. 060-2045  
 TR 336A  
 SECTION 31BR  
 MADISON COUNTY

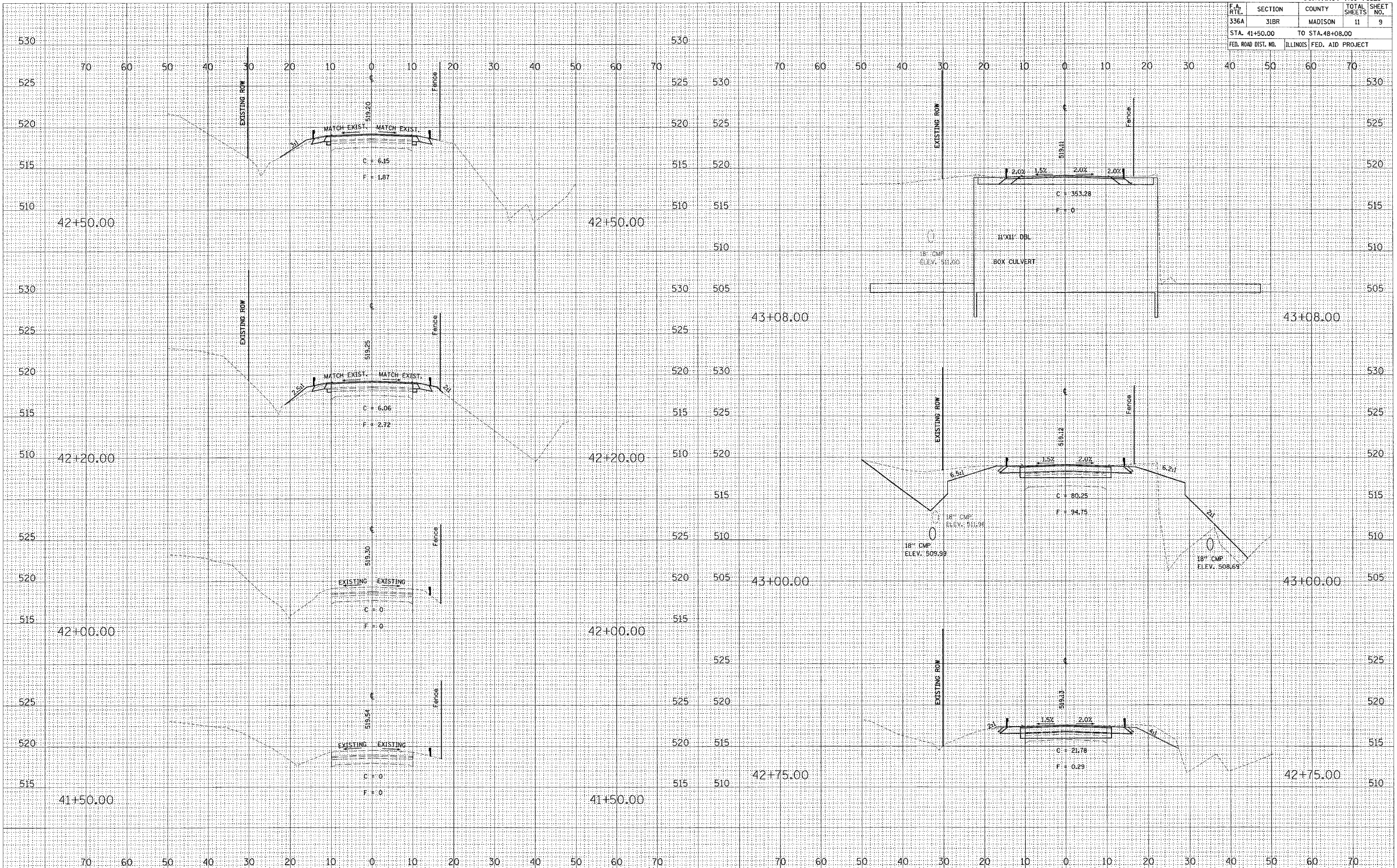
DATE

DRAWN BY  
 CHECKED BY

P-98-042-98



F.A. R/F	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	9
STA. 41+50.00 TO STA. 48+08.00				
FED. ROAD DIST. NO. ILLINOIS			FED. AID PROJECT	



DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 ORIGINAL SURVEY: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 PLOTTED: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 ORIGINAL SURVEY: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 PLOTTED: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

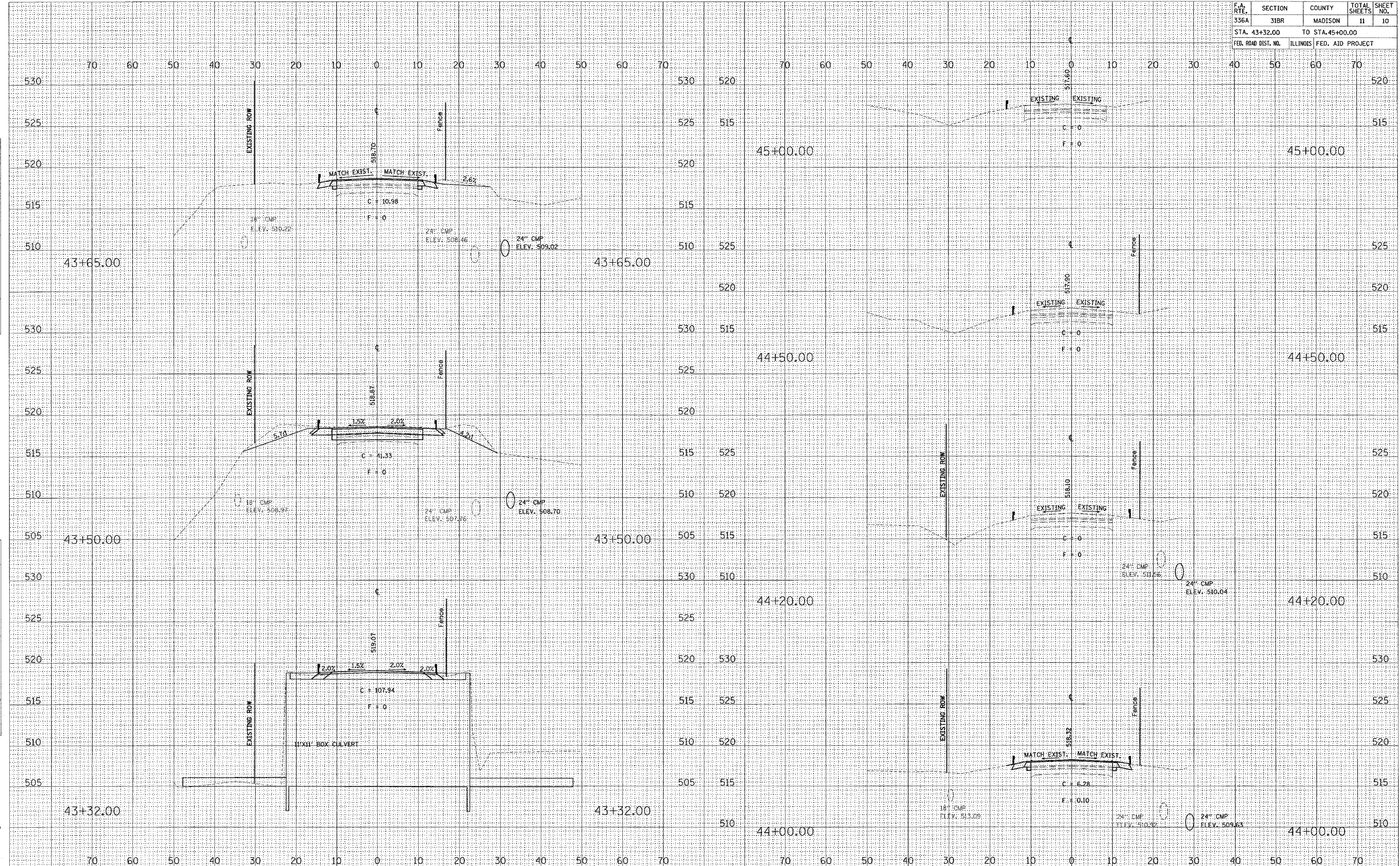
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 USER NAME: gpaluh

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336A	31BR	MADISON	11	10
STA. 43+32.00		TO STA. 45+00.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	DATE
SURVEYED	
NOTE BOOK	
TEMP. PLATE	
AREAS CHECKED	
NO.	

ORIGINAL SURVEY	DATE
SURVEYED	
NOTE BOOK	
TEMP. PLATE	
AREAS CHECKED	
NO.	

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 USER NAME = gcluh



TROY ROAD STATION 43+32.00 TO STATION 45+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA. 41+24.95		TO STA. 43+20.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DATE	
BY	
FINAL SURVEY	
REVISION	
NOTED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
REVISION	
NOTED	
NO.	

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