

Benchmark: #33 Iron Rod with cap, 24'-5 5/8" Lt.; B.N.S.F. Sta. 1010+79.14 (N 1,376,589.403, E 2,138,781.303) El. 692.74
 Existing Structure: None. B.N.S.F. R.R. traffic will be maintained on shoofly constructed south of existing alignment.

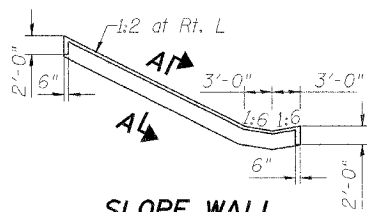
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A.P. 315	55-2	McDONOUGH	1025	501	16 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

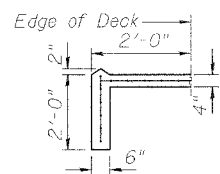
Contract # 68205

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Total Bill of Material, General Notes, & Substructure Layout
- 3 Deck Details
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- 8 Anchor Bolt Details
- 9 West Abutment Details
- 10 West Abutment and Wing Wall Reinforcement
- 11 East Abutment Details
- 12 East Abutment and Wing Wall Reinforcement
- 13-16 Boring Logs



SLOPE WALL



SECTION A-A

CURVE R-1C1
 P.I. STA= 27+81.20
 $\Delta = 36^\circ 41' 16''$ RT.
 $D = 5^\circ 43' 46''$
 $R = 1,000.00'$
 $T = 331.57$
 $L = 640.32$
 $E = 53.54$
 P.C. STA= 24+49.64
 P.T. STA= 30+89.96

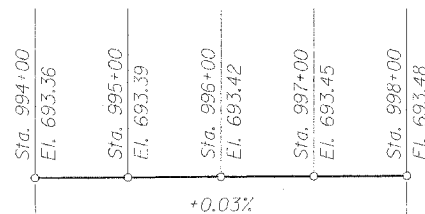
HORIZONTAL
 CURVE DATA

B.N.S.F. R.R.
 BUILT 20-- BY
 STATE OF ILLINOIS
 F.A.P. RTE. 315 SEC. 55-2
 STA. 21+61.48
 LOADING COOPER'S E-80
 STR. NO. 055-9902

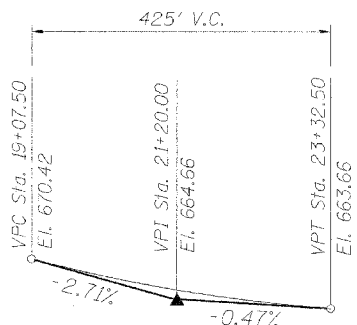
NAME PLATE
 See Std. 515001

Structure to be owned and
 maintained by State of Illinois
 Department of Transportation.

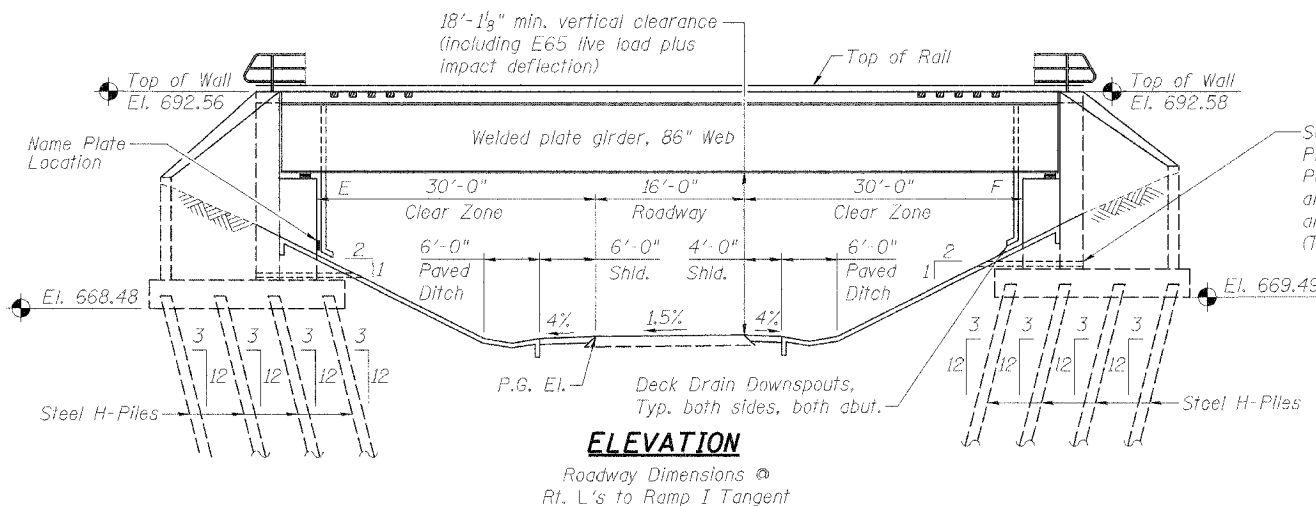
DESIGNED	P.J.L
CHECKED	W.D.L
DRAWN	M.G.M
CHECKED	P.J.L



TOP OF RAIL ELEVATIONS
 B.N.S.F. R.R.
 Showing Proposed Grade

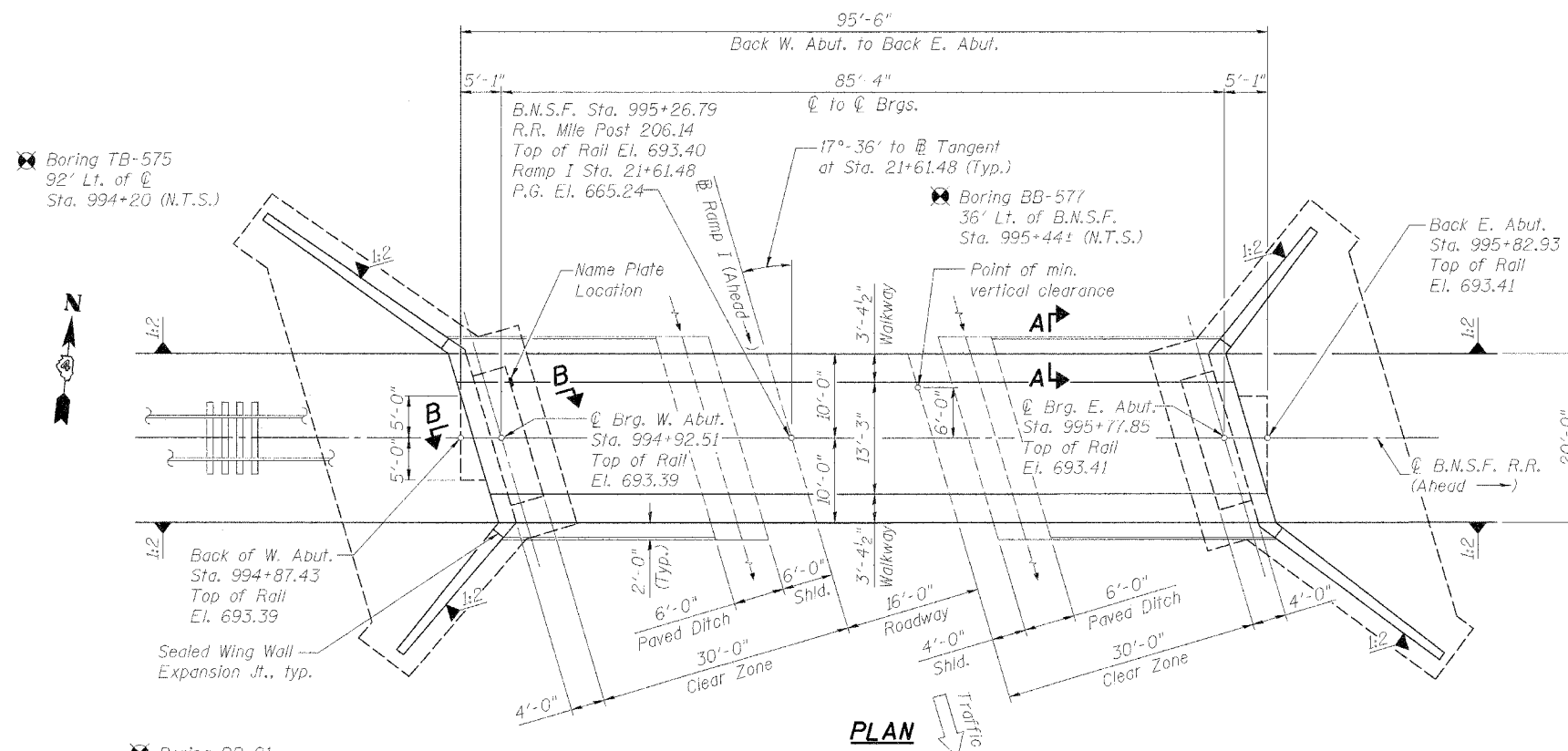


PROFILE GRADE
 RAMP I



ELEVATION

Roadway Dimensions @
 Rt. L's to Ramp I Tangent



PLAN

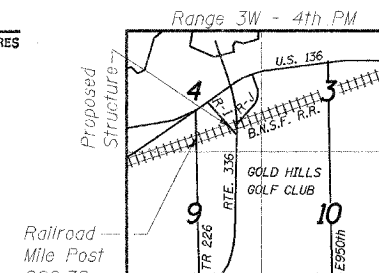
APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

ENGINEER OF BRIDGES AND STRUCTURES



Philip J. Lane
 Illinois Licensed Structural Engineer No. 4084
 Lic. Expires: 11/30/06

3/30/06
 Date



LOCATION SKETCH

DESIGN SPECIFICATIONS

2005 A.R.E.M.A. Specifications

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi Reinforcement
 $f_y = 50,000$ psi Structural Steel
 (AASHTO M270, Grade 50)

DESIGN LOADING

- 1.) Cooper's E-80 with diesel impact
- 2.) Allow 60 psf for future 6" additional ballast
- 3.) Walkway live load 85 psf
- 4.) Alternate short term loading per B.N.S.F. requirements: Cooper's E-65 with diesel impact while a fascia girder is temporarily out of service for repairs. (Dead load to a girder is unchanged.)

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 4.0% g
 Site Coefficient (S) = 1.0

GENERAL PLAN & ELEVATION
 BURLINGTON NORTHERN
 SANTA FE RAILROAD OVER
 RAMP I
 F.A.P. ROUTE 315 SECT. 55-2
 McDONOUGH COUNTY
 STATION 21+61.48
 STRUCTURE NO. 055-9902
 B.N.S.F. LINE SEGMENT 0011
 B.N.S.F. BRIDGE NO. 206.13

STS CONSULTANTS
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 FAX (309) 676-5445
 IL Design Firm Reg. No. 224-001522

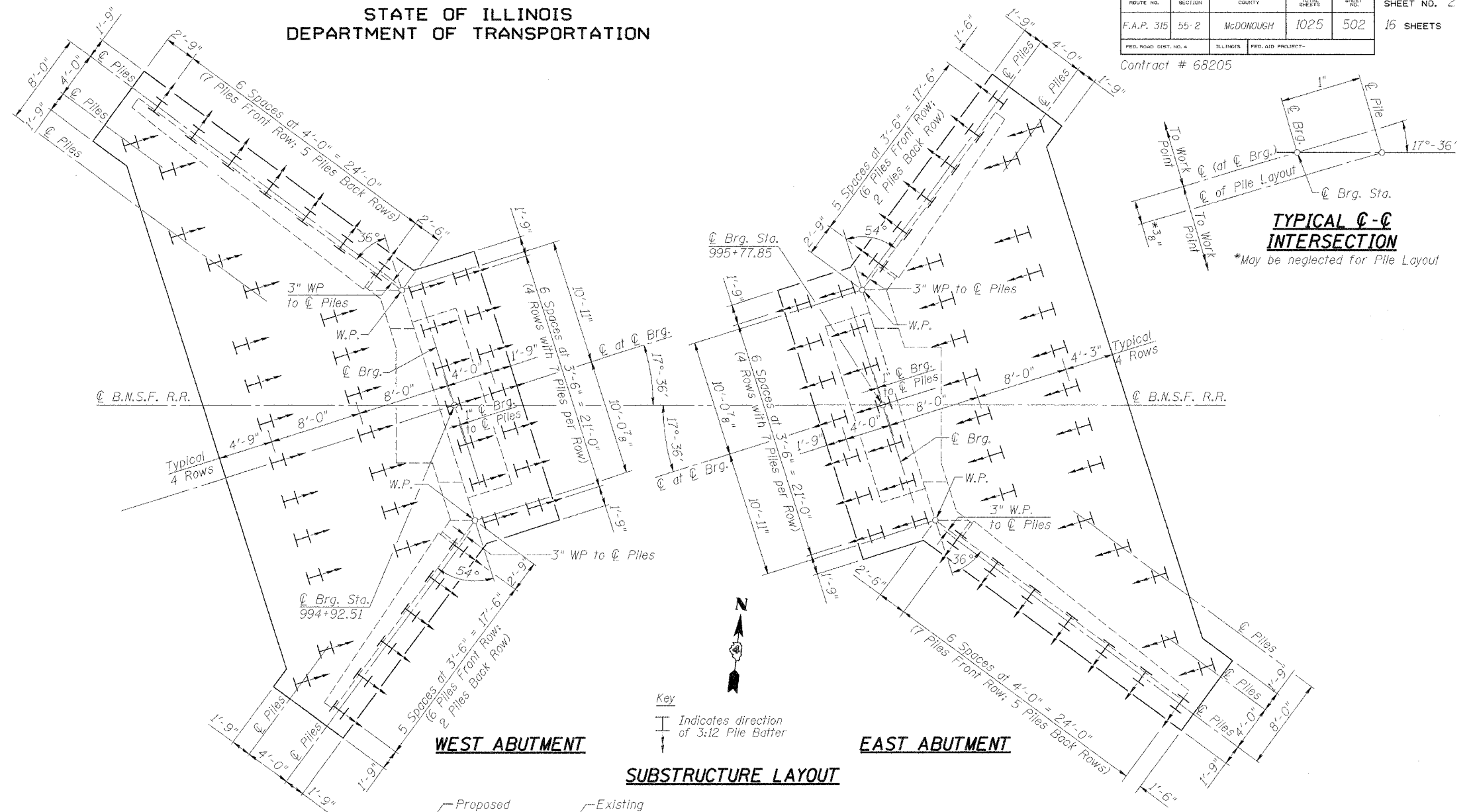
GENERAL NOTES

- Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$ " ϕ , open holes $\frac{15}{16}$ " ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = Grade 36: 58,289 lbs.; Grade 50 & Bolts: 230,742 lbs.
- Field welding of construction accessories will not be permitted to beams or girders.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The structural steel bearing plates of the Elastomeric Bearing Assembly and fixed bearings shall conform to the requirements of AASHTO M 270 Grade 50.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the girder tension flanges and webs noted "N.T.R." on Sht. 5 and 6 of 16.
- Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 32.2 Grade 60.
- Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ ". Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$ " adjusting shims, of the dimensions shown on Sht. 7 of 16, shall be provided for each bearing in addition to all other plates or shims. Adjusting shims shall be placed as detailed on Sht. 7 of 16.
- The Contractor shall drive two HP 14 x 73 test piles in permanent locations, one test pile at each abutment, as directed by the Engineer before ordering the remainder of piles.
- Bridge Seat Sealer shall be applied to the seat area of both abutments.
- All Construction joints shall be bonded.
- Painting new steel as part of F & E structural steel:
The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all steel surfaces shall be Light Gray, Munsell No. 10Y 7/1. See special provision for "Cleaning and Painting New Metal Structures."
- The contractor is to ensure stability of plate girders during transport and during erection.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
F.A.P. 315	55-2	MCDONOUGH	1025	502	16 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT-		

Contract # 68205



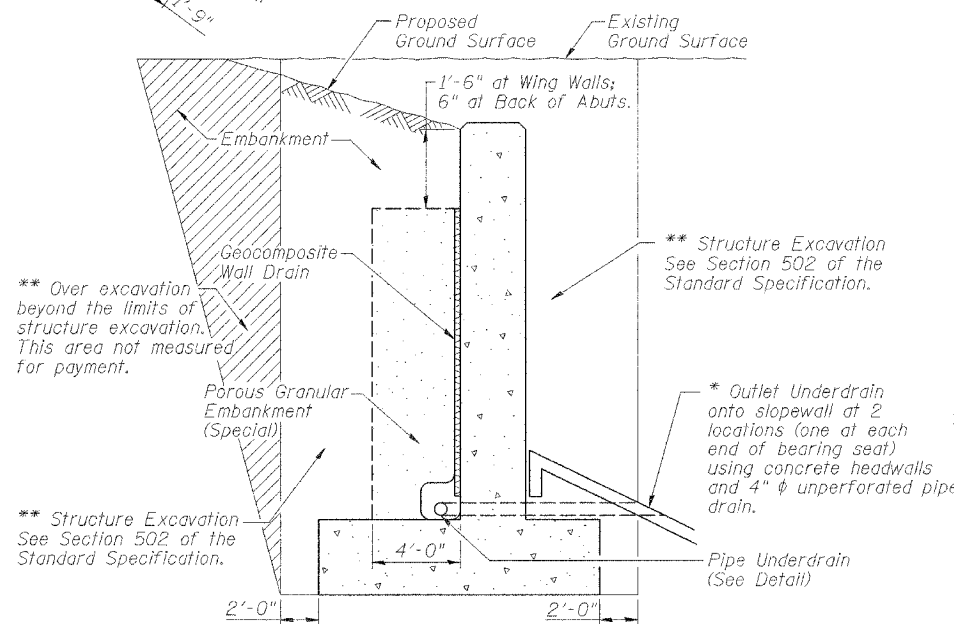
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		2,419	2,419
Ballast Drains	Foot	250		250
Concrete Structures	Cu. Yd.		462.8	462.8
Membrane Waterproofing (Special)	Sq. Ft.	1,581		1,581
Furnishing and Erecting Structural Steel	L. Sum	0.21		0.21
Reinforcement Bars, Epoxy Coated	Pound		73,080	73,080
Test Pile Steel HP 14 x 73	Each		2	2
Furnishing Steel Piles HP 14 x 73	Foot		5,217	5,217
Driving Steel Piles	Foot		5,217	5,217
Elastomeric Bearing Assembly Type I (Special)	Each	5		5
Name Plates	Each		1	1
Slopedwall 4 Inch	Sq. Yd.		162.6	162.6
Porous Granular Embankment (Special)	Cu. Yd.		320	320
Pipe Handrail, Special	Foot		185	185
Bridge Seat Sealer	Sq. Ft.		128	128
Metal Shoes	Each		94	94
Geocomposite Wall Drain	Sq. Yd.		256	256
Pipe Underdrains for Structures, 4"	Foot		182	182

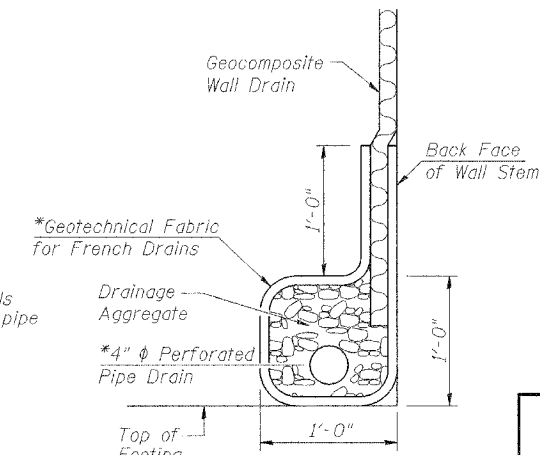
DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

* Included in the cost of "Pipe Underdrains for Structures"

** Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment in accordance with Section 205 of the Standard Specifications.



TYPICAL SECTION THRU ABUTMENT AND WING WALLS WITH PIPE UNDERDRAIN OUTLET



PIPE UNDERDRAIN DETAIL

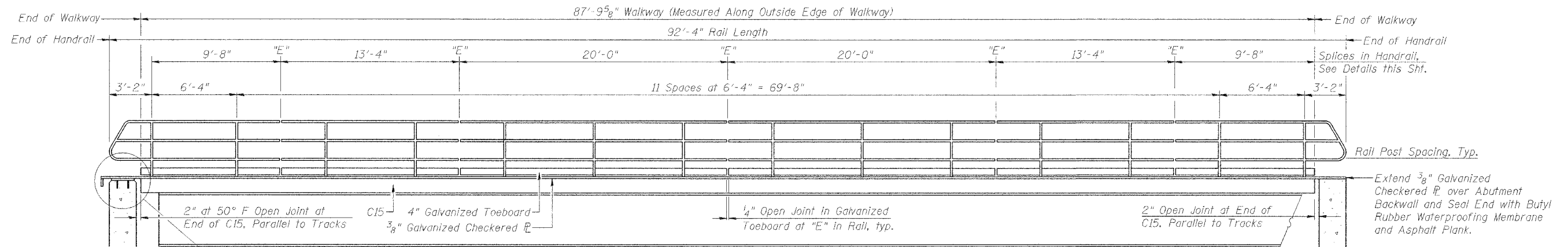
TOTAL BILL OF MATERIAL, GENERAL NOTES, & SUBSTRUCTURE LAYOUT BURLINGTON NORTHERN SANTA FE RAILROAD OVER RAMP I
F.A.P. ROUTE 315 SECT. 55-2 McDONOUGH COUNTY STATION 21+61.48
STRUCTURE NO. 055-9902 B.N.S.F. LINE SEGMENT 0011 B.N.S.F. BRIDGE NO. 206.13

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
F.A.P. 315	55-2	MCDONOUGH	1025	504	16 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

Contract # 68205

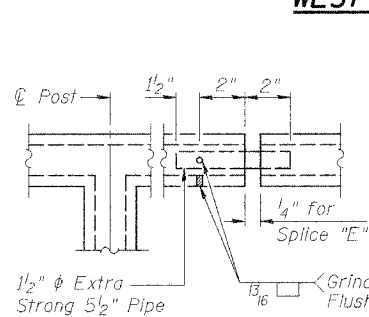


WEST ABUTMENT

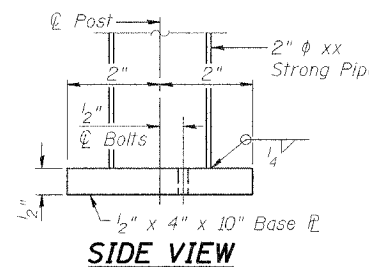
HANDRAIL ELEVATION

EAST ABUTMENT

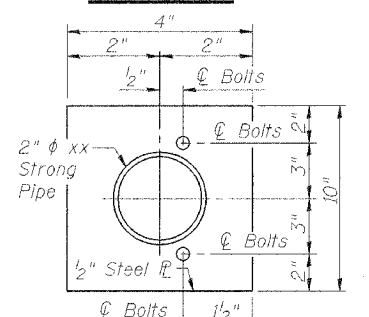
(Looking North)
Galvanized Toeboard is included in cost of Pipe Handrail, Special.
See also Special Provisions.



EXPANSION SPLICE
DETAIL "E"

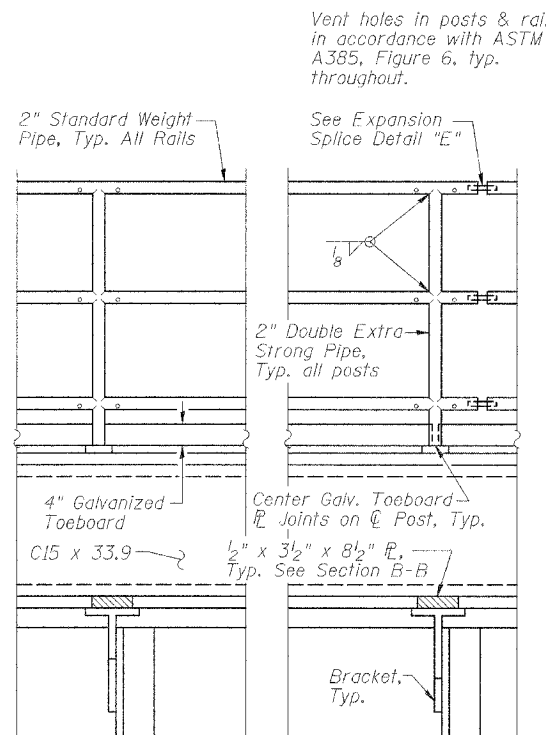
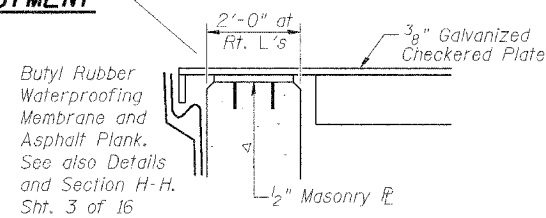


SIDE VIEW



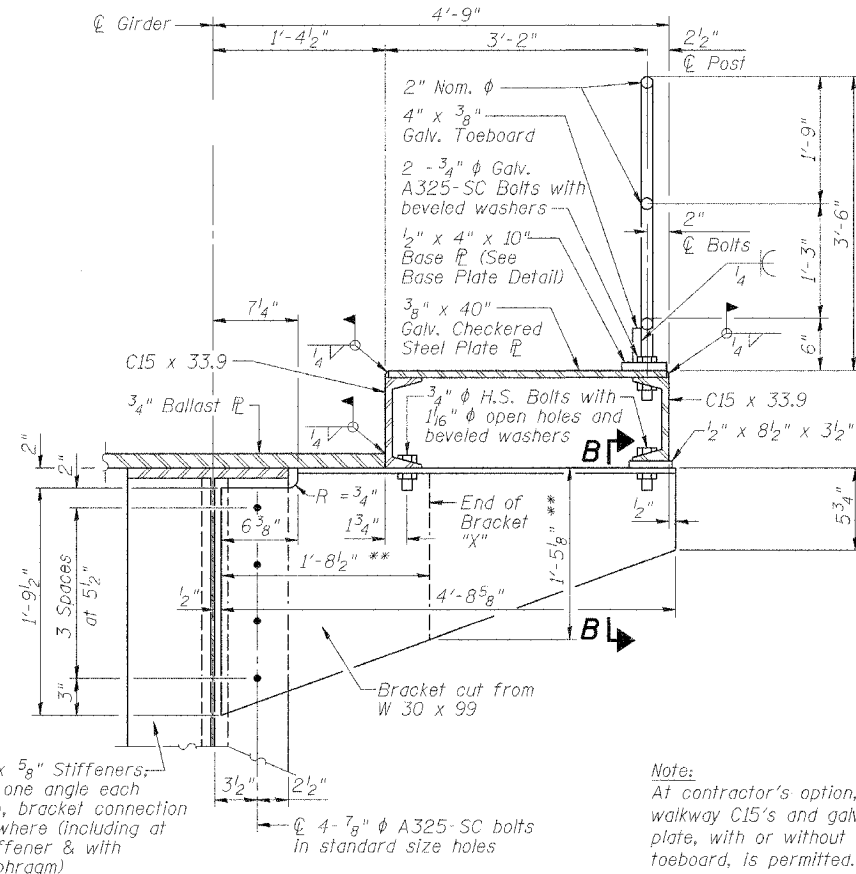
TOP VIEW

BASE PLATE DETAIL



TYPICAL SECTION

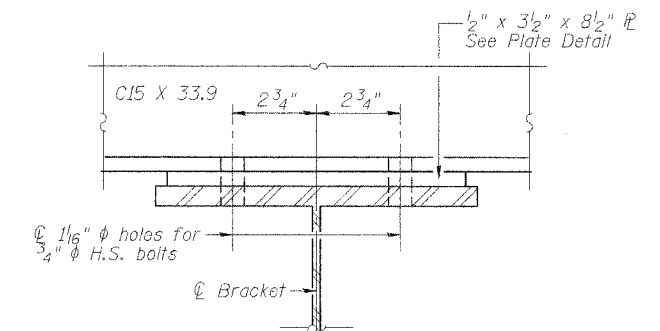
END POST



WALKWAY BRACKET DETAIL

** Bracket "X" Only

Note:
At contractor's option, shop assembly of walkway C15's and galvanized checkered plate, with or without railing and galvanized toeboard, is permitted.



SECTION B-B

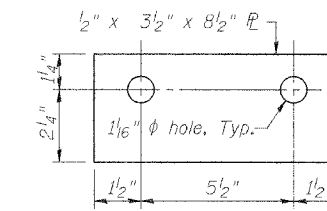


PLATE DETAIL

PEDESTRIAN RAILING
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Pipe Handrail, Special	Foot	185

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

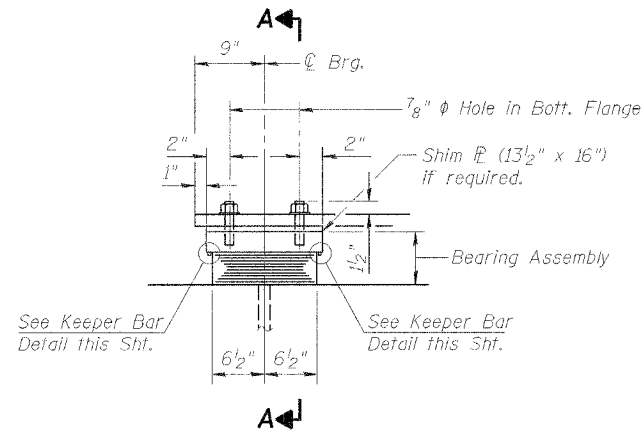
Note:
See special provision for "Cleaning and Painting of New Metal Structures" for cleaning and priming of damaged shop prime areas (including damage by field welding), typ. throughout. See also note 7, Sht. 5 of 16.

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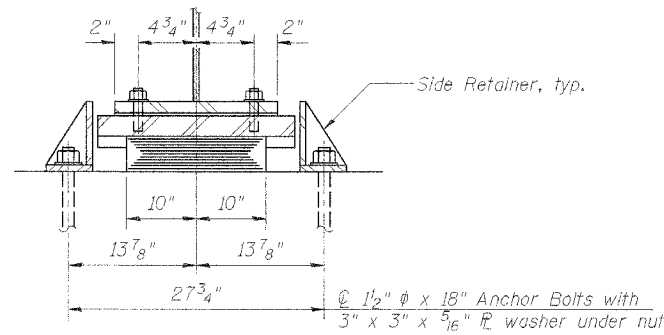
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	507	16 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

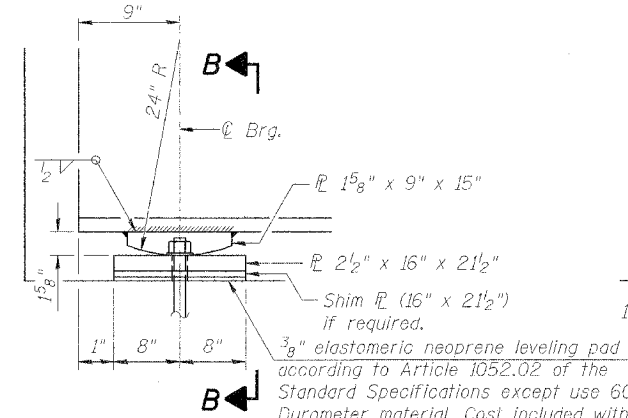
Contract # 68205



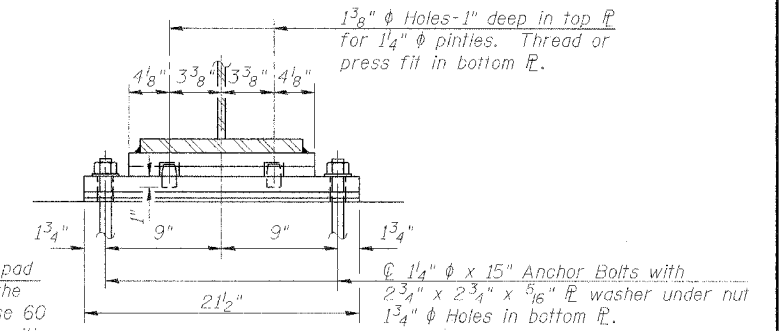
ELEVATION AT WEST ABUTMENT



SECTION A-A

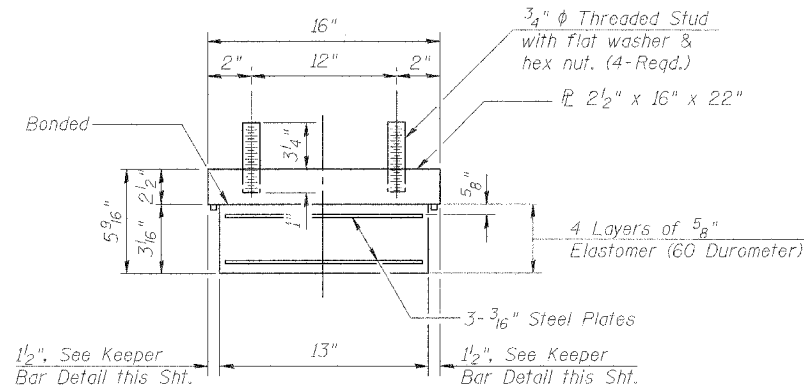


ELEVATION AT EAST ABUTMENT



SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.
(Girder Bearing Stiffeners are not shown.)



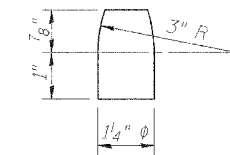
BEARING ASSEMBLY

Notes:

- Shim plates shall not be placed under Bearing Assembly.
- Field glue bearing pad to the concrete seat per B.N.S.F. requirements. See Special Provisions.
- See Special Provisions: Note 60 Durometer Elastomer.

- Notes:
- Anchor Bolts at fixed bearings may be built into the masonry.
 - See Sht. 8 of 16 for Anchor Bolt Installation.

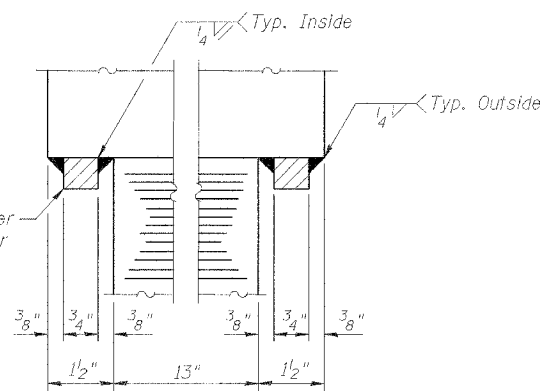
FIXED BEARING
(Girder Bearing Stiffeners are not shown.)



PINTLE

Notes:

- See General Note 5, Sht. 2 of 16, typical all fixed and expansion bearing steel plates and pintles.
- See General Note 9, Sht. 2 of 16, for two-1/8" shim plates to be provided with all fixed and expansion bearings. See details this sheet for plan size and placement of shim plates.



KEEPER BAR DETAIL

	Cooper's E80 on 5 Girders	Cooper's E65 on 4 Girders
Is (in ⁴)	117,281	117,281
Ss (in ³)	2,636	2,636
I ₀ (K/ft.)	1.30	1.30
M ₀ (K)	1,183	1,183
M ₁ (K)	1,933	3,141
M (Imp) (K)	797	1,161
f _{s0} (k.s.i.)	5.4	5.4
f _s (k+I) (k.s.i.)	12.4	19.6
f _s (Total) (k.s.i.)	17.8	25.0
VR (K)	147.2	231.8

	Cooper's E80 on 5 Girders	Cooper's E65 on 4 Girders
R ₀ (K)	55.5	55.5
R ₁ (K)	104.2	169.3
Imp. (K)	43.0	62.5
R (Total) (K)	202.7	287.3

Notes:

- Is and Ss are the gross moment of inertia and section modulus of the steel section used in computing fs.
- VR is the maximum Live Load + Impact shear range in span.
- Impact includes vertical effects and rocking effects.
- Loads and stresses are based on service load conditions, ignoring composite action of ballast plate.
- Effects of Live Load and Impact eccentricity are included in distribution of load to girders.

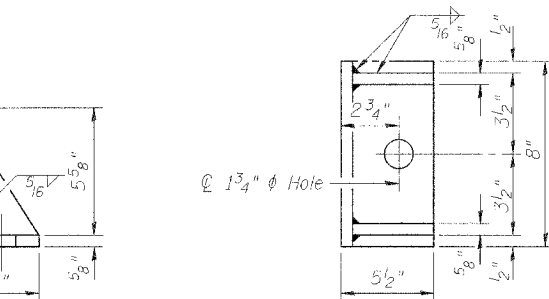
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I (Special)	Each	5

BEARINGS, REACTION & MOMENT TABLES
BURLINGTON NORTHERN SANTA FE RAILROAD OVER RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

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DESIGNED	PJL
CHECKED	WDL
DRAWN	MCM
CHECKED	PJL



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

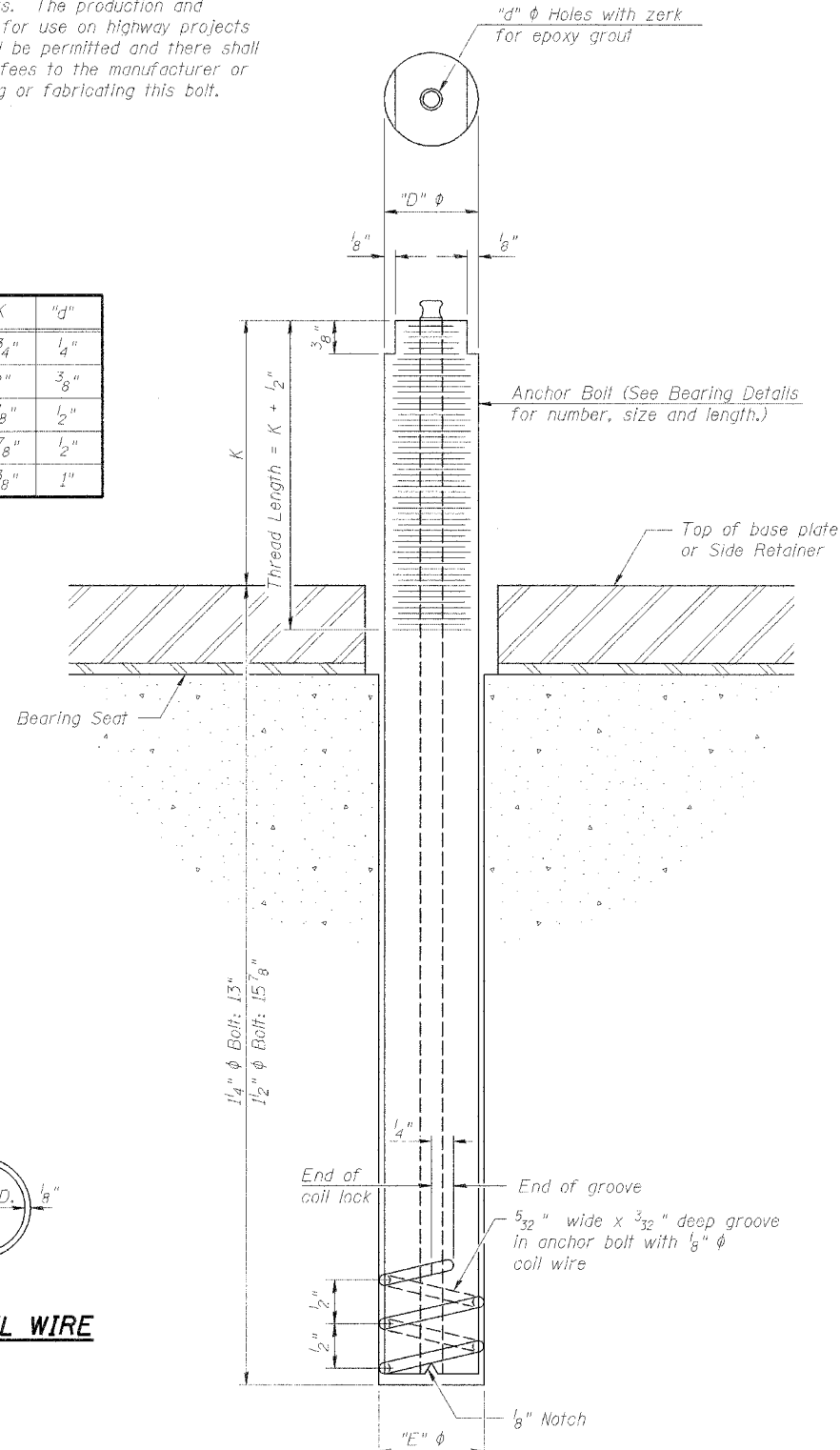
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	8
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-	508	16 SHEETS

Contract # 68205

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.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 1/4"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

Use 1 1/2" ϕ x 18" Anchor Bolts at Expansion Bearings
Use 1 1/4" ϕ x 15" Anchor Bolts at Fixed Bearings

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
Fixed & Expansion Bearings	AASHTO M270, Grade 36 Continuously Threaded Rod

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.

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 and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

ANCHOR BOLT DETAILS
FOR BEARINGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
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STATE OF ILLINOIS
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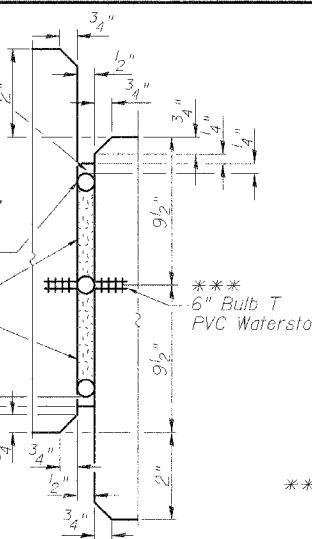
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	9
FED. ROAD DIST. NO. 4		ELLIPSE	FED. AID PROJECT	16 SHEETS

Contract # 68205

TABLE OF ELEVATIONS

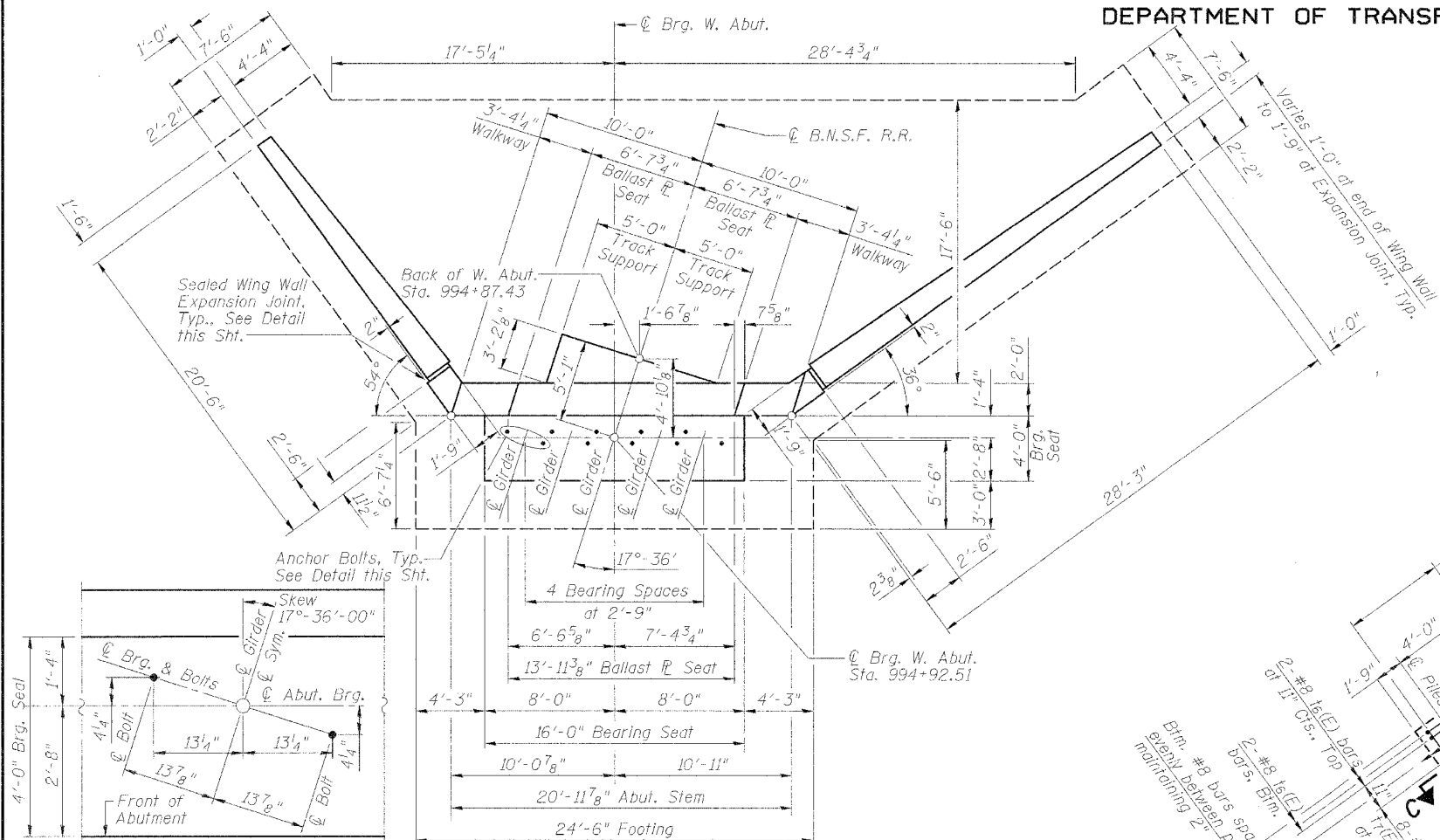
Location	Elev. Point	W. Abut.
Girder Bearing Seat	(A)	683.39
Bottom of Footing	(B)	668.48
Ballast Plate Seat (Top of Girder)	(C)	691.27
Top of Walkway (Inside Edge)	(D)	692.52
Top of Walkway (Outside Edge)	(E)	692.56
Track Supp. Ledge at Bk. of Abut.	(F)	690.77

*** Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T, typical 3 sides of joint.
*** 5/8" ϕ Backer Rod, typical 3 sides of joint.
*** 1/2" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Structures.



SEALED WING WALL
EXPANSION JOINT DETAIL

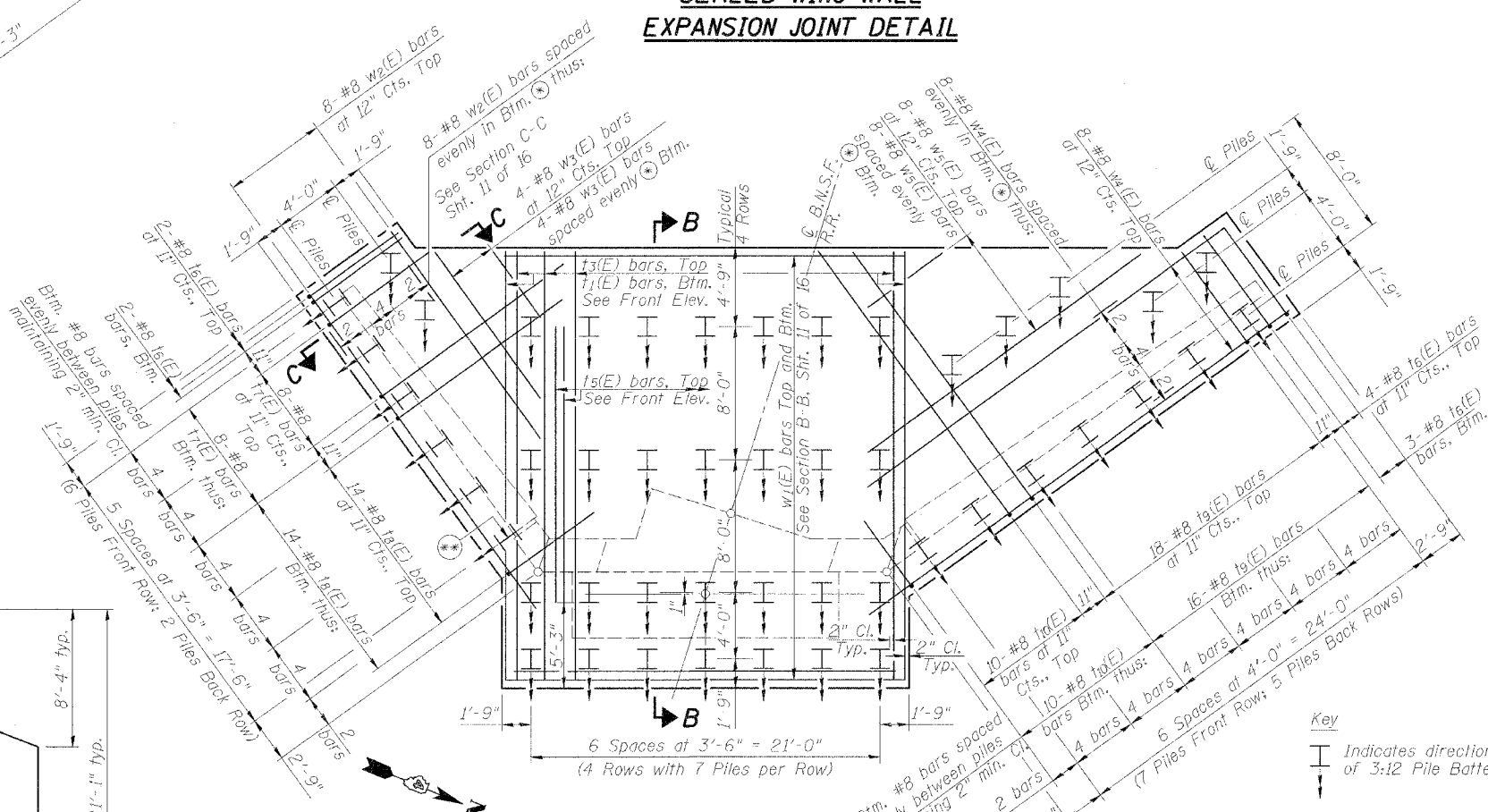
*** Cost included with Concrete Structures.



ANCHOR BOLT SETTING DIAGRAM

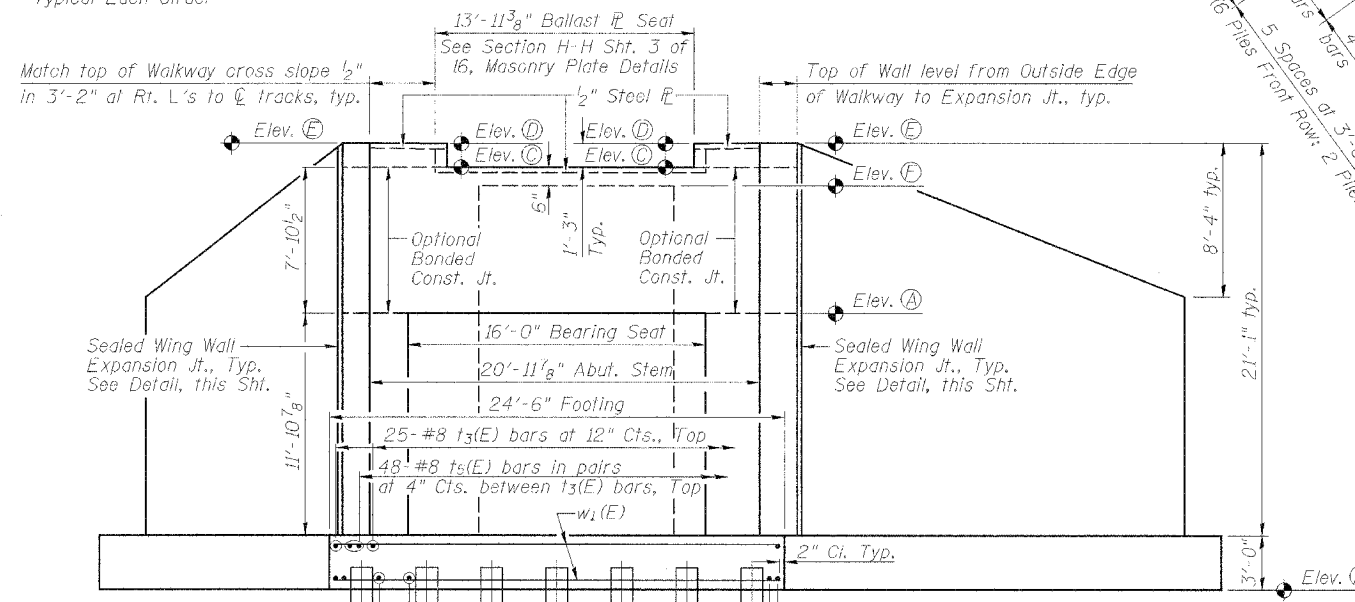
At West Abutment (Expansion Brg.)
Typical Each Girder

FOOTING AND WALL PLAN



PILE LAYOUT

Bottom bars provide 2" Cl. at piles:
* Where possible, fan or shift bars (First Choice).
** Field Cut bars.



FRONT ELEVATION

PILE DATA

Type: Steel (HP 14 x 73)
Capacity: Design 61 tons; Req'd Bearing 91.5 tons
Est. Length: 57'
No. Req'd: 47 (plus 1 test pile)

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

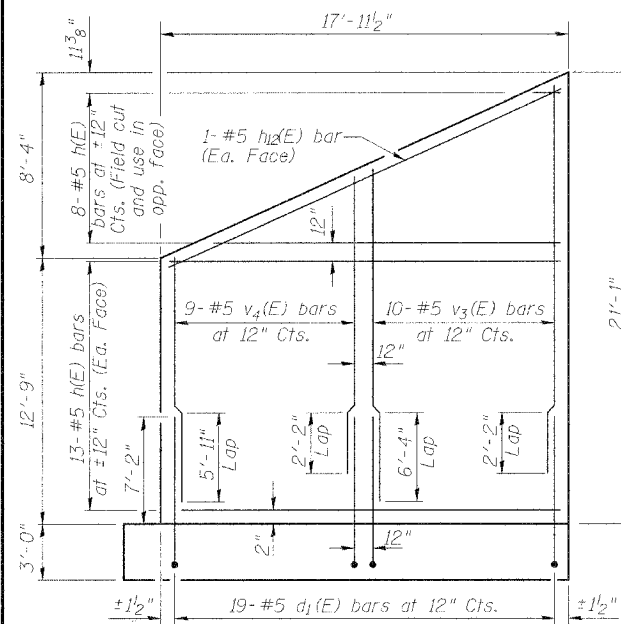
Notes:
1. Space reinforcement in cap to miss anchor bolts.
2. All edges shall have standard 3/4" chamfers except as noted.
3. Reinforcement bars designated (E) shall be epoxy coated.

WEST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

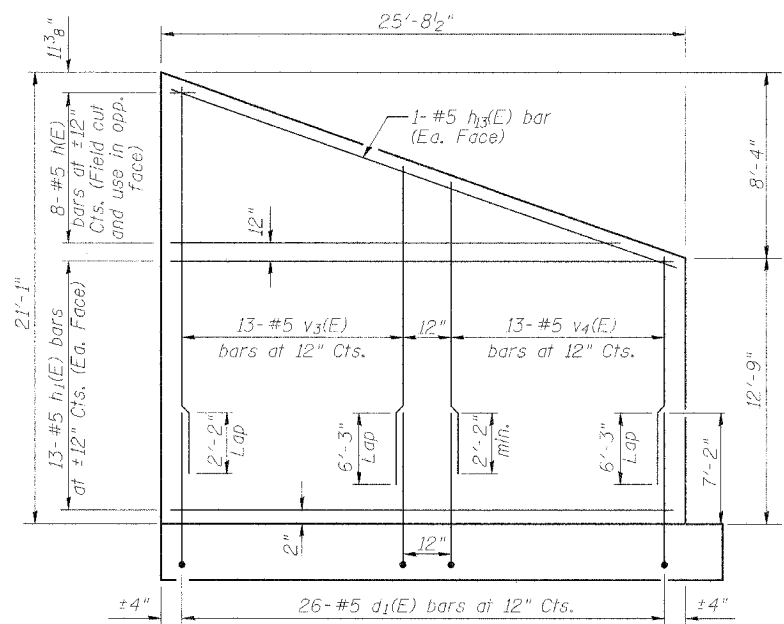
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO.
F.A.P. 315	55-2	MCDONOUGH	1025	510	16 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

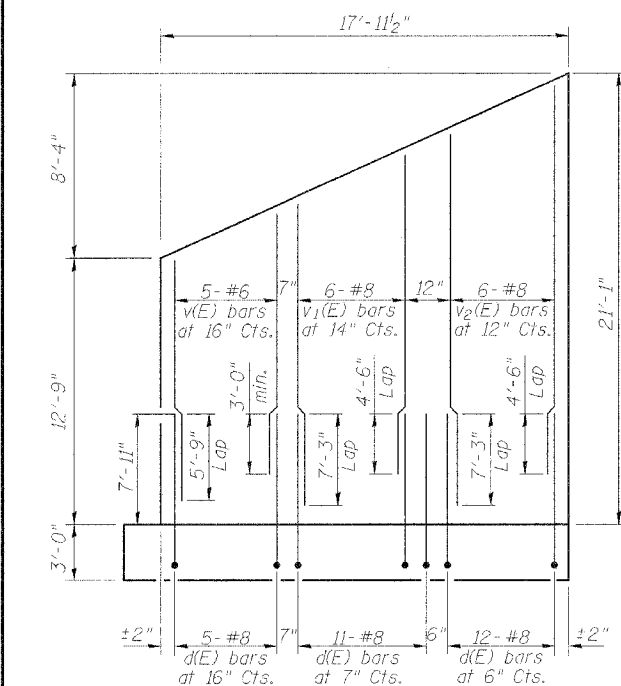
Contract # 68205



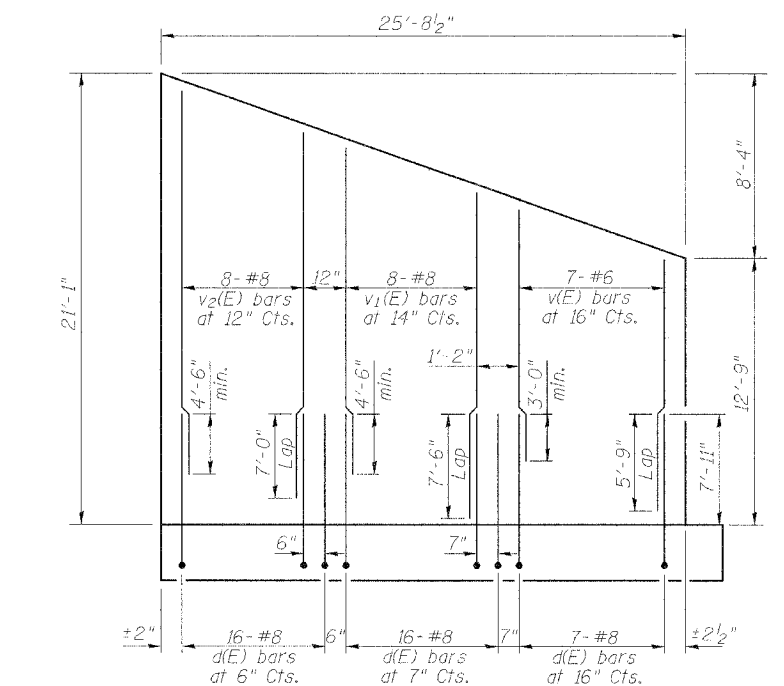
WEST ABUTMENT WING WALL (SOUTH)
(Showing Front Face Reinforcement)



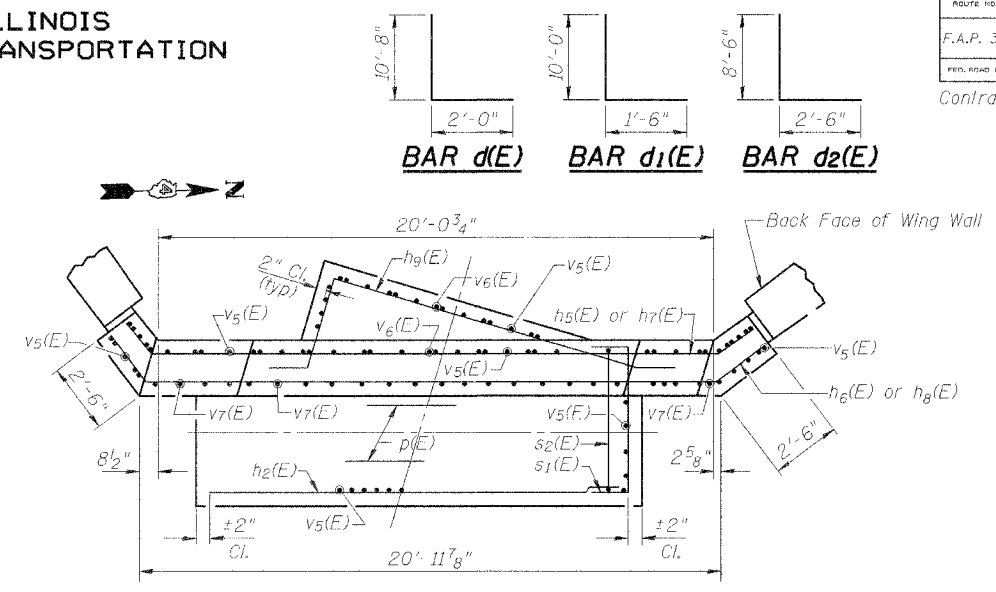
WEST ABUTMENT WING WALL (NORTH)
(Showing Front Face Reinforcement)



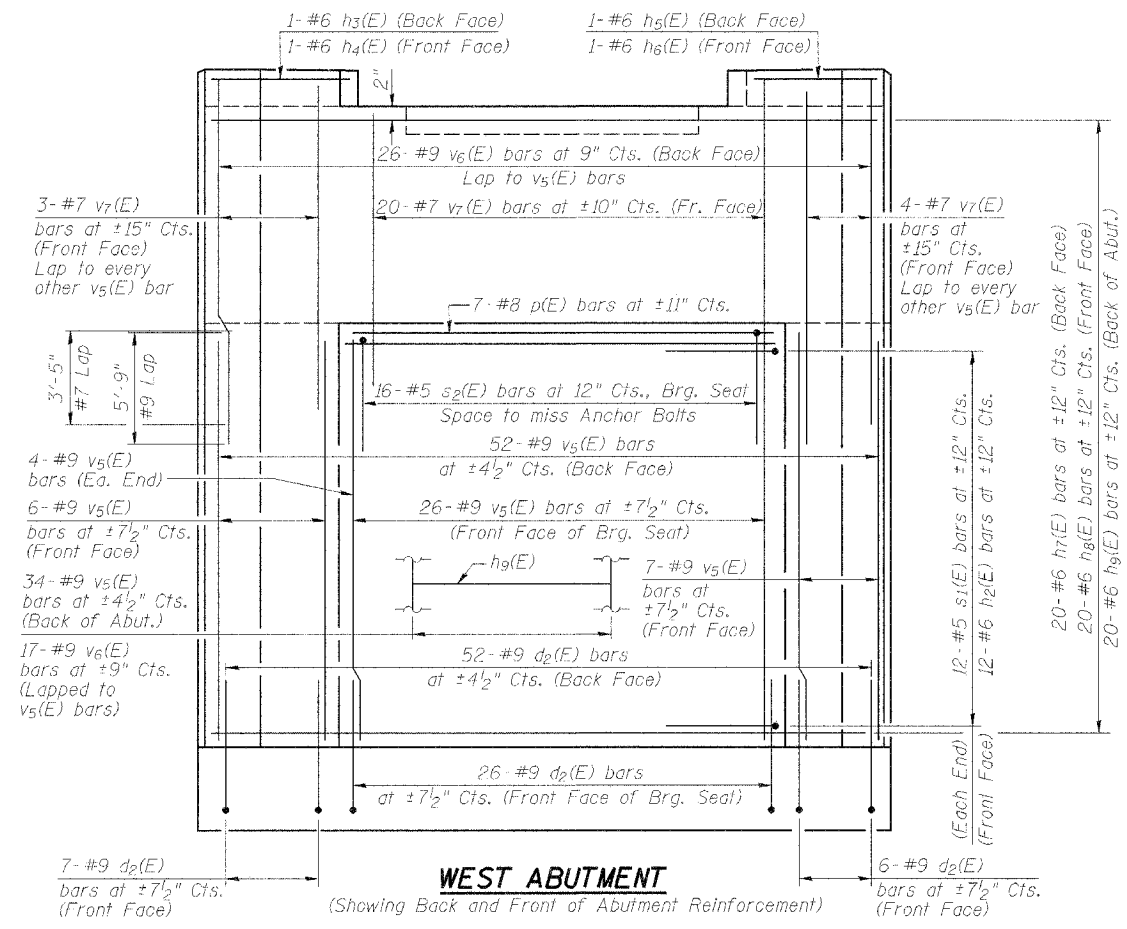
WEST ABUTMENT WING WALL (SOUTH)
(Showing Back Face Reinforcement)



WEST ABUTMENT WING WALL (NORTH)
(Showing Back Face Reinforcement)



WEST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)



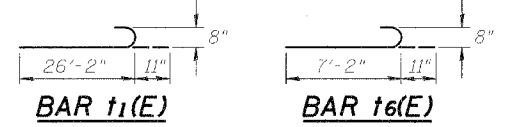
WEST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)

ABUTMENT BILL OF MATERIAL

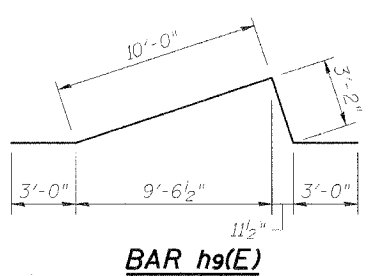
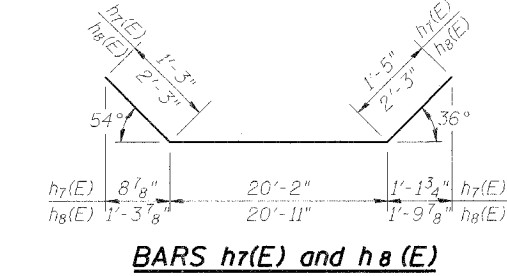
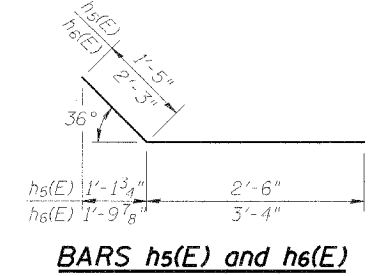
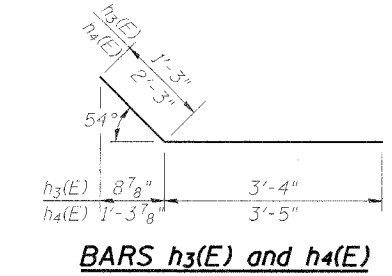
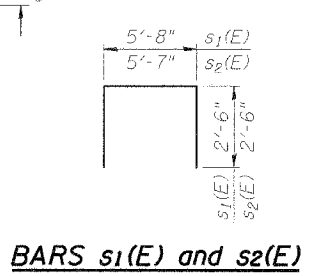
Bar	No.	Size	Length	Shape
d(E)	67	#8	12'-8"	L
d1(E)	45	#5	11'-6"	L
d2(E)	91	#9	11'-0"	L
h(E)	34	#5	17'-9"	—
h1(E)	34	#5	25'-4"	—
h2(E)	12	#6	15'-8"	—
h3(E)	1	#6	4'-7"	—
h4(E)	1	#6	5'-8"	—
h5(F)	1	#6	3'-11"	—
h6(E)	1	#6	5'-7"	—
h7(E)	20	#6	22'-10"	—
h8(E)	20	#6	25'-5"	—
h9(E)	20	#6	19'-2"	—
h9(F)	2	#5	19'-5"	—
h93(E)	2	#5	26'-8"	—
p(E)	7	#8	15'-8"	—
s1(E)	24	#5	10'-8"	—
s2(E)	16	#5	10'-7"	—
t1(E)	28	#8	27'-1"	—
t3(E)	25	#8	26'-2"	—
t5(E)	48	#8	16'-6"	—
t6(E)	11	#8	8'-1"	—
t7(E)	8	#8	24'-4"	—
t8(E)	14	#8	20'-10"	—
t9(E)	17	#8	26'-10"	—
t9(E)	10	#8	23'-10"	—
t9(E)	12	#6	10'-5"	—
v1(E)	14	#8	15'-0"	—
v2(E)	14	#8	17'-6"	—
v3(E)	23	#5	16'-0"	—
v4(E)	22	#5	11'-8"	—
v5(E)	133	#9	11'-9"	—
v6(E)	43	#9	14'-10"	—
v7(E)	27	#7	12'-7"	—
w1(E)	61	#8	24'-2"	—
w2(E)	8	#8	39'-0"	—
w3(E)	4	#8	16'-0"	—
w4(E)	8	#8	59'-0"	—
w5(E)	8	#8	34'-0"	—
Concrete Structures		Cu. Yd.	234.1	
Reinforcement Bars, Epoxy Coated		Pound	37,340	
Structure Excavation		Cu. Yd.	1,252	
Furnishing Steel Piles HP 14 x 73		Foot	2,679	
Driving Steel Piles		Foot	2,679	
Test Piles HP 14 x 73		Each	1	
Metal Shoes		Each	47	

Reinforcement bars designated (E) shall be epoxy coated

WEST ABUTMENT AND WING WALL REINFORCEMENT BURLINGTON NORTHERN SANTA FE RAILROAD OVER RAMP I
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13



DESIGNED	P.J.L
CHECKED	W.D.L
DRAWN	M.G.M
CHECKED	P.J.L



STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 678-8464
FAX (309) 678-5445
IL Design Firm Reg. No. 224-001522

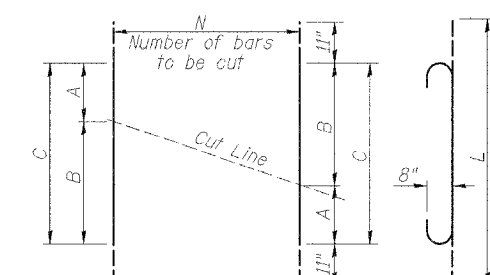
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 315	55-2	MCDONOUGH	1025	511
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	

SHEET NO. 11
16 SHEETS

Contract # 68205

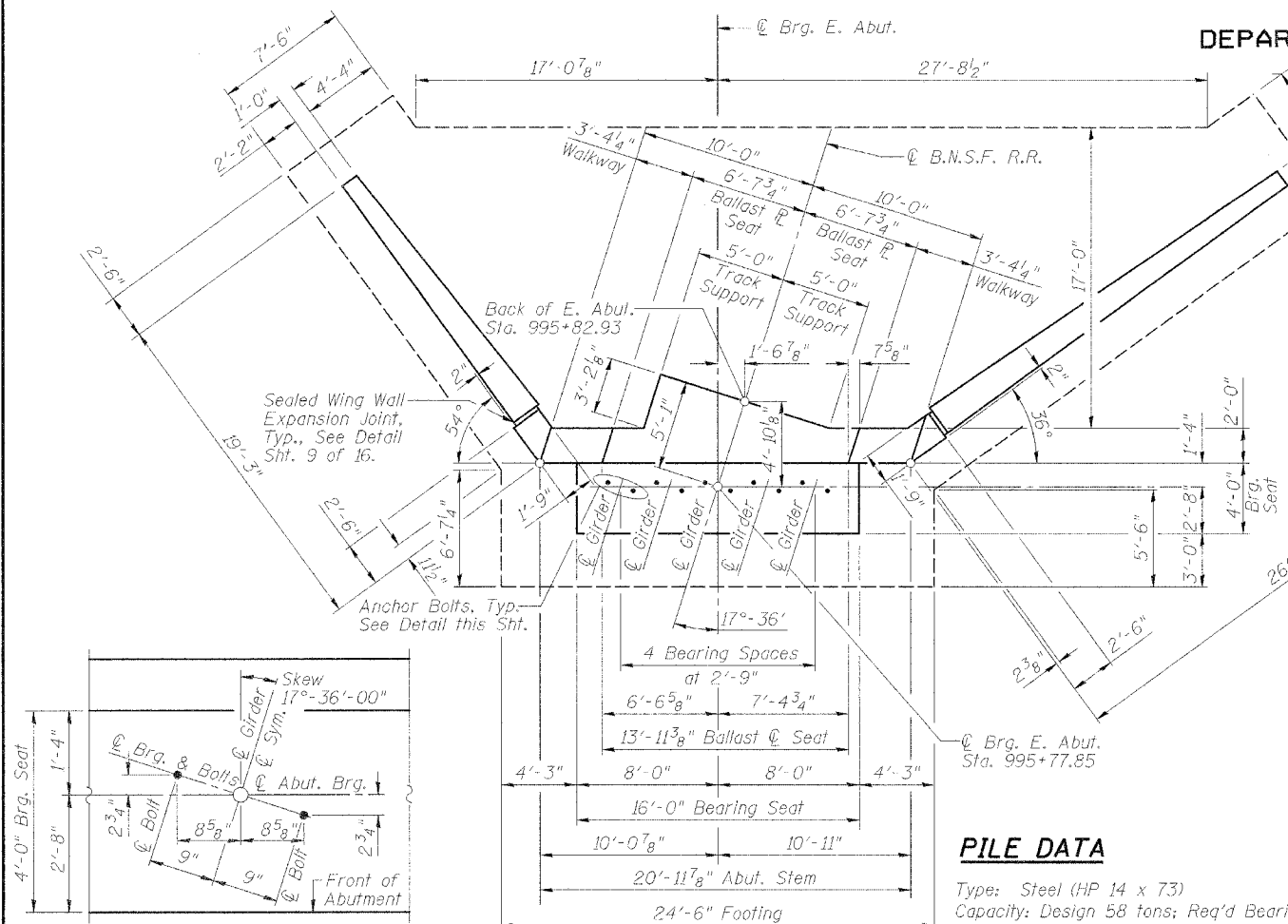
Bar	N (Top)	N (Btm.)	A	B	C	L
West Abut. 17(E)	4	4	7'-0"	15'-6"	22'-6"	24'-4"
18(E)	7	7	5'-0"	14'-0"	19'-0"	20'-10"
19(E)	9	8	7'-0"	18'-0"	25'-0"	26'-10"
20(E)	5	5	5'-0"	17'-0"	22'-0"	23'-10"
East Abut. 11(E)	4	4	7'-6"	16'-6"	24'-0"	25'-10"
12(E)	6	7	5'-0"	16'-6"	21'-6"	23'-4"
13(E)	8	8	7'-6"	17'-6"	25'-0"	26'-10"
14(E)	6	5	5'-0"	18'-0"	23'-0"	24'-10"



BENDING AND BAR CUTTING DIAGRAM

Order bars full length. Cut to fit. Use remainder to complete pattern with 2 x N bars.

- Notes:
1. Space reinforcement in cap to miss anchor bolts.
 2. All edges shall have standard $\frac{3}{8}$ " chamfers except as noted.
 3. Reinforcement bars designated (C) shall be epoxy coated.



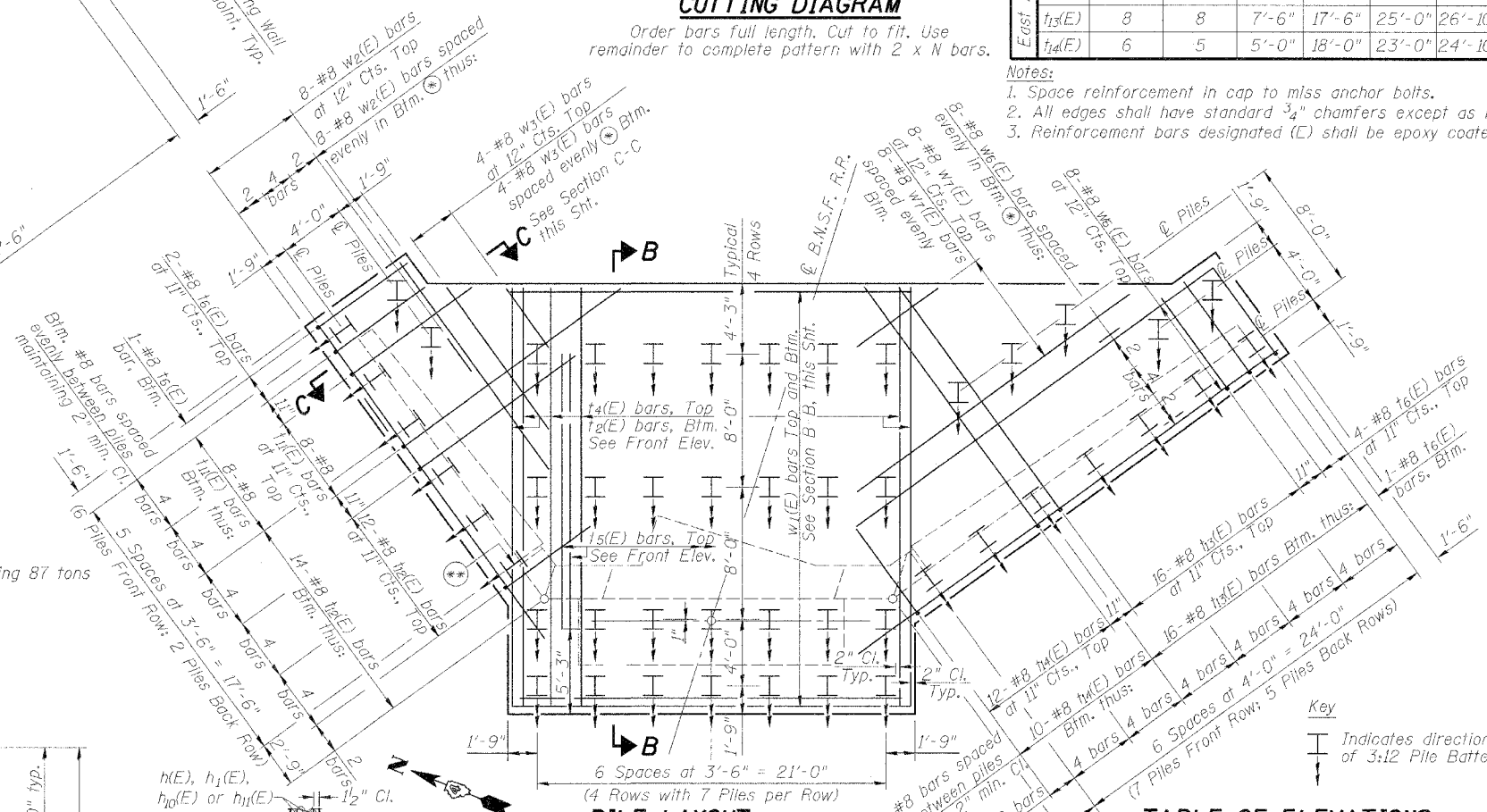
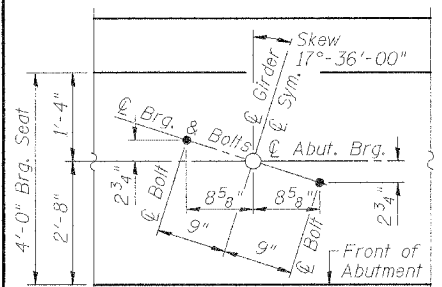
FOOTING AND WALL PLAN

PILE DATA

Type: Steel (HP 14 x 73)
Capacity: Design 58 tons; Req'd Bearing 87 tons
Est. Lengths: 54'
No. Req'd: 47 (plus 1 test pile)

ANCHOR BOLT SETTING DIAGRAM

At East Abutment (Fixed Brg.)
Typical Each Girder



PILE LAYOUT

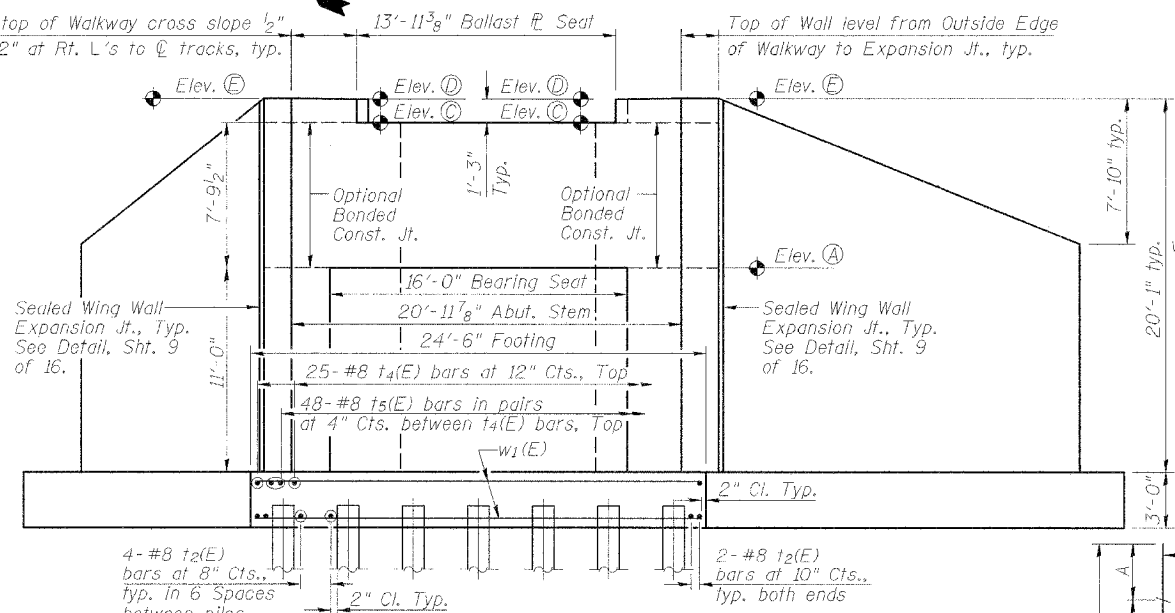
Bottom bars provide 2" Cl. at piles:

- (*) Where possible, fan or shift bars (First Choice).
- (**) Field Cut bars.

TABLE OF ELEVATIONS

Location	Elev. Point	E. Abut.
Girder Bearing Seat	(A)	683.49
Bottom of Footing	(B)	669.49
Ballast Plate Seat (Top of Girder)	(C)	691.28
Top of Walkway (Inside Edge)	(D)	692.53
Top of Walkway (Outside Edge)	(E)	692.57

EAST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13



FRONT ELEVATION

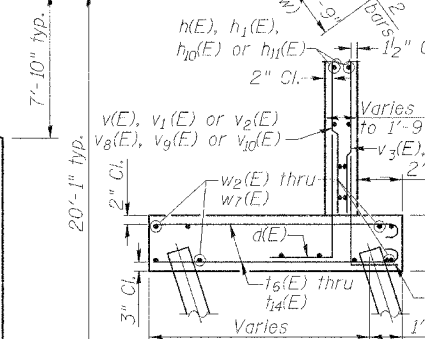
DESIGNED	P.J.L.
CHECKED	W.D.L.
DRAWN	M.G.M.
CHECKED	P.J.L.

Bar	N (Top)	N (Btm.)	A	B	L
West Abut. w2(E)	4	4	15'-0"	24'-0"	39'-0"
w3(E)	2	2	5'-0"	11'-0"	16'-0"
w4(E)	4	4	26'-6"	32'-6"	59'-0"
w5(E)	4	4	8'-0"	26'-0"	34'-0"

Bar	N (Top)	N (Btm.)	A	B	L
East Abut. w2(E)	4	4	15'-0"	24'-0"	39'-0"
w3(E)	4	4	5'-0"	11'-0"	16'-0"
w6(E)	4	4	26'-6"	31'-0"	57'-6"
w7(E)	4	4	6'-6"	21'-6"	28'-0"

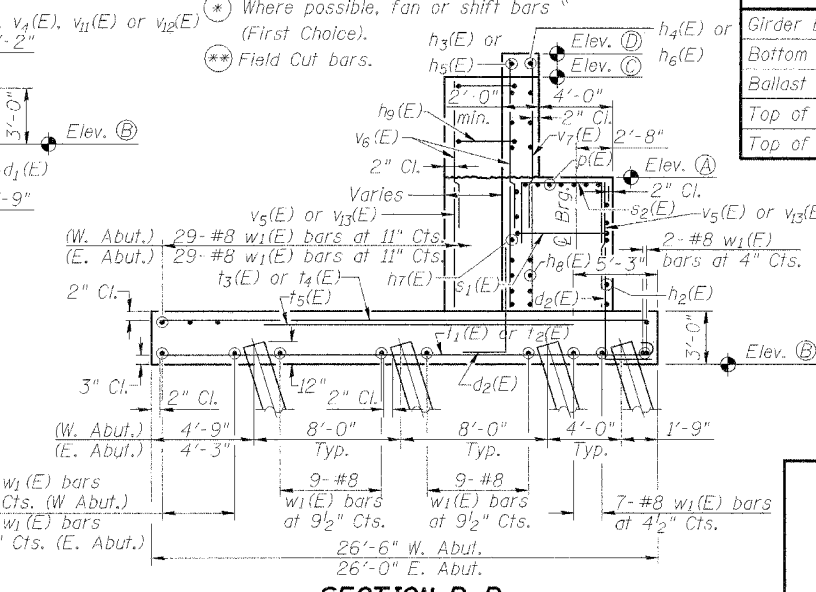
BAR CUTTING DIAGRAM

Order bars full length. Cut to fit. Use remainder to complete pattern with 2 x N bars.



SECTION C-C

Thru Wing Walls

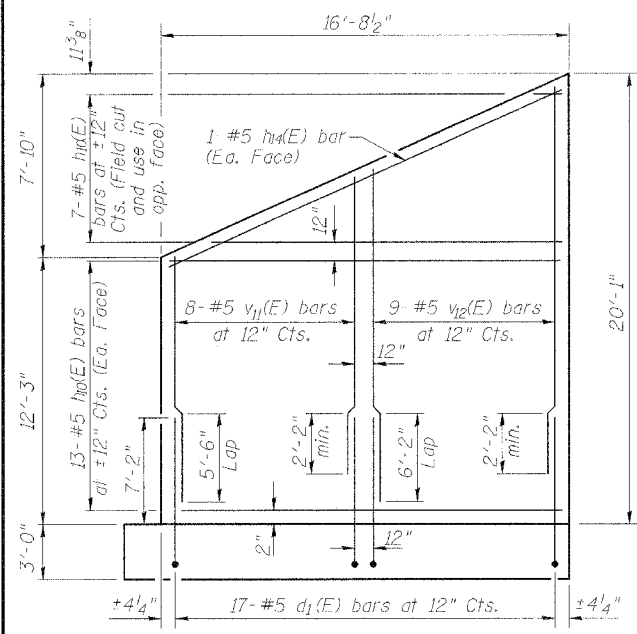


SECTION B-B

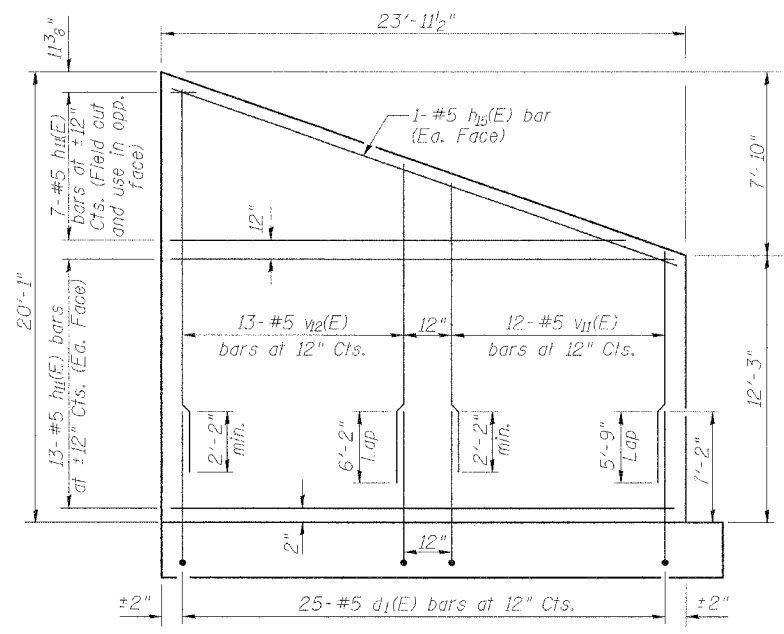
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	10/25	512	16
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		

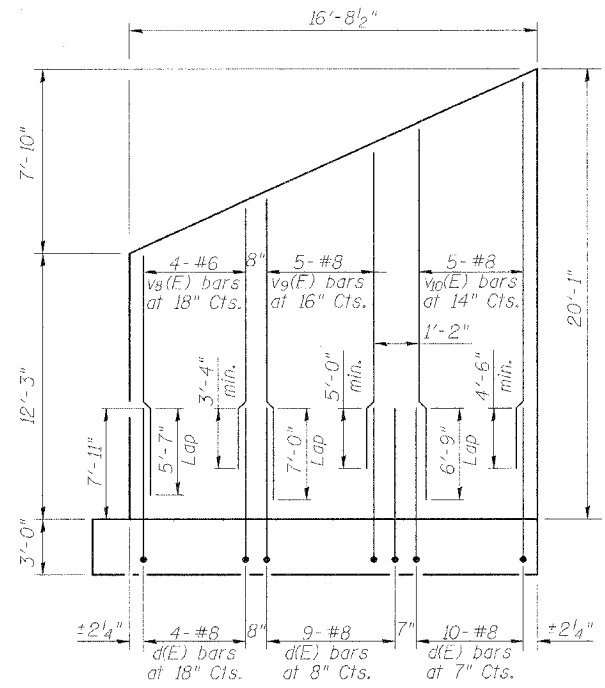
Contract # 68205



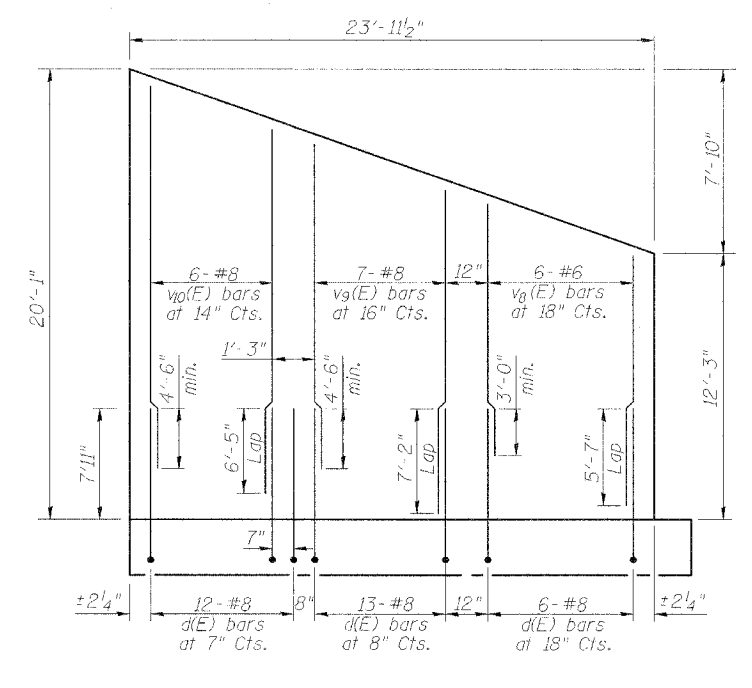
EAST ABUTMENT WING WALL (NORTH)
(Showing Front Face Reinforcement)



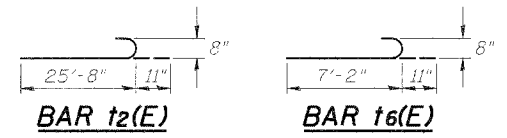
EAST ABUTMENT WING WALL (SOUTH)
(Showing Front Face Reinforcement)



EAST ABUTMENT WING WALL (NORTH)
(Showing Back Face Reinforcement)

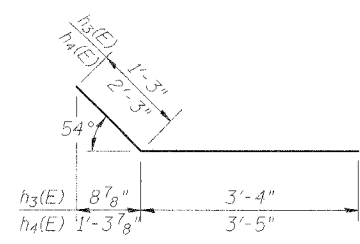


EAST ABUTMENT WING WALL (SOUTH)
(Showing Back Face Reinforcement)

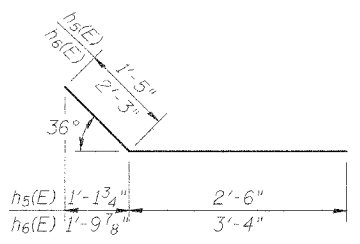


DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

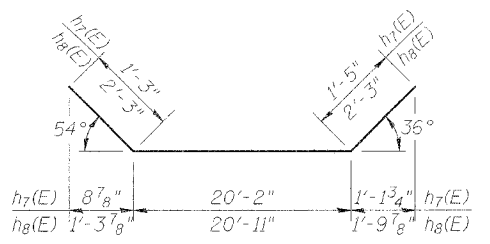
BARS s1(E) and s2(E)



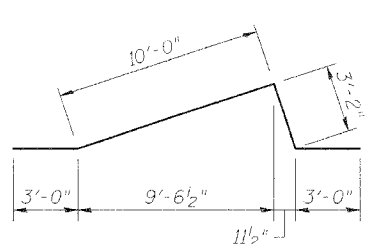
BARS h3(E) and h4(E)



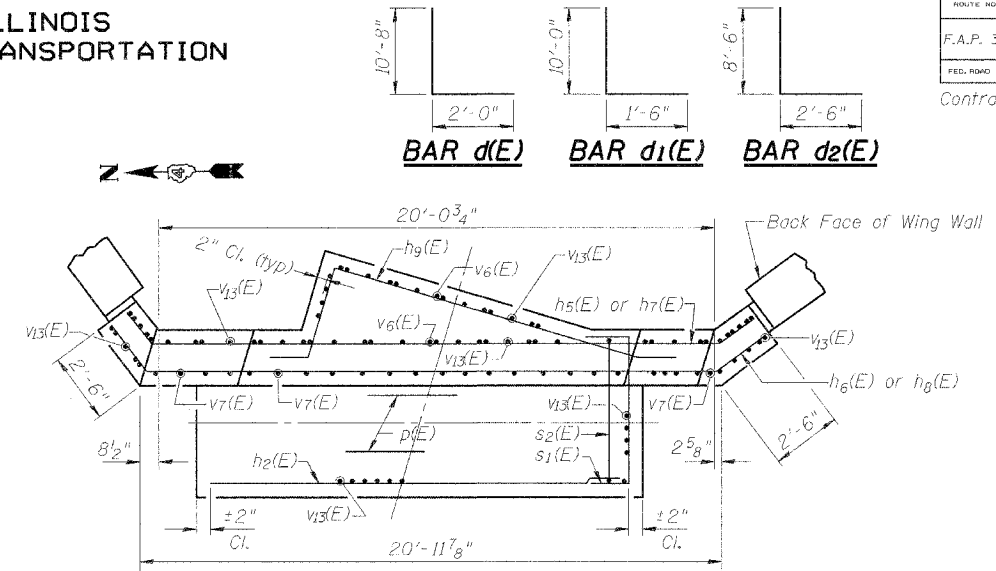
BARS h5(E) and h6(E)



BARS h7(E) and h8(E)

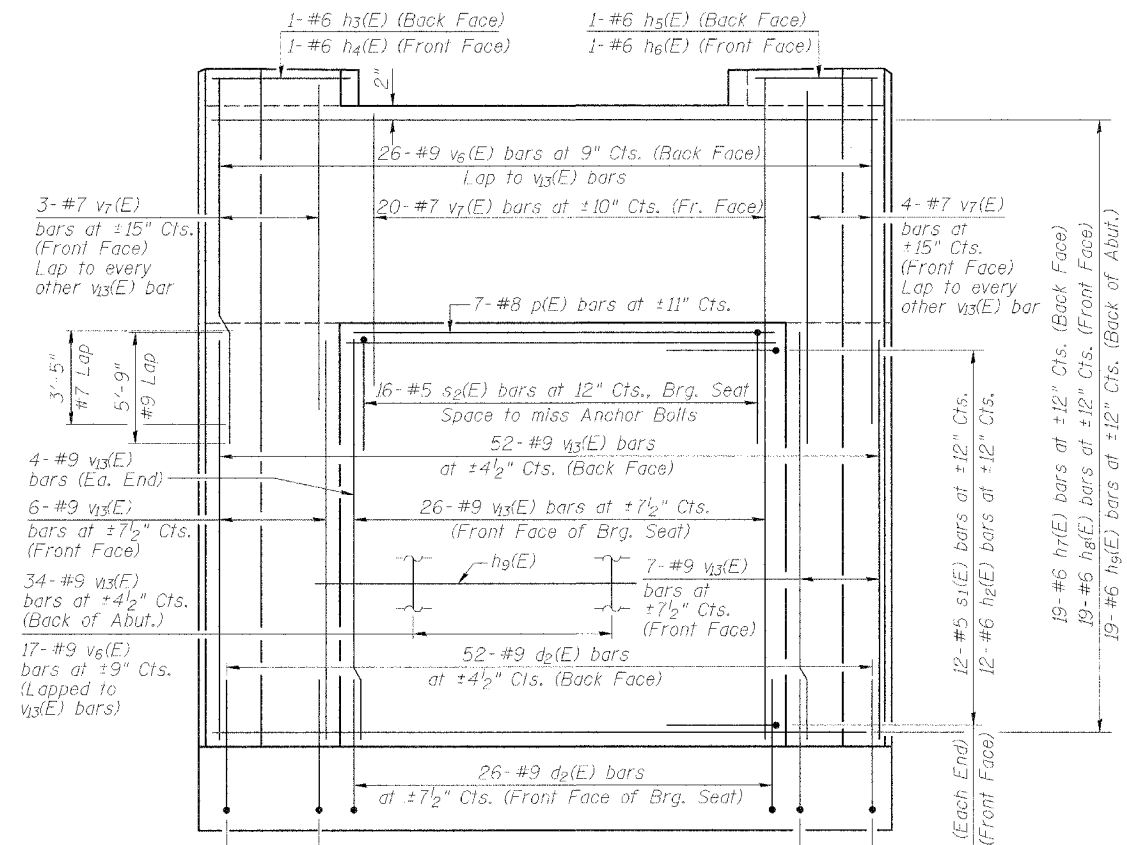


BAR h9(E)



EAST ABUTMENT

(Showing Back and Front of Abutment Reinforcement)



EAST ABUTMENT

(Showing Back and Front of Abutment Reinforcement)

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	54	#8	12'-8"	L
d1(E)	42	#5	11'-6"	L
d2(E)	91	#9	11'-0"	L
h2(E)	12	#6	15'-8"	L
h3(E)	1	#6	4'-7"	L
h4(E)	1	#6	5'-8"	L
h5(E)	1	#6	3'-11"	L
h6(E)	1	#6	5'-7"	L
h7(E)	19	#6	22'-10"	L
h8(E)	19	#6	25'-5"	L
h9(E)	19	#6	19'-2"	L
h10(E)	33	#5	16'-4"	L
h11(E)	33	#5	23'-8"	L
h12(E)	2	#5	18'-1"	L
h13(E)	2	#5	24'-10"	L
p(E)	7	#8	15'-8"	L
s1(E)	24	#5	10'-8"	L
s2(E)	16	#5	10'-7"	L
t2(E)	28	#8	26'-7"	L
t4(E)	25	#8	25'-8"	L
t5(E)	48	#8	16'-6"	L
t6(E)	8	#8	8'-1"	L
t11(E)	8	#8	25'-10"	L
t12(E)	13	#8	23'-4"	L
t13(E)	16	#8	26'-10"	L
t14(E)	11	#8	24'-10"	L
v6(E)	43	#9	14'-10"	L
v7(E)	27	#7	12'-7"	L
v8(E)	10	#6	9'-9"	L
v9(E)	12	#8	14'-2"	L
v10(E)	11	#8	16'-6"	L
v11(E)	20	#5	10'-8"	L
v12(E)	22	#5	15'-0"	L
v13(E)	133	#9	10'-10"	L
w1(E)	61	#8	24'-2"	L
w2(E)	8	#8	39'-0"	L
w3(E)	8	#8	16'-0"	L
w6(E)	8	#8	57'-6"	L
w7(E)	8	#8	28'-0"	L

Concrete Structures	Cu. Yd.	228.7
Reinforcement Bars, Epoxy Coated	Pound	35,740
Structure Excavation	Cu. Yd.	1,167
Furnishing Steel Piles HP 14 x 73	Foot	2,538
Driving Steel Piles	Foot	2,538
Test Piles HP 14 x 73	Each	1
Metal Shoes	Each	47

Reinforcement bars designated (E) shall be epoxy coated

EAST ABUTMENT AND WING WALL REINFORCEMENT
BURLINGTON NORTHERN SANTA FE RAILROAD OVER RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

STS CONSULTANTS
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IL Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Contract # 68205

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 1 of 3
Date 3/23/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station (Ramp 1)
BORING NO. TB/98575 (TB575)
Station 994+20
Offset 92.00ft LT OF CL
Ground Surface Elev. 690.00 ft

DEPTH (ft)	SOIL DESCRIPTION	U	M	W	Q	T	(ft)	(%)
0	Surface Water Elev.							
0	Stream Bed Elev.							
0	Groundwater Elev.:							
0	First Encounter							
0	Upon Completion							
0	After 24 Hrs.							
14	Brown & Gray SILTY CLAY LOAM (continued)							
10								
16	Brown & Gray CLAY LOAM TILL							
20								
6								
9								
16								
683.50	Gray Fine SAND							
11								
14								
25								
661.00	Brown & Gray CLAY LOAM TILL							
6								
10								
12								
5								
6								
10								
4								
7								
11								
4								
7								
10								
671.00	Brown & Gray SILTY CLAY LOAM							
2								
16								
3.9								
12.0								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 2 of 3
Date 3/23/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station (Ramp 1)
BORING NO. TB/98575 (TB575)
Station 994+20
Offset 92.00ft LT OF CL
Ground Surface Elev. 690.00 ft

DEPTH (ft)	SOIL DESCRIPTION	U	M	W	Q	T	(ft)	(%)
10	Brown & Gray CLAY LOAM TILL (continued)							
10								
11	no recovery in spoon							
11								
14								
626.00	Gray CLAY LOAM TILL							
6								
7								
10								
641.00	Gray CLAY LOAM TILL							
4								
6								
10								
2.5								
14.0								
9								
20								
17								
2.5								
15.0								
4								
2.1								
17.0								
630.50	DK. Gray CLAY							
6								
18.0								
621.00	Greenish-Gray & Brown SILTY CLAY LOAM TILL							
7								
1.4								
25.0								
5								
8								
2.9								
20.0								
611.00	Gray SILTY LOAM							
4								
2.1								
17.0								
6								
18.0								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 3 of 3
Date 3/23/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station (Ramp 1)
BORING NO. TB/98575 (TB575)
Station 994+20
Offset 92.00ft LT OF CL
Ground Surface Elev. 690.00 ft

DEPTH (ft)	SOIL DESCRIPTION	U	M	W	Q	T	(ft)	(%)
9	DK. Gray CLAY (continued)							
9								
3.5								
5								
601.00	Gray SILTY LOAM (continued)							
5								
7								
1.9								
22.0								
9								
601.00	Greenish-Gray SILTY CLAY LOAM							
5								
8								
2.9								
22.0								
9								
596.00	Greenish-Gray SANDSTONE/SANDY SHALE							
0003								
14.0								
590.75	End of Boring							
10005								
13.0								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED P.J.L.
CHECKED W.D.L.
DRAWN M.G.M.
CHECKED P.J.L.

BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 224-001522

STS-065-880C.dwg 3/25/04 11:51:43 AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	10/25	514
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT		

SHEET NO. 14
16 SHEETS

Contract # 68205

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 2 Date 6/12/00

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD HAMMER TYPE

STRUCT. NO. Station

BORING NO. BBS77 RAMP I Station 21+33
Offset 153.00H L
Ground Surface Elev. 689.34 ft (H) (/6") (tsf) (%)

SOIL DESCRIPTION	DEPTH (ft)	U	M	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After (ft)	After Hrs.	(H) (/6")	(tsf)	(%)
DK BR TO BLK SILTY CLAY, A-7-6 W/ ROOTS & FIBERS	0-4			28.0								5.2	14.0
BR RD BR & GR SILTY CLAY, A-7-6	4-6			26.0								10	9.1
RD BR & GR SILTY CLAY LOAM, A-6	6-8			28.0								37	
GR & RD BR SILTY LOAM, A-6	8-10			26.0								18	5.7
RD BR & GR CLAY, A-7-6	10-12			27.0								14	19.0
GR BR & GR CLAY LOAM, A-6	12-14			26.0								38	
GR SAND, A-1-b	14-16			22.0								6	22.0
GR BR & GR CLAY LOAM, A-6	16-18			22.0								8	6.4
RD BR & GR CLAY, A-7-6	18-20			28.0								10	7.0
RD BR & GR CLAY LOAM, A-6	20-22			28.0								14	6.3
GR BR & GR CLAY LOAM, A-6	22-24			21.0								17	6.7
DK GR SAND, A-2-4	24-26			21.0								26	
GR BR & GR CLAY LOAM, A-6	26-28			17.0								10	
BR SAND, A-5	28-30			14.0								16	6.3
GR & BR CLAY LOAM, A-4	30-32			12.0								20	
BR SAND, A-1-b	32-34			12.0								17	12.0

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 2 Date 6/12/00

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD HAMMER TYPE

STRUCT. NO. Station

BORING NO. BBS77 RAMP I Station 21+33
Offset 153.00H L
Ground Surface Elev. 689.34 ft (H) (/6") (tsf) (%)

SOIL DESCRIPTION	DEPTH (ft)	U	M	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After (ft)	After Hrs.	(H) (/6")	(tsf)	(%)
BR SAND, A-1-b (continued)	34-36			12.0								12	
BR TO BR & GR CLAY LOAM, A-6	36-38			12.0								14	3.8
BR & GR SAND, A-1-b	38-40			15.0								7	20.0
BR TO BR & GR CLAY LOAM, A-6	40-42			20.0								15	
BR SAND, A-1-b	42-44			20.0								28	
BR TO BR & GR CLAY LOAM, A-6	44-46			17.0								17	17.0
BR SAND, A-3	46-48			15.0								10	10.0
BR TO BR & GR CLAY LOAM, A-6	48-50			14.0								17	4.9
GR LOAM, A-6	50-52			15.0								22	5.1
BL GR CLAY, A-7-6	52-54			14.0								19	
BL GR CLAY, A-7-6	54-56			13.0								12	6.1
BL GR CLAY, A-7-6	56-58			13.0								13	3.2
GR TO BL GR CLAY LOAM, A-6	58-60			20.0								8	3.8
BL GR CLAY, A-7-6	60-62			21.0								4	3.8
BL GR CLAY, A-7-6	62-64			21.0								4	3.8
BL GR CLAY, A-7-6	64-66			15.0								3	3.4
BL GR CLAY, A-7-6	66-68			18.0								8	3.9

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

DESIGNED	P.J.L.
CHECKED	W.D.L.
DRAWN	M.G.M.
CHECKED	P.J.L.

BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 224-001522

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	515
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	

SHEET NO. 15
16 SHEETS

Contract # 68205

SOIL BORING LOG

Page 1 of 3 Date 4/7/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	Station	B	U	M	Surface Water Elev.	D	B	U	M
BORING NO.	Station	H	S	Qu	Groundwater Elev.	H	S	Qu	T
BNSF RR (Ramp 1)	924+50				681.5 ft				
BB791 (BB91)	91.00ft RL				678.7 ft				
	Ground Surface Elev. 590.50 ft				687.1 ft				
Dk. Brown SILTY LOAM	686.50	3	2.5	24.0	Brown & Reddish-Brown CLAY LOAM TILL (continued)	16	S		
		4	S			6			
		3	2.5	24.0		15	3.9	11.0	
		4	S			14	S		
Brown & Gray Mottled SILTY CLAY LOAM	686.50	2	2	28.0	Gray CLAY LOAM TILL	666.50	5		
		2	0.7	28.0			5	5.6	13.0
		2	S				12	S	
		1					4		
		2	2.1	27.0			8	7.2	13.0
		3	S				13	S	
		1					5	4.5	13.0
		1	0.6	25.0			6		
		2	S				9	3.8	15.0
							15	S	19.0
Brown & Gray SANDY CLAY LOAM	679.00	1			Gray & Greenish-Gray CLAY LOAM TILL	659.00	4		
		3	2.7	25.0			7	4.5	15.0
		5	S				11	S	
		2					3		
		2	1.5	25.0			7	3.9	19.0
		5	B				10	S	
							10	S	
		2			Dk. Gray CLAY TILL Poor recovery	654.00	7		
		6	1.5	18.0			8	1.0	25.0
		10	S				8	P	
reddish-brown	671.50				Gray & Brown CLAY LOAM TILL	651.50	3		
Brown & Reddish-Brown CLAY LOAM TILL		6					6	3.5	17.0
		8	3.5	13.0			6	3.5	17.0

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Page 2 of 3 Date 4/7/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	Station	B	U	M	Surface Water Elev.	D	B	U	M
BORING NO.	Station	H	S	Qu	Groundwater Elev.	H	S	Qu	T
BNSF RR (Ramp 1)	924+50				681.5 ft				
BB791 (BB91)	91.00ft RL				678.7 ft				
	Ground Surface Elev. 590.50 ft				687.1 ft				
Gray & Brown CLAY LOAM TILL (continued)	649.00	8	B		Greenish-Gray CLAY LOAM TILL (continued)	9	B		
		7					4		
Gray & Greenish-Gray CLAY LOAM TILL	646.50	9	5.3	14.0			7	3.3	23.0
		17	S				9	S	
Gray Fine SAND	645.75	12		19.0			4		
		11					6	3.5	25.0
Gray & Greenish-Gray CLAY LOAM TILL	644.00	14	4.6	14.0			7	S	
		14	S				13	B	
Gray Fine SAND	643.25	5		16.0			3		
		22					6	2.6	25.0
Brown & Gray CLAY LOAM TILL		18	B				6	S	
		6					4		
		9	3.8	15.0			5	3.3	23.0
		15	S				9	S	
		7					3		
		12	4.1	15.0			5	3.3	19.0
		13	S				7	B	
		7					3		
		10	2.9	14.0			4	2.3	19.0
		14	S				7	B	
Greenish-Gray CLAY LOAM TILL	634.00	5					5		
		8	3.9	14.0			11	3.3	14.0
		10	B				12	B	
		3					4		
		5	3.1	17.0			9	3.1	14.0

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Page 3 of 3 Date 4/7/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	Station	B	U	M	Surface Water Elev.	D	B	U	M
BORING NO.	Station	H	S	Qu	Groundwater Elev.	H	S	Qu	T
BNSF RR (Ramp 1)	924+50				681.5 ft				
BB791 (BB91)	91.00ft RL				678.7 ft				
	Ground Surface Elev. 590.50 ft				687.1 ft				
Greenish-Gray CLAY LOAM TILL (continued)	601.50	12	B				6	2.9	14.0
		6					8	B	
Gray & Dk. Brown SILTY LOAM w/ organics	608.00	15	6.4	21.0			15	6.4	21.0
		15	S				6		
		6					9	3.3	37.0
		13	B				13	B	
		5					9	5.0	18.0
		16	B				16	B	
Gray CLAY	601.50	6					6		
		9	3.9	20.0			9	3.9	20.0
		12	B				12	B	
Brown & Gray CLAY LOAM TILL	599.00	6					9	5.8	22.0
		14	S				14	S	
		10					10		
		19	5.8	21.0			19	5.8	21.0
		19	S				19	S	
Gray SANDSTONE/SANDY SHALE	594.00	0002							
End of Boring									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

**BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13**

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309)676-8464
FAX (309)676-5445
IL Design Firm Reg. No. 224-001522

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Contract # 68205

Illinois Department of Transportation
Division of Highways
DOT

SOIL BORING LOG Page 1 of 2 Date 4/4/00

ROUTE FAP 315 (L 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD HAMMER TYPE

STRUCT. NO. Station

BORING NO. BBS78 RAMP I Station 22+13
Offset 163.00H L1
Ground Surface Elev. 680.30 ft (H) (/6") (tsf) (%)

SOIL DESCRIPTION	DEPTH (ft)	DIAMETER (in)	WATER CONTENT (%)	UNSATURATED SWELLING (%)	MOISTURE RATIO	LIQUID LIMIT (PL)	PLASTICITY INDEX (PI)	UNSATURATED SWELLING (%)	MOISTURE RATIO	LIQUID LIMIT (PL)	PLASTICITY INDEX (PI)
DK BR TO BLK SILTY CLAY, A-7-6 W/ ROOTS FIBER	689.30	2.5	2.1	24.0							
BR, RD BR & GR SILTY CLAY, A-7-6	687.30	2.5									
RD BR & GR SILTY LOAM, A-6	684.80	2.5	1.2	27.0							
GR & RD BR SILTY CLAY LOAM, A-6	682.30	2.5	1.6	25.0							
RD BR & GR CLAY, A-7-6	679.80	2.5	1.6	25.0							
RD BR & GR CLAY LOAM, A-6	677.30	2.5	2.9	22.0							
BR TO BR & GR CLAY LOAM, A-6	674.80	2.5	1.5	21.0							
GR BR & GR CLAY LOAM, A-6	672.30	2.5	4.9	13.0							
GR BR SAND, A-1-b	670.30	2.5									
GR & BR CLAY LOAM, A-4	667.30	2.5	8.3	13.0							
GR SAND A-1-b	665.30	2.5									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
DOT

SOIL BORING LOG Page 1 of 2 Date 4/4/00

ROUTE FAP 315 (L 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD HAMMER TYPE

STRUCT. NO. Station

BORING NO. BBS78 RAMP I Station 22+13
Offset 163.00H L1
Ground Surface Elev. 680.30 ft (H) (/6") (tsf) (%)

SOIL DESCRIPTION	DEPTH (ft)	DIAMETER (in)	WATER CONTENT (%)	UNSATURATED SWELLING (%)	MOISTURE RATIO	LIQUID LIMIT (PL)	PLASTICITY INDEX (PI)	UNSATURATED SWELLING (%)	MOISTURE RATIO	LIQUID LIMIT (PL)	PLASTICITY INDEX (PI)
DK BR TO BLK SILTY CLAY, A-7-6 W/ ROOTS FIBER	689.30	2.5	2.1	24.0							
BR, RD BR & GR SILTY CLAY, A-7-6	687.30	2.5									
RD BR & GR SILTY LOAM, A-6	684.80	2.5	1.2	27.0							
GR & RD BR SILTY CLAY LOAM, A-6	682.30	2.5	1.6	25.0							
RD BR & GR CLAY, A-7-6	679.80	2.5	1.6	25.0							
RD BR & GR CLAY LOAM, A-6	677.30	2.5	2.9	22.0							
BR TO BR & GR CLAY LOAM, A-6	674.80	2.5	1.5	21.0							
GR BR & GR CLAY LOAM, A-6	672.30	2.5	4.9	13.0							
GR BR SAND, A-1-b	670.30	2.5									
GR & BR CLAY LOAM, A-4	667.30	2.5	8.3	13.0							
GR SAND A-1-b	665.30	2.5									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

DESIGNED P.J.L.
CHECKED W.D.L.
DRAWN M.G.M.
CHECKED P.J.L.

BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
RAMP I
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 21+61.48
STRUCTURE NO. 055-9902
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.13

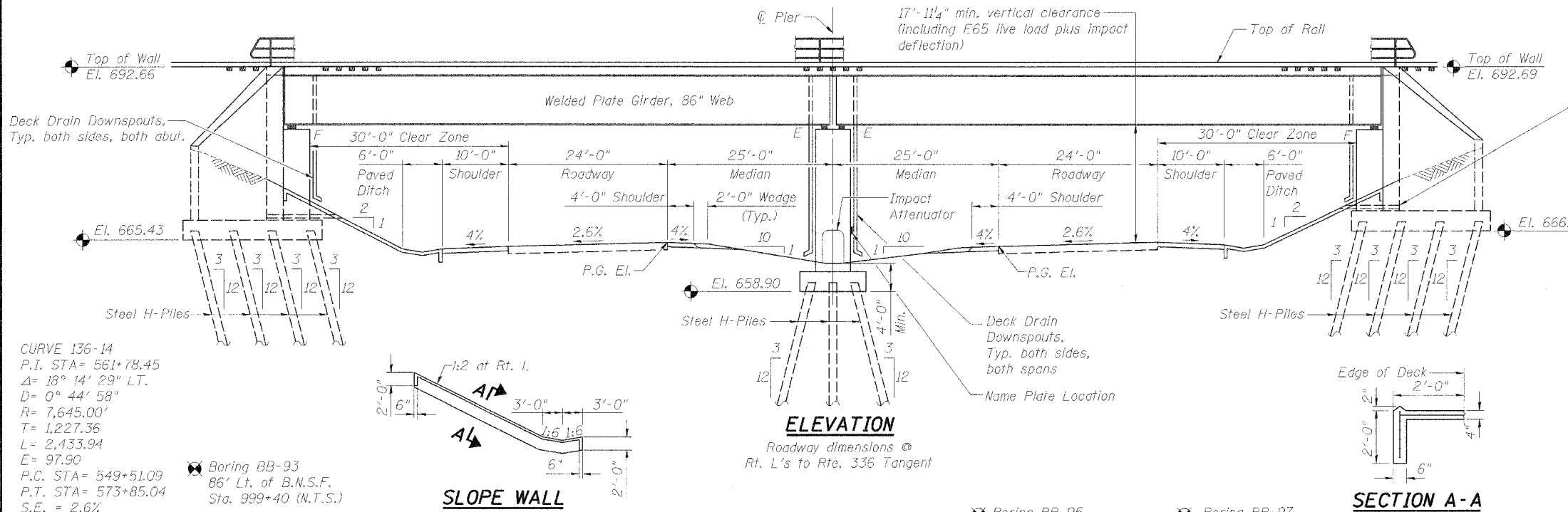


Benchmark: #33 Iron Rod with cap, 24'-5 5/8" Lt.; B.N.S.F. Sta. 1010+79.14 (N 1,376,589.403, E 2,138,781.303) El. 692.74
Existing Structure: None. B.N.S.F. R.R. traffic will be maintained on shoofly constructed south of existing alignment.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	517
ILLINOIS		SHEET NO. 19 SHEETS		

Contract # 68205



See Details Sht. 2 of 19:
Provide Drainage of compacted Porous Granular Embankment (Special) and waterproof back of abutments and wing walls above footing. (Typ. both abutments)

Structure to be owned and maintained by State of Illinois Department of Transportation.

B.N.S.F. R.R.
BUILT 20-- BY
STATE OF ILLINOIS
F.A.P. RTE. 315 SEC. 55-2
STA. 554+41.57
LOADING COOPER'S E-80
STR. NO. 055-9901

NAME PLATE
See Std. 515001

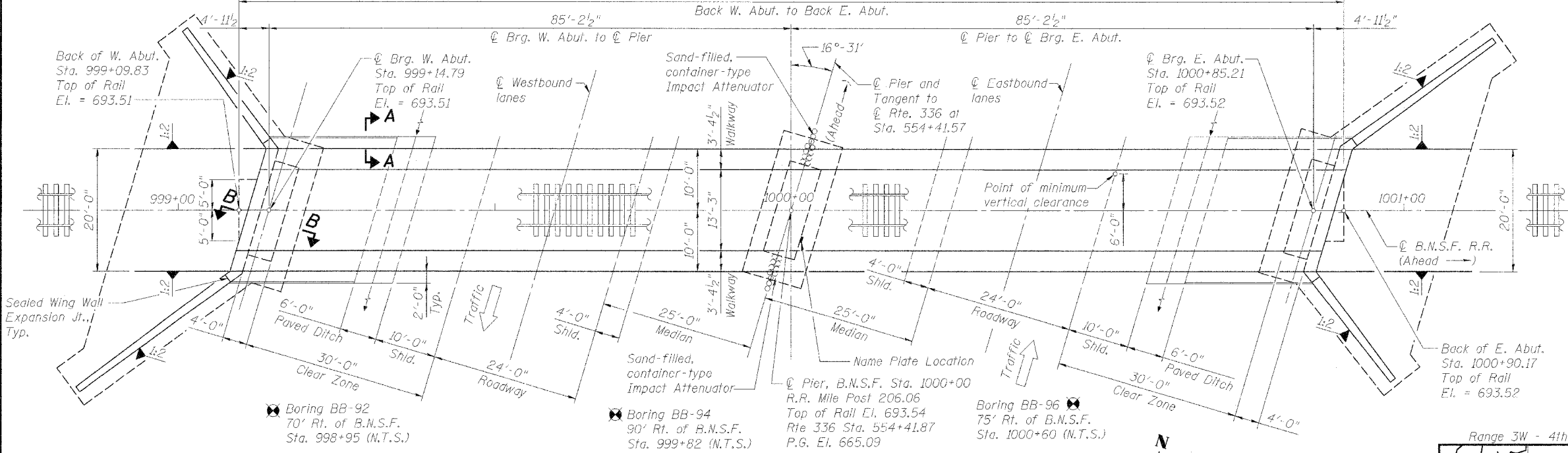
CURVE 136-14
P.I. STA = 561+78.45
 $\Delta = 18^\circ 14' 29''$ LT.
 $D = 0^\circ 44' 58''$
 $R = 7,645.00'$
 $T = 1,227.36$
 $L = 2,133.94$
 $E = 97.90$
P.C. STA = 549+51.09
P.T. STA = 573+85.04
S.E. = 2.6%

Boring BB-93
86' Lt. of B.N.S.F.
Sta. 999+40 (N.T.S.)

Boring BB-95
82' Lt. of B.N.S.F.
Sta. 1000+22 (N.T.S.)

Boring BB-97
70' Lt. of B.N.S.F.
Sta. 1001+04 (N.T.S.)

HORIZONTAL CURVE DATA

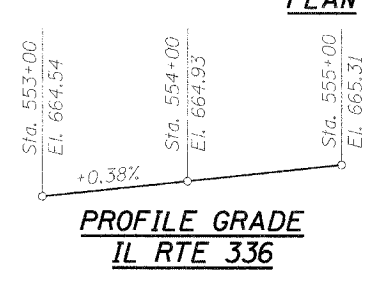
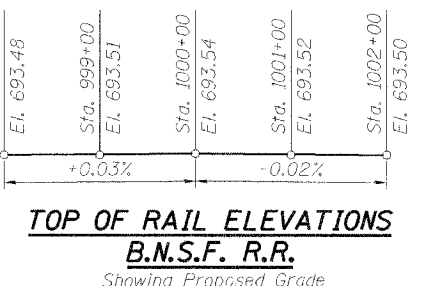


Boring BB-92
70' Rt. of B.N.S.F.
Sta. 998+95 (N.T.S.)

Boring BB-94
90' Rt. of B.N.S.F.
Sta. 999+82 (N.T.S.)

Boring BB-96
75' Rt. of B.N.S.F.
Sta. 1000+60 (N.T.S.)

DESIGNED	PJL
CHECKED	WGL
DRAWN	MGM
CHECKED	PJL



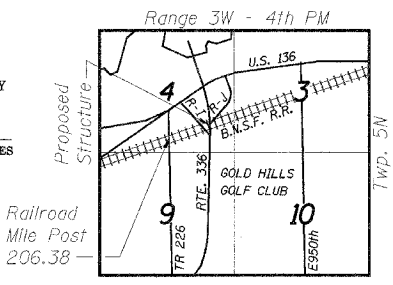
PLAN

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



Philip J. Lane
Philip J. Lane
Illinois Licensed Structural Engineer No. 4084
Lic. Expires: 11/30/06

3/30/06
Date



INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Total Bill of Material, General Notes, & Substructure Layout
- 3 Deck Details
- 4 Pedestrian Railing
- 5 Framing Plan
- 6 Diaphragms
- 7 Bearings, Reaction & Moment Tables
- 8 Anchor Bolt Details
- 9 West Abutment Details
- 10 West Abutment & Wing Wall Reinforcement
- 11 East Abutment Details
- 12 East Abutment & Wing Wall Reinforcement
- 13 Pier Details
- 14-19 Boring Logs

DESIGN SPECIFICATIONS

2005 A.R.E.M.A. Specifications

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi Reinforcement
 $f_y = 50,000$ psi Structural Steel (AASHTO M270, Grade 50)

DESIGN LOADING

- 1.) Cooper's E-80 with diesel impact
- 2.) Allow 60 psf for future 6" additional ballast
- 3.) Walkway live load 85 psf
- 4.) Alternate short term loading per B.N.S.F. requirements: Cooper's E-65 with diesel impact while a fascia girder is temporarily out of service for repairs. (Dead load to a girder is unchanged.)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 4.0% g
Site Coefficient (S) = 1.0

GENERAL PLAN & ELEVATION
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph: (309) 676-8464
FAX: (309) 676-5445
IL Design Firm Reg. No. 224-001522

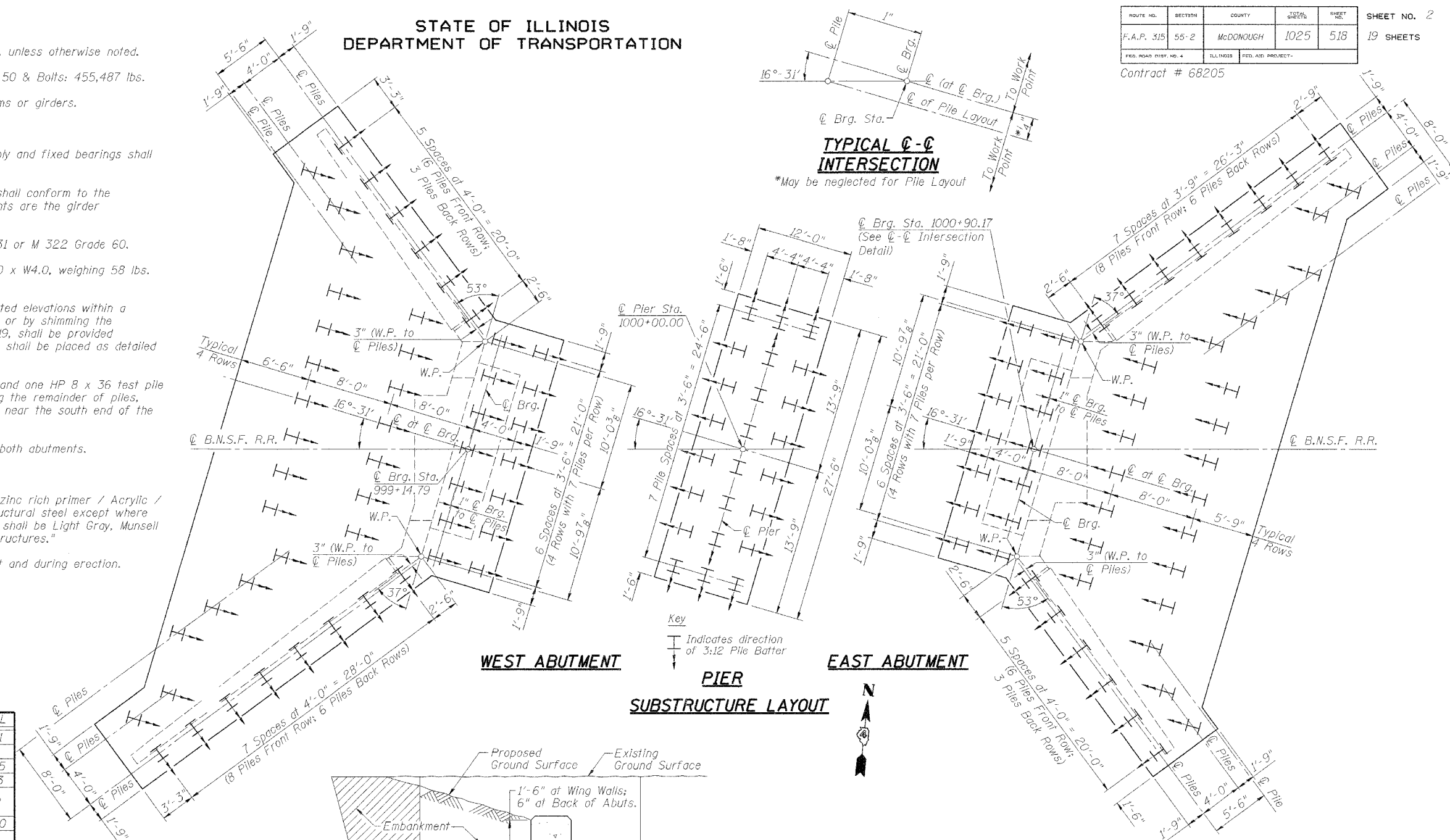
GENERAL NOTES

- Fasteners shall be high strength bolts. Bolts 7/8" φ, open holes 15/16" φ, unless otherwise noted.
- Calculated weight of Structural Steel = Grade 36: 115,304 lbs.; Grade 50 & Bolts: 455,487 lbs.
- Field welding of construction accessories will not be permitted to beams or girders.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The structural steel bearing plates of the Elastomeric Bearing Assembly and fixed bearings shall conform to the requirements of AASHTO M 270 Grade 50.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the girder tension flanges and webs, noted "N.T.R." on Sht. 5 and 6 of 19.
- Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
- Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8". Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3/8" adjusting shims, of the dimensions shown on Sht. 7 of 19, shall be provided for each bearing in addition to all other plates or shims. Adjusting shims shall be placed as detailed on Sht. 7 of 19.
- The Contractor shall drive three HP 14 x 73 test piles at abutments and one HP 8 x 36 test pile at pier in permanent locations as directed by the Engineer before ordering the remainder of piles, thus: 2 at the West Abutment (1 near the north end of the wingwall and 1 near the south end of the wingwall); 1 at the pier and 1 at the East Abutment.
- Bridge Seat Sealer shall be applied to the seat area of the pier and both abutments.
- All Construction joints shall be bonded.
- Painting new steel as part of F & E structural steel: The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all steel surfaces shall be Light Gray, Munsell No. 10Y 7/1. See special provision for "Cleaning and Painting New Metal Structures."
- The contractor is to ensure stability of plate girders during transport and during erection.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 2
F.A.P. 315	55-2	MCDONOUGH	1025	518	19 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT			

Contract # 68205



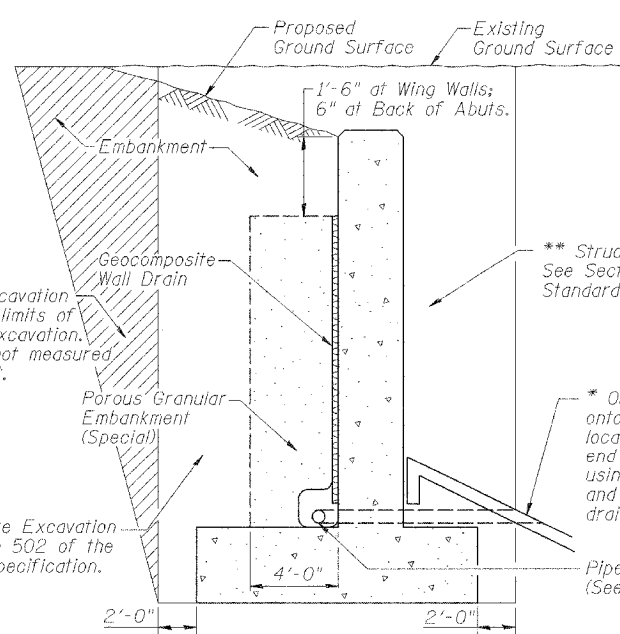
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		3,091	3,091
Ballast Drains	Foot	549		549
Concrete Structures	Cu. Yd.		640.5	640.5
Membrane Waterproofing (Special)	Sq. Ft.	2,913		2,913
Furnishing and Erecting Structural Steel	L. Sum	0.42		0.42
Reinforcement Bars, Epoxy Coated	Pound		106,110	106,110
Test Pile Steel HP 14 x 73	Each		3	3
Furnishing Steel Piles HP 14 x 73	Foot		5,251	5,251
Test Pile Steel HP 8 x 36	Each		1	1
Furnishing Steel Piles HP 8 x 36	Foot		1,725	1,725
Driving Steel Piles	Foot		6,976	6,976
Elastomeric Bearing Assembly Type I (Special)	Each	10		10
Name Plates	Each		1	1
Slopedwall 4 Inch	Sq. Yd.		130.4	130.4
Porous Granular Embankment (Special)	Cu. Yd.		390	390
Pipe Handrail, Special	Foot	355		355
Bridge Seat Sealer	Sq. Ft.		213	213
Metal Shoes	Each		122	122
Geocomposite Wall Drain	Sq. Yd.		322	322
Pipe Underdrains for Structures, 4"	Foot		196	196

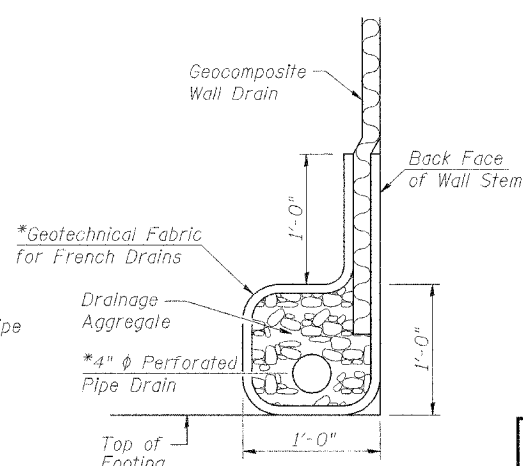
DESIGNED P.J.L
CHECKED W.D.L
DRAWN M.G.M
CHECKED P.J.L

* Included in the cost of "Pipe Underdrains for Structures"

** Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment in accordance with Section 205 of the Standard Specifications.



TYPICAL SECTION THRU ABUTMENT AND WING WALLS WITH PIPE UNDERDRAIN OUTLET



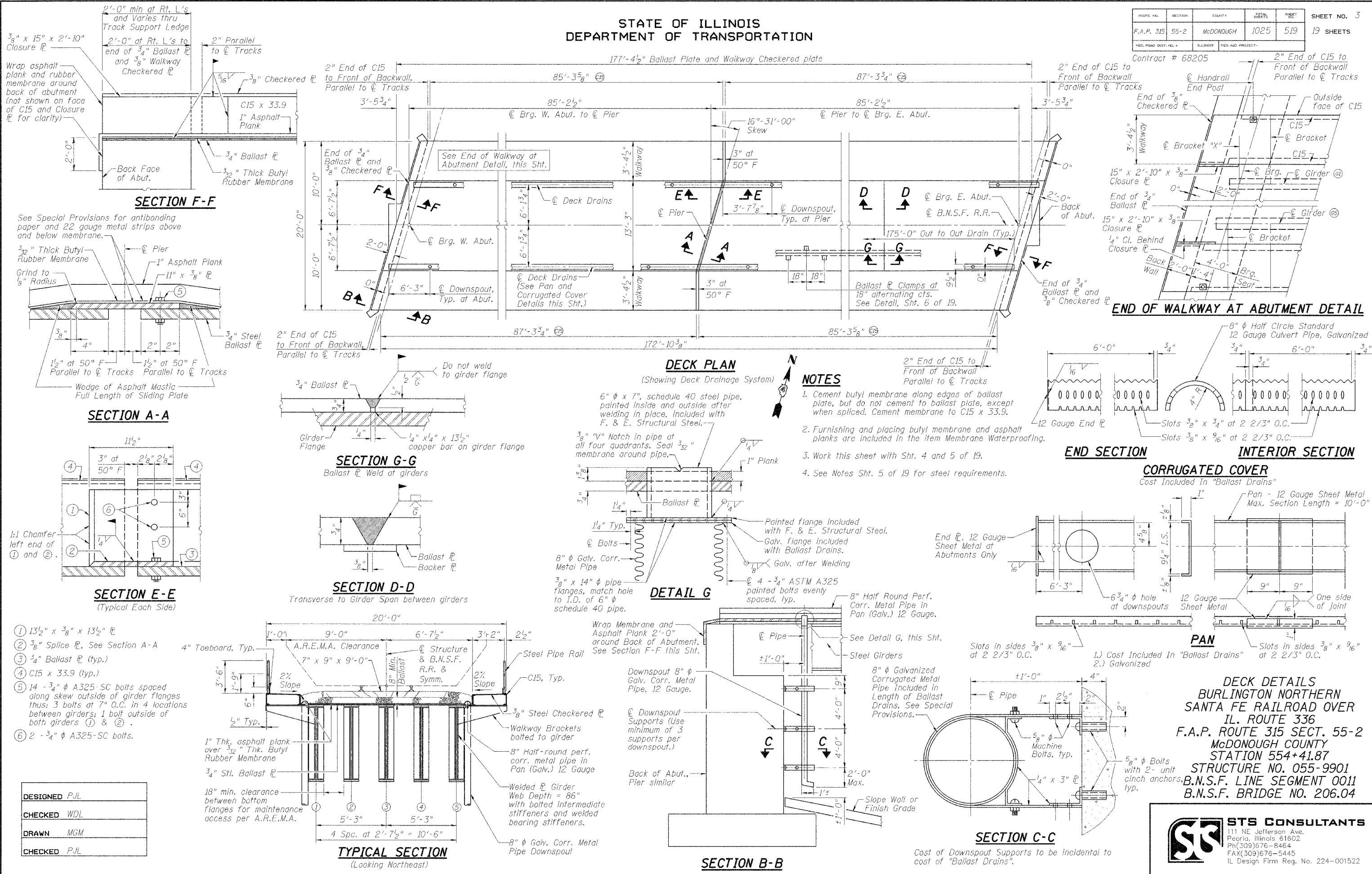
PIPE UNDERDRAIN DETAIL

TOTAL BILL OF MATERIAL, GENERAL NOTES, & SUBSTRUCTURE LAYOUT
BURLINGTON NORTHERN SANTA FE RAILROAD OVER IL. ROUTE 336
 F.A.P. ROUTE 315 SECT. 55-2
 MCDONOUGH COUNTY
 STATION 554+41.87
 STRUCTURE NO. 055-9901
 B.N.S.F. LINE SEGMENT 0011
 B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
 111 NE Jefferson Ave.
 Peoria, Illinois 61602
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 FAX (309) 676-5445
 IL Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
F.A.P. 315	55-2	McDONOUGH	1025	519	19 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-			



DECK PLAN
(Showing Deck Drainage System)

NOTES

1. Cement butyl membrane along edges of ballast plate, but do not cement to ballast plate, except when spliced. Cement membrane to C15 x 33.9.
2. Furnishing and placing butyl membrane and asphalt planks are included in the item Membrane Waterproofing.
3. Work this sheet with Sht. 4 and 5 of 19.
4. See Notes Sht. 5 of 19 for steel requirements.

- ① 13 1/2" x 3/8" x 13 1/2" PL
- ② 3/8" Splice PL, See Section A-A
- ③ 3/4" Ballast PL (typ.)
- ④ C15 x 33.9 (typ.)
- ⑤ 14 - 3/4" φ A325-SC bolts spaced along skew outside of girder flanges thus: 3 bolts at 7" O.C. in 4 locations between girders; 1 bolt outside of both girders ① & ②.
- ⑥ 2 - 3/4" φ A325-SC bolts.

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

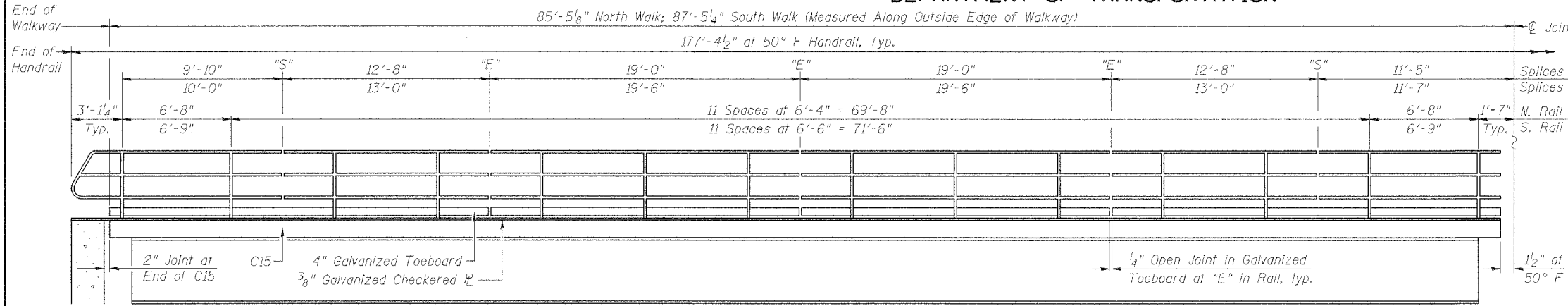
DECK DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

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IL Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	520	19 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT-		

Contract # 68205



HANDRAIL ELEVATION - SPAN 1
(Looking North)

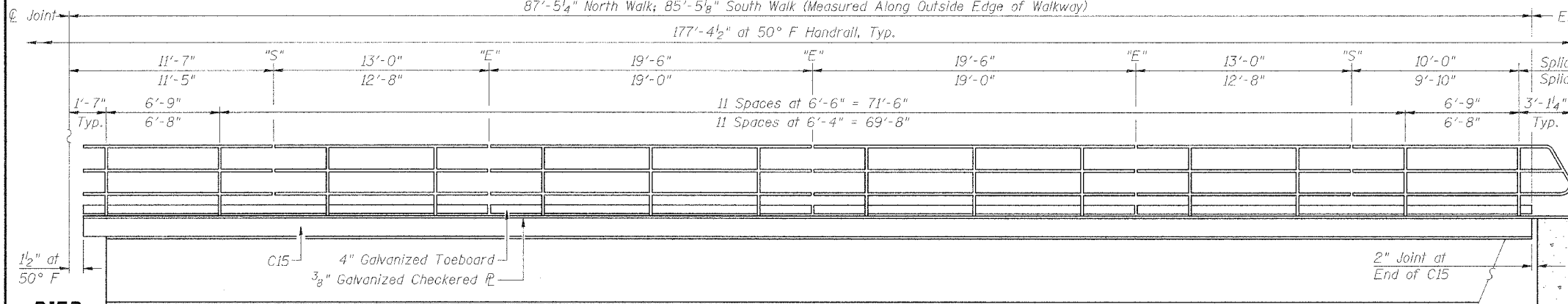
Galvanized Toeboard is included in cost of Pipe Handrail, Special. See also Special Provisions.

87'-5 1/4" North Walk; 85'-5 1/8" South Walk (Measured Along Outside Edge of Walkway)

177'-4 1/2" at 50° F Handrail, Typ.

WEST ABUTMENT

PIER

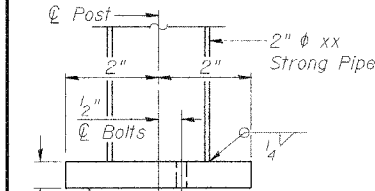


HANDRAIL ELEVATION - SPAN 2
(Looking North)

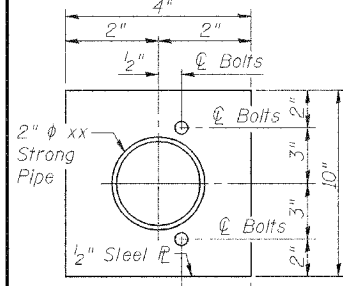
Galvanized Toeboard is included in cost of Pipe Handrail, Special. See also Special Provisions.

PIER

EAST ABUTMENT



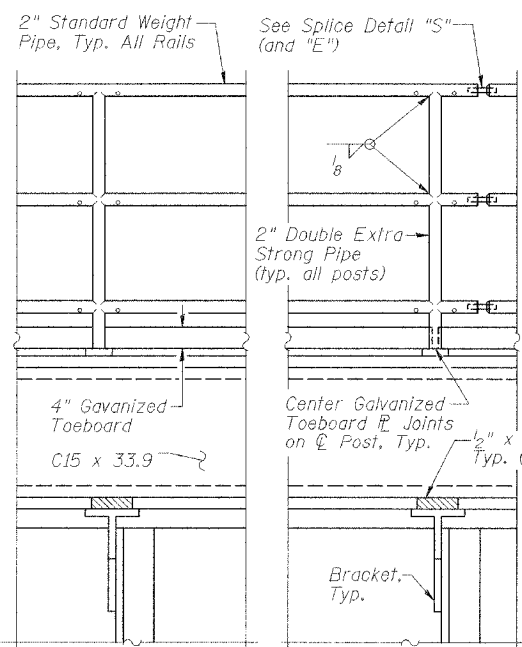
SIDE VIEW



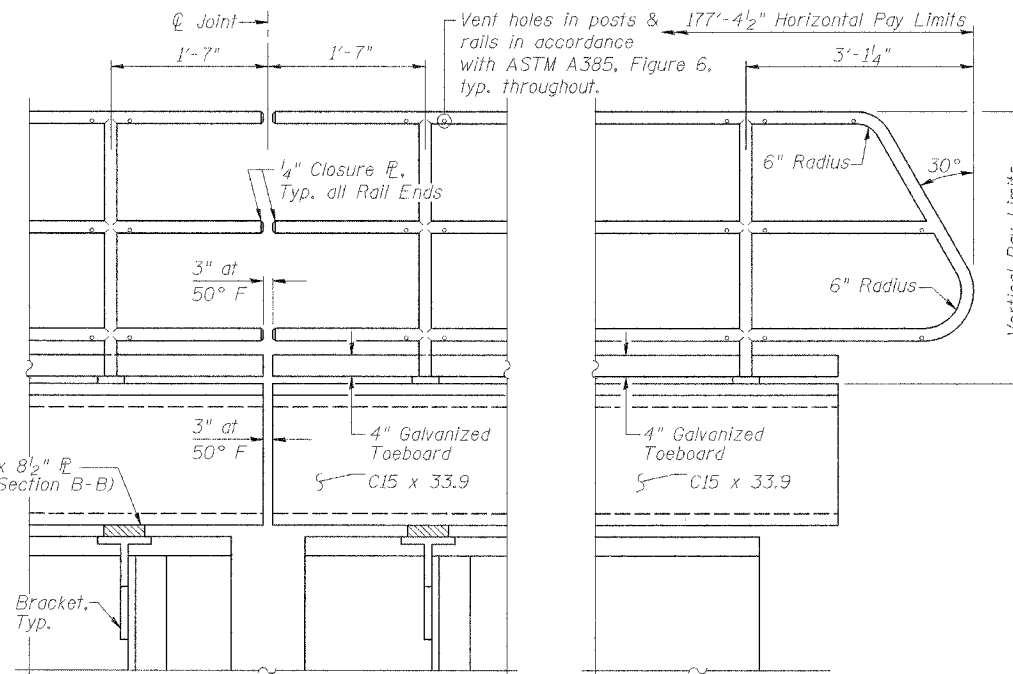
TOP VIEW

BASE PLATE DETAIL

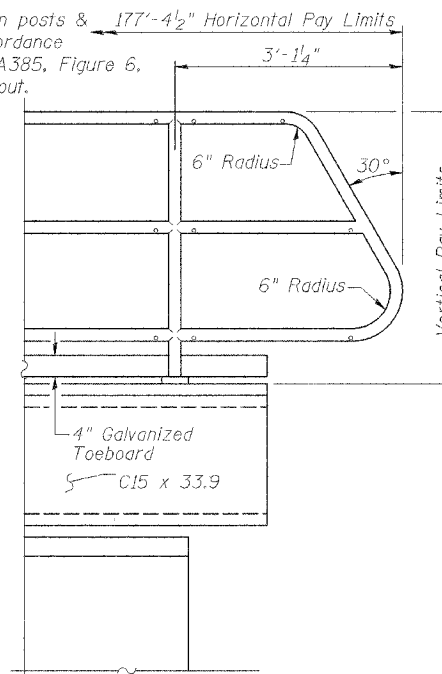
DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL



TYPICAL SECTION



AT PIER

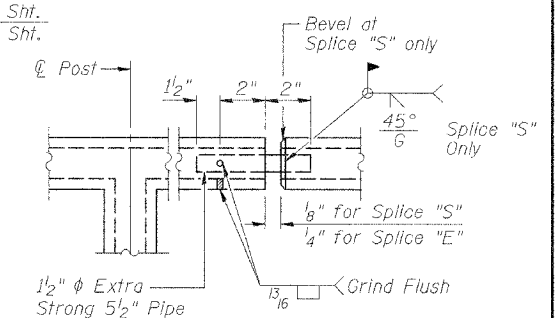


END POST

BILL OF MATERIAL

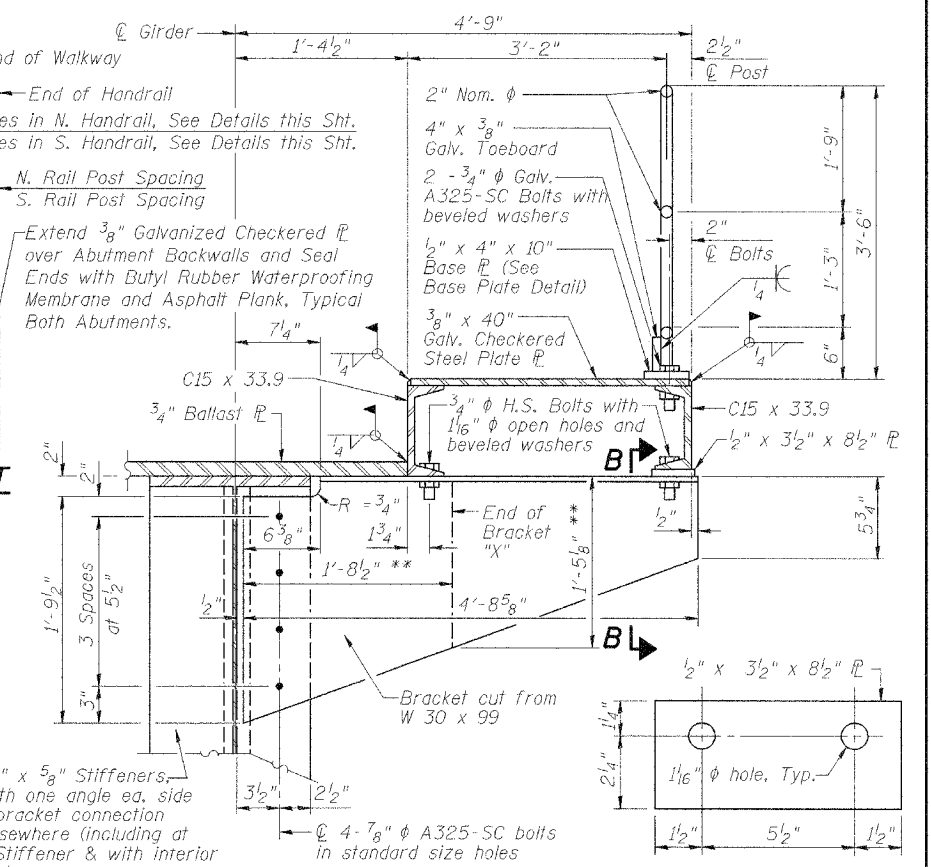
ITEM	UNIT	TOTAL
Pipe Handrail, Special	Foot	355

Splices in N. Handrail, See Details this Sht.
Splices in S. Handrail, See Details this Sht.
N. Rail Post Spacing
S. Rail Post Spacing
Note: At contractor's option, shop assembly of walkway C15's and galvanized checkered plate, with or without railing and galvanized toeboard, is permitted.

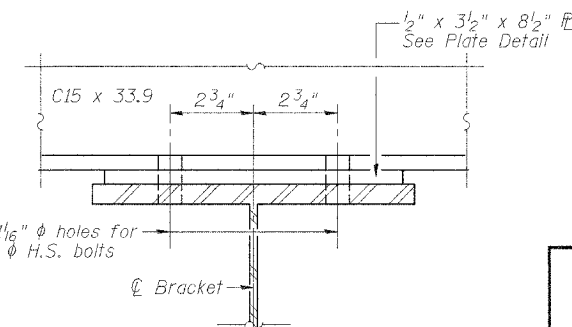


SPLICE DETAIL "S"

Expansion Detail "E" same except as noted.



WALKWAY BRACKET DETAIL
** Bracket "X" Only



SECTION B-B

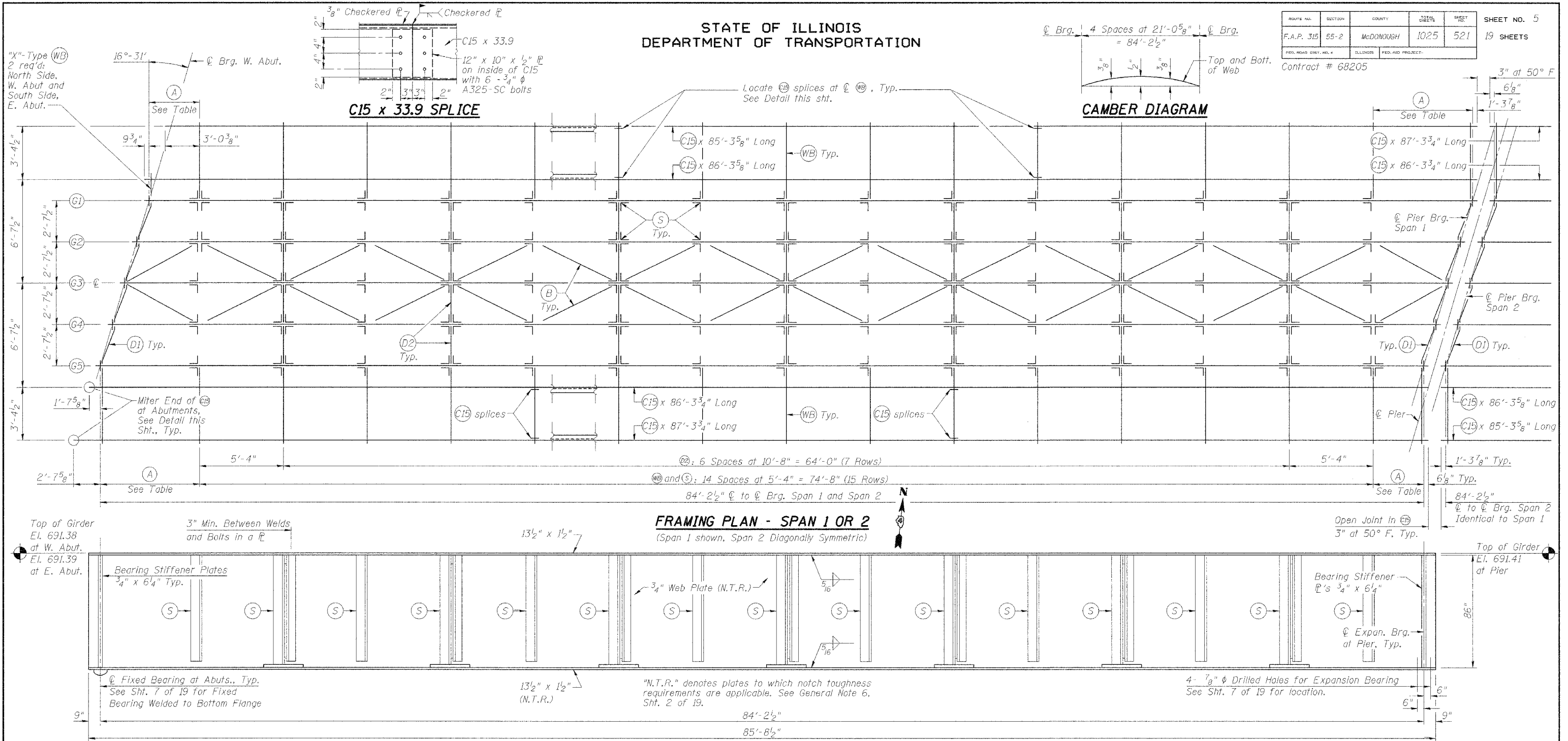
PLATE DETAIL

PEDESTRIAN RAILING
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 676-8464
FAX (309) 676-5445
IL Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5
F.A.P. 315	55-2	MCDONOUGH	1025	521	19 SHEETS
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT		Contract # 68205

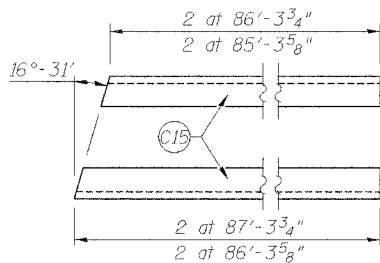


KEY

- (G1) Plate Girder Designations
- (D1) End Diaphragms
- (D2) Interior Diaphragms
- (WB) WT 6 x 25 Bottom Flange Diagonal Bracing
- (S) Intermediate Stiffeners L 6" x 6" x 5/8", number of angles as shown and described thus:
 1. (G1) & (S):
 - a.) With (WB) on ext. face of (G1) & (S): one L outside face
 - b.) With (WB) on (G1) & (S): two L's inside face
 - c.) Without (WB) on (G1) & (S): one L on inside face
 - d.) Exception: 4 L's (2 each face) W. End of (G1) & E. End of (S).
 2. (D1) thru (D4):
 - a.) With (WB): four L's (2 each face)
 - b.) Without (WB): two L's (1 each face)
 - c.) Exception: 4 L's (2 each face) W. End of (G1) & E. End of (D4).
- (WB) Walkway Bracket cut from W 30 x 99 (Two of Type "X"). See Detail Sht. 6 of 19.
- (S) C15 x 33.9 Walkway Stringer.

ELEVATION OF GIRDERS

Note: See Camber Diagram this Sht.



FIRST INTERMEDIATE STIFFENER SPACING "A"

MITER DETAIL AT ABUTMENT

STEEL MATERIALS

1. Steel Plates for Welded Plate Girders, Diaphragms, Stiffeners, Ballast Plate, Walkway Brackets (WB), WT 6 x 25 Bracing (S) and its Gussets WT12 x 47: AASHTO M270 Grade 50.
2. Angles for Stiffeners (S) and Channels (S): AASHTO M270 Grade 36.
3. 3/8" Checkered Plate Walkway: ASTM A786 Pattern No. 1,2,3,4, or 5 using AASHTO M270 Grade 36 Steel. Galvanized in accordance with ASTM A123. See note 7 below.
4. Steel Railing in accordance with Section 542 of the Standard Specifications for Road and Bridge Construction. Galvanized in accordance with ASTM A123. See note 7 below.
5. Steel in contact with the Ballast shall be copper bearing (0.20 % Min.): Ballast Plate and its Joint Closure Plates, interior (S) and its Joint Closure Plates. See AASHTO M270.
6. Complete Joint Penetration (CJP) butt joints are permitted in web plates and flange plates subject to the following limitations:
 - a.) Meet AASHTO/AWS D1.5 and ILDOT requirements.
 - b.) No more than one per web or flange.
 - c.) CJP welds in the flange and the web must be separated by at least 36".
 - d.) No CJP within 4 ft. of the girder midspan.
 - e.) No CJP within 3" from bolt holes.
7. Damage to galvanizing shall be repaired in accordance with ASTM A780, Method A2.

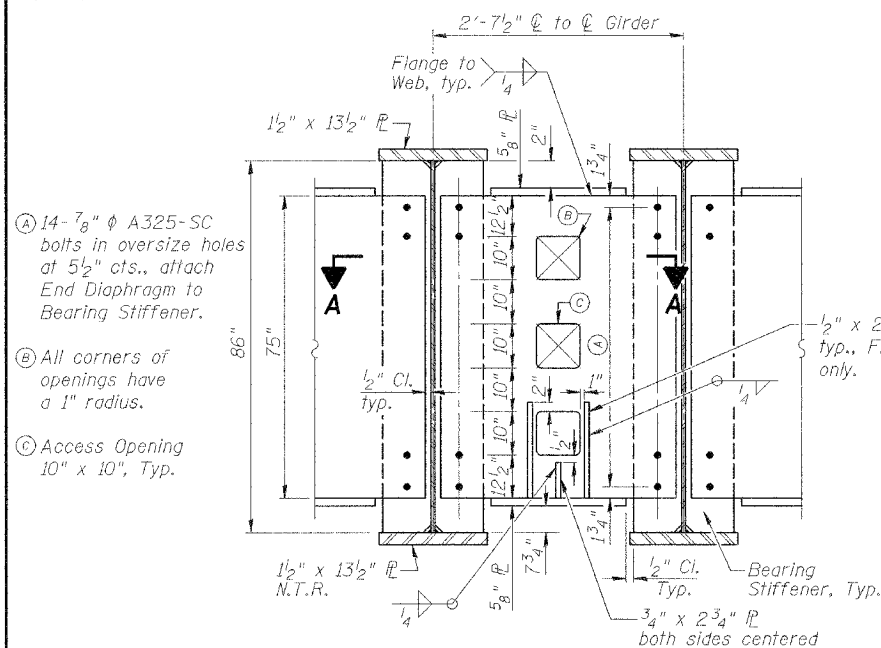
FRAMING PLAN
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

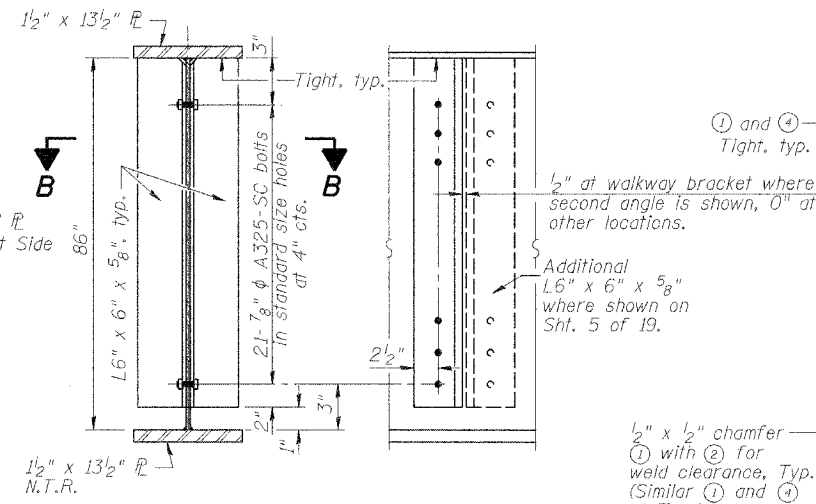
ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 6 19 SHEETS
F.A.P. 315	55-2	McDONOUGH	1025	522	
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-			

Contract # 68205



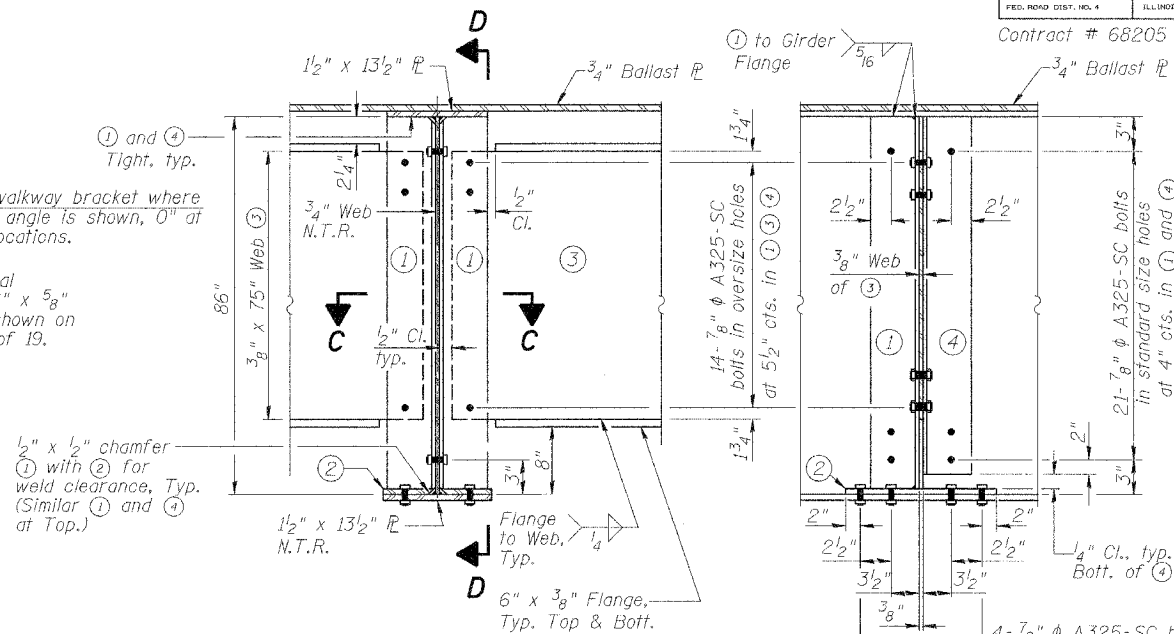
END DIAPHRAGM (D1) DETAIL
at Pier and Abutments

Note: WT6 x 25 horizontal bracing and attachments not shown.
See Note 3, this Sht.



DETAIL AT INTERMEDIATE STIFFENER
WITHOUT INTERIOR DIAPHRAGM

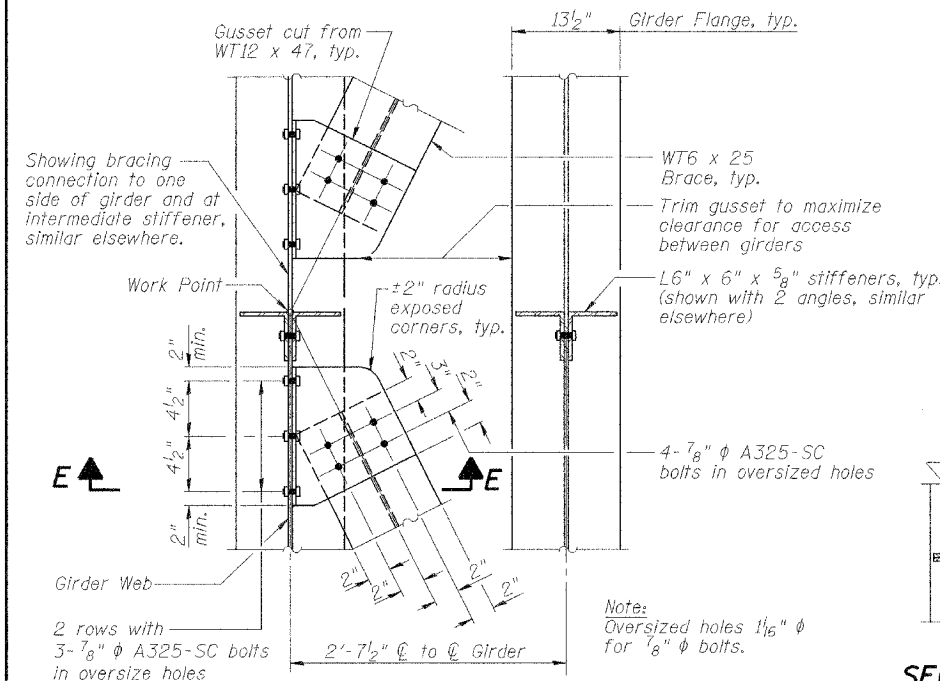
Note: WT6 x 25 horizontal bracing and attachments not shown.



DETAIL AT INTERIOR DIAPHRAGM (D2)

Note: WT6 x 25 horizontal bracing and attachments not shown.

SECTION D-D

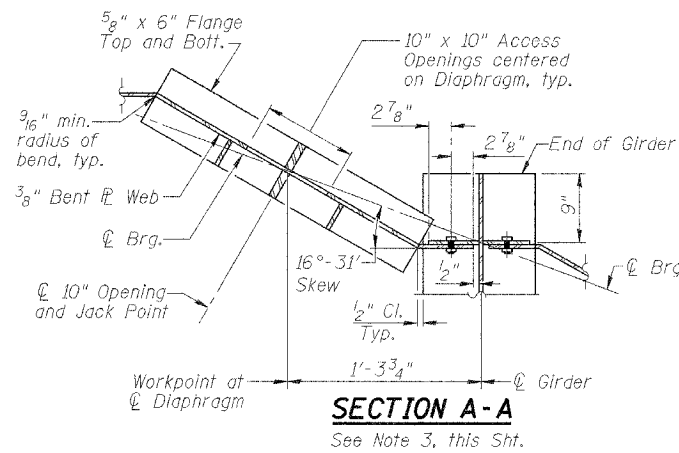


BRACING CONNECTION DETAIL

NOTES

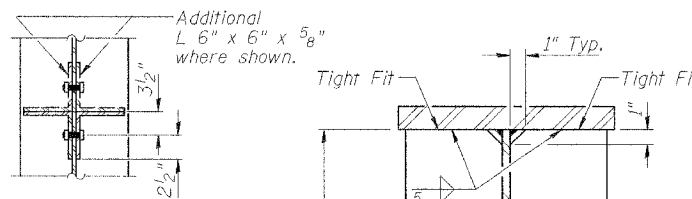
- All contact surfaces of joints for the diaphragms, stiffeners, and lateral bracing shall be free of paint and lacquer.
- All bolt holes in diaphragm and lateral bracing connections shall be 1/16 inch diameter with two hardened washers used with each bolt.
- Four jack points of 45 tons capacity each are provided at the bearing center line and midway between each girder of each span. Apply jacking force at all four points with simultaneous and equal lift distance to change one or all bearings. Provide a 1 3/4 inch minimum thick, 9 inch x 10 inch bearing plate between bottom of jack and top of concrete bearing ledge. Use 3/4 inch minimum thick, 5 inch x 5 inch plate between top of jack ram piston and bottom of diaphragm flange. Center jacks on 3/4 inch thick double web stiffeners and diaphragm web plate. Remove all live load prior to jacking.

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL



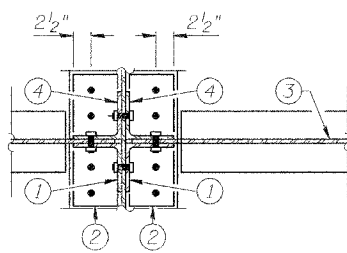
SECTION A-A

See Note 3, this Sht.

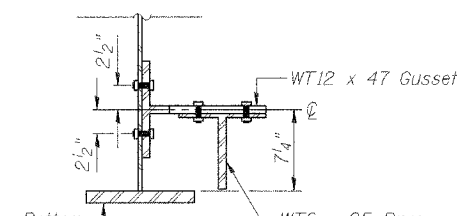


SECTION B-B

Shown with two angles each face, similar with one angle each face.

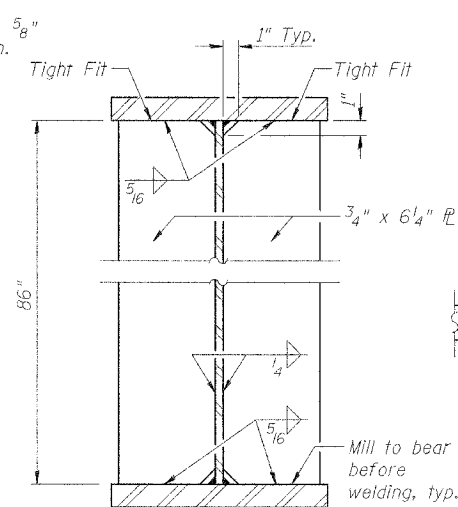


SECTION C-C



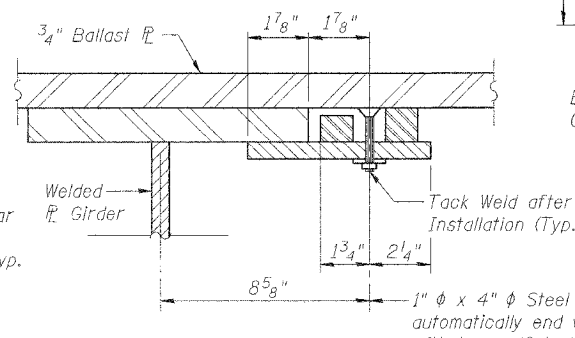
SECTION E-E

At Lateral Bracing Connection Plate



BEARING STIFFENER

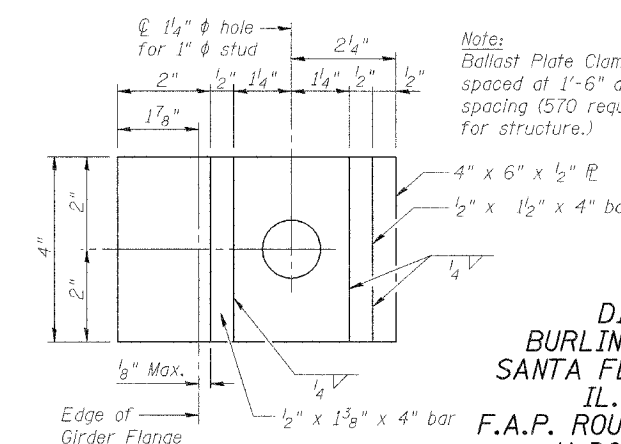
(See Also End Diaphragm Detail this sheet.)



BALLAST PLATE CLAMP

KEY NOTES

- 1/2 inch x 6 inch x 5/8 inch welded to (2) top and bottom and shop bolted to girder web with 14-7/8 inch diameter A325-SC bolts in 1/16 inch oversized holes.
- 3/4 inch x 6 1/4 inch x 16 3/8 inch plate, shop bolted to girder with 4-7/8 inch diameter A325-SC bolts in standard size holes. 1/2 inch x 1/2 inch chamfer for weld clearance, typ. (To facilitate installation of (4), 2 bolts may be field installed after (4) is placed. Optionally, rotate (4) in place around the shop-installed bolts.)
- Interior Diaphragm (D2) field bolted to (1) and (4) with 14-7/8 inch diameter A325-SC bolts in oversized holes.
- 1/2 inch x 6 inch x 5/8 inch - 85 inch long field bolted to (1) and (3) with 7/8 inch diameter bolts in 1/16 inch oversized holes. (2) is not welded to (4). Top of (4) tight to girder flange, not welded.



TYPICAL BALLAST PLATE CLAMP DETAILS

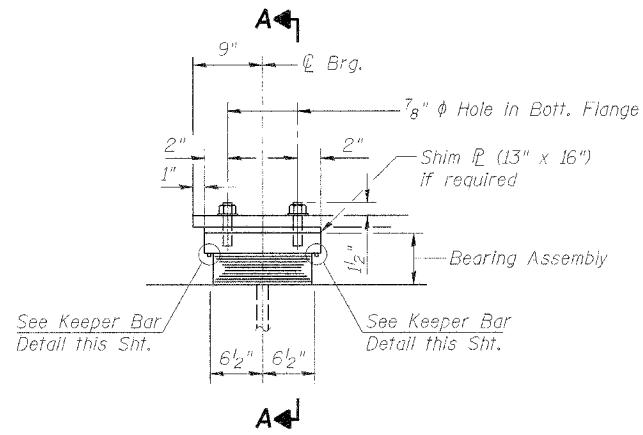
DIAPHRAGMS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

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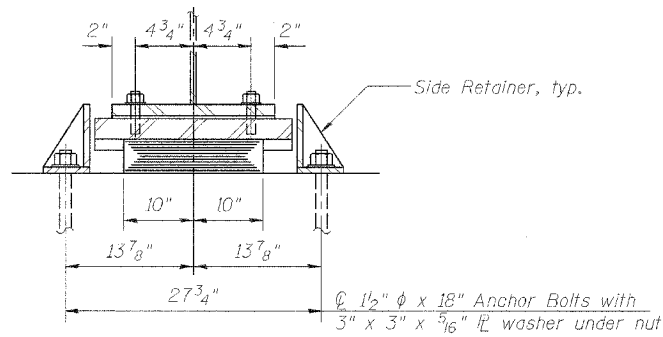
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	523	19
FED. ROAD DIST. NO. 4	BLINDS	FED. AID PROJECT			

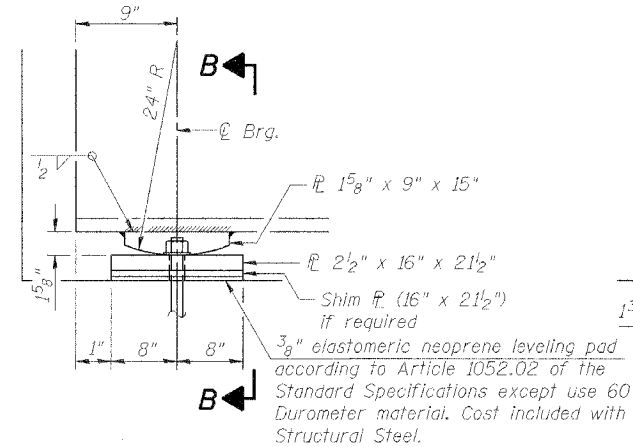
Contract # 68205



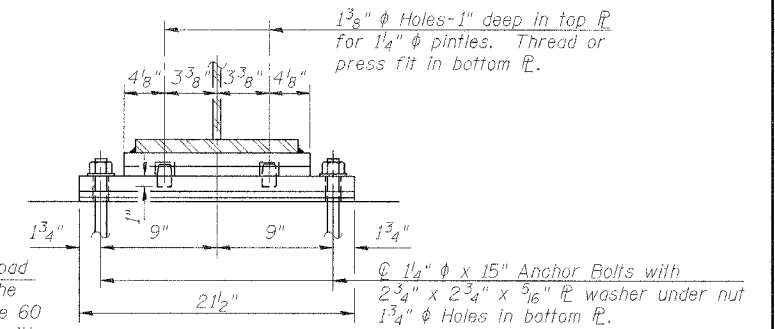
ELEVATION AT PIER



SECTION A-A

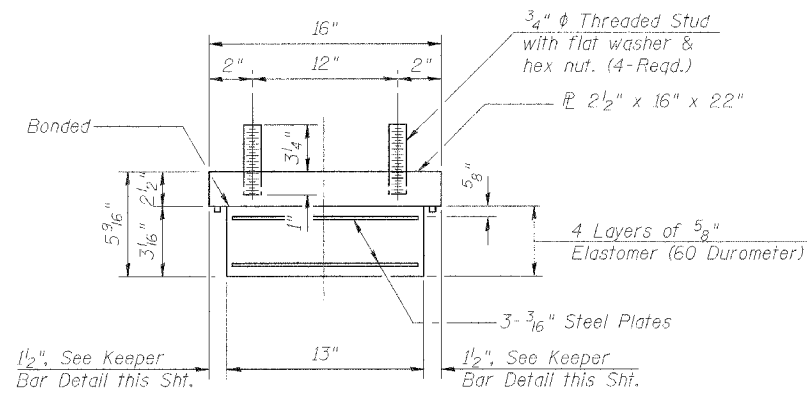


ELEVATION AT ABUTMENTS



SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.
(Girder Bearing Stiffeners are not shown.)



BEARING ASSEMBLY

Notes:

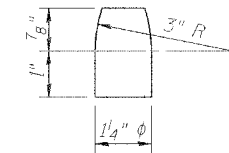
- Shim plates shall not be placed under Bearing Assembly.
- Field glue bearing pad to the concrete seat per B.N.S.F. requirements. See Special Provisions.
- See Special Provisions: Note 60 Durometer Elastomer.

Notes:

- Anchor Bolts at fixed bearings may be built into the masonry.
- See Sht. 8 of 19 for Anchor Bolt installation.

FIXED BEARING

(Girder Bearing Stiffeners are not shown.)



PINTLE

Notes:

- See General Note 5, Sht. 2 of 19, typical all fixed and expansion bearing steel plates and pintles.
- See General Note 9, Sht. 2 of 19 for 1/8" shim plates to be provided with all fixed and expansion bearings. See details this sheet for plan size and placement of shim plates.

INTERIOR GIRDER MOMENT TABLE
at center of span

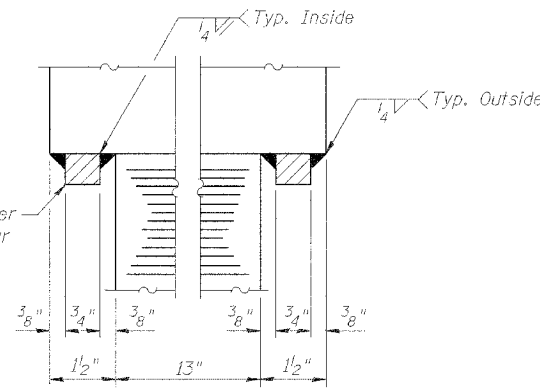
	Cooper's E80 on 5 Girders	Cooper's E65 on 4 Girders
Is (in ⁴)	117,281	117,281
Ss (in ³)	2,636	2,636
φ (K/ft.)	1.30	1.30
Mφ (K)	1,152	1,152
Mφ (K)	1,890	3,072
M (Imp) (K)	785	1,143
fsφ (k.s.i.)	5.2	5.2
fs (4+I) (k.s.i.)	12.2	19.2
fs (Total) (k.s.i.)	17.4	24.4
VR (K)	146.2	230.4

INTERIOR GIRDER REACTION TABLE

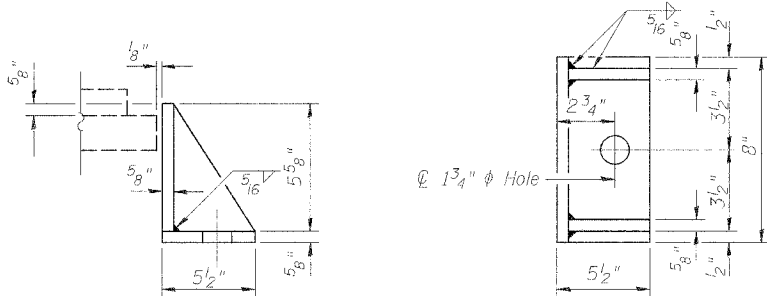
	Cooper's E80 on 5 Girders	Cooper's E65 on 4 Girders
Rφ (K)	52.7	52.7
Rφ (K)	103.3	167.9
Imp. (K)	42.9	62.5
R (Total) (K)	200.9	285.1

Notes:

- Is and Ss are the gross moment of inertia and section modulus of the steel section used in computing fs.
- VR is the maximum Live Load + Impact shear range in span.
- Impact includes vertical effects and rocking effects.
- Loads and stresses are based on service load conditions, ignoring composite action of ballast plate.
- Effects of Live Load and Impact eccentricity are included in distribution of load to girders.



KEEPER BAR DETAIL



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I (Special)	Each	10

BEARINGS, REACTION & MOMENT TABLES
BURLINGTON NORTHERN SANTA FE RAILROAD OVER IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 55+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 676-8464
FAX (309) 676-5445
L Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

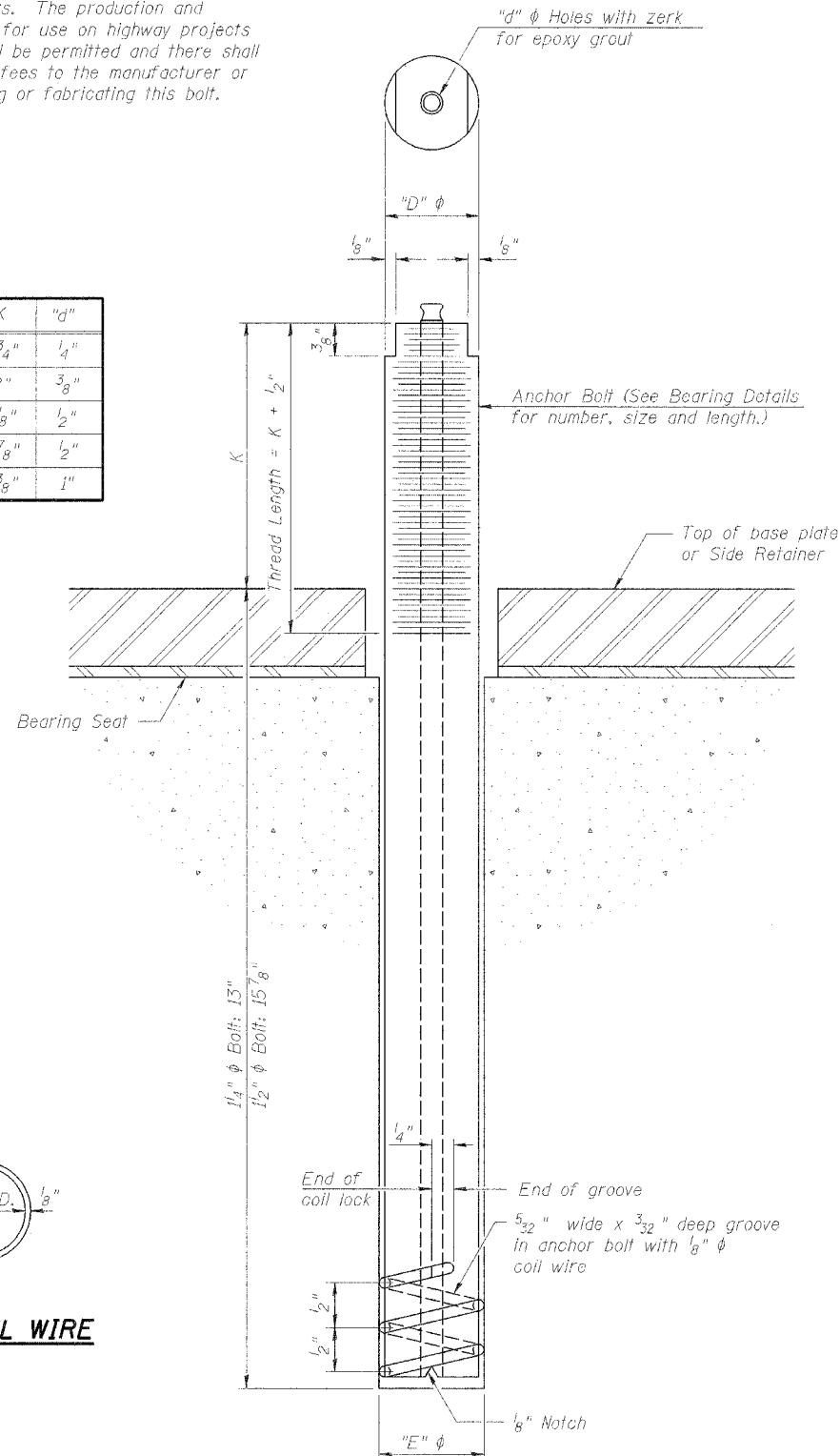
ROUTE NO.	SECTION	COUNTY	LISTED SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	524
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
19 SHEETS

Contract # 68205

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.

D	E	H	K	"d"
1"	1 1/8"	1 5/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

Use 1 1/2" ϕ x 18" Anchor Bolts at Expansion Bearings
Use 1 1/4" ϕ x 15" Anchor Bolts at Fixed Bearings

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 1 and of a Class suitable for the temperature at installation.

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 and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

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

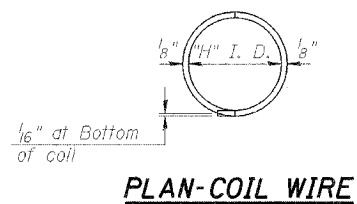
The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

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
Fixed & Expansion Bearings	AASHTO M270, Grade 36 Continuously Threaded Rod

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.



DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

ANCHOR BOLT DETAILS
FOR BEARINGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 224-001522

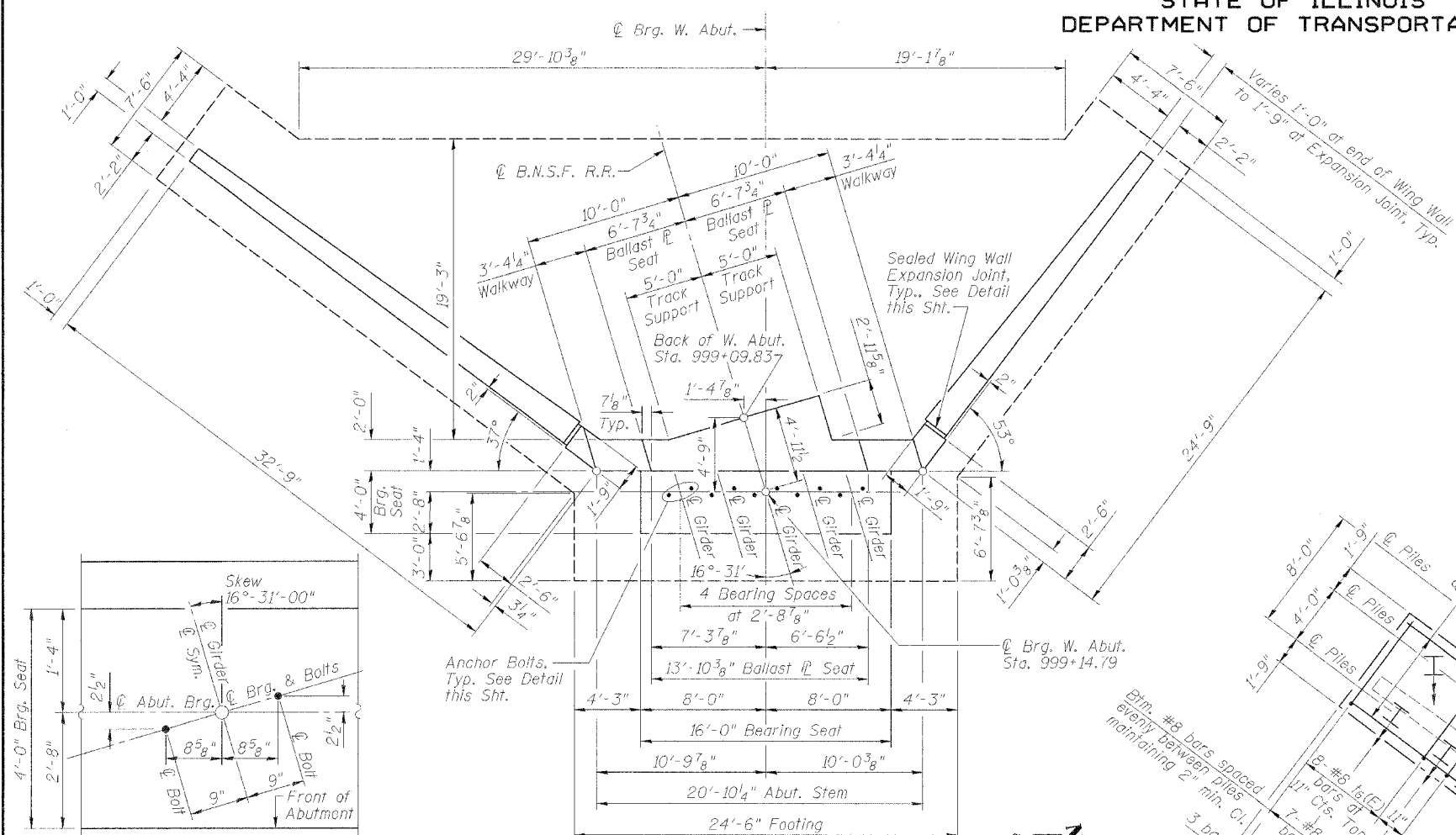
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	19
FILE NUMBER	PROJECT			

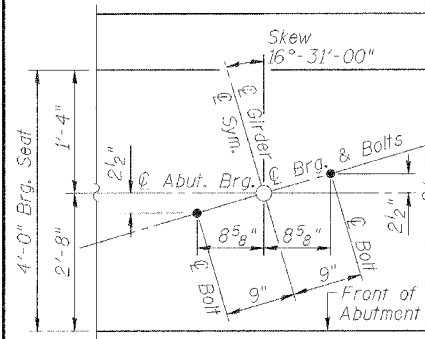
Contract # 68205

TABLE OF ELEVATIONS

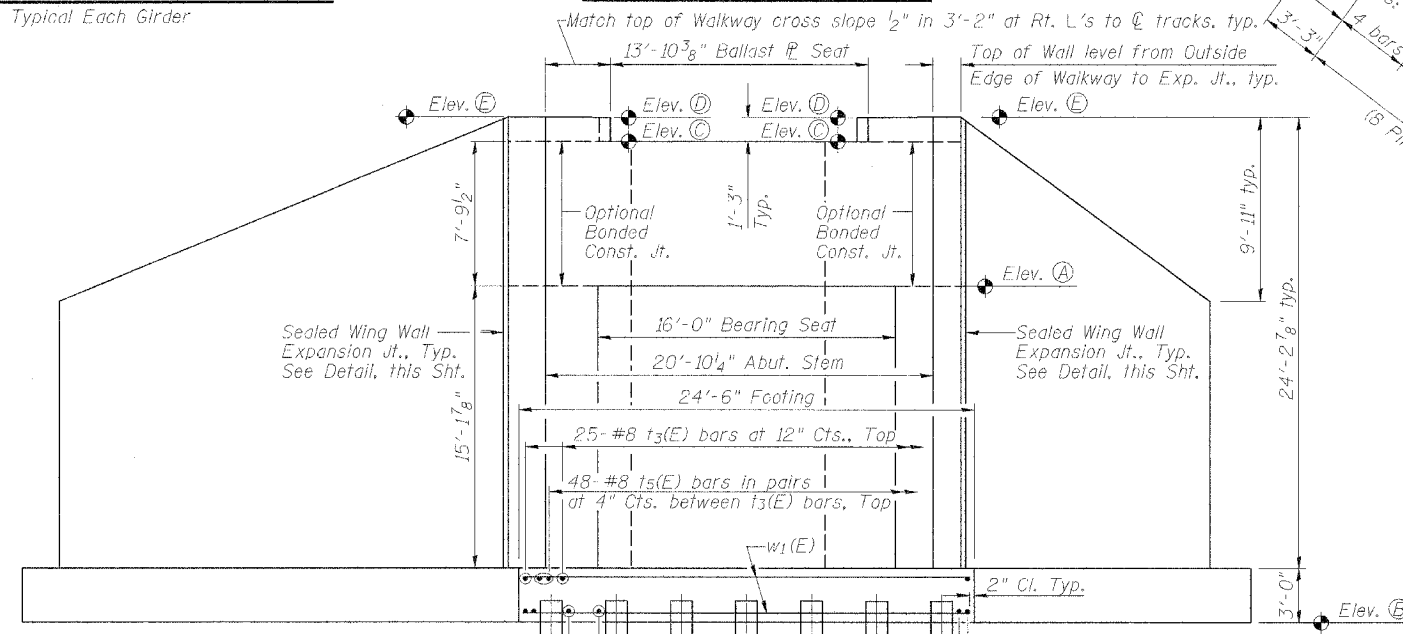
Location	Elev. Point	W. Abut.
Girder Bearing Seat	(A)	683.59
Bottom of Footing	(B)	665.43
Ballast Plate Seat (Top of Girder)	(C)	691.38
Top of Walkway (Inside Edge)	(D)	692.63
Top of Walkway (Outside Edge)	(E)	692.67



FOOTING AND WALL PLAN



ANCHOR BOLT SETTING DIAGRAM



FRONT ELEVATION

PILE DATA

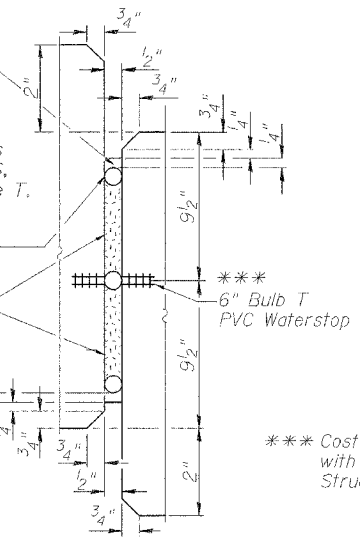
- Notes:
1. Space reinforcement in cap to miss anchor bolts.
 2. All edges shall have standard 3/4" chamfers except as noted.
 3. Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

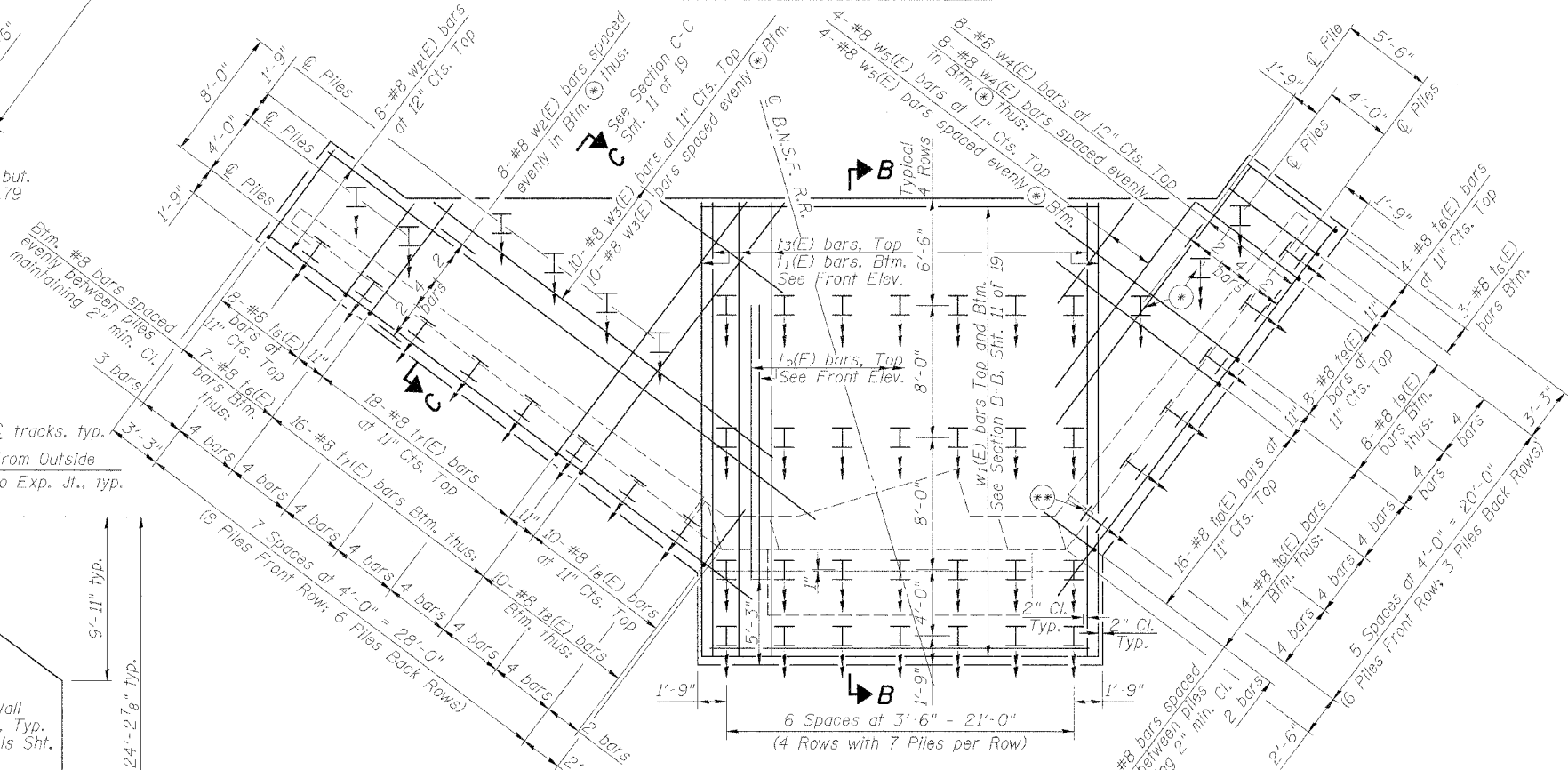
Type: Steel (HP 14 x 73)
Capacity: Design 69 tons; Req'd Bearing 103.5 tons
Est. Length: 28' South Side; 70' North Side
No. Req'd: 49 (plus 2 test piles)

- *** Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, Use T, typical 3 sides of joint.
- *** 5/8" ϕ Backer Rod, typical 3 sides of joint.
- *** 1/2" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec.

SEALED WING WALL EXPANSION JOINT DETAIL



*** Cost included with Concrete Structures.



PILE LAYOUT

- Bottom bars provide 2" Cl. at piles:
- Where possible, fan or shift bars (First Choice)
 - Field Cut bars.
- See Sht. 11 of 19 for Sections B-B and C-C.

Key

- Indicates direction of 3:12 Pile Batter

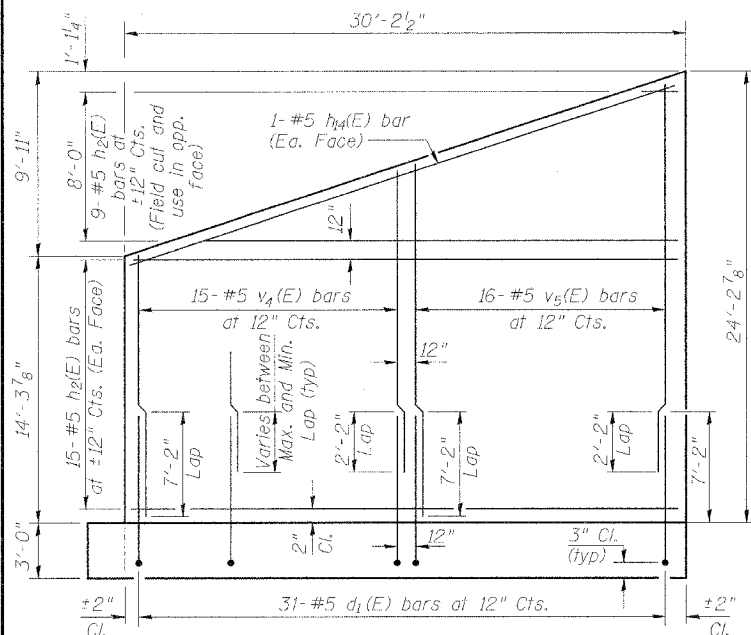
WEST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

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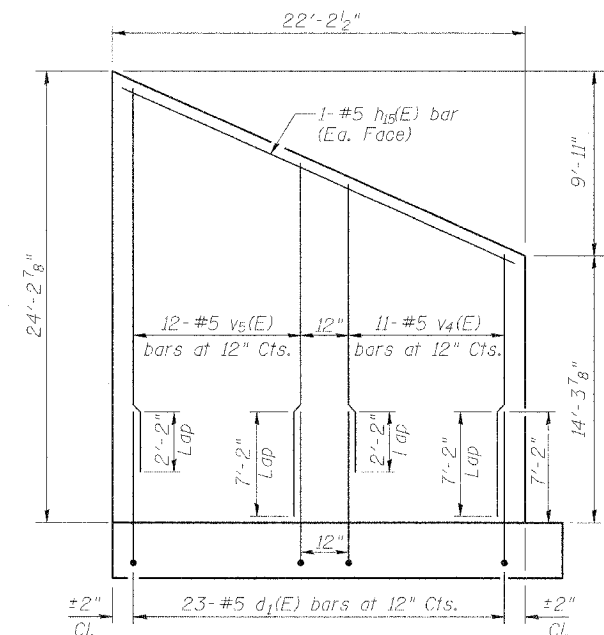
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	19
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

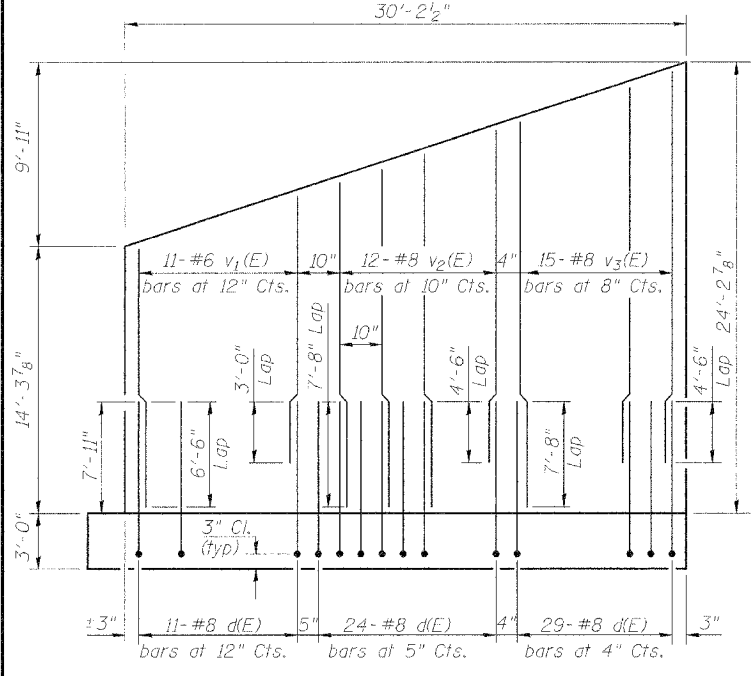
Contract # 68205



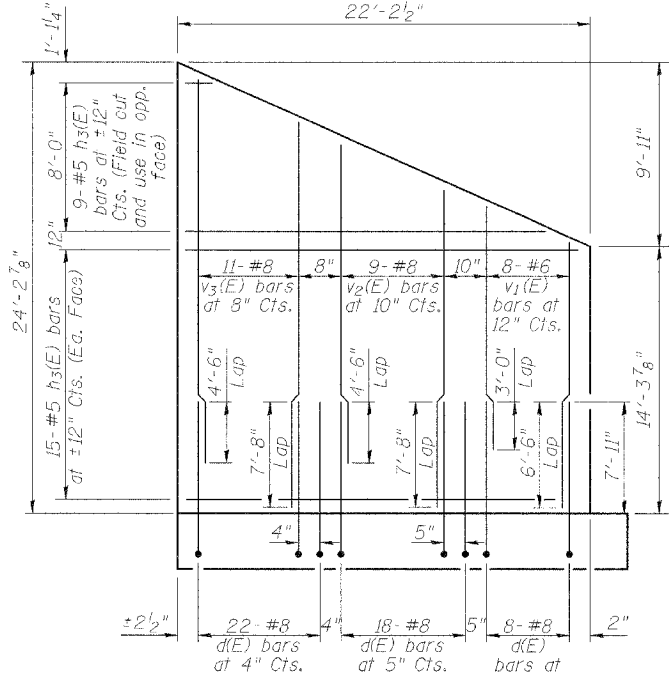
WEST ABUTMENT WING WALL (SOUTH)
(Showing Front Face Reinforcement)



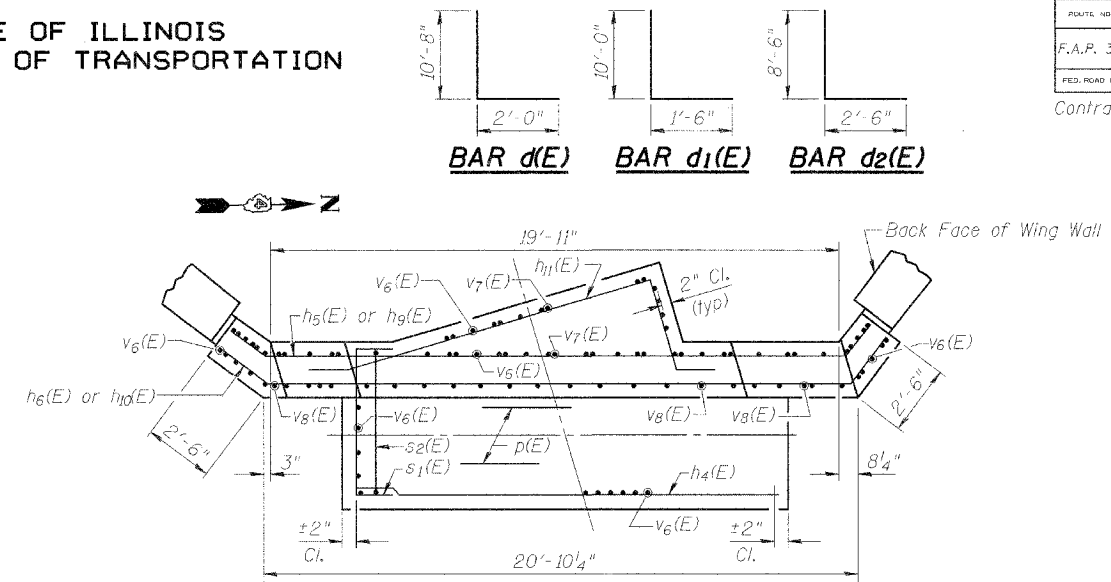
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(Showing Front Face Reinforcement)



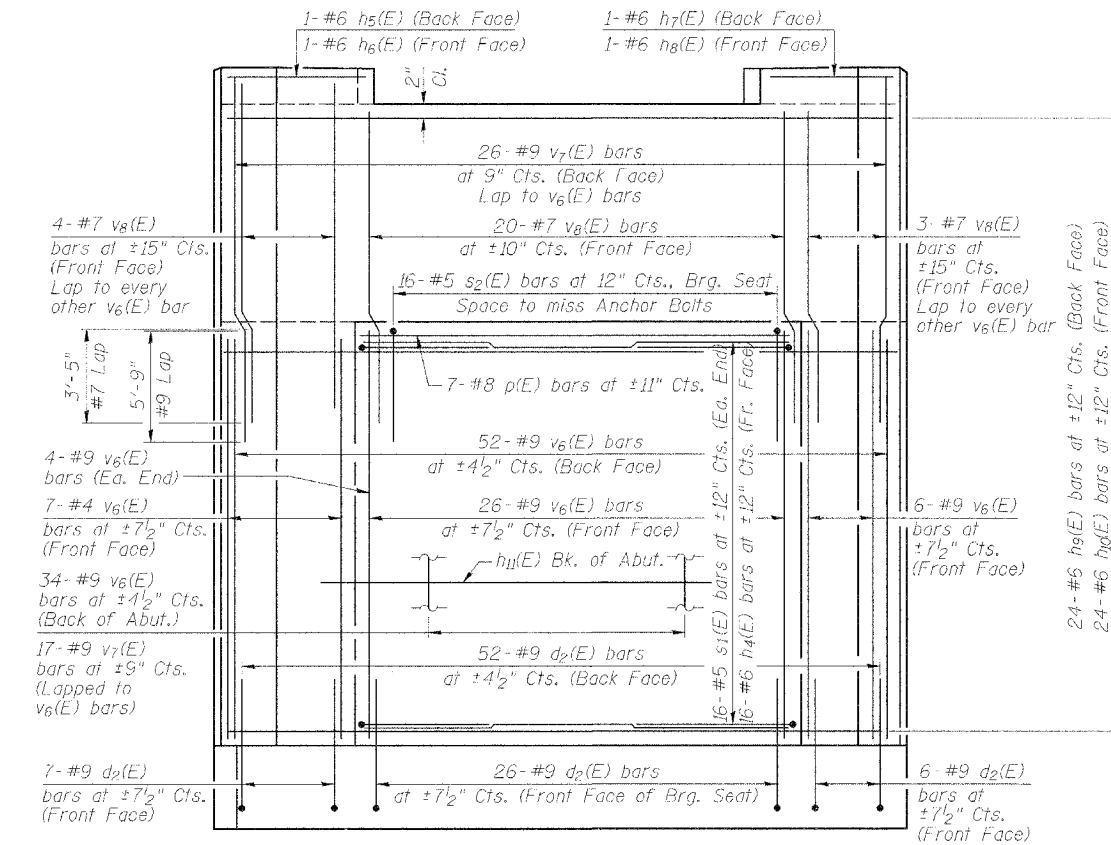
WEST ABUTMENT WING WALL (SOUTH)
(Showing Back Face Reinforcement)



WEST ABUTMENT WING WALL (NORTH)
(Showing Back Face Reinforcement)



WEST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)



WEST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)

ABUTMENT BILL OF MATERIAL

Bar No.	Size	Length	Shape
d(E)	112	#8	12'-8"
d ₁ (E)	54	#5	11'-6"
d ₂ (E)	91	#9	11'-0"
h ₂ (E)	39	#5	29'-10"
h ₃ (E)	39	#5	21'-10"
h ₄ (E)	16	#6	15'-8"
h ₅ (E)	1	#6	3'-11"
h ₆ (E)	1	#6	5'-7"
h ₇ (E)	1	#6	4'-7"
h ₈ (E)	1	#6	5'-8"
h ₉ (E)	24	#6	22'-8"
h ₁₀ (E)	24	#6	25'-3"
h ₁₁ (E)	24	#6	19'-1"
h ₁₂ (E)	2	#5	31'-5"
h ₁₃ (E)	2	#5	23'-11"
p(E)	7	#8	15'-8"
s ₁ (E)	32	#5	10'-8"
s ₂ (E)	16	#5	10'-7"
t ₁ (E)	28	#8	28'-10"
t ₂ (E)	25	#8	27'-11"
t ₃ (E)	48	#8	16'-6"
t ₄ (E)	22	#8	8'-1"
t ₅ (E)	17	#8	29'-10"
t ₆ (E)	10	#8	26'-10"
t ₇ (E)	8	#8	23'-10"
t ₈ (E)	15	#8	21'-10"
v ₁ (E)	19	#6	12'-9"
v ₂ (E)	21	#8	17'-5"
v ₃ (E)	26	#8	20'-8"
v ₄ (E)	26	#5	14'-2"
v ₅ (E)	28	#5	19'-1"
v ₆ (E)	133	#9	15'-0"
v ₇ (E)	43	#9	14'-9"
v ₈ (E)	27	#7	12'-6"
w ₁ (E)	65	#8	24'-2"
w ₂ (E)	16	#8	37'-0"
w ₃ (E)	10	#8	35'-0"
w ₄ (E)	8	#8	47'-6"
w ₅ (E)	4	#8	23'-0"

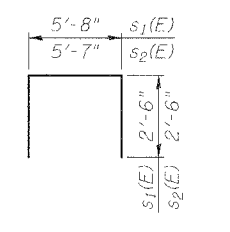
Material	Unit	Quantity
Concrete Structures	Cu. Yd.	278.1
Reinforcement Bars, Epoxy Coated	Pound	45,080
Structure Excavation	Cu. Yd.	1,588
Furnishing Steel Piles, HP 14 x 73	Foot	2,401
Driving Steel Piles	Foot	2,401
Test Piles, HP 14 x 73	Each	2
Metal Shoes	Each	49

Reinforcement bars designated (E) shall be epoxy coated

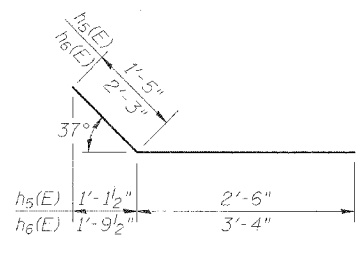
WEST ABUTMENT AND WING WALL REINFORCEMENT
BURLINGTON NORTHERN SANTA FE RAILROAD OVER IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04



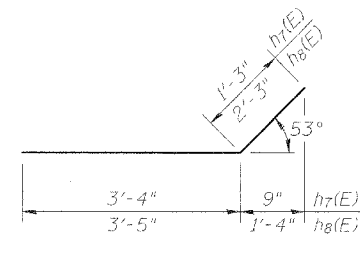
DESIGNED	P.J.L.
CHECKED	W.D.L.
DRAWN	M.G.M.
CHECKED	P.J.L.



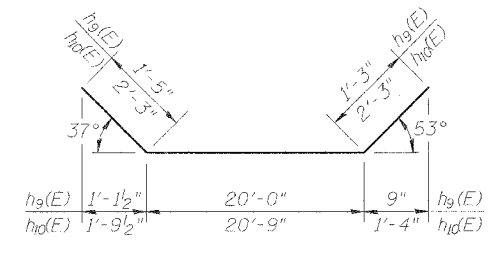
BARS s₁(E) and s₂(E)



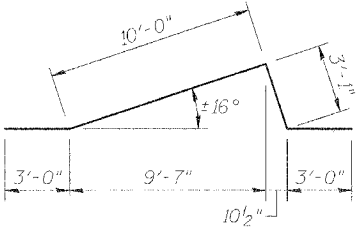
BARS h₅(E) and h₆(E)



BARS h₇(E) and h₈(E)



BARS h₉(E) and h₁₀(E)



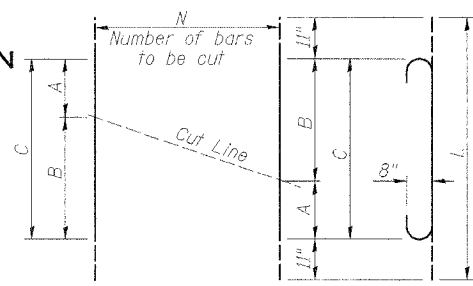
BAR h₁₁(E)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	527
FED. ROAD DIST. NO. 4		ILLINOIS		FED. AID PROJECT

Contract # 68205

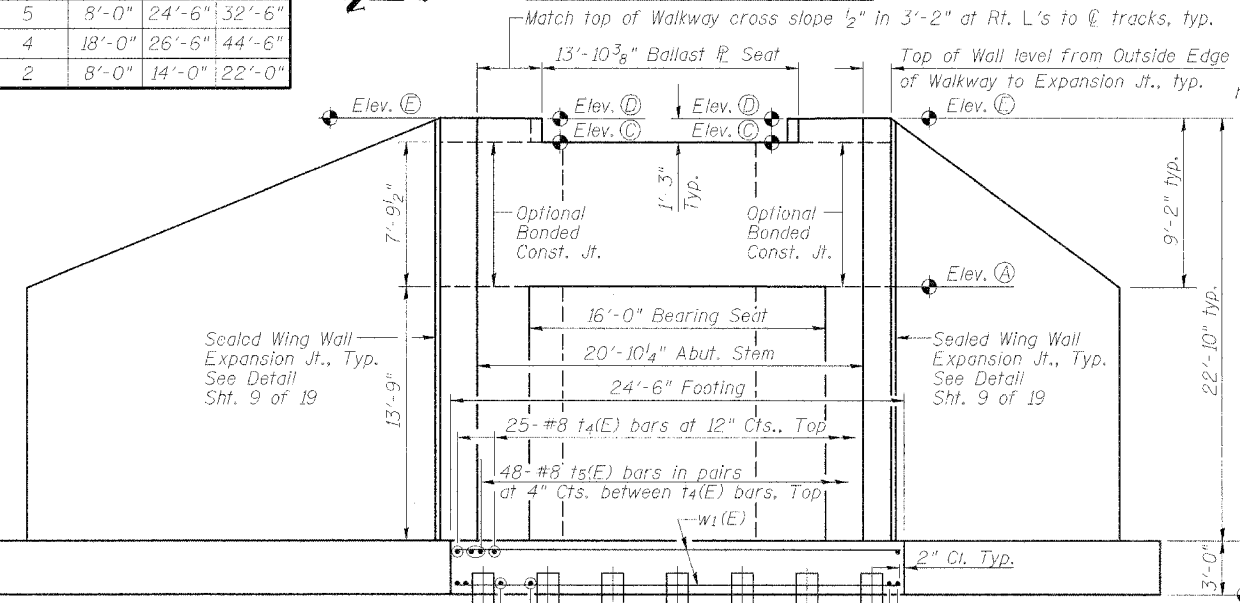
Bar	N (Top)	N (Btm.)	A	B	C	L
West Abut.						
t ₇ (E)	9	8	8'-0"	20'-0"	28'-0"	29'-10"
t ₈ (E)	5	5	5'-0"	20'-0"	25'-0"	25'-10"
t ₉ (E)	4	4	7'-0"	15'-0"	22'-0"	23'-10"
t ₁₀ (E)	8	7	5'-0"	15'-0"	20'-0"	21'-10"
East Abut.						
t ₁₁ (E)	9	8	8'-0"	19'-6"	27'-6"	29'-4"
t ₁₂ (E)	5	5	5'-0"	19'-6"	24'-6"	26'-4"
t ₁₃ (E)	3	4	9'-0"	15'-0"	24'-0"	25'-10"
t ₁₄ (E)	8	7	5'-0"	15'-0"	20'-0"	21'-10"



BAR CUTTING DIAGRAM
Order bars full length. Cut to fit. Use remainder to complete pattern with 2 x N bars.

Bar	N (Top)	N (Btm.)	A	B	L
W ₃ (E)	5	5	9'-0"	26'-0"	35'-0"
W ₄ (E)	4	4	19'-6"	28'-0"	47'-6"
W ₅ (E)	2	2	8'-0"	15'-0"	23'-0"
W ₇ (E)	5	5	8'-0"	24'-6"	32'-6"
W ₈ (E)	4	4	18'-0"	26'-6"	44'-6"
W ₉ (E)	2	2	8'-0"	14'-0"	22'-0"

FOOTING AND WALL PLAN



FRONT ELEVATION

PILE DATA

Type: Steel (HP 14 x 73)
Capacity: Design 66 tons; Req'd Bearing 99 tons
Est. Length: 57'
No. Req'd: 50 (plus 1 test pile)

DESIGNED P.J.L.
CHECKED W.D.I.
DRAWN M.G.M.
CHECKED P.J.L.

Notes:
1. Space reinforcement in cap to miss anchor bolts.
2. All edges shall have standard 3/4" chamfers except as noted.
3. Reinforcement bars designated (E) shall be epoxy coated.

PILE LAYOUT

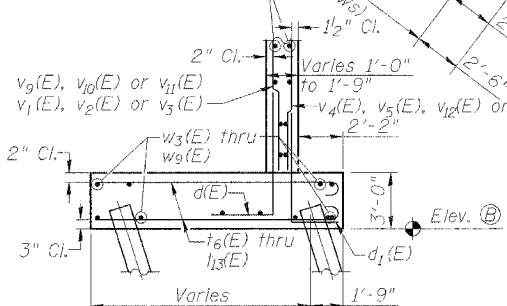
Bottom bars provide 2" Cl. at piles.
Where possible, fan or shift bars (First Choice)
Field Cut bars.

TABLE OF ELEVATIONS

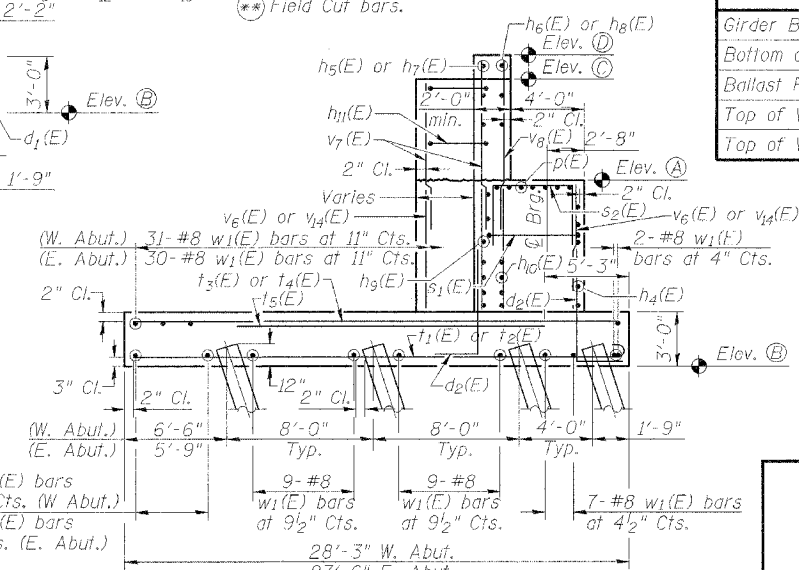
Location	Elev. Point	E. Abut.
Girder Bearing Seat	(A)	683.60
Bottom of Footing	(B)	666.85
Ballast Plate Seal (Top of Girder)	(C)	691.39
Top of Walkway (Inside Edge)	(D)	692.64
Top of Walkway (Outside Edge)	(E)	692.68

EAST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

SECTION C-C
Thru Wing Walls



SECTION B-B



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	19
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	

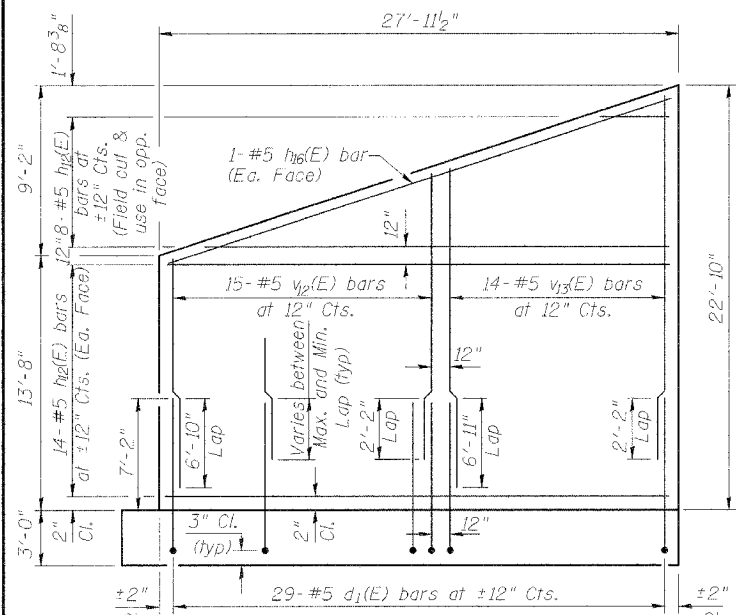
Contract # 68205

ABUTMENT BILL OF MATERIAL

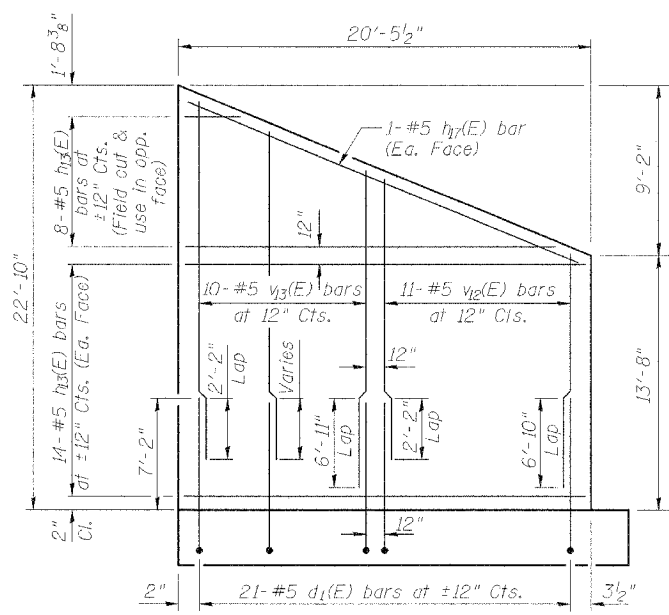
Bar	No.	Size	Length	Shape
d(E)	88	#8	12'-8"	L
d ₁ (E)	50	#5	11'-6"	L
d ₂ (E)	91	#9	11'-0"	L
h ₄ (E)	14	#6	15'-8"	—
h ₅ (E)	1	#6	3'-11"	—
h ₆ (E)	1	#6	5'-7"	—
h ₇ (E)	1	#6	4'-7"	—
h ₈ (E)	1	#6	5'-8"	—
h ₉ (E)	23	#6	22'-8"	—
h ₁₀ (E)	23	#6	25'-3"	—
h ₁₁ (E)	23	#6	19'-1"	—
h ₁₂ (E)	36	#5	27'-8"	—
h ₁₃ (E)	36	#5	20'-2"	—
h ₁₄ (E)	2	#5	29'-1"	—
h ₁₇ (E)	2	#5	22'-1"	—
p(E)	7	#8	15'-8"	—
s ₁ (E)	28	#5	10'-8"	□
s ₂ (E)	16	#5	10'-7"	□
t ₂ (E)	28	#8	28'-1"	—
t ₄ (E)	25	#8	27'-2"	—
t ₅ (E)	48	#8	16'-6"	—
t ₆ (E)	19	#8	8'-1"	—
t ₁₀ (E)	15	#8	21'-10"	—
t ₁₁ (E)	17	#8	29'-4"	—
t ₁₂ (E)	10	#8	26'-4"	—
t ₁₃ (E)	7	#8	25'-10"	—
v ₇ (E)	43	#9	14'-9"	—
v ₈ (E)	27	#7	12'-6"	—
v ₉ (E)	17	#6	11'-8"	—
v ₁₀ (E)	17	#8	16'-3"	—
v ₁₁ (E)	20	#8	19'-3"	—
v ₁₂ (E)	26	#5	13'-2"	—
v ₁₃ (E)	24	#5	17'-9"	—
v ₁₄ (E)	133	#9	13'-7"	—
w ₁ (E)	63	#8	24'-2"	—
w ₆ (E)	16	#8	34'-6"	—
w ₇ (E)	10	#8	32'-6"	—
w ₈ (E)	8	#8	44'-6"	—
w ₉ (E)	4	#8	22'-0"	—
Concrete Structures	Cu. Yd.	257.6		
Reinforcement Bars, Epoxy Coated	Pound	41,610		
Structure Excavation	Cu. Yd.	1,428		
Furnishing Steel Piles, HP 14 x 13	Foot	2,850		
Driving Steel Piles	Foot	2,850		
Test Piles, HP 14 x 13	Each	1		
Metal Shoes	Each	50		

Reinforcement bars designated (E) shall be epoxy coated

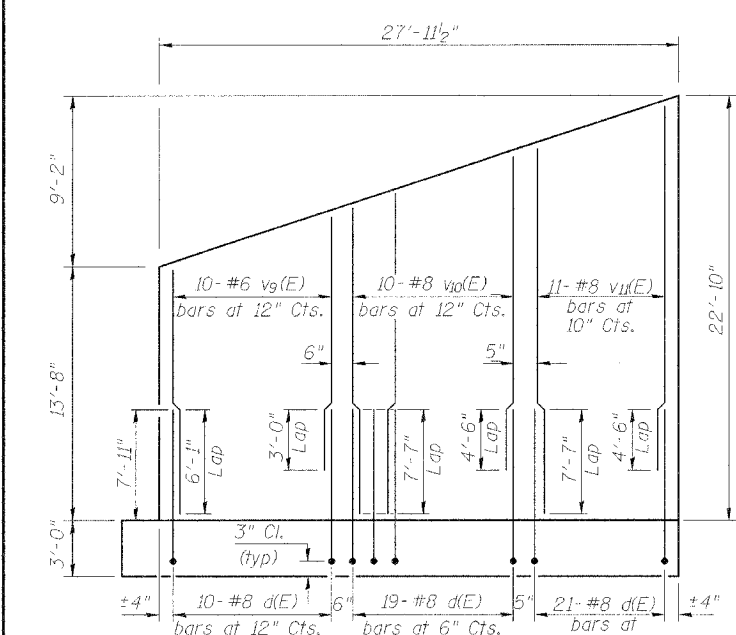
EAST ABUTMENT AND WING WALL REINFORCEMENT
BURLINGTON NORTHERN SANTA FE RAILROAD OVER ILL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04



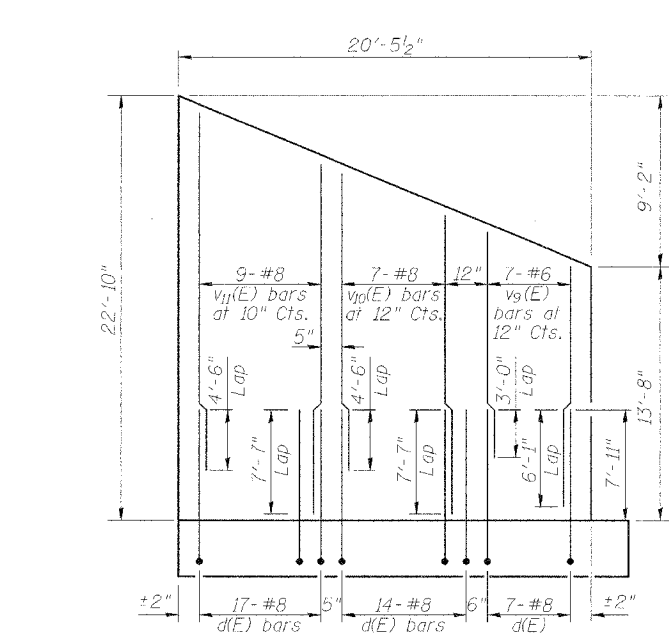
EAST ABUTMENT WING WALL (NORTH)
(Showing Front Face Reinforcement)



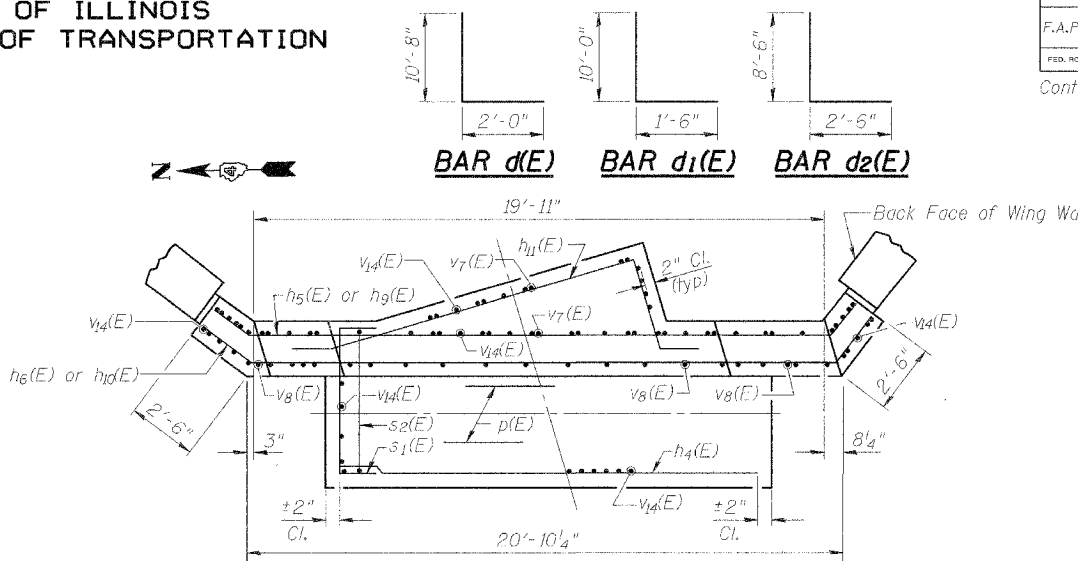
EAST ABUTMENT WING WALL (SOUTH)
(Showing Front Face Reinforcement)



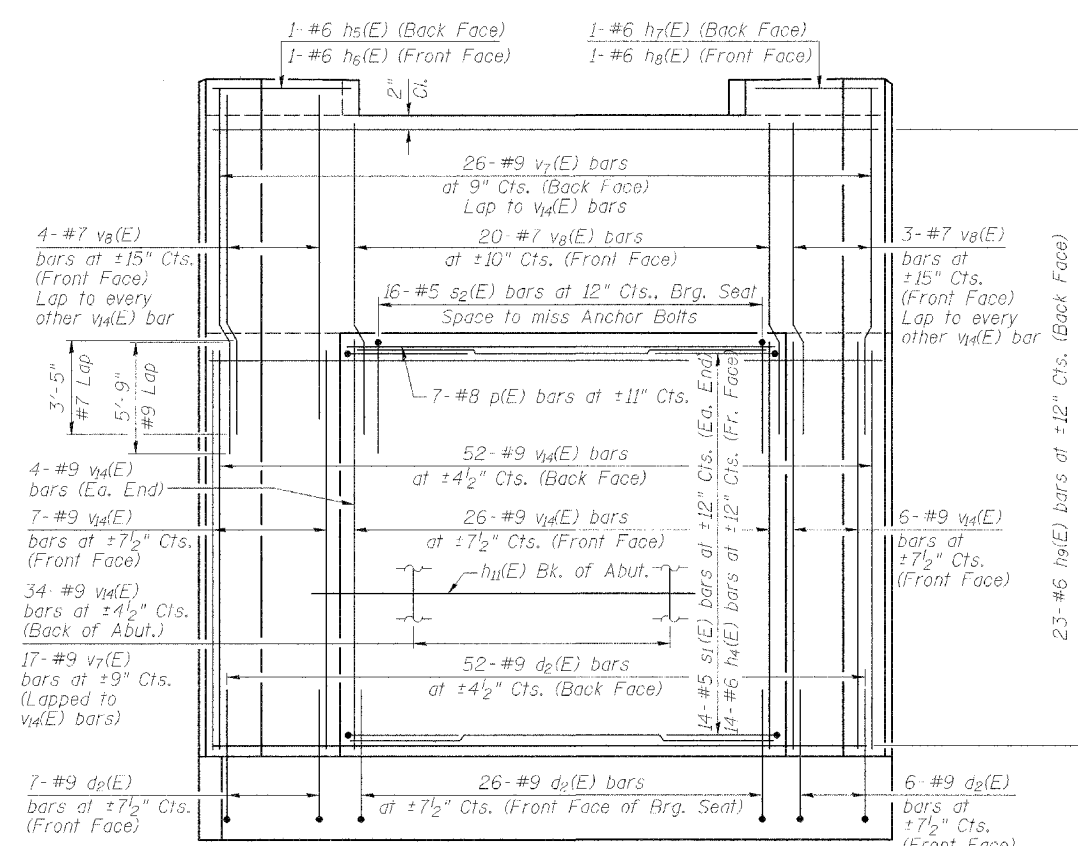
EAST ABUTMENT WING WALL (NORTH)
(Showing Back Face Reinforcement)



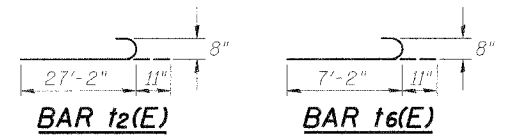
EAST ABUTMENT WING WALL (SOUTH)
(Showing Back Face Reinforcement)



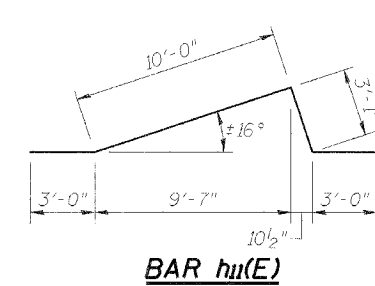
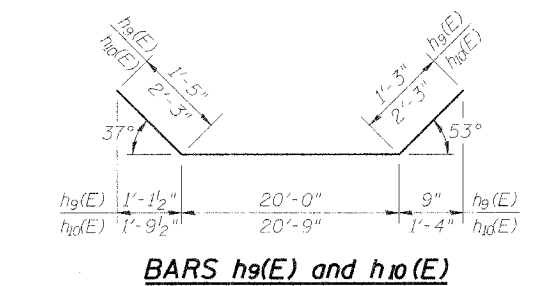
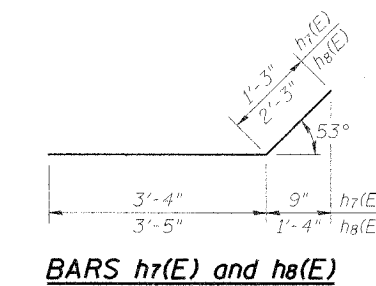
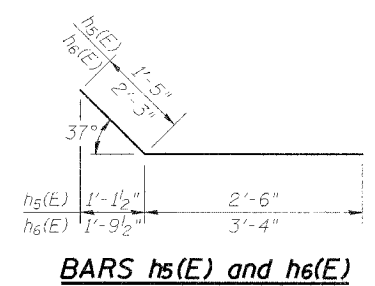
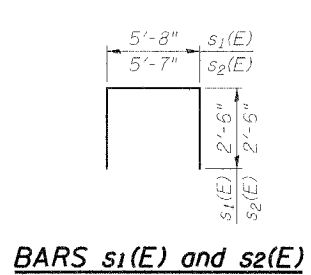
EAST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)



EAST ABUTMENT
(Showing Back and Front of Abutment Reinforcement)



DESIGNED	P.J.L.
CHECKED	W.D.L.
DRAWN	M.G.M.
CHECKED	P.J.L.



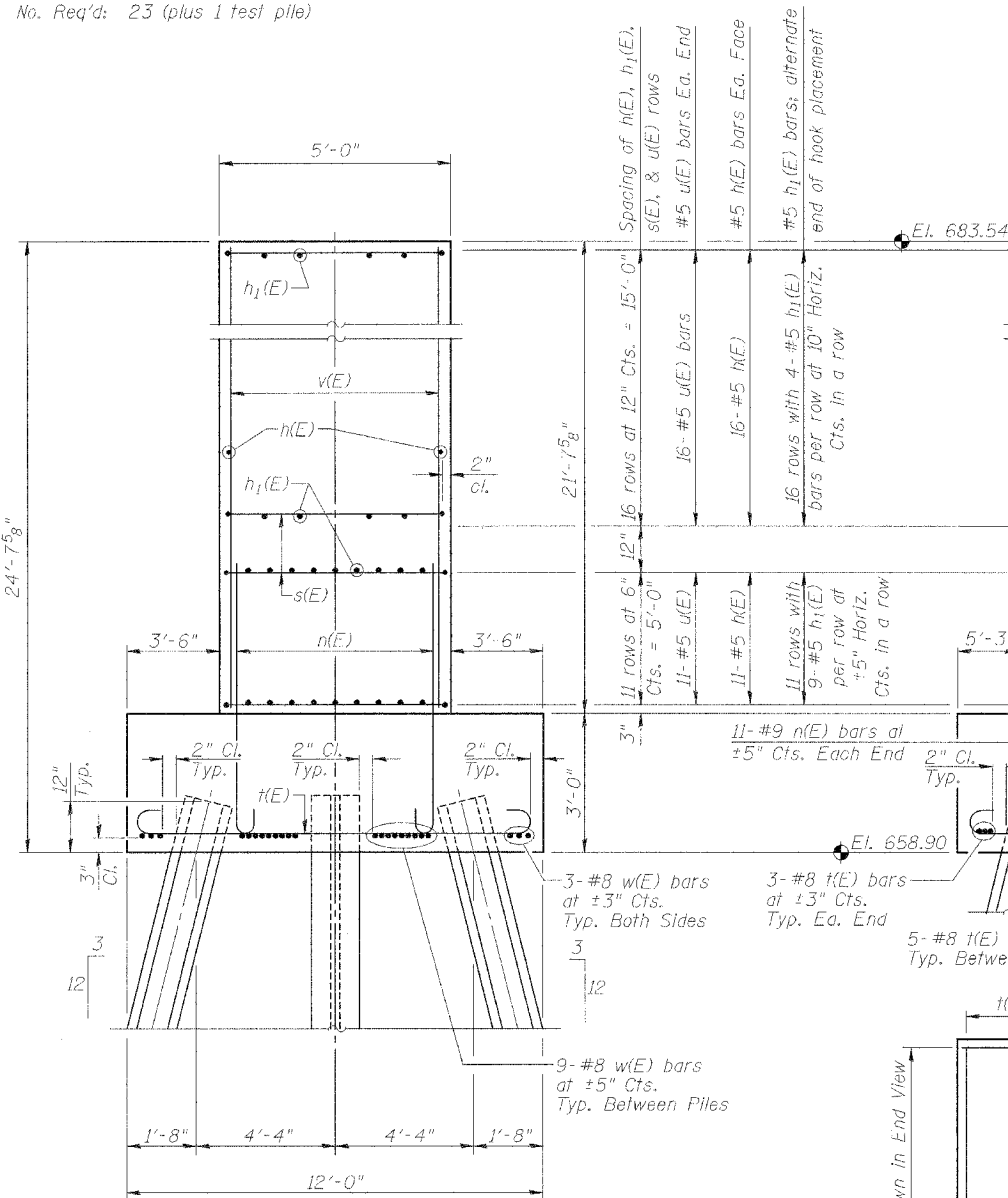
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 678-8464
FAX (309) 676-5445
IL Design Firm Reg. No. 224-001522

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. All edges shall have standard $\frac{3}{4}$ " chamfers except as noted.
3. Reinforcement bars designated (E) shall be epoxy coated.

PILE DATA

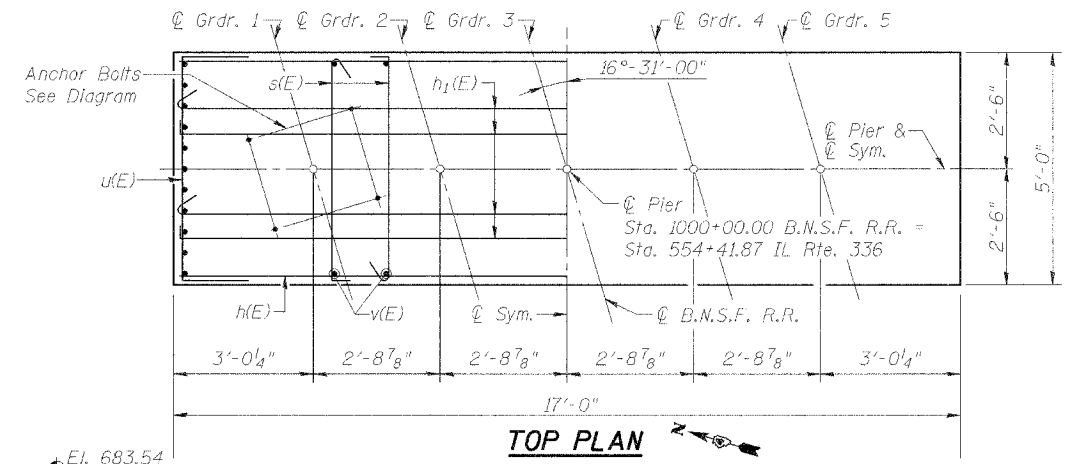
Type: Steel (HP 8 x 36)
 Capacity: Driven to Refusal
 Est. Length: 75 ft.
 No. Req'd: 23 (plus 1 test pile)



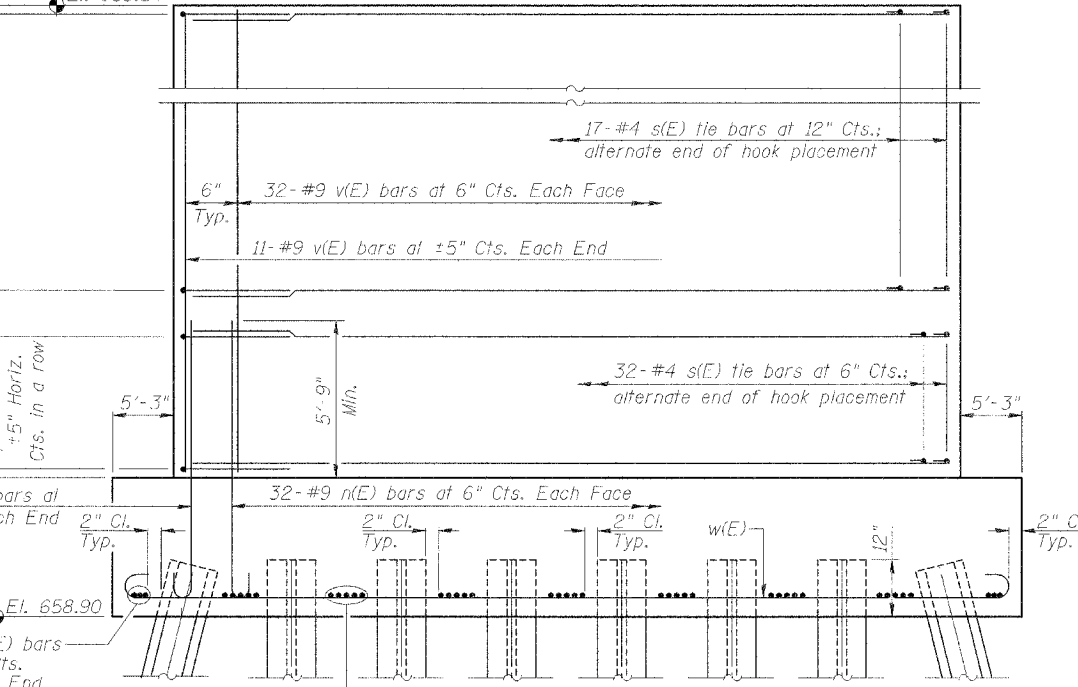
END VIEW
 See Footing Plan for pile orientation and batter.

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

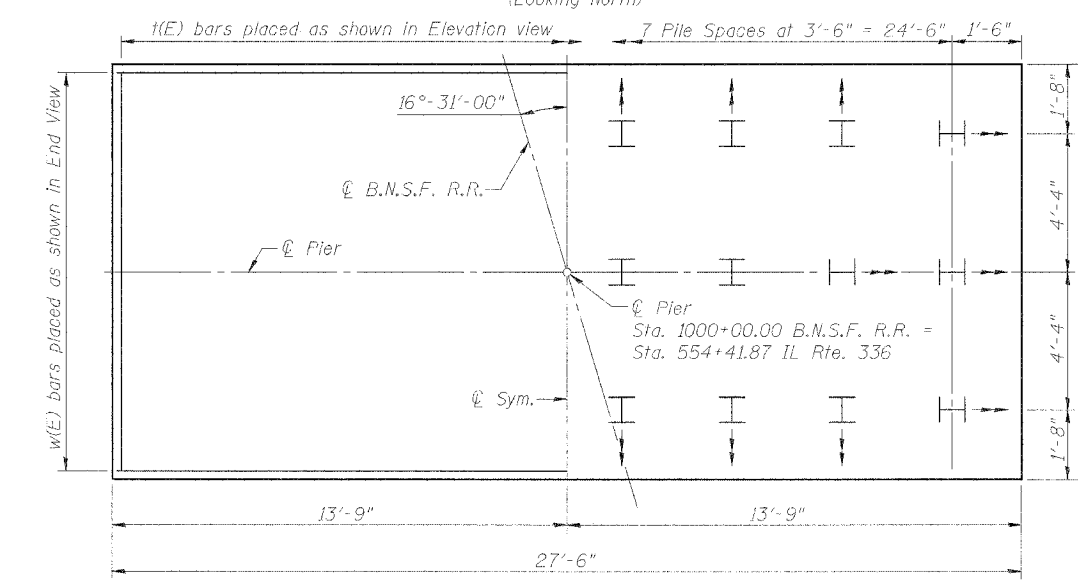
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



TOP PLAN

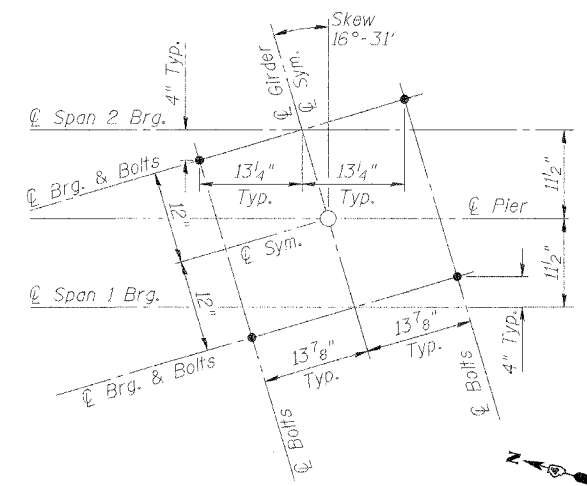


ELEVATION
 (Looking North)



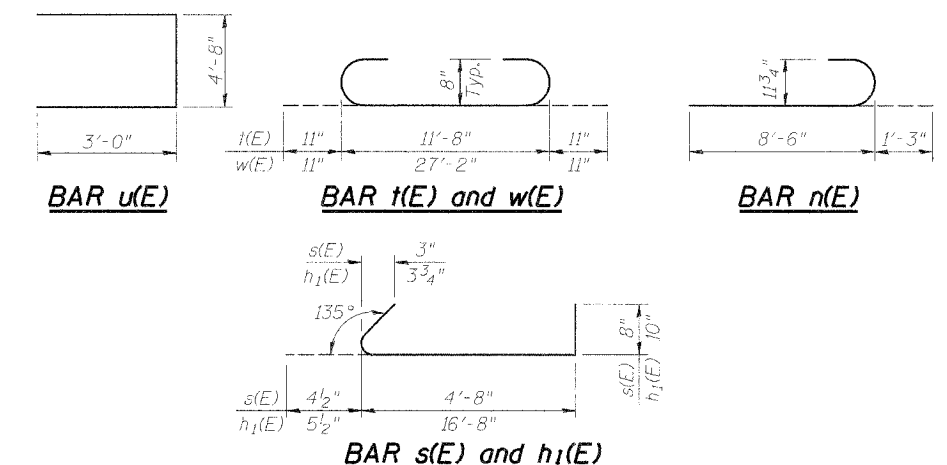
FOOTING PLAN

Indicates direction of 3:12 Pile Batter



ANCHOR BOLT SETTING DIAGRAM

Typical Each Girder Line



PIER BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	54	#5	16'-8"	
h1(E)	163	#5	17'-11 1/2"	
n(E)	86	#9	9'-9"	
s(E)	624	#4	5'-8 1/2"	
t(E)	41	#8	13'-6"	
u(E)	54	#5	10'-8"	
v(E)	86	#9	21'-5"	
w(E)	24	#8	29'-0"	
Concrete Structures			Cu. Yd.	104.8
Reinforcement Bars, Epoxy Coated			Pound	19,420
Structure Excavation			Cu. Yd.	75
Furnishing Steel Piles HP 8 x 36			Foot	1,725
Driving Steel Piles			Foot	1,725
Test Piles HP 8 x 36			Each	1
Metal Shoes			Each	23

PIER DETAILS
 BURLINGTON NORTHERN
 SANTA FE RAILROAD OVER
 IL. ROUTE 336
 F.A.P. ROUTE 315 SECT. 55-2
 McDONOUGH COUNTY
 STATION 554+41.87
 STRUCTURE NO. 055-9901
 B.N.S.F. LINE SEGMENT 0011
 B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
 111 NE Jefferson Ave.
 Peoria, Illinois 61602
 Ph (309) 676-8464
 FAX (309) 676-5445
 IL Design Firm Reg. No. 224-001522

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Contract # 68205

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 1 of 3
Date 4/14/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 998+95
BORING NO. 88792 (8892)
Station 998+95
Offset 70.00 ft
Ground Surface Elev. 689.40 ft

SOIL DESCRIPTION	DEPTH (ft)	U.C.S. (psi)	SPT (blows)	W (%)	L (%)	PL (%)	PI (%)
NO RECOVERY (continued)	14						
Dark Brown & Gray SILTY CLAY LOAM	687.90						
	3						
	3	2.5	8.0				
	1.5	4					
	2						
	1	1.0	28.0				
	2	B					
Brown & Gray CLAY LOAM	680.40						
w/trace of SAND							
	1						
	2	0.7	25.5				
	2	B					
	2	0.9	29.1				
	2	B					
Gray, Brown & Reddish Brown SANDY CLAY LOAM	677.90						
	1	1.0	28.6				
	2	B					
	2						
	1						
	2	0.9	24.3				
	5	S					
Gray Med. Fine SAND	672.90						
	1						
	4						
	7	26.9					
NO RECOVERY	670.40						
	4						
	7	12.4					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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Date 4/14/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 998+95
BORING NO. 88792 (8892)
Station 998+95
Offset 70.00 ft
Ground Surface Elev. 689.40 ft

SOIL DESCRIPTION	DEPTH (ft)	U.C.S. (psi)	SPT (blows)	W (%)	L (%)	PL (%)	PI (%)
Brown & Gray to Reddish Brown Med. to Fine SAND (continued)	25						
Brown & Gray SANDSTONE	647.90						
	6						
	28	18.0					
	72@5"						
	4						
Brown Fine Med. SAND	645.40						
	19						
	54	5.4	13.0				
	46@2"						
Brown & Gray CLAY LOAM TILL	642.90						
	2						
	19	5.9	13.0				
	19	S					
	12						
	19	5.2	12.0				
	27	S					
Brown & Gray Fine SAND	637.40						
	14	2.5	13.0				
Greenish Gray to Gray CLAY LOAM TILL	636.40						
	4						
	4	1.8	18.0				
	6	B					
Greenish Gray to Gray SANDY CLAY LOAM	632.90						
	2						
	5	1.0	20.0				
	6	S					
Dark Brown SILTY LOAM	630.40						
	4	3.3	19.0				
	6	S					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 3 of 3
Date 4/14/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 998+95
BORING NO. 88792 (8892)
Station 998+95
Offset 70.00 ft
Ground Surface Elev. 689.40 ft

SOIL DESCRIPTION	DEPTH (ft)	U.C.S. (psi)	SPT (blows)	W (%)	L (%)	PL (%)	PI (%)
Gray to Brown SILTY LOAM (continued)	7						
Gray to Brown SILTY CLAY LOAM	607.90						
	2						
	4	2.2	32.0				
	6	S					
Gray to Brown SILTY LOAM	606.40						
	4						
	5	0.9	34.0				
	7	S					
	6						
	4						
	8	0.7	31.0				
	9	B					
	5						
	7	2.7	24.0				
	10	S					
	2						
	4	1.5	24.0				
	6	B					
	4						
	5	3.1	23.0				
	7	B					
	6						
	5						
	7	2.2	26.0				
	6	S					
End of Boring	581.65						
	65@4"						
	2						
	4						
	5						
	7	2.8	37.0				
	8	S					
	9						
Blue Gray SANDSTONE	595.40						
	9						
	24						
	35	17.0					
Gray & Brown SHALLEY CLAY	592.90						
	7						
	8	2.2	26.0				
	12	S					
	7						
	25	6.6	16.0				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED P.JL
CHECKED WDL
DRAWN MGM
CHECKED P.JL

BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 676-8464
FAX (309) 676-5445
IL Design Firm Reg. No. 224-001522

5/17/05 08:59:11 AM 2/25/2005 11:05:33 AM

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG

Page 1 of 3
Date 1/20/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR

SECTION 24.31.32 LOCATION SEC. TWP. RNC.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Drilling Data				Description	Depth (ft)	UCS Data		
			(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)
BNSF RR	88791 (8893)	939+40	889.37								
			688.37			Brown & Gray CLAY LOAM TILL (continued)					
				2		Dark Brown SILTY CLAY LOAM					
				3	1.2						
				3	B						
			685.37			Gray & Dark Brown CLAY LOAM					
				2							
				2	1.2						
				3	B						
				2	0.8						
				2	B						
				1							
				2	1.5						
				3	B						
			677.87			Brown & Gray CLAY LOAM TILL					
				2	1.2						
				3	B						
				1							
				2	1.2						
				9	B						
				1							
				2	0.7						
				3	B						
				5							
				10	8.0						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Page 2 of 3
Date 1/20/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR

SECTION 24.31.32 LOCATION SEC. TWP. RNC.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Drilling Data				Description	Depth (ft)	UCS Data		
			(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)
BNSF RR	88791 (8893)	939+40	689.37								
						Gray CLAY LOAM TILL (continued)					
						Brown & Gray Med SAND					
				3							
				6	2.9						
				9	B						
				12							
				21							
				22							
				3							
				5	3.1						
				8	B						
				2							
				4	1.6						
				5	B						
				4							
				5	2.9						
				7	B						
				4							
				10	2.5						
				9	B						
				3							
				5	2.1						
				11	B						
				3							
				5	2.3						
				6	B						
				4							
				6	2.5						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Page 3 of 3
Date 1/20/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR

SECTION 24.31.32 LOCATION SEC. TWP. RNC.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Drilling Data				Description	Depth (ft)	UCS Data		
			(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)
BNSF RR	88791 (8893)	939+40	688.37								
						Gray FINE SAND (continued)					
						Dark Gray CLAY LOAM TILL					
				11							
				14	4.7						
				21	B						
				2							
				2.1	38.3						
				3	B						
				3	P						
				5							
				6	2.5						
				8	B						
				6							
				8	1.7						
				12	B						
				7							
				9	2.5						
				13	B						
				8							
				8	3.9						
				10	B						
				7							
				10	5.4						
				14	B						
				10							
				15	4.5						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

DESIGNED	PJL
CHECKED	WDL
DRAWN	MGM
CHECKED	PJL

**BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04**



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	19
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT		

Contract # 68205

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG

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Date 4/12/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR Station _____ Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

BORING NO. BB794 (BB94) Station 999+52 Groundwater Elev.: _____ ft
First Encounter _____ ft
Upon Completion 682.6 ft
Offset 90.00H RL After 24 Hrs. _____ ft

Ground Surface Elev. 688.60 ft (ft) (/6") (tsf) (%)

DEPTH (ft)	DIAMETER (in)	SOIL DESCRIPTION	UCS (tsf)	Failure Mode	SPT (blows)
0		no sample taken			
3	3	Dark Brown TO Gray SILTY CLAY LOAM	4		27.0
5	5		14	P	
2	2		9		
2	2		12		26.0
5	5		35	A	
1	1	Gray, Brown & Reddish Brown SILTY LOAM	4		22.0
3	3		9		
23	23		12	S	
1	1	Brown & Gray CLAY LOAM	4		
2	2		8		28.0
2	2		13	S	
2	2		4		
2	2		6		16.0
4	4		12	B	
1	1	Greenish Gray SANDY CLAY LOAM	2		19.0
2	2		12		
2	2		7	B	
1	1	Brown & Gray CLAY LOAM TILL	7		12.0
2	2		11		
10	10		18	S	
8	8		22		
11	11		32		13.0
15	15		40	S	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG

Page 2 of 3
Date 4/12/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR Station _____ Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

BORING NO. BB794 (BB94) Station 999+52 Groundwater Elev.: _____ ft
First Encounter _____ ft
Upon Completion 682.6 ft
Offset 90.00H RL After 24 Hrs. _____ ft

Ground Surface Elev. 689.60 ft (ft) (/6") (tsf) (%)

DEPTH (ft)	DIAMETER (in)	SOIL DESCRIPTION	UCS (tsf)	Failure Mode	SPT (blows)
17	17	Gray to Brown CLAY LOAM TILL (continued)	4		
16	16		3.7		11.0
17	17		7	B	
9	9		4		
12	12		6		18.0
35	35		9	B	
4	4	Gray & Brown CLAY TILL	4		36.0
5	5		6		
8	8		8	S	
3	3	Gray & Brown SILTY LOAM	6		29.8
5	5		8		25.0
8	8		10	S	
4	4		4		
6	6		8		25.0
8	8		10	S	
3	3		3		26.0
4	4		4		
7	7		6	B	
3	3		3		26.0
4	4		4		
5	5		5	B	
3	3		4		
3	3		3		20.0
5	5		7	B	
3	3		4		
3	3		3		20.0
7	7		7	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG

Page 3 of 3
Date 4/12/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT

SECTION 24.31.32 LOCATION SEC. TWP. RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR Station _____ Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

BORING NO. BB794 (BB94) Station 999+52 Groundwater Elev.: _____ ft
First Encounter _____ ft
Upon Completion 682.6 ft
Offset 90.00H RL After 24 Hrs. _____ ft

Ground Surface Elev. 689.60 ft (ft) (/6") (tsf) (%)

DEPTH (ft)	DIAMETER (in)	SOIL DESCRIPTION	UCS (tsf)	Failure Mode	SPT (blows)
3	3	Gray & Brown SILTY LOAM (continued)	4		39.0
5	5		6		
7	7		7	S	
5	5		4		
6	6		6		30.0
6	6		9	B	
4	4	Light Gray Soft SHALE	4		41.0
6	6		6		
9	9		8	B	
4	4	Gray & Brown SILTY LOAM	4		29.8
5	5		5	B	22.4
6	6		6		
6	6		6	B	23.5
5	5		5	B	
4	4	Gray SILTY CLAY LOAM	4		
6	6		6		23.5
5	5		5	B	
11	11	Gray, Brown & Reddish SHALEY CLAY (continued)	11		19.4
16	16		16	B	
31	31		31	B	
3	3		3		
26	26		26	B	15.4
36	36		36	S	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED PJL
CHECKED WDL
DRAWN MGM
CHECKED PJL

**BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04**

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph (309) 676-8464
FAX (309) 676-5445
IL Design Firm Reg. No. 224-001522

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	55-2	McDONOUGH	1025	533
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

Contract # 68205

SHEET NO. 17
19 SHEETS

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 1000+22
BORING NO. BB795 (BB95)
First Encounter 576.8 ft
Upon Completion see LOG
Offset 87.00 ft
Ground Surface Elev. 689.26 ft

DEPTH (ft)	SOIL DESCRIPTION	UCS (psi)	Failure Mode	SPT (blows)
0-2	Gray & Brown CLAY LOAM TILL (continued)	15	S	
2-4	Dk. Brown & Brown SILTY CLAY LOAM	12	B	11.0
4-7	Gray & Brown SILTY CLAY LOAM	7	S	13.0
7-10		10	B	14.0
10-12		18	S	
12-17		17	S	
17-20	Brown SILTY LOAM	20		
20-22		51	S	15.0
22-24		490S		
24-27	Dk. Gray & Brown SANDY CLAY LOAM	13	B	12.0
27-31		21	S	
31-34	Gray & Brown CLAY LOAM TILL	5	S	16.0
34-36		12	S	23.0
36-38	Gray & Brown CLAY LOAM TILL	4	S	14.0
38-40		10	B	14.0
40-42		15	S	
42-44		11	S	12.0
44-46		18	B	12.0

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
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BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG
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ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 1000+22
BORING NO. BB795 (BB95)
First Encounter 676.8 ft
Upon Completion see LOG
Offset 87.00 ft
Ground Surface Elev. 689.26 ft

DEPTH (ft)	SOIL DESCRIPTION	UCS (psi)	Failure Mode	SPT (blows)
46-48	Brown & Gray CLAY LOAM TILL (continued)	25	S	
48-50		9	S	13.0
50-52		16	S	
52-54	Gray Coarse SAND	11		
54-56		13	S	13.0
56-58		28		
58-60		15	S	15.0
60-62		28		
62-64	Gray & Brown CLAY LOAM TILL	4	S	27.0
64-66		4	S	27.0
66-68		5	S	
68-70		9	S	20.0
70-72		4	S	20.0
72-74		3	S	20.0
74-76		4	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG
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ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station 1000+22
BORING NO. BB795 (BB95)
First Encounter 676.8 ft
Upon Completion see LOG
Offset 87.00 ft
Ground Surface Elev. 689.26 ft

DEPTH (ft)	SOIL DESCRIPTION	UCS (psi)	Failure Mode	SPT (blows)
76-78	Dk. Gray CLAY w/ trace organics (continued)	9	S	
78-80		8	S	27.0
80-82		7	B	
82-84		8	B	20.0
84-86		6	S	20.0
86-88		6	S	15.0
88-90		6	S	15.0
90-92		6	S	15.0
92-94		6	S	15.0
94-96		6	S	15.0
96-98		6	S	15.0
98-100		6	S	15.0
100-102		6	S	15.0
102-104		6	S	15.0
104-106		6	S	15.0
106-108		6	S	15.0
108-110		6	S	15.0
110-112		6	S	15.0
112-114		6	S	15.0
114-116		6	S	15.0
116-118		6	S	15.0
118-120		6	S	15.0
120-122		6	S	15.0
122-124		6	S	15.0
124-126		6	S	15.0
126-128		6	S	15.0
128-130		6	S	15.0
130-132		6	S	15.0
132-134		6	S	15.0
134-136		6	S	15.0
136-138		6	S	15.0
138-140		6	S	15.0
140-142		6	S	15.0
142-144		6	S	15.0
144-146		6	S	15.0
146-148		6	S	15.0
148-150		6	S	15.0
150-152		6	S	15.0
152-154		6	S	15.0
154-156		6	S	15.0
156-158		6	S	15.0
158-160		6	S	15.0
160-162		6	S	15.0
162-164		6	S	15.0
164-166		6	S	15.0
166-168		6	S	15.0
168-170		6	S	15.0
170-172		6	S	15.0
172-174		6	S	15.0
174-176		6	S	15.0
176-178		6	S	15.0
178-180		6	S	15.0
180-182		6	S	15.0
182-184		6	S	15.0
184-186		6	S	15.0
186-188		6	S	15.0
188-190		6	S	15.0
190-192		6	S	15.0
192-194		6	S	15.0
194-196		6	S	15.0
196-198		6	S	15.0
198-200		6	S	15.0
200-202		6	S	15.0
202-204		6	S	15.0
204-206		6	S	15.0
206-208		6	S	15.0
208-210		6	S	15.0
210-212		6	S	15.0
212-214		6	S	15.0
214-216		6	S	15.0
216-218		6	S	15.0
218-220		6	S	15.0
220-222		6	S	15.0
222-224		6	S	15.0
224-226		6	S	15.0
226-228		6	S	15.0
228-230		6	S	15.0
230-232		6	S	15.0
232-234		6	S	15.0
234-236		6	S	15.0
236-238		6	S	15.0
238-240		6	S	15.0
240-242		6	S	15.0
242-244		6	S	15.0
244-246		6	S	15.0
246-248		6	S	15.0
248-250		6	S	15.0
250-252		6	S	15.0
252-254		6	S	15.0
254-256		6	S	15.0
256-258		6	S	15.0
258-260		6	S	15.0
260-262		6	S	15.0
262-264		6	S	15.0
264-266		6	S	15.0
266-268		6	S	15.0
268-270		6	S	15.0
270-272		6	S	15.0
272-274		6	S	15.0
274-276		6	S	15.0
276-278		6	S	15.0
278-280		6	S	15.0
280-282		6	S	15.0
282-284		6	S	15.0
284-286		6	S	15.0
286-288		6	S	15.0
288-290		6	S	15.0
290-292		6	S	15.0
292-294		6	S	15.0
294-296		6	S	15.0
296-298		6	S	15.0
298-300		6	S	15.0
300-302		6	S	15.0
302-304		6	S	15.0
304-306		6	S	15.0
306-308		6	S	15.0
308-310		6	S	15.0
310-312		6	S	15.0
312-314		6	S	15.0
314-316		6	S	15.0
316-318		6	S	15.0
318-320		6	S	15.0
320-322		6	S	15.0
322-324		6	S	15.0
324-326		6	S	15.0
326-328		6	S	15.0
328-330		6	S	15.0
330-332		6	S	15.0
332-334		6	S	15.0
334-336		6	S	15.0
336-338		6	S	15.0
338-340		6	S	15.0
340-342		6	S	15.0
342-344		6	S	15.0
344-346		6	S	15.0
346-348		6	S	15.0
348-350		6	S	15.0
350-352		6	S	15.0
352-354		6	S	15.0
354-356		6	S	15.0
356-358		6	S	15.0
358-360		6	S	15.0
360-362		6	S	15.0
362-364		6	S	15.0
364-366		6	S	15.0
366-368		6	S	15.0
368-370		6	S	15.0
370-372		6	S	15.0
372-374		6	S	15.0
374-376		6	S	15.0
376-378		6	S	15.0
378-380		6	S	15.0
380-382		6	S	15.0
382-384		6	S	15.0
384-386		6	S	15.0
386-388		6	S	15.0
388-390		6	S	15.0
390-392		6	S	15.0
392-394		6	S	15.0
394-396		6	S	15.0
396-398		6	S	15.0
398-400		6	S	15.0
400-402		6	S	15.0
402-404		6	S	15.0
404-406		6	S	15.0
406-408		6	S	15.0
408-410		6	S	15.0
410-412		6	S	15.0
412-414		6	S	15.0
414-416		6	S	15.0
416-418		6	S	15.0
418-420		6	S	15.0
420-422		6	S	15.0
422-424		6	S	15.0
424-426		6	S	15.0
426-428		6	S	15.0
428-430		6	S	15.0
430-432		6	S	15.0
432-434		6	S	15.0
434-436		6	S	15.0
436-438		6	S	15.0
438-440		6	S	15.0
440-442		6	S	15.0
442-444		6	S	15.0
444-446		6	S	15.0
446-448		6	S	15.0
448-450		6	S	15.0
450-452		6	S	15.0
452-454		6	S	15.0
454-456		6	S	15.0
456-458		6	S	15.0
458-460		6	S	15.0
460-462		6	S	15.0
462-464		6	S	15.0
464-466		6	S	15.0
466-468		6	S	15.0

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Contract # 68205

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 98796 (9896)
Station 1000+60
Offset 75.00ft RL
Ground Surface Elev. 689.40 ft

DEPTH (ft)	SOIL DESCRIPTION	DIAMETER (in)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	UNIFIED SOIL CLASSIFICATION	FIELD NOTES
0	Surface Water Elev. _____ ft						
0	Stream Bed Elev. _____ ft						
0	Groundwater Elev.: First Encounter _____ ft						
0	Upon Completion _____ ft						
0	After 24 Hrs. _____ ft						
689.40	Brown & Gray CLAY LOAM TILL (continued)						
3							
4							
4							
2							
2							
2							
2							
1							
2							
2							
880.90	Dark Gray & Brown SANDY CLAY LOAM						
1							
1							
2							
3							
2							
3							
1							
2							
3							
673.40	Gray Fine SAND						
1							
2							
5							
652.40	Brown & Gray CLAY LOAM TILL						
14							
39							
650.90	Dark Gray CLAY LOAM TILL						
19							
17							
29							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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Date 4/15/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 98796 (9896)
Station 1000+60
Offset 75.00ft RL
Ground Surface Elev. 689.40 ft

DEPTH (ft)	SOIL DESCRIPTION	DIAMETER (in)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	UNIFIED SOIL CLASSIFICATION	FIELD NOTES
689.40	Dark Gray CLAY LOAM TILL (continued)						
5							
11							
11							
4							
8							
10							
10							
11							
16							
12							
8							
10							
1							
3							
8							
2							
4							
8							
633.40	Gray Med. Fine SAND						
18							
39							
45							
650.90	Greenish Gray & Brown CLAY LOAM TILL						
6							
5							
7							
520.90	Dark Gray to Dark Brown SILTY LOAM TILL (continued)						
4							
5							
8							
4							
6							
9							
4							
6							
9							
583.40	Green Gray SANDSTONE						
14							
23							
32							
590.90	Gray, Brown & Red SHALEY CLAY						
21							
24							
43							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG
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Date 4/15/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 98796 (9896)
Station 1000+60
Offset 75.00ft RL
Ground Surface Elev. 689.40 ft

DEPTH (ft)	SOIL DESCRIPTION	DIAMETER (in)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	UNIFIED SOIL CLASSIFICATION	FIELD NOTES
583.40	Gray, Brown & Red SHALEY CLAY (continued)						
4							
5							
8							
4							
6							
8							
582.90	Gray Soft SHALE						
5							
7							
5							
5							
7							
4							
6							
8							
4							
6							
8							
590.90	Gray, Brown & Red SHALEY CLAY						
21							
24							
43							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED P.J.L.
CHECKED W.D.L.
DRAWN M.G.M.
CHECKED P.J.L.

BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04



3/26/2006 11:06:35 AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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Date 1/8/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 88797 (8897)
Station 1001+04
Offset 70.00H L1
Ground Surface Elev. 689.17 ft

DEPTH (ft)	DIAMETER (in)	SOIL TYPE	WATER	TEMPERATURE (F)	PERCENT MOISTURE (%)	UNIFIED SOIL CLASSIFICATION	TESTS
0		Surface Water Elev. _____ ft					
0		Stream Bed Elev. _____ ft					
0		Groundwater Elev.: _____ ft					
0		First Encounter _____ ft					
0		Upon Completion _____ ft					
0		After 24 Hrs. _____ ft					
0		DK. Brown SILTY CLAY LOAM					
1							
2	1.7						
4	B						
685.17		Brown & Gray SILTY CLAY LOAM					
1							
2	0.8						
3	B						
1							
2	1.0						
3	B						
1							
2	0.8						
3	B						
677.67		DK. Brown to Gray CLAY					
1	0.5						
2	B						
1	0.3						
2	P						
2							
3	2.1						
3	B						
672.67		Brown & Gray CLAY LOAM TILL					
1	0.6						
3	P						
671.92		Brown/Gray Med. SAND					
3	P						
6							
6							
20	6						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
Page 2 of 3
Date 1/8/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 88797 (8897)
Station 1001+04
Offset 70.00H L1
Ground Surface Elev. 689.17 ft

DEPTH (ft)	DIAMETER (in)	SOIL TYPE	WATER	TEMPERATURE (F)	PERCENT MOISTURE (%)	UNIFIED SOIL CLASSIFICATION	TESTS
0		Surface Water Elev. _____ ft					
0		Stream Bed Elev. _____ ft					
0		Groundwater Elev.: _____ ft					
0		First Encounter _____ ft					
0		Upon Completion _____ ft					
0		After 24 Hrs. _____ ft					
0		Brown Med. SAND (continued)					
45							
3							
648.92		Gray CLAY LOAM TILL					
11	6.4						
26	B						
5							
13	6.6						
18	S						
5							
13	7.6						
23	B						
4							
5	1.9						
6	B						
2							
4	1.7						
5	B						
2							
3	1.9						
4	B						
16	1.5						
18	B						
1		1" sand seam					
18							
2							
3	1.5						
6	B						
2							
3	1.7						
3	B						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
SOIL BORING LOG
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Date 1/8/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC. TWP. RNG.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. BNSF RR
Station
BORING NO. 88797 (8897)
Station 1001+04
Offset 70.00H L1
Ground Surface Elev. 689.17 ft

DEPTH (ft)	DIAMETER (in)	SOIL TYPE	WATER	TEMPERATURE (F)	PERCENT MOISTURE (%)	UNIFIED SOIL CLASSIFICATION	TESTS
0		Surface Water Elev. _____ ft					
0		Stream Bed Elev. _____ ft					
0		Groundwater Elev.: _____ ft					
0		First Encounter _____ ft					
0		Upon Completion _____ ft					
0		After 24 Hrs. _____ ft					
0		Gray CLAY LOAM TILL (continued)					
14	B						
6							
8	2.1						
17	S						
5							
7	2.1						
8	S						
602.67		DK. Brown SILTY LOAM (Organic)/PEAT					
4							
5	1.0						
8	B						
4							
7	2.1						
11	B						
598.67		AFTER 24 hrs. HOLE COLLAPSED @ 17.8' End of Boring					
11							
19	4.5						
25	P						
8							
25	5.0						
42	S						
16							
24	5.2						
32	S						
4							
8	2.1						
100							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED P.J.L.
CHECKED W.D.L.
DRAWN M.G.M.
CHECKED P.J.L.

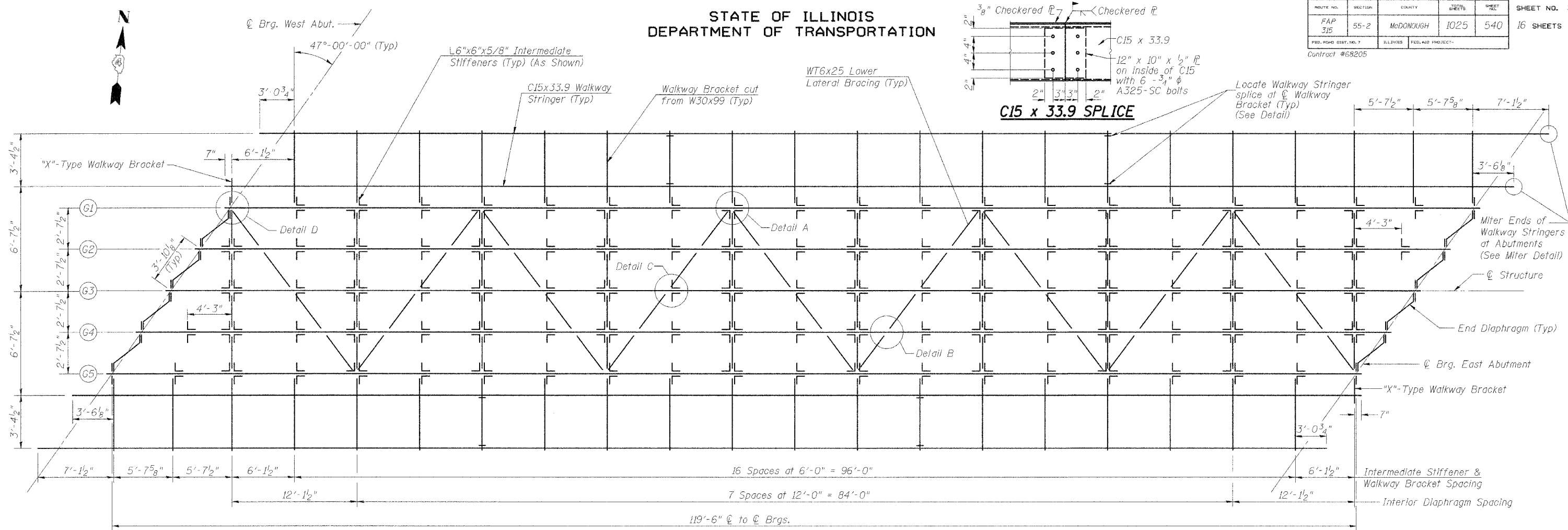
BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER
IL. ROUTE 336
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 554+41.87
STRUCTURE NO. 055-9901
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.04



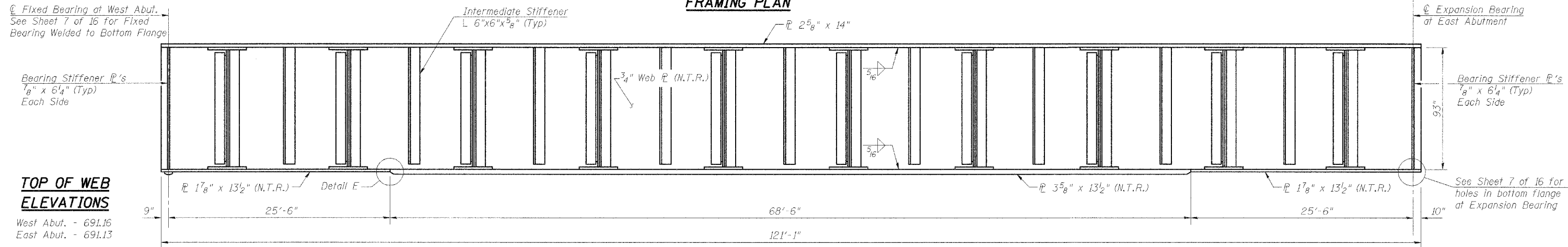
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 315	SECTION 55-2	COUNTY McDONOUGH	DATE 10/25	SHEET NO. 540	SHEET NO. 5 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

Contract #68205



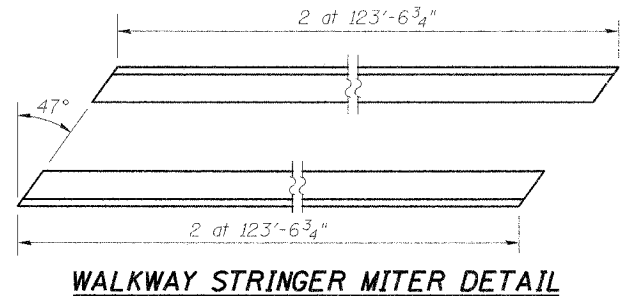
FRAMING PLAN



**TOP OF WEB
ELEVATIONS**

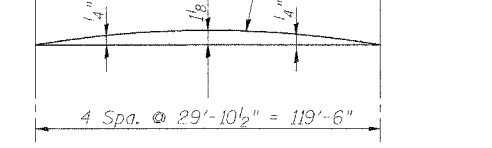
West Abut. - 691.16
East Abut. - 691.13

GIRDER ELEVATION
(G3 shown, others similar)



DETAIL E

CAMBER DIAGRAM
(Dead Load + 3 kip/ft of track)



NOTES:

- All girders, bearing stiffeners, diaphragms, walkway brackets, lower lateral bracing, and gusset plates shall be AASHTO M270 Grade 50 steel.
- "N.T.R." denotes plates to which Notch Toughness Requirements are applicable.
- See Sheet 7 of 16 for Bearing Details and Moment & Reaction Tables.
- Work this sheet with Sheet 6 of 16.
- See Sheet 6 of 16 for Details A, B, C and D.
- Complete Joint Penetration (CJP) butt joints are permitted in web plates and flange plates subject to the following limitations:
 - Meet AASHTO/AWS D1.5 and ILDOT requirements.
 - No more than one per web or flange.
 - CJP welds in the flange and web must be separated by at least 36".
 - No CJP within four feet of the girder midspan.
 - No CJP at least 3" from bolt holes.

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

REVISIONS	
NAME	DATE

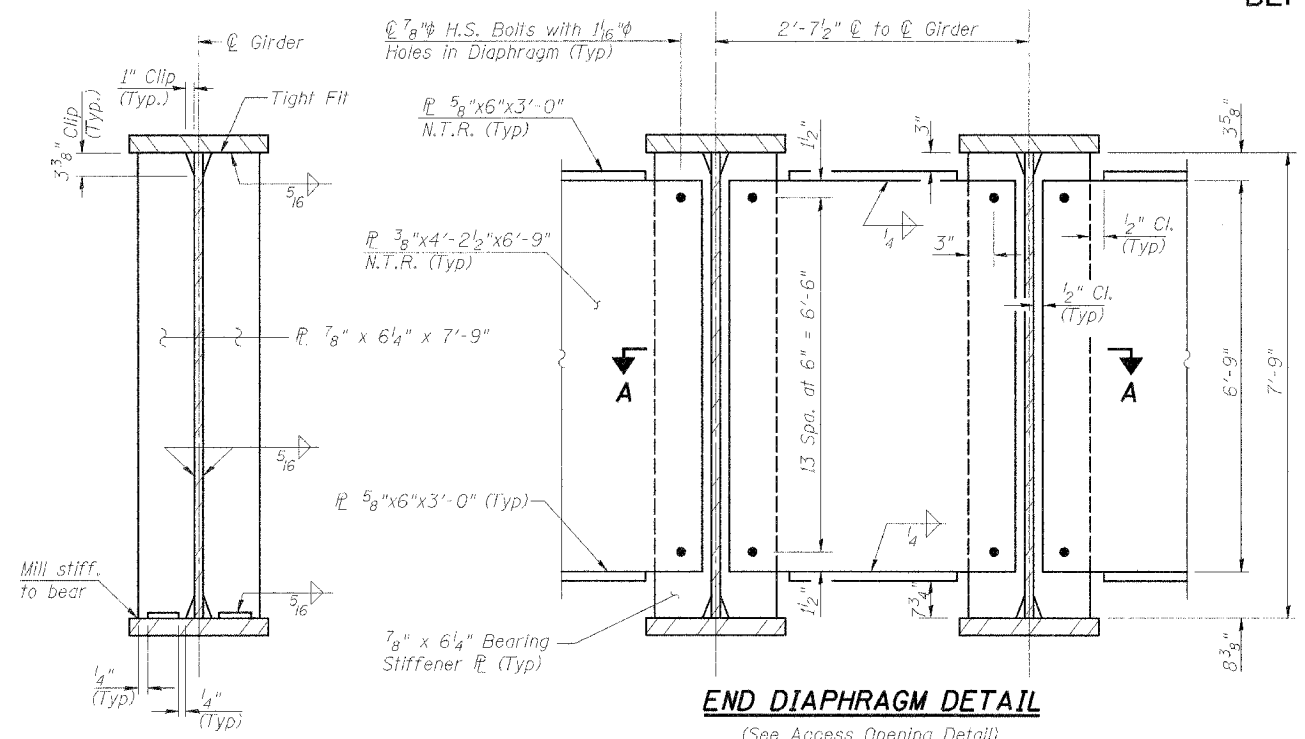
LIN ENGINEERING, LTD.
210 N. Duane Street
Chattanooga, Illinois 62629
Tel: 618-485-4865 Fax: 618-485-4706
Designed By: JLS Checked By: JMT Drawn By: JML
Date: 01/06 File: 0559903.DWG

Revised 4-14-06

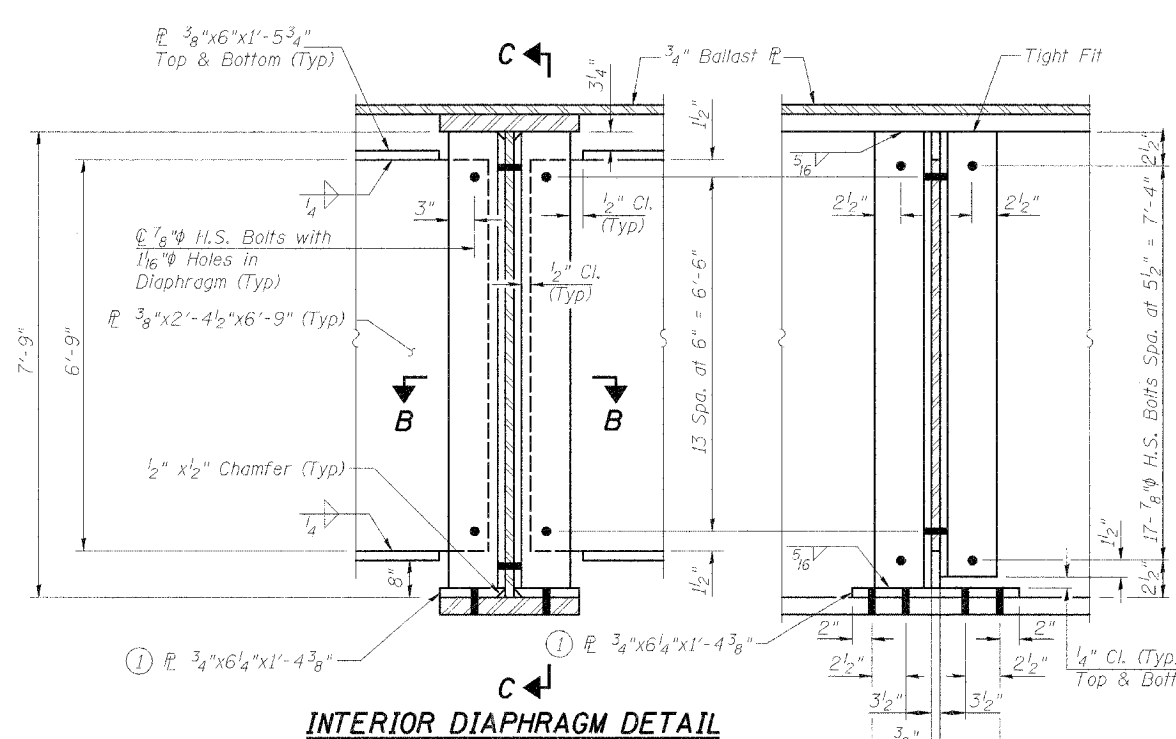
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 315	SECTION 55-2	COUNTY McDONOUGH	TOTAL SHEETS 1025	SHEET NO. 541	SHEET NO. 6 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

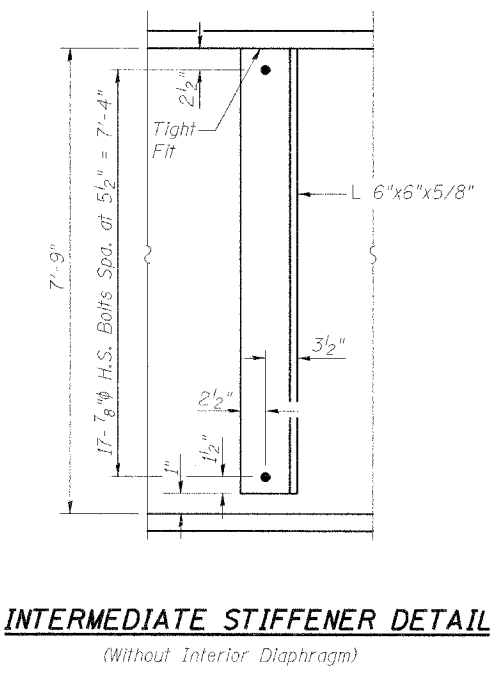
Contract #68205



END DIAPHRAGM DETAIL
(See Access Opening Detail)

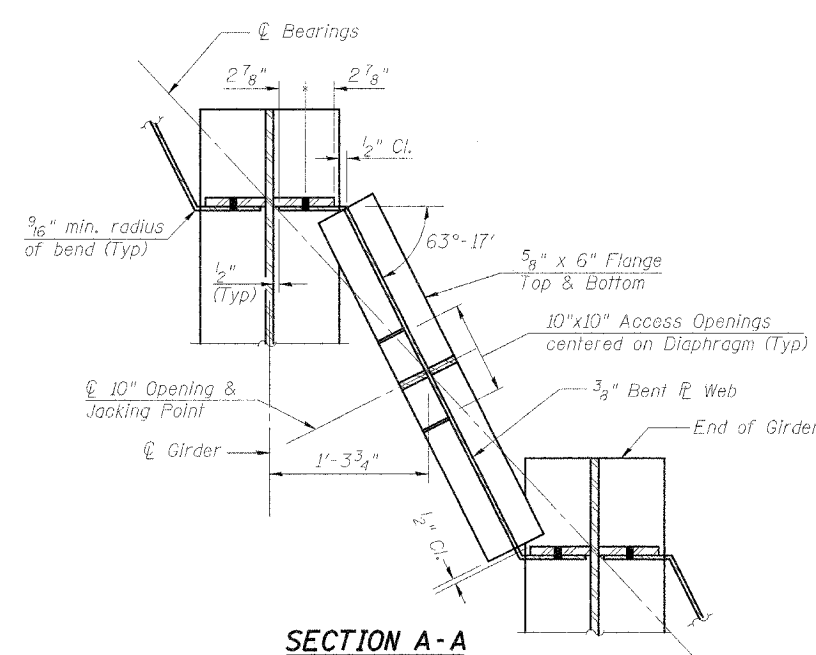


INTERIOR DIAPHRAGM DETAIL

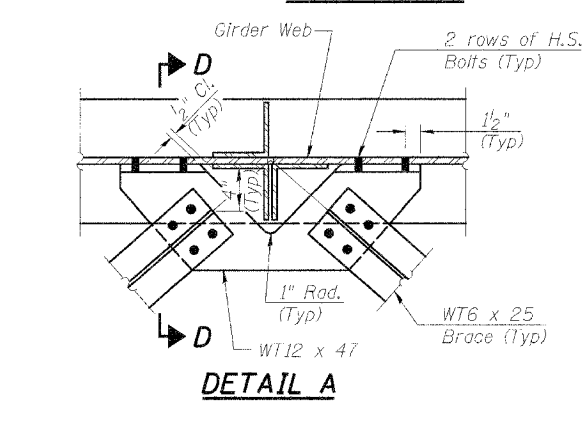


INTERMEDIATE STIFFENER DETAIL
(Without Interior Diaphragm)

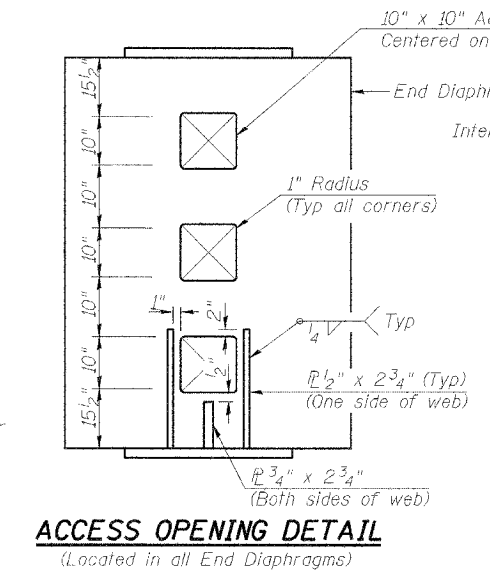
BEARING STIFFENER



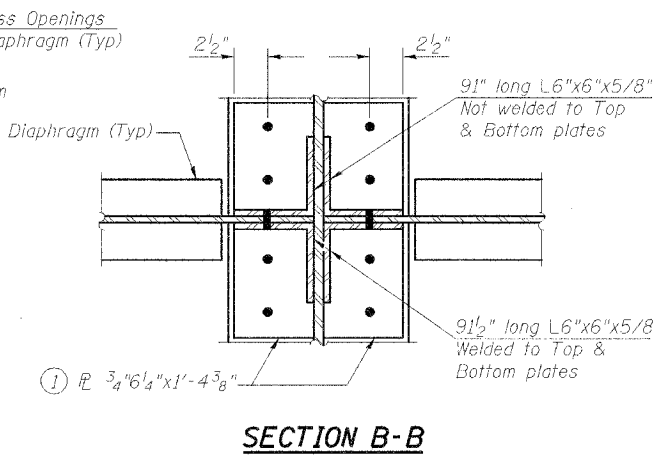
SECTION A-A



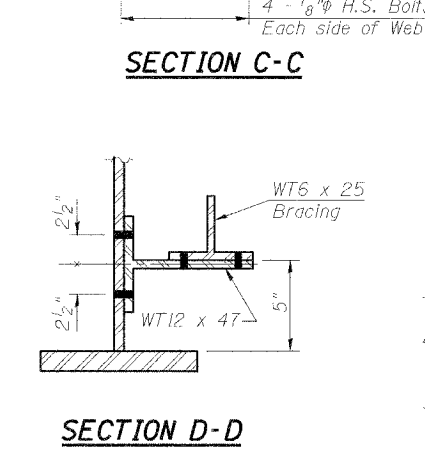
DETAIL A



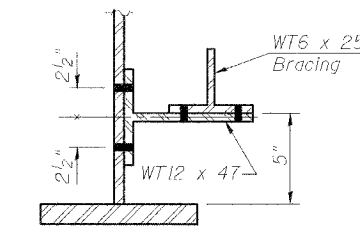
ACCESS OPENING DETAIL
(Located in all End Diaphragms)



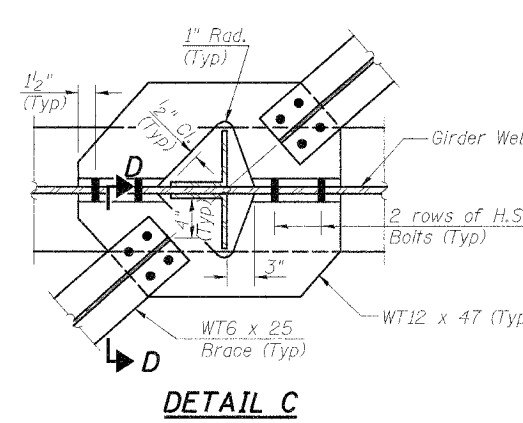
SECTION B-B



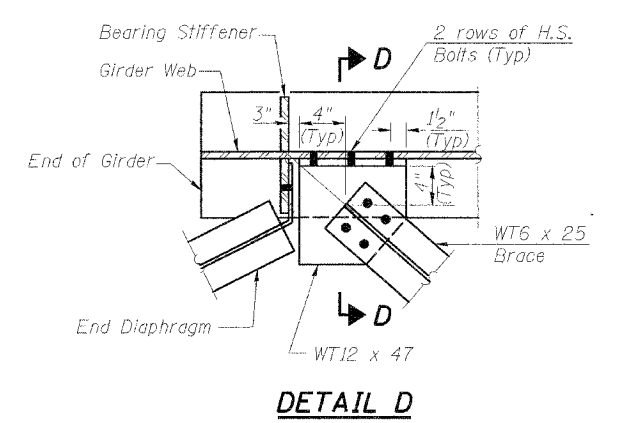
SECTION C-C



SECTION D-D



DETAIL C



DETAIL D

① Shop bolted to girder with 4 H.S. bolts in standard size holes. 1/2" x 1/2" chamfer for weld clearance.

NOTES

- All contact surfaces of joints for diaphragms, stiffeners, and lateral bracing shall be free of paint and lacquer.
- All bolt holes in diaphragm and lateral bracing connections shall be 1/16 inch with two hardened washers required over all oversized holes.
- The lower flanges of the end diaphragms are designed for jacking forces, under the condition that all end diaphragms are jacked equally and simultaneously.
- "N.T.R." denotes plates to which Notch Toughness Requirements are applicable.
- Work this sheet with Sheet 5 of 16.

Note:
4-H.S. bolts required at each WT6x25 Brace Connection.

LIN ENGINEERING, LTD.
30 W. Chestnut
Chicago, Illinois 60629
Tel: 312-463-6800
FAX: 312-463-9106
Designed By: DLS
Checked By: MTH
Drawn By: JML
Date: 07/06
File: 0559903.DGN

REVISIONS	
NAME	DATE

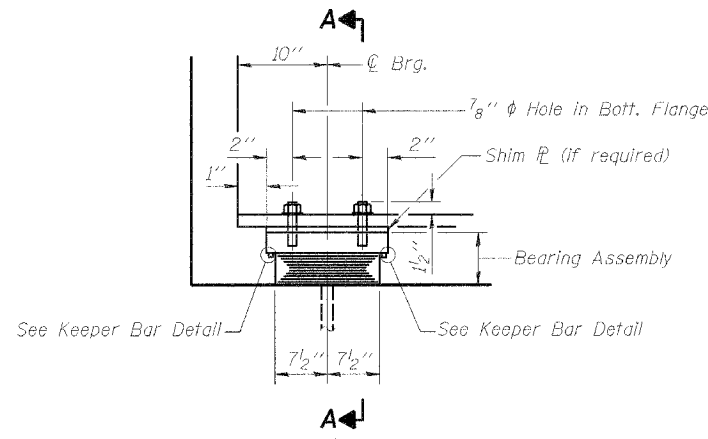
ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

DATE: \$ TIME: \$ FILE: 488REV: \$

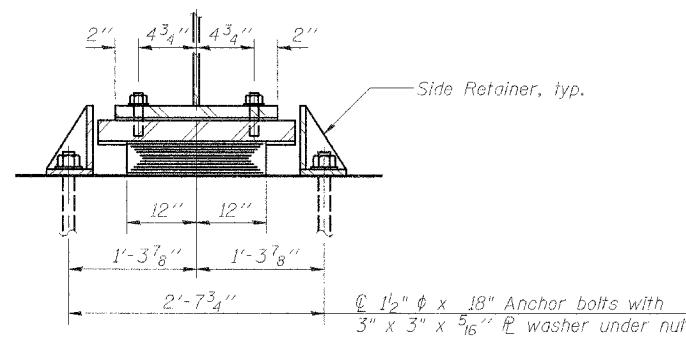
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	"SHEET" NO.	SHEET NO. 7
FAP 315	55-2	MCDONOUGH	1025	542	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

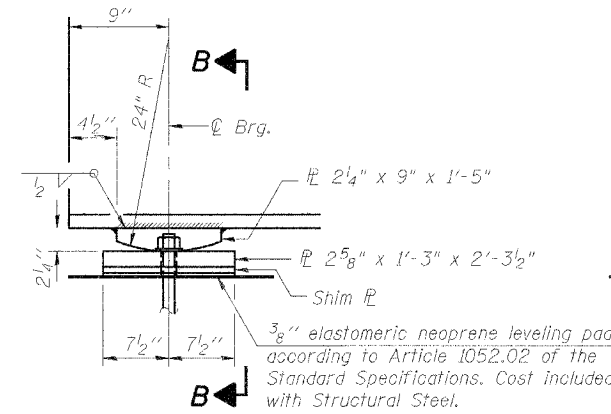
Contract #68205



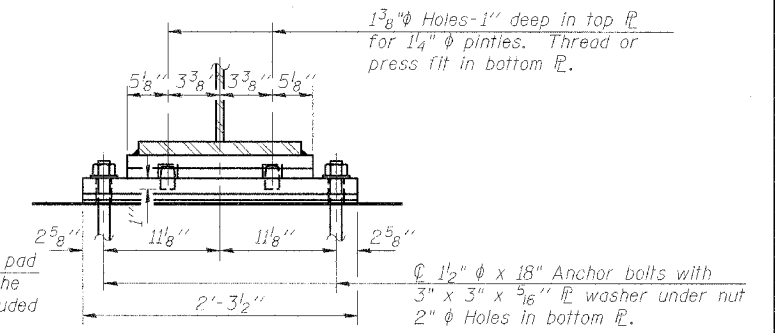
ELEVATION AT EAST ABUT.



SECTION A-A



ELEVATION AT WEST ABUT.

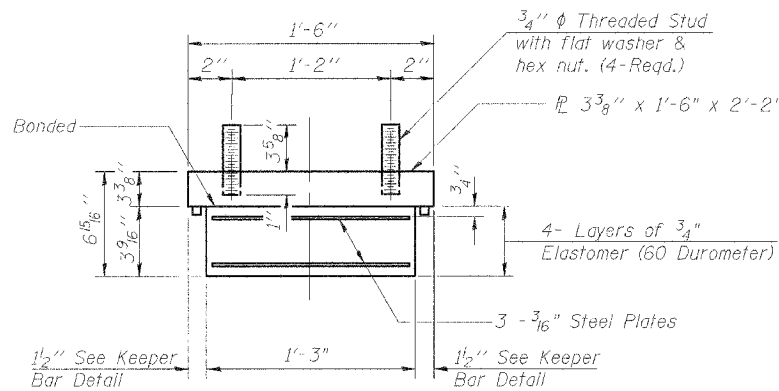


SECTION B-B

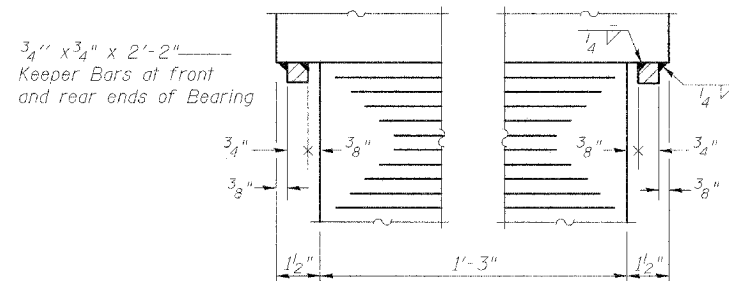
TYPE I ELASTOMERIC EXP. BRG.

FIXED BEARING

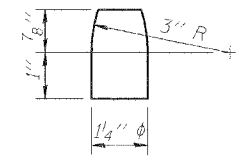
(5 req'd)



BEARING ASSEMBLY



KEEPER BAR DETAIL



PINTLE

	Cooper's E-80 on 5 Girders	Cooper's E-65 on 4 Girders
I_s (in ⁴)	246,212	246,212
S_s (in ³)	5,327	5,327
Q (k/')	1.47	1.47
M_R (k)	2,621	2,621
M_L (k)	3,690	5,997
M (Imp.) (k)	1,387	1,996
$f_s R$ (ksi)	5.9	5.9
f_s (L + I) (ksi)	11.4	18.0
f_s (Total) (ksi)	17.3	23.9
VR (k)	188.5	297.7

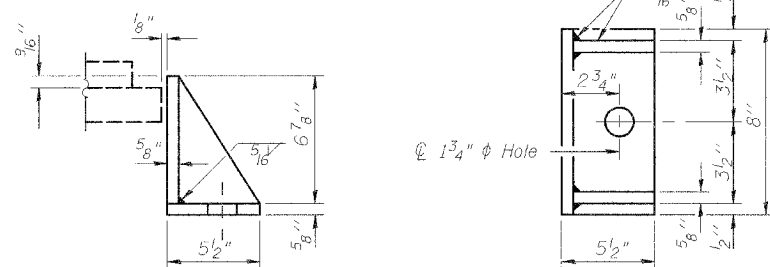
	Cooper's E-80 on 5 Girders	Cooper's E-65 on 4 Girders
R_R (k)	87.7	87.7
R_L (k)	138.9	225.8
Imp. (k)	49.6	71.9
R (Total) (k)	276.2	385.4

- Notes:
- Anchor bolts at fixed bearings may be built into the masonry.
 - See sheet 8 of 16 for Anchor Bolt installation.
 - Shim plates shall not be placed under Bearing Assembly.
 - Field glue bearing pad to the concrete seat per B.N.S.F. requirements.
 - Elastomer shall be 60 Durometer as per B.N.S.F. requirements

- I_s and S_s are the gross moment of inertia and section modulus of the steel section used in computing f_s .
- VR is the maximum Live Load + Impact shear range in span.
- Impact includes vertical effects and rocking effects.
- Loads and stresses are based on service load conditions, ignoring composite action of ballast plate.
- Effects of Live Load and Impact eccentricity are included in distribution of loads to girders.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I (Special)	Each	5



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

REVISIONS	
NAME	DATE

LIJ ENGINEERING, LTD.
210 W. Chestnut
Chicago, Illinois 60629
312 461-4625
Fax: 312 461-1106
Designed By: DLJ
Checked By: JJJ
Drawn By: JJJ
Date: 01/95
File: 0559903.001

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARINGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

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\$TIME\$

\$DATE\$

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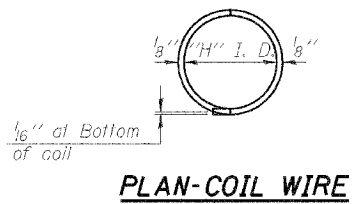
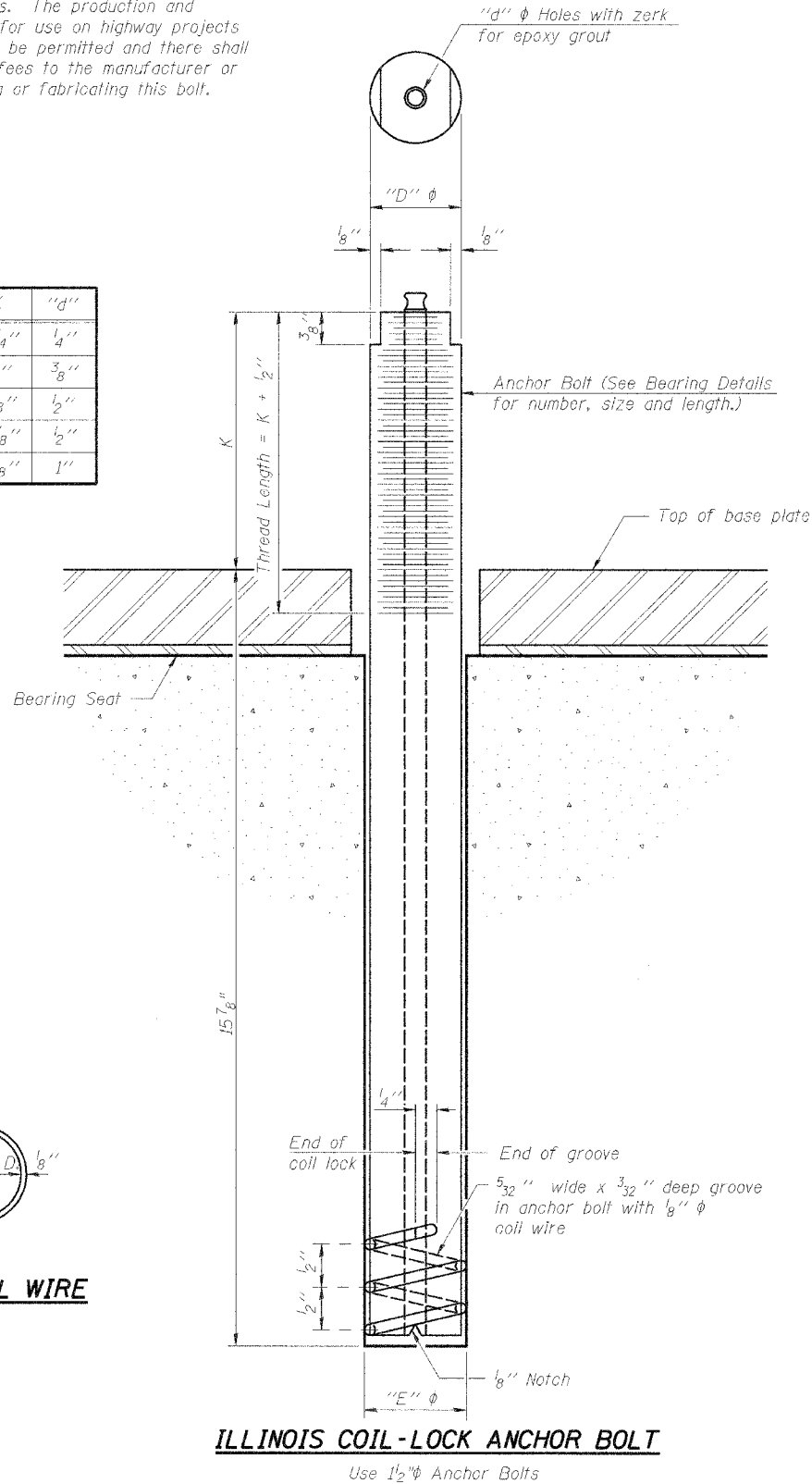
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 315	55-2	McDONOUGH	1025	543
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #68205

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.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



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
Abuts.	A325

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.

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 and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

DATE \$ TIME \$ FILE \$ REV \$

REVISIONS

NAME	DATE

LIN ENGINEERING, LTD.
330 W. Chestnut
3171 483-468
Desig. By: DLS
Date: 07/06

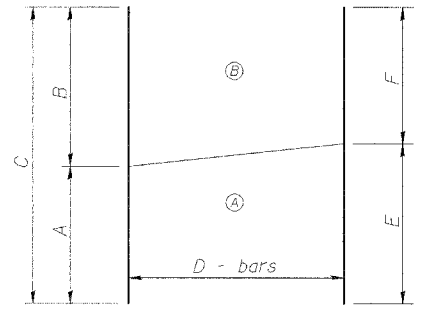
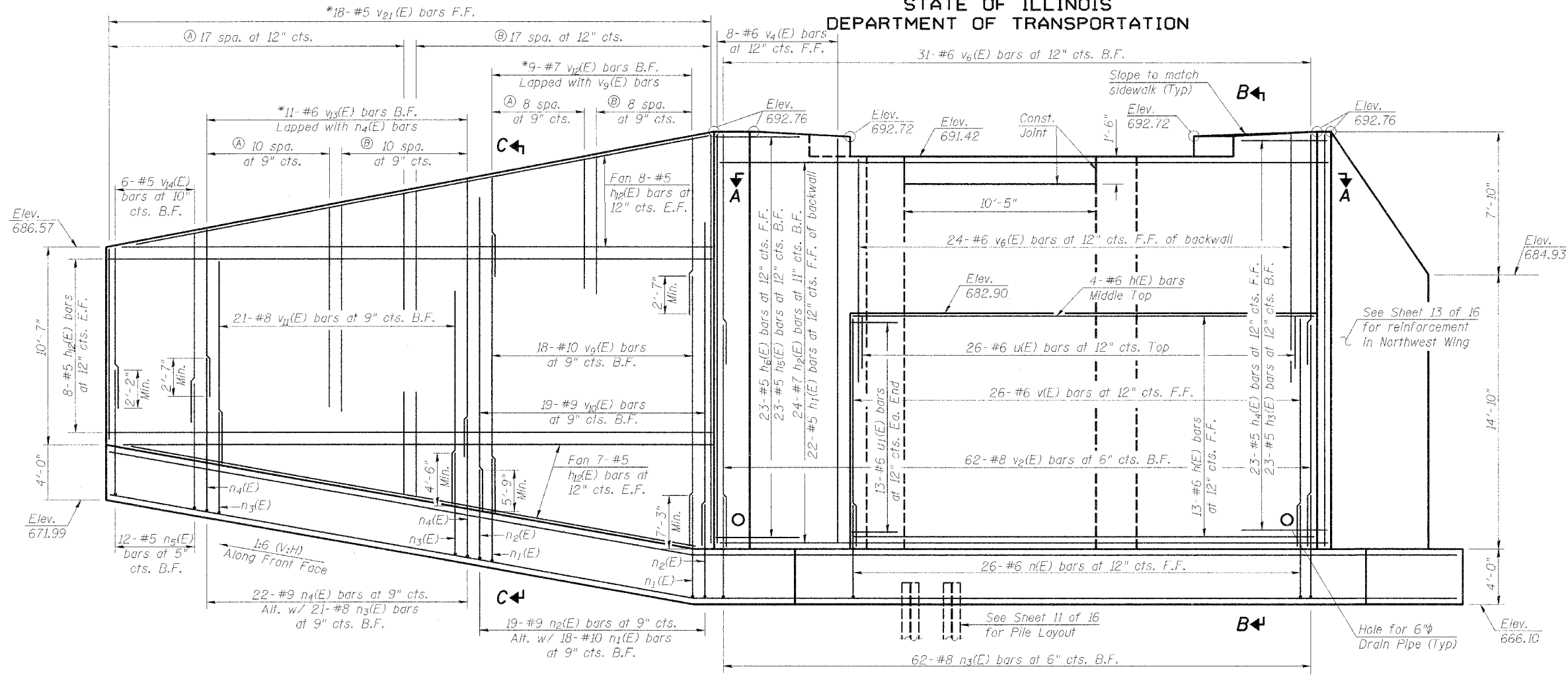
Chatham, Illinois 62629
TEL: (217) 483-4700
Checked By: MTH
Drawn By: JML
File: 0559903.DWG

ILLINOIS DEPARTMENT OF TRANSPORTATION
ANCHOR BOLT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 315	SECTION 55-2	COUNTY McDONOUGH	EST. SHEETS 1025	SHEET NO. 544	SHEET NO. 9 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #68205

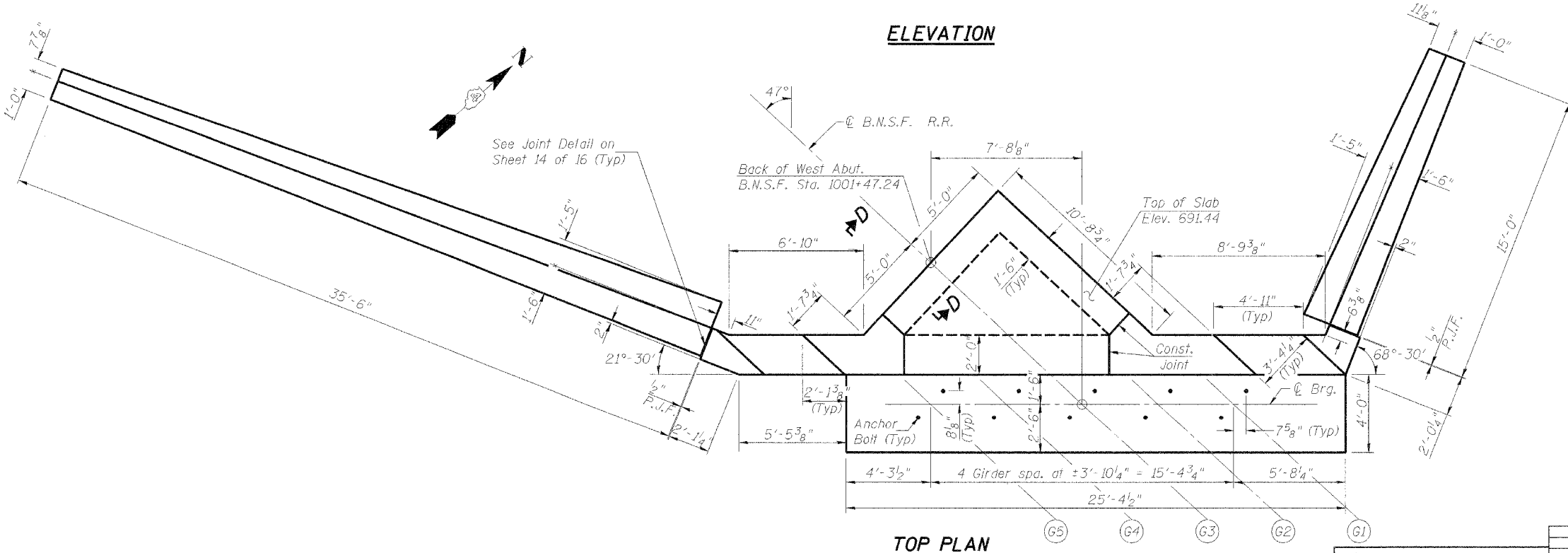


FIELD CUTTING DIAGRAM

* Cut bars in field as shown. Place patterns A and B side by side as shown on plans.

Bar	A	B	C	D	E	F
v12(E)	5'-8"	9'-11"	15'-7"	9	7'-8"	7'-11"
v13(E)	8'-11"	14'-4"	23'-3"	11	11'-6"	11'-9"
v21(E)	10'-3"	22'-5"	32'-8"	18	16'-1"	16'-7"

ELEVATION



TOP PLAN

NOTES

1. Reinforcement designated (E) shall be epoxy coated.
2. See Sheet 14 of 16 for bar bends, Bill of Material, and drainage details.
3. Space reinforcement bars to miss anchor bolts.
4. Work this sheet with Sheets 11 and 13 of 16.
5. See Sheet 13 of 16 for Sections A-A, B-B, C-C and D-D.
6. See Sheet 14 of 16 for PJF Joint Detail.

ILLINOIS DEPARTMENT OF TRANSPORTATION
WEST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

LIN ENGINEERING, LTD.
210 W. Chestnut
Chicago, Illinois 60629
Tel: 312-467-1622 Fax: 312-467-4106
Designed By: DLS Checked By: MTH Drawn By: JME
Date: 01/06 File: 0559903.DGN

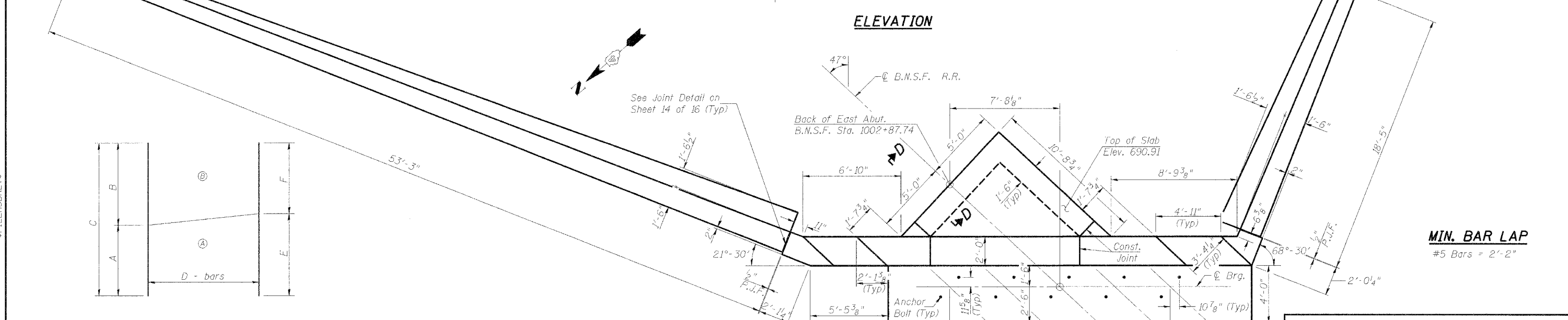
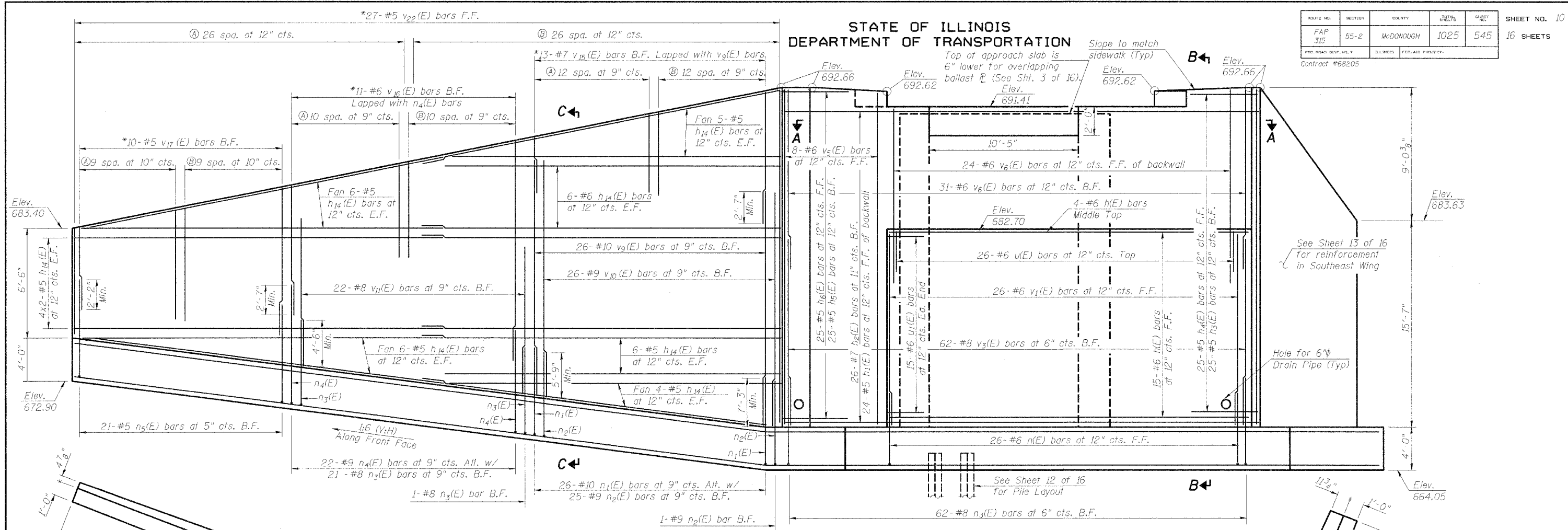
REVISIONS	
NAME	DATE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO.
FAP 315	55-2	McDONOUGH	1025	545	16 SHEETS
Contract #68205					



FIELD CUTTING DIAGRAM

* Cut bars in field as shown. Place patterns (A) and (B) side by side as shown on plans.

Bar	A	B	C	D	E	F
v ₁₅ (E)	5'-7"	12'-0"	17'-7"	13	8'-8"	8'-11"
v ₁₆ (E)	8'-10"	14'-3"	23'-1"	11	11'-5"	11'-8"
v ₁₇ (E)	2'-0"	7'-5"	9'-5"	10	4'-7"	4'-10"
v ₂₂ (E)	6'-3"	24'-4"	30'-7"	27	15'-1"	15'-6"

NOTES

1. Reinforcement designated (E) shall be epoxy coated.
2. See Sheet 14 of 16 for bar bends, Bill of Material, and drainage details.
3. Space reinforcement bars to miss anchor bolts.
4. Work this sheet with Sheets 12 and 13 of 16.
5. See Sheet 13 of 16 for Sections A-A, B-B, C-C and D-D.
6. See Sheet 14 of 16 for P/J Joint Detail.

MIN. BAR LAP
#5 Bars = 2'-2"

ILLINOIS DEPARTMENT OF TRANSPORTATION
EAST ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

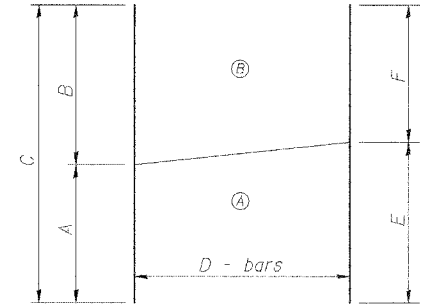
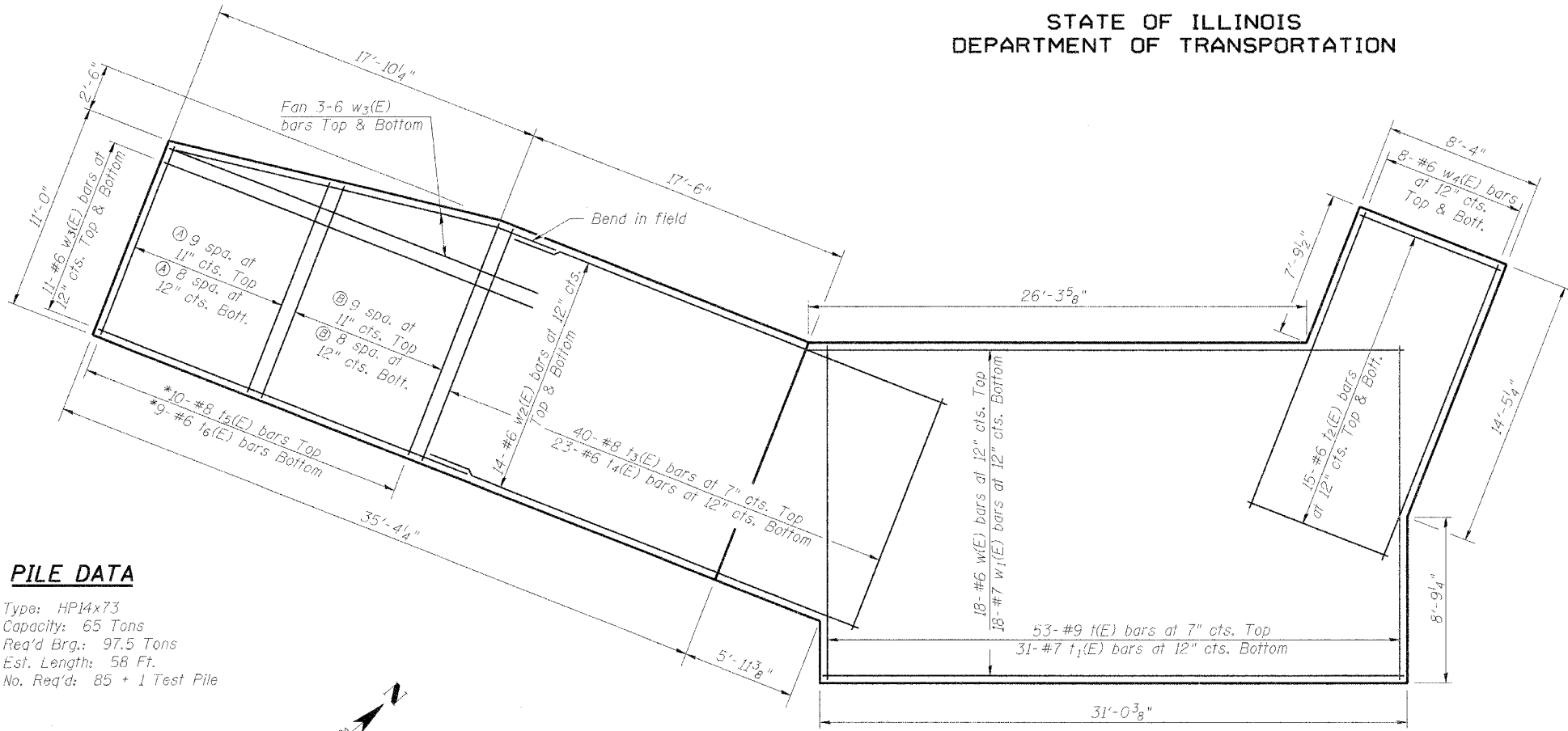
LIN ENGINEERING, LTD.
 200 N. Chestnut
 Chicago, Illinois 60629
 (312) 483-4868
 Fax: (312) 483-4806
 Developed By: JLS
 Checked By: M11
 Date: 01/06
 Drawn By: JLL
 File: 0559903.DWG

REVISIONS	
NAME	DATE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 315	55-2	MCDONOUGH	1025	546
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11
16 SHEETS

Contract #68205



FIELD CUTTING DIAGRAM

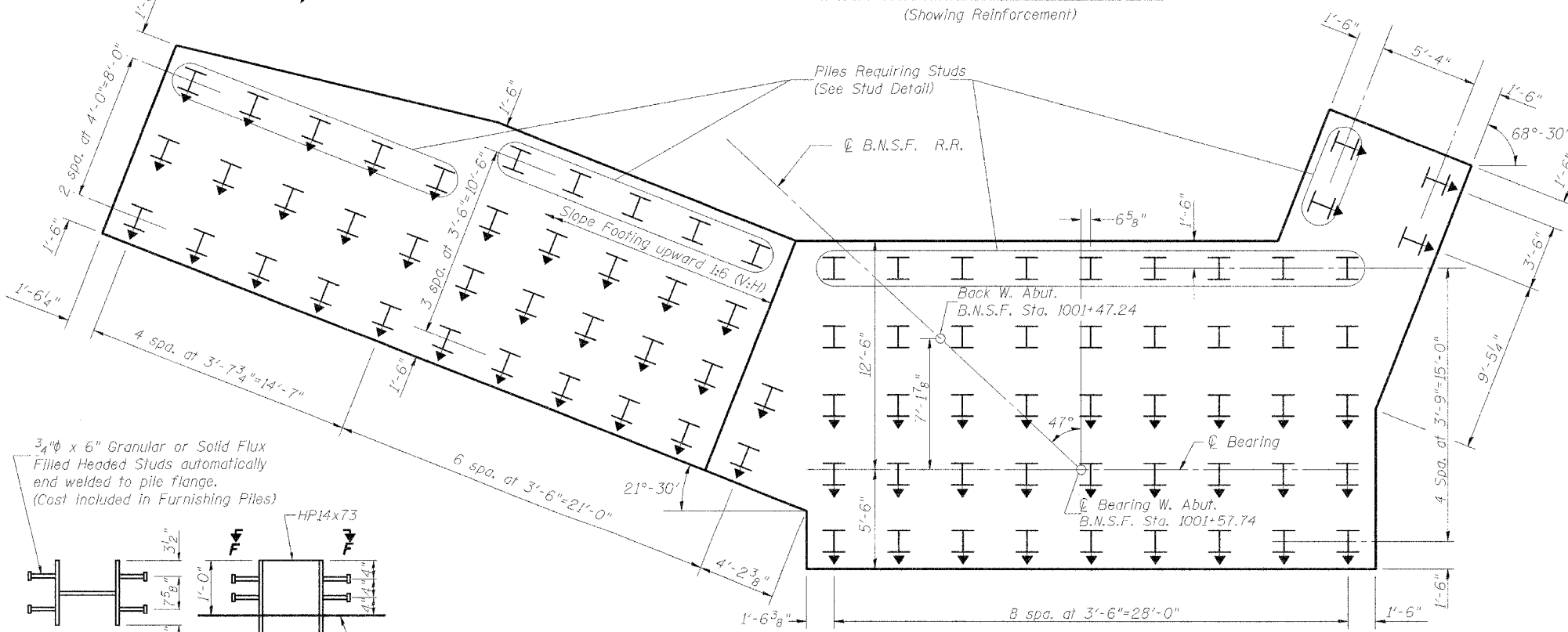
* Cut $t_5(E)$ and $t_6(E)$ bars in field as shown. Place patterns (A) and (B) side by side as shown on plans.

Bar	A	B	C	D	E	F
$t_5(E)$	10'-9"	13'-3"	24'-0"	10	11'-11"	12'-1"
$t_6(E)$	10'-9"	13'-3"	24'-0"	9	11'-11"	12'-1"

PILE DATA

Type: HP14x73
Capacity: 65 Tons
Req'd Brg.: 97.5 Tons
Est. Length: 58 Ft.
No. Req'd: 85 + 1 Test Pile

WEST ABUTMENT FOOTING PLAN
(Showing Reinforcement)



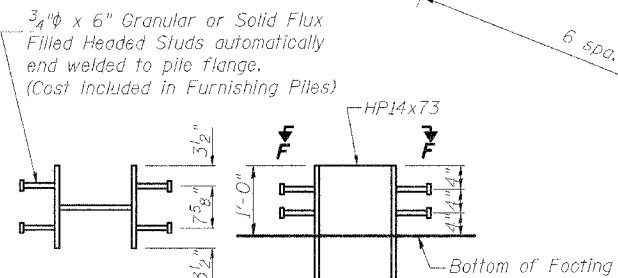
MIN. BAR LAP

#6 Bars = 2'-7"

NOTES

- Space bottom footing reinforcement to miss piles.
- Reinforcement designated (E) shall be epoxy coated.
- See Sheet 14 of 16 for Bill of Material.
- Work this sheet with Sheet 9 of 16.

Indicates battered pile. Batters are 3:12 in direction indicated.



SECTION F-F
STUD DETAIL

WEST ABUTMENT FOOTING PLAN
(Showing Piles)

LIJ ENGINEERING, LTD.
20 W. Chestnut
Oak Park, Illinois 60454
Phone: (708) 451-4800
Fax: (708) 483-1106
Designed By: DLG
Checked By: MTK
Date: 01/05
Drawn By: JML
File: 0559903.DWG

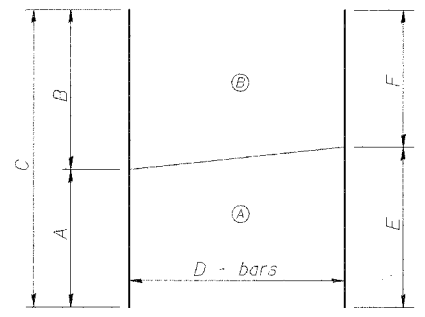
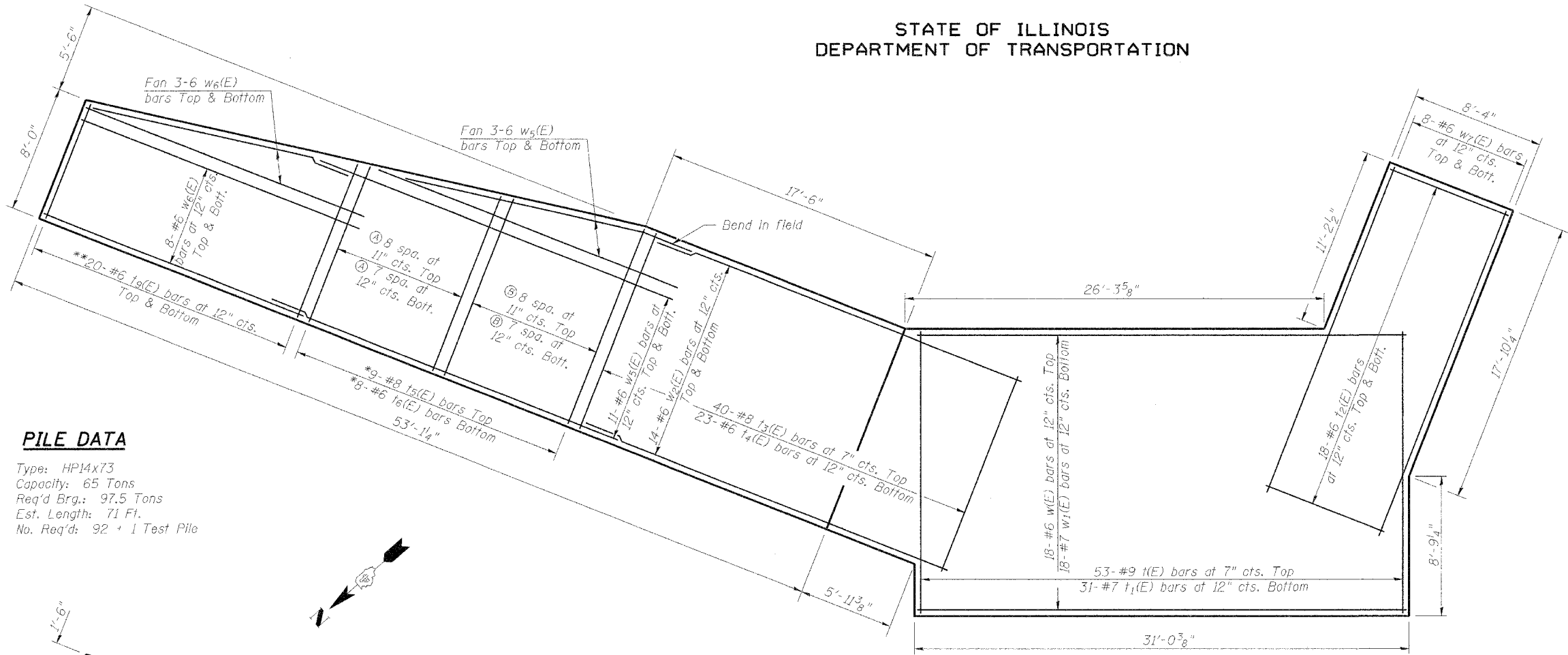
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
WEST ABUTMENT FOOTING
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 315	SECTION 55-2	COUNTY McDONOUGH	SHEET NO. 1025	SHEET NO. 547	SHEET NO. 12 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT			

Contract #68205



FIELD CUTTING DIAGRAM

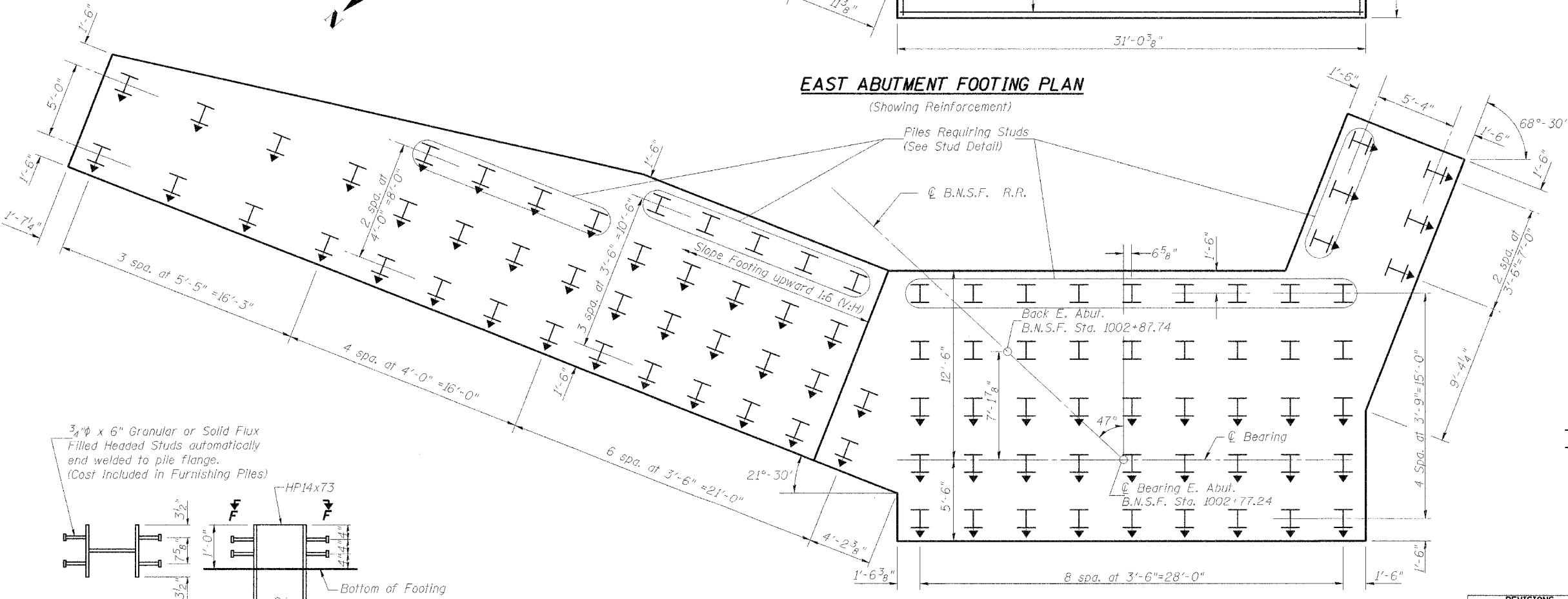
* Cut $t_7(E)$ and $t_8(E)$ bars in field as shown. Place patterns (A) and (B) side by side as shown on plans.
** Cut $t_9(E)$ bars in field as shown and use remainder in opposite face.

Bar	A	B	C	D	E	F
$t_7(E)$	10'-9"	13'-3"	24'-0"	9	11'-11"	12'-1"
$t_8(E)$	10'-9"	13'-3"	24'-0"	8	11'-11"	12'-1"
$t_9(E)$	7'-9"	10'-7"	18'-4"	20	10'-7"	7'-9"

PILE DATA

Type: HP14x73
Capacity: 65 Tons
Req'd Brg.: 97.5 Tons
Est. Length: 71 Ft.
No. Req'd: 92 + 1 Test Pile

EAST ABUTMENT FOOTING PLAN
(Showing Reinforcement)



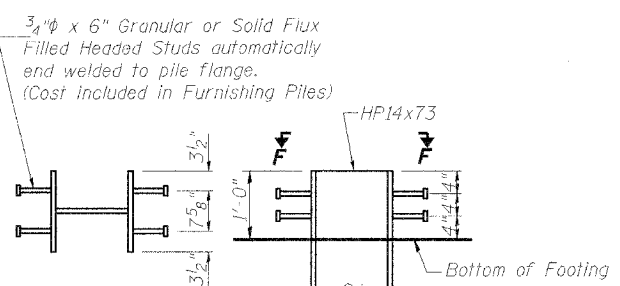
MIN. BAR LAP

#6 Bars = 2'-7"

NOTES

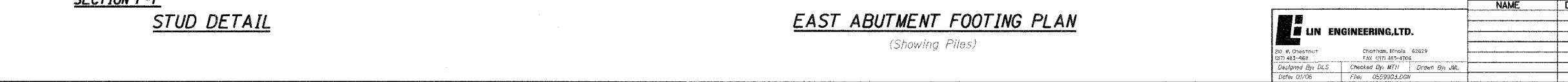
1. Space bottom footing reinforcement to miss piles.
2. Reinforcement designated (E) shall be epoxy coated.
3. See Sheet 14 of 16 for Bill of Material.
4. Work this sheet with Sheet 10 of 16.

Indicates battered pile. Batters are 3:12 in direction indicated.



**SECTION F-F
STUD DETAIL**

EAST ABUTMENT FOOTING PLAN
(Showing Piles)



LIN ENGINEERING, LTD.
20 W. Chestnut
1075 483-962
Chicago, Illinois 60629
FAX (773) 483-1706
Designed By: DLS
Checked By: MTH
Drawn By: JML
Date: 07/06
File: 0559903.DWG

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
EAST ABUTMENT FOOTING
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

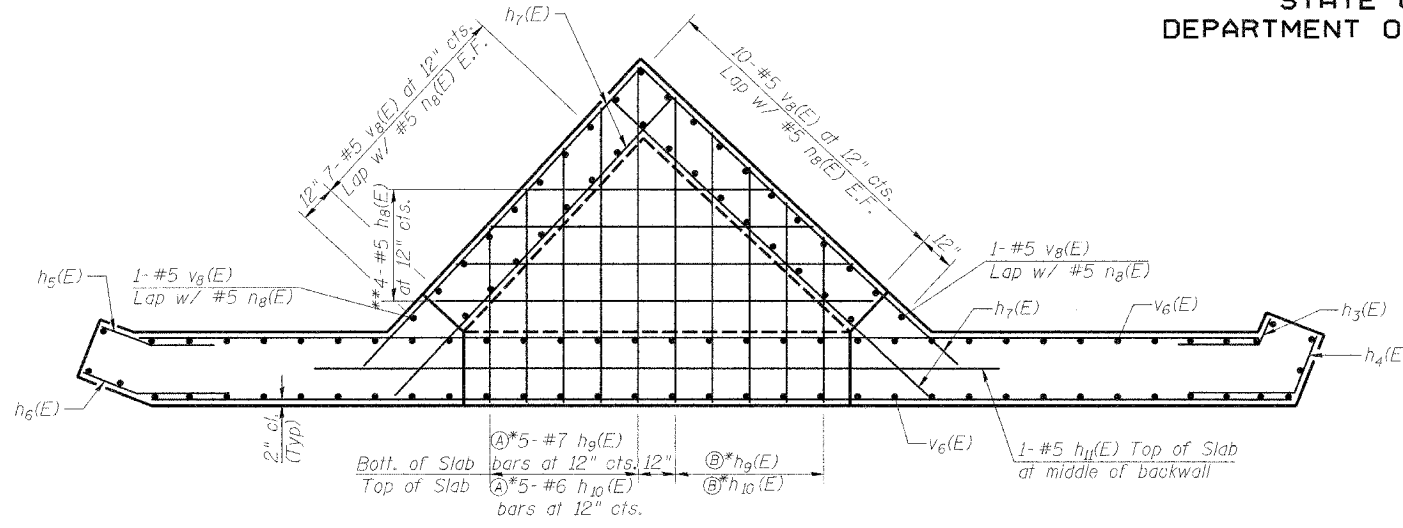
\$DATE\$ \$TIMES\$ \$FILE\$ \$ABBREV\$

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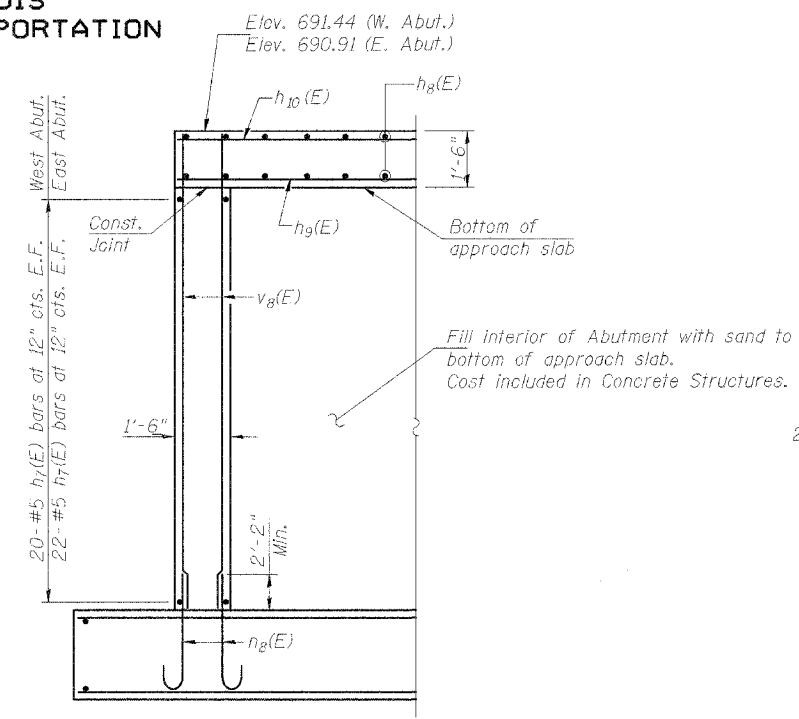
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 315	SECTION 55-2	COUNTY McDONOUGH	DATE 10/25	SHEET NO. 548	SHEET NO. 13 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

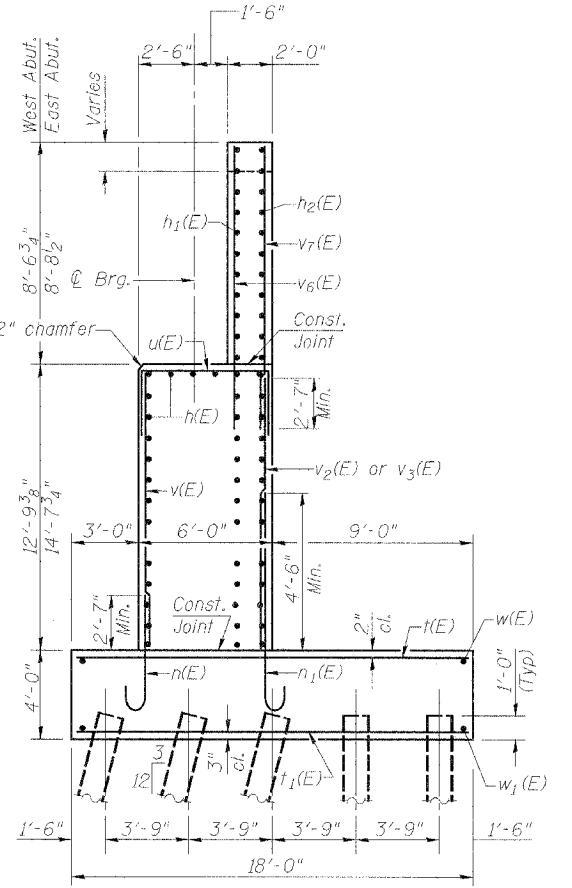
Contract #58205



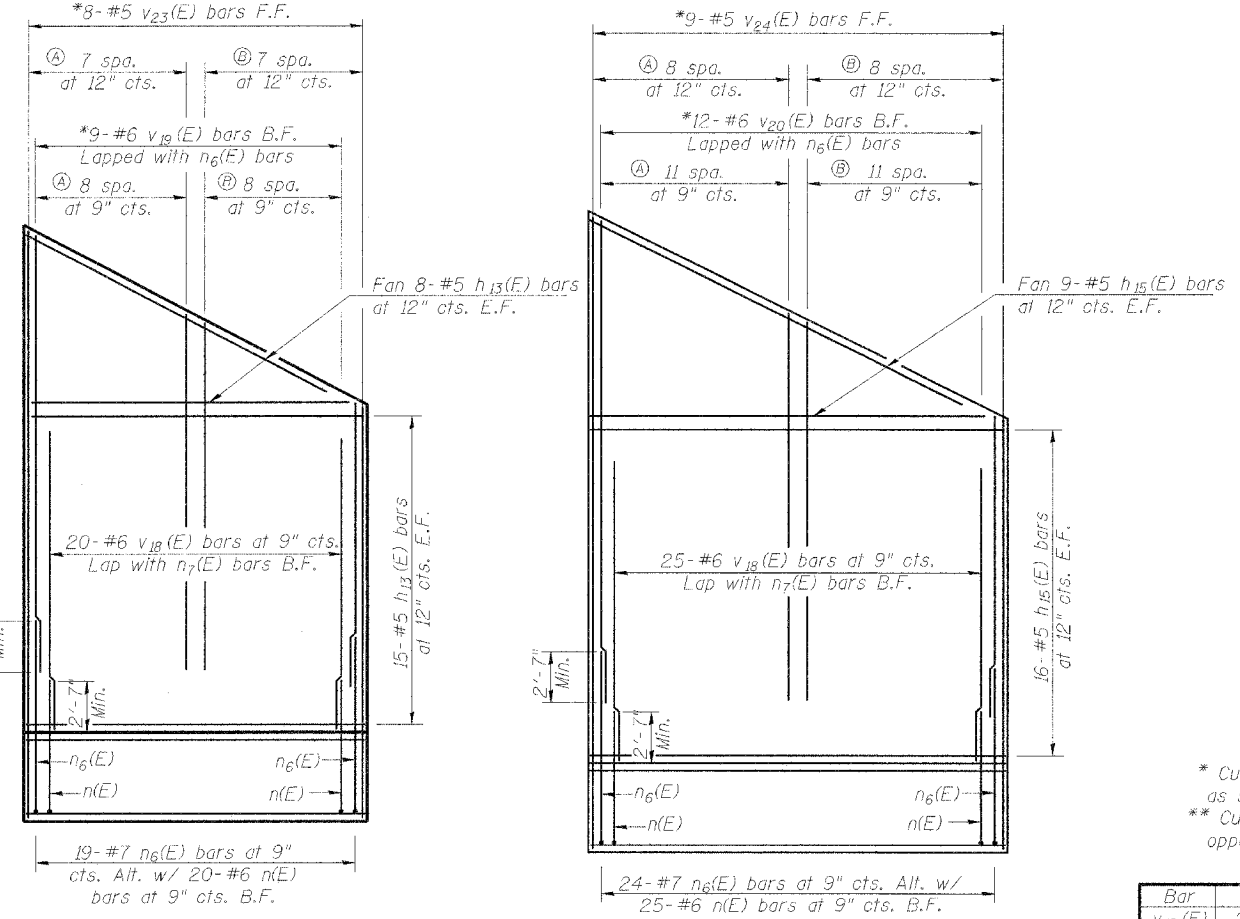
SECTION A-A



SECTION D-D

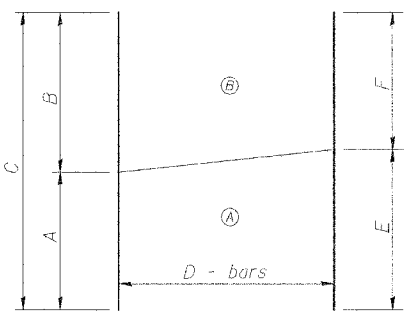


SECTION B-B



NORTHWEST WINGWALL

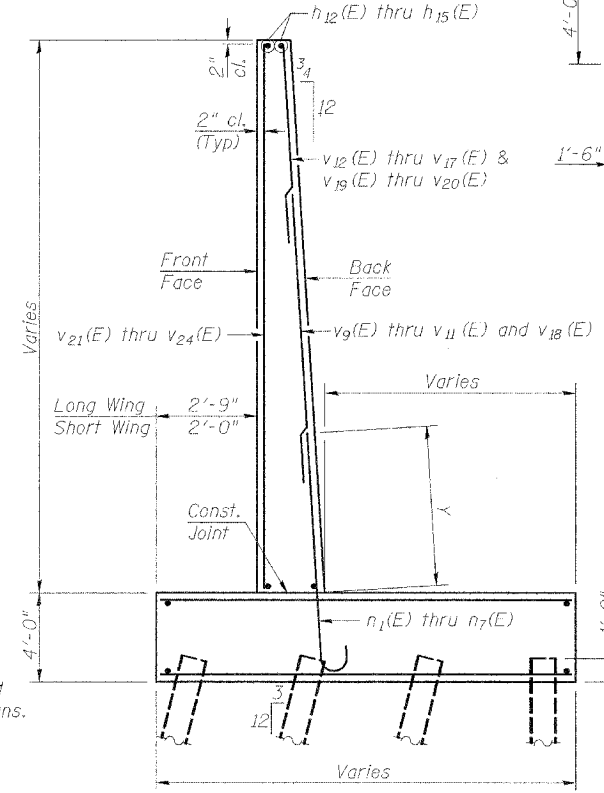
SOUTHEAST WINGWALL



FIELD CUTTING DIAGRAM

* Cut v19(E), v20(E), v23(E), v24(E), h9(E) and h10(E) bars in field as shown. Place patterns (A) and (B) side by side as shown on plans.
** Cut h8(E) bars in field as shown and use remainder in opposite face.

Bar	A	B	C	D	E	F
v19(E)	21'-6"	14'-11"	36'-5"	9	18'-5"	18'-0"
v20(E)	23'-7"	15'-1"	38'-8"	12	19'-6"	19'-2"
v23(E)	22'-5"	14'-7"	37'-0"	8	18'-9"	18'-3"
v24(E)	24'-0"	15'-8"	39'-8"	9	20'-1"	19'-7"
h8(E)	6'-7"	11'-9"	18'-4"	4	11'-9"	6'-7"
h9(E)	4'-9"	8'-3"	13'-0"	5	8'-8"	4'-4"
h10(E)	4'-9"	8'-3"	13'-0"	5	8'-8"	4'-4"



SECTION C-C

Y DIMENSION

n(E)	2'-7"
n1(E)	7'-3"
n2(E)	5'-9"
n3(E)	4'-6"
n4(E)	4'-6"
n5(E)	6'-9"
n6(E)	3'-2"

Note:
See Sheet 14 of 16 for drainage details,
Bill of Material, and reinforcement details.

LIN ENGINEERING, LTD.
210 W. Chestnut
Chatham, Illinois 62629
Fax: 618-493-4166
Designed By: DLS
Checked By: MTH
Drawn By: JML
Date: 01/05
File: 0559903.DGN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

**SUBSTRUCTURE
BILL OF MATERIAL**

(West Abutment)

Bar	No.	Size	Length	Shape
h(E)	17	#6	25'-1"	—
h ₁ (E)	22	#5	30'-6"	—
h ₂ (E)	24	#7	30'-6"	—
h ₃ (E)	23	#5	5'-11"	—
h ₄ (E)	23	#5	6'-1"	—
h ₅ (E)	23	#5	4'-7"	—
h ₆ (E)	23	#5	6'-11"	—
h ₇ (E)	80	#5	10'-11"	—
h ₈ (E)	4	#5	18'-4"	—
h ₉ (E)	5	#7	13'-0"	—
h ₁₀ (E)	5	#5	13'-0"	—
h ₁₁ (E)	1	#5	18'-6"	—
h ₁₂ (E)	46	#5	35'-3"	—
h ₁₃ (E)	46	#5	14'-9"	—
n(E)	46	#6	6'-11"	—
n ₁ (E)	18	#10	12'-4"	—
n ₂ (E)	19	#9	10'-8"	—
n ₃ (E)	83	#8	9'-1"	—
n ₄ (E)	22	#9	9'-5"	—
n ₅ (E)	12	#5	11'-0"	—
n ₆ (E)	19	#7	7'-8"	—
n ₈ (E)	36	#5	8'-5"	—
t(E)	53	#9	17'-9"	—
t ₁ (E)	31	#7	17'-9"	—
t ₂ (E)	30	#6	8'-0"	—
t ₃ (E)	40	#8	13'-3"	—
t ₄ (E)	23	#6	13'-3"	—
t ₅ (E)	10	#8	24'-0"	—
t ₆ (E)	9	#6	24'-0"	—
u(E)	26	#6	10'-10"	—
u ₁ (E)	26	#6	10'-8"	—
v(E)	26	#6	12'-6"	—
v ₂ (E)	62	#8	12'-6"	—
v ₄ (E)	9	#6	22'-4"	—
v ₆ (E)	55	#6	12'-5"	—
v ₈ (E)	36	#5	21'-0"	—
v ₉ (E)	18	#10	14'-11"	—
v ₁₀ (E)	19	#9	17'-0"	—
v ₁₁ (E)	21	#8	11'-7"	—
v ₁₂ (E)	9	#7	15'-7"	—
v ₁₃ (E)	11	#6	23'-3"	—
v ₁₄ (E)	6	#5	7'-9"	—
v ₁₆ (E)	20	#6	13'-8"	—
v ₁₉ (E)	9	#6	36'-5"	—
v ₂₁ (E)	18	#5	32'-8"	—
v ₂₃ (E)	8	#5	37'-0"	—
w(E)	18	#6	30'-9"	—
w ₁ (E)	18	#7	30'-9"	—
w ₂ (E)	28	#6	24'-6"	—
w ₃ (E)	28	#6	20'-2"	—
w ₄ (E)	16	#6	15'-6"	—
Reinforcement Bars, Epoxy Coated	Pound		35260	
Concrete Structures	Cu. Yd.		354.0	
Structure Excavation	Cu. Yd.		454	
Porous Granular Embankment (Special)	Cu. Yd.		223	
Geocomposite Wall Drain	Sq. Yd.		171	
Furnishing Steel Piles HP14x73	Foot		4930	
Driving Steel Piles	Foot		4930	
Test Pile Steel HP	Each		1	
Bridge Seat Sealer	Sq. Ft.		101.5	

Reinforcement bars designated (E) shall be epoxy coated.

**SUBSTRUCTURE
BILL OF MATERIAL**

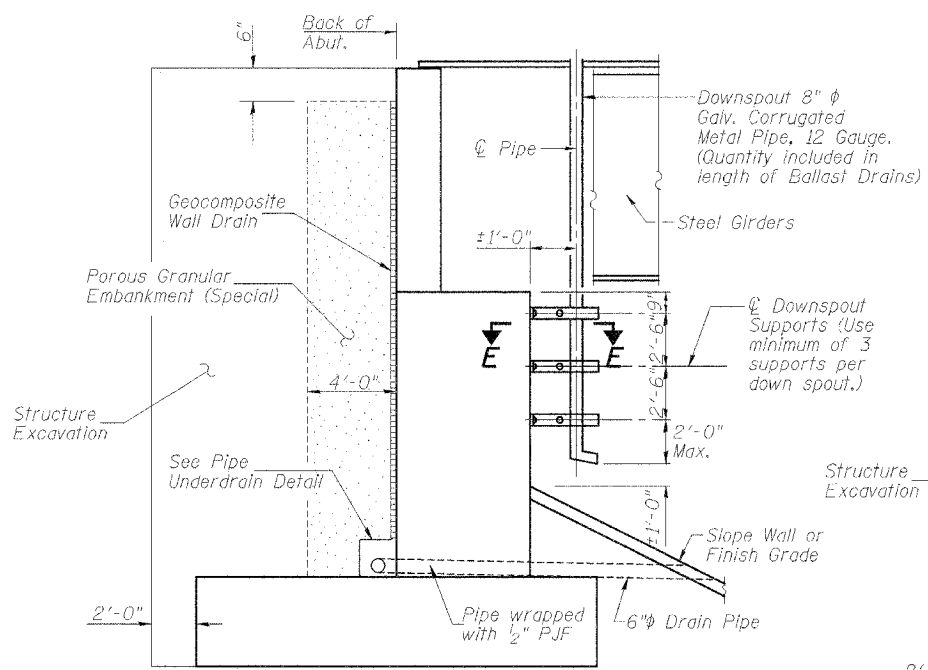
(East Abutment)

Bar	No.	Size	Length	Shape
h(E)	19	#6	25'-1"	—
h ₁ (E)	24	#5	30'-6"	—
h ₂ (E)	26	#7	30'-6"	—
h ₃ (E)	25	#5	5'-11"	—
h ₄ (E)	25	#5	6'-1"	—
h ₅ (E)	25	#5	4'-7"	—
h ₆ (E)	25	#5	6'-11"	—
h ₇ (E)	88	#5	10'-11"	—
h ₈ (E)	4	#5	18'-4"	—
h ₉ (E)	5	#7	13'-0"	—
h ₁₀ (E)	5	#5	13'-0"	—
h ₁₁ (E)	1	#5	18'-6"	—
h ₁₄ (E)	82	#5	27'-7"	—
h ₁₅ (E)	50	#5	18'-2"	—
n(E)	51	#6	6'-11"	—
n ₁ (E)	26	#10	12'-4"	—
n ₂ (E)	26	#9	10'-8"	—
n ₃ (E)	84	#8	9'-1"	—
n ₄ (E)	22	#9	9'-5"	—
n ₅ (E)	21	#5	11'-0"	—
n ₆ (E)	24	#7	7'-8"	—
n ₈ (E)	36	#5	8'-5"	—
t(E)	53	#9	17'-9"	—
t ₁ (E)	31	#7	17'-9"	—
t ₂ (E)	36	#6	8'-0"	—
t ₃ (E)	40	#8	13'-3"	—
t ₄ (E)	23	#6	13'-3"	—
t ₅ (E)	9	#8	24'-0"	—
t ₆ (E)	8	#6	24'-0"	—
t ₉ (E)	20	#6	18'-4"	—
u(E)	26	#6	10'-10"	—
u ₁ (E)	30	#6	10'-8"	—
v ₁ (E)	26	#6	14'-4"	—
v ₃ (E)	62	#8	14'-4"	—
v ₅ (E)	8	#6	24'-4"	—
v ₆ (E)	55	#6	12'-5"	—
v ₈ (E)	36	#5	21'-0"	—
v ₉ (E)	26	#10	14'-11"	—
v ₁₀ (E)	26	#9	17'-0"	—
v ₁₁ (E)	22	#8	11'-7"	—
v ₁₅ (E)	13	#7	17'-7"	—
v ₁₆ (E)	11	#6	23'-1"	—
v ₁₇ (E)	10	#5	9'-5"	—
v ₁₈ (E)	25	#6	13'-8"	—
v ₂₀ (E)	12	#6	38'-8"	—
v ₂₂ (E)	27	#5	30'-7"	—
v ₂₄ (E)	9	#5	39'-8"	—
w(E)	18	#6	30'-9"	—
w ₁ (E)	18	#7	30'-9"	—
w ₂ (E)	28	#6	24'-6"	—
w ₅ (E)	28	#6	23'-0"	—
w ₆ (E)	22	#6	20'-3"	—
w ₇ (E)	16	#6	15'-0"	—
Reinforcement Bars, Epoxy Coated	Pound		41170	
Concrete Structures	Cu. Yd.		426.6	
Structure Excavation	Cu. Yd.		519	
Porous Granular Embankment (Special)	Cu. Yd.		289	
Geocomposite Wall Drain	Sq. Yd.		217	
Furnishing Steel Piles HP14x73	Foot		6532	
Driving Steel Piles	Foot		6532	
Test Pile Steel HP	Each		1	
Bridge Seat Sealer	Sq. Ft.		101.5	

BARS n(E) thru n₈(E)

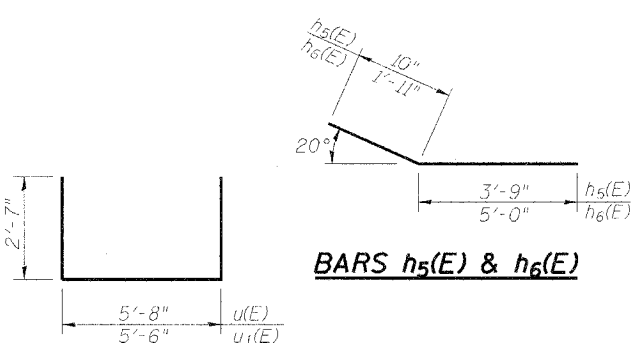
Bar	A	B	C
n(E)	6'-3"	8"	6"
n ₁ (E)	10'-11"	1'-5"	1'-1 ¹ / ₄ "
n ₂ (E)	9'-5"	1'-3"	11 ³ / ₄ "
n ₃ (E)	8'-2"	11"	8"
n ₄ (E)	8'-2"	1'-3"	11 ³ / ₄ "
n ₅ (E)	10'-5"	7"	5"
n ₆ (E)	5'-10"	10"	7"
n ₈ (E)	7'-10"	7"	5"

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



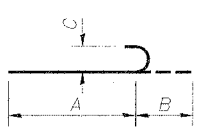
SECTION THRU ABUTMENT

Note:
Drainage System shall wrap around back of approach wall.



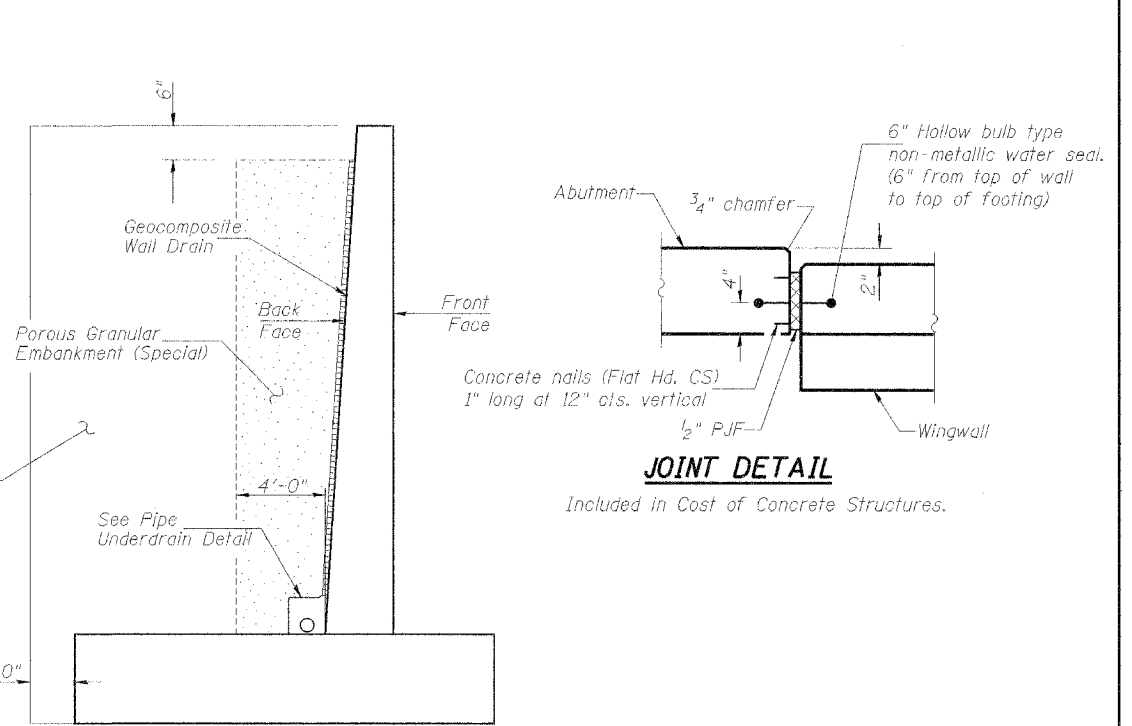
BARS h₅(E) & h₆(E)

BARS u(E) & u₁(E)

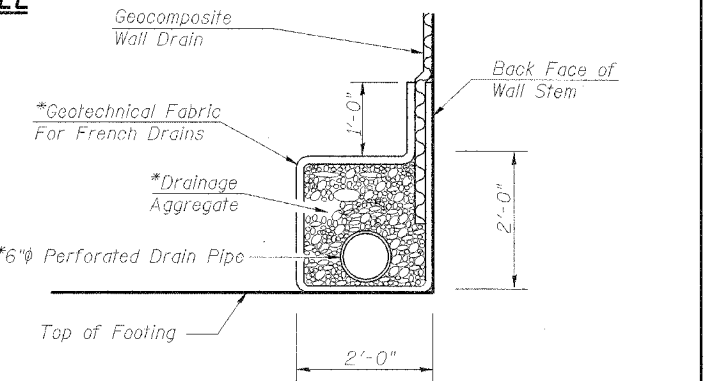


BARS n(E) thru n₈(E)

BARS h₃(E) & h₄(E)

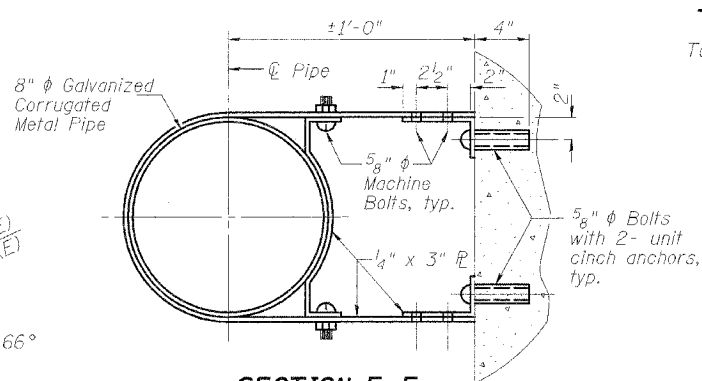


SECTION THRU WINGWALL



PIPE UNDERDRAIN DETAIL

* Included in cost Pipe Underdrains for Structures, 6"



SECTION E-E

Cost of Downspout Supports to be included in Ballast Drains.

ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT DETAILS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
MCDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

REVISIONS	
NAME	DATE

LIJ ENGINEERING, LTD.
200 W. Chestnut St. Chatham, Illinois 62620
(618) 425-8600 FAX (618) 425-8700
Designed By: DLS Checked By: MTH Drawn By: JME
Date: 01/86 File: 0559903.DWG

DATE\$ TIME\$ \$FILE\$ \$REV\$

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 3
Date 4/6/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RING.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BNSF RR Station (Ramp J)	BORING NO.	1002+92 Station Offset 82.00H LL Ground Surface Elev. 689.50 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	(ft)	(/ft)	(%)	(ft)	(/ft)	(%)	
																				(ft)
								Brown & Gray CLAY LOAM TILL (continued)												
								Dk. Brown SILTY CLAY LOAM	3					10	7.4	12.0				
								Brown & Gray Mottled SILTY CLAY LOAM	2					5						
								Brown & Gray Mottled CLAY LOAM	1					7	5.4	14.0				
								Brown & Gray SANDY CLAY LOAM	3					9	3.9	14.0				
								Brown & Gray SILTY LOAM	3					12	4.1	15.0				
								Brown & Gray CLAY LOAM TILL	2					4	3.9	16.0				
								Brown Fine SAND	6					5	3.5	16.0				
								Brown & Gray SANDY CLAY LOAM	4					11						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 2 of 3
Date 4/6/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RING.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BNSF RR Station (Ramp J)	BORING NO.	1002+92 Station Offset 82.00H LL Ground Surface Elev. 689.50 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	(ft)	(/ft)	(%)	(ft)	(/ft)	(%)	
																				(ft)
								Gray SANDY CLAY LOAM (continued)												
								Dk. Gray CLAY LOAM TILL	17					10	3.1	17.0				
								Greenish-Gray & Gray CLAY LOAM TILL	2					4						
								Dk. Gray CLAY LOAM TILL	2					7	2.5	17.0				
								Greenish-Gray & Gray CLAY LOAM TILL	2					3	1.8	21.0				
								Gray CLAY LOAM TILL	1					2	2.1	16.0				
								Gray SANDY CLAY LOAM	7					11						
								Gray & Dk. Gray SILTY LOAM	7					19						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 3 of 3
Date 4/6/04

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY KJT
SECTION 24.31.32 LOCATION SEC. TWP. RING.
COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO.	BNSF RR Station (Ramp J)	BORING NO.	1002+92 Station Offset 82.00H LL Ground Surface Elev. 689.50 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	D E P T H S	B L O C K S	U N D E R L I E S	M O I S T U R E	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter 675.5 ft Upon Completion 680.5 ft After 24 Hrs. 685.5 ft	(ft)	(/ft)	(%)	(ft)	(/ft)	(%)	
																				(ft)
								Gray & Dk. Gray SILTY LOAM (continued)												
								Gray & Brown CLAY	11					22	2.3	26.0				
								Gray & Brown CLAY w/ organic seams	5					7						
								Br/Gl & Dk. Gray SILTY LOAM w/ organics	4					6	2.3	35.0				
								Gray SILTY LOAM	4					5	1.4	30.0				
								Gray & Brown CLAY LOAM TILL	6					8	4.3	18.0				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

\$DATE\$ \$TIME\$ \$FILE\$ \$ABBREV\$

REVISIONS	
NAME	DATE

LIN ENGINEERING, LTD.
200 W. Chestnut
Chicago, Illinois 60629
Tel: 312-463-9666
Fax: 312-463-9716
Designed By: DES
Checked By: MTH
Date: 02/05
Drawn By: JME
File: 0559803.DWG

ILLINOIS DEPARTMENT OF TRANSPORTATION
BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

0559803_11a.dgn 3/30/2006 11:30:30 AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 315	55-2	McDONOUGH	1025	551
SHEET NO. 16 SHEETS				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	
Contract #68205				

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC., TWP., RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. Station	BORING NO. Station	DEPTH	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.	First Encounter	Upon Completion	After 24 Hrs.	SPT	(ft)	(/6")	(tsf)	(%)
BNSF RR (Ramp J)	TB/88560 (TB560)	1004+00						see TB560 ft	880.1 ft	685.0 ft					
0-20" See Hurley Boring TB 560															
Gray CLAY LOAM TILL															
13 5.5 12.0															
16 S															
6															
9 7.8 12.0															
13 B															
4															
8 6.2 15.0															
12 B															
4															
7 5.2 14.0															
14 B															
11															
14 4.7 15.0															
23 B															
4															
6 3.9 15.0															
12 S															
8															
8 3.7 15.0															
13 B															
Brown Fine-Med SAND															
18															
26 22.0															
37															
649.23 -0															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC., TWP., RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. Station	BORING NO. Station	DEPTH	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.	First Encounter	Upon Completion	After 24 Hrs.	SPT	(ft)	(/6")	(tsf)	(%)
BNSF RR (Ramp J)	TB/88560 (TB560)	1004+00						see TB560 ft	880.1 ft	685.0 ft					
Gray CLAY LOAM TILL															
5															
7 4.4 15.0															
17 S															
13															
13 6.2 12.0															
26 B															
4															
13 15.0															
17 8.9 11.0															
22 B															
8															
14 5.2 13.0															
22 B															
7															
10 4.3 15.0															
20 B															
Gray Med. SAND															
639.73 17 20.0															
Gray CLAY LOAM TILL															
635.53 17 3.5 14.0															
Gray Med. SAND															
634.23 -03 10															
13 1.8 19.0															
30 S															
631.73 6															
7 3.3 15.0															
11 B															
Gray CLAY															
810.48 21 8.0 20.0															
-0															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

ROUTE FAP 315 (IL 336) DESCRIPTION IL 336 Macomb to Carthage LOGGED BY JAR
SECTION 24.31.32 LOCATION SEC., TWP., RNG.

COUNTY McDonough DRILLING METHOD Hollow Stem Auger HAMMER TYPE AUTO

STRUCT. NO. Station	BORING NO. Station	DEPTH	U	M	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.	First Encounter	Upon Completion	After 24 Hrs.	SPT	(ft)	(/6")	(tsf)	(%)
BNSF RR (Ramp J)	TB/88560 (TB560)	1004+00						see TB560 ft	880.1 ft	685.0 ft					
Gray CLAY (continued)															
12															
46 4.5 21.0															
540.3 P															
13 B															
6															
6 3.5 19.0															
10 B															
34															
9.0															
10															
804.23 -03 6															
11 3.5 22.0															
14 B															
5															
5 2.2 37.0															
8 S															
10 3.9 64.0															
6 B															
4															
4 2.5 20.0															
5 B															
4															
6 1.4 34.0															
8 B															
7															
10 2.5 40.0															
12 B															
575.03 10 8.0															
End of Boring															
Gray CLAY LOAM TILL															
594.23 -03 6															
9 3.7 20.0															
15 B															
8															
10 4.1 22.0															
13 B															
-10															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

FILE#BREV#

DATE#

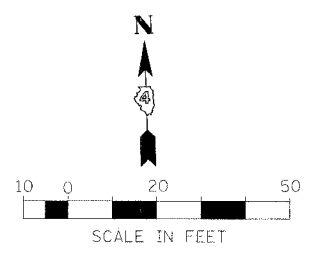
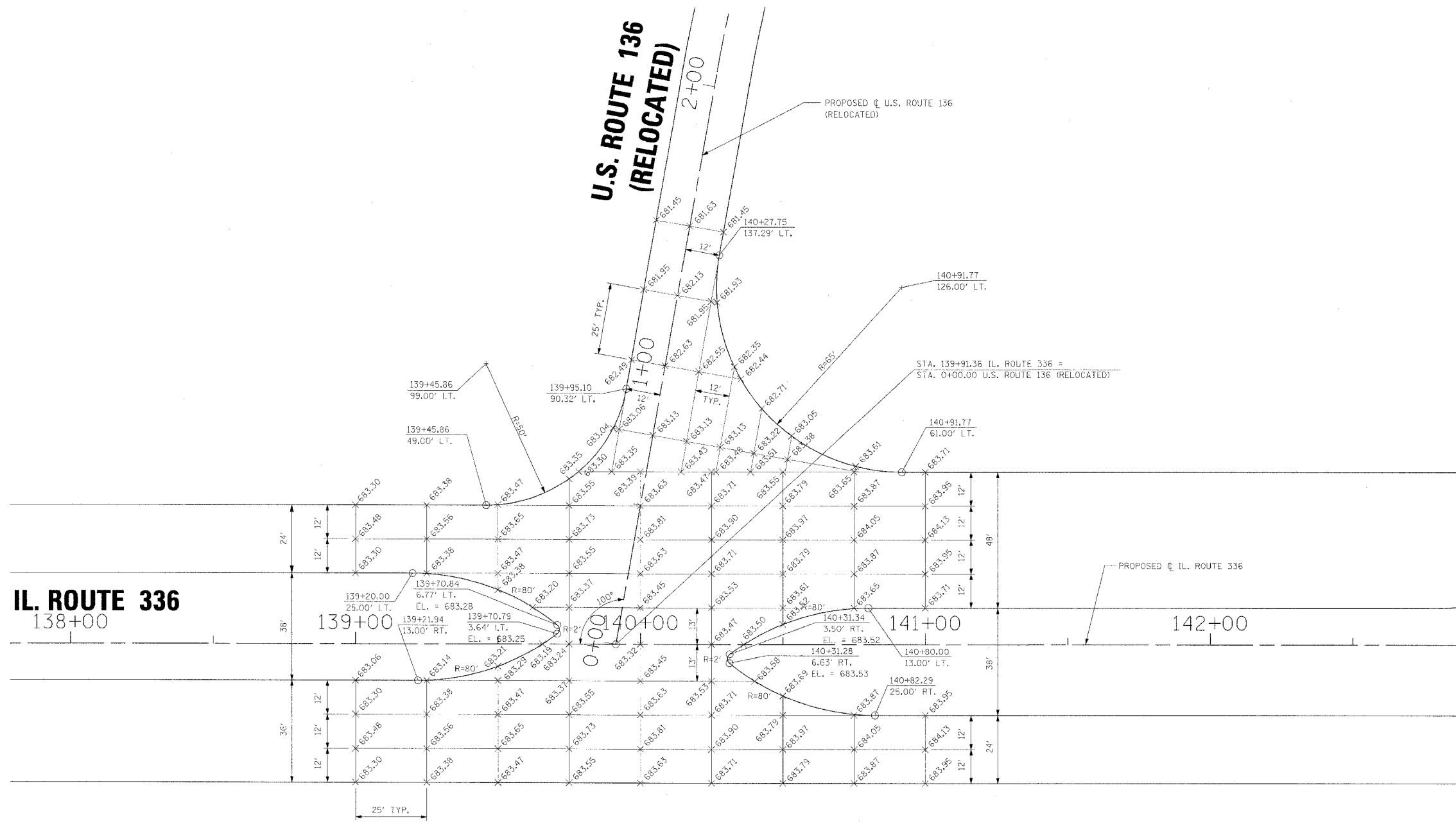
LIN ENGINEERING, LTD.
200 W. Chestnut
O'Fallon, Illinois 62459
618-337-8800
Fax: 618-337-8100
Designed By: DLS
Checked By: MTH
Drawn By: JME
Date: 02/08
File: 0559003.DGN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BORING LOGS
BURLINGTON NORTHERN
SANTA FE RAILROAD OVER RAMP J
F.A.P. ROUTE 315 SECT. 55-2
McDONOUGH COUNTY
STATION 162+14.00
STRUCTURE NO. 055-9903
B.N.S.F. LINE SEGMENT 0011
B.N.S.F. BRIDGE NO. 206.00

20250826_110111_11:30:35 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	552
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

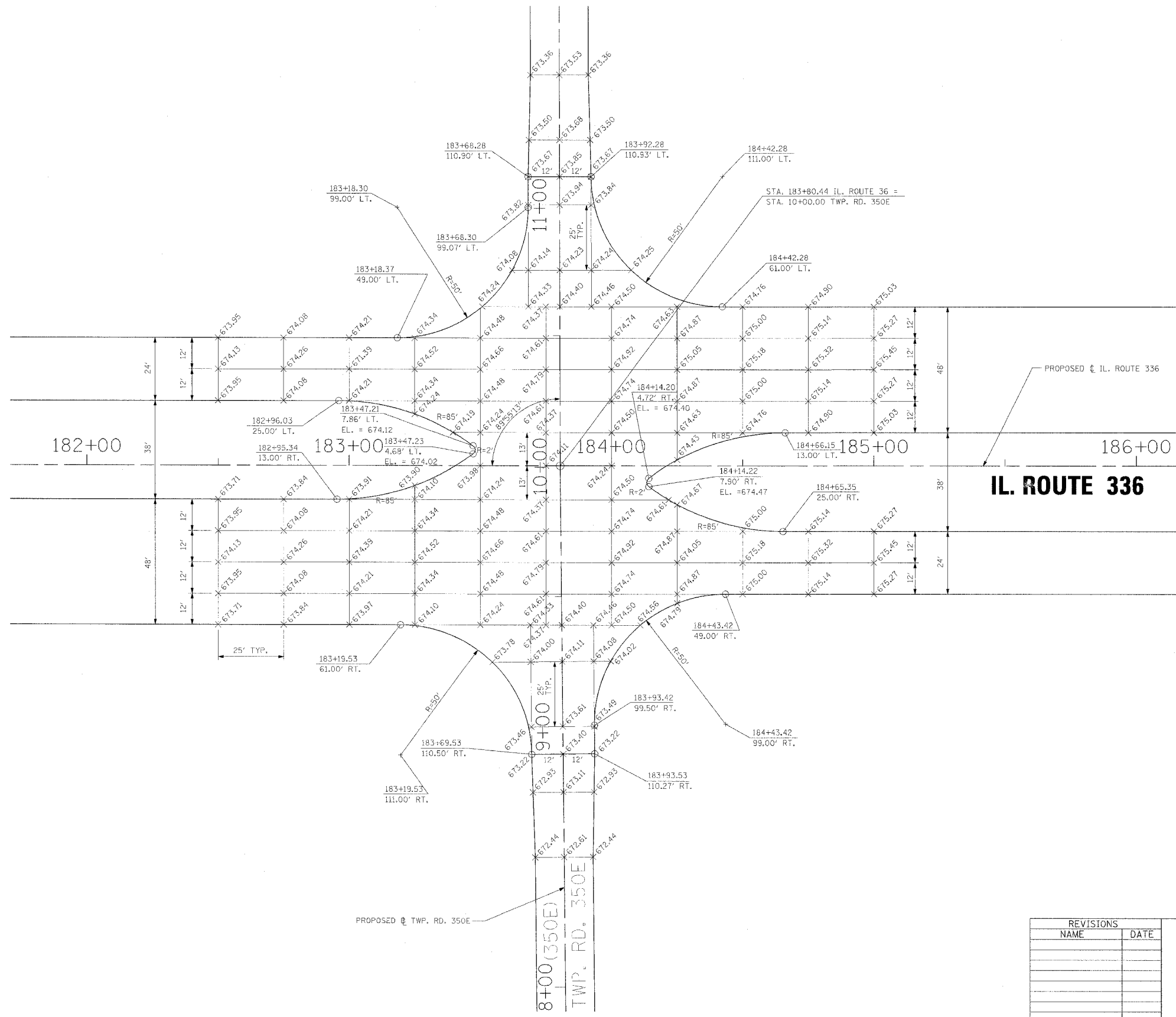
ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSECTION DETAILS
IL. ROUTE 336 WITH
U.S. ROUTE 136 (RELOCATED)

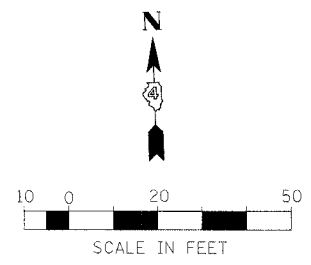
DRAWN BY
CHECKED BY

DATE 3/30/06

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	553
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	



IL. ROUTE 336

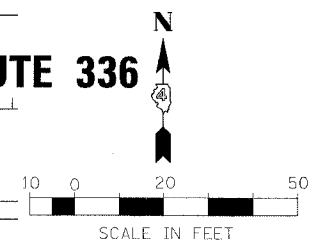
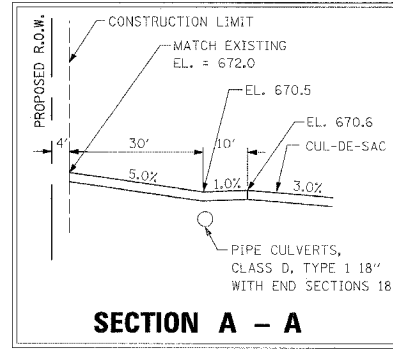
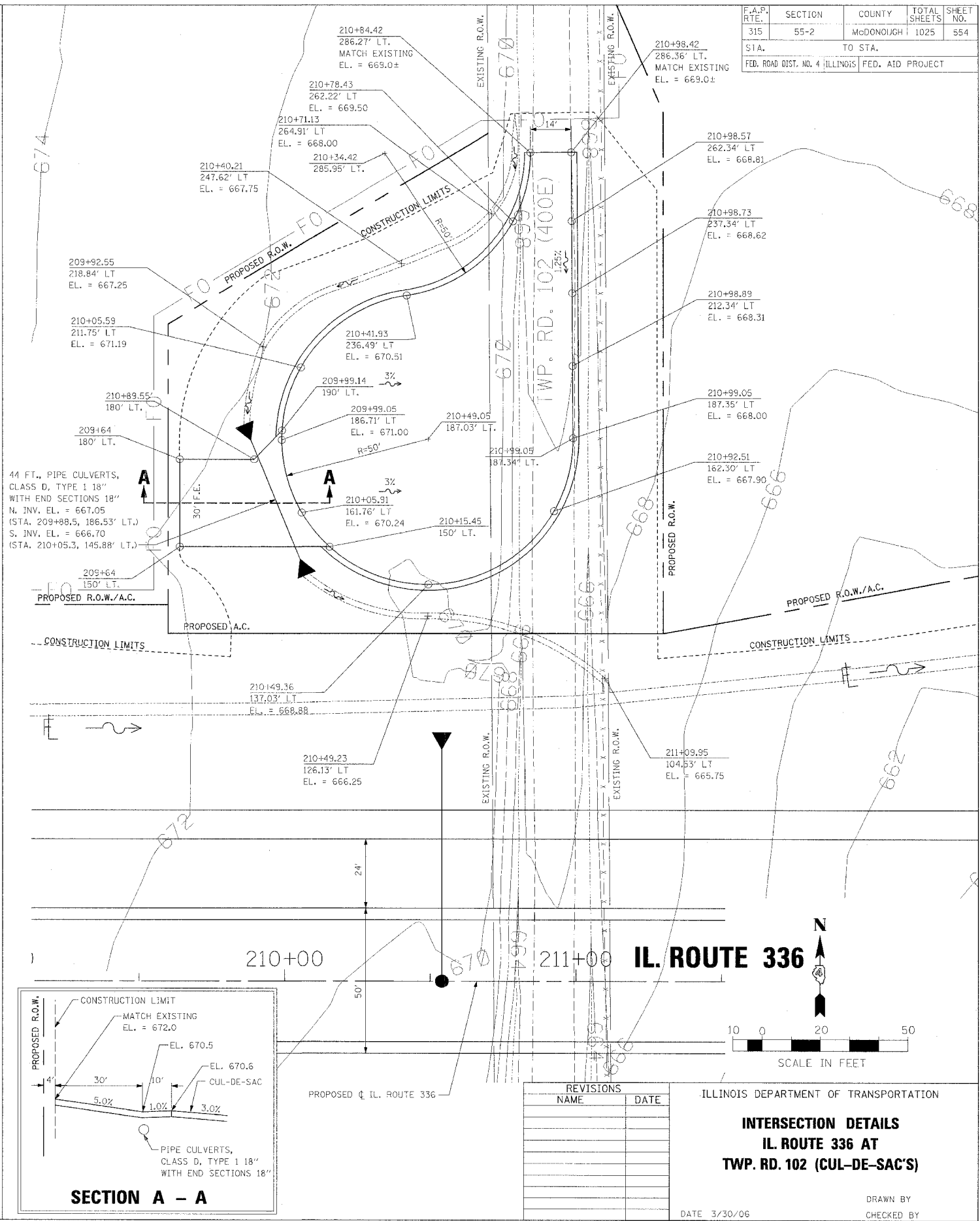
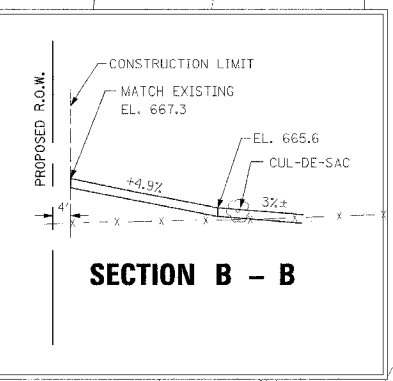
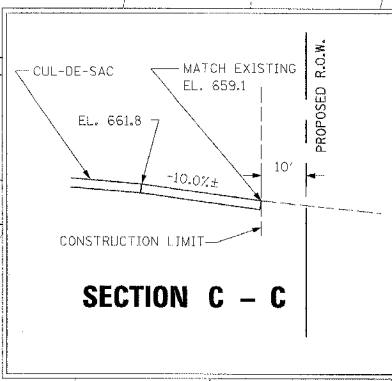
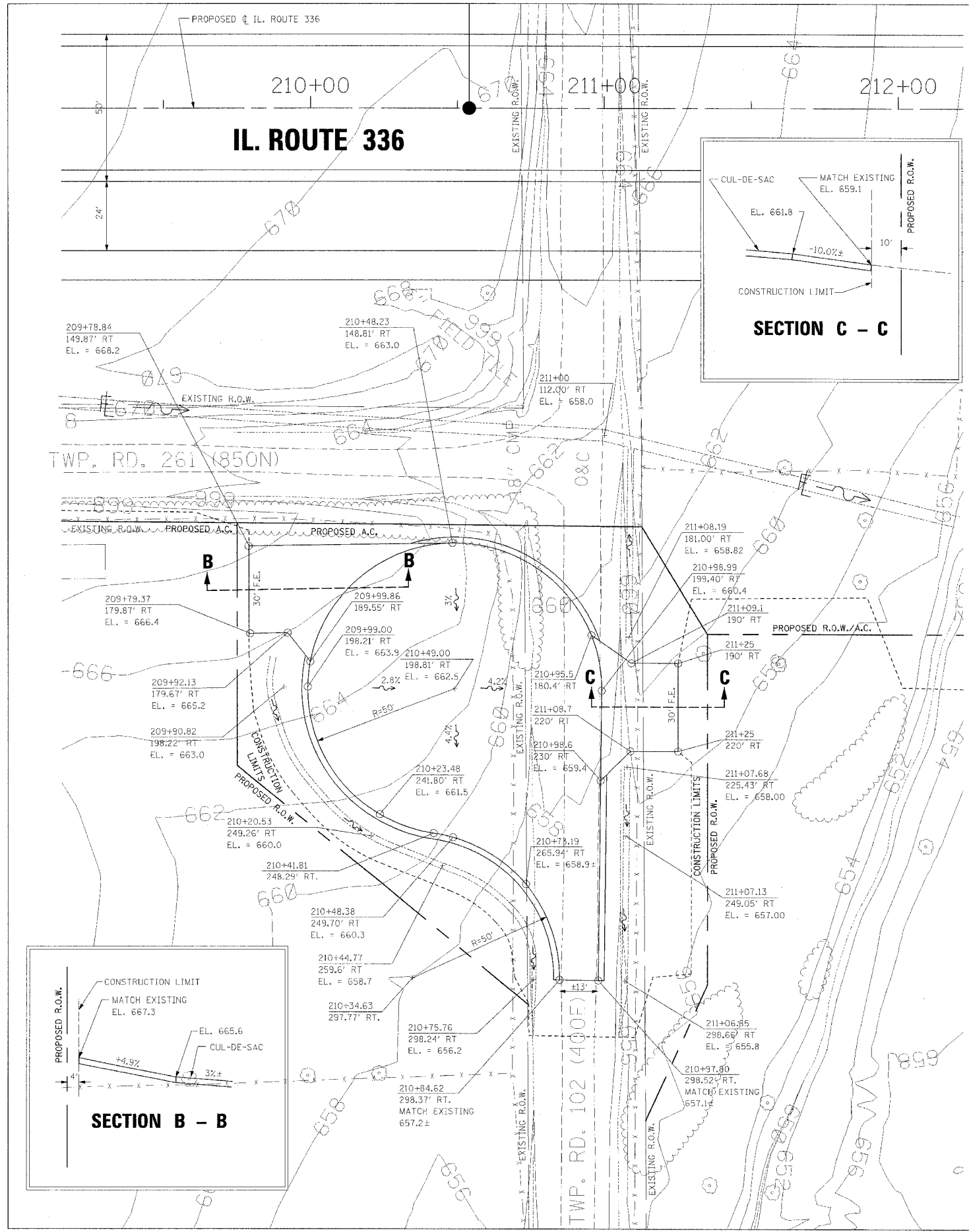


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH TWP. RD. 350E

DATE 3/30/06
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F.A.P. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	554
S1A.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

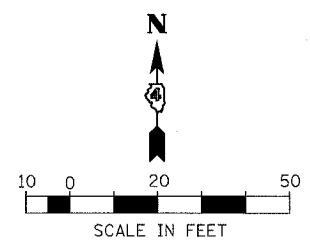
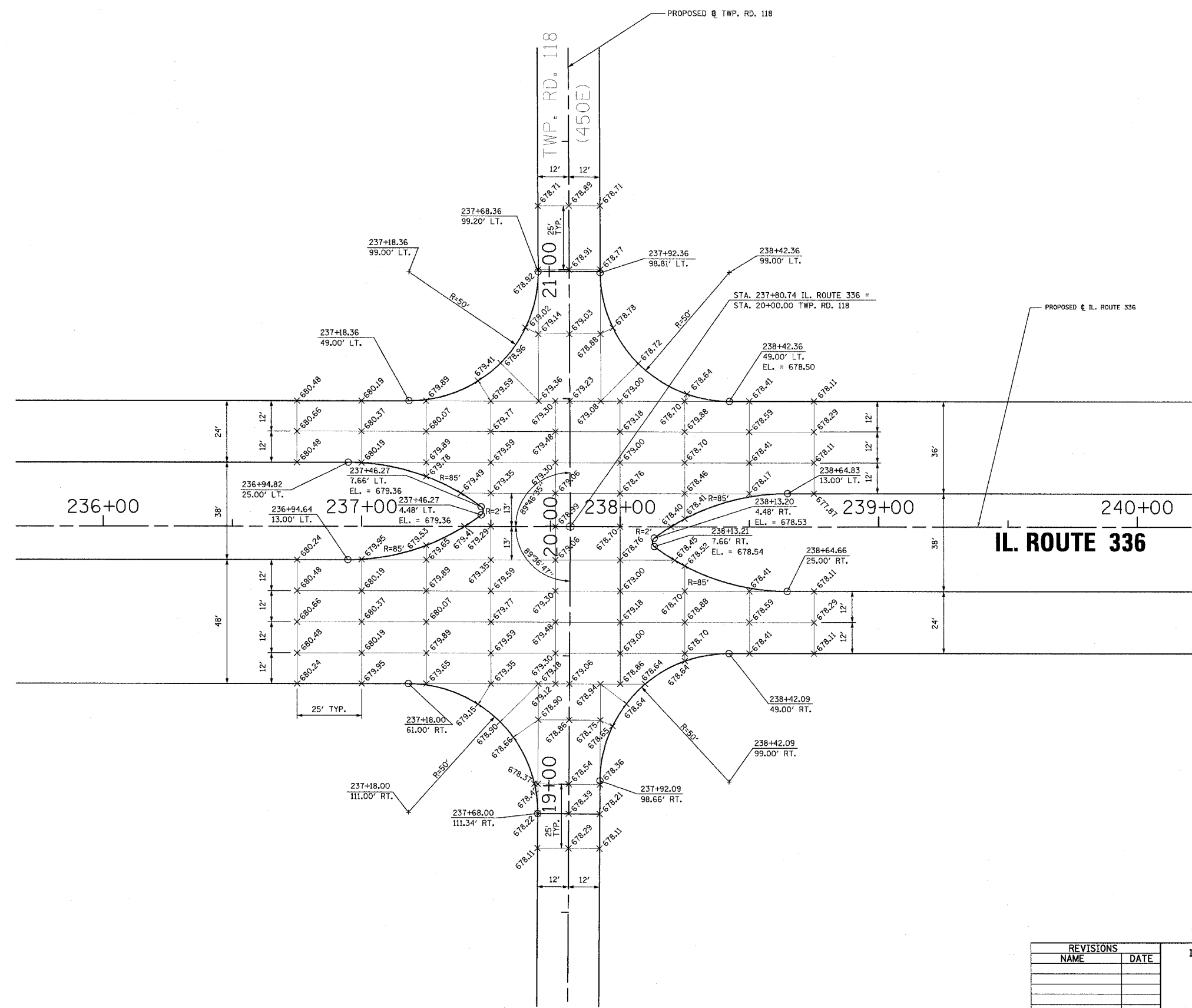


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 AT
TWP. RD. 102 (CUL-DE-SAC'S)

DATE 3/30/06
 DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	555
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



REVISIONS	
NAME	DATE

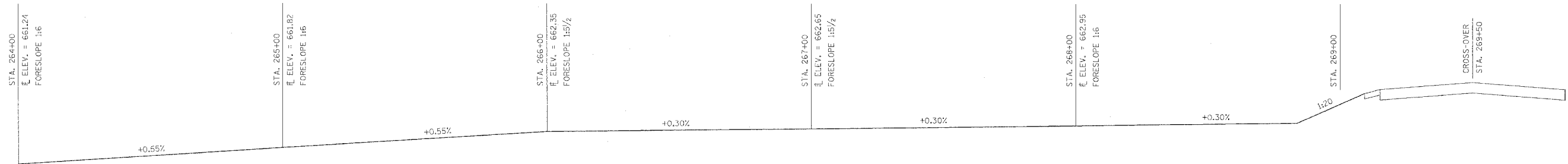
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH TWP. RD. 118

DATE 3/30/06

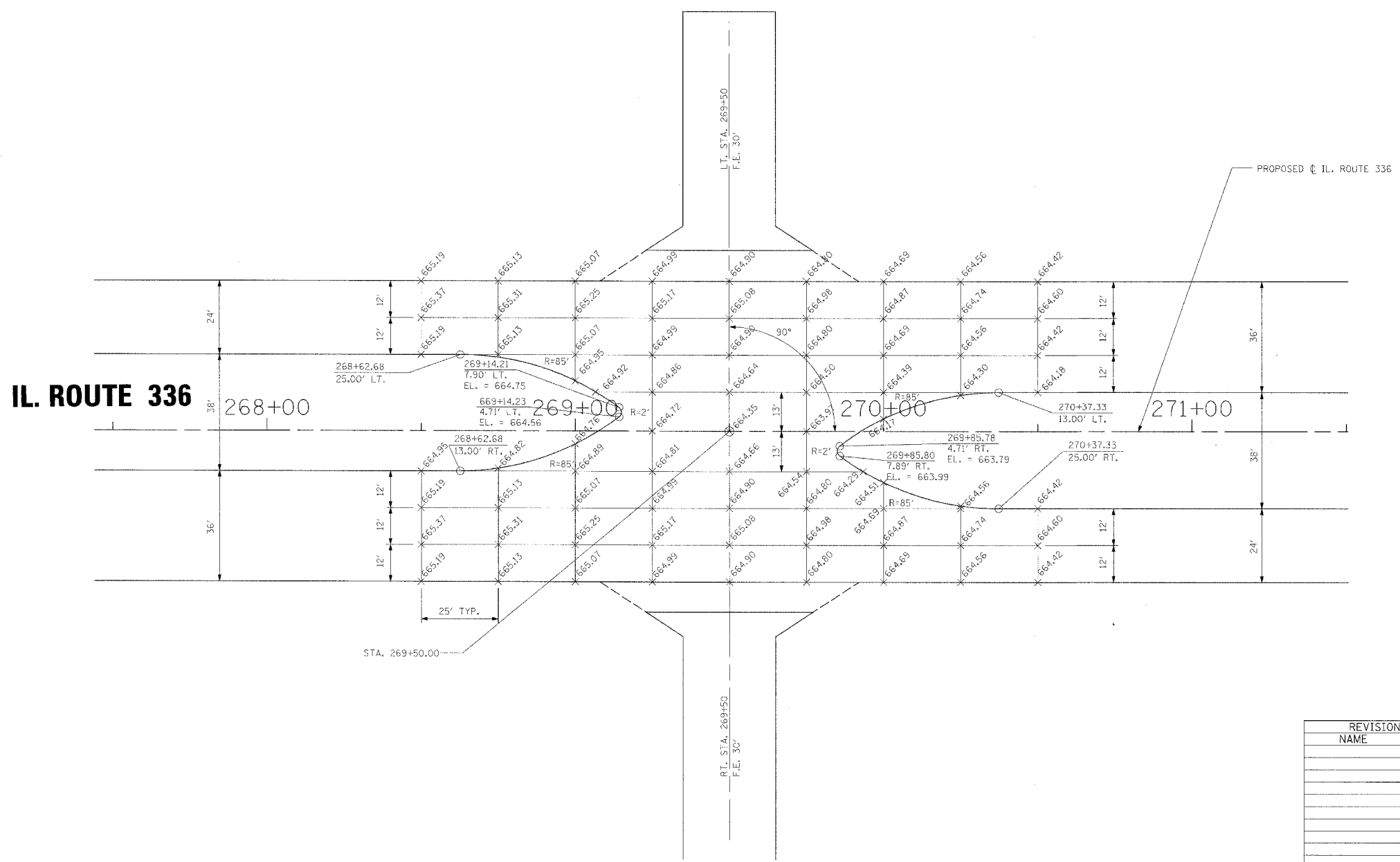
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	556
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		

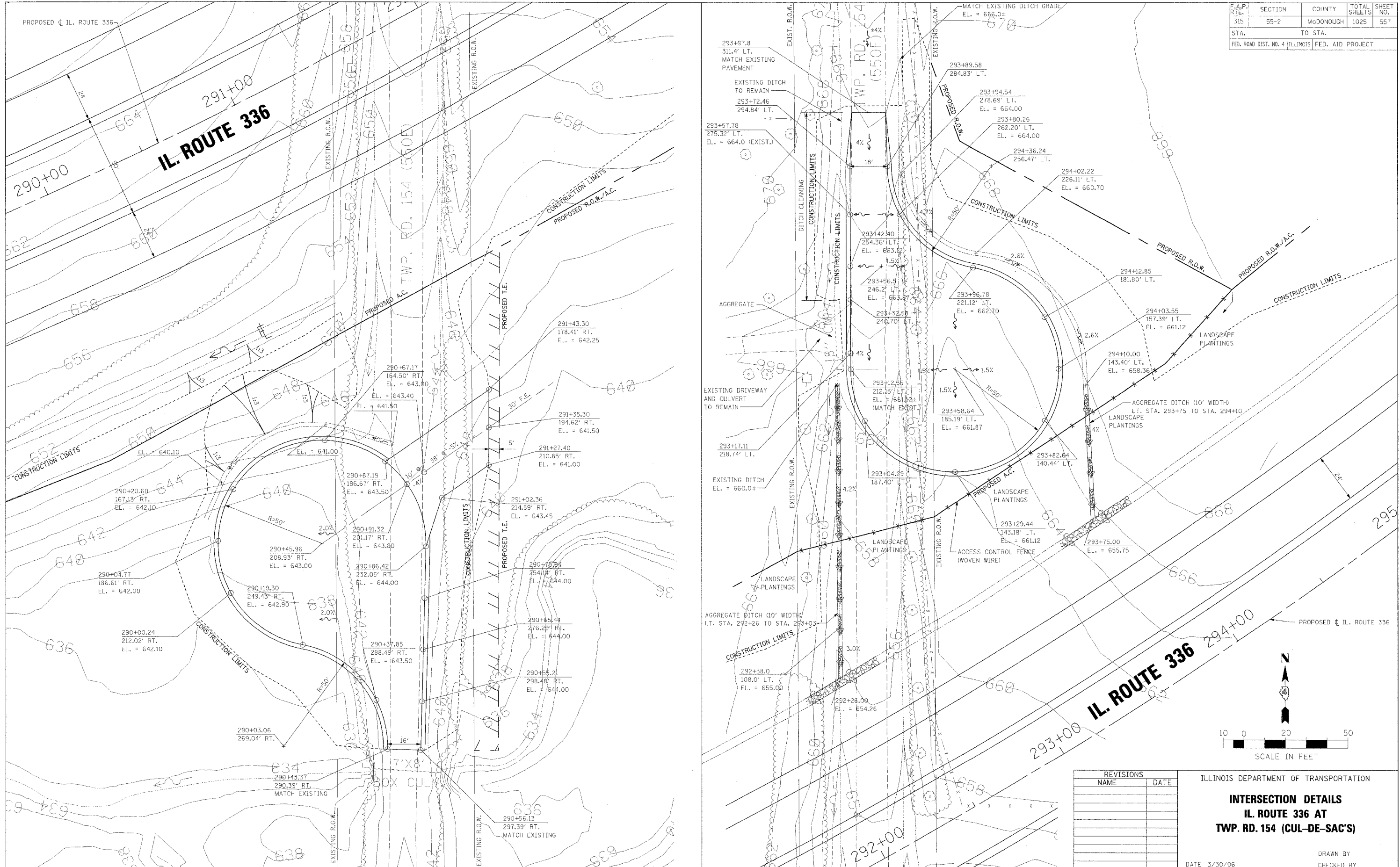


MEDIAN DITCH DETAIL – STA. 264+00 TO STA. 269+00
NOT TO SCALE



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH
F.E.'S AT STA. 269+50
DRAWN BY
CHECKED BY
DATE 3/30/06

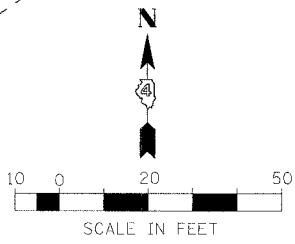


F.A.P. R/L	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	557
STA.	TO STA.			
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

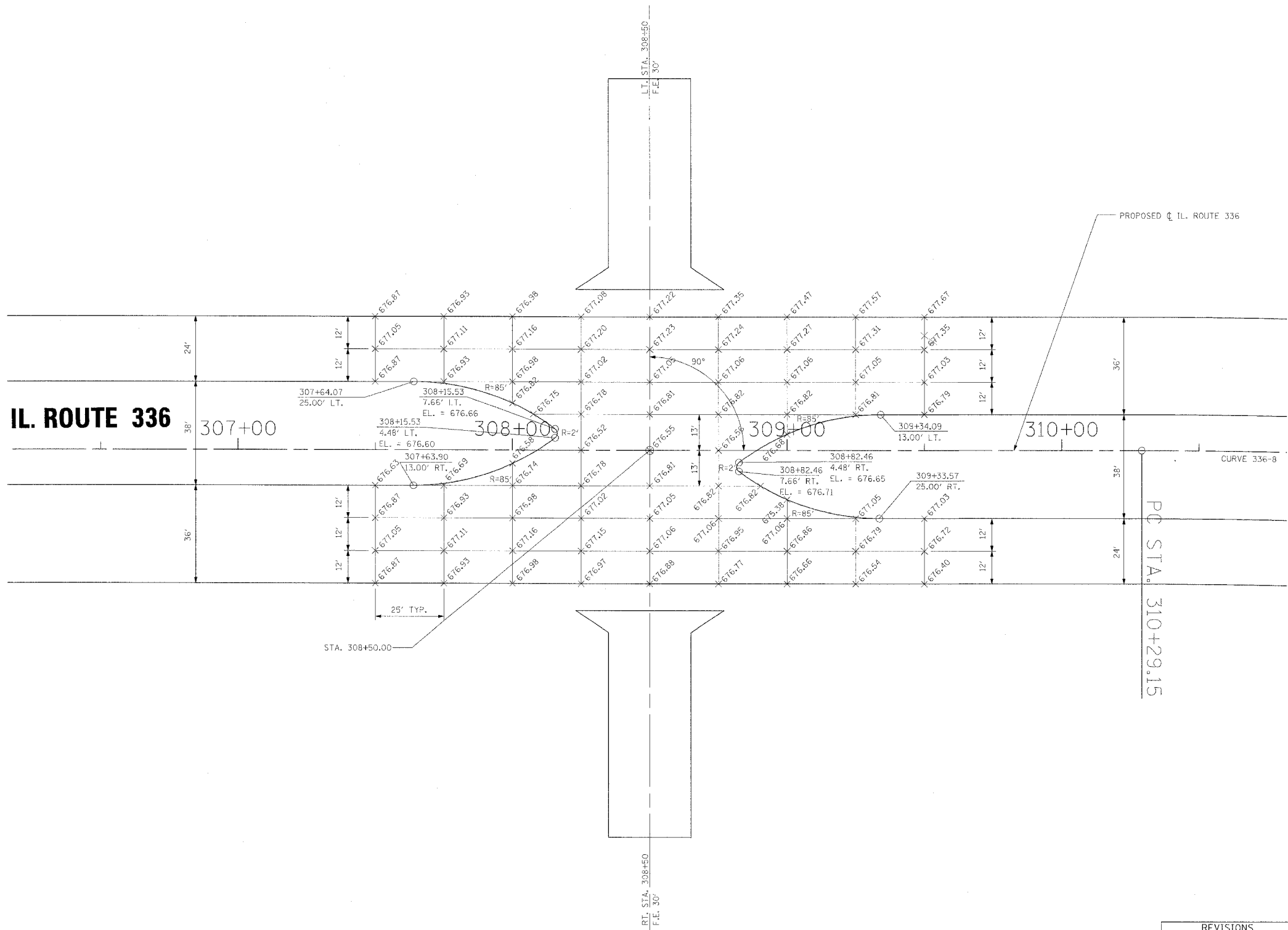
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 AT
TWP. RD. 154 (CUL-DE-SAC'S)

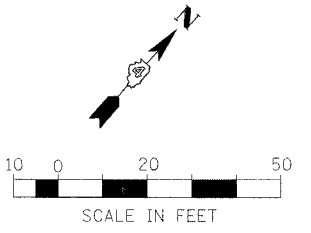
DATE 3/30/06
DRAWN BY
CHECKED BY



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	558
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



PROPOSED CURVE 336-8 DATA
P.I. STA. = 316+52.94
 $\Delta = 30^\circ 20' 55.90''$ (RT)
 $D = 2^\circ 29' 28.04''$
 $R = 2,300'$
 $T = 623.79'$
 $L = 1,218.28'$
 $E = 83.09'$
 $S.E. = 5.90\%$
TRANSITION IN 307+13-311+18
TRANSITION OUT 321+59-324+63
P.C. STA. = 310+29.15
P.T. STA. = 322+47.43

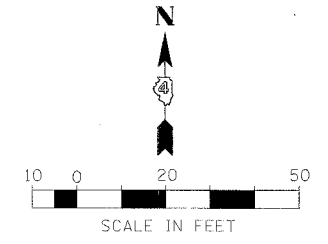
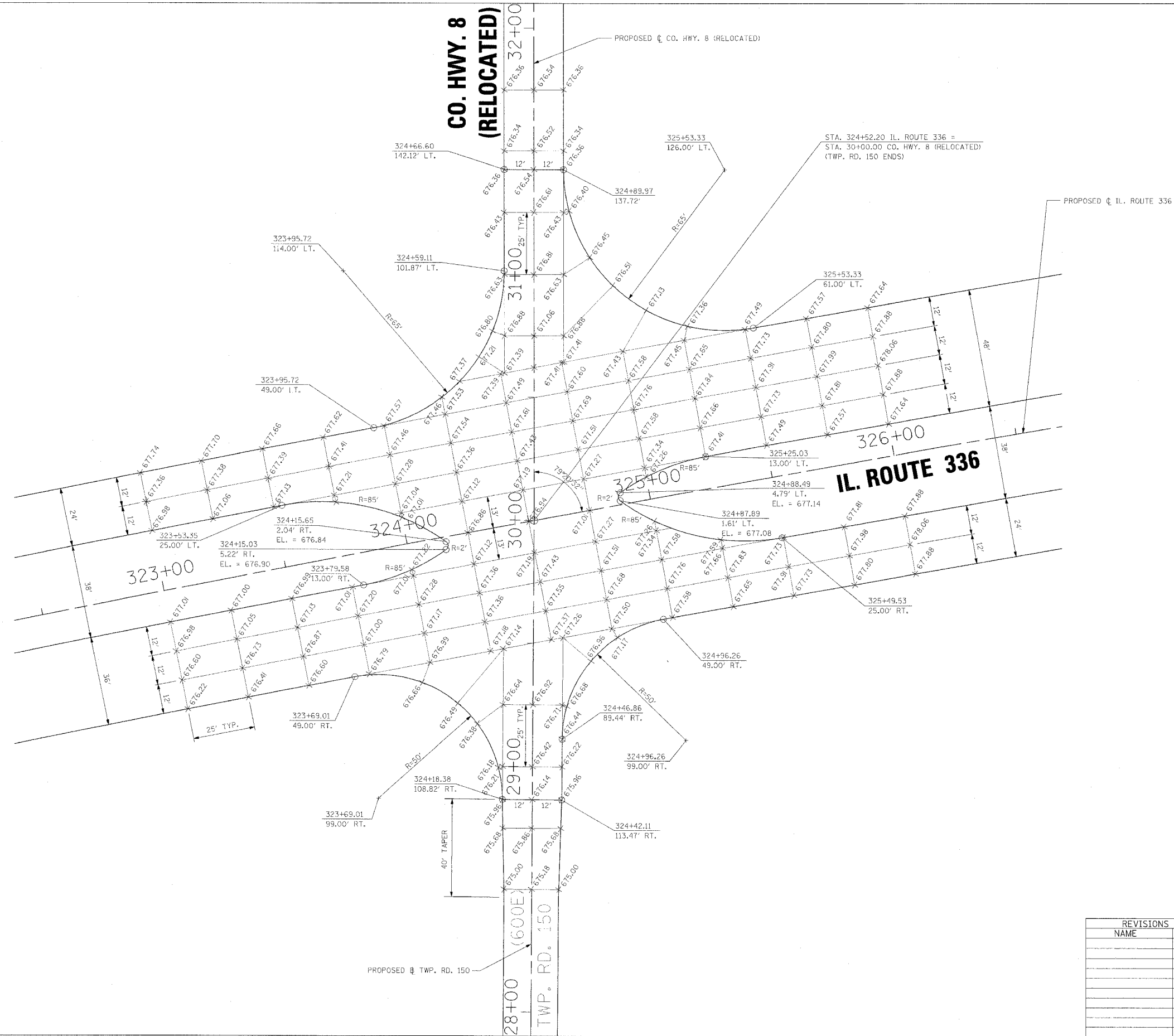


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH
F.E.'S AT STA. 308+50

DRAWN BY
CHECKED BY
DATE 3/30/06

F.A.P. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2 386	McDONOUGH	1025	559
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		



REVISIONS	
NAME	DATE

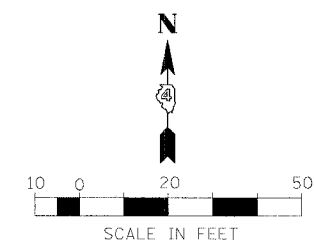
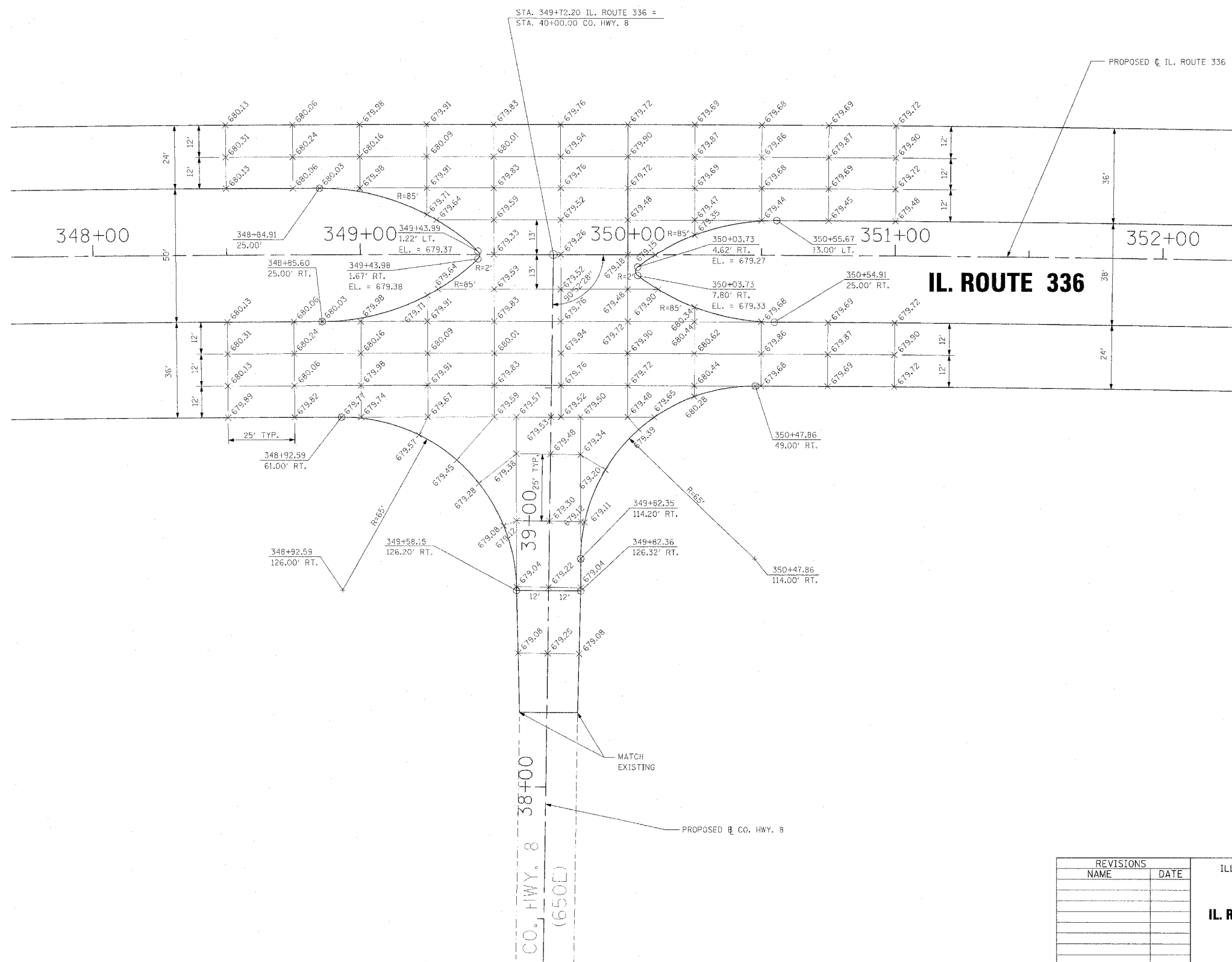
ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSECTION DETAILS
IL. ROUTE 336 WITH CO. HWY. 8 (RELOCATED)

DATE 3/30/06

DRAWN BY _____
CHECKED BY _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	560
STA. TO STA.				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

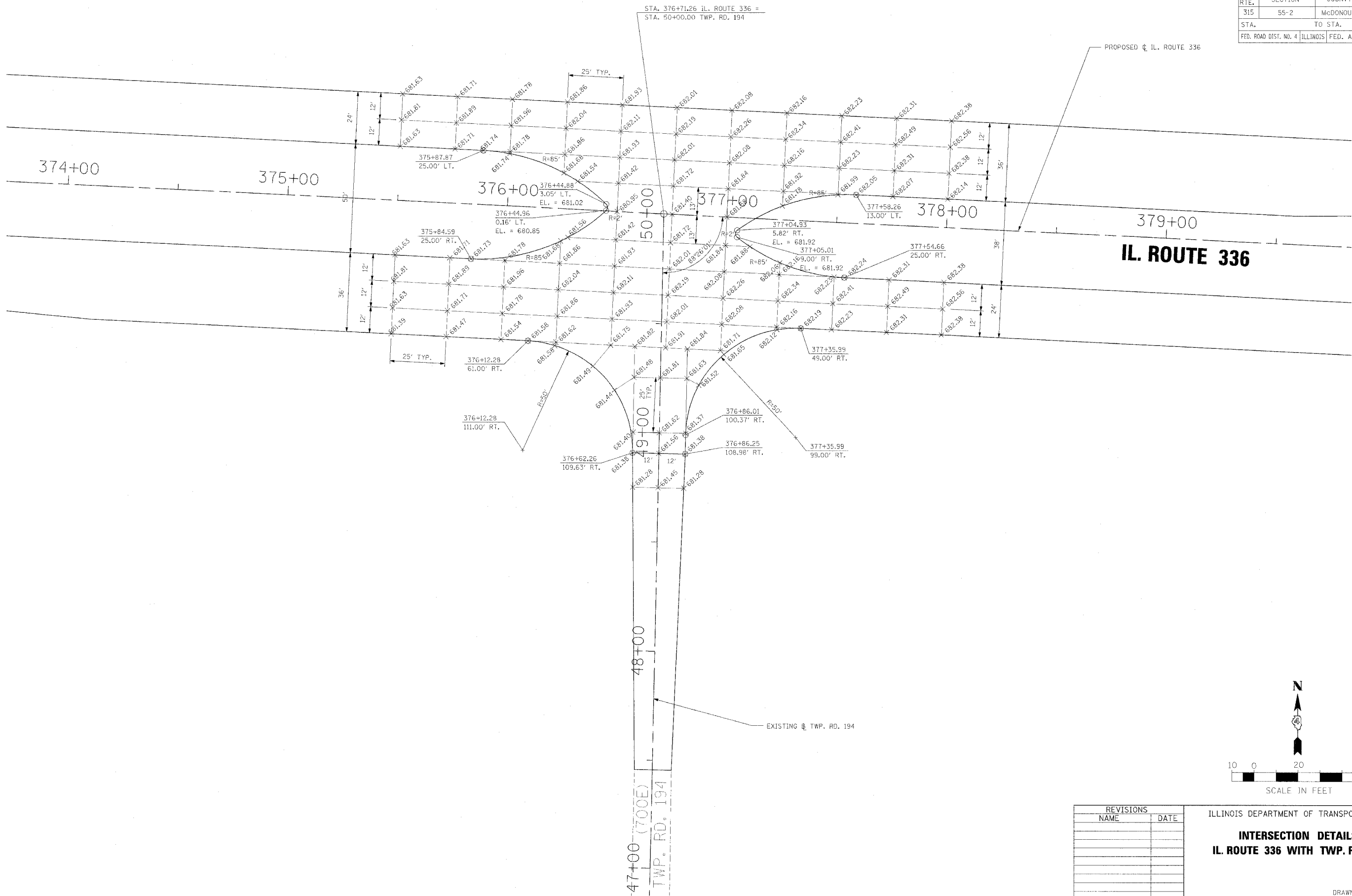


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH CO. HWY. 8 (EAST)

DRAWN BY
 CHECKED BY
 DATE 3/30/06

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	561
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

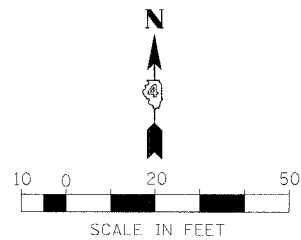
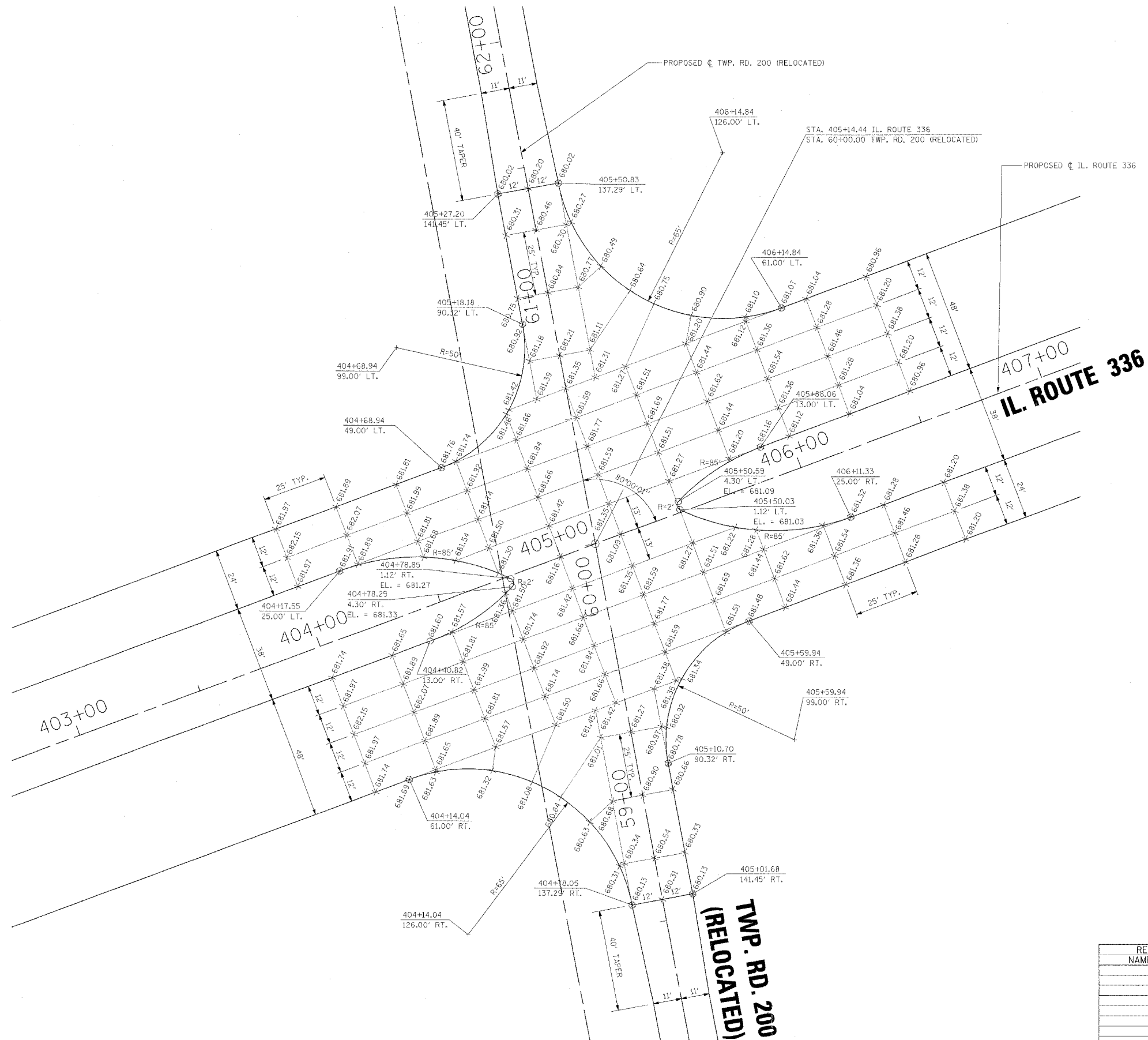


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH TWP. RD. 194

DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	562
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		



REVISIONS	
NAME	DATE

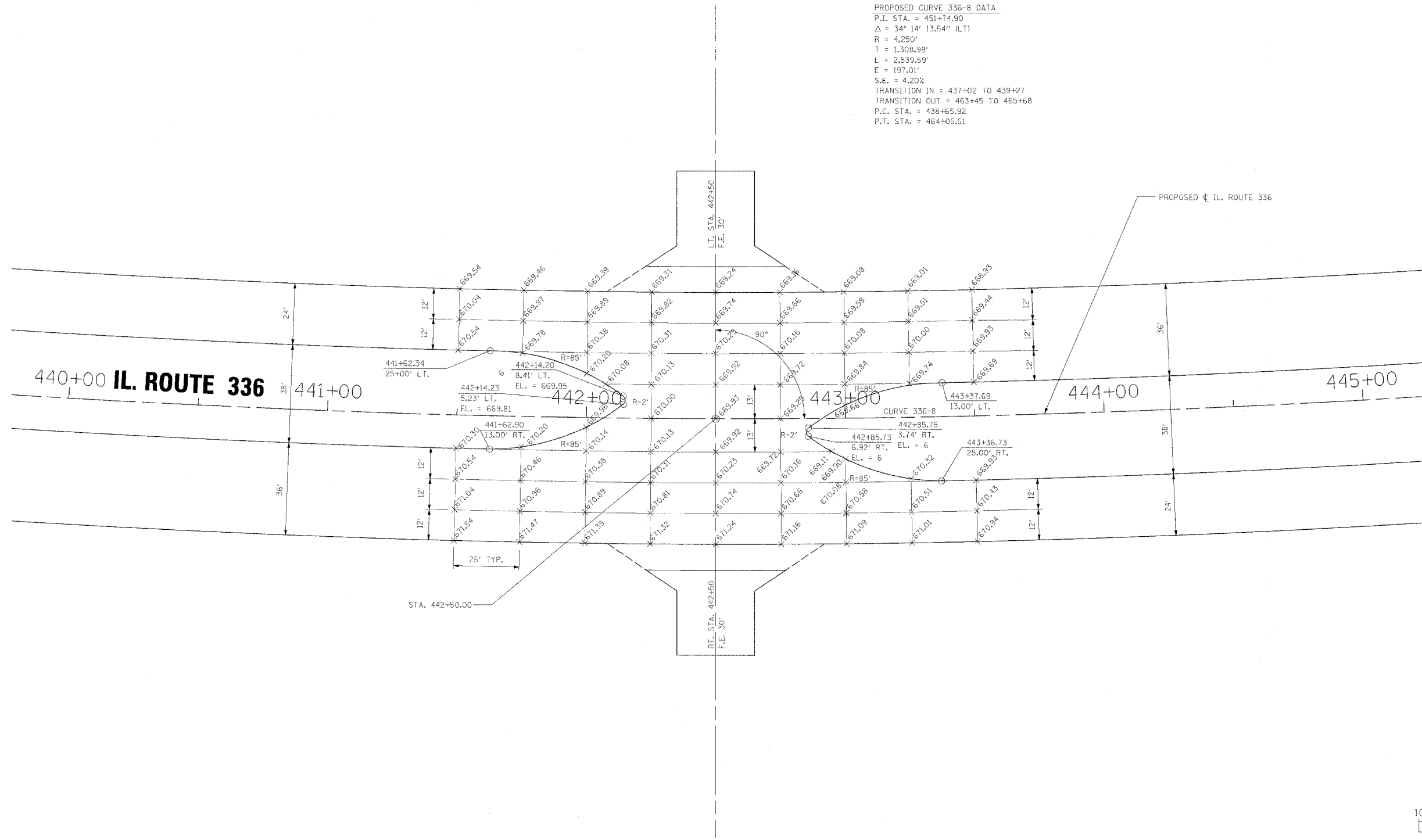
ILLINOIS DEPARTMENT OF TRANSPORTATION

**INTERSECTION DETAILS
IL. ROUTE 336 WITH
TWP. RD. 200 (RELOCATED)**

DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	563
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		

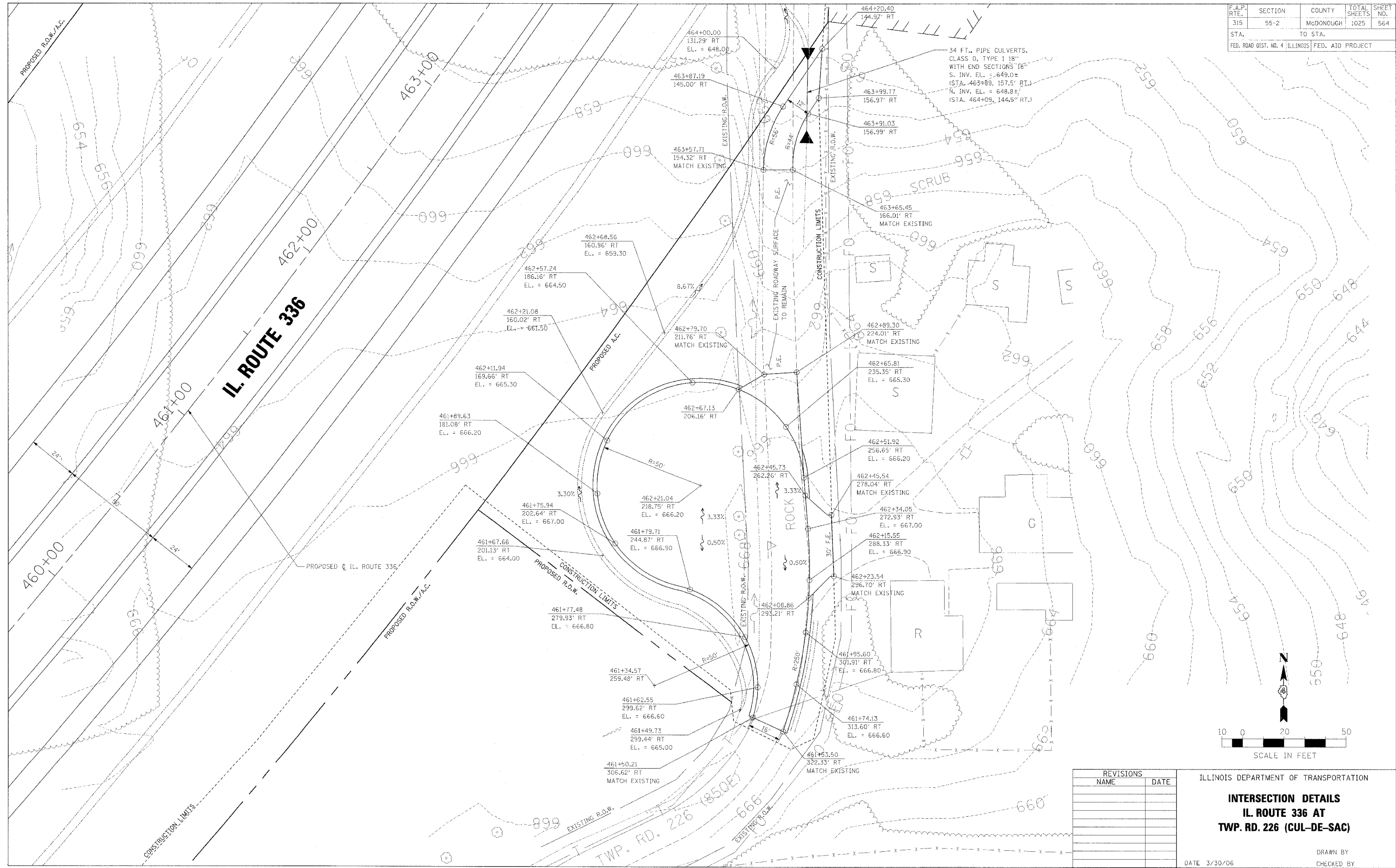
PROPOSED CURVE 336-8 DATA
P.I. STA. = 451+74.90
 $\Delta = 34^\circ 14' 13.54''$ (LT)
R = 4,250'
T = 1,308.98'
L = 2,539.59'
E = 197.01'
S.E. = 4.20%
TRANSITION IN = 437+02 TO 439+27
TRANSITION OUT = 463+45 TO 465+68
P.C. STA. = 438+65.92
P.T. STA. = 464+05.51



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH
F.E.'S AT STA. 442 + 50
DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	564
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

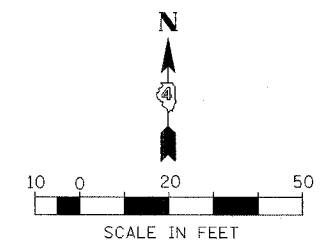
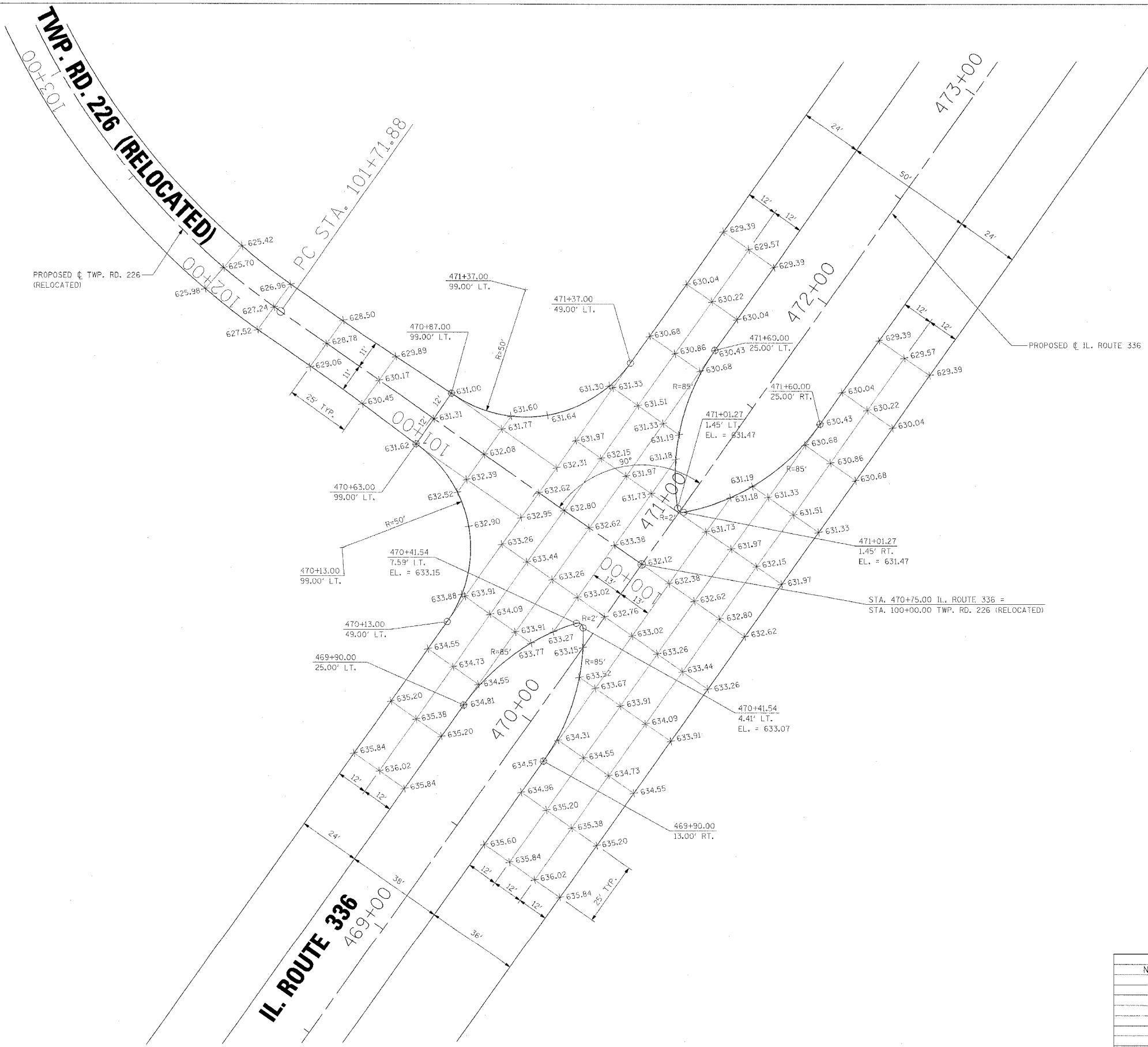


34 FT. PIPE CULVERTS,
CLASS D, TYPE 1 18"
WITH END SECTIONS 18"
S. INV. EL. = 649.0±
(STA. 463+89, 157.5' RT.)
N. INV. EL. = 648.8±
(STA. 464+09, 144.5' RT.)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 AT
TWP. RD. 226 (CUL-DE-SAC)
DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	565
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		

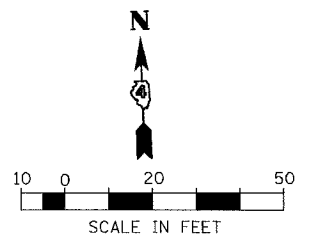
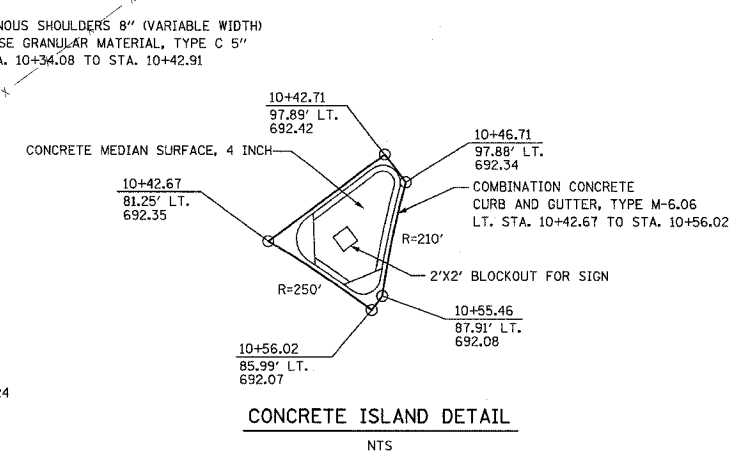
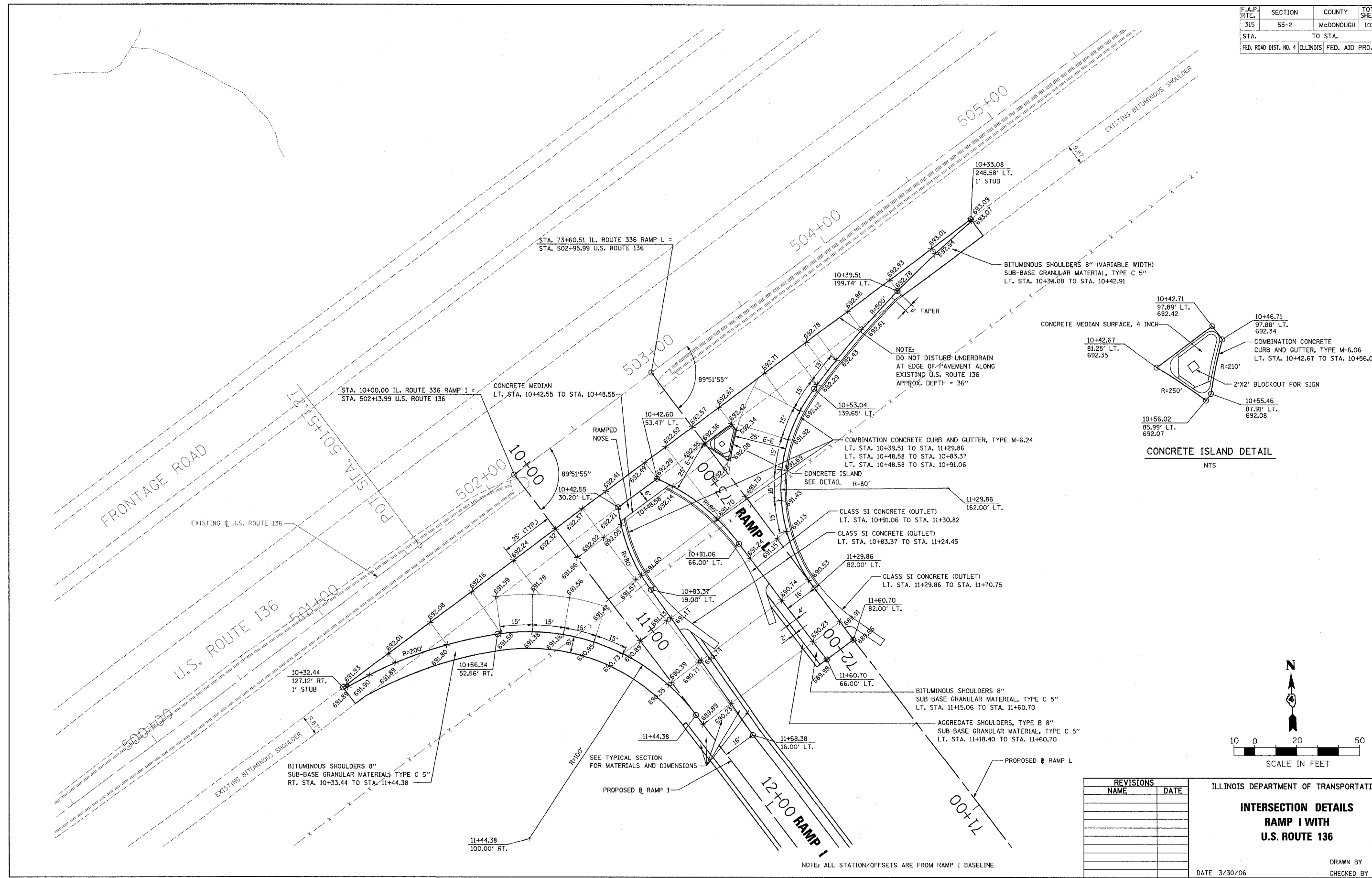


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
IL. ROUTE 336 WITH
TWP. RD. 226 (RELOCATED)

DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	566
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

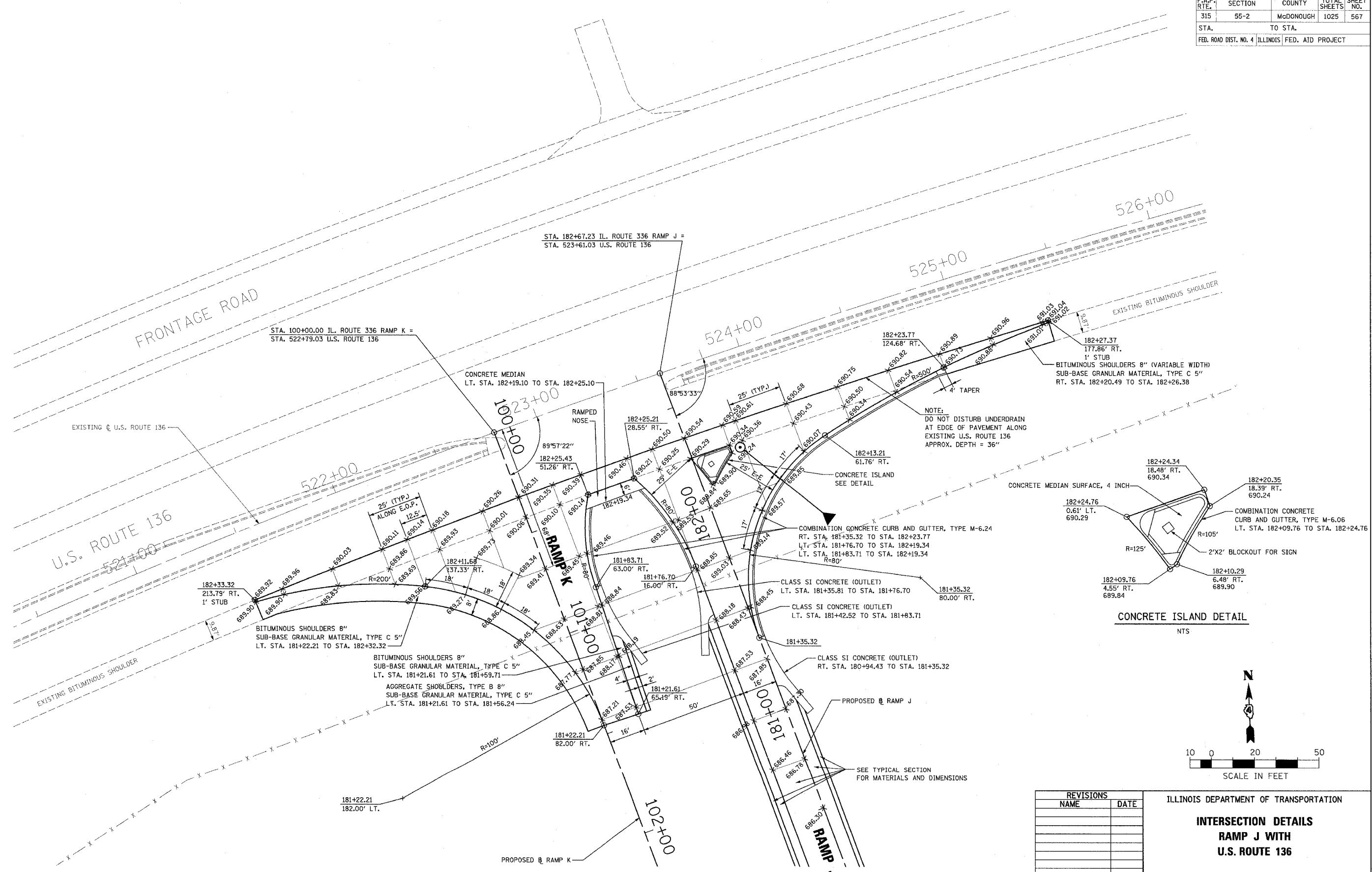


REVISIONS	
NAME	DATE

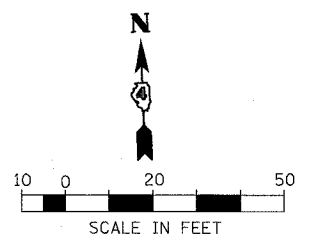
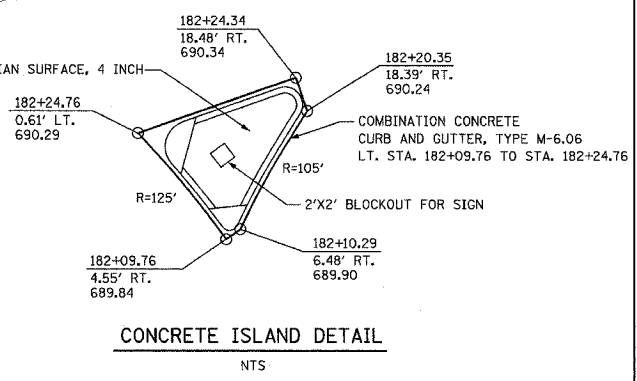
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
RAMP I WITH
U.S. ROUTE 136
 DATE 3/30/06
 DRAWN BY
 CHECKED BY

NOTE: ALL STATION/OFFSETS ARE FROM RAMP I BASELINE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	567
STA.	TO STA.			
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT		



NOTE:
DO NOT DISTURB UNDERDRAIN
AT EDGE OF PAVEMENT ALONG
EXISTING U.S. ROUTE 136
APPROX. DEPTH = 36"



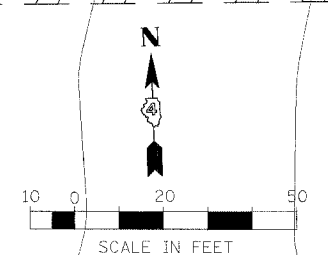
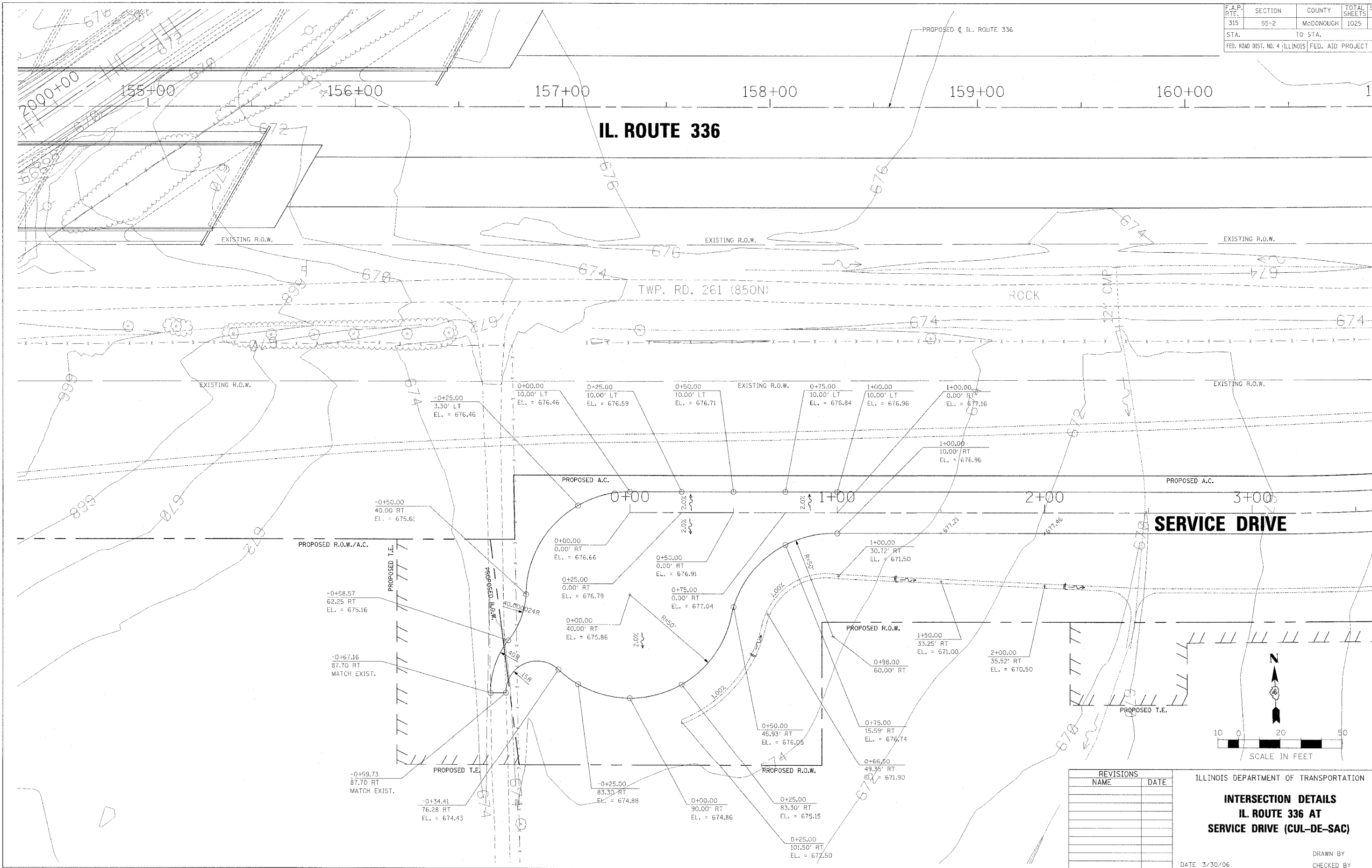
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
RAMP J WITH
U.S. ROUTE 136
DRAWN BY
CHECKED BY
DATE 3/30/06

NOTE: ALL STATION/OFFSETS ARE FROM RAMP J BASELINE

INTERSECTION DETAIL - RAMP J WITH U.S. ROUTE 136 - 3/30/06

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	568
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



REVISIONS	
NAME	DATE

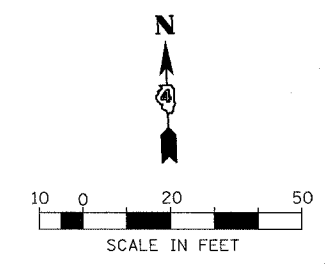
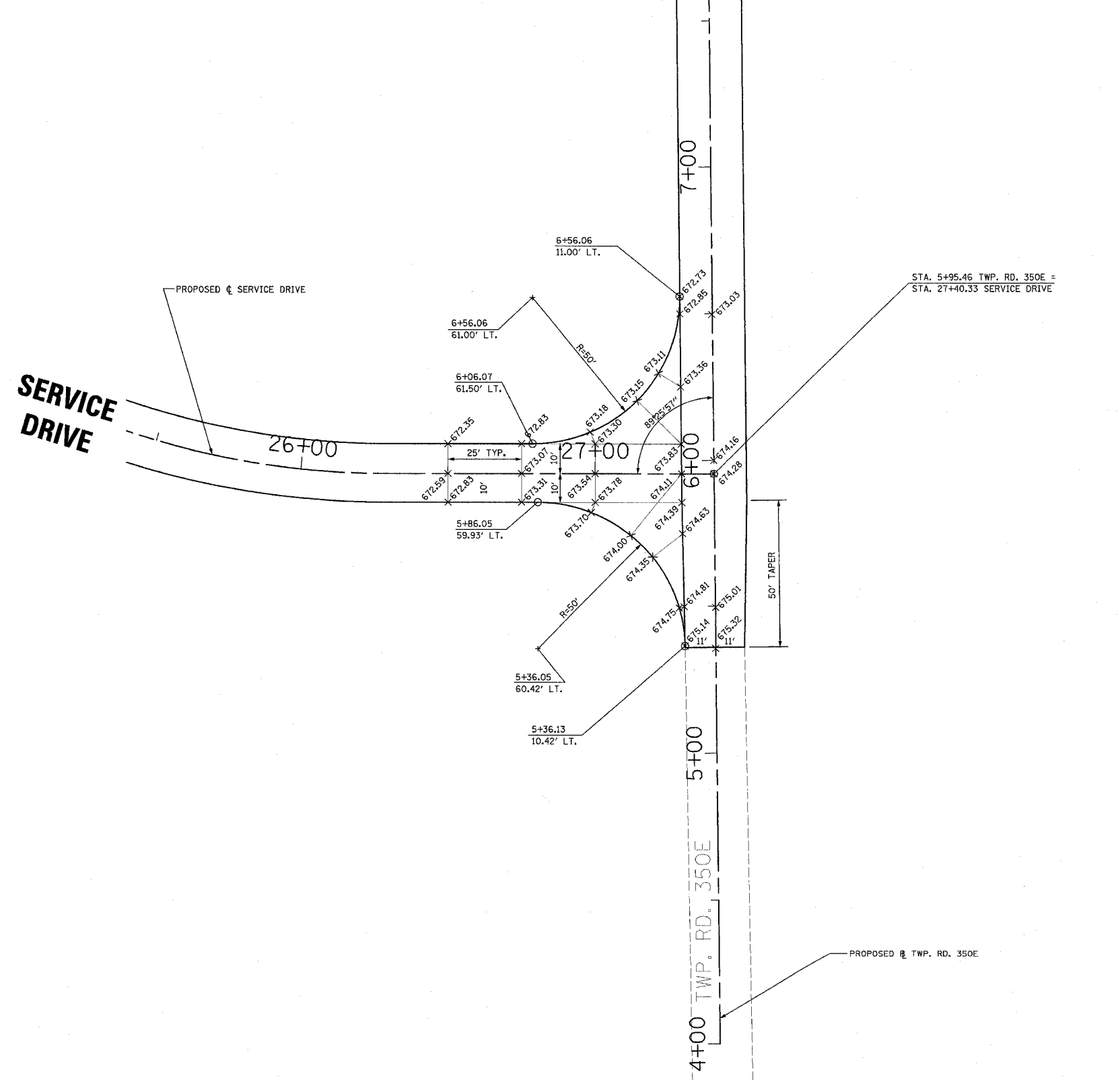
ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSECTION DETAILS
IL. ROUTE 336 AT
SERVICE DRIVE (CUL-DE-SAC)

DATE 3/30/06

DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	569
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



REVISIONS	
NAME	DATE

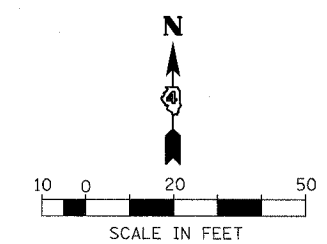
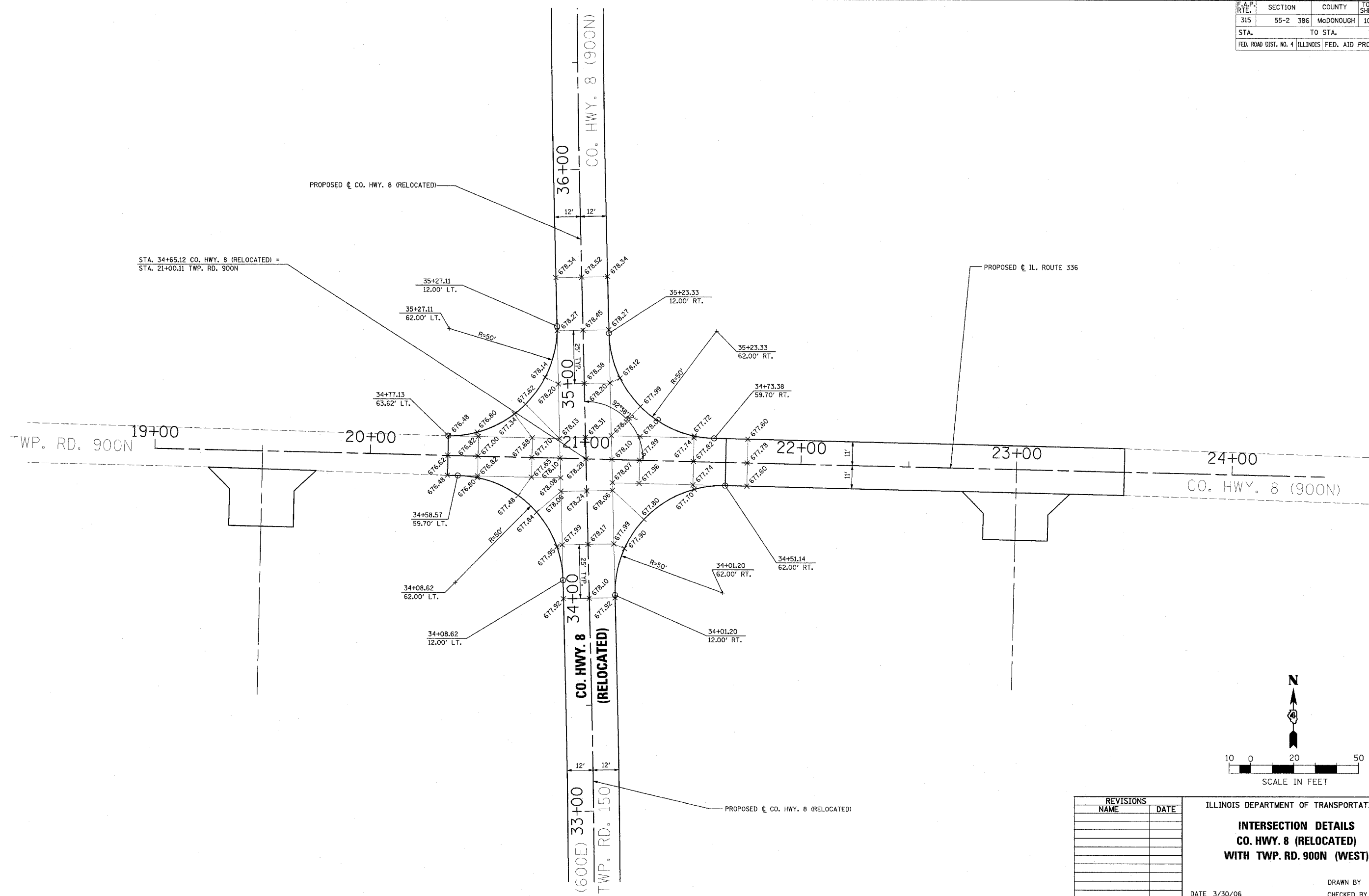
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSECTION DETAILS
TWP. RD. 350E WITH SERVICE DRIVE

DATE 3/30/06

DRAWN BY
CHECKED BY

DATE PLOTTED: 04/17/2006 7:48:30 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2 386	McDONOUGH	1025	570
STA. TO STA.				
FED. ROAD DIST. NO. 4 ILLINOIS			FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

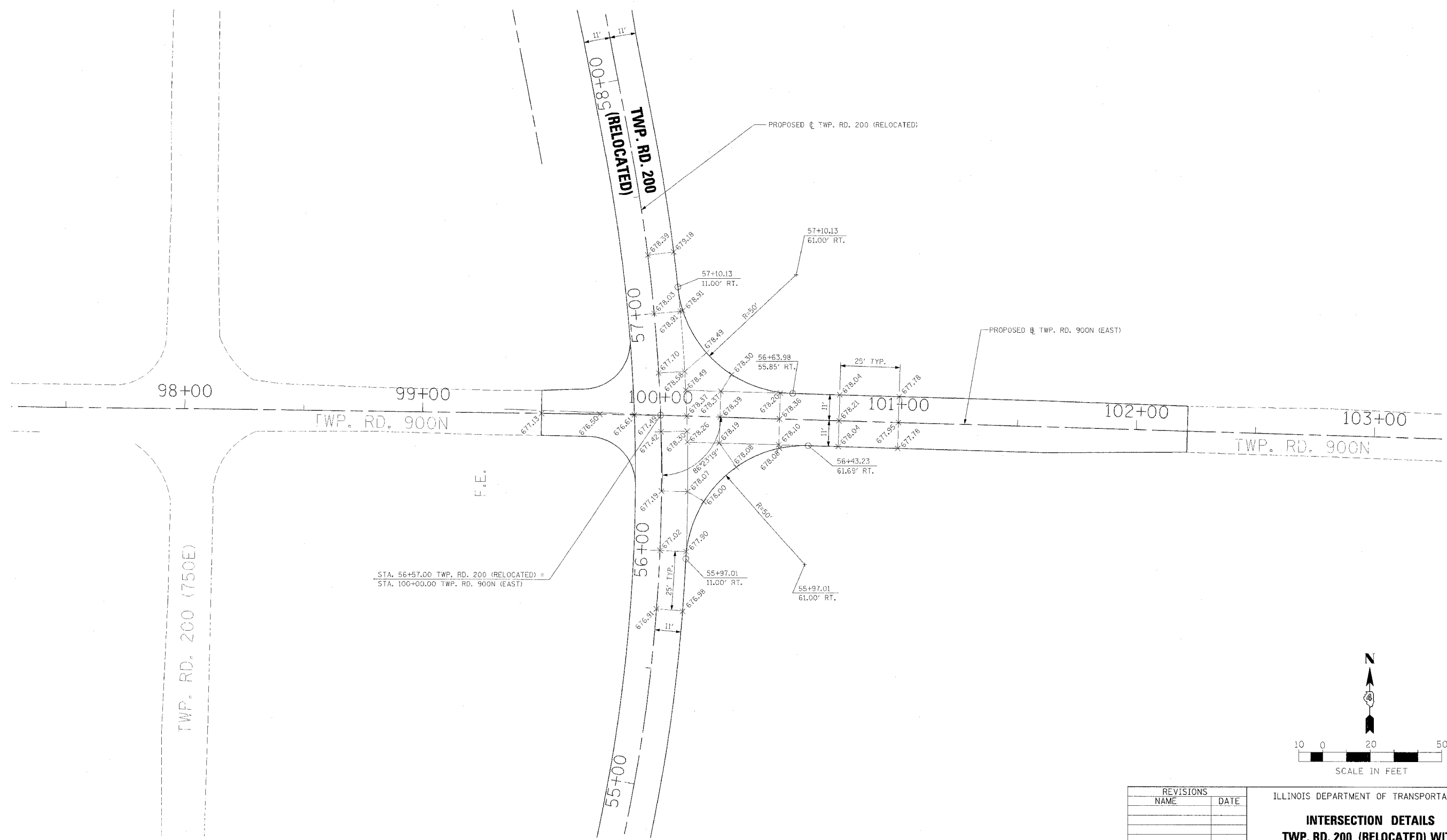
INTERSECTION DETAILS
CO. HWY. 8 (RELOCATED)
WITH TWP. RD. 900N (WEST)

DATE 3/30/06

DRAWN BY _____
 CHECKED BY _____

11/16/05 8:00 AM - 11/16/05 7:42:59 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	571
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



REVISIONS	
NAME	DATE

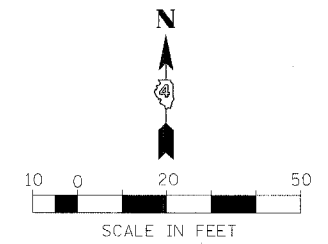
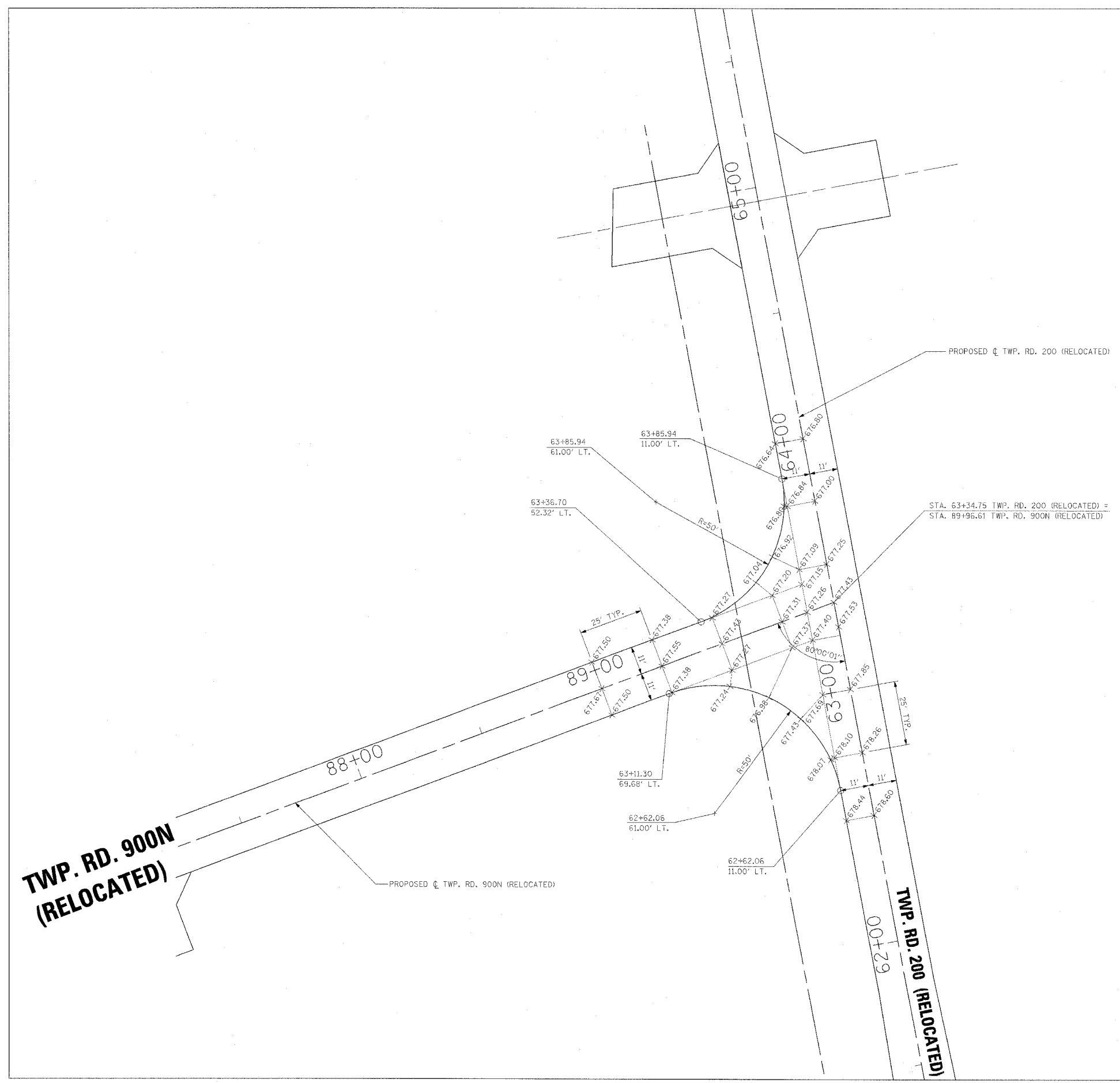
ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSECTION DETAILS
TWP. RD. 200 (RELOCATED) WITH
TWP. RD. 900N (EAST)

DATE 3/30/06

DRAWN BY _____
CHECKED BY _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	572
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		



**TWP. RD. 900N
(RELOCATED)**

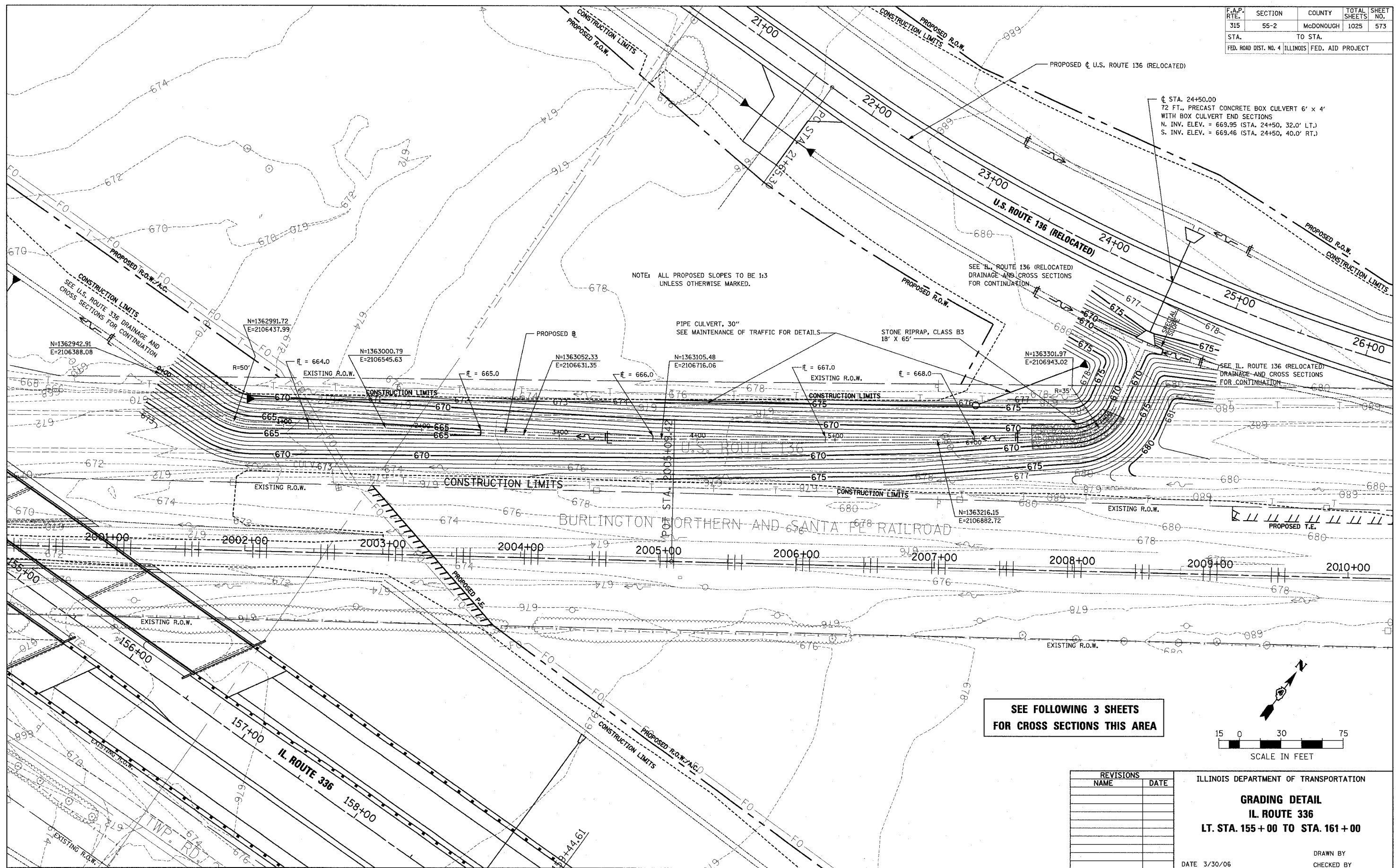
**TWP. RD. 200
(RELOCATED)**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**INTERSECTION DETAILS
TWP. RD. 200 (RELOCATED) WITH
TWP. RD. 900N (RELOCATED)**

DATE 3/30/06
DRAWN BY
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	573
STA.	TO STA.			
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



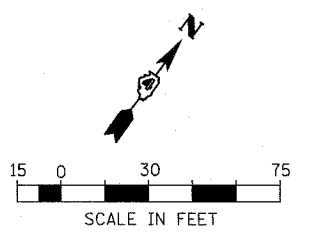
@ STA. 24+50.00
 72 FT., PRECAST CONCRETE BOX CULVERT 6' x 4'
 WITH BOX CULVERT END SECTIONS
 N. INV. ELEV. = 669.95 (STA. 24+50, 32.0' LT.)
 S. INV. ELEV. = 669.46 (STA. 24+50, 40.0' RT.)

NOTE: ALL PROPOSED SLOPES TO BE 1:3
 UNLESS OTHERWISE MARKED.

SEE IL. ROUTE 136 (RELOCATED)
 DRAINAGE AND CROSS SECTIONS
 FOR CONTINUATION

SEE IL. ROUTE 136 (RELOCATED)
 DRAINAGE AND CROSS SECTIONS
 FOR CONTINUATION

**SEE FOLLOWING 3 SHEETS
 FOR CROSS SECTIONS THIS AREA**



REVISIONS	
NAME	DATE

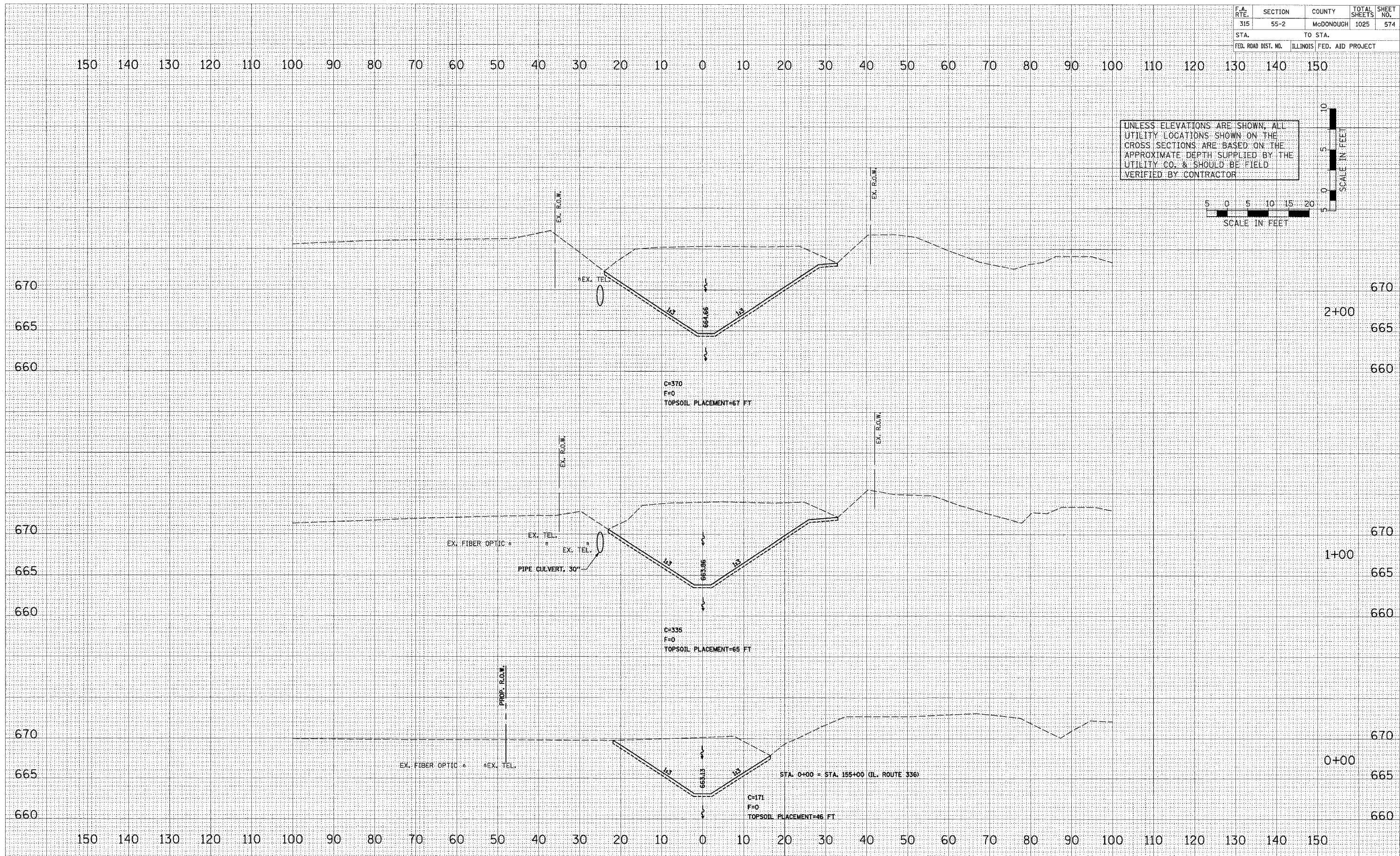
ILLINOIS DEPARTMENT OF TRANSPORTATION
GRADING DETAIL
IL. ROUTE 336
LT. STA. 155+00 TO STA. 161+00
 DATE 3/30/06
 DRAWN BY
 CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	574
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DATE	BY

DATE	BY

PLOT DATE = #DATE#
 FILE NAME = #FILE#
 USER NAME = #USER#



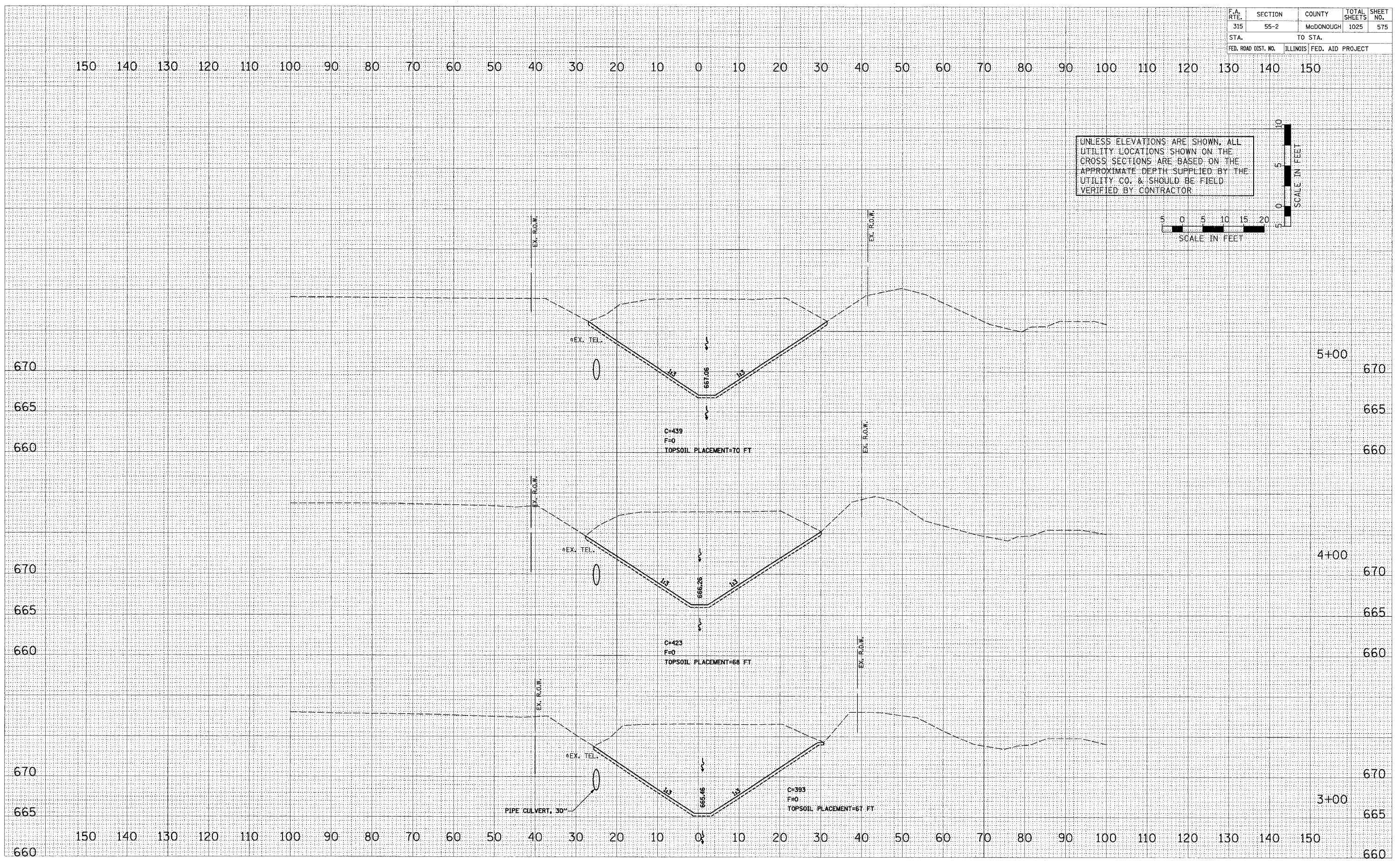
GRADING DETAILS - CROSS SECTIONS - IL ROUTE 336 - LT. STA. 155+00 TO STA. 161+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	575
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED TEMPLATE		
	AREAS CHECKED		

PLOT DATE * DATE
 PLOT SCALE * SCALE
 USER NAME * USER



GRADING DETAILS - CROSS SECTIONS - IL. ROUTE 336 - LT. STA. 155+00 TO STA. 161+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	576
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

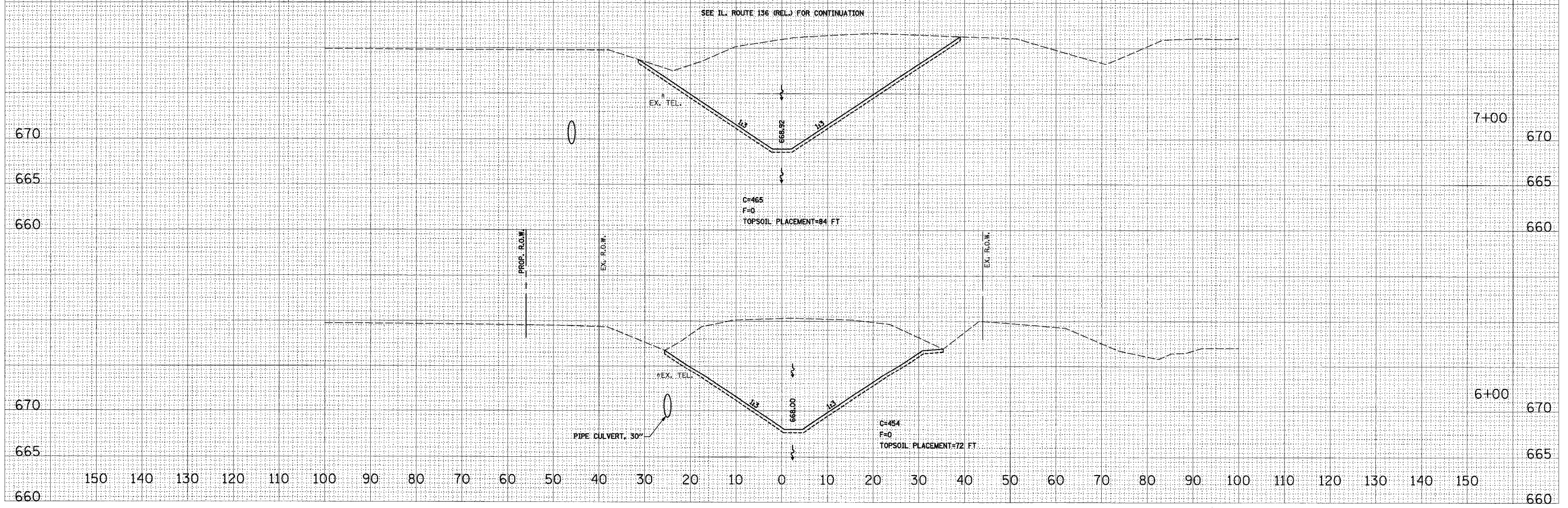
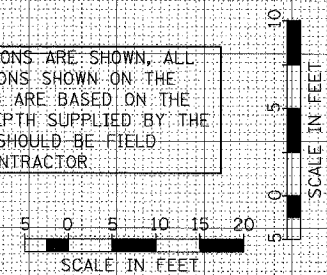
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

DATE	BY
DATE	BY
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DATE	BY
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DATE	BY
DATE	BY
DATE	BY

PLOT DATE = DATE
 PLOT SCALE = SCALE
 USER NAME = USER

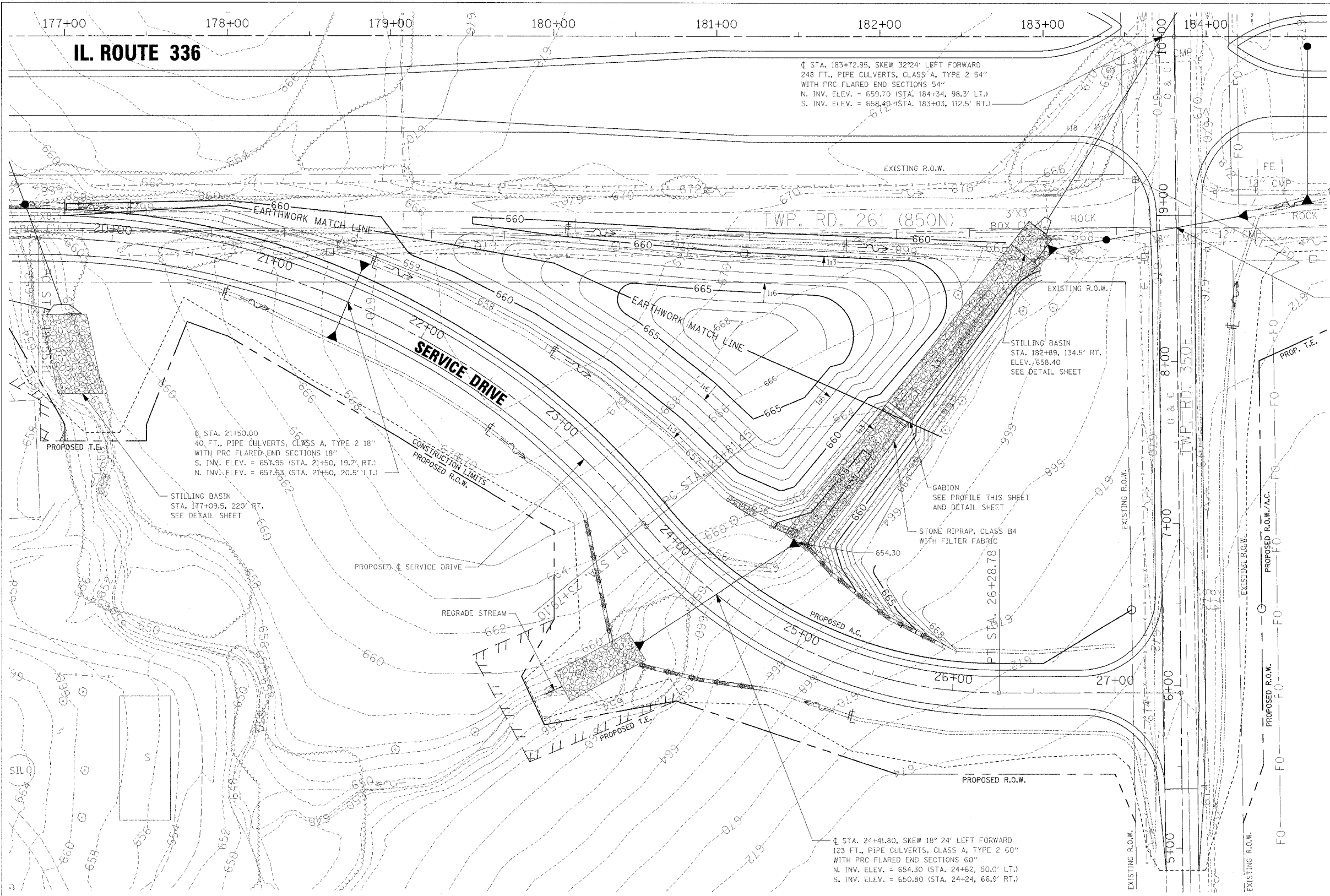
UNLESS ELEVATIONS ARE SHOWN, ALL UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED ON THE APPROXIMATE DEPTH SUPPLIED BY THE UTILITY CO. & SHOULD BE FIELD VERIFIED BY CONTRACTOR.



GRADING DETAILS - CROSS SECTIONS - IL. ROUTE 336 - LT. STA. 155+00 TO STA. 161+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	577
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

IL. ROUTE 336

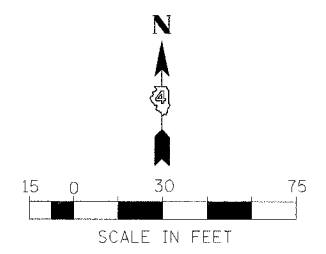
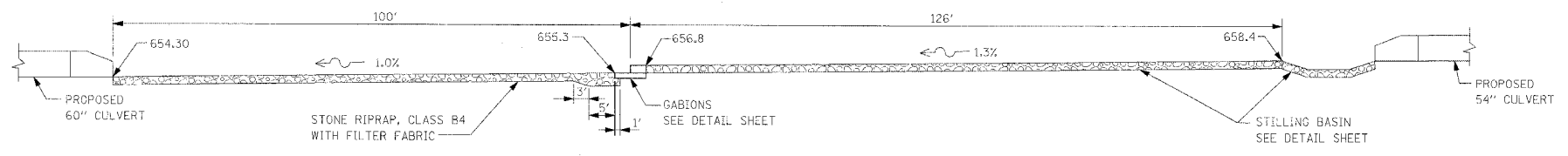


STATION 8+82.16 SKEW 9° 27' RIGHT FORWARD
 118 FT., PIPE CULVERTS, CLASS A, TYPE 3 18"
 WITH PRC FLARED END SECTIONS 18"
 E. INV. ELEV. = 664.72 (STA. 8+89, 42.5' RT.)
 W. INV. ELEV. = 658.40 (STA. 8+70, 73.9' LT.)

STATION 21+50.00
 40 FT., PIPE CULVERTS, CLASS A, TYPE 2 18"
 WITH PRC FLARED END SECTIONS 18"
 S. INV. ELEV. = 657.85 (STA. 21+50, 19.2' RT.)
 N. INV. ELEV. = 657.63 (STA. 21+50, 20.5' LT.)

STATION 183+72.95, SKEW 32°24' LEFT FORWARD
 248 FT., PIPE CULVERTS, CLASS 'A', TYPE 2 54"
 WITH PRC FLARED END SECTIONS 54"
 N. INV. ELEV. = 659.70 (STA. 184+34, 98.3' LT.)
 S. INV. ELEV. = 658.40 (STA. 183+03, 112.5' RT.)

STATION 24+41.80, SKEW 18° 24' LEFT FORWARD
 123 FT., PIPE CULVERTS, CLASS A, TYPE 2 60"
 WITH PRC FLARED END SECTIONS 60"
 N. INV. ELEV. = 654.30 (STA. 24+62, 50.0' LT.)
 S. INV. ELEV. = 650.80 (STA. 24+24, 66.9' RT.)

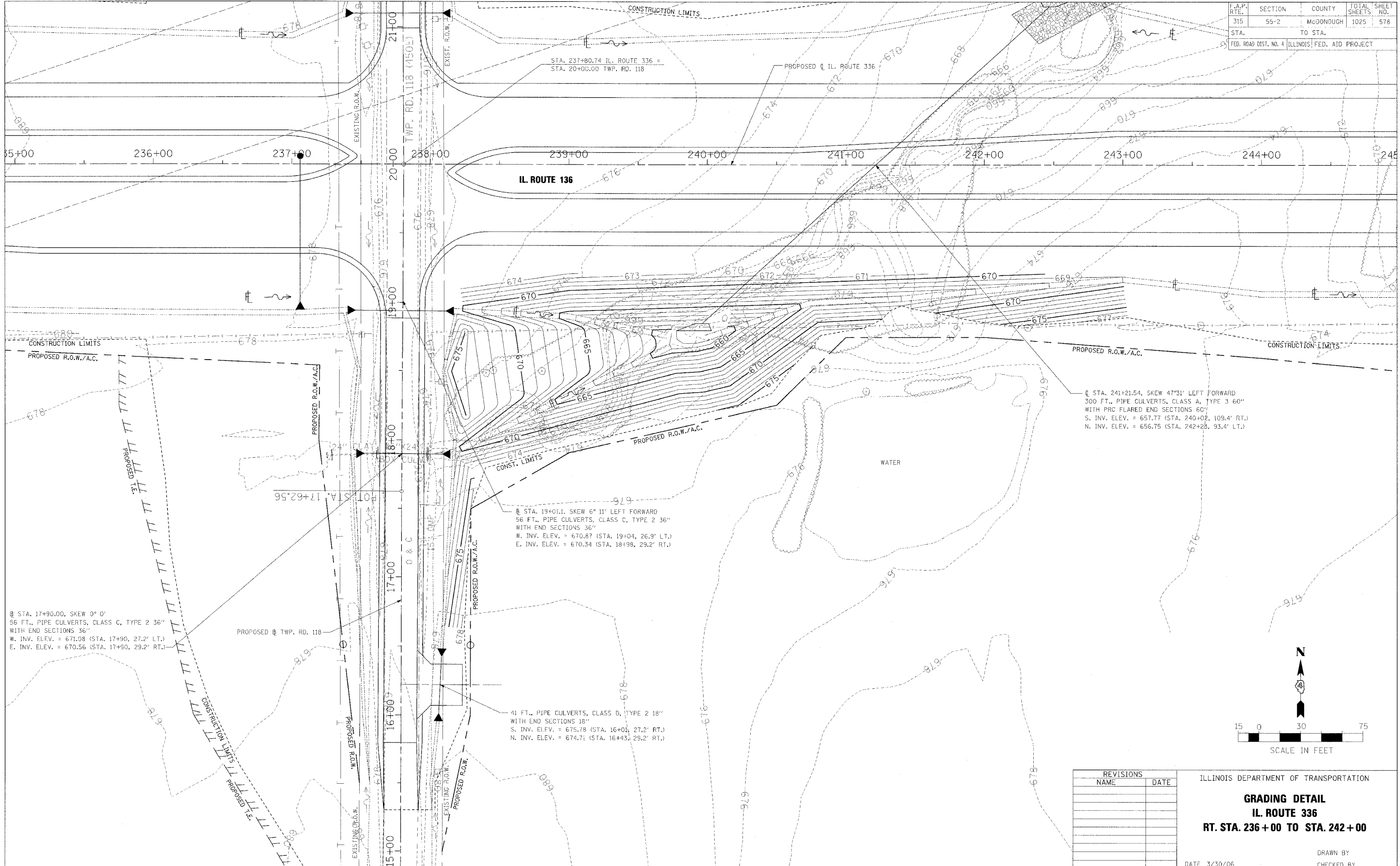


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GRADING DETAIL
IL. ROUTE 336
RT. STA. 178+00 TO STA. 184+00

DATE 3/30/06
 DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	578
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GRADING DETAIL

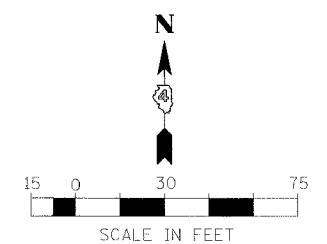
IL. ROUTE 336

RT. STA. 236+00 TO STA. 242+00

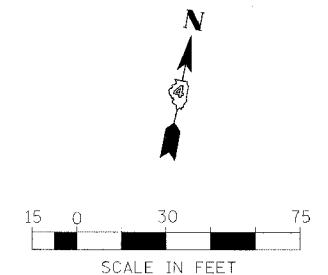
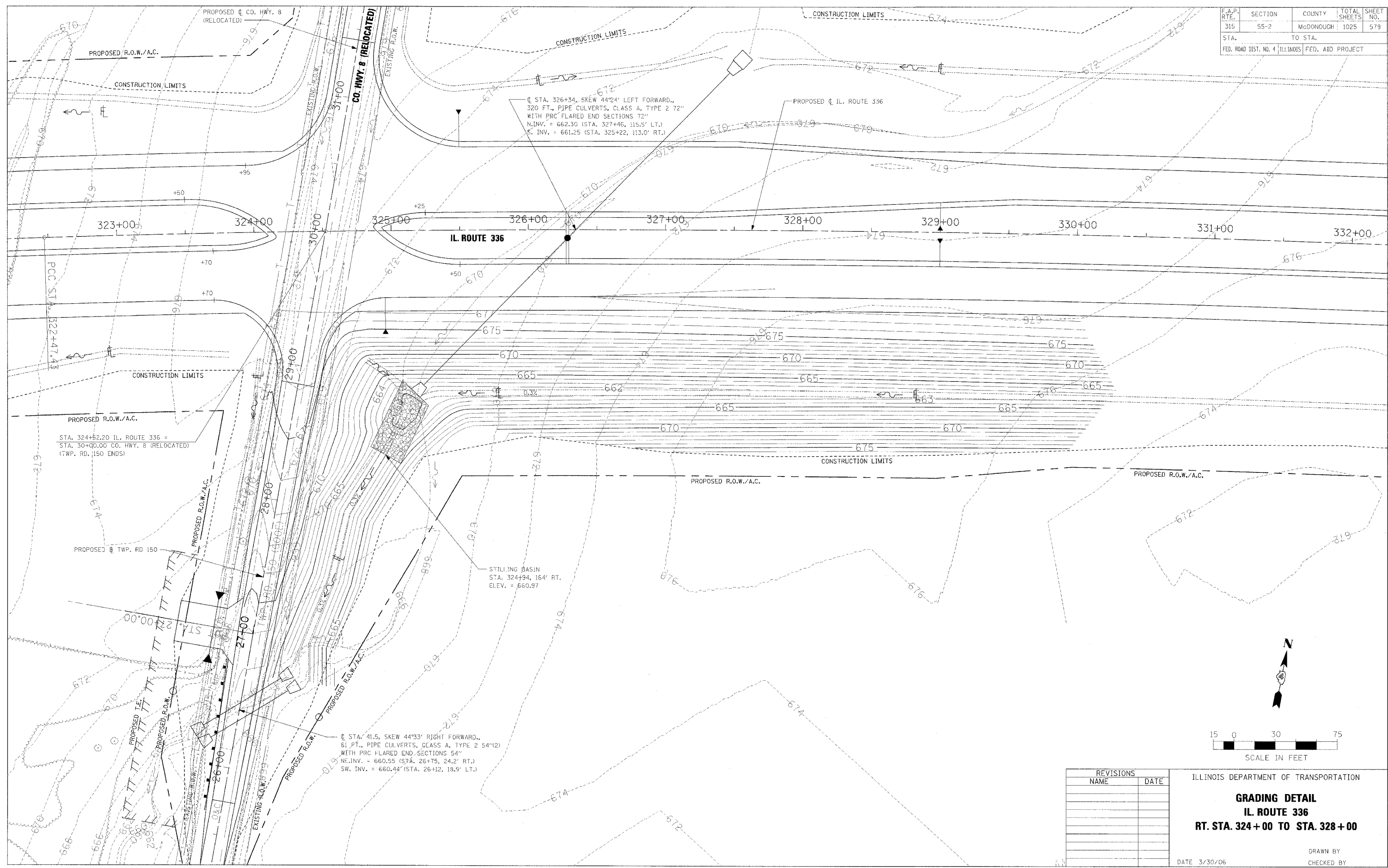
DATE 3/30/06

DRAWN BY _____

CHECKED BY _____



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	579
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GRADING DETAIL

IL ROUTE 336

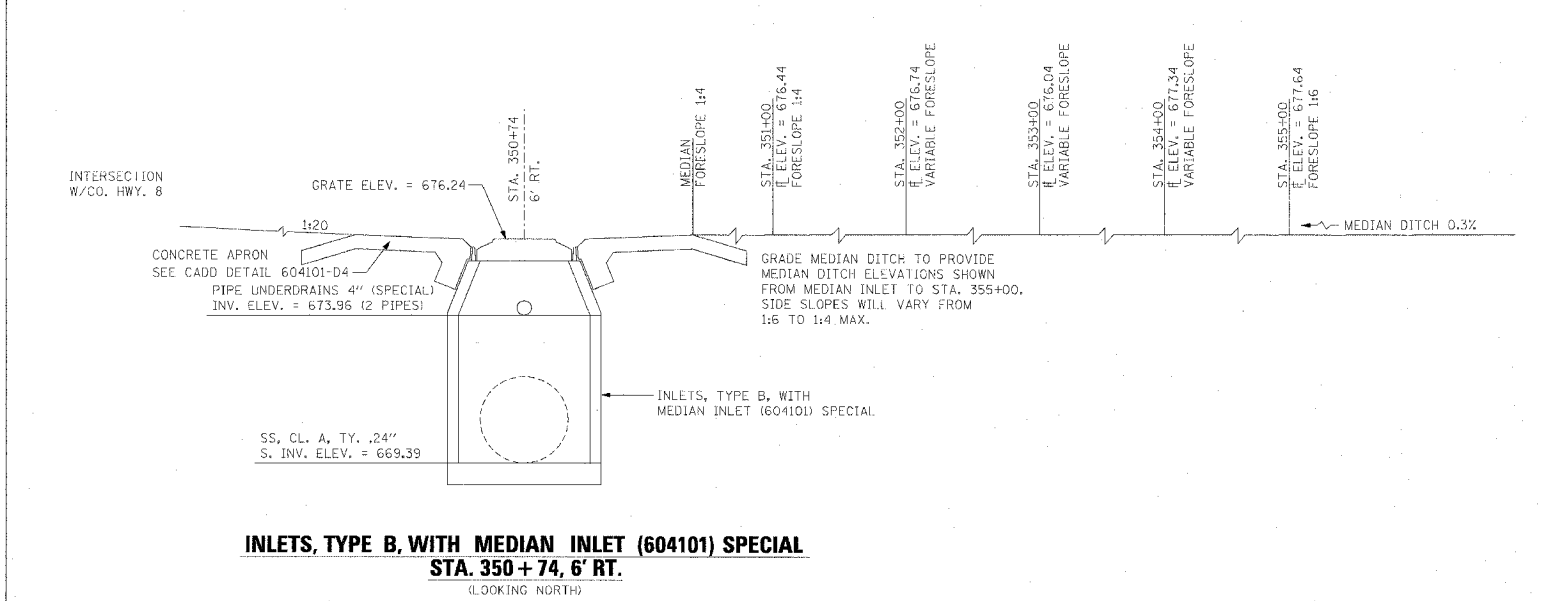
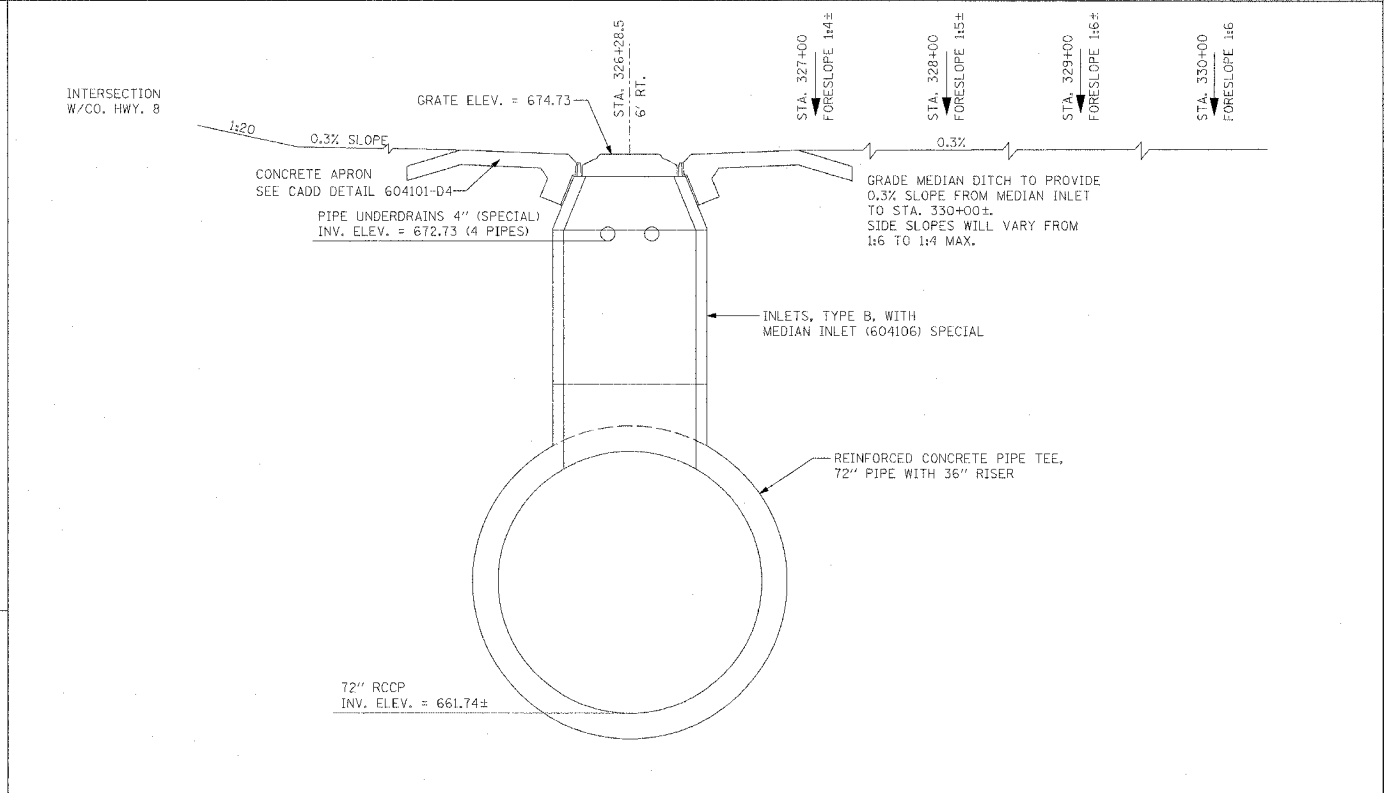
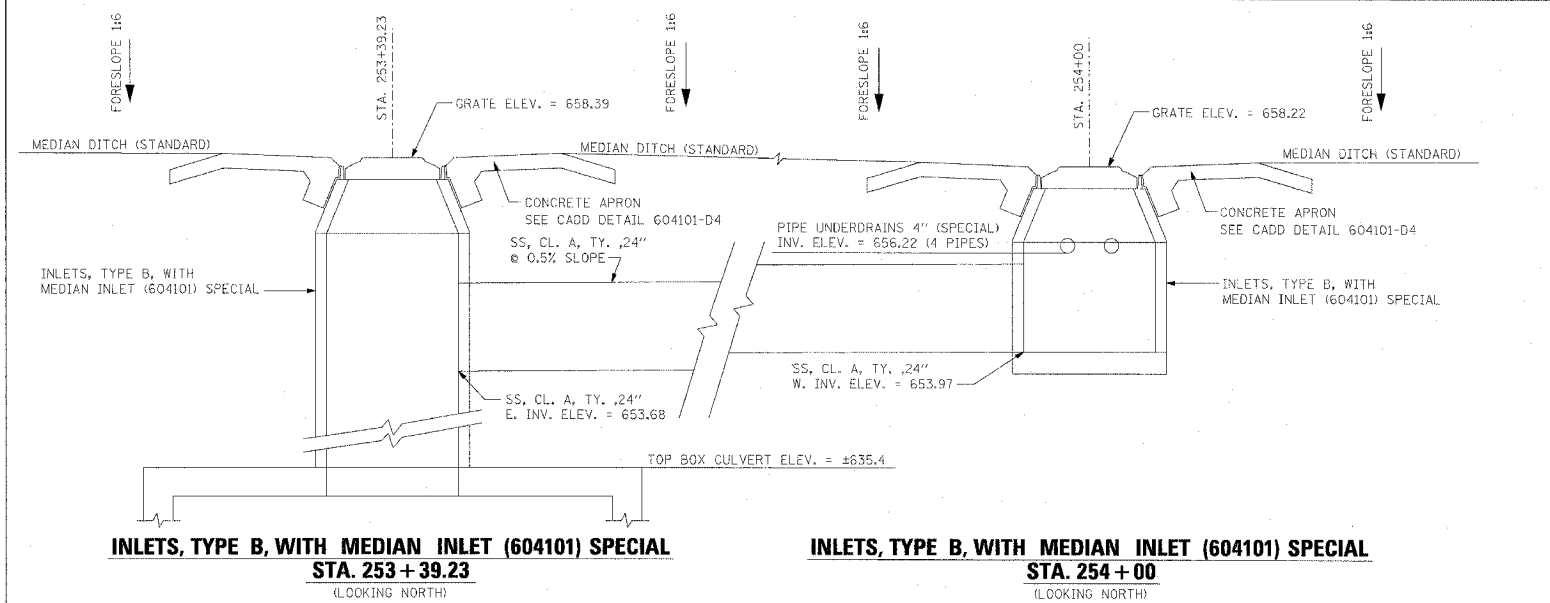
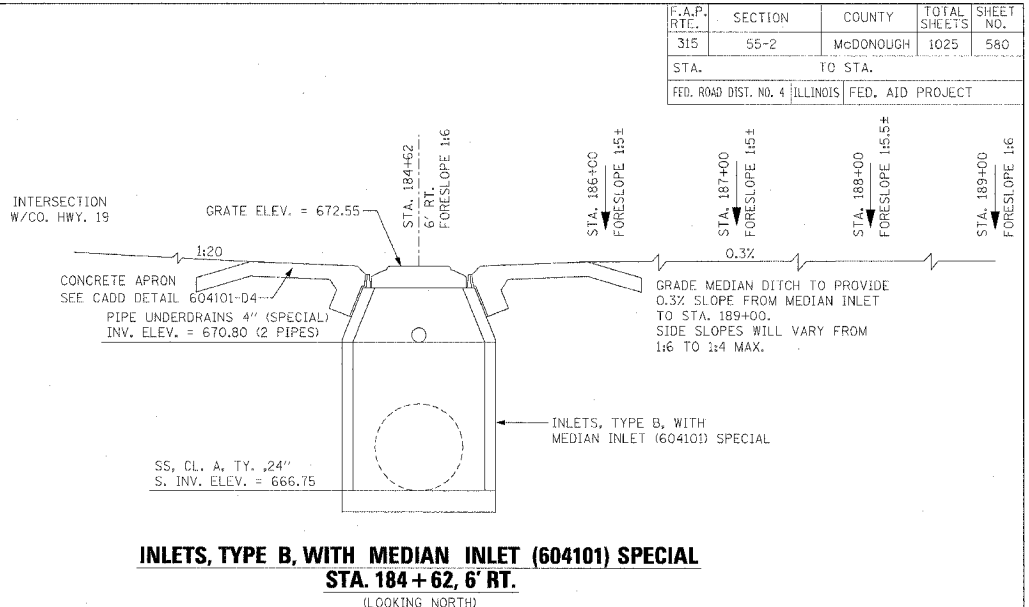
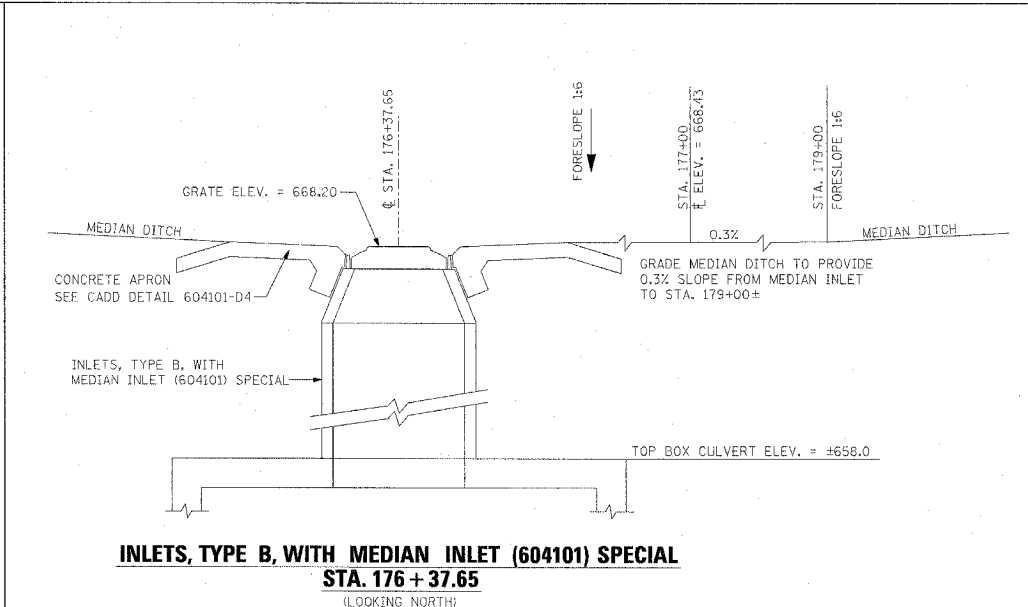
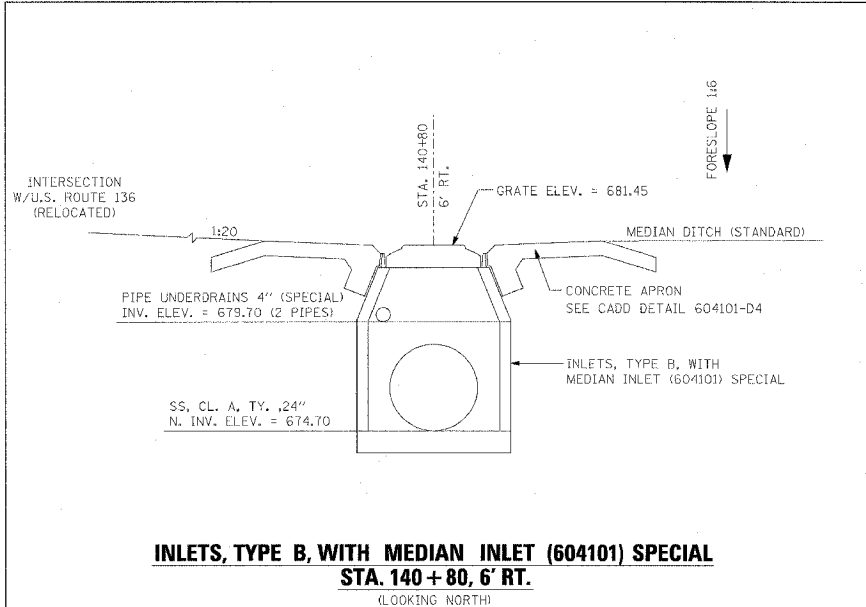
RT. STA. 324+00 TO STA. 328+00

DATE 3/30/06

DRAWN BY _____

CHECKED BY _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	580
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		



REVISIONS	
NAME	DATE

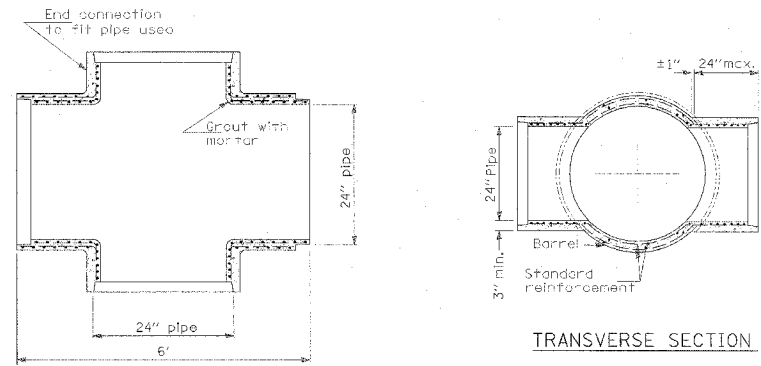
ILLINOIS DEPARTMENT OF TRANSPORTATION

MEDIAN INLET DETAILS
IL ROUTE 336

DATE 3/30/06

DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	315-321	McDONOUGH	1025	581
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

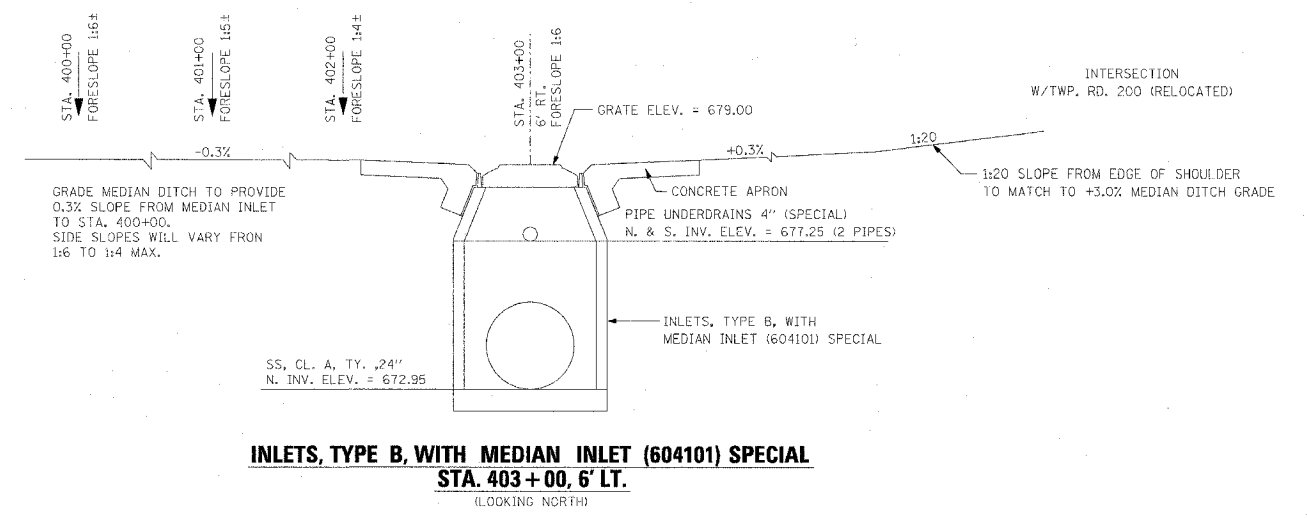


PLAN VIEW

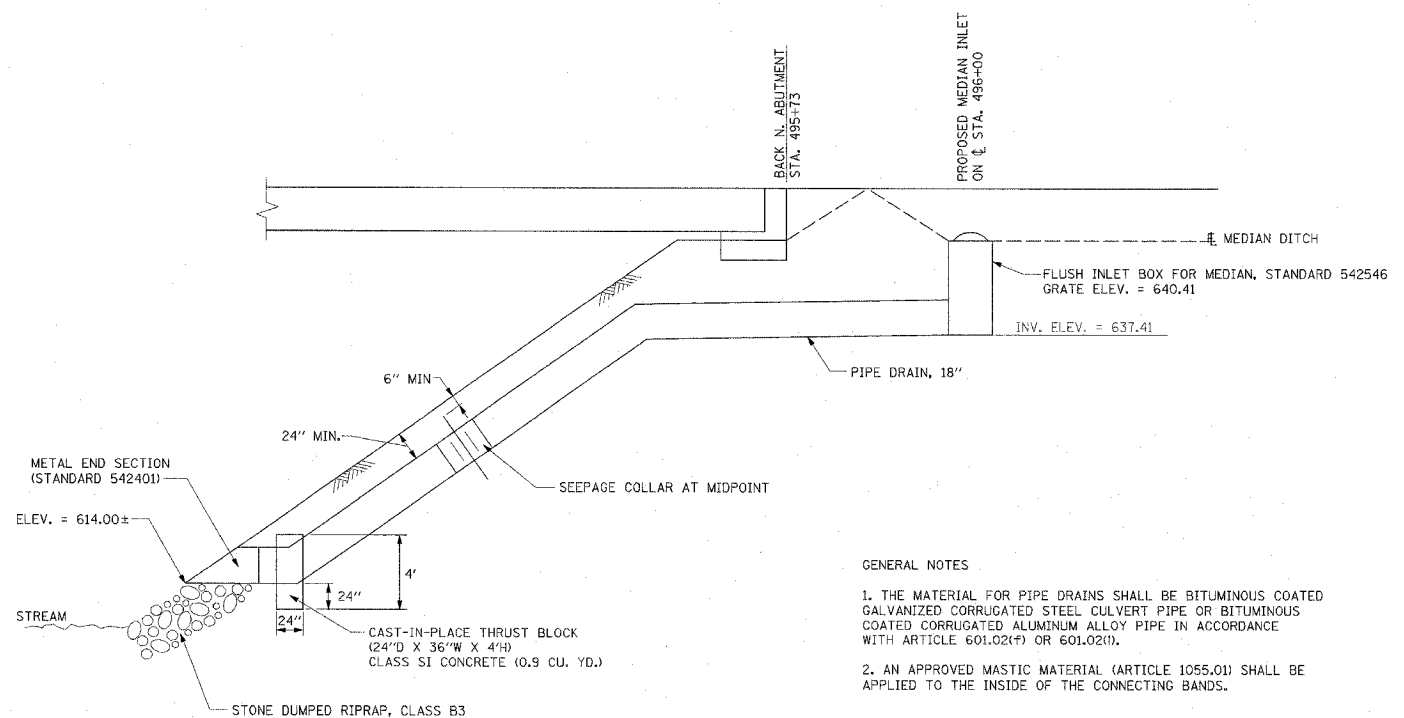
Weld 3/4" min. for wire 0000 thru 1 ga.
 Weld 5/8" min. for wire 2 thru 7 ga.
 (Other wires shall be tied per standard.)

REINFORCEMENT AND DIMENSIONS SHALL BE AS SHOWN ON HIGHWAY STANDARD 542606

**REINFORCED CONCRETE PIPE TEE, SPECIAL
 IL. ROUTE 336 STA. 368+00**



**INLETS, TYPE B, WITH MEDIAN INLET (604101) SPECIAL
 STA. 403+00, 6' LT.
 (LOOKING NORTH)**



- GENERAL NOTES**
1. THE MATERIAL FOR PIPE DRAINS SHALL BE BITUMINOUS COATED GALVANIZED CORRUGATED STEEL CULVERT PIPE OR BITUMINOUS COATED CORRUGATED ALUMINUM ALLOY PIPE IN ACCORDANCE WITH ARTICLE 601.02(F) OR 601.02(I).
 2. AN APPROVED MASTIC MATERIAL (ARTICLE 1055.01) SHALL BE APPLIED TO THE INSIDE OF THE CONNECTING BANDS.

**MEDIAN INLET DETAIL - STA. 496+00
 NTS**

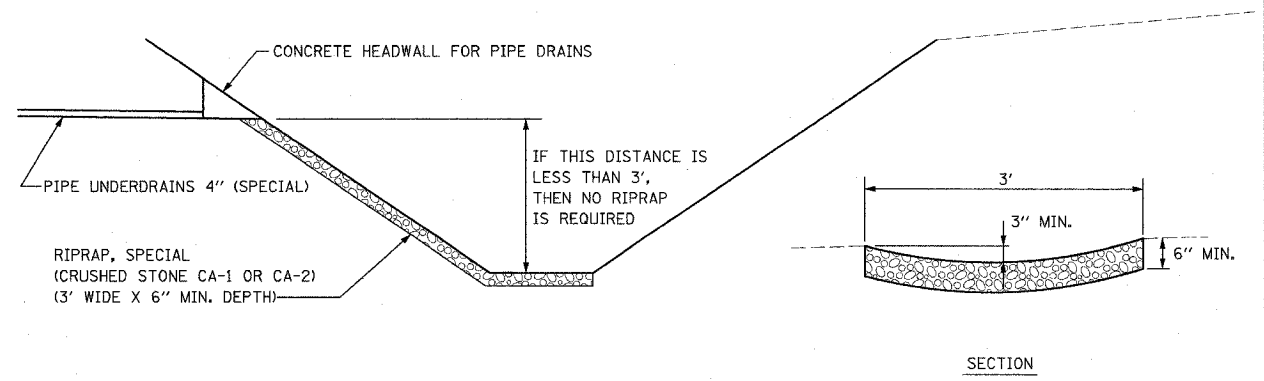
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**MEDIAN INLET DETAILS
 IL. ROUTE 336**

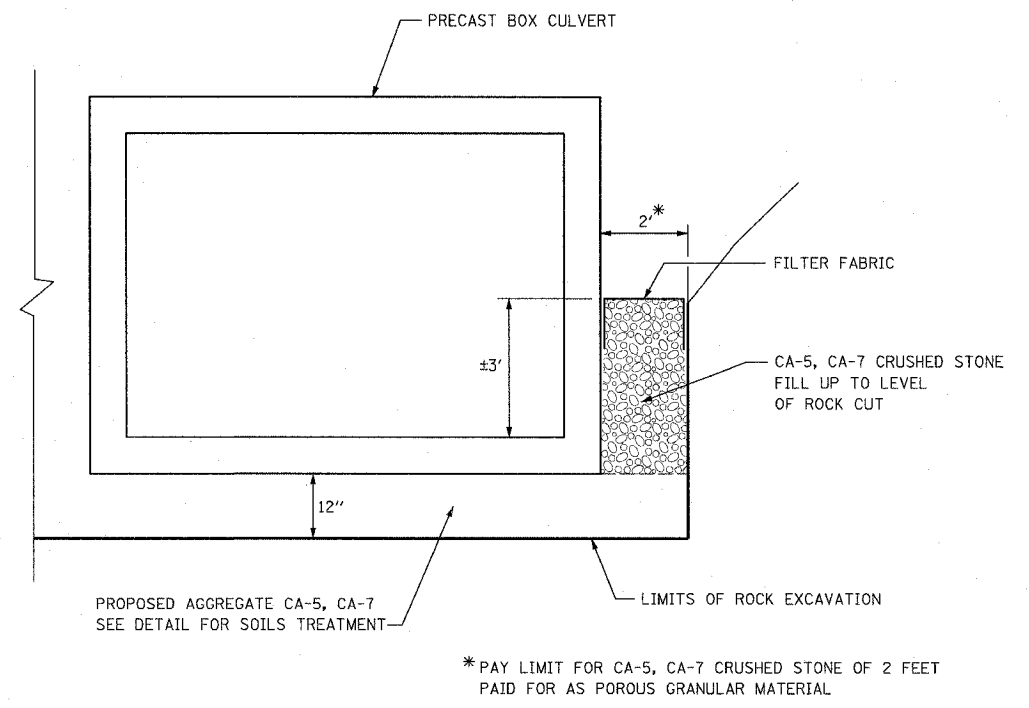
DATE 3/30/06

DRAWN BY DLG
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	MCDONOUGH	1025	582
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



PIPE UNDERDRAIN OUTLET DETAIL
NOT TO SCALE



DRAINAGE TREATMENT - BOX CULVERT STA. 253 + 39.23
NOT TO SCALE

- NOTES:
- ROCK EXCAVATION ON BACKSIDE OF PROPOSED BOX CULVERT IS TO BE BACKFILLED WITH CRUSHED STONE CA-5, OR CA-7 TO THE HEIGHT OF THE ROCK CUT FOR THE LENGTH OF THE CULVERT. SEE DETAIL FOR SOILS TREATMENT.
 - FILTER FABRIC TO BE PLACED ON TOP OF AND MINIMUM OF ONE FOOT ALONG FACE OF CULVERT AND ROCK CUT. FILTER FABRIC TO BE PAID FOR SEPARATELY.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**PIPE UNDERDRAIN OUTLET DETAIL AND
DRAINAGE TREATMENT - BOX CULVERT
STA. 253 + 39.23
IL. ROUTE 336**
DRAWN BY
CHECKED BY
DATE 3/30/06

10/10/06 11:42:36 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	583
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

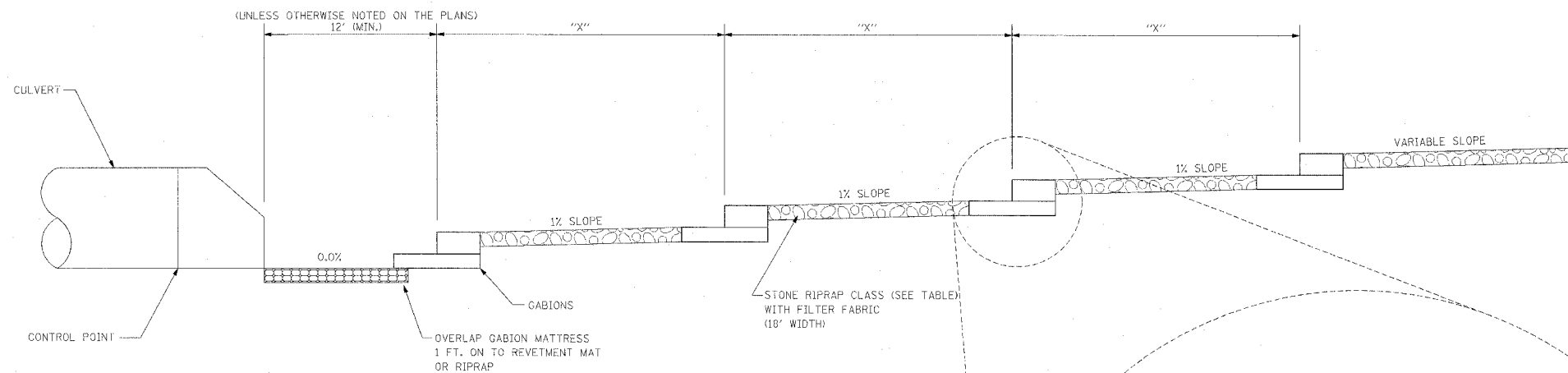
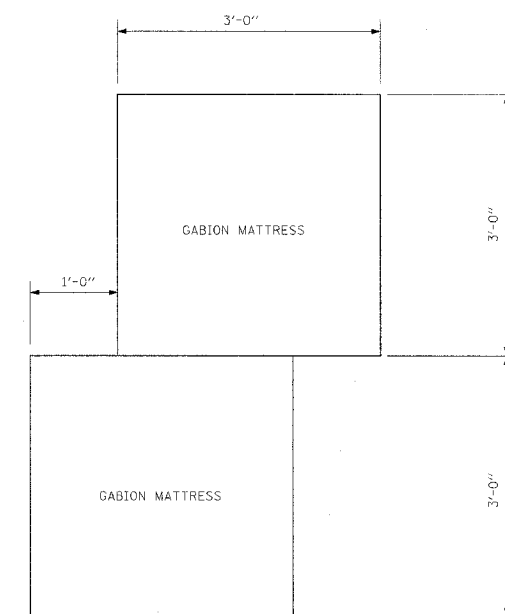
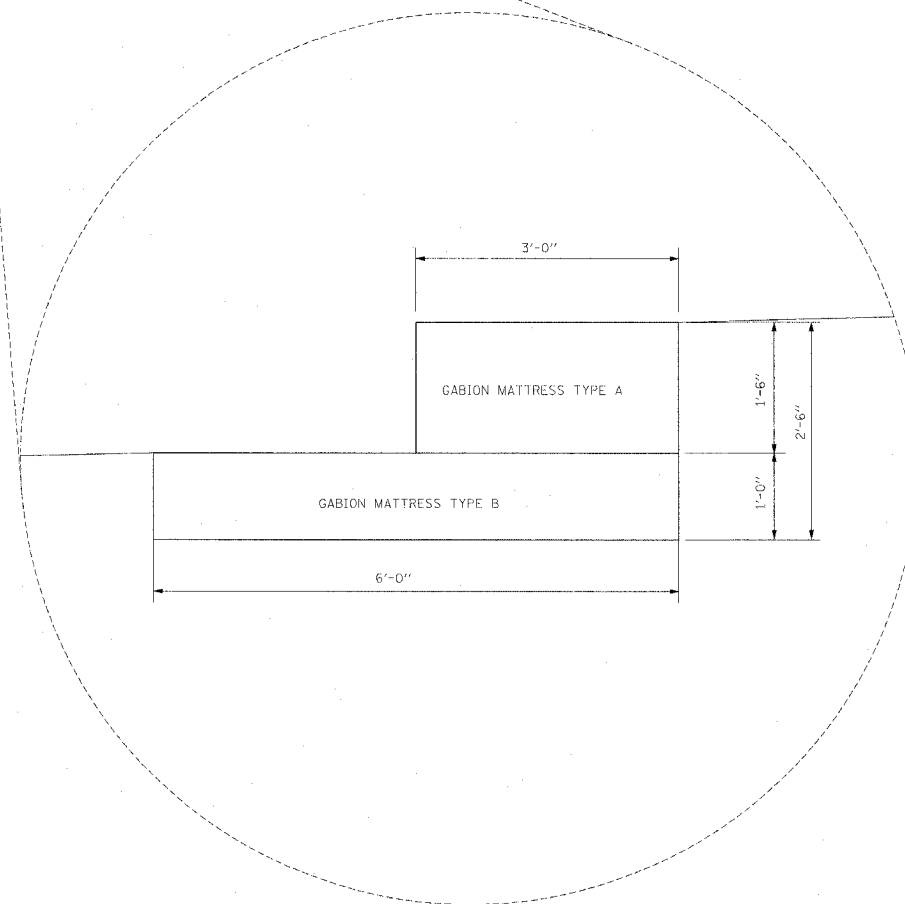


TABLE OF GABION LOCATIONS - IL. ROUTE 336

SEE CROSS SECTIONS FOR MORE INFORMATION

LOCATION	NO. OF GABIONS	SPACING "X" (FT.)	CU. YD.	STONE RIPRAP CLASS
(IL. RTE. 336)				
LT. STA. 145+73	2	20	14	B3
LT. STA. 175+95	1	-	7	B3
RT. STA. 183+03	1	-	7	B3
LT. STA. 199+64	1	-	7	B3
LT. STA. 275+45	2	20	14	B4
LT. STA. 287+03	6	18	42	B3
LT. STA. 302+32	4	15	28	B3
LT. STA. 318+20	3	20	21	B3
			TOTAL 140	



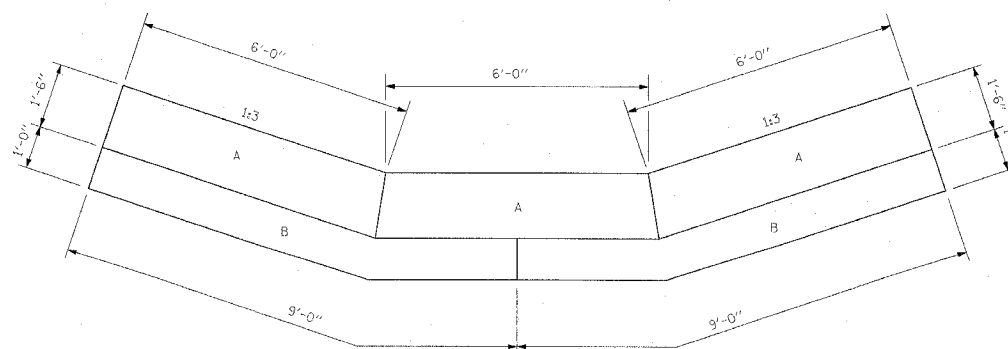
TWP. RD. 150

GABION MATTRESS	LENGTH	WIDTH	DEPTH	CU. YD.
1 TOP/1 BOTTOM	6'-0"	3'-0"	3'-0"	2.0 PER MATTRESS
1 TOP/1 BOTTOM	12'-0"	3'-0"	3'-0"	4.0 PER MATTRESS
TOTAL LENGTH TOP/BOTTOM = 18'-0"				TOTAL CU. YD. = 12.0

ELEVATION - GABION MATTRESS LAYOUT

GABION MATTRESS TYPE	LENGTH	WIDTH	DEPTH	CU. YD.
A	6'-0"	3'-0"	1'-6"	1.0 PER MATTRESS
B	9'-0"	6'-0"	1'-0"	2.0 PER MATTRESS

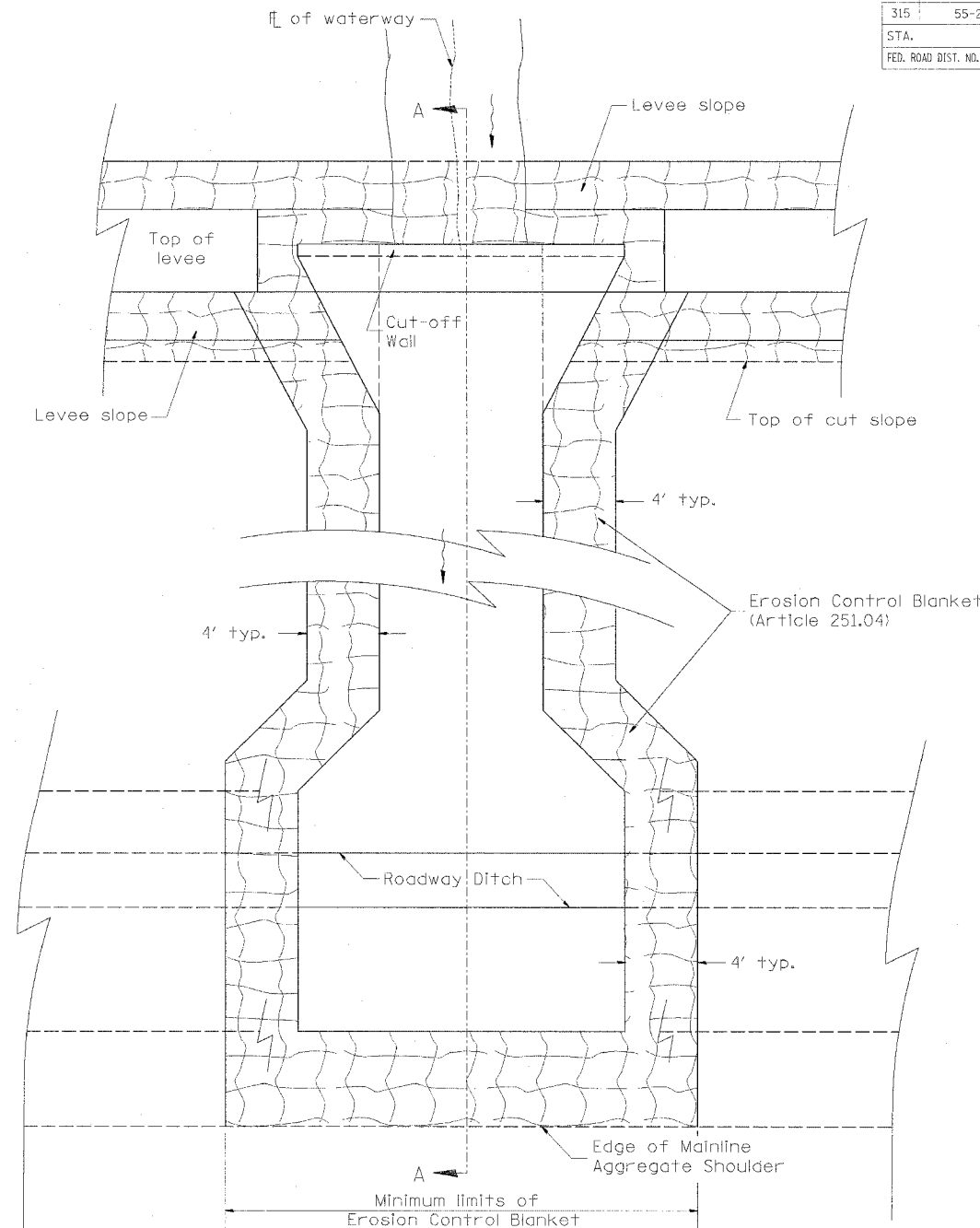
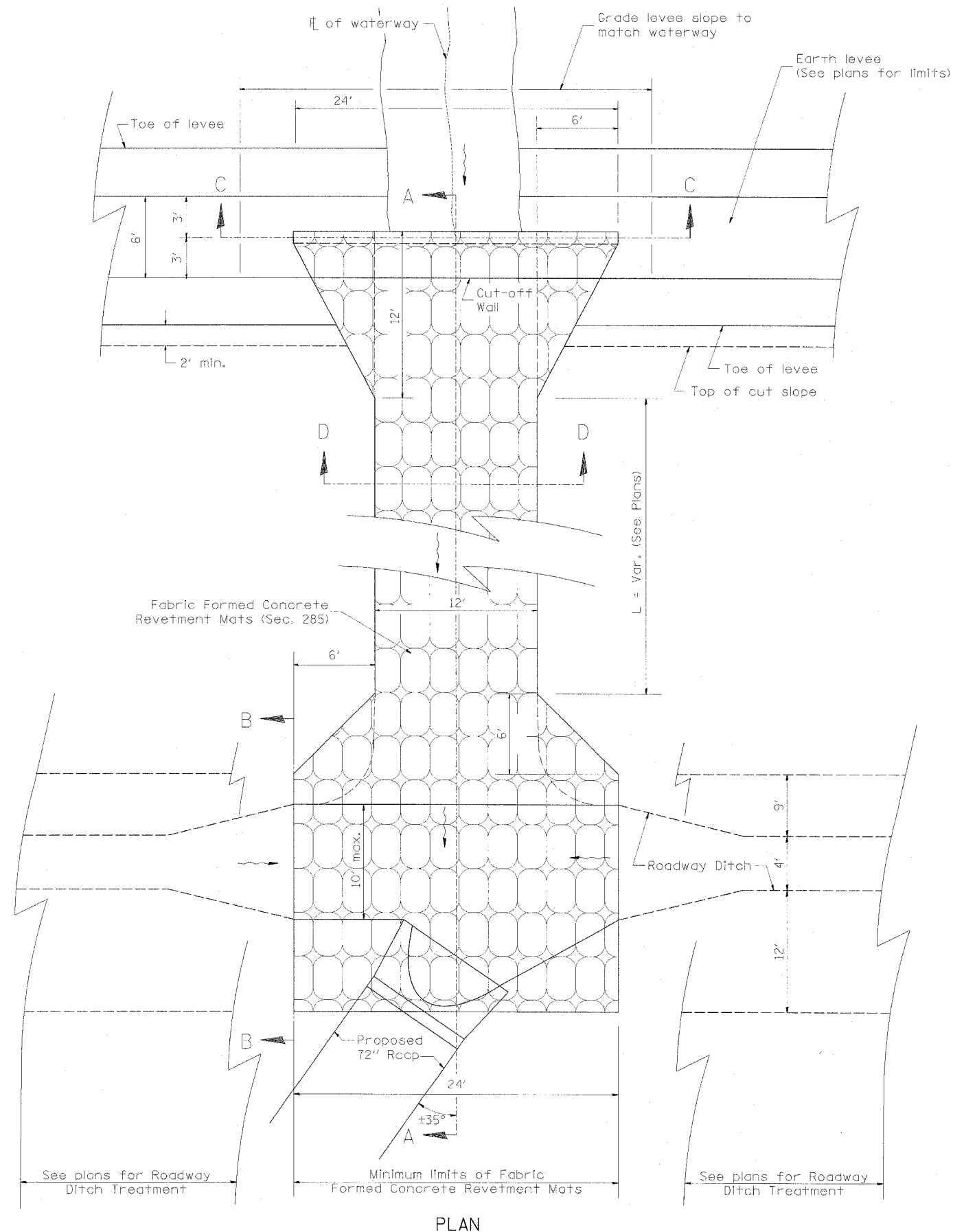
NOTE:
GABIONS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.



ELEVATION - GABION MATTRESS LAYOUT

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p align="center">GABION DETAILS IL. ROUTE 336 AND TWP. RD. 150</p> <p align="right">DRAWN BY _____ CHECKED BY _____</p> <p>DATE 3/30/06</p>

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	584
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



EROSION CONTROL BLANKET DETAILS

GENERAL NOTES:

1. Fabric Formed Concrete Revetment Mats shall conform to SECTION 285.
2. Erosion Control Blanket shall conform to Article 251.04.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

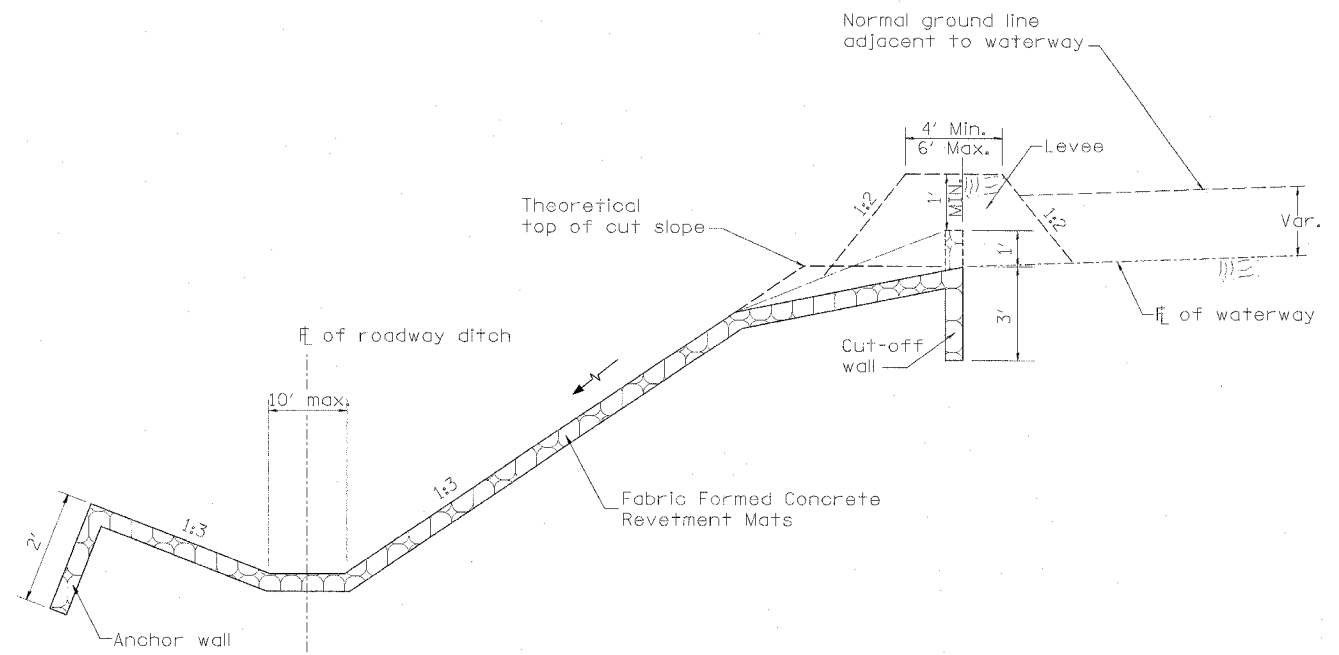
**FABRIC FORMED CONCRETE
REVTMENT MAT**
LT. STA. 327 + 46.5

1 of 2

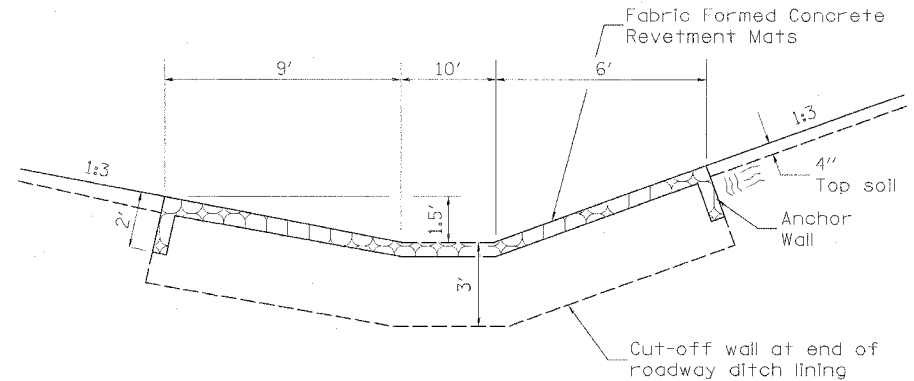
DATE 3/30/06

DRAWN BY
CHECKED BY

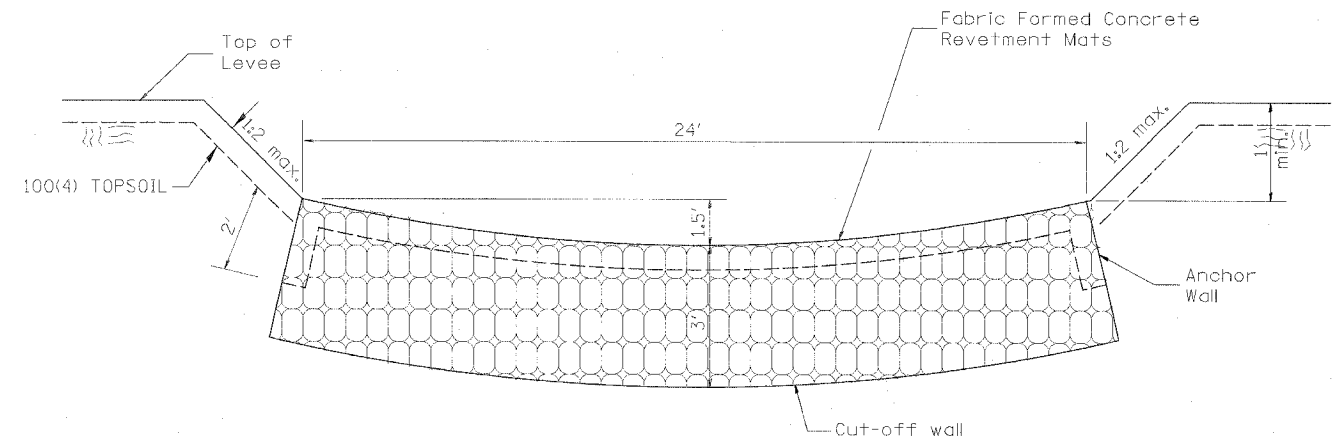
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	585
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



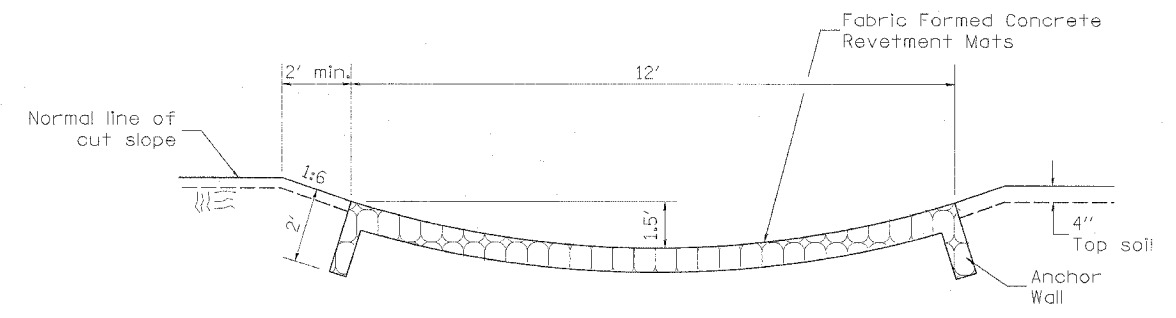
SECTION A-A



SECTION B-B



SECTION C-C



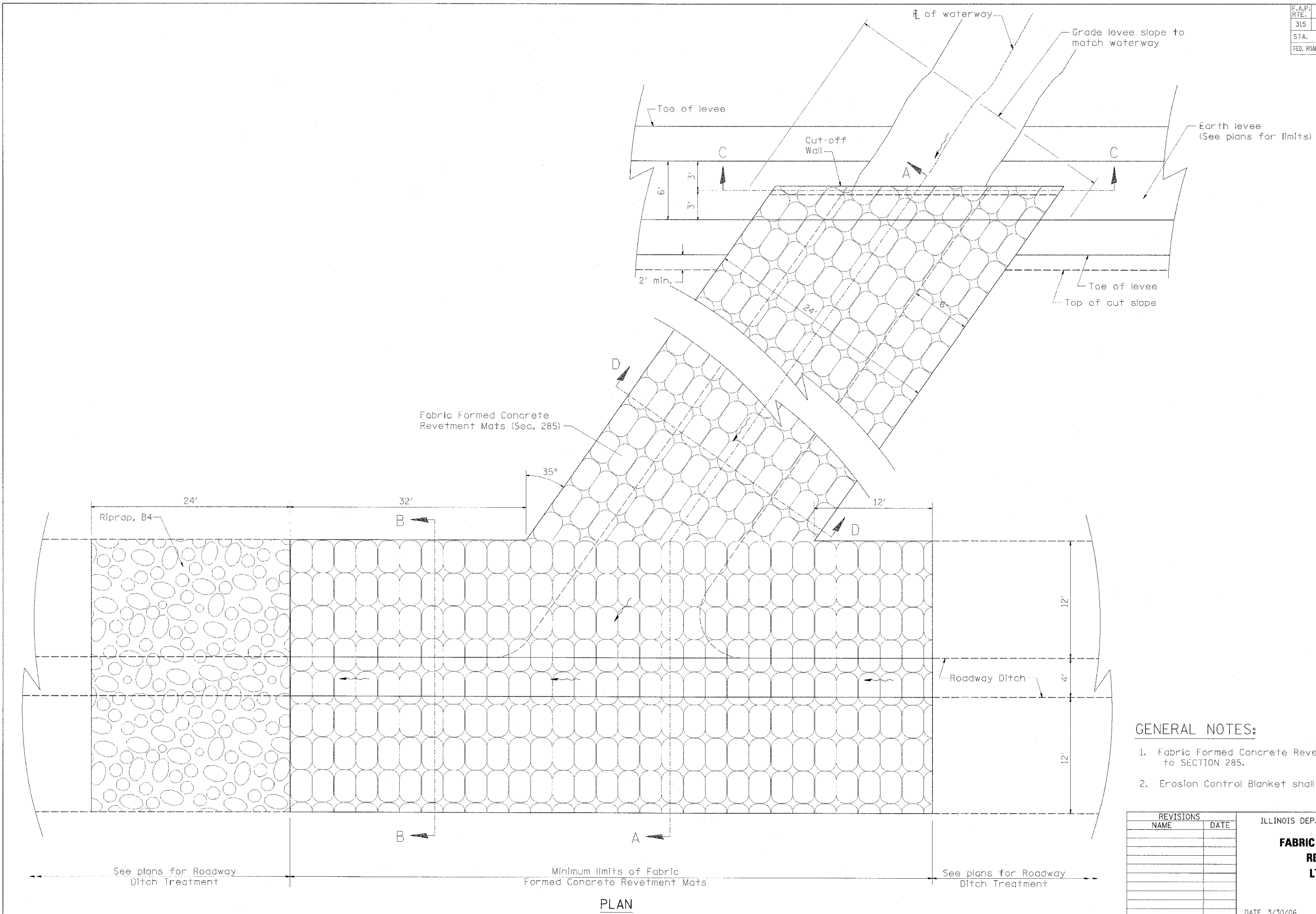
SECTION D-D

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**FABRIC FORMED CONCRETE
 REVETMENT MAT**
LT. STA. 327 + 46.5
 2 of 2
 DRAWN BY
 CHECKED BY
 DATE 3/30/06

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	586
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT		



GENERAL NOTES:

1. Fabric Formed Concrete Revetment Mats shall conform to SECTION 285.
2. Erosion Control Blanket shall conform to Article 251.04.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**FABRIC FORMED CONCRETE
REVTMENT MAT**

LT. STA. 330 + 50

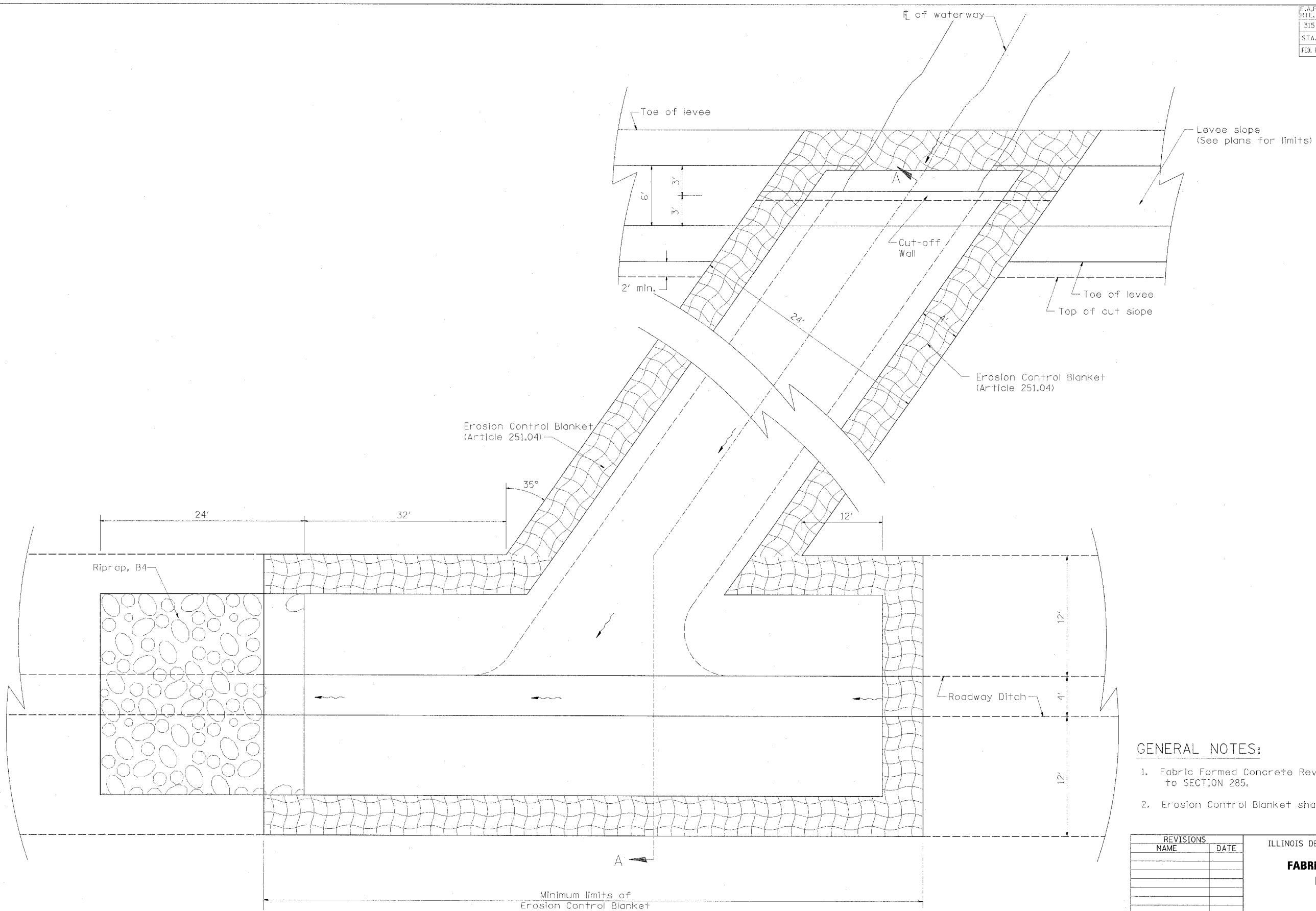
1 of 3

DATE 3/30/06

DRAWN BY
CHECKED BY

PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	587
STA.		TO STA.		
FLA. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



GENERAL NOTES:

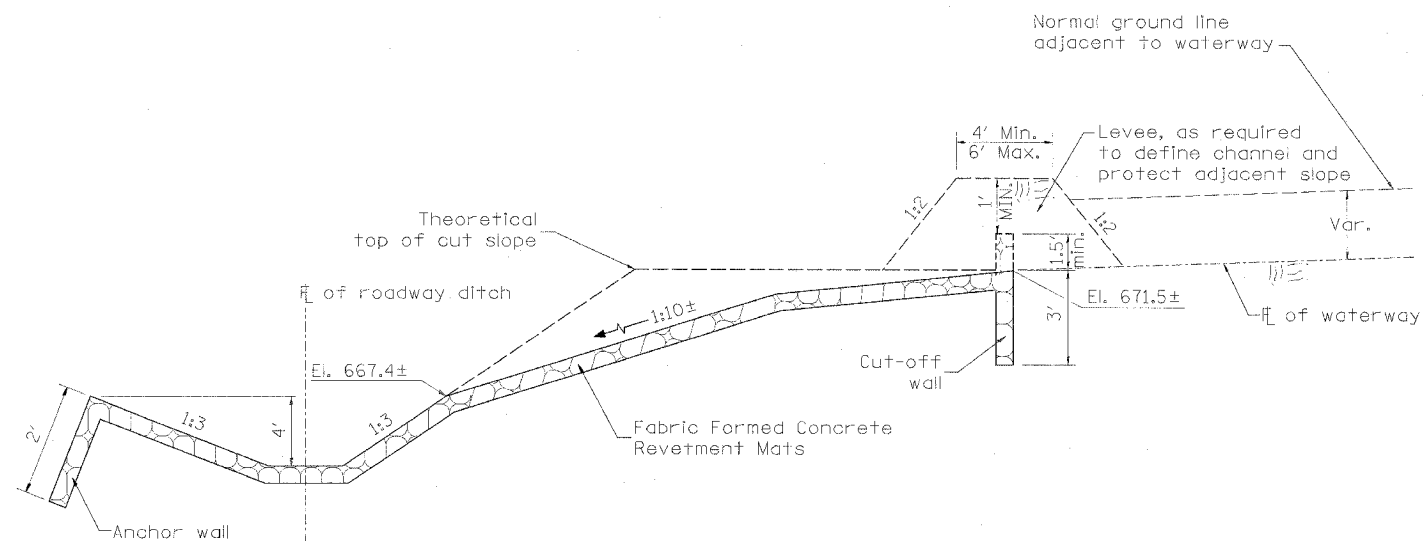
1. Fabric Formed Concrete Revetment Mats shall conform to SECTION 285.
2. Erosion Control Blanket shall conform to Article 251.04.

REVISIONS	
NAME	DATE

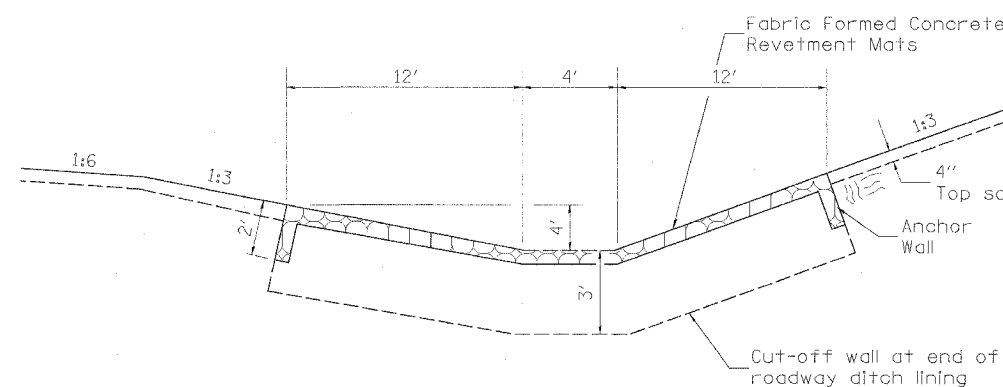
ILLINOIS DEPARTMENT OF TRANSPORTATION
**FABRIC FORMED CONCRETE
 REVETMENT MAT**
LT. STA. 330 + 50
 2 of 3
 DATE 3/30/06
 DRAWN BY
 CHECKED BY

EROSION CONTROL BLANKET DETAILS

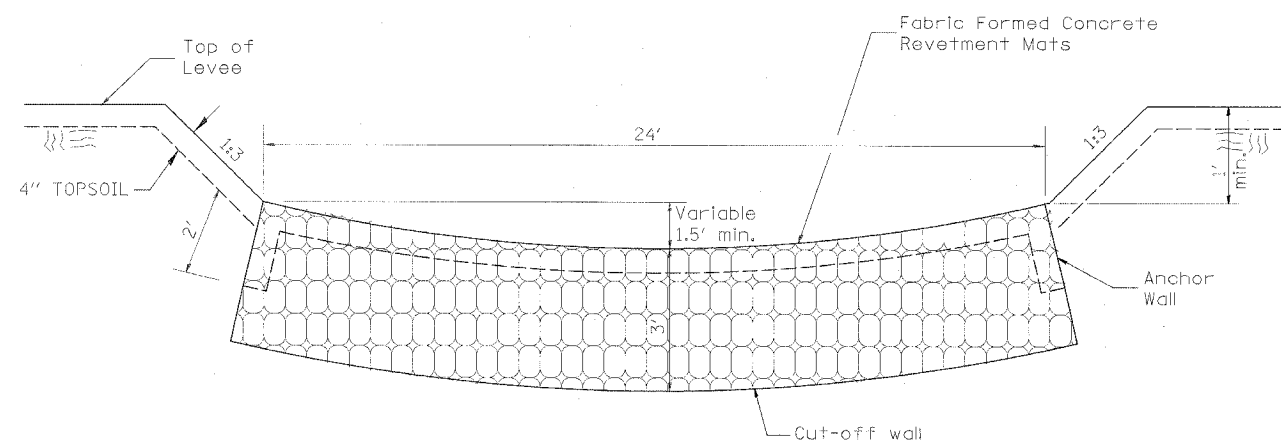
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	588
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



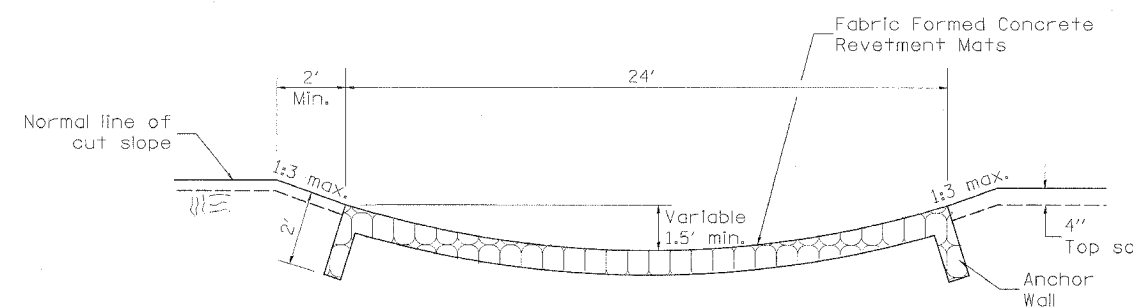
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

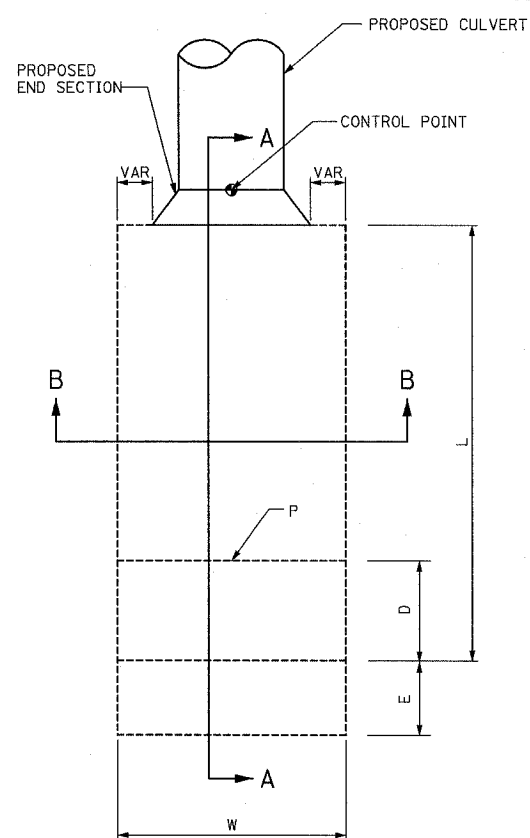
**FABRIC FORMED CONCRETE
REVTMENT MAT
LT. STA. 330 + 50**

3 of 3

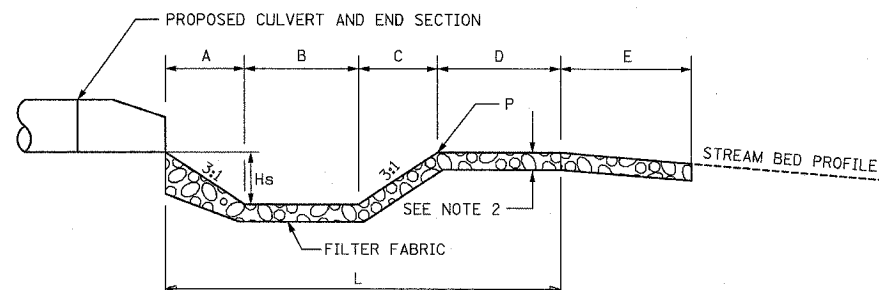
DATE 3/30/06

DRAWN BY
CHECKED BY

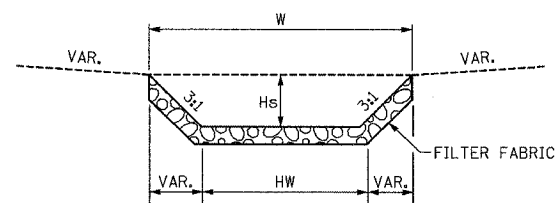
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	589
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



PLAN VIEW



SECTION A-A



SECTION B-B

STILLING BASIN DETAIL

NOT TO SCALE

STILLING BASIN DIMENSIONS

LOCATION												
IL. RTE. 336												
CULVERT STATION	Hs	A	B	C	D	L	E	W	HW	P	CLASS B GRADATION	AREA SQ YD (1)
RT. STA. 145+73	2.2	6.6	23.8	6.6	10.0	47	23	28	14.8	651.8	5	215.3
RT. STA. 176+38	1.3	3.9	28.2	3.9	10.0	46	31	20	16.2	650.5	3	173.8
RT. STA. 183+73	1.7	5.0	8.0	5.0	0.0	18	123	18	8.5	658.4	4	290.0
RT. STA. 199+81	1.6	4.8	12.4	4.8	0.0	22	14	17	7.2	667.0	4	67.9
RT. STA. 213+43	1.9	5.7	20.6	5.7	10.0	42	29	25	20.6	649.0	4	197.9
RT. STA. 276+05	2.0	6.0	24.0	6.0	0.0	36	26	30	17.5	625.0	4	203.9
RT. STA. 286+54	1.3	4.0	18.0	4.0	0.0	26	55	27	20.8	630.0	3	235.9
RT. STA. 301+29	1.4	4.2	15.6	4.2	10.0	34	79	20	11.8	644.7	3	247.9
RT. STA. 317+95	1.9	5.7	16.0	5.7	7.0	34	5	20	8.6	662.5	4	86.8
RT. STA. 326+34	2.0	6.0	18.0	6.0	10.0	40	45	32	8.0	661.0	4	280.1
RT. STA. 474+85	2.0	6.0	51.6	2.4	20.0	80	44 (2)	38	24.0 TO 28.8	594.0	4	454.4
RT. STA. 483+13	2.1	6.3	60.4	6.3	16.0	89	5	49	31.4	596.4	4	504.4
U.S. RTE. 136 (RELOC.)												
CULVERT STATION	Hs	A	B	C	D	L	E	W	HW	P	CLASS B GRADATION	AREA SQ YD
RT. STA. 3+00	1.3	3.9	16.2	3.9	26.0	50	-	22	13.7	664.6	3	121.3
RT. STA. 9+50	1.2	3.6	8.8	3.6	14.0	30	-	17	9.8	670.7	3	58.1
RT. STA. 24+50	0.8	2.4	19.2	2.4	36.0	60	-	17	12.5	669.7	3	115.0
SERVICE DRIVE												
CULVERT STATION	Hs	A	B	C	D	L	E	W	HW	P	CLASS B GRADATION	AREA SQ YD
RT. STA. 24+40	1.6	4.9	10.2	4.9	15.0	35	17	20	8.2	651.5	4	115.5
CO. HWY. 8 (RELOC.)												
CULVERT STATION	Hs	A	B	C	D	L	E	W	HW	P	CLASS B GRADATION	AREA SQ YD
LT. STA. 26+50	1.5	4.5	9.0	4.5	11.0	29	-	27	17.7	660.4	4	78.9

NOTES:

- (1) INCLUDES TOTAL LENGTH OF STILLING BASIN/RIPRAP (L+E).
- (2) WIDTH VARIES TO MATCH STREAM (SEE PLANS)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

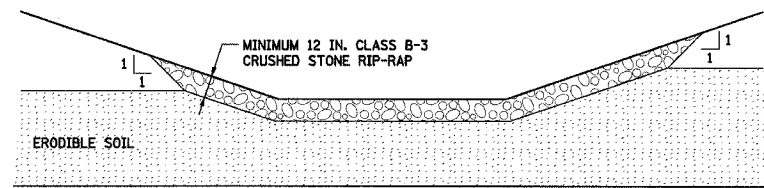
**STILLING BASIN DETAIL
IL. ROUTE 336**

DATE 3/30/06

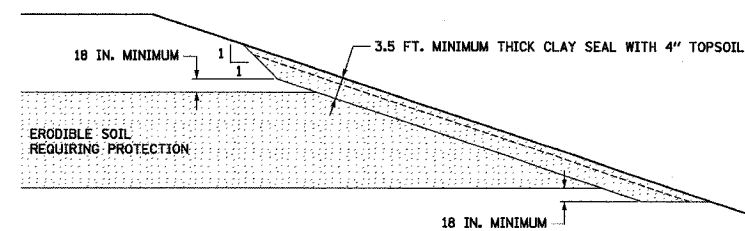
DRAWN BY
CHECKED BY

11-2010-NEW BASIN.dgn 3/31/2006 9:07:18 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	590
STA.	TO STA.			
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT		



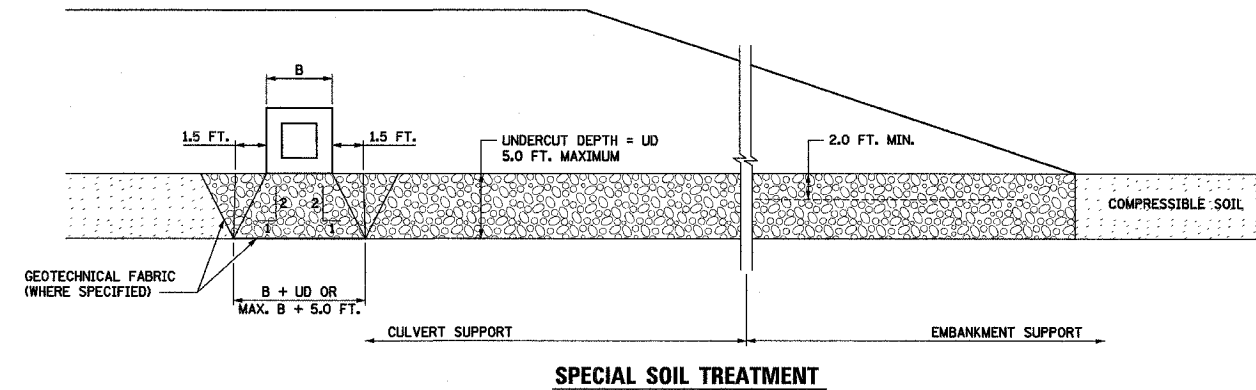
DITCH PROTECTION



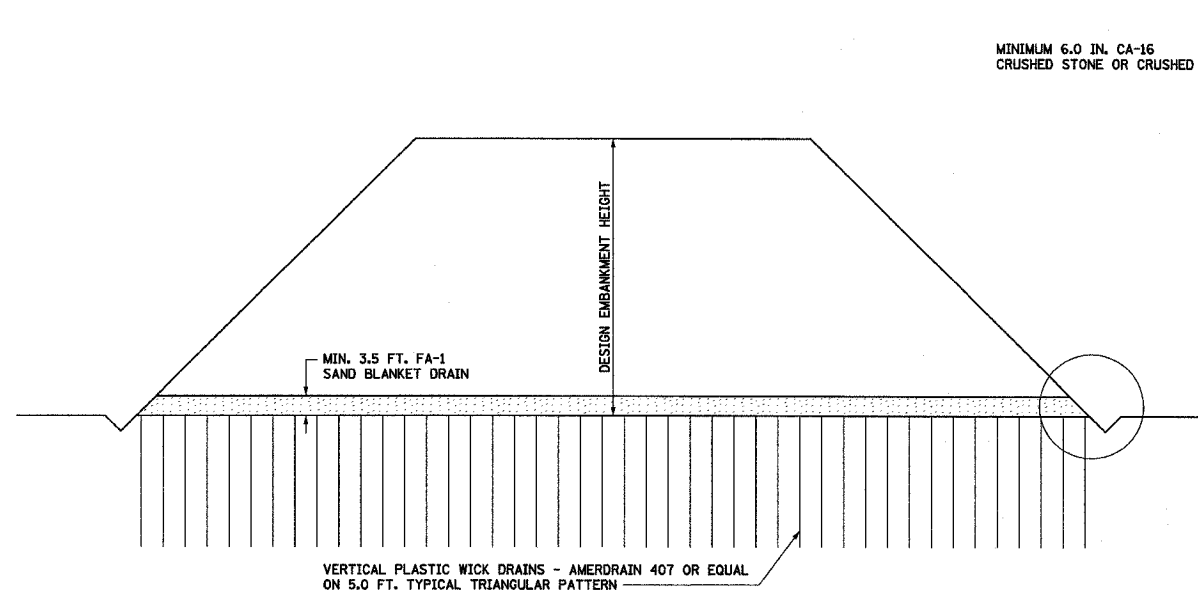
CLAY SEAL SLOPE TREATMENT

NOTES

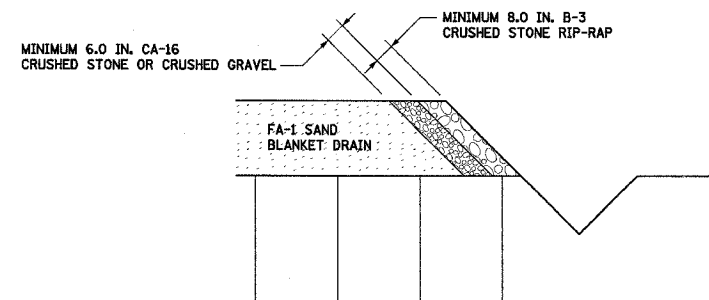
- SEE EARTHWORK MATERIALS AND ARTICLES 204 AND 205 OF THE STANDARD SPECIFICATIONS.
- CULVERT SUPPORT:
 - DRY CONDITIONS: USE CA-6 CRUSHED LIMESTONE OR CRUSHED GRAVEL.
 - WET CONDITIONS:
 - MAXIMUM 18.0 IN. SPECIAL TREATMENT DEPTH. USE CA-11 OR CA-7 CRUSHED STONE OR CRUSHED GRAVEL.
 - SPECIAL TREATMENT DEPTH GREATER THAN 18.0 IN. USE CA-5 CRUSHED STONE OR CRUSHED GRAVEL, OR BREAKER RUN REJECT ROCK. CAP THE PLACEMENT WITH A MINIMUM 6.0 IN. LAYER OF CA-11 OR CA-7 CRUSHED STONE OR CRUSHED GRAVEL.
- EMBANKMENT SUPPORT:
 - USE ITEMS 2.B.1 AND 2.B.2 TO 2.0 FT. ABOVE THE WATER LEVEL EXISTING AT TIME OF PLACEMENT.
 - USE APPROVED EMBANKMENT MATERIAL FOR REST OF PLACEMENT.



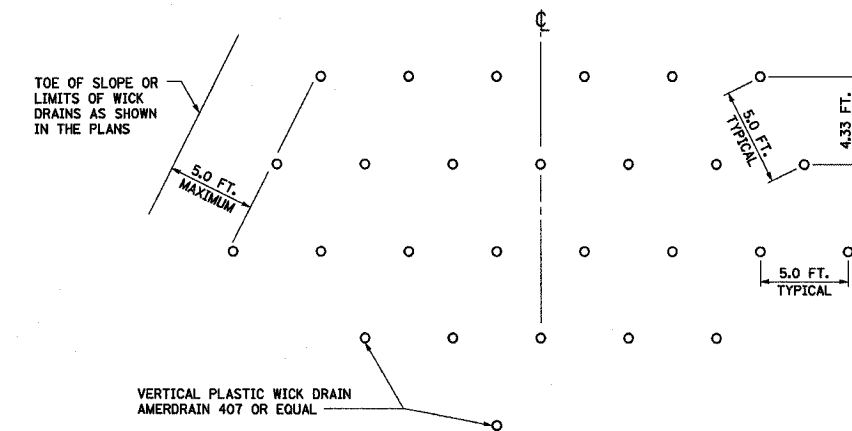
SPECIAL SOIL TREATMENT



WICK DRAIN - CROSS SECTION VIEW



BLANKET DRAIN PROTECTION



WICK DRAIN - PLAN VIEW

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOILS TREATMENT DETAILS

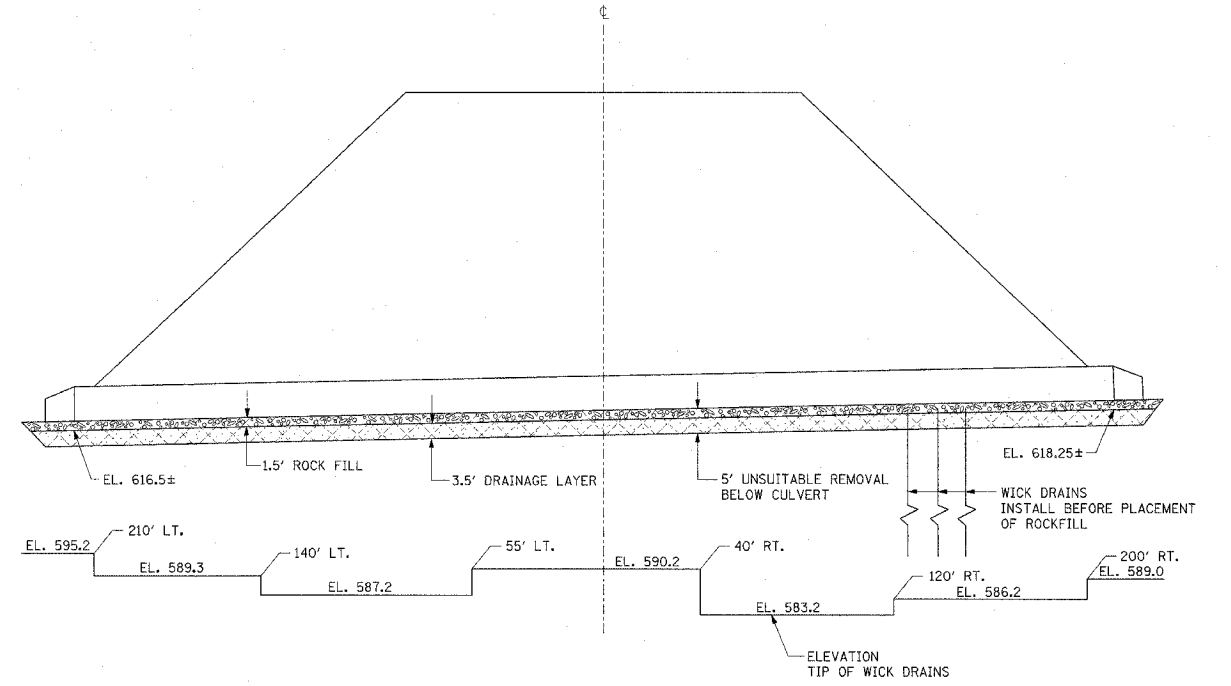
IL. ROUTE 336

DATE 3/30/06

DRAWN BY MGM
CHECKED BY DLC

D:\SOILS\DRAWING\315\2006\12\15\2314.MXD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	591
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		



DRAINAGE LAYERS AND WICK DRAINS
CULVERT STA. 510 + 17.89
 NOT TO SCALE

REVISIONS	
NAME	DATE

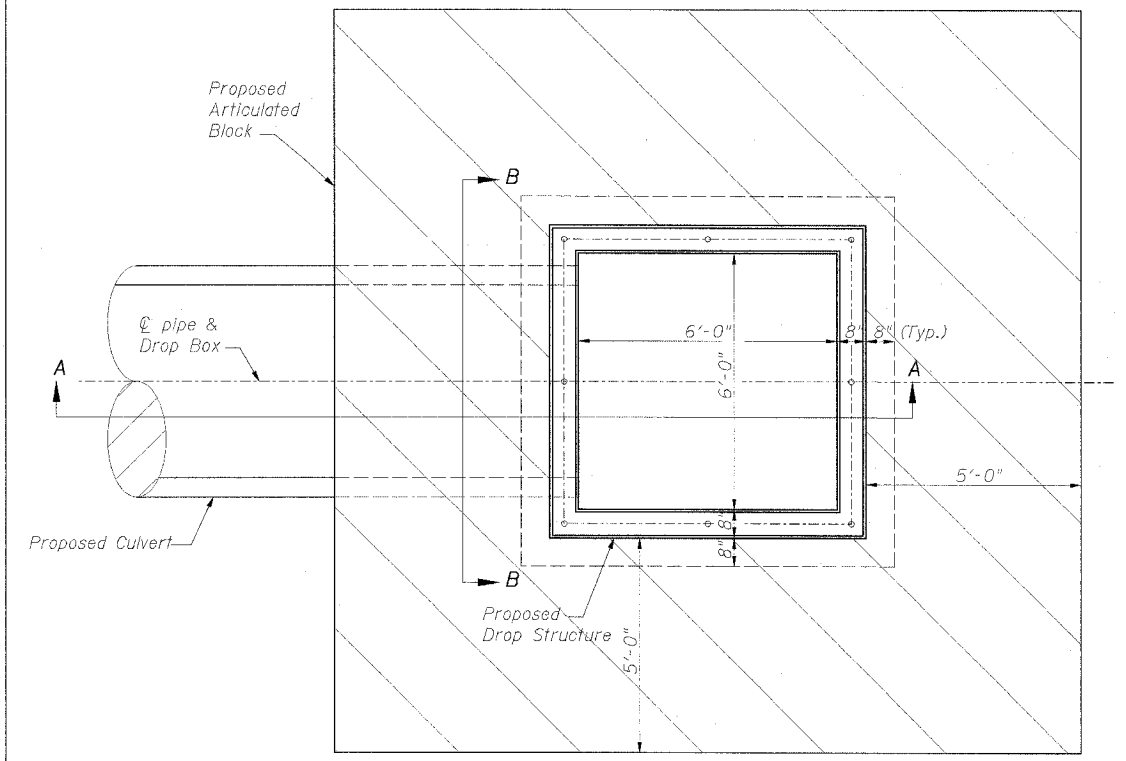
ILLINOIS DEPARTMENT OF TRANSPORTATION
SOILS TREATMENT DETAILS
CULVERT STA. 510 + 17.89
IL. ROUTE 336

DRAWN BY MGM
 CHECKED BY DLC

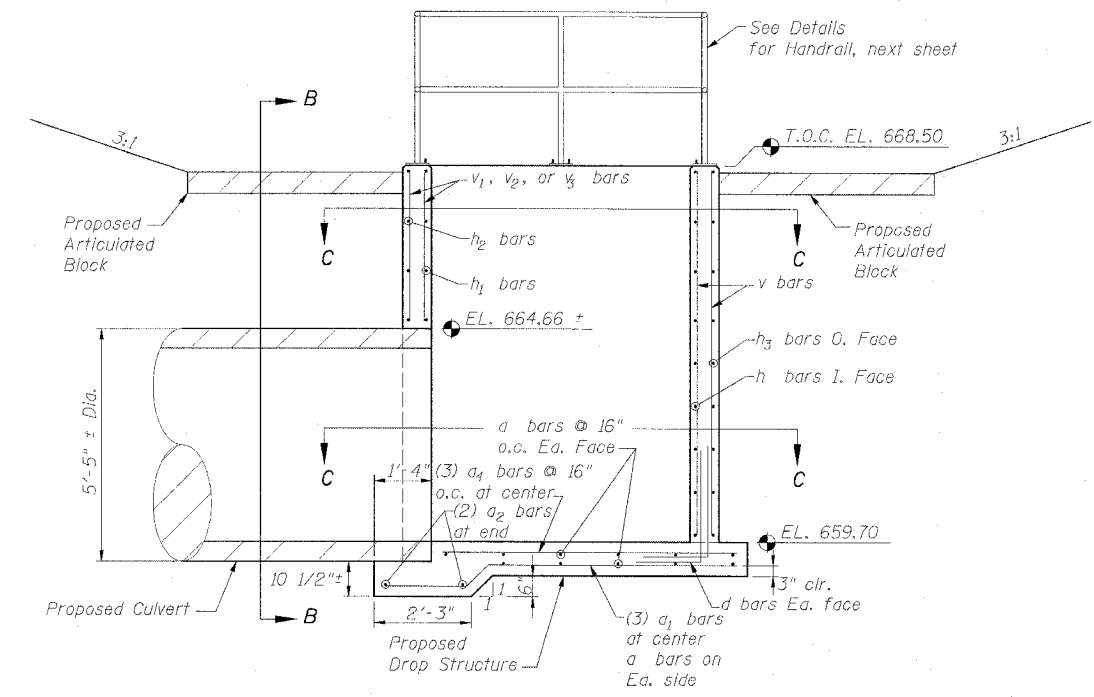
DATE 3/28/09/04

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	592
STA.	TO STA.			
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT		

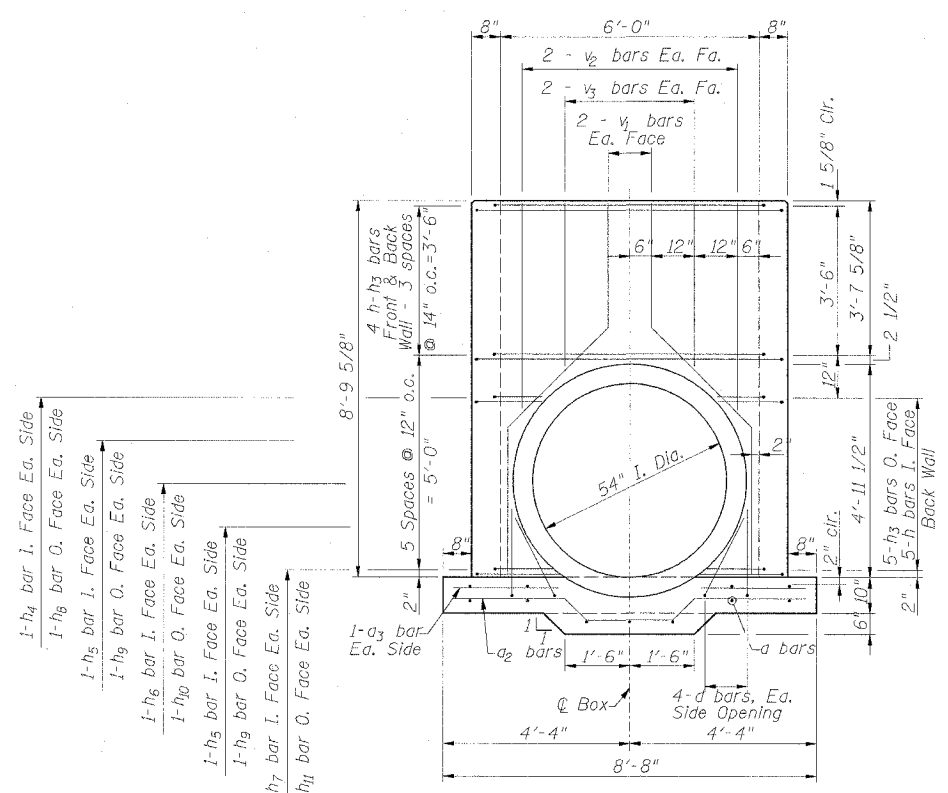
Notes:
See next sheet for Quantities and bar bend details.



PLAN VIEW



SECTION A-A

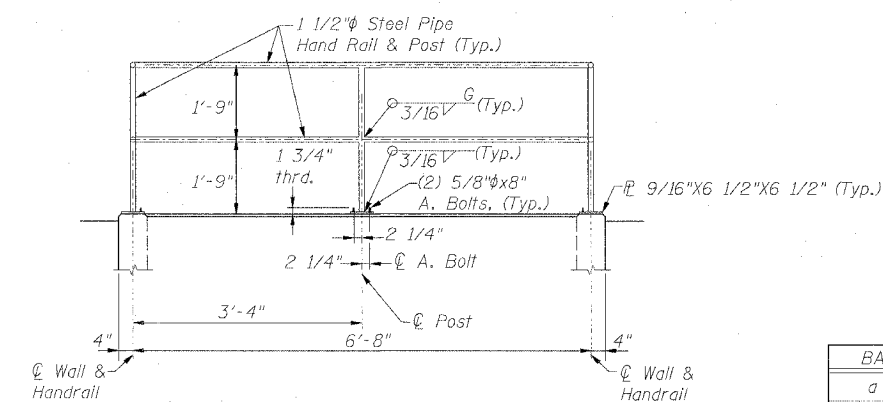
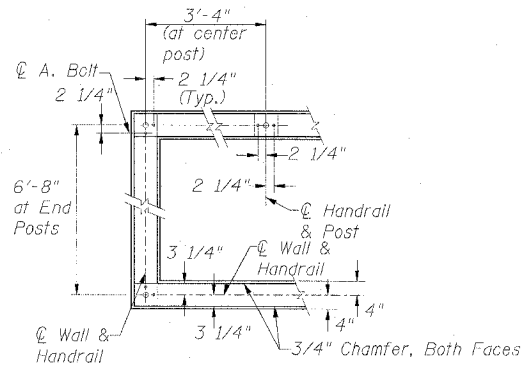
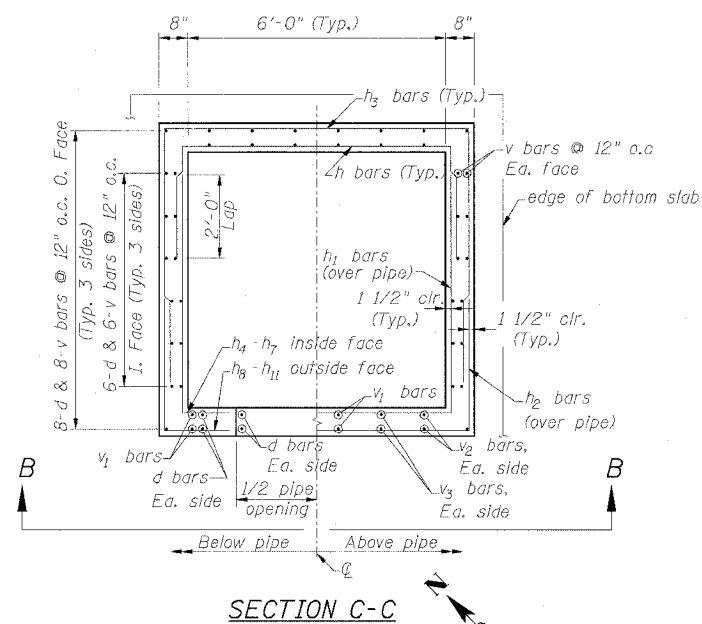


SECTION B-B

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DROP STRUCTURE DETAIL
IL. ROUTE 336
LT. STA. 184 + 41.25
DRAWN BY CSR
CHECKED BY
DATE 3/30/06

F.A.P. RITE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	593
STA.		TO STA.		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



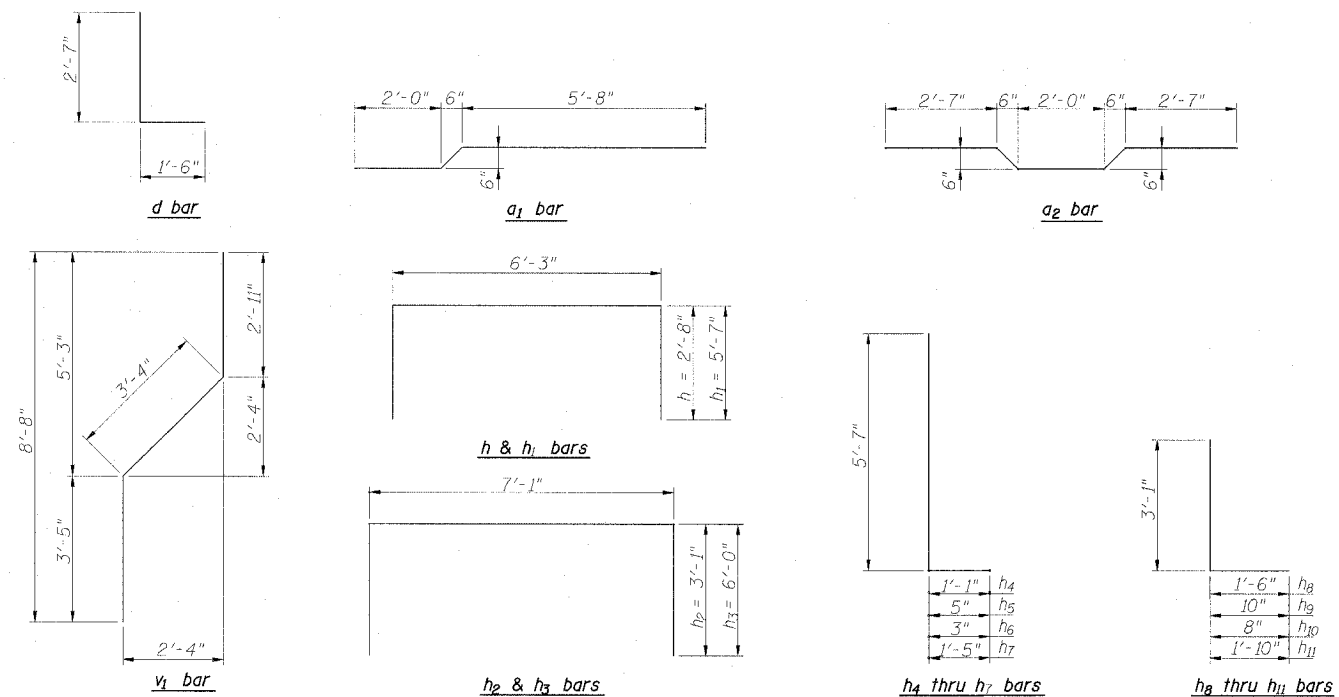
BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH (ft)	SHAPE
a	19	#4	8'-2"	—
a ₁	3	#4	8'-5"	—
a ₂	2	#4	8'-7"	—
a ₃	2	#4	2'-5"	—
a ₄	3	#4	6'-10"	—
d	48	#4	4'-1"	L
h	9	#4	11'-7"	—
h ₁	4	#4	17'-5"	—
h ₂	4	#4	13'-3"	—
h ₃	9	#4	19'-1"	—
h ₄	2	#4	6'-8"	L
h ₅	4	#4	6'-0"	L
h ₆	2	#4	5'-10"	L
h ₇	2	#4	7'-0"	L
h ₈	2	#4	4'-7"	L
h ₉	4	#4	3'-11"	L
h ₁₀	2	#4	3'-9"	L
h ₁₁	2	#4	4'-11"	L
v	40	#4	8'-8"	—
v ₁	4	#4	9'-8"	—
v ₂	4	#4	4'-11"	—
v ₃	4	#4	3'-11"	—
Structure Excavation			Cu. Yd.	57
Concrete Structures			Cu. Yd.	7.7
Reinforcement Bars			Pound	900
Pipe Handrail			Foot	27

Notes:
 Class SI Concrete shall be used throughout.
 Exposed edges shall be chamfered 3/4".
 For backfilling, see Standard Specifications.
 Reinforcement bars shall conform to the requirements of AASHTO M 31, M 42 or M 53, grade 60 deformed bars.
 Anchor bolts shall be high strength bolts 5/8" diameter, open holes 7/8" diameter, unless noted otherwise.

Design Stresses:
 f'c = 3,500 psi
 fy = 60,000 psi reinforcement
 fy = 36,000 psi Steel Hand Rail

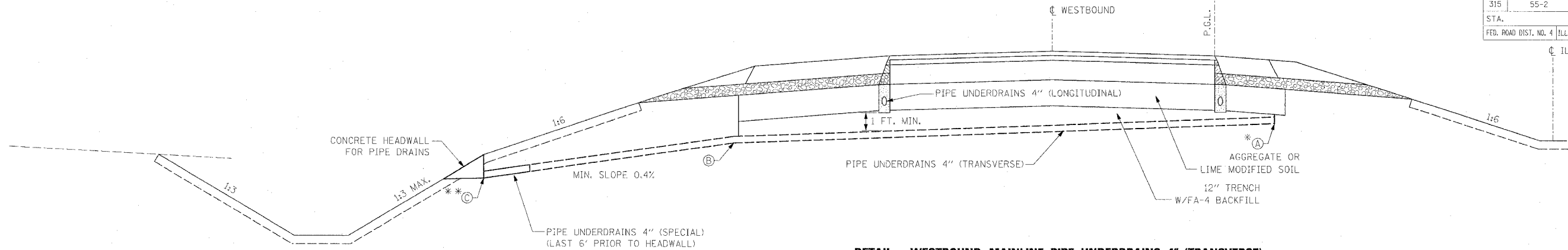
Field Painting:
 Provide (2) coats of a non-leaving aluminum paint per Article 1008.20, Standard Specifications.



REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p align="center">DROP STRUCTURE DETAIL IL. ROUTE 336 LT. STA. 184 + 41.25</p> <p align="right">DRAWN BY CSR CHECKED BY</p>

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	594
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

IL. ROUTE 336

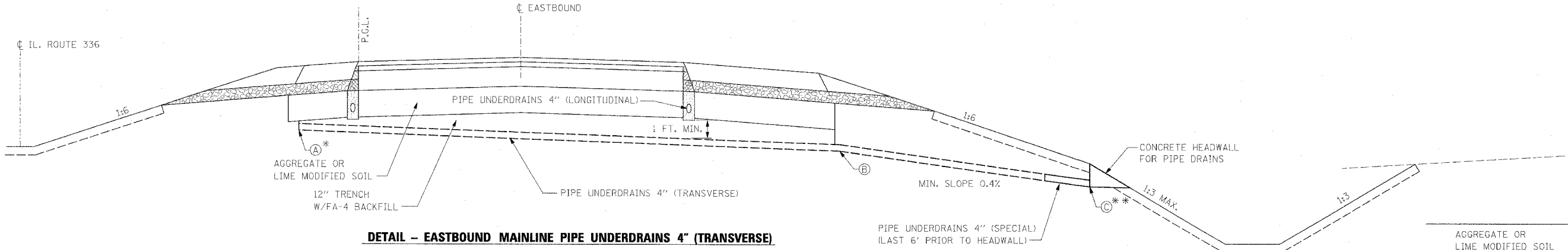


DETAIL - WESTBOUND MAINLINE PIPE UNDERDRAINS 4" (TRANSVERSE)

- * (A) = UPSTREAM END OF PIPE UNDERDRAIN 4" (TRANSVERSE)
- ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 4" (TRANSVERSE)

STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS 4"	PIPE UNDERDRAINS 4" (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS
528+00	20' RT.	666.30	60' RT.	666.10	79' RT.	666.00	53'	6'	1 EACH
530+00	20' RT.	665.55	60' RT.	665.35	79' RT.	665.25	53'	6'	1 EACH
532+00	20' RT.	665.20	60' RT.	665.00	79' RT.	664.90	52'	6'	*1 EACH
534+00	20' RT.	664.40	60' RT.	664.20	77' RT.	664.10	51'	6'	1 EACH
536+00	20' RT.	663.60	60' RT.	663.40	78' RT.	663.30	52'	6'	1 EACH
538+00	20' RT.	662.76	60' RT.	662.56	78' RT.	662.46	52'	6'	1 EACH
540+00	20' RT.	662.51	60' RT.	662.31	75' RT.	662.23	49'	6'	1 EACH
TOTALS							362'	42'	6 EACH

* SHARED WITH OUTLET FOR PIPE UNDERDRAINS 4" (LONGITUDINAL)

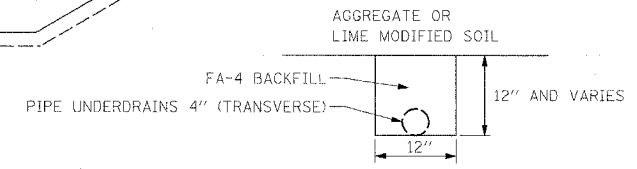


DETAIL - EASTBOUND MAINLINE PIPE UNDERDRAINS 4" (TRANSVERSE)

- * (A) = UPSTREAM END OF PIPE UNDERDRAIN 4" (TRANSVERSE)
- ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 4" (TRANSVERSE)

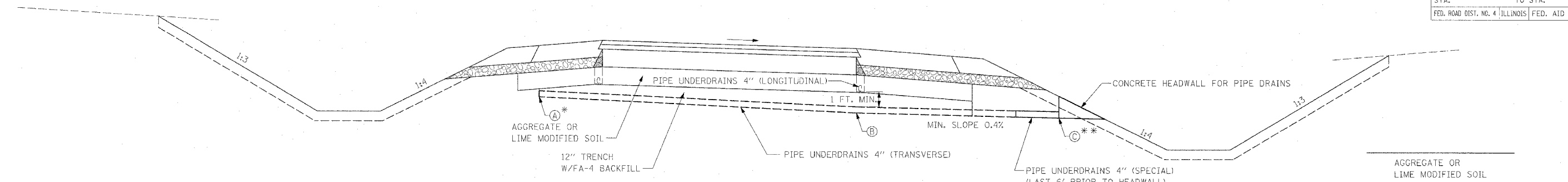
STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS 4"	PIPE UNDERDRAINS 4" (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS
528+00	20' LT.	666.30	60' LT.	666.10	79' LT.	666.00	53'	6'	1 EACH
530+00	20' LT.	665.55	60' LT.	665.35	79' LT.	665.25	53'	6'	1 EACH
532+00	20' LT.	664.80	60' LT.	664.60	79' LT.	664.50	53'	6'	1 EACH *
534+00	20' LT.	664.26	60' LT.	664.06	80' LT.	663.96	54'	6'	1 EACH
536+00	20' LT.	663.51	60' LT.	663.31	84' LT.	663.19	58'	6'	1 EACH
538+00	20' LT.	662.76	60' LT.	662.56	88' LT.	662.42	62'	6'	1 EACH
540+00	20' LT.	662.51	60' LT.	662.20	89' LT.	662.08	63'	6'	1 EACH
TOTALS							396'	42'	6 EACH

* SHARED WITH OUTLET FOR PIPE UNDERDRAINS 4" (LONGITUDINAL)



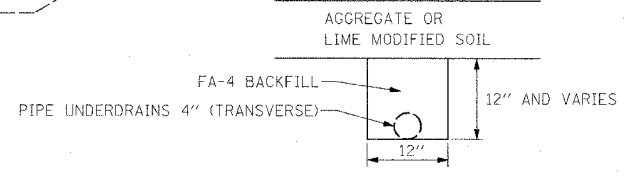
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRANSVERSE DRAIN DETAIL
MAIN LINE
IL. ROUTE 336
 DATE 3/30/06
 DRAWN BY
 CHECKED BY



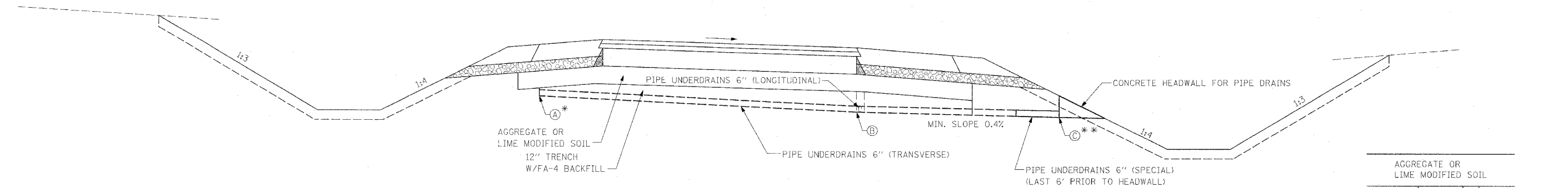
DETAIL - RAMP I PIPE UNDERDRAINS 4" (TRANSVERSE)

* (A) = UPSTREAM END OF PIPE UNDERDRAIN 4" (TRANSVERSE)
 ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 4" (TRANSVERSE)



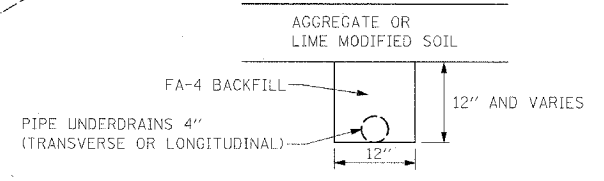
RAMP I PIPE UNDERDRAINS 4" (TRANSVERSE)									
STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS 4"	PIPE UNDERDRAINS 4" (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS
20+50	20' LT.	665.31	B	665.41	20' RT.	665.31	34'	6'	1 EACH
23+00	20' LT.	661.71	B	661.51	18' RT.	661.41	32'	6'	1 EACH
25+00	20' LT.	661.20	B	660.26	17' RT.	660.16	31'	6'	1 EACH
27+10	20' LT.	660.10	B	658.98	17' RT.	658.88	31'	6'	*1 EACH
28+50	20' LT.	659.70	B	658.44	18' RT.	658.34	32'	6'	1 EACH
30+50	20' LT.	660.52	B	659.42	18' RT.	659.32	32'	6'	1 EACH
32+50	49' LT.	661.39	B	660.71	19' RT.	660.61	62'	6'	1 EACH
34+00	46' LT.	661.90	B	661.62	24' RT.	661.50	64'	6'	1 EACH
TOTALS							318'	48'	8 EACH

* SHARED WITH OUTLET FOR PIPE UNDERDRAINS 4" (LONGITUDINAL)



DETAIL - RAMP I PIPE UNDERDRAINS 6" (TRANSVERSE AND LONGITUDINAL)

* (A) = UPSTREAM END OF PIPE UNDERDRAIN 6" (TRANSVERSE)
 ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 6" (TRANSVERSE)

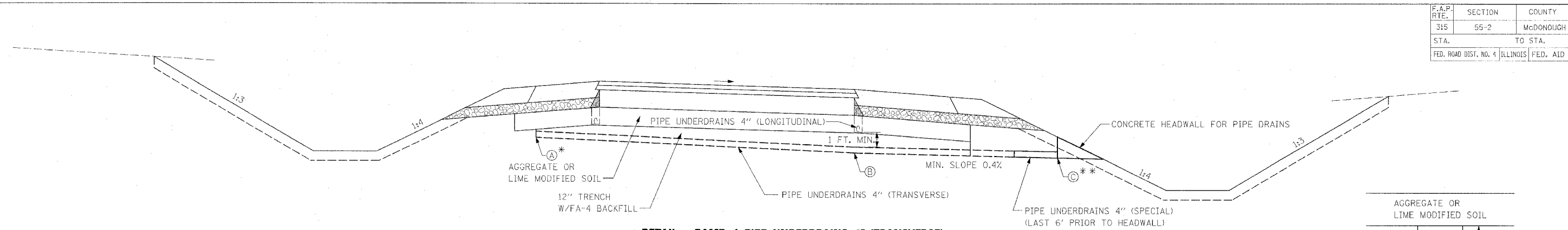


RAMP I PIPE UNDERDRAINS 6" (LONGITUDINAL)	
B STA. 11+00 TO LT. STA. 18+50	750'
TOTAL	750'

RAMP I PIPE UNDERDRAINS 6" (TRANSVERSE)									
STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS 6"	PIPE UNDERDRAINS 6" (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS
12+50	20' LT.	683.79	B	683.69	-	-	20'	-	-
14+50	20' LT.	679.10	B	678.91	-	-	20'	-	-
16+50	20' LT.	673.93	B	673.73	-	-	20'	-	-
18+50	20' LT.	668.93	B	668.73	23' RT.	668.50	35'	6'	1 EACH
TOTALS							97'	6'	1 EACH

REVISIONS	
NAME	DATE

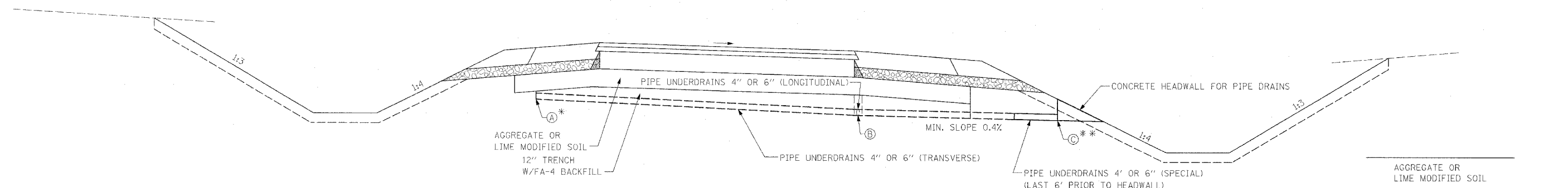
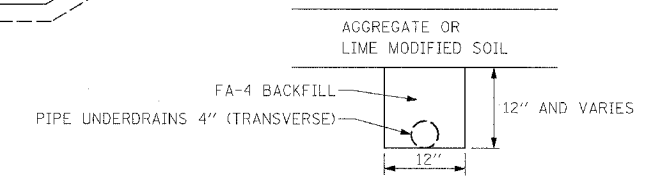
ILLINOIS DEPARTMENT OF TRANSPORTATION
TRANSVERSE DRAIN DETAIL
RAMP I
IL. ROUTE 336
 DATE 3/30/06
 DRAWN BY
 CHECKED BY



DETAIL - RAMP J PIPE UNDERDRAINS 4" (TRANSVERSE)

- * (A) = UPSTREAM END OF PIPE UNDERDRAIN 4" (TRANSVERSE)
- ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 4" (TRANSVERSE)

STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS 4"	PIPE UNDERDRAINS 4" (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS
156+00	20' LT.	659.80	⊕	659.55	22' RT.	659.44	36'	6'	1 EACH
158+00	20' LT.	661.10	⊕	660.17	18' RT.	660.08	32'	6'	1 EACH
165+50	20' LT.	664.15	⊕	663.95	20' RT.	663.84	34'	6'	1 EACH
167+00	20' LT.	666.10	⊕	665.82	20' RT.	665.72	34'	6'	1 EACH
169+00	6' RT.	668.33	16' LT.	667.90	33' LT.	667.82	33'	6'	1 EACH
171+00	6' RT.	670.83	16' LT.	669.57	32' LT.	669.49	32'	6'	1 EACH
TOTALS							201'	36'	6 EACH



DETAIL - RAMP J PIPE UNDERDRAINS 6" (TRANSVERSE AND LONGITUDINAL)

- * (A) = UPSTREAM END OF PIPE UNDERDRAIN 4" OR 6" (TRANSVERSE)
- ** (C) = OUTLET AND HEADWALL FOR PIPE UNDERDRAIN 4" OR 6" (TRANSVERSE)

STA. TO STA.	4"	6"
LT. STA. 161+25 TO LT. STA. 163+75	250'	825'
LT. STA. 173+00 TO LT. STA. 181+25	825'	825'
TOTAL	250'	825'

STATION	A	ELEVATION	B	ELEVATION	C	ELEVATION	PIPE UNDERDRAINS		PIPE UNDERDRAINS (SPECIAL)	CONCRETE HEADWALL FOR PIPE DRAINS	
							4"	6"			
161+25	20' LT.	660.97	⊕	660.47	SEE NOTE	-	14'	6"	14'	* 1 EACH	
162+50	20' LT.	660.91	⊕	661.41	SEE NOTE	-	20'	-	-	-	
163+75	20' LT.	663.35	⊕	662.85	SEE NOTE	-	20'	-	-	-	
173+00	6' RT.	672.34	16' LT.	671.10	36' LT.	671.00	-	36'	6'	1 EACH	
175+00	6' RT.	674.84	16' LT.	673.70	SEE NOTE	-	-	22'	-	-	
177+00	6' RT.	677.35	16' LT.	676.10	SEE NOTE	-	-	22'	-	-	
179+00	6' RT.	680.09	16' LT.	679.50	SEE NOTE	-	-	22'	-	-	
181+00	6' RT.	683.85	16' LT.	683.74	SEE NOTE	-	-	22'	-	-	
TOTALS							54'	124'	14'	6'	2 EACH

NOTE: PIPE UNDERDRAINS 4" OR 6" (TRANSVERSE) EMPTIES TO PIPE UNDERDRAINS 4" OR 6" (LONGITUDINAL).
 PIPE UNDERDRAINS 4" OR 6" (LONGITUDINAL) WILL NEED TO BE INSTALLED WITH THE
 PIPE UNDERDRAINS 4" OR 6" (TRANSVERSE).

* SHARED WITH OUTLET FOR
 PIPE UNDERDRAINS 4"
 (LONGITUDINAL)

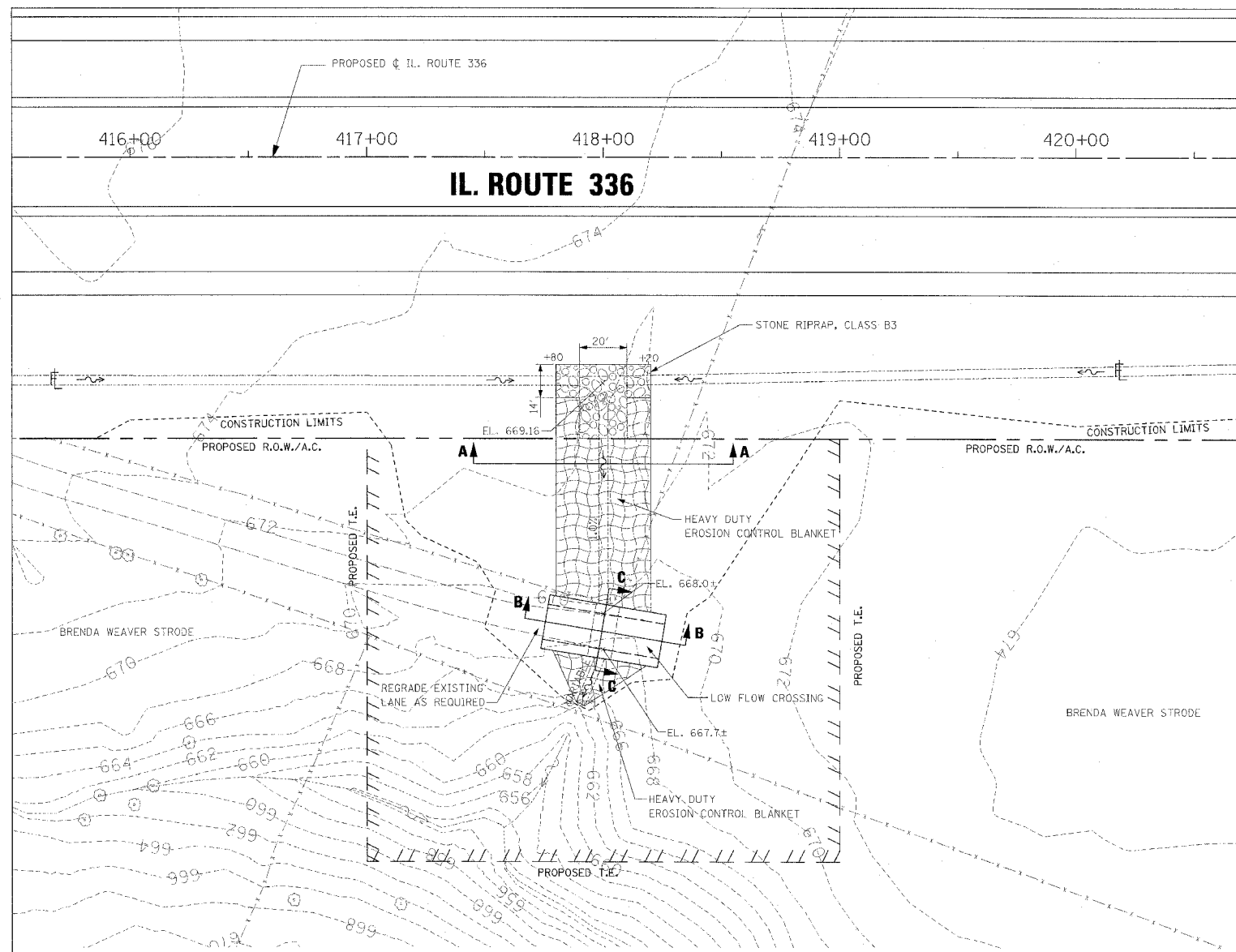
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRANSVERSE DRAIN DETAIL
RAMP J
IL. ROUTE 336

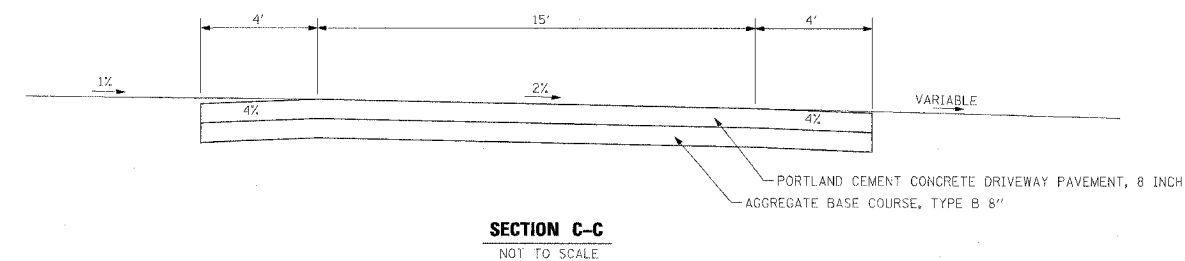
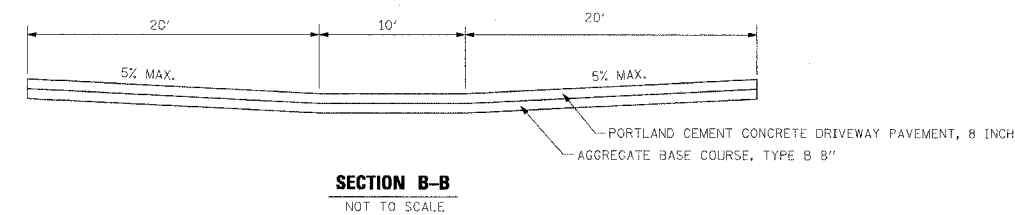
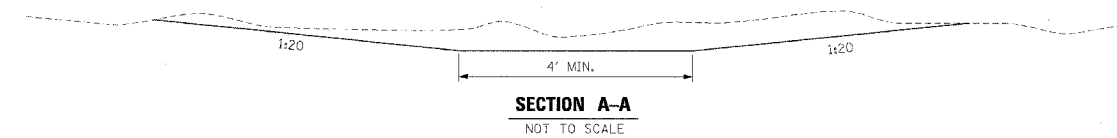
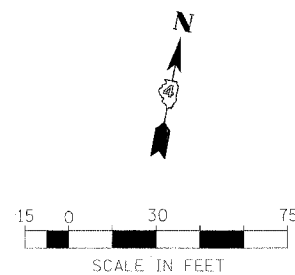
DATE 3/30/06

DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	597
STA. 417+00		TO STA. 419+00		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



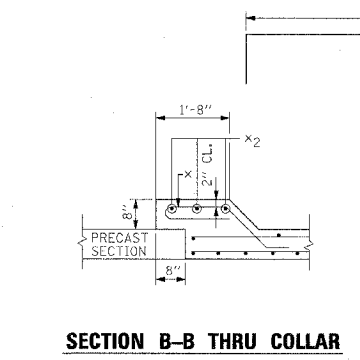
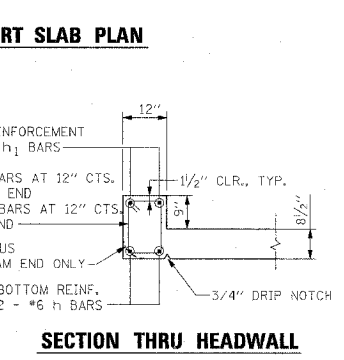
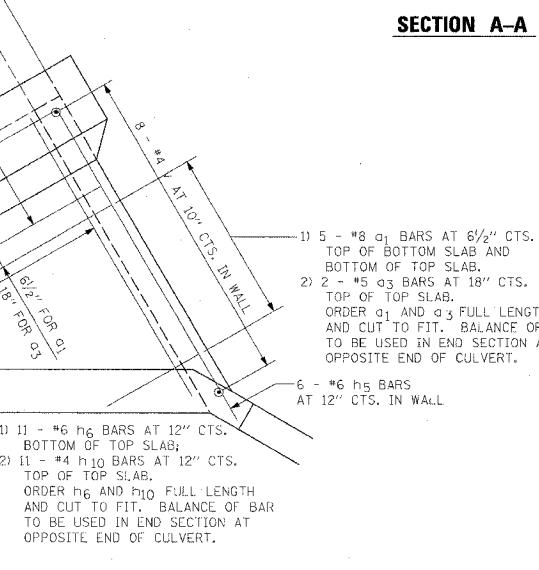
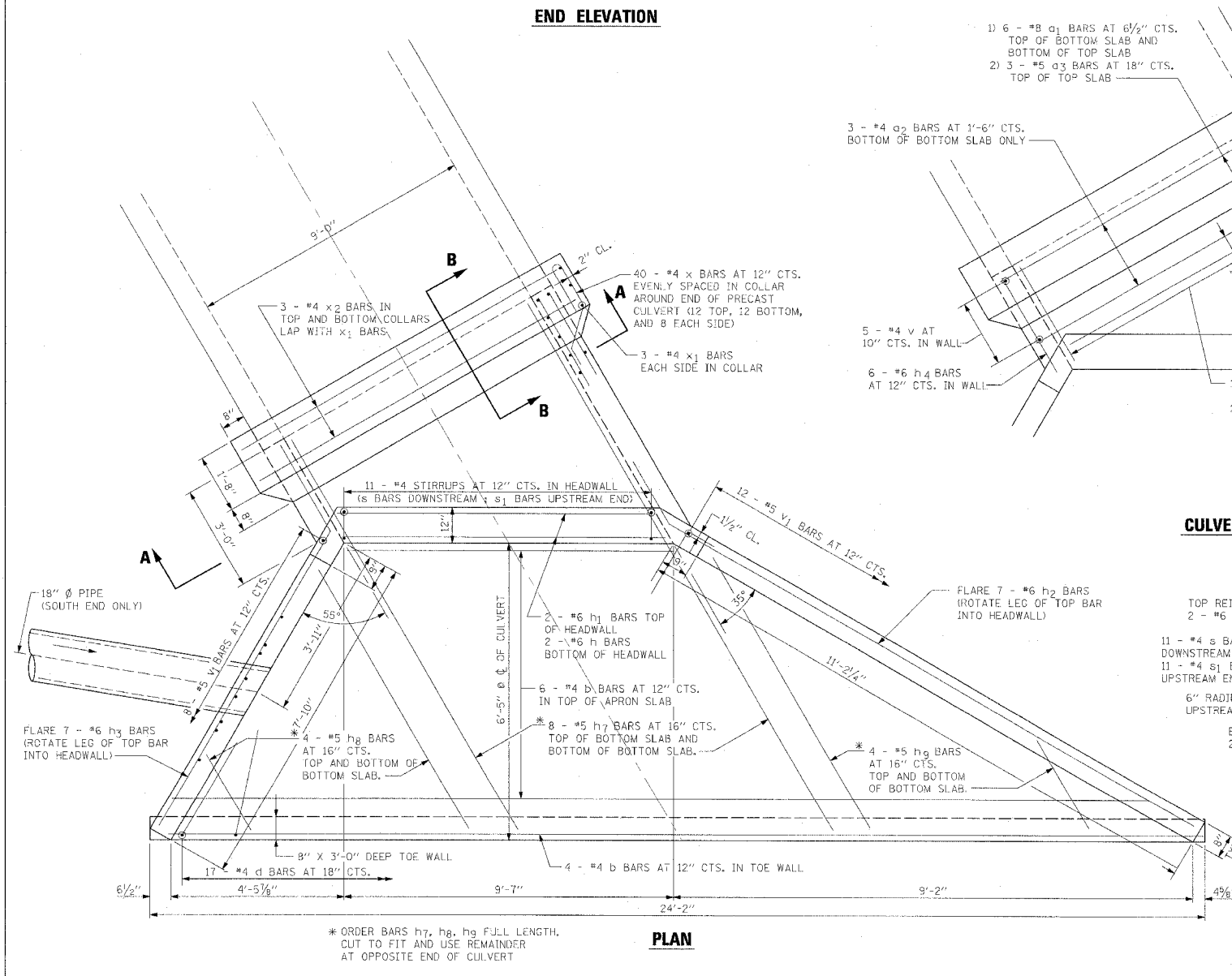
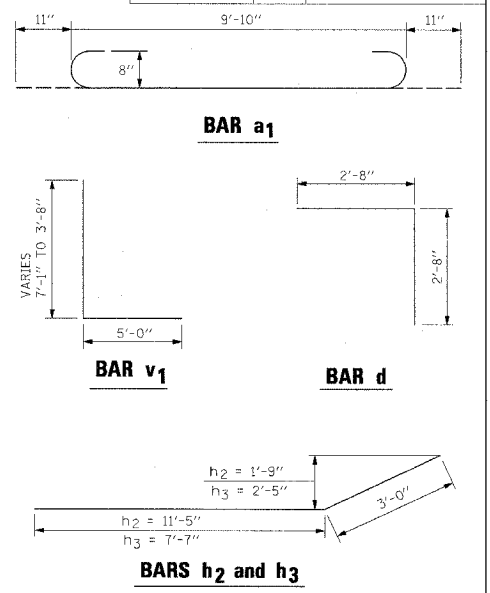
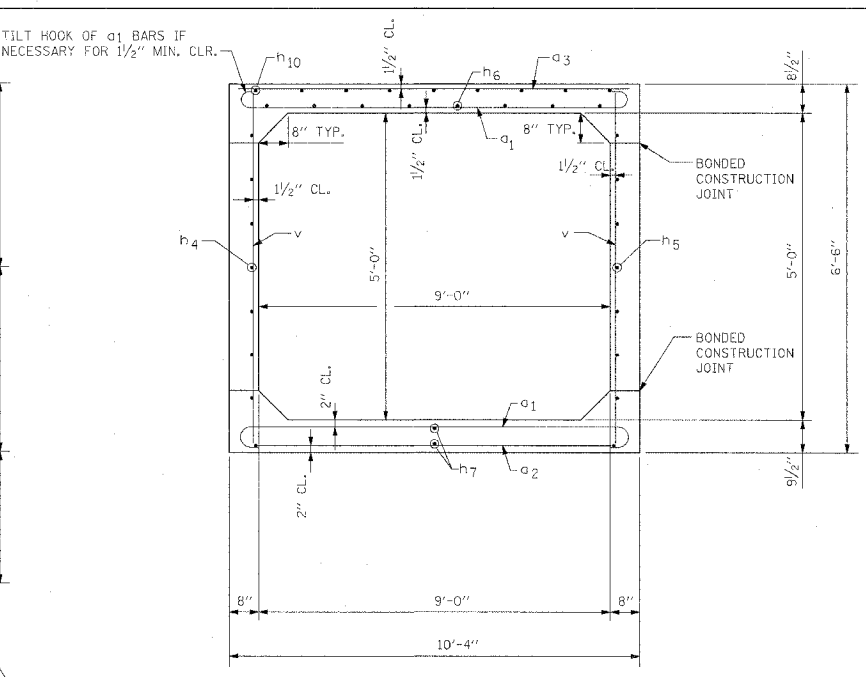
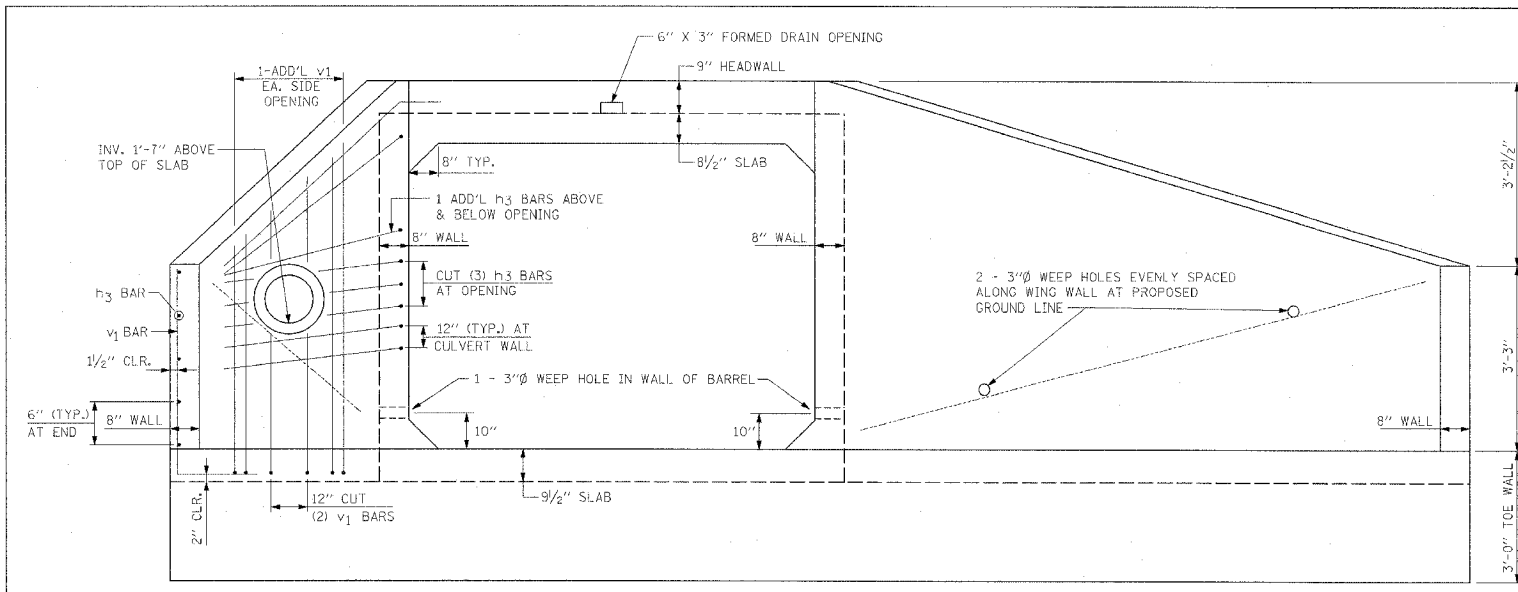
PLAN VIEW



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
LOW FLOW CROSSING DETAIL
RT. STA. 418+00
IL. ROUTE 336

DATE: 3/30/06
 DRAWN BY
 CHECKED BY

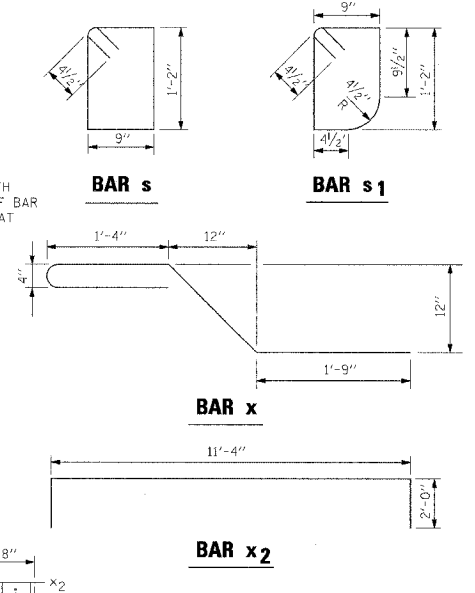


BILL OF MATERIAL
(For Two End Sections)

Bar	No.	Size	Length	Shape
* a1	34	#8	11'-8"	
a2	6	#4	10'-0"	
* a3	8	#5	10'-0"	
* b	20	#4	11'-6" TO 23'-9"	
d	34	#4	5'-4"	
h	4	#6	10'-8"	
h1	4	#6	9'-3"	
h2	4	#6	14'-5"	
h3	16	#6	10'-7"	
h4	12	#6	3'-0"	
h5	12	#6	6'-5"	
* h6	11	#6	9'-5"	
* h7	11	#5	22'-10"	
* h8	8	#5	6'-9"	
* h9	8	#5	7'-3"	
* h10	8	#4	9'-5"	
s	11	#4	4'-7"	
s1	11	#4	4'-5"	
v	26	#4	6'-2"	
* v1	42	#5	12'-1" TO 8'-8"	
x	80	#4	6'-2"	
x1	12	#4	7'-4"	
x2	12	#4	15'-4"	

* MAY FIELD BEND AND/OR FIELD CUT

Box Culvert End Section, Culvert No. 2	Each	2
--	------	---



- NOTES**
1. THE BARREL SHALL BE POURED MONOLITHICALLY WITH THE WINGWALLS.
 2. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-322, GRADE 60.
 3. CHAMFER EXPOSED EDGES 3/4".
 4. ALL CONSTRUCTION JOINTS SHALL BE BONDED.
 5. THE PRICE FOR BOX CULVERT END SECTION, CULVERT NO. 2, SHALL BE PAYMENT IN FULL FOR ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT THE END SECTION AS SHOWN ON THE PLANS INCLUDING CONCRETE COLLARS, REINFORCEMENT BARS, CONCRETE, CAST-IN-PLACE SECTIONS OF THE BARREL AND ALL OTHER COLLATERAL WORK.

DESIGN STRESSES
fy = 60,000 psi
f'c = 3,500 psi

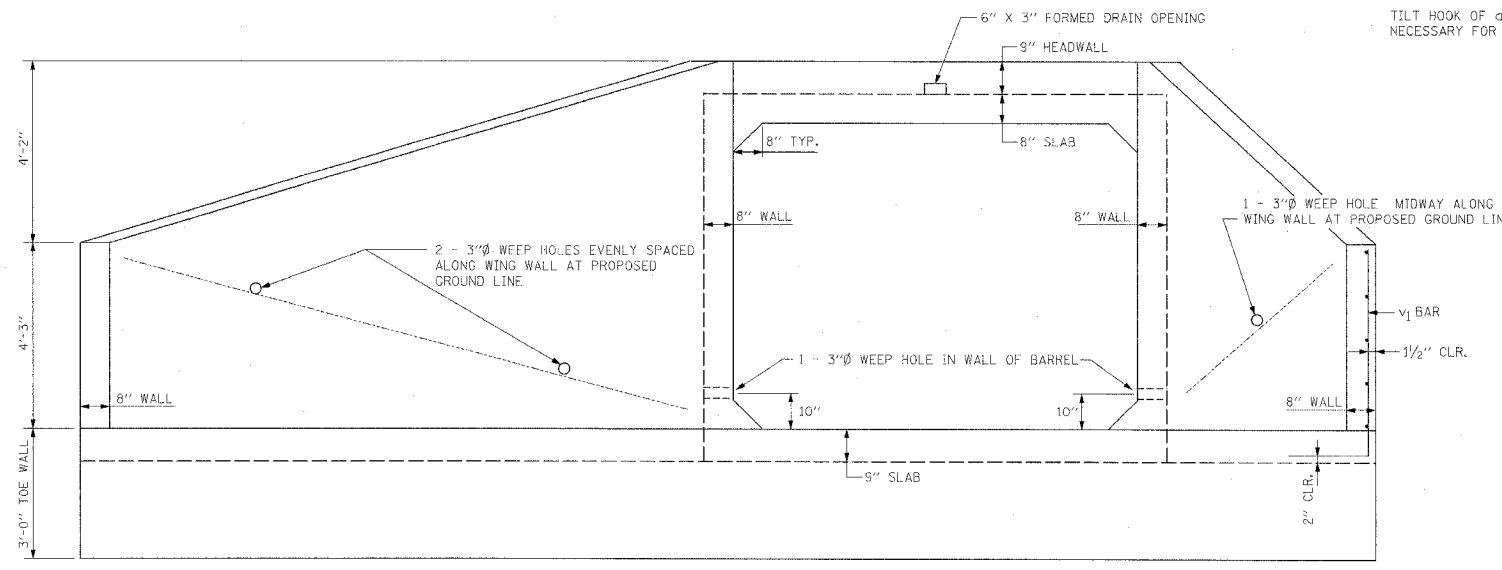
LOADING HS 20-44

REVISIONS	
NAME	DATE

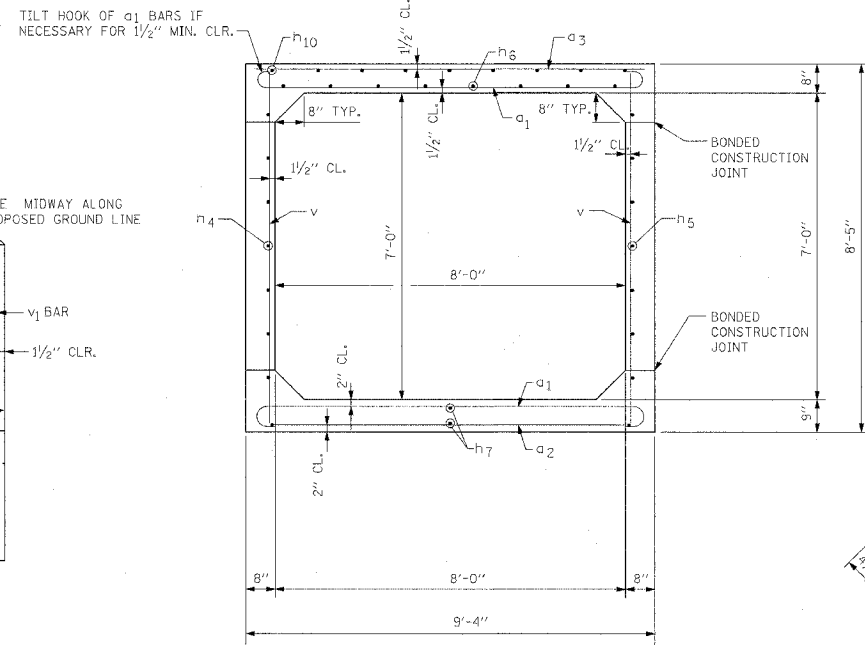
ILLINOIS DEPARTMENT OF TRANSPORTATION
BOX CULVERT END SECTION, CULVERT NO. 2
DETAILS
CENTERLINE STA. 176 + 37.65.
IL. ROUTE 336

DATE 1/05/06
DRAWN BY JSD
CHECKED BY WDL

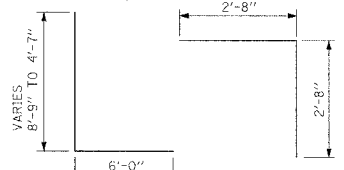
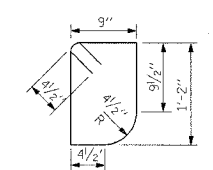
F.A.P. RTE. 315	SECTION 55-2	COUNTY McDONOUGH	TOTAL SHEETS 1025	SHEET NO. 599
STA. TO STA.		FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT		



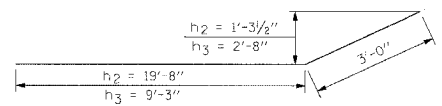
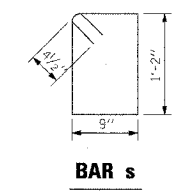
END ELEVATION



SECTION A-A

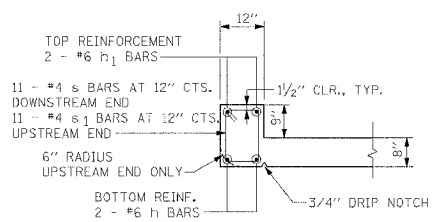
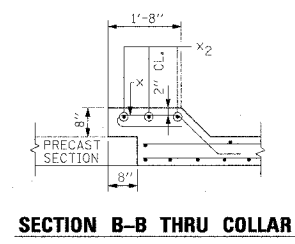


BAR d



BILL OF MATERIAL
(For Two End Sections)

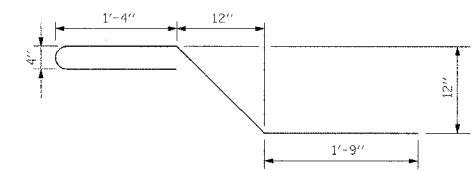
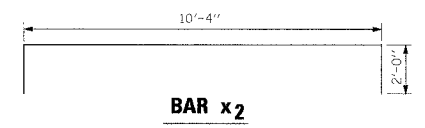
Bar	No.	Size	Length	Shape
* a1	48	#7	10'-6"	
a2	6	#4	9'-0"	
* a3	9	#5	9'-0"	
* b	24	#4	31'-6"	
d	42	#4	5'-4"	
h	4	#6	11'-3"	
h1	4	#6	9'-9"	
h2	18	#6	22'-8"	
h3	18	#6	12'-3"	
h4	14	#6	3'-0"	
h5	14	#6	9'-5"	
* h6	8	#6	12'-6"	
* h7	14	#5	33'-3"	
* h8	10	#5	11'-0"	
* h9	10	#5	12'-8"	
* h10	10	#4	12'-6"	
s	11	#4	4'-7"	
s1	11	#4	4'-5"	
v	34	#4	8'-1"	
* v1	58	#6	14'-9" TO 10'-7"	
x	84	#4	6'-2"	
x1	12	#4	9'-4"	
x2	12	#4	14'-4"	
* MAY FIELD BEND AND/OR FIELD CUT				
Box Culvert End Section, Culvert No. 3	Each		2	



42 - #4 x BARS AT 12" CTS. EVENLY SPACED IN COLLAR AROUND END OF PRECAST CULVERT (11 TOP, 11 BOTTOM, AND 10 EACH SIDE)

3 - #4 x2 BARS IN TOP AND BOTT. COLLARS LAP WITH x1 BARS

11 - #4 STIRRUPS AT 12" CTS. IN HEADWALL (6 BARS DOWNSTREAM; s1 BARS UPSTREAM END)



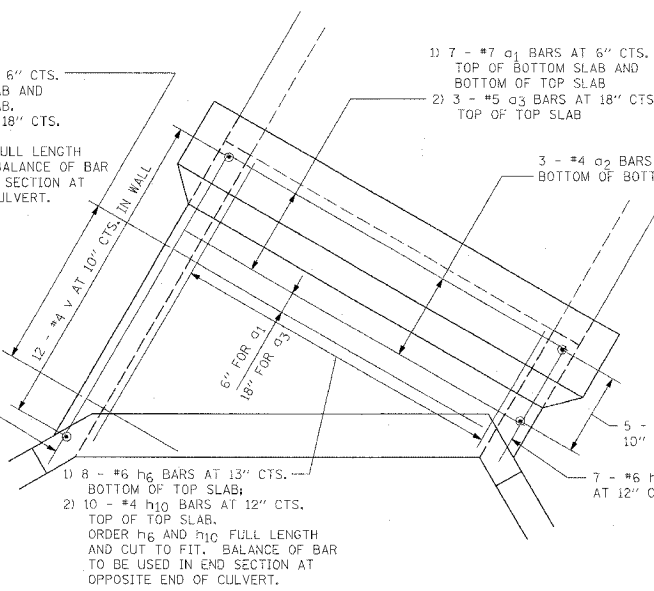
1) 10 - #7 a1 BARS AT 6" CTS. TOP OF BOTTOM SLAB AND BOTTOM OF TOP SLAB.

2) 3 - #5 a3 BARS AT 18" CTS. TOP OF TOP SLAB. ORDER a1 AND a3 FULL LENGTH AND CUT TO FIT. BALANCE OF BAR TO BE USED IN END SECTION AT OPPOSITE END OF CULVERT.

1) 7 - #7 a1 BARS AT 6" CTS. TOP OF BOTTOM SLAB AND BOTTOM OF TOP SLAB.

2) 3 - #5 a3 BARS AT 18" CTS. TOP OF TOP SLAB.

3 - #4 a2 BARS AT 1'-6" CTS. BOTTOM OF BOTTOM SLAB ONLY



DESIGN STRESSES

fy = 60,000 psi
f'c = 3,500 psi

LOADING HS 20-44

NOTES

1. THE BARREL SHALL BE POURED MONOLITHICALLY WITH THE WINGWALLS.
2. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-322, GRADE 60.
3. CHAMFER EXPOSED EDGES 3/4".
4. ALL CONSTRUCTION JOINTS SHALL BE BONDED.
5. THE PRICE FOR BOX CULVERT END SECTION, CULVERT NO. 3, SHALL BE PAYMENT IN FULL FOR ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT THE END SECTION AS SHOWN ON THE PLANS INCLUDING CONCRETE COLLARS, REINFORCEMENT BARS, CONCRETE, CAST-IN-PLACE SECTIONS OF THE BARREL AND ALL OTHER COLLATERAL WORK.

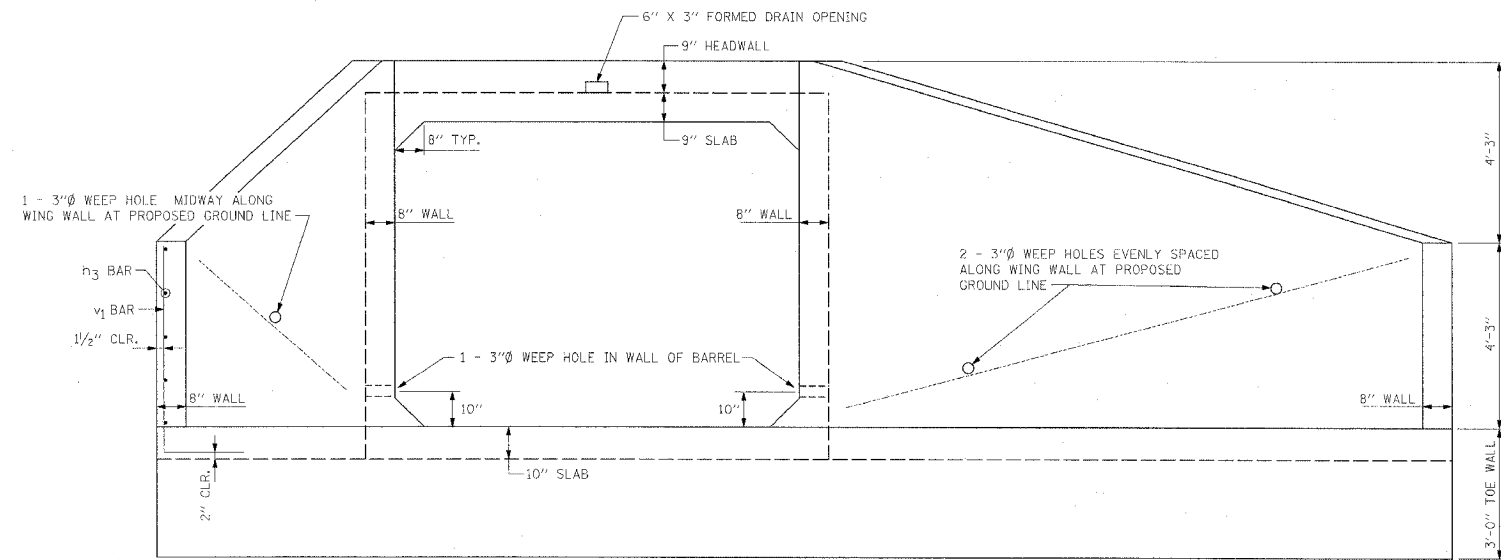
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BOX CULVERT END SECTION, CULVERT NO. 3
DETAILS
CENTERLINE STA. 213 + 42.81
IL. ROUTE 336

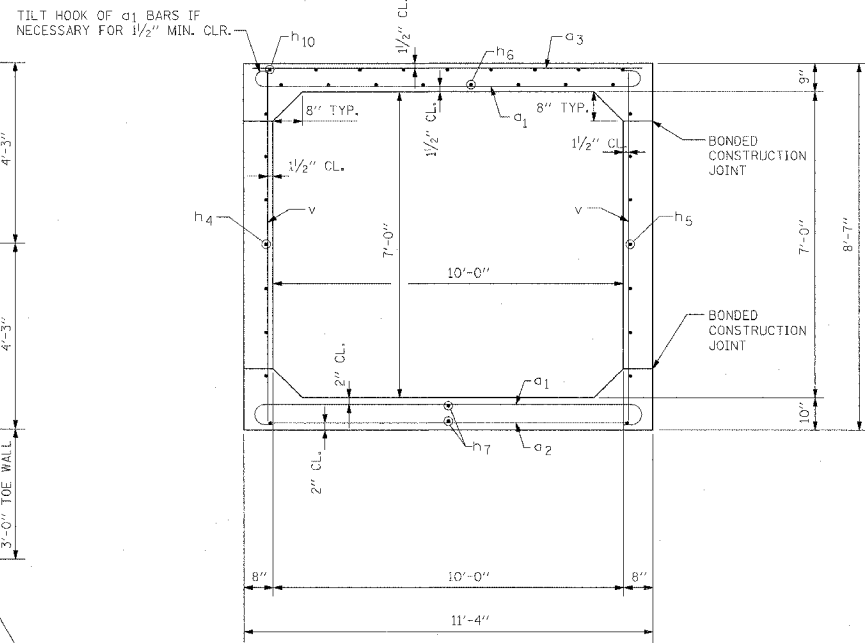
DATE 1/05/06

DRAWN BY JSD
CHECKED BY WDL

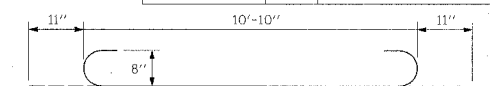
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	55-2	McDONOUGH	1025	600
STA.	TO STA.			
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



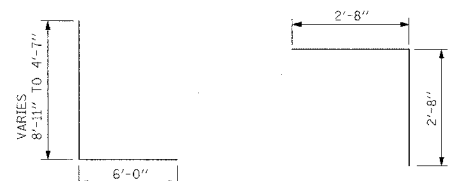
END ELEVATION



SECTION A-A

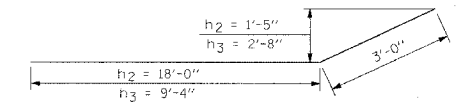


BAR a1



BAR v1

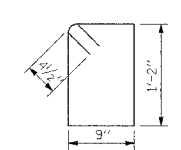
BAR d



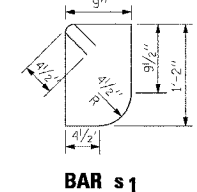
BARS h2 and h3

BILL OF MATERIAL
(For Two End Sections)

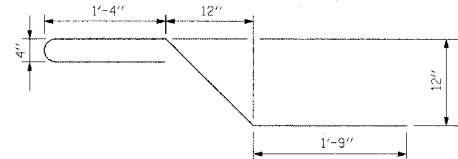
Bar	No.	Size	Length	Shape
* a ₁	50	#8	12'-8"	
a ₂	6	#4	11'-0"	
* a ₃	9	#5	11'-0"	
* b	24	#4	14'-0" TO 32'-9"	
d	46	#4	5'-4"	
h	4	#6	13'-1"	
h ₁	4	#6	11'-8"	
h ₂	18	#6	21'-0"	
h ₃	18	#6	12'-4"	
h ₄	14	#6	3'-0"	
h ₅	14	#6	9'-4"	
* h ₆	12	#6	12'-9"	
* h ₇	18	#5	32'-6"	
* h ₈	10	#5	10'-5"	
* h ₉	10	#5	11'-0"	
* h ₁₀	12	#4	12'-9"	
s	12	#4	4'-7"	
s ₁	12	#4	4'-5"	
v	34	#4	8'-3"	
* v ₁	56	#6	14'-11" TO 10'-7"	
x	92	#4	6'-2"	
x ₁	12	#4	9'-6"	
x ₂	12	#4	16'-4"	
* MAY FIELD BEND AND/OR FIELD CUT				
Box Culvert End Section, Culvert No. 4		Each	2	



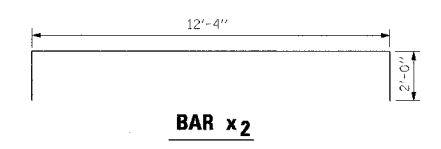
BAR s



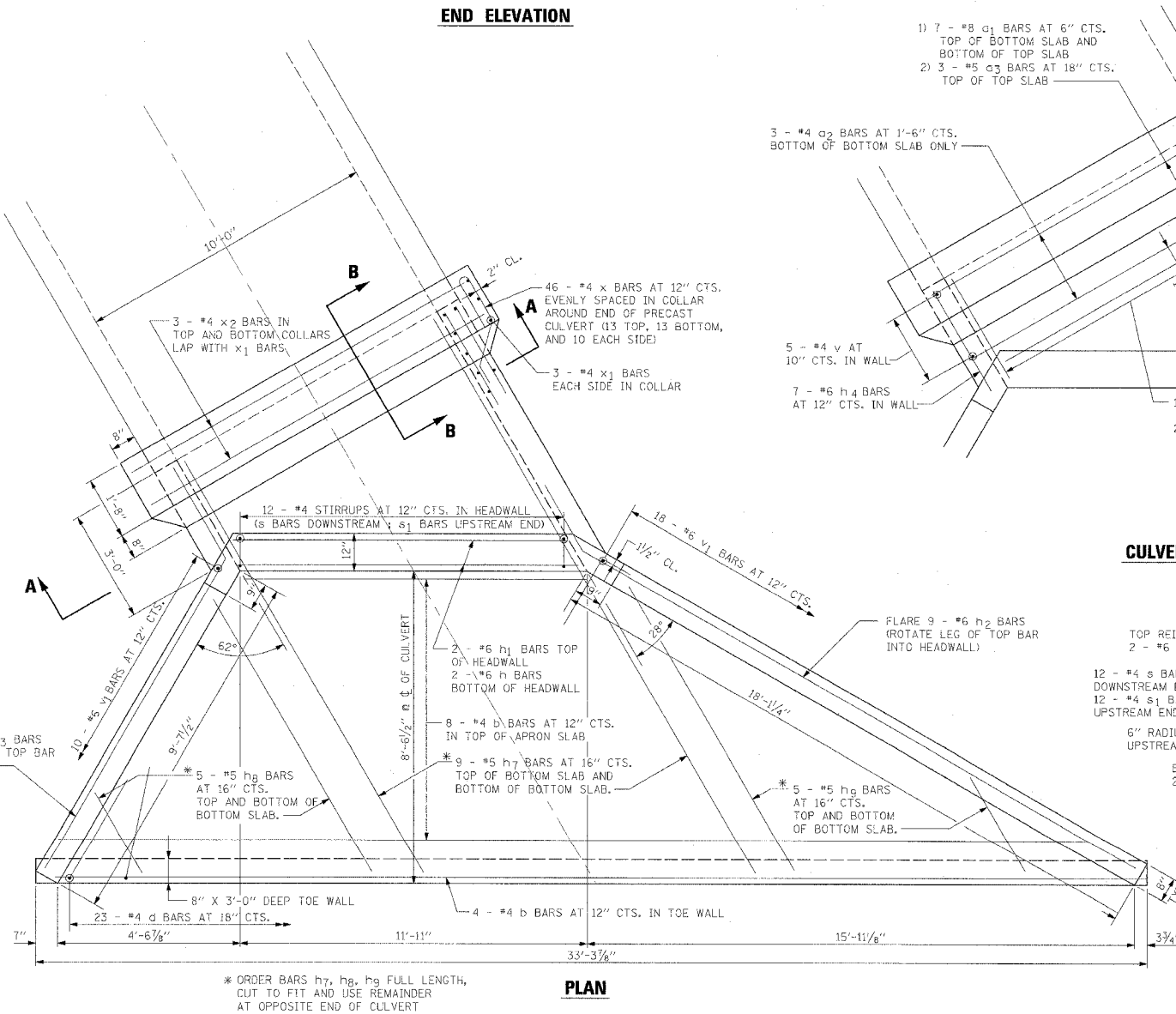
BAR s1



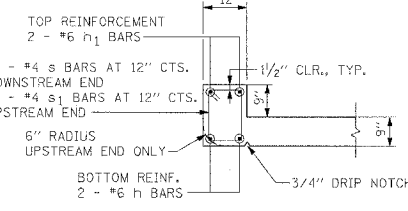
BAR x



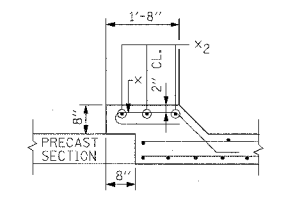
BAR x2



CULVERT SLAB PLAN



SECTION THRU HEADWALL



SECTION B-B THRU COLLAR

DESIGN STRESSES

f_y = 60,000 psi
f'_c = 3,500 psi

LOADING HS 20-44

NOTES

1. THE BARREL SHALL BE POURED MONOLITHICALLY WITH THE WINGWALLS.
2. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-322, GRADE 60.
3. CHAMFER EXPOSED EDGES 3/4".
4. ALL CONSTRUCTION JOINTS SHALL BE BONDED.
5. THE PRICE FOR BOX CULVERT END SECTION, CULVERT NO. 4, SHALL BE PAYMENT IN FULL FOR ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT THE END SECTION AS SHOWN ON THE PLANS INCLUDING CONCRETE COLLARS, REINFORCEMENT BARS, CONCRETE, CAST-IN-PLACE SECTIONS OF THE BARREL AND ALL OTHER COLLATERAL WORK.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BOX CULVERT END SECTION, CULVERT NO. 4
DETAILS
CENTERLINE STA. 253+09.43
IL. ROUTE 336
DRAWN BY JSD
CHECKED BY WDL
DATE 1/05/06