

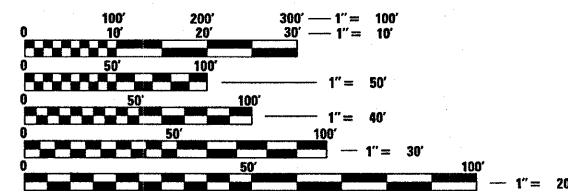
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	1
FED. ROAD DIST. NO. 1		ILLINOIS	CONTRACT NO. 60C53	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**
F.A.P. 311 /US 34 (OGDEN AVE.)
AT WEST BRANCH DuPAGE RIVER
BRIDGE BEAM AND DECK REPLACEMENT
SECTION NO.: 652 X-B-R-1
STRUCTURE NO.: 022-0040
DuPAGE COUNTY
C-91-239-07

FOR INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENT LOCATED IN THE
CITY OF NAPERVILLE

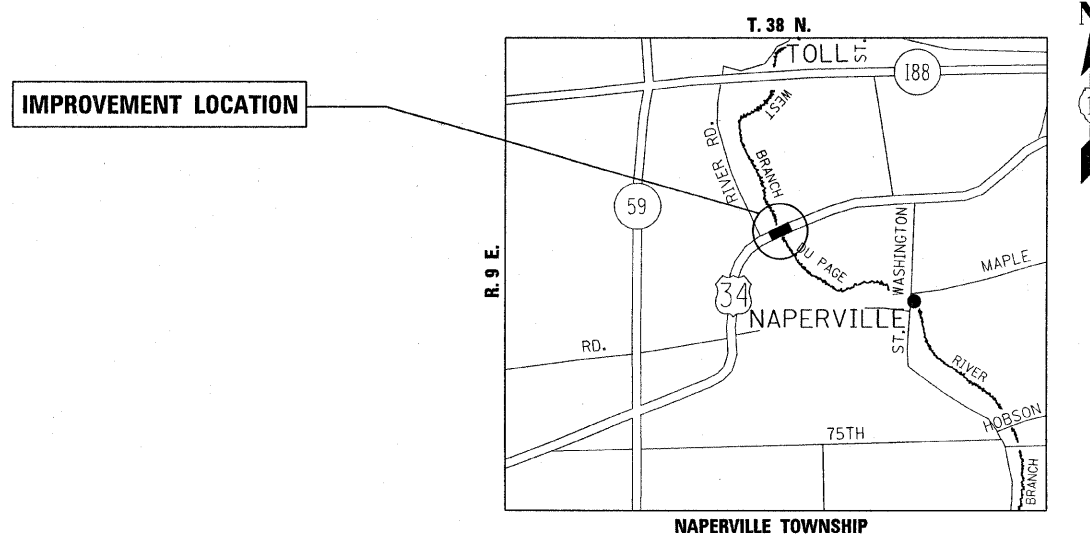


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: J. CHANG (847) 705-4432
PROJECT MANAGER: KEN ENG (847) 705-4247

CONTRACT NO. 60C53



TRAFFIC DATA:
2005 ADT - 37100
SPEED LIMIT - 30 TO 35 MPH

GROSS AND NET LENGTH OF IMPROVEMENT = 136 LIN FT. - .03 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEBRUARY 15, 20 08

Diane M. O'Keefe DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21, 20 08
Eric E. Haral ENGINEER OF DESIGN AND ENVIRONMENT

March 21, 20 08
Christina M. Reed DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	EXISTING AND PROPOSED TYPICAL SECTIONS
5	EXISTING ROADWAY AND PAVEMENT MARKING PLAN
6	PROPOSED ROADWAY AND PAVEMENT MARKING PLAN
7-8	SUGGESTED STAGING AND TRAFFIC CONTROL PLANS
9-24	BRIDGE DECK REPAIR PLANS
25	BUTT JOINT AND HMA TAPER DETAILS
26	TRAFFIC CONTROL AND PROTECTION, FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
27	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT)
28	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
29	ARTERIAL ROAD INFORMATION SIGNING

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERS
420401-06	BRIDGE APPROACH PAVEMENT
515001-02	NAME PLATE FOR BRIDGES
701301-02	LANE CLOSURE 2L, 2W SHORT-TIME OPERATIONS
701602-03	URBAN LANE CLOSURE, MULTILANE 2W WITH BI-DIRECTIONAL TURN LANE
701606-05	URBAN LANE CLOSURE, MULTILANE 2W WITH MOUNTABLE MEDIAN
701801-03	LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 OR "CUAN" (CHICAGO UTILITY ALERT NETWORK) AT 312-744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC TELEPHONE AND GAS FACILITIES (48 HOURS PRIOR TO NOTIFICATION BEING REQUIRED).

10 FEET (3 METERS) TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURB AND GUTTERS AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITIES AND THE VILLAGE OF NAPERVILLE.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

THE CONTRACTOR CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR CORY JUCUIS AT 847-705-4470 A MINIMUM OF 72 HOURS PRIOR TO START OF WORK.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40 MM) WHERE THE SPEED LIMIT IS 45 MPH (80 KM/H). WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MACHINE SLOPED A MINIMUM 1:3 (V:H).

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND BITUMINOUS TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

FILE NAME = e:\projects\df23907\design_ee.dgn	USER NAME = steedpa	DESIGNED - DRAWN -	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES US 34 (OGDEN AVE.)--AT W. BRANCH DU PAGE RIVER	F.A.P. RTE. 311	SECTION 652 X-B-R-1	COUNTY	TOTAL SHEETS 29	SHEET NO. 2
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	SN: 022-0040	CONTRACT NO. 60C53	
PLOT DATE = 2/19/2008	DATE -	REVISED -				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	3
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT	
CONTRACT NO. 60C53				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		URBAN 100% STATE Y080-2A				
42001165	BRIDGE APPROACH PAVEMENT	SO YD	322	322				
42001300	PROTECTIVE COAT	SO YD	900	900				
44000700	APPROACH SLAB REMOVAL	SO YD	322	322				
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1				
50300255	CONCRETE SUPERSTRUCTURE	CU YD	85.1	85.1				
50300260	BRIDGE DECK GROOVING	SO YD	607	607				
15030305	CONCRETE WEARING SURFACE, 5"	SO YD	617	617				
50400105	PRECAST CONCRETE BRIDGE SLAB	SO FT	299	299				
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SO FT	6691	6691				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	14400	14400				
50800515	BAR SPLICERS	EACH	108	108				
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	249	249				
51500100	NAME PLATES	EACH	1	1				
52000110	PREFORMED JOINT STRIP SEAL	FOOT	141	141				
60607100	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-9.18 (MODIFIED)	FOOT	80	80				
66410400	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	FOOT	128	128				
67100100	MOBILIZATION	L SUM	1	1				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6				
70101800	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1				
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	9	9				
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	2434	2434				
70400100	TEMPORARY CONCRETE BARRIER	FOOT	238	238				
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	238	238				
78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	69	69				
*78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2276	2276				
*78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	121	121				
*78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	97	97				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT		URBAN 100% STATE Y080-2A				
*78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	340	340				
*78008250	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"	FOOT	12	12				
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	95	95				
*78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	14	14				
78300100	PAVEMENT MARKING REMOVAL	SO FT	69	69				
78300105	PAVEMENT MARKING REMOVAL	FOOT	2494	2494				
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	86	86				
X0322256	TEMPORARY INFORMATION SIGNING	SO FT	51.4	51.4				
X0324744	REMOVAL OF EXISTING PRECAST CONCRETE UNITS	SO FT	299	299				
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	125	125				
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	92	92				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1				
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2				
Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2				

* SPECIALITY ITEMS

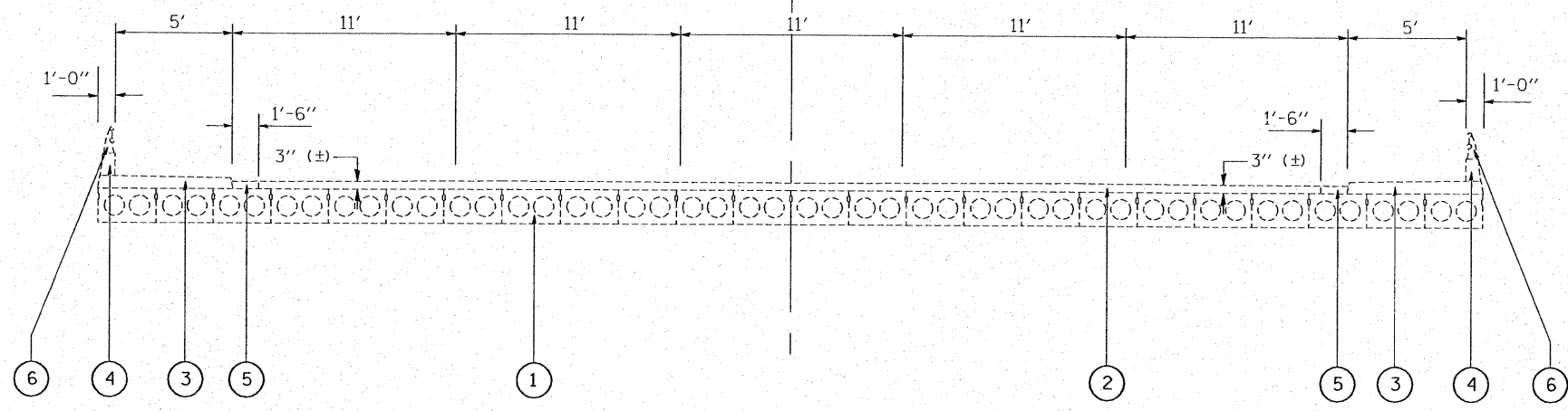
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
F.A.P. 311/ US 34 (OGDEN AVE.)
OVER WEST BRANCH DU PAGE RIVER
PLOT DATE: 2/21/2008

Rev.

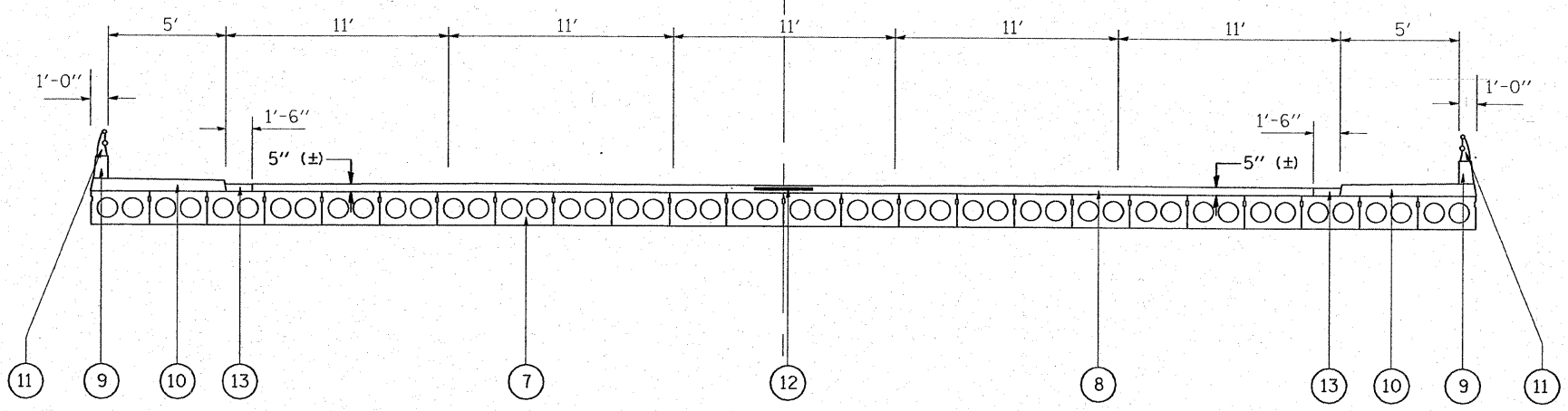
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US 34 (OGDEN AVE.)



EXISTING TYPICAL SECTION
STA. 9+47 TO 10+83

US 34 (OGDEN AVE.)



PROPOSED TYPICAL SECTION
STA. 9+47 TO 10+83

LEGEND:

- ① EXIST. DECK BEAMS
- ② EXIST. HOT-MIX OVERLAY, ±3"
- ③ EXIST. P.C.C. SIDEWALK
- ④ EXIST. PARAPET WALL
- ⑤ EXIST. COMB. CONC. CURB AND GUTTER
- ⑥ EXIST. BRIDGE RAILING
- ⑦ PROP. PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)
- ⑧ PROP. CONCRETE WEARING SURFACE, 5"
- ⑨ PROP. PARAPET WALL
- ⑩ PROP. P.C.C. SIDEWALK
- ⑪ PROP. RE-ERECTED ALUMINUM RAILING
- ⑫ PROP. BAR SPLICERS
- ⑬ PROP. COMB. CONC. CURB AND GUTTER, TYPE B-9.18 (MODIFIED)

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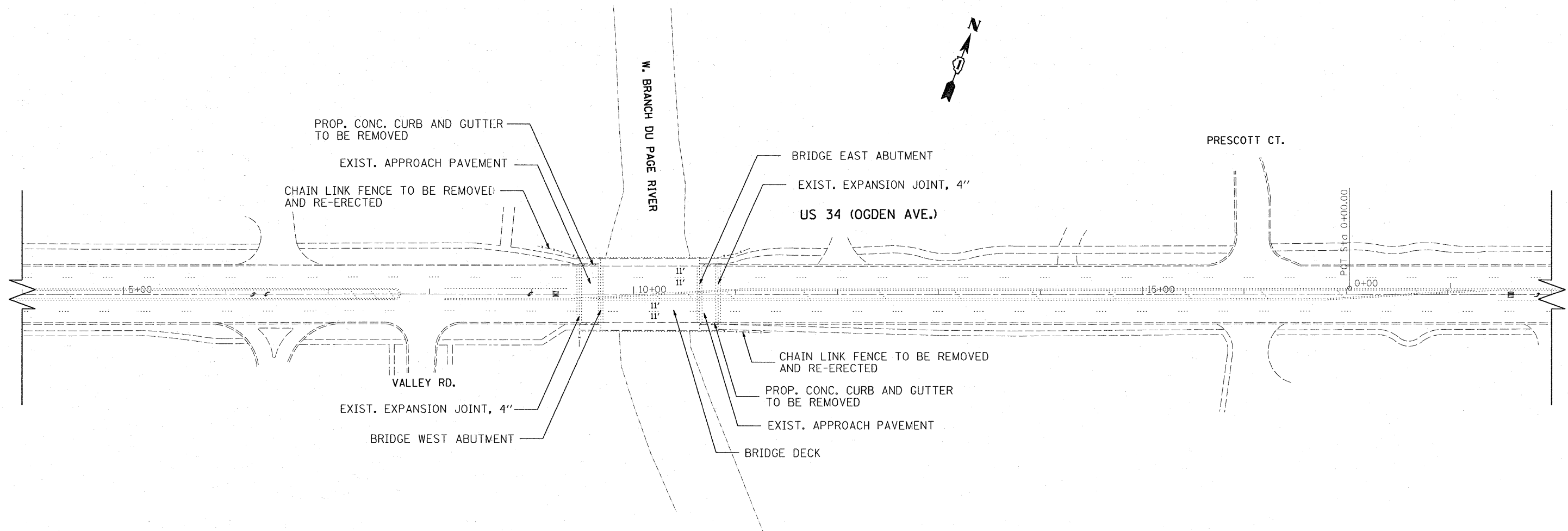
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING AND PROPOSED TYPICAL SECTIONS
US 34 (OGDEN AVE.)--AT W. BRANCH DU PAGE RIVER

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	4
SN: 022-0040			CONTRACT NO. 60C53	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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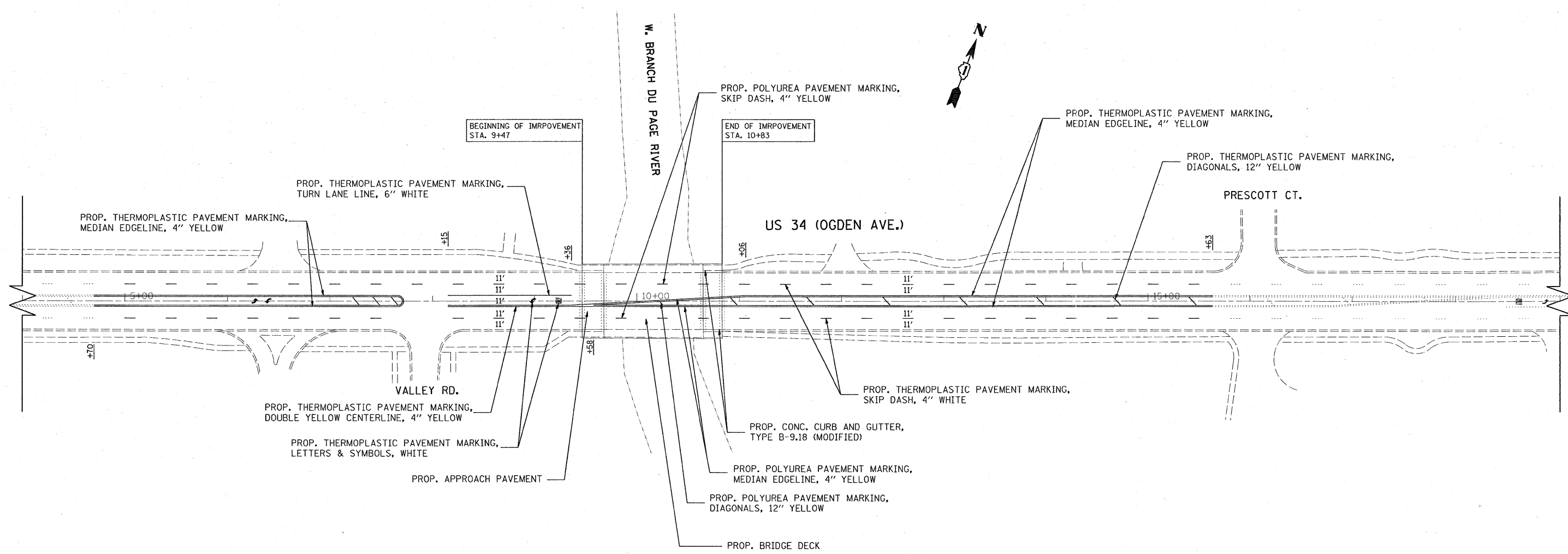
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING ROADWAY AND PAVEMENT MARKING PLAN
 US 34 (OGDEN AVE.)--AT W. BRANCH DU PAGE RIVER

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	5
SN: 022-0040		CONTRACT NO. 60C53		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

PERMANENT PAVEMENT MARKINGS SHALL BE THERMOPLASTIC (OF THE EXTRUDED TYPE) AND SHOULD BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" DETAIL. (TC-13)

RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH THE DISTRICT ONE "TYPICAL APPLICATION RAISED REFLECTIVE PAVEMENT MARKERS DETAIL."

THE RESIDENT ENGINEER SHOULD CONTACT MR. DON CHIARUGI, AREA TRAFFIC ENGINEER, AT (847) 741-9857 PRIOR TO PLACING ANY PAVEMENT MARKINGS.

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PLOT DATE = 2/27/2008

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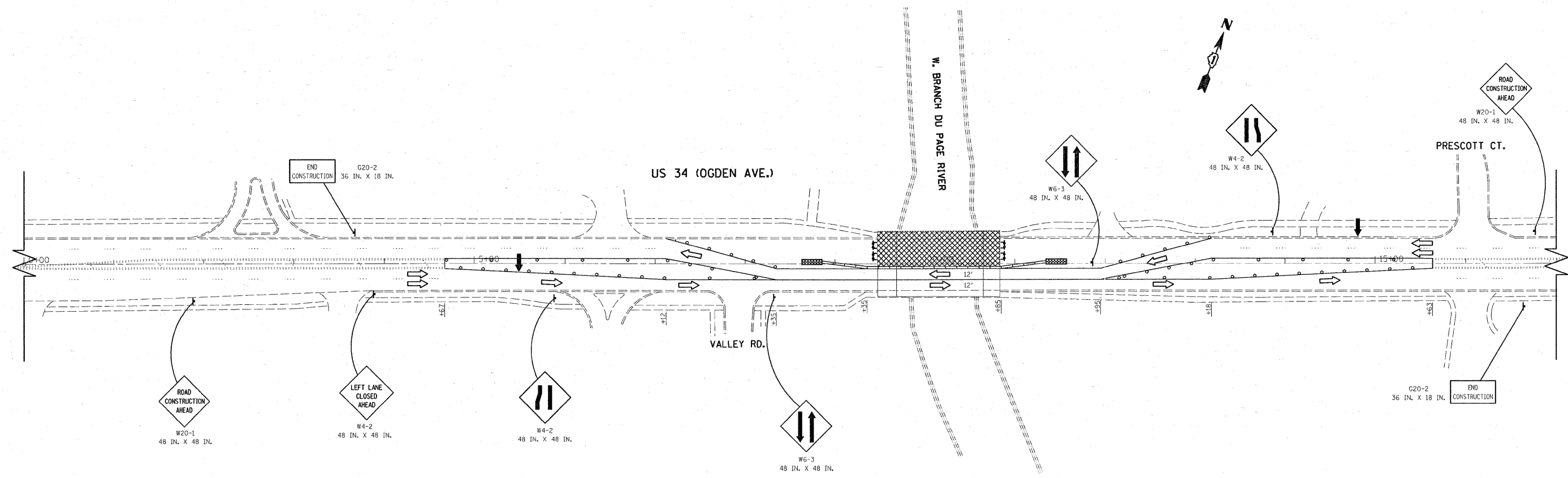
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**








**PROPOSED ROADWAY AND PAVEMENT MARKING PLAN
US 34 (OGDEN AVE.)--AT W. BRANCH DU PAGE RIVER**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

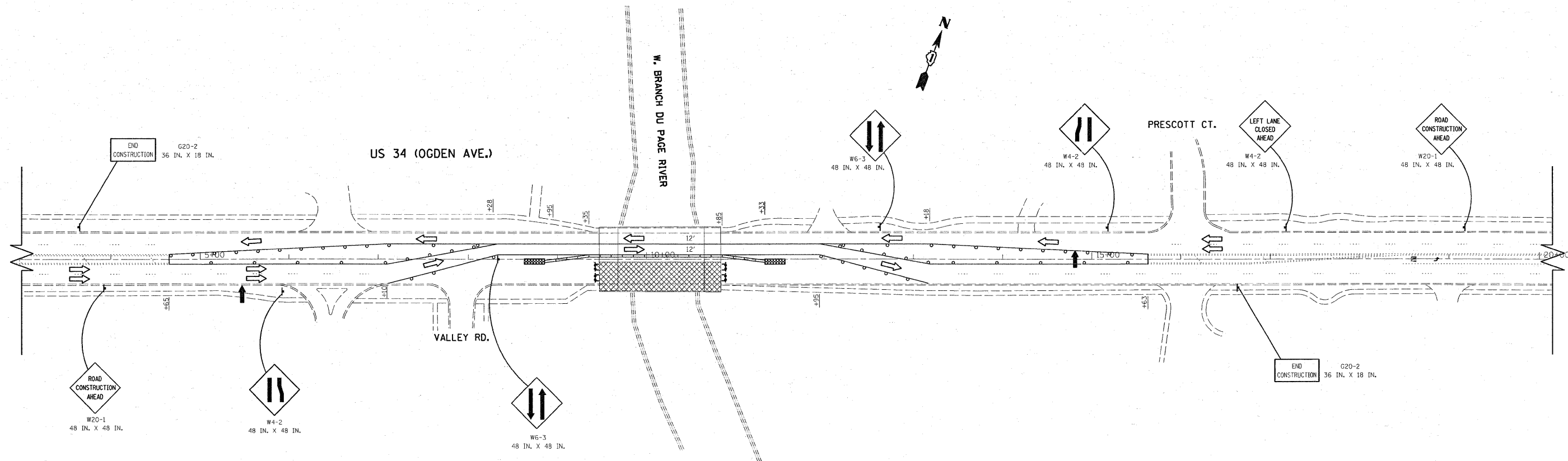
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311	652 X-B-R-1	DU PAGE	29	6
SN: 022-0040			CONTRACT NO. 60C53	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				










LEGEND:

-  ARROW BOARD
-  TRAFFIC FLOW
-  TEMPORARY IMPACT ATTENUATORS
-  TEMPORARY BARRIER WALL
-  WORK ZONE
-  TYPE III BARRICADE WITH STEADY BURNING LIGHT
-  TYPE I OR TYPE II BARRICADE OR REFLECTORIZED DRUM WITH STEADY BURNING LIGHT

STAGE I



LEGEND:

-  ARROW BOARD
-  TRAFFIC FLOW
-  TEMPORARY IMPACT ATTENUATORS
-  TEMPORARY BARRIER WALL
-  WORK ZONE
-  TYPE III BARRICADE WITH STEADY BURNING LIGHT
-  TYPE I OR TYPE II BARRICADE OR REFLECTORIZED DRUM WITH STEADY BURNING LIGHT

STAGE II

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CHECKED -

REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUGGESTED STAGING AND TRAFFIC CONTROL PLANS
US 34 (OGDEN AVE.)--AT W. BRANCH DU PAGE RIVER

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	8
SN: 022-0040		CONTRACT NO. 60C53		

Benchmark: TBM #1, Top of NE bolt in light pole at Sta. 1699+89, 35' Rf. - Elev. 101.45
 Existing Structure: No. 022-0040. Two span, 99'-2" Bk-Bk Abuts. 58'-0" face to face curb, 5'-0" sidewalks and 1'-0" parapets each side; 70'-0" out to out. PPC Dk. Bms placed on older substructure in 1986. Concrete parapet with aluminum handrail on top.

Salvage: Remove, store and re-erect aluminum rail. Remove, clean and reinstall existing name plate.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAP 311	625X-B-R-1	DuPage	29	9	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #60C53

INDEX OF SHEETS

1. General Plan & Elevation
2. General Notes and Total Bill of Material
3. Stage Construction
4. Temporary Concrete Barrier
5. Deck Cross Section
6. 21" x 36" PPC Dk. Bms.
7. 21" x 48" PPC Dk. Bms.
8. Precast Approach Beams
9. Concrete Wearing Surface
10. Sidewalks
11. Parapets
12. Railing
13. Expansion Joint Details
14. Abutments and Pier Details
15. Substructure Repairs
16. Bar Splicer Details

LOADING HS20-44

No Allowance for future wearing surface

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

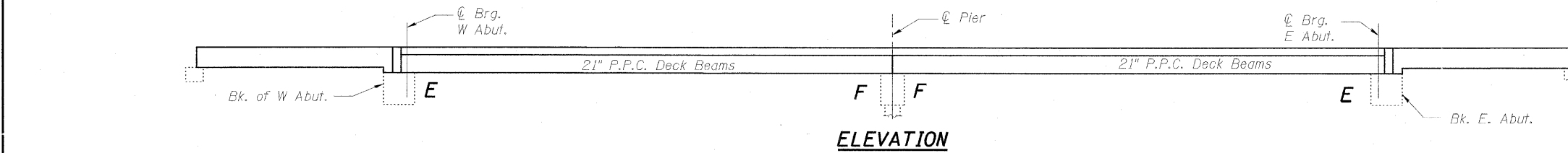
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

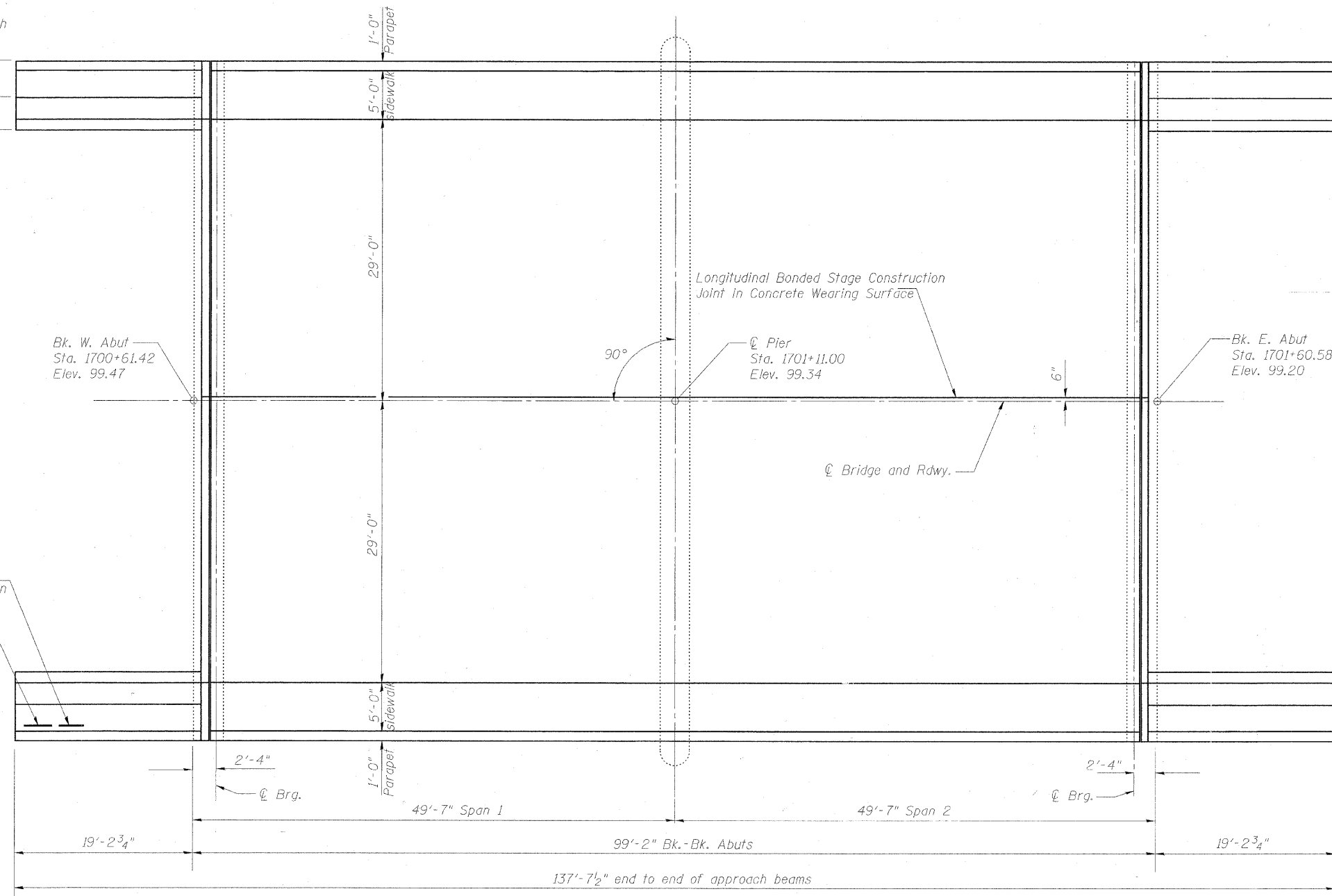
PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi (1/2" ϕ low lax strands)
 $f'_{si} = 201,960$ psi (1/2" ϕ low lax strands)

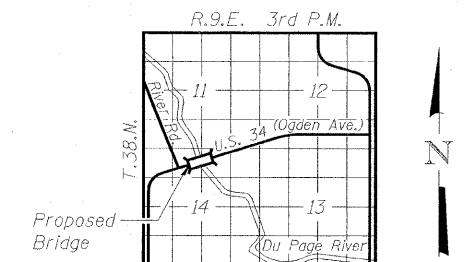


Remove and Replace Existing Precast Approach Beam, Typ. 4 corners

Combination Concrete Curb and Gutter, Type B-9.18 (Modified) Typ. 4 corners



Relocated existing Name Plate location
 Name Plate location



LOCATION SKETCH

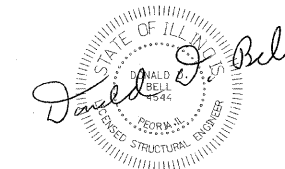
GENERAL PLAN & ELEVATION
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

DESIGNED	DDB
CHECKED	LLV
DRAWN	MGM
CHECKED	DDB

PLAN

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES



License Expires: 11/30/08
 Date Signed: 11-8-07

STS CONSULTANTS
 111 NE Jefferson Ave.
 Peoria, Illinois 61602
 Ph (309) 676-8464
 FAX (309) 676-5445
 IL Design Firm Reg. No. 184-001518

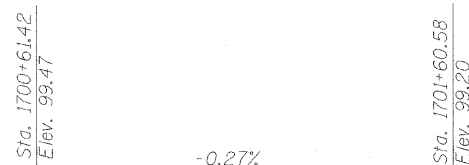
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	10	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #60053

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 GR 60 (IL Modified). See special provisions.
2. All Construction joints shall be bonded.
3. Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
4. The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.
5. No instream work will be allowed on this project.
6. Repair of the pier caps and abutment shall be completed prior to placement of the new deck beams.
7. The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
8. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost Included with Precast Prestressed Concrete Deck Beams (21" Depth)
9. Utility pipes and/or conduits are supported on the side of the bridge. Contractor shall temporarily support utilities during construction as required. Reattach with existing and new hangers and hardware as required. Cost included in Removal of Existing Superstructures.



PROFILE GRADE

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Superstructure	Cu. Yd.	85.1		85.1
Bridge Deck Grooving	Sq. Yd.	607		607
Protective Coat	Sq. Yd.	900		900
Concrete Wearing Surface, 5"	Sq. Yd.	617		617
Precast Concrete Bridge Slab	Sq. Ft.	299		299
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	6,691		6,691
Reinforcement Bars, Epoxy Coated	Pound	14,400		14,400
Bar Splicers	Each	108		108
Removing and Re-erecting Existing Railing	Foot	249		249
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	141		141
Removal of Existing Precast Concrete Units	Sq. Ft.	299		299
Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)	Sq. Ft.		125	125
Asbestos Bearing Pad Removal	Each	92		92

STATION 1701+11
REBUILT 200_ BY
STATE OF ILLINOIS
F.A.P. 311 SEC. 652X-B-R-1
LOADING HS20
STR. NO. 022-0040

NAME PLATE

See Std. 515001

Relocate existing name plate next to rebuilt name plate, cost included in Name Plates.

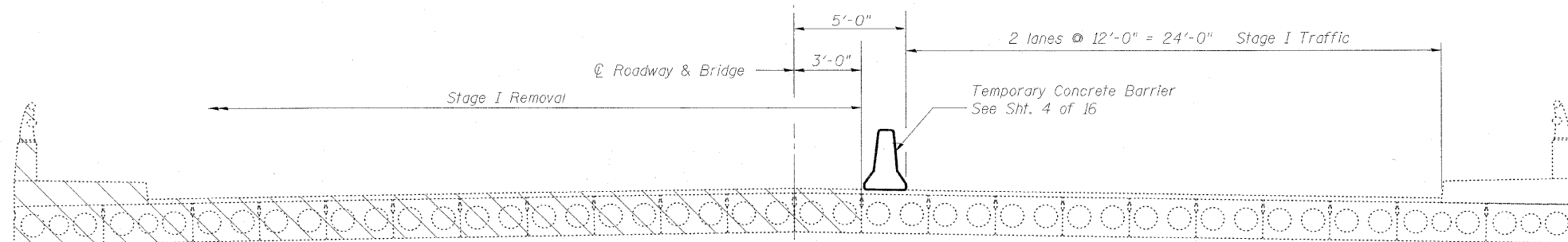
**GENERAL NOTES AND
TOTAL BILL OF MATERIAL
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040**

DESIGNED	DDB
CHECKED	LLV
DRAWN	JDB
CHECKED	DDB

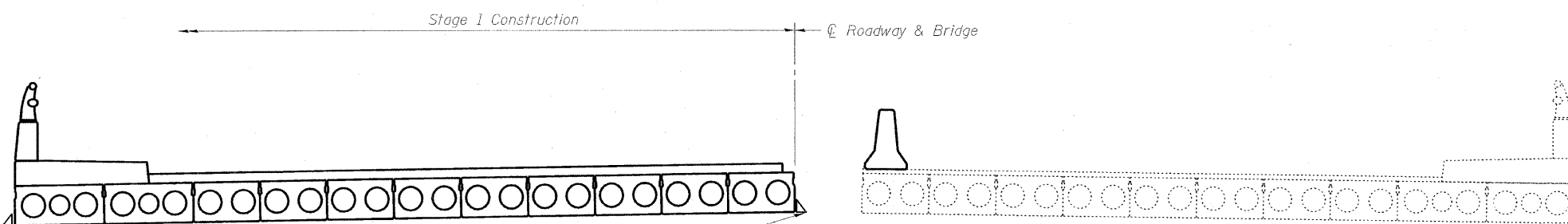
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 311	625X-B-R-1	DuPage	29	11	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

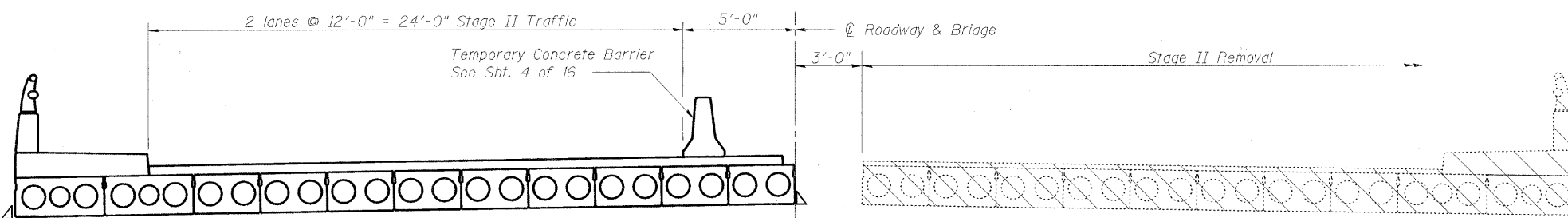
Contract #60C53



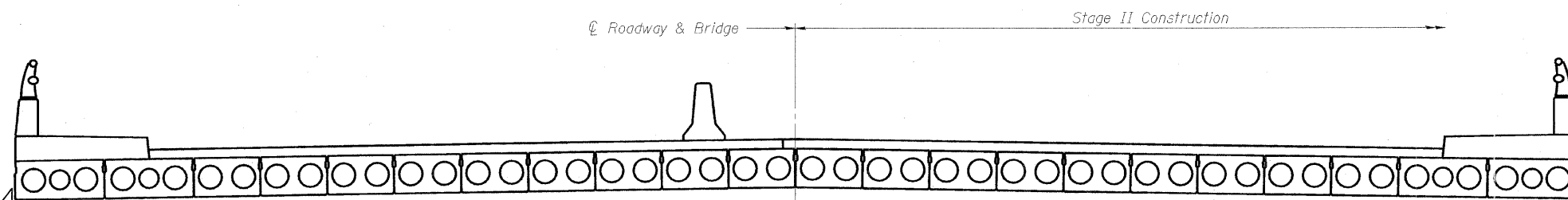
STAGE I REMOVAL



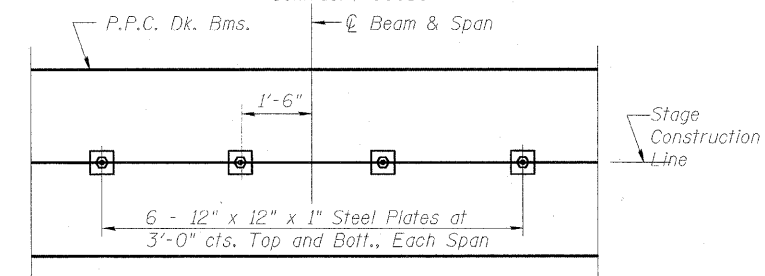
STAGE I CONSTRUCTION



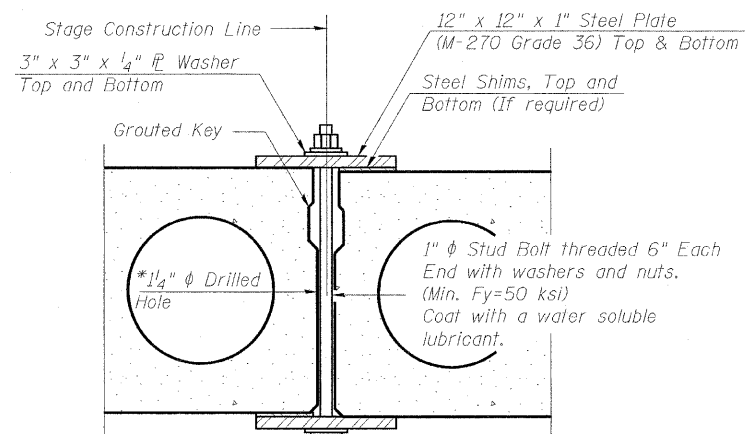
STAGE II REMOVAL



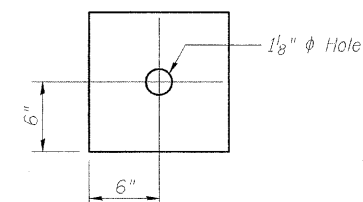
STAGE II CONSTRUCTION



PLAN



SECTION



CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

1. See Standard Specifications for Stage Construction of Precast Prestressed Concrete Deck Beams.
2. Cost included with Precast Prestressed Concrete Deck Beams, 21" Depth.

*As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.

DESIGNED	DDB
CHECKED	LLV
DRAWN	JDB
CHECKED	DDB

Notes:
All staging cross sections are looking east.
For quantity of Temporary Concrete Barrier see roadway plans.
Hatched area indicates Removal of Existing Superstructures.

STAGE CONSTRUCTION
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

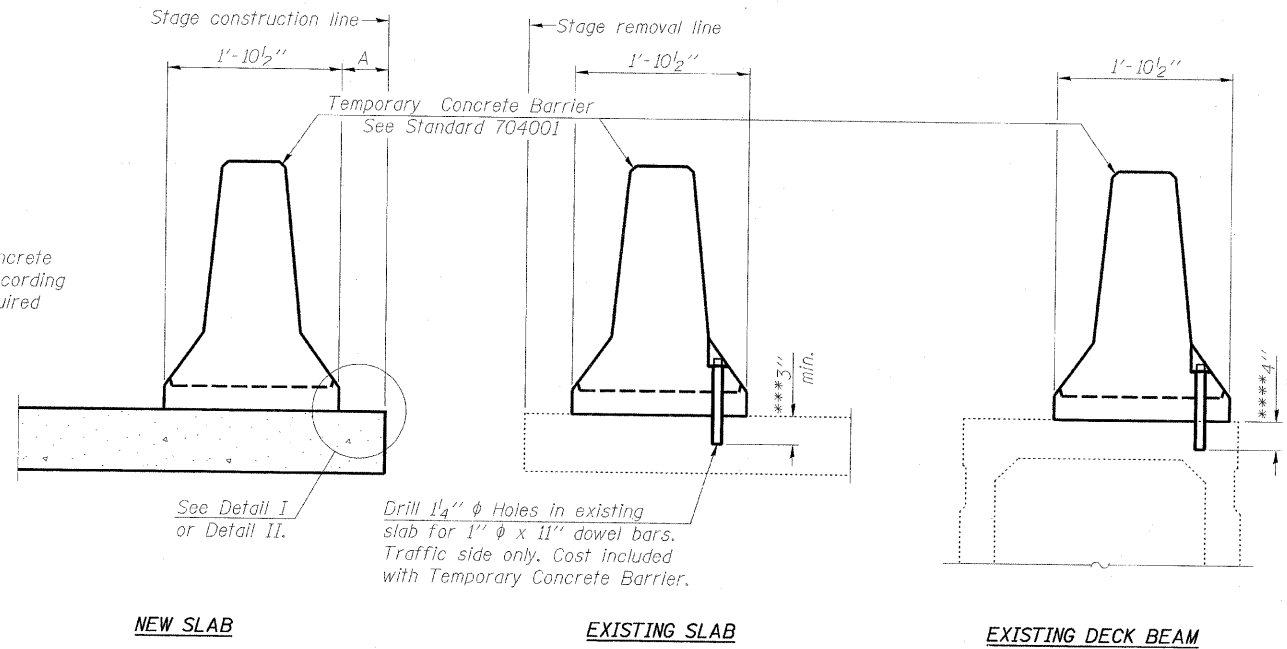
STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 311	625X-B-R-1	DuPage	29	12	16 SHEETS
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #60C53

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

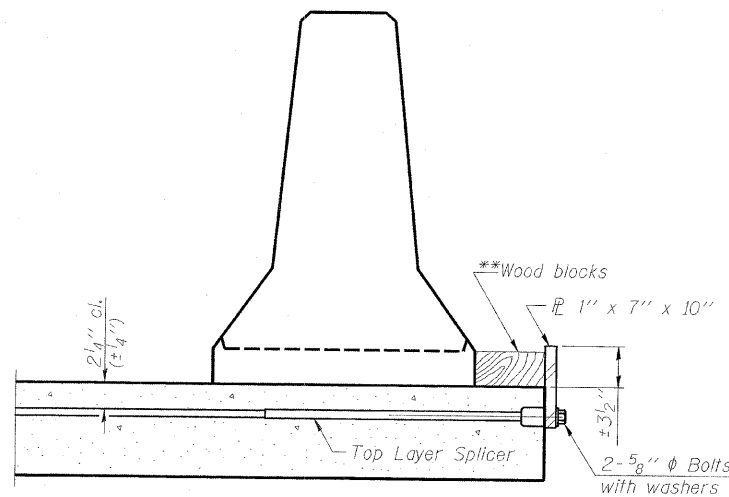


NOTES

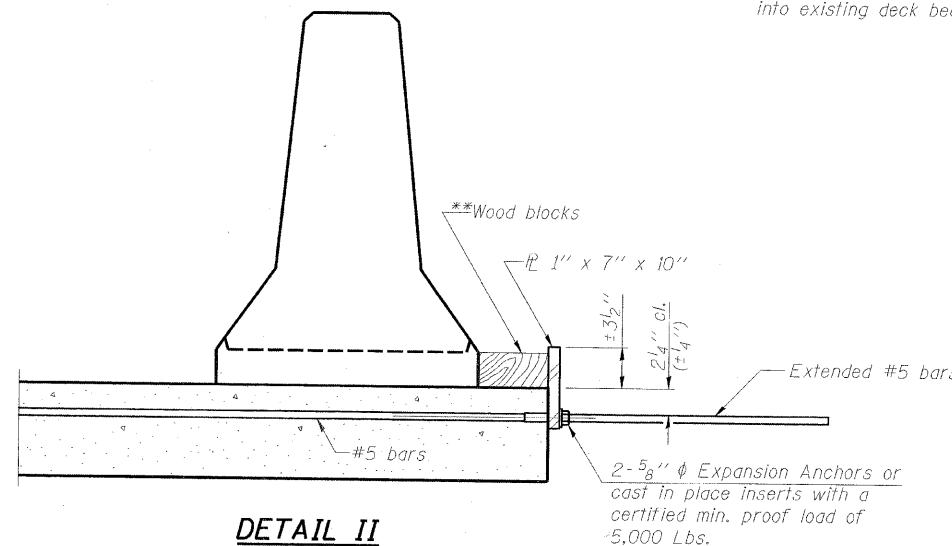
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

SECTIONS THRU SLAB OR DECK BEAM

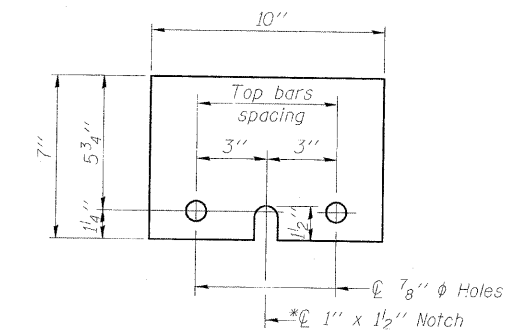
- ***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- ****If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{P} 1" x 7" x 10"

* Required only with Detail II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

Note: Contractor shall add splicers, change bolt sizes and/or change plate size as required to accommodate reinforcing steel and bar splicers in the Concrete Wearing Surface. Included in the cost of Temporary Concrete Barrier.

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

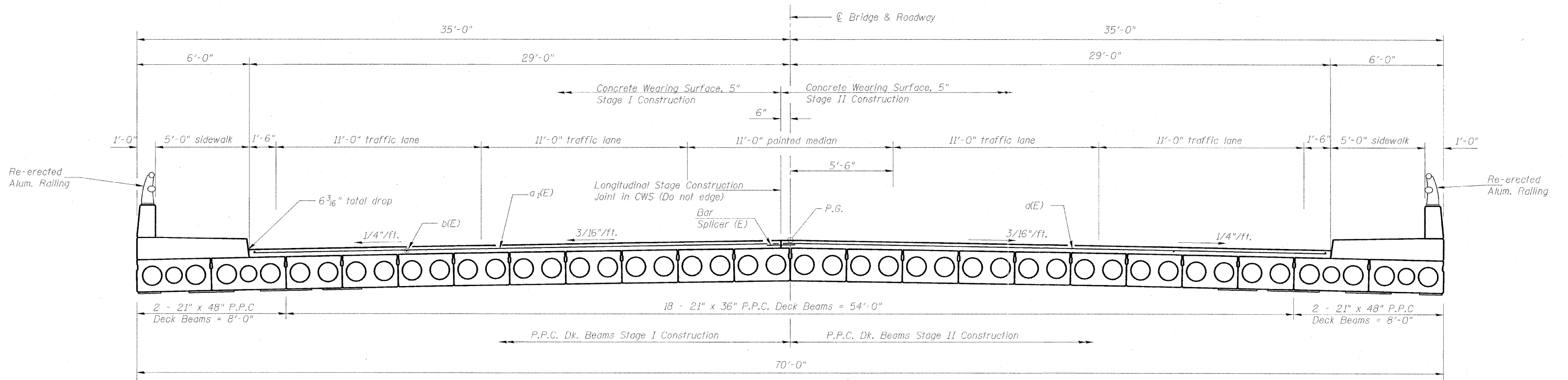
TEMPORARY CONCRETE BARRIER
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	13	
FED. ROAD DIST. NO. 7	ILL. PROJ. NO.	FED. AID PROJECT-			

Contract #60053



CROSS SECTION

(looking east)

DECK CROSS SECTION
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

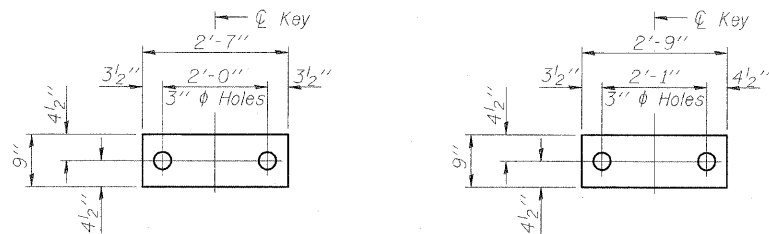
STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNT	SHEET NO.	SHEET NO.
FAP 311	625X-B-R-1	DuPage	29	14
FED. ROAD DIST. NO. 7	CHALLENGE	FED. AID PROJECT		

SHEET NO. 6
16 SHEETS

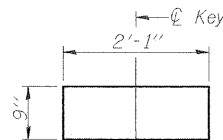
Contract #60C53



FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(adjacent to 21"x48" beams)

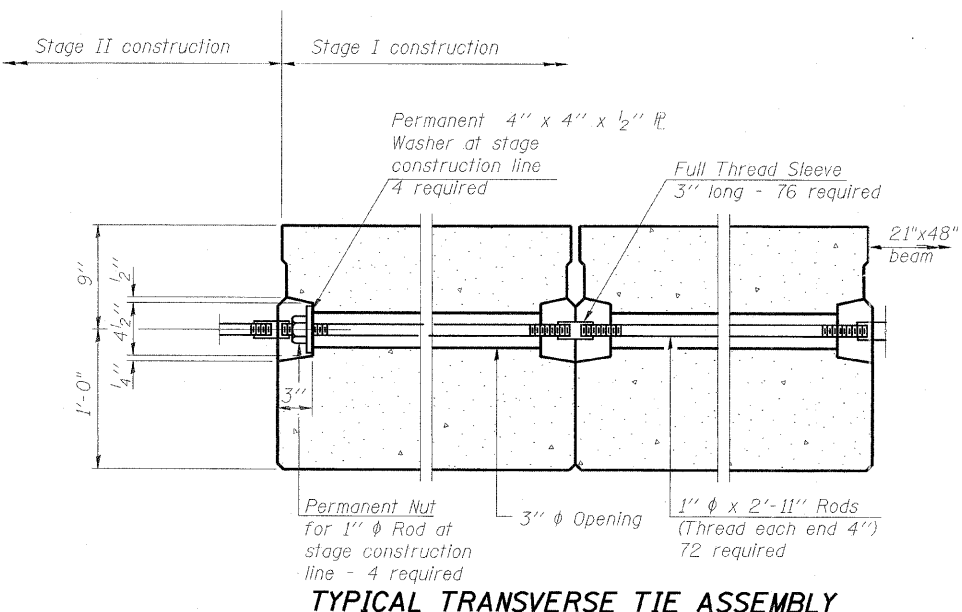
FIXED



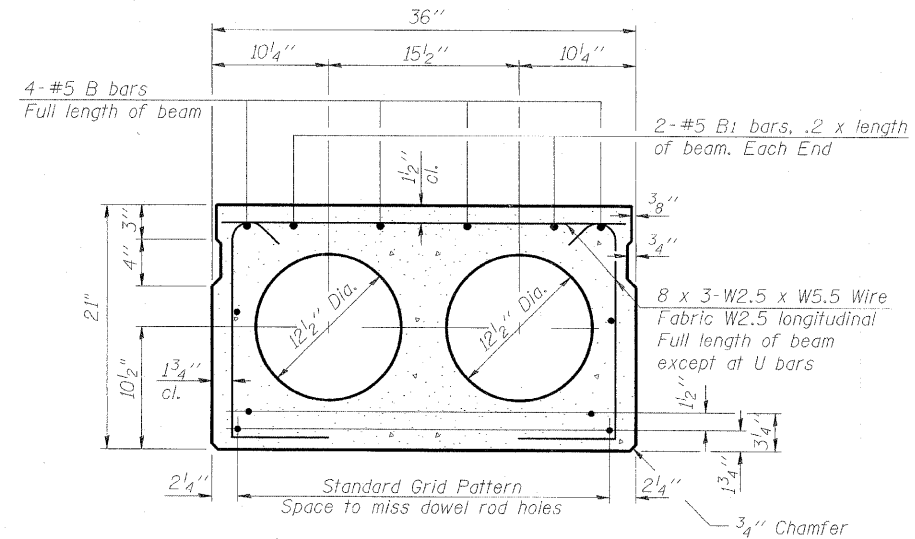
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(adjacent to 21"x48" beams)

EXPANSION



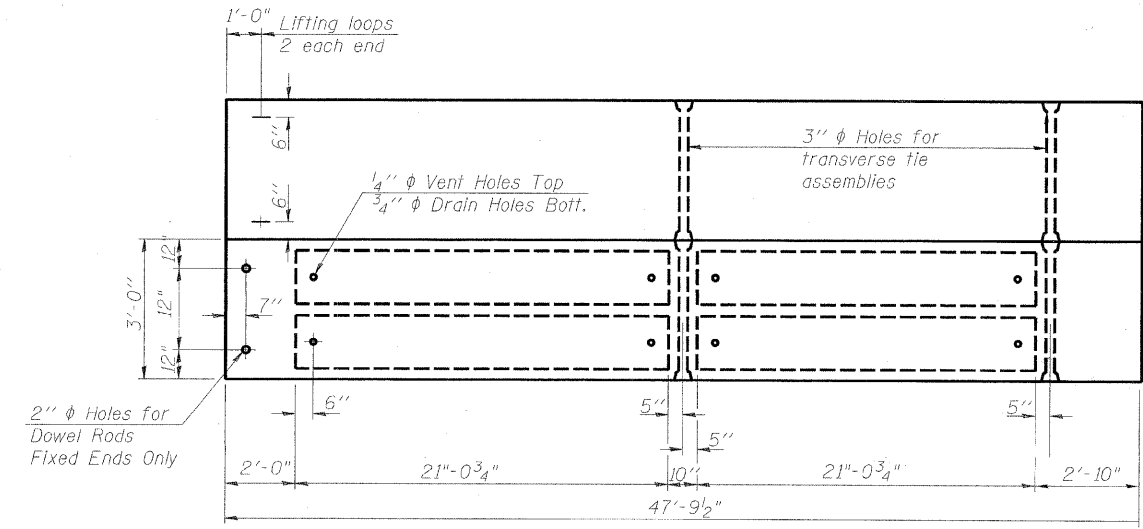
TYPICAL TRANSVERSE TIE ASSEMBLY



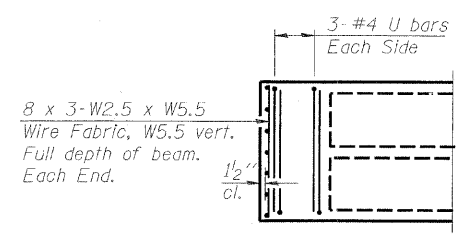
TYPICAL SECTION

16 - 1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 8-Strands 3/4" up, 2-strands 9" up

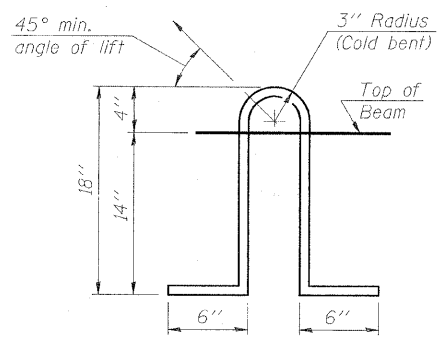
Note:
Place strands symmetrically about ϕ of beam.



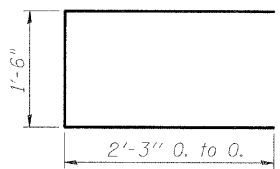
PLAN
(36 required)



END PLAN



LIFTING LOOP DETAIL



BAR U

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" ϕ - 270 ksi strands, as shown. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A 706 Gr. 60 (IL Modified). The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i.

BILL OF MATERIAL

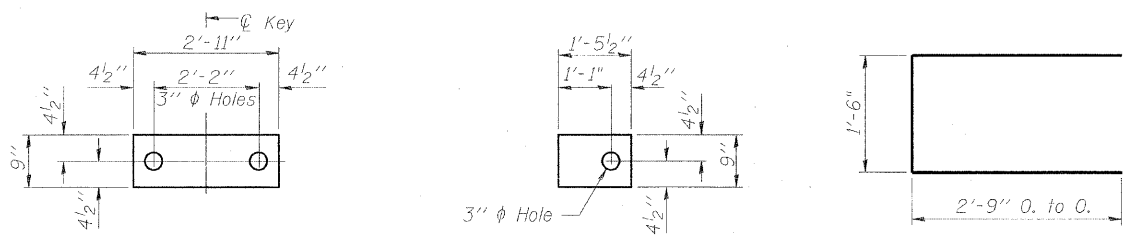
Precast Prestressed Concrete Deck Beams (21" depth)	Sq. Ft.	5,162
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21" x 36" P.P.C. DECK BEAMS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	15	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

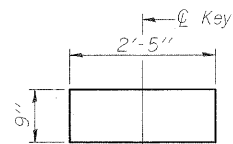


FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

BAR U

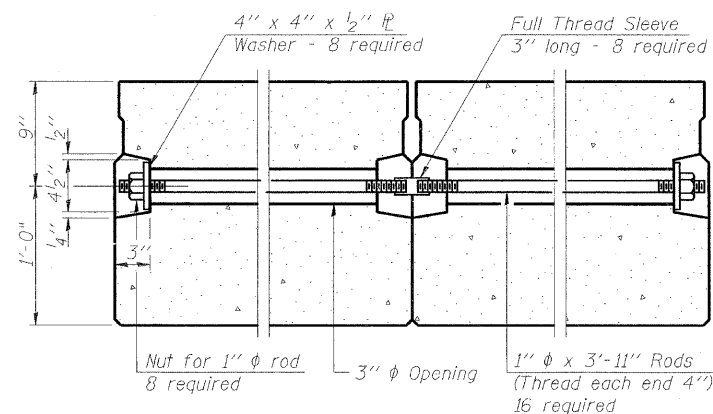
FIXED



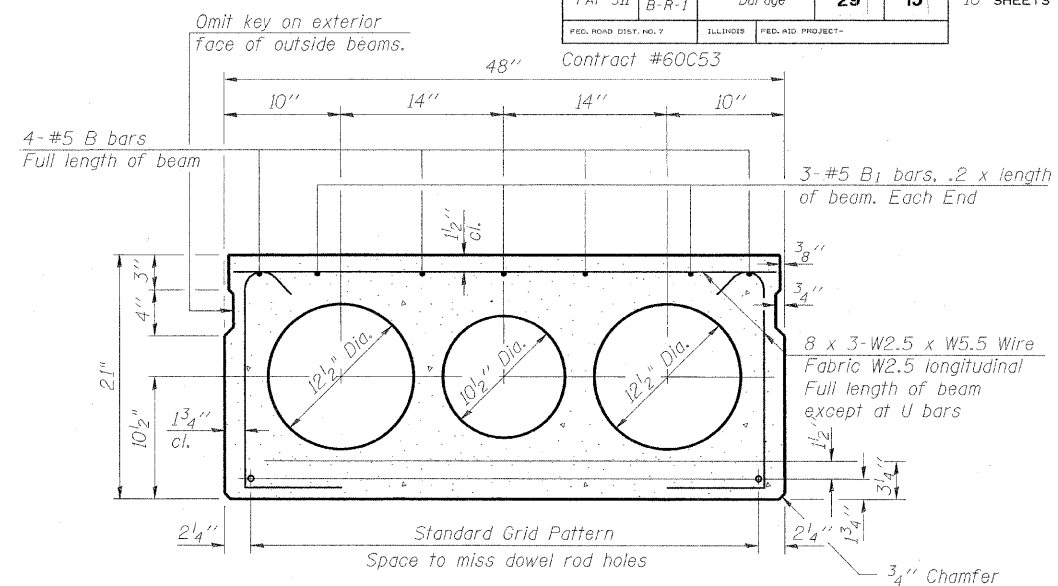
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

EXPANSION



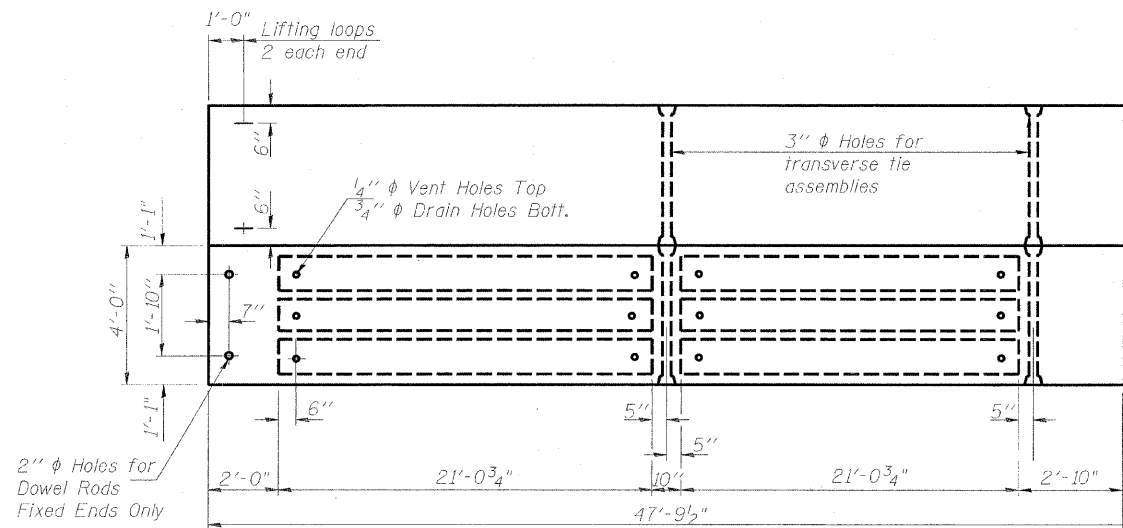
TYPICAL TRANSVERSE TIE ASSEMBLY



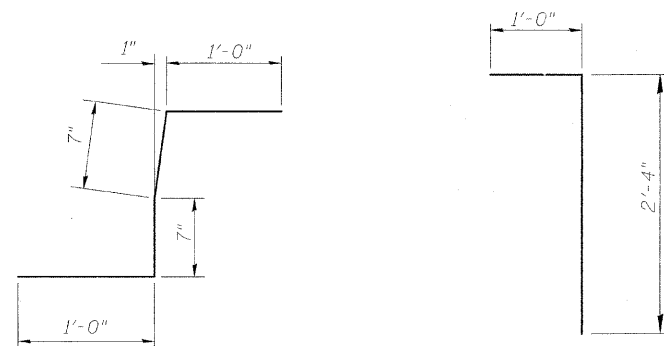
TYPICAL SECTION

16 - 1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
10-Strands 1 3/4" up, 4-Strands 3/4" up, 2 Strands 6" up

Note:
Place strands symmetrically about ϕ of beam.

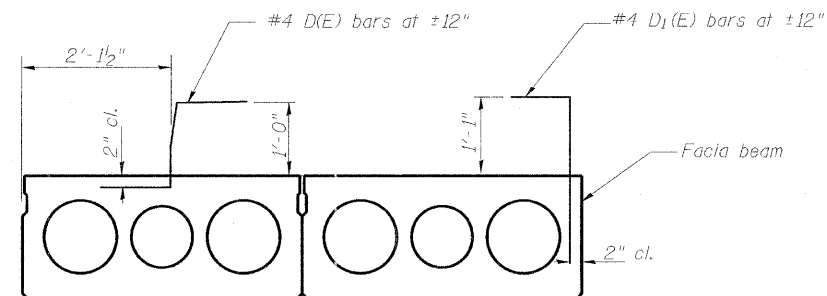


PLAN
(8 required)



D(E) BARS

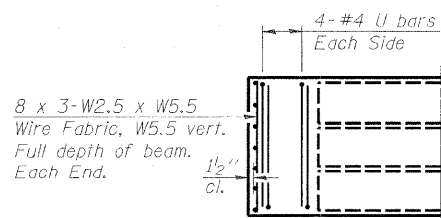
D1(E) BARS



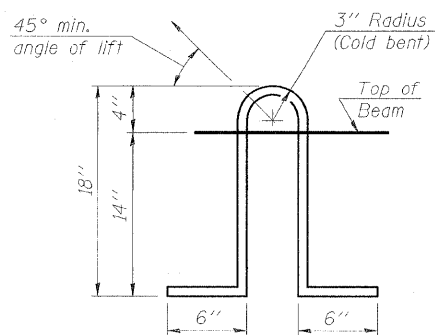
SECTION THRU BEAMS

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,529
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END PLAN



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" ϕ -270 ksi strands, as shown. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A 706 Gr. 60 (IL Modified). The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i.

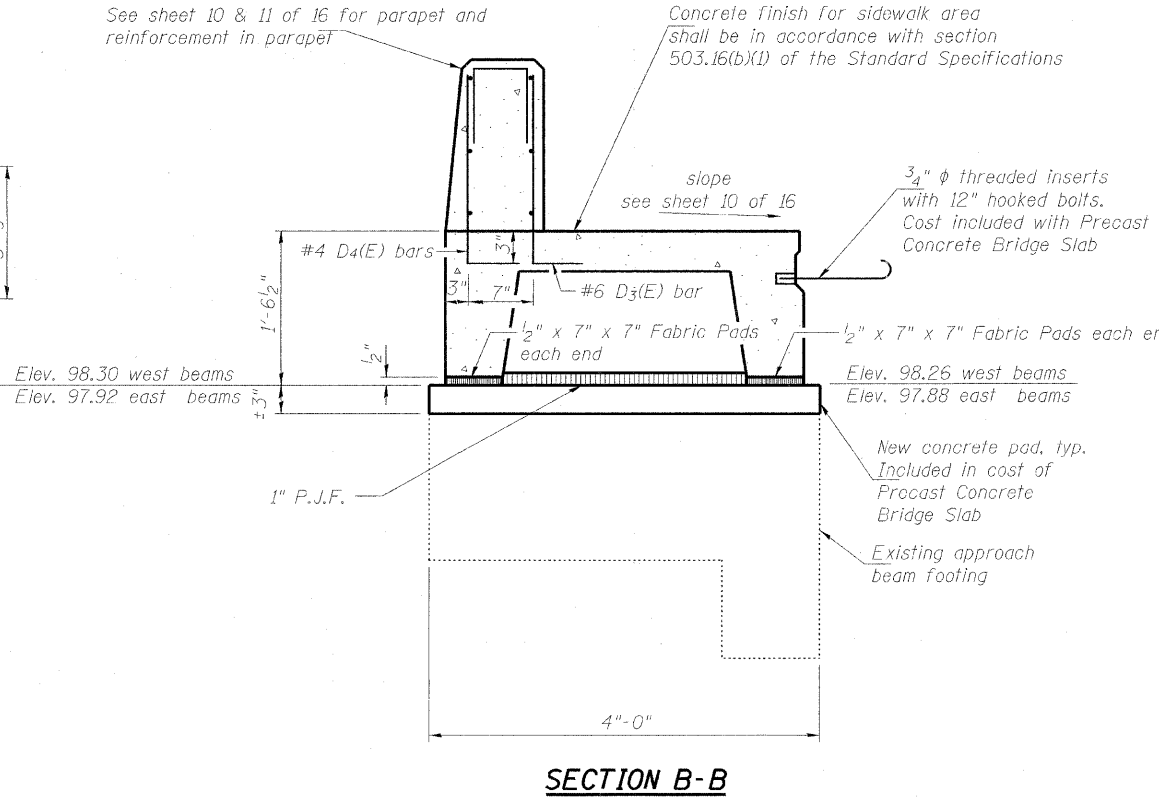
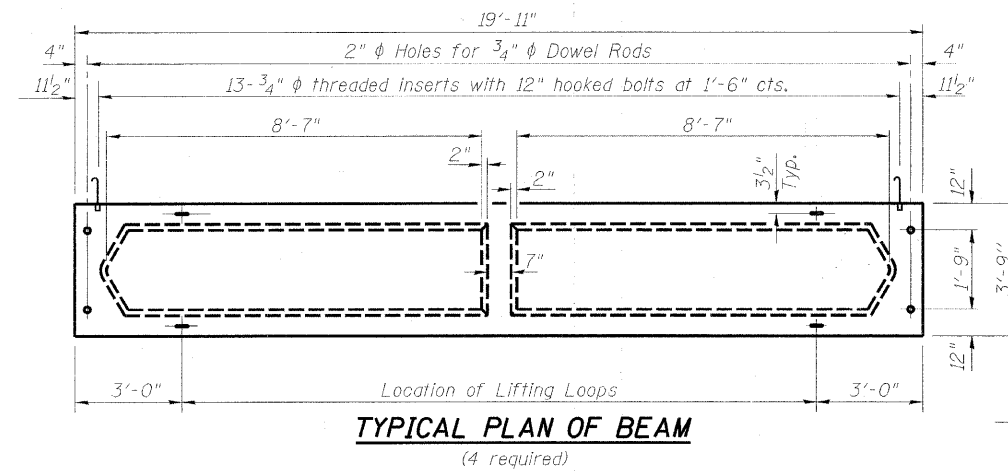
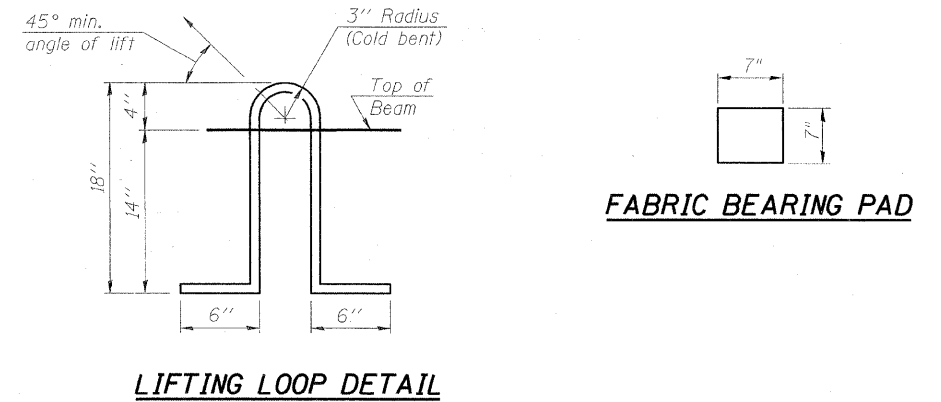
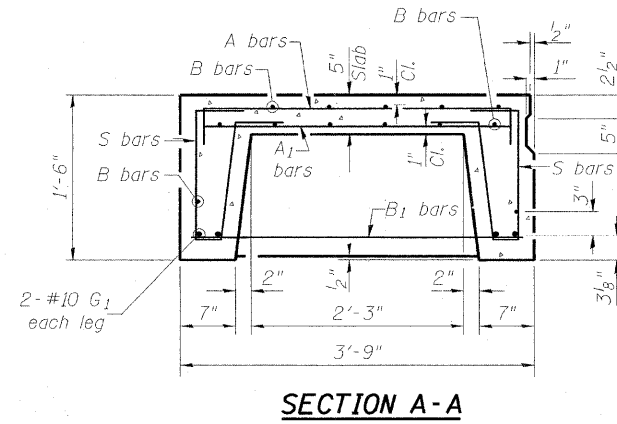
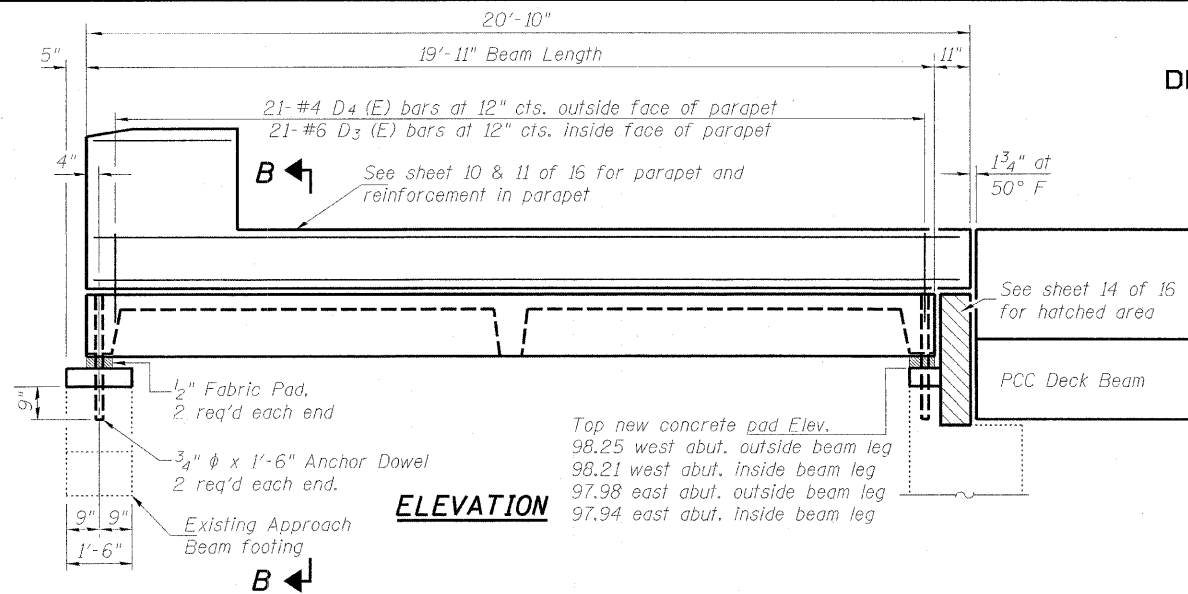
21" x 48" P.P.C. DECK BEAMS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040



DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	16	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #60C53		

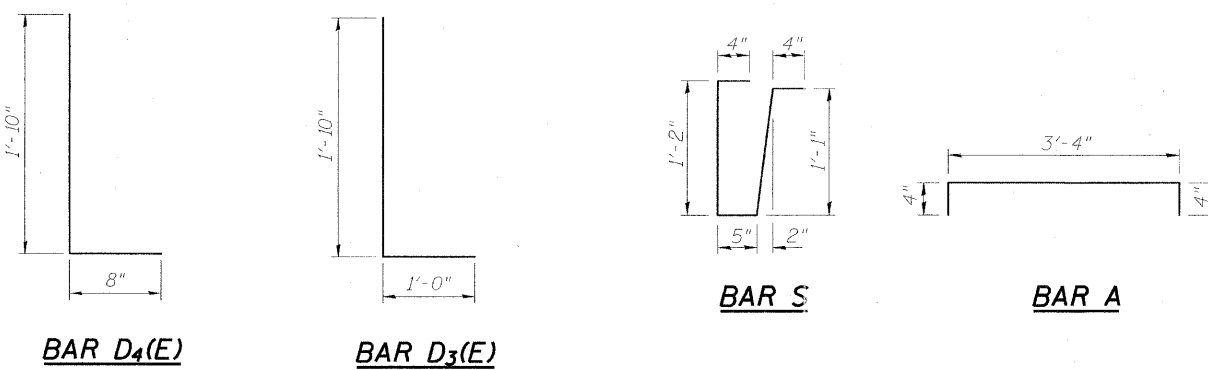
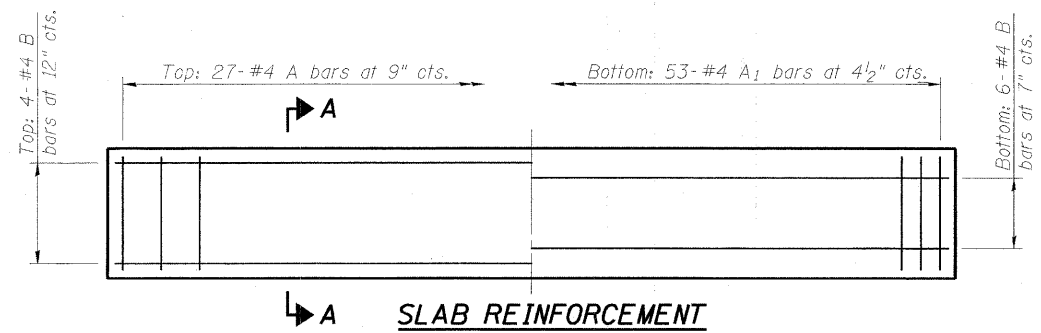
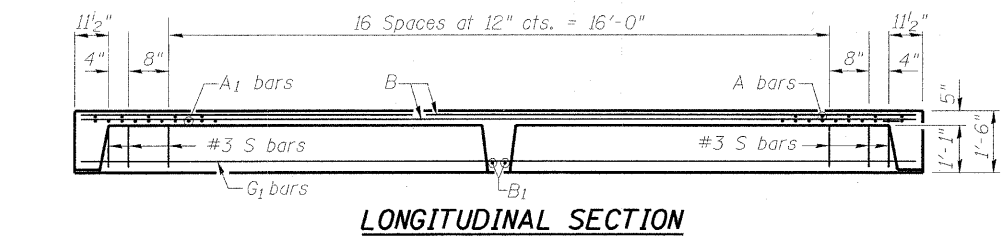


NOTES

Unless otherwise approved by the Engineer, each lifting loop shall be 2-1/2" ϕ non-galvanized high strength low relaxation, 7-wire, Grade 270 wire strands. Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, threaded inserts and hooked bolts shall be included in the cost of Precast Concrete Bridge Slab. Tack welding of stirrups to bottom longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer. Reinforcing steel shall conform to ASTM A 706 Gr. 60 (IL Modified). The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims of the dimensions of the bearing pad shall be provided for each bearing. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for Precast Concrete Bridge Slab.

BILL OF MATERIAL

Material	Sq. Ft.	Quantity
Precast Concrete Bridge Slab		299



DESIGNED	DDB
CHECKED	LLV
DRAWN	MGM
CHECKED	DDB

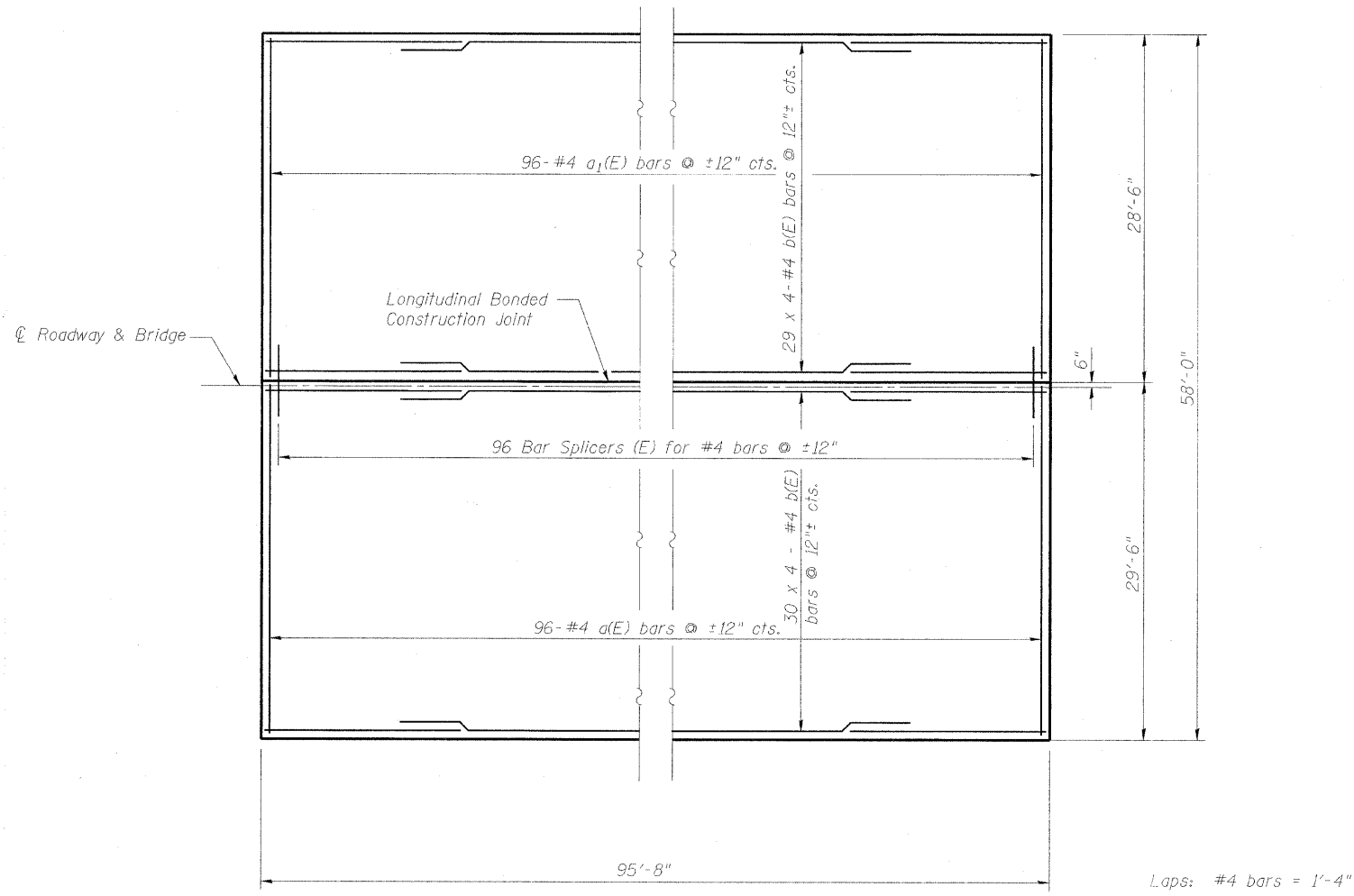
PRECAST APPROACH BEAMS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 625X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	17	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #60C53

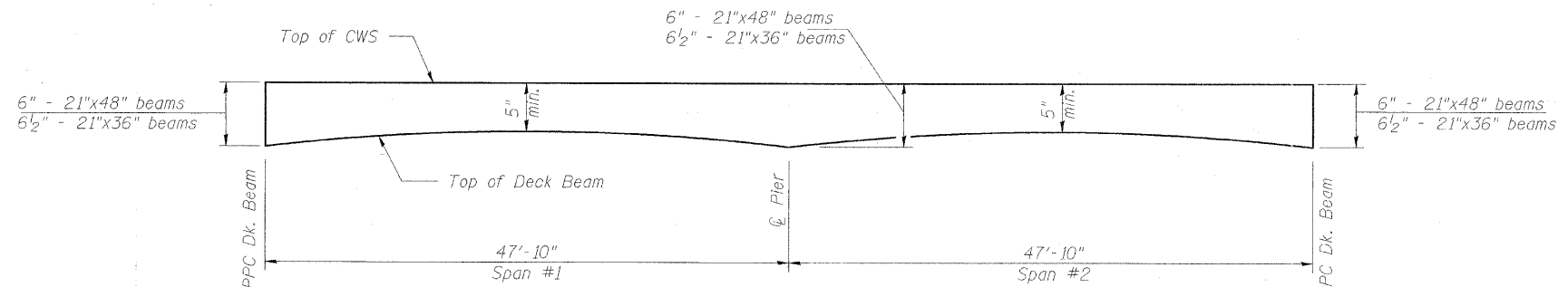


PLAN

BILL OF MATERIAL

Concrete Wearing Surface, Sidewalks and Parapets
Sheets 9, 10 and 11 of 16

Bar	No.	Size	Length	Shape	
a(E)	96	#4	29'-3"	—	
a1(E)	96	#4	28'-3"	—	
a2(E)	192	#4	5'-8"	—	
b(E)	316	#4	24'-11"	—	
d(E)	192	#4	3'-5"	┌	
d1(E)	192	#6	3'-5"	┌	
d2(E)	88	#4	2'-0"	┌	
d3(E)	56	#5	3'-3"	┌	
e(E)	72	#4	15'-7"	—	
e1(E)	24	#4	20'-6"	—	
e2(E)	24	#4	6'-2"	—	
Reinforcement Bars, Epoxy Coated				Pound	12,580
Concrete Wearing Surface, 5"				Sq. Yd.	617
Concrete Superstructure				Cu. Yd.	74.8



CONCRETE WEARING SURFACE PROFILE

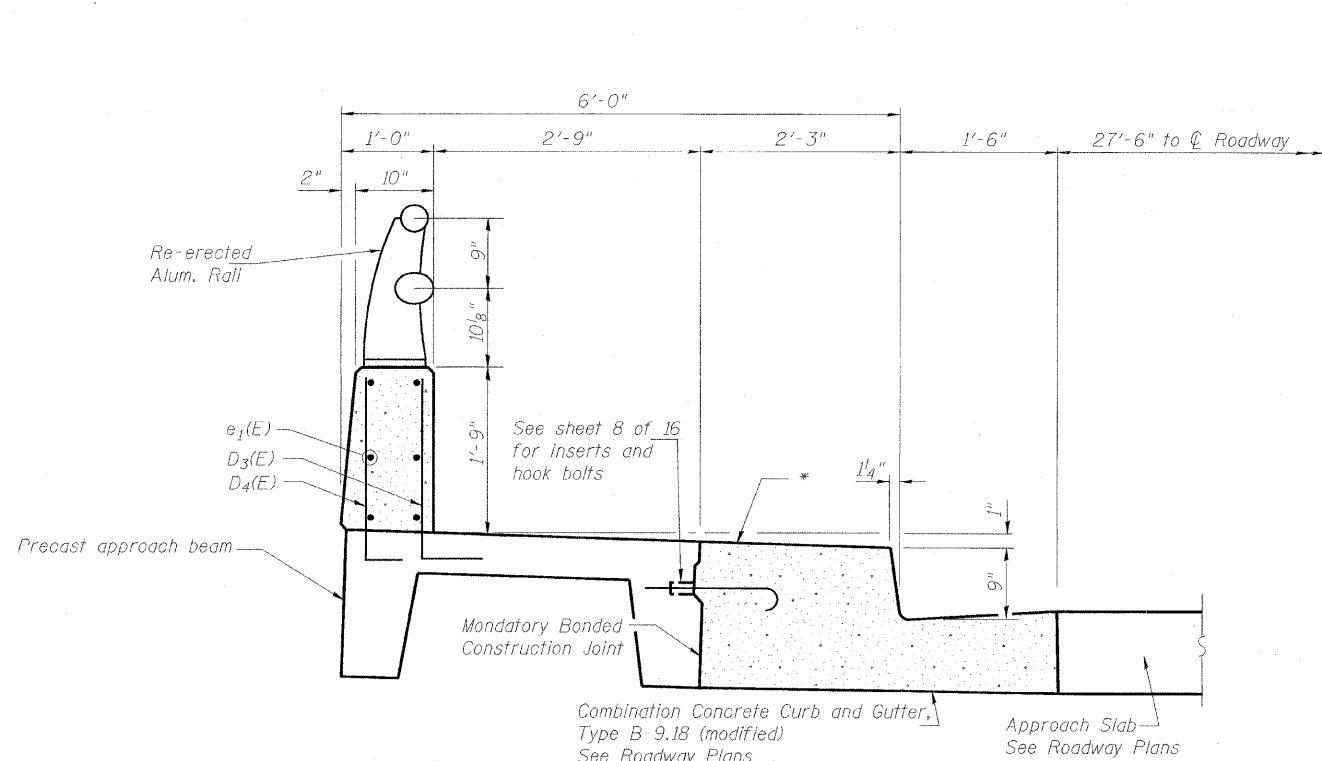
CONCRETE WEARING SURFACE
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

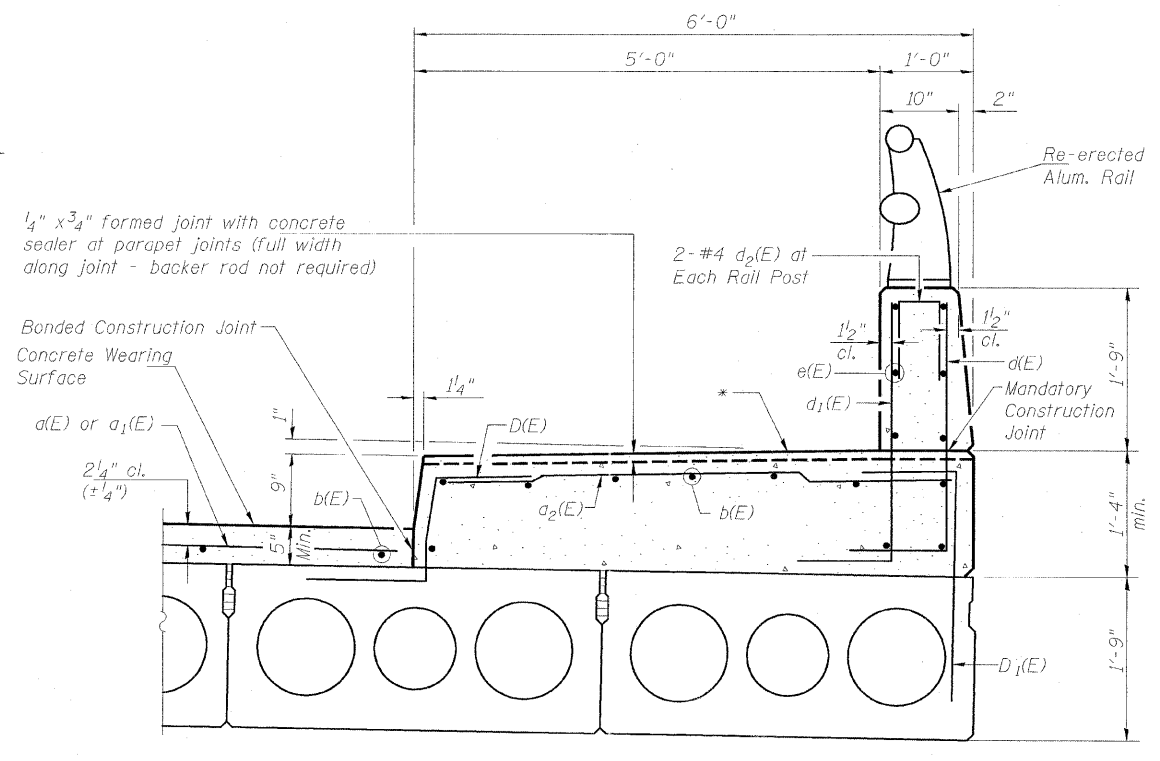
STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

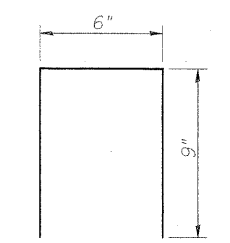
ROUTE NO.	SECTION	COUNTY	CONTRACT NO.	SHEET NO.	SHEET NO. 10 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	18	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract #60053		



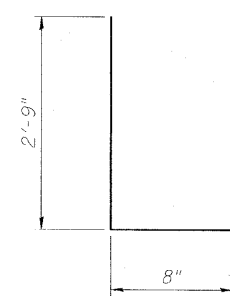
SECTION THRU PARAPETS AT APPROACH SLABS



SECTION THRU SIDEWALKS & PARAPETS ON BRIDGE

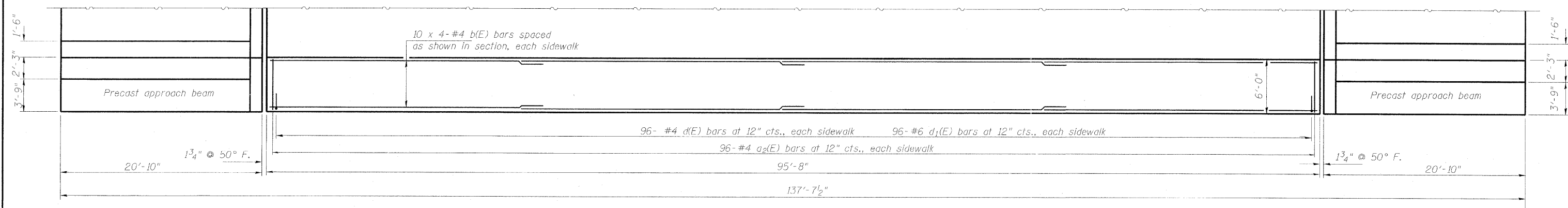


BAR d2(E)



BAR d(E) & d1(E)

* Concrete finish for sidewalk area shall be in accordance with section 503.16(b)(1) of the Standard Specifications



SIDEWALK PLAN
East side shown, west side similar

BAR LAPS
#4 bars - 1'-4"

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

SIDEWALKS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 625X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

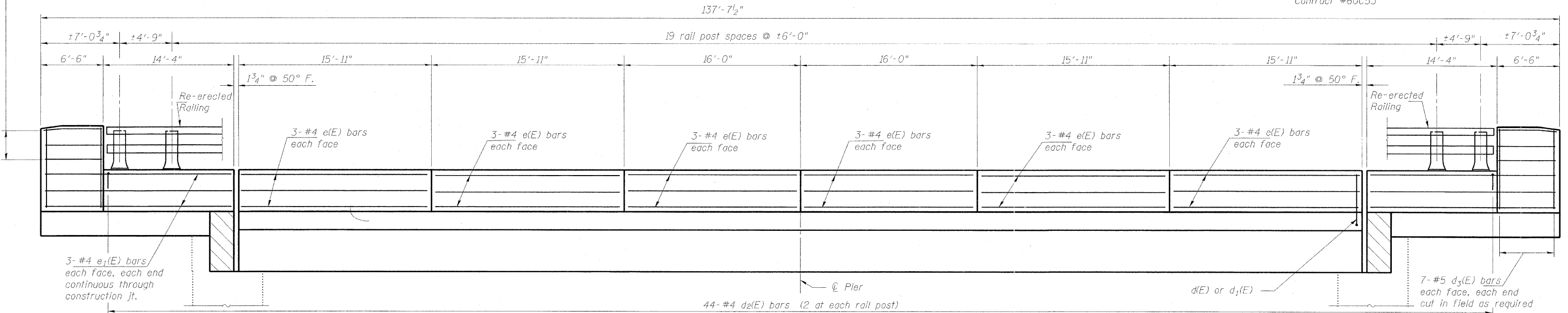
STS CONSULTANTS
111 NE Jefferson Ave.
Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	19	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

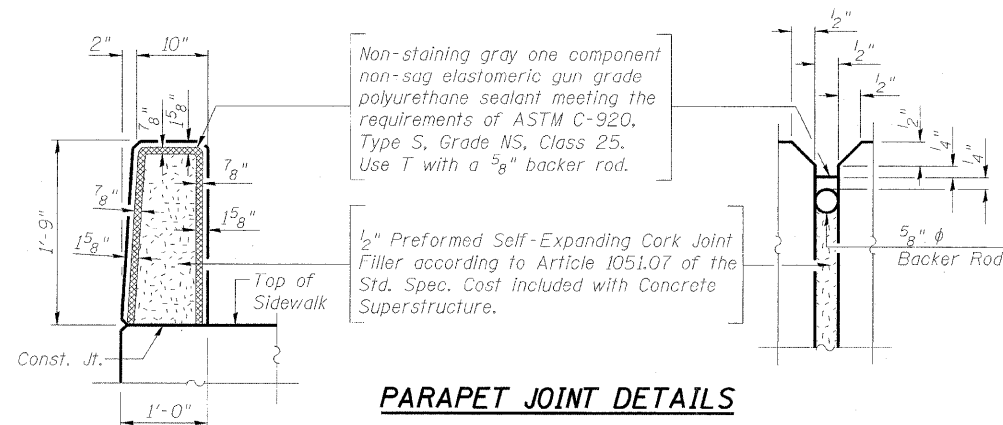
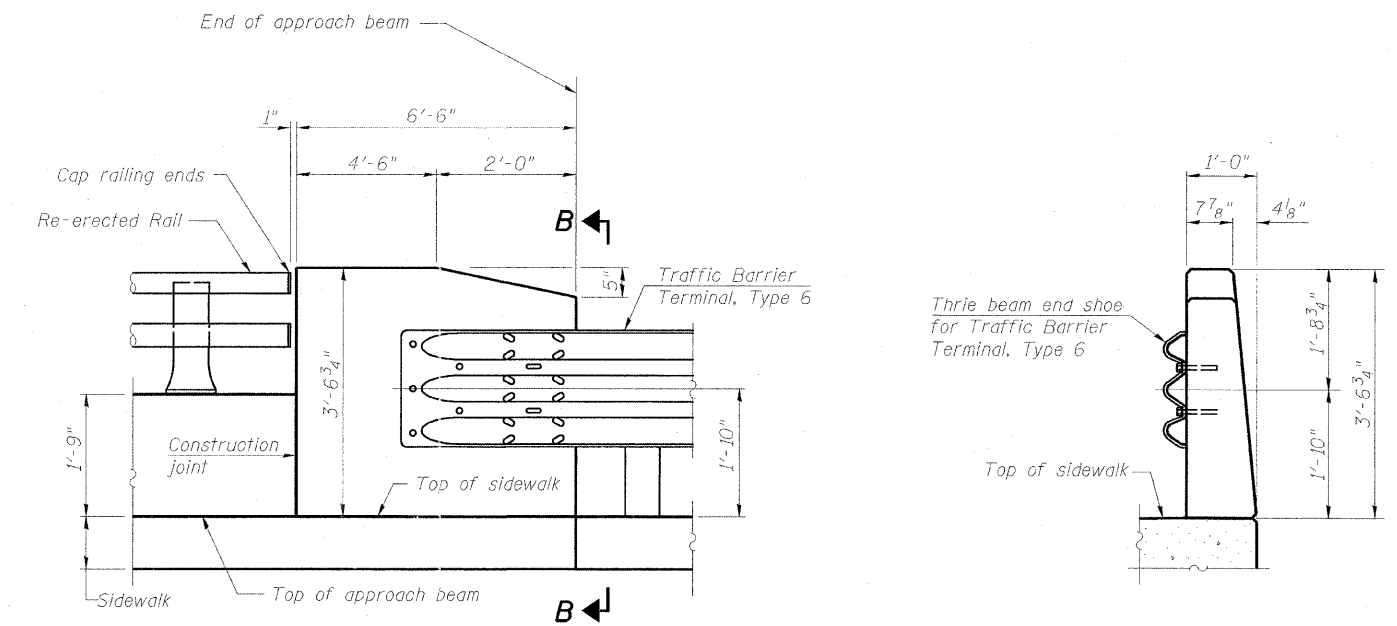
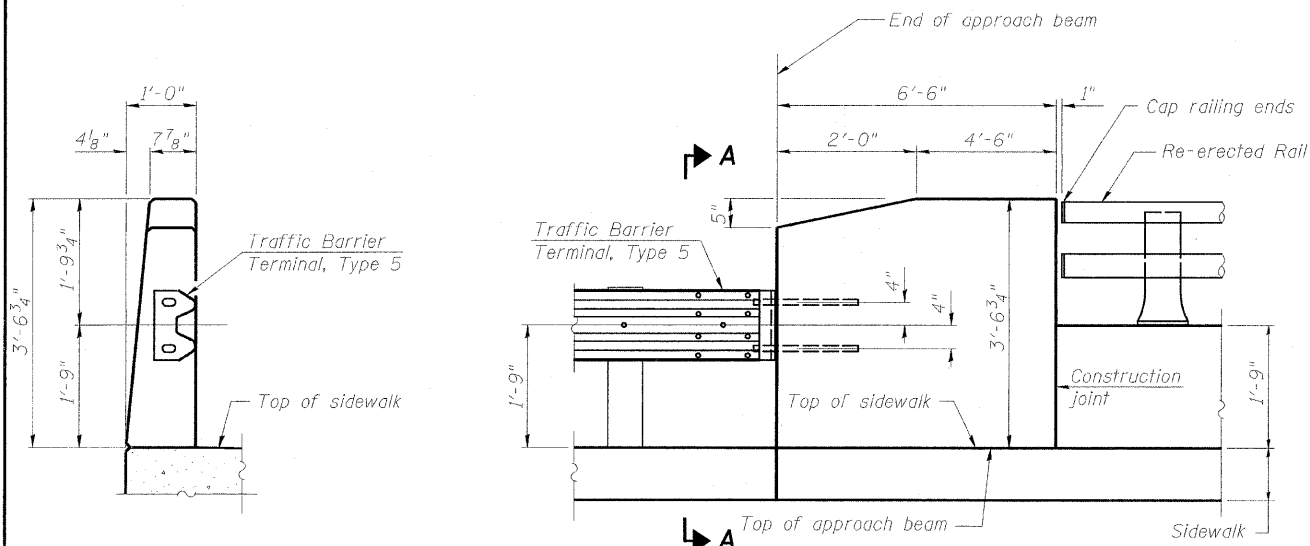
Contract #60C53

3-#4 e₂(E) bars,
each face, each end
Bend in field as required.



ELEVATION OF PARAPETS

Note: Contractor shall measure existing rail post spacing and make any adjustments to parapet dimensions as required prior to constructing parapets.



DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

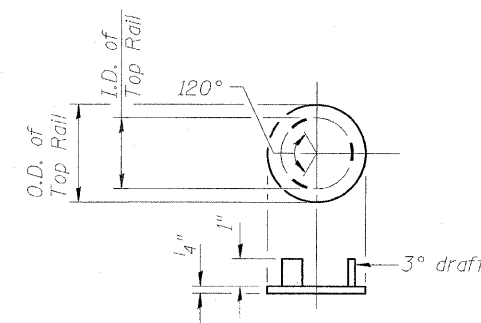
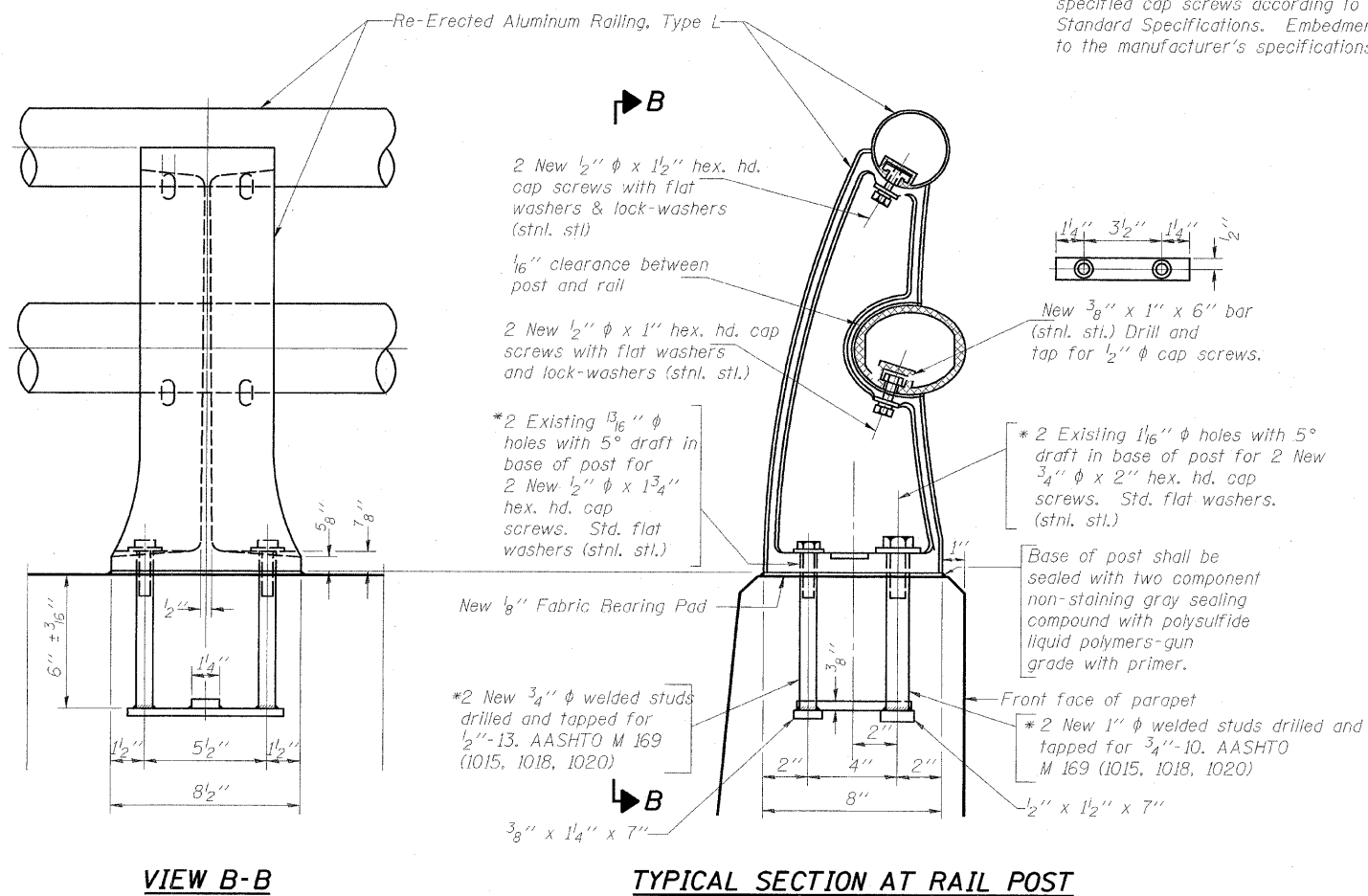
PARAPETS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 625X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 311	625X-B-R-1	DuPage	29	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

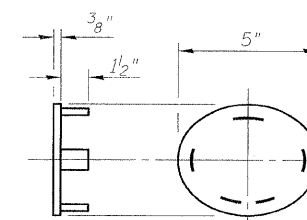
SHEET NO. 12
16 SHEETS

Contract #60C53



NEW CAST END CAP

Included in cost of Removing and Re-erecting Existing Railing
For Top Rail
(4 Required)



NEW CAST END CAP

Included in cost of Removing and Re-erecting Existing Railing
For Bottom Rail
DRIVE FIT TYPE
(4 Required)

BILL OF MATERIAL

Item	Unit	Quantity
Removing and Re-erecting Existing Railing.	Foot	249

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

(7'-0" to 10'-0" Post spacing)

Notes:

- All Posts shall be normal to parapet.
- Provide 1- $\frac{1}{8}$ " and 2- $\frac{1}{16}$ " Aluminum Shims for 25% of the Posts. Rail elements shall be parallel to Grade-high spots will be ground and low spots shimmed.
- See Special Provision for Removing and Re-erecting Existing Railing.

RAILING
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

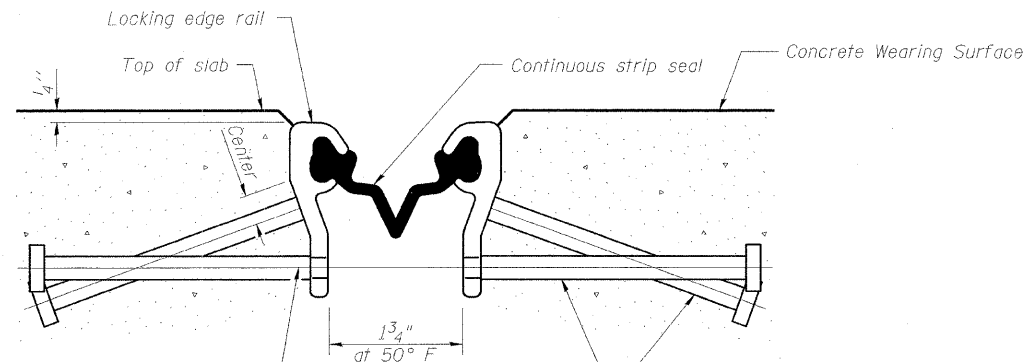


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 311	625X-B-R-1	DuPage	29	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
16 SHEETS

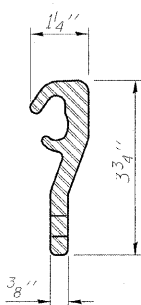
Contract #60C53



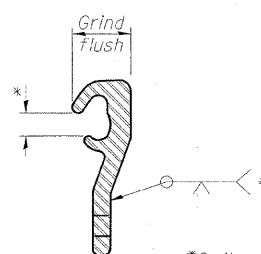
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2" ϕ x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

SECTION THRU STRIP SEAL JOINT FOR OVERLAY OVER DECK BEAMS



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

*Omit weld at seal opening.

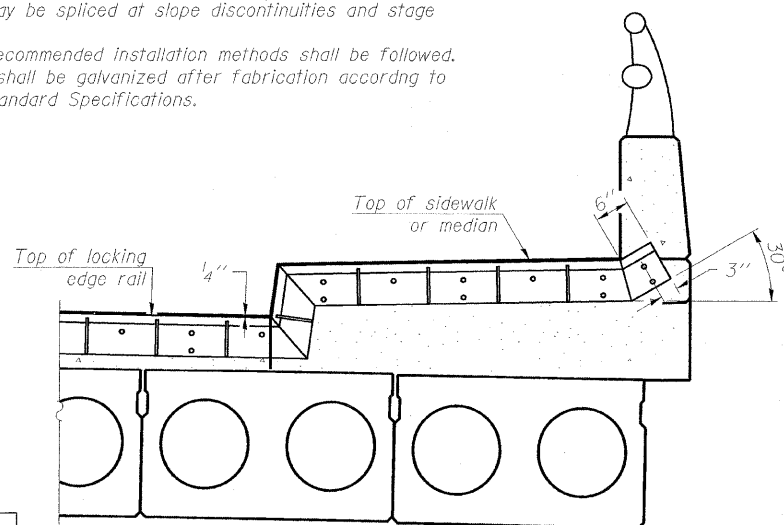
Notes for Strip Seal:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

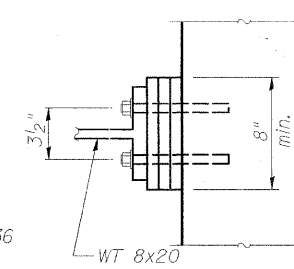
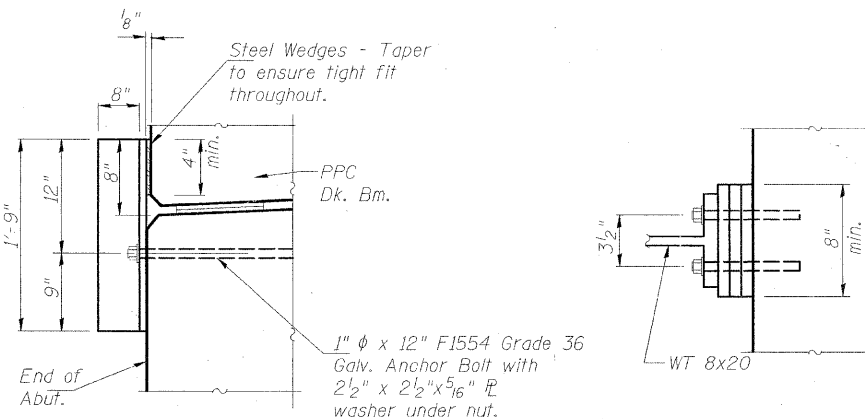
The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

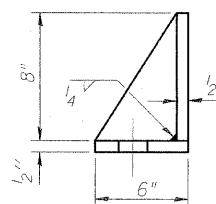


TYPICAL END TREATMENTS AT SIDEWALK OR MEDIAN

STRIP SEAL AT EXPANSION JOINTS

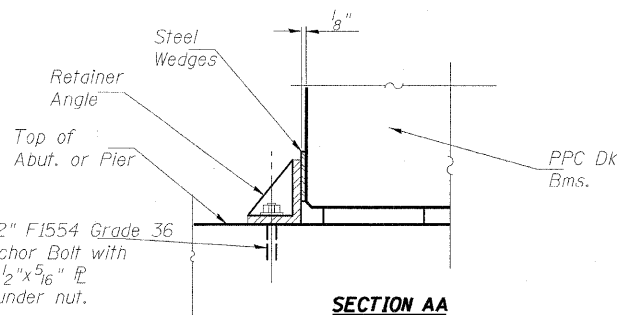
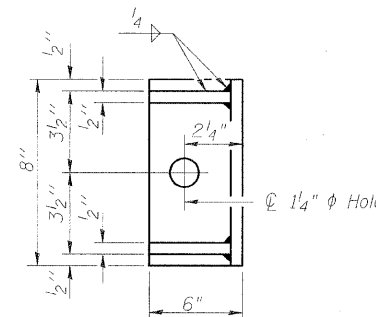


ALTERNATE RETAINER

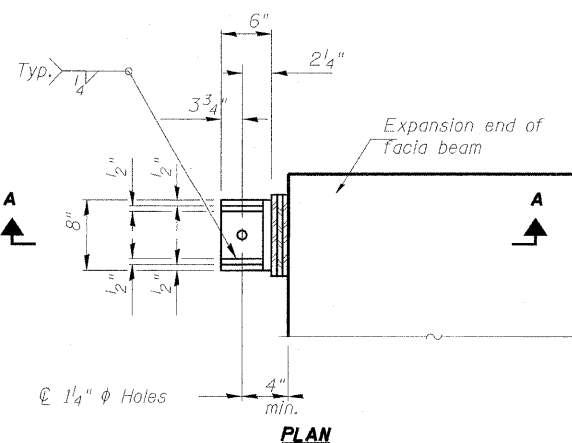


RETAINER ANGLE

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION AA



PLAN

PERMANENT AND TEMPORARY RETAINER ANGLES

Retainer Angle Notes:

Permanent side retainers shall be provided outside the fascia beams at the expansion ends of all spans. Temporary side retainers shall be provided outside the fascia beams at the expansion ends of all spans at the stage construction line.

All retainers and anchor bolts are included in the cost of Precast Prestressed Concrete Deck Beams of the applicable depth.

After the Concrete Wearing Surface has been poured and cured the temporary retainer angles and anchor bolts shall be removed. Anchor bolts shall be cut off flush, ground smooth, and sealed with epoxy.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material), Grade 36 of the diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Retainers shall be shimmed tight until the concrete wearing is poured and cured. The shims shall then be removed from the permanent retainers and the retainers left in place.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	141

EXPANSION JOINT DETAILS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040



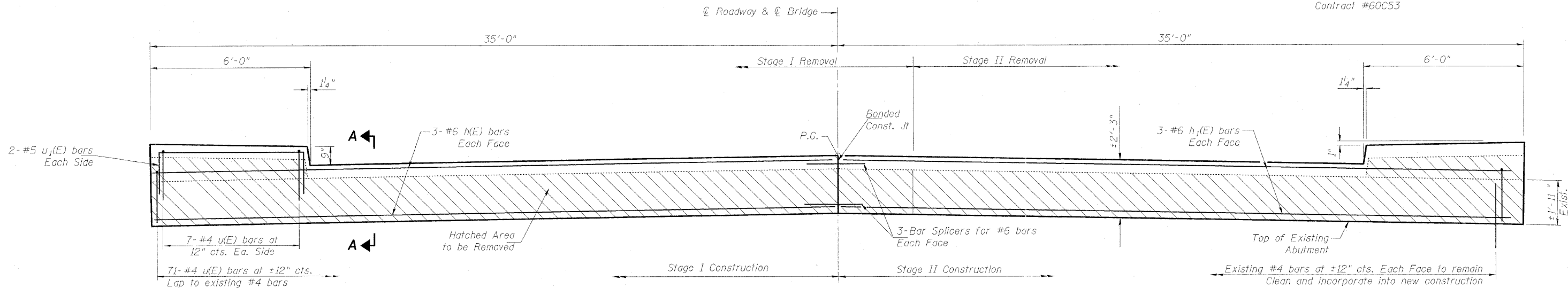
STS CONSULTANTS
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Peoria, Illinois 61602
Ph(309)676-8464
FAX(309)676-5445
IL Design Firm Reg. No. 184-001518

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

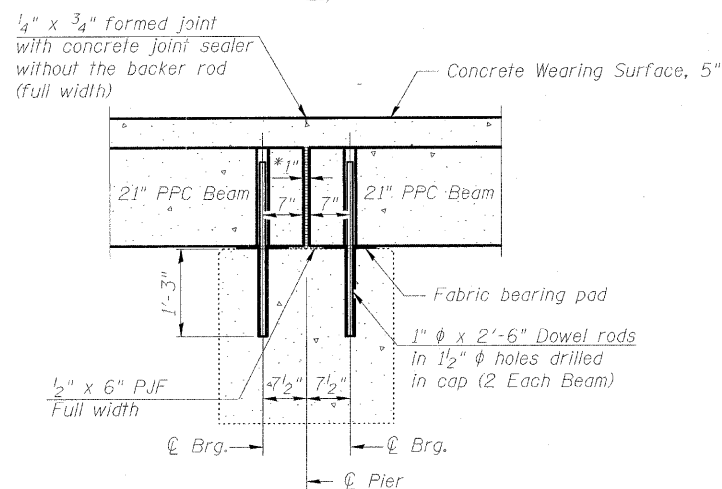
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	22	
FED. ROAD DIST. NO. 7		S.I. INCHES		FED. AID PROJECT	

Contract #60C53



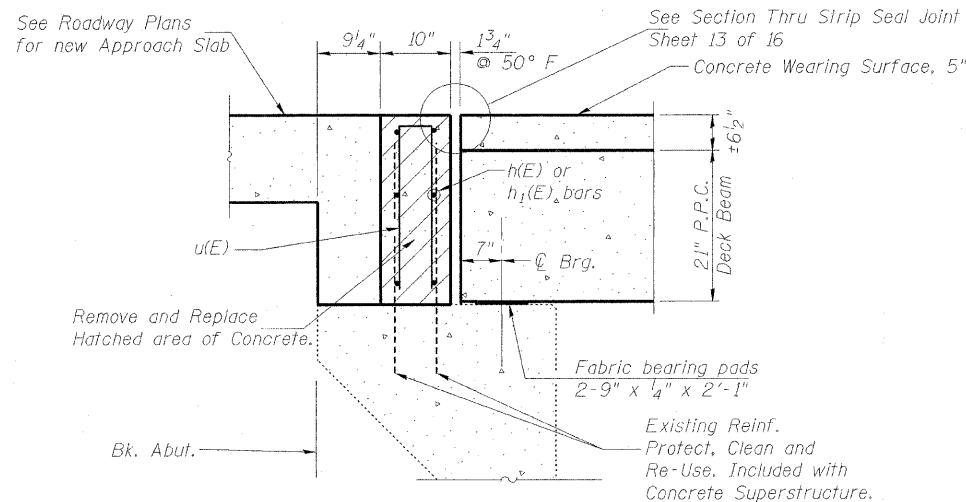
ABUTMENT ELEVATION

Looking east - typical both abutments



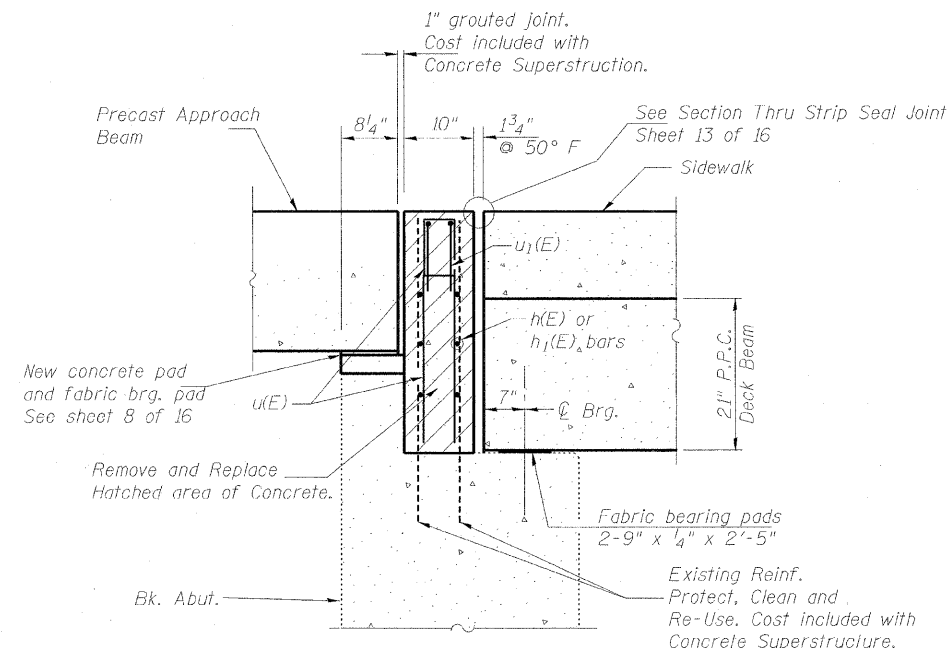
SECTION THRU FIXED PIER

*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



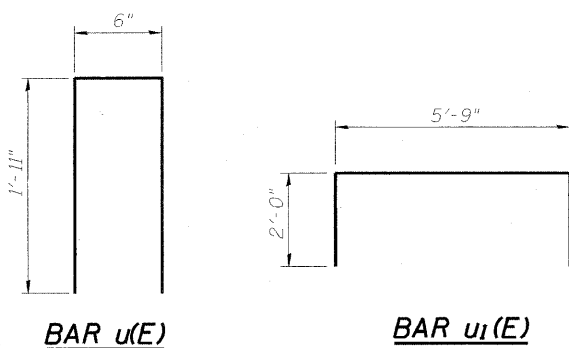
SECTION THRU NORTH AND SOUTH ABUTMENT

(at roadway)



SECTION THRU NORTH AND SOUTH ABUTMENT

(near end of abut. at approach beams)



NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Existing dowel rods shall be burned off flush with the top of the abutment or pier.
3. Hatched area concrete shall be placed after PPC Deck Beams have been set
4. Cost of concrete removal is included in Removal of Existing Superstructures.

BILL OF MATERIAL - 2 ABUTS

Bar	No.	Size	Length	Shape
h(E)	12	#6	34'-8"	—
h1(E)	12	#6	34'-8"	—
u(E)	170	#4	4'-4"	—
u1(E)	8	#5	9'-9"	—
Concrete Superstructure			Cu. Yd.	10.3
Reinforcement Bars, Epoxy Coated			Lb.	1,820

ABUTMENTS AND PIER DETAILS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040



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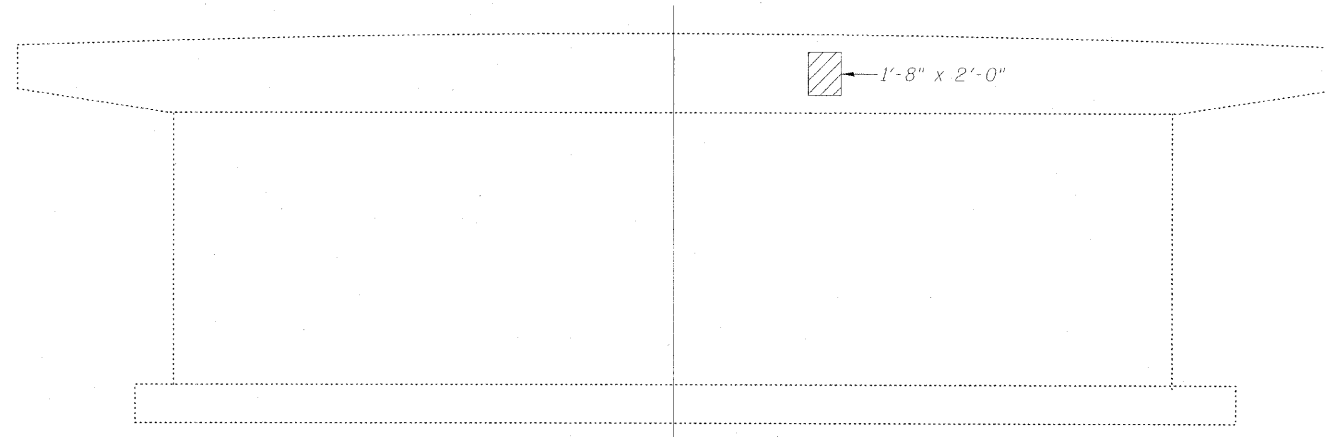
DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

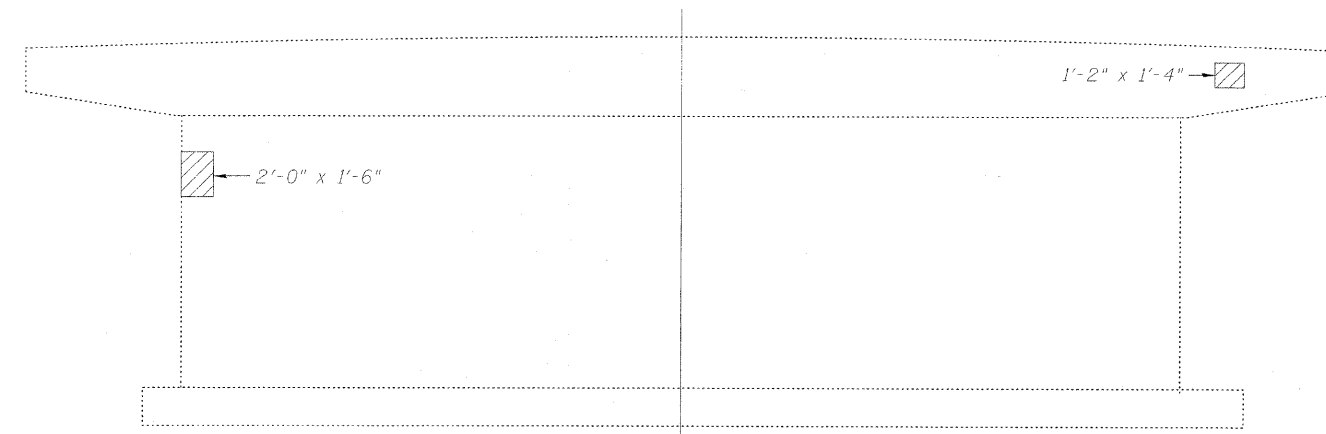
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FAP 311	625X-B-R-1	DuPage	29	23	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract #60C53		

LEGEND

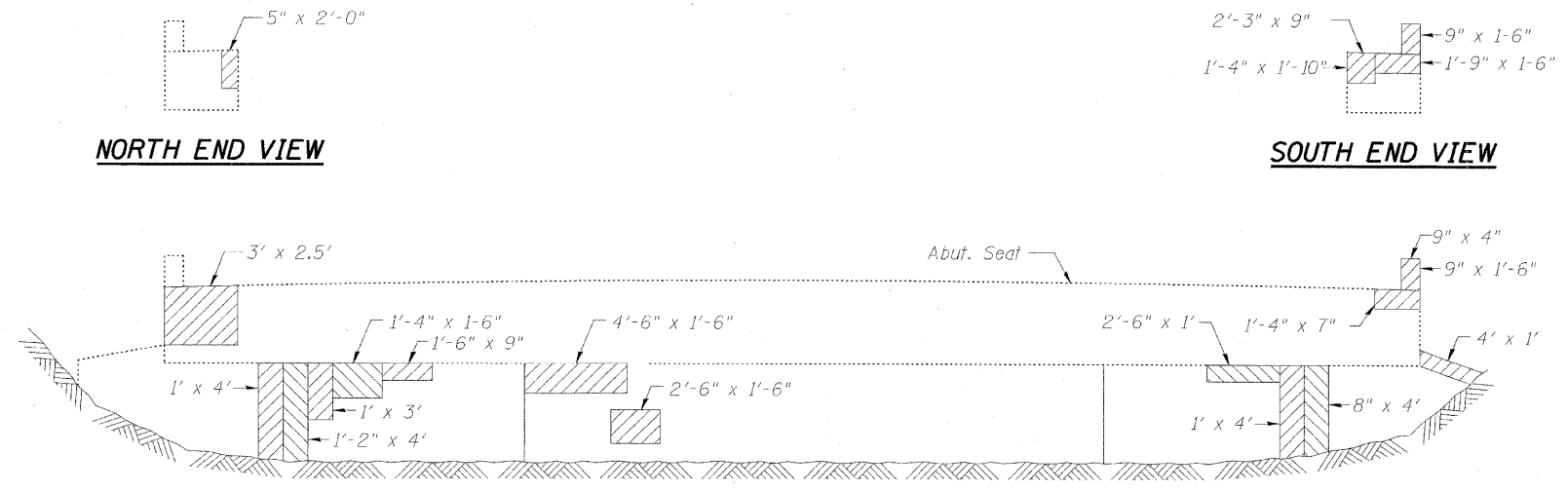
 OR  Structural Repair of Concrete (Depth Equal to or Less than 5 inches)



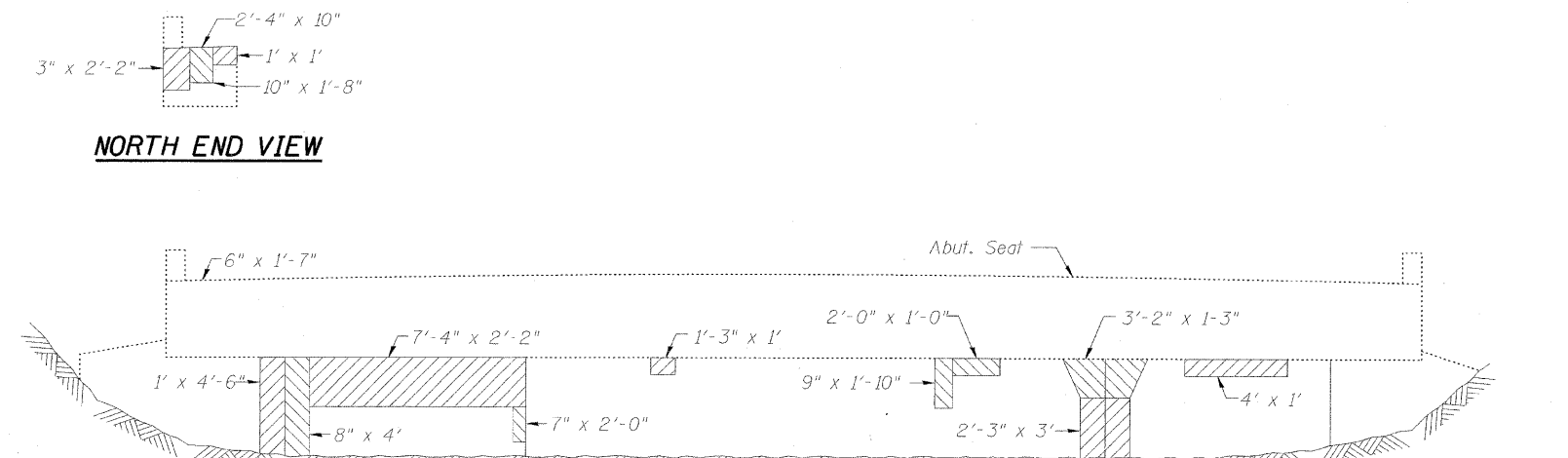
PIER - EAST FACE



PIER - WEST FACE



EAST ABUTMENT



WEST ABUTMENT

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)	Sq. Ft.	125

SUBSTRUCTURE REPAIRS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

 **STS CONSULTANTS**
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 16 SHEETS
FAP 311	625X-B-R-1	DuPage	29	24	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #60053

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

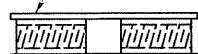
The diameter of this part is equal or larger than the diameter of bar spliced.
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

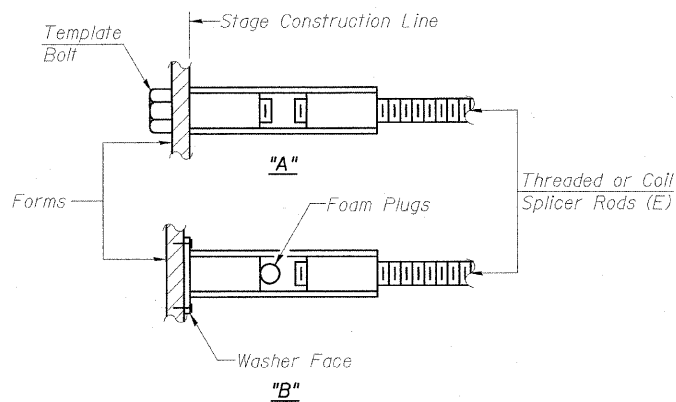
Wire Connector



WELDED SECTIONS

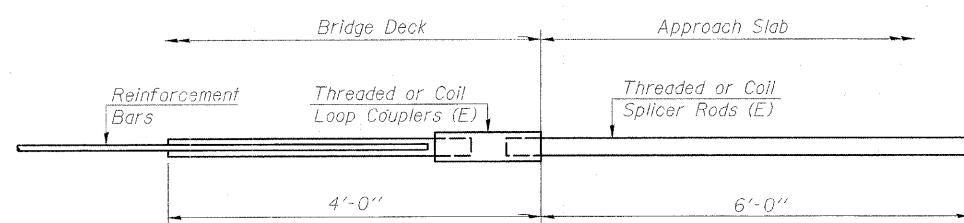
BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



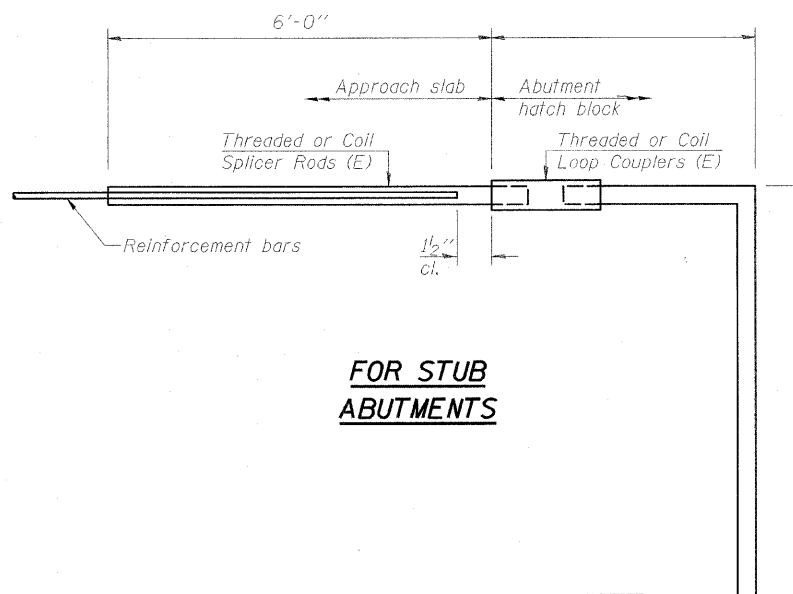
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.



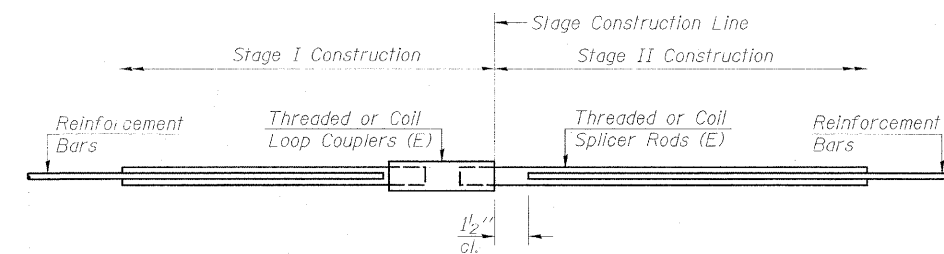
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =

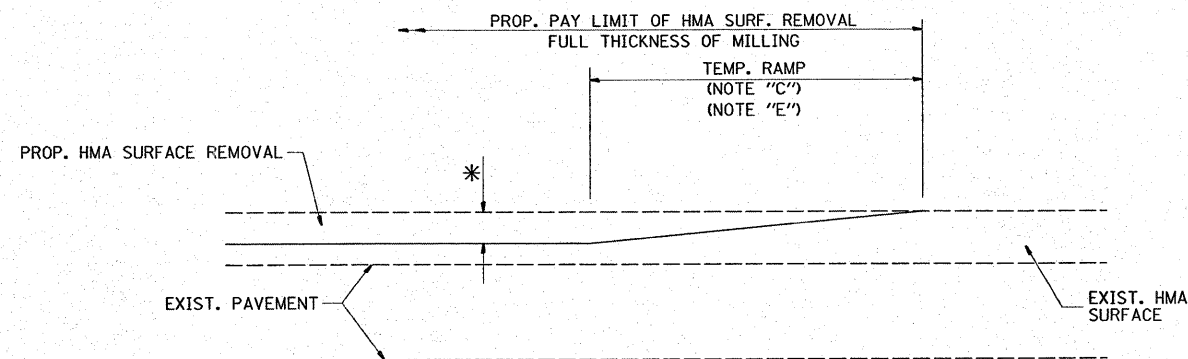


STANDARD

Bar Size	No. Assemblies Required	Location
#4	96	CWS
#6	12	N & S. Abuts

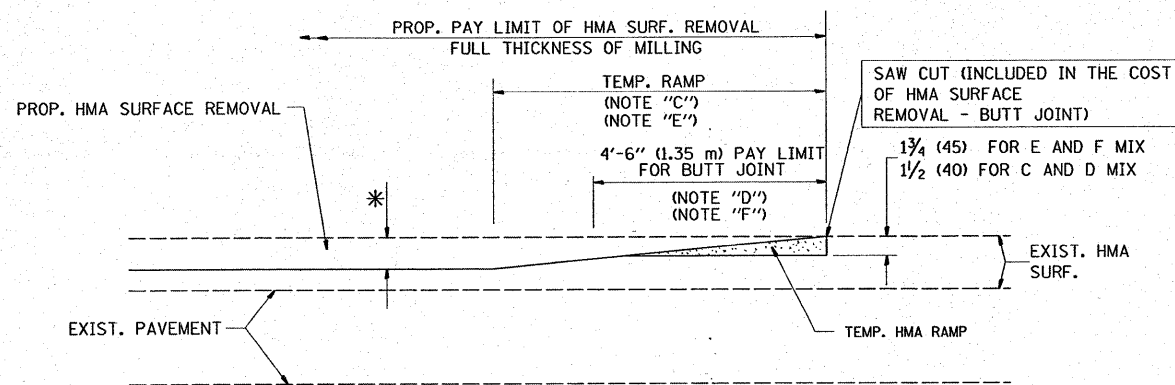
BAR SPLICER DETAILS
F.A.P. 311 (US RTE. 34)
OVER W BRANCH OF DU PAGE RIVER
SECTION 652X-B-R-1,
DU PAGE COUNTY, STA. 1701+11
STRUCTURE NO. 022-0040

DESIGNED	DDB
CHECKED	LLV
DRAWN	JSD
CHECKED	DDB



MILLED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

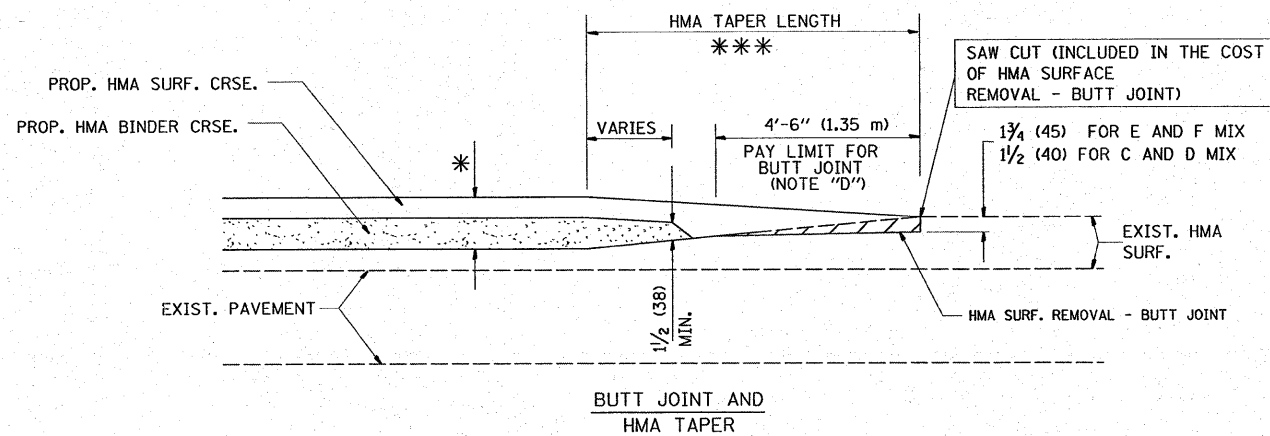
OPTION 1



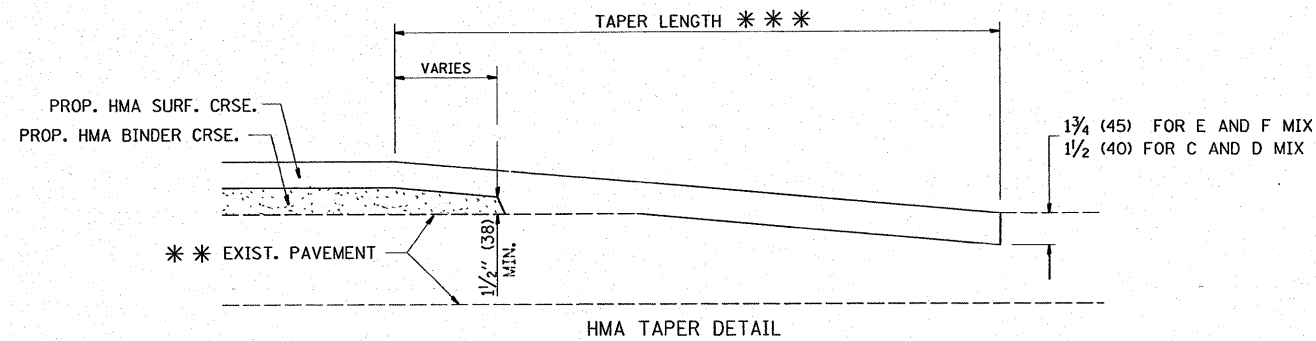
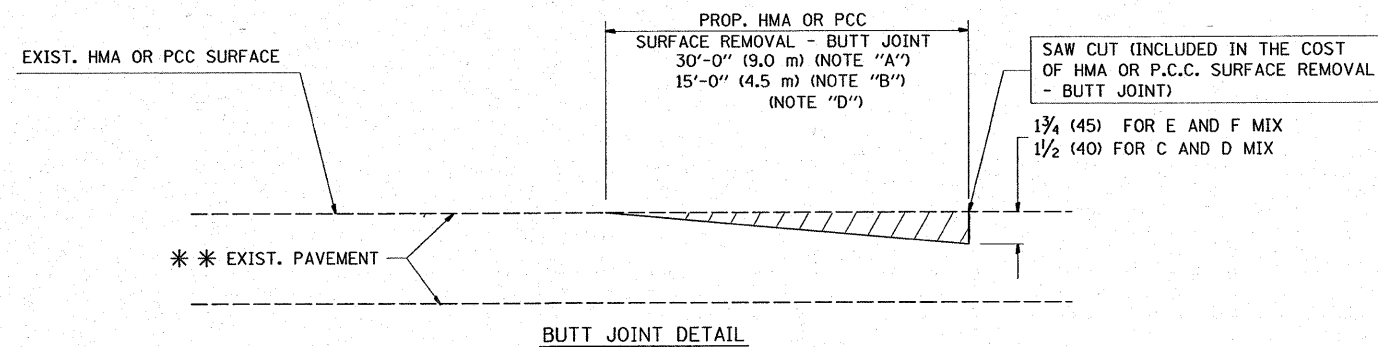
HMA CONSTRUCTED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 2

TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER
FOR MILLING AND RESURFACING



TYPICAL BUTT JOINT AND HMA TAPER
FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
 - B: MINOR SIDE ROADS.
 - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
 - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
 - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
 - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
 - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

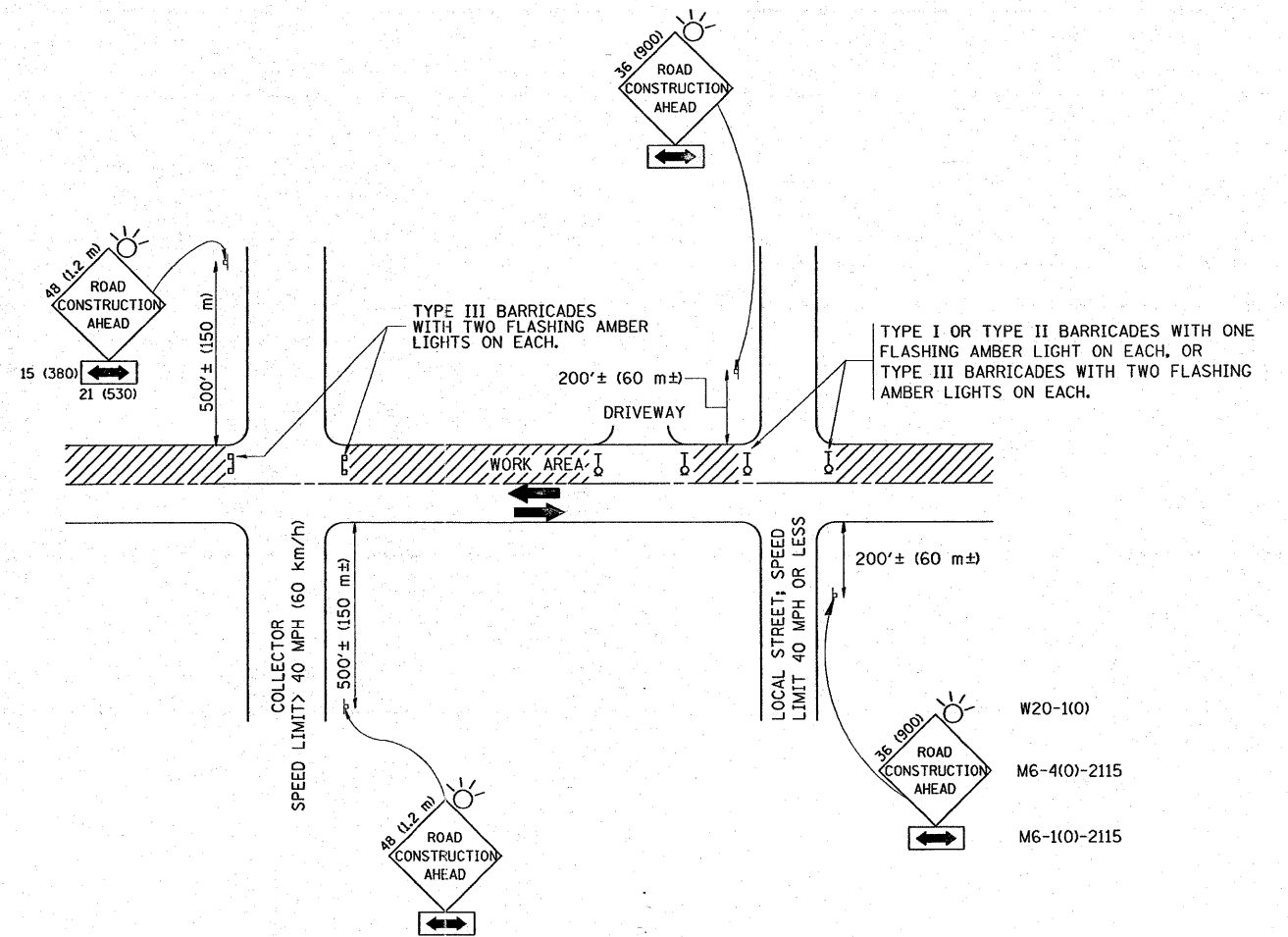
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = steedpo	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
c:\projects\dl23987\design.o.dgn		DRAWN -	REVISED - A. ABBAS 03-21-97
		CHECKED -	REVISED - M. GOMEZ 04-06-01
		DATE - 06-13-90	REVISED - R. BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	652 X-B-R-1	DU PAGE	29	25
BD400-05 BD32		CONTRACT NO. 60C53		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 70150L, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

- W20-1(0)
- M6-4(0)-2115
- M6-1(0)-2115

All dimensions are in millimeters (inches) unless otherwise shown.

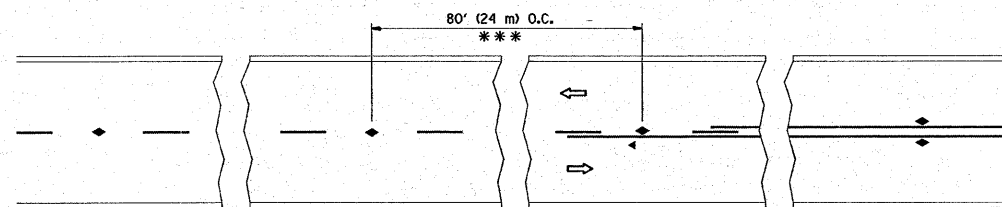
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	PLOT DATE = 2/28/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

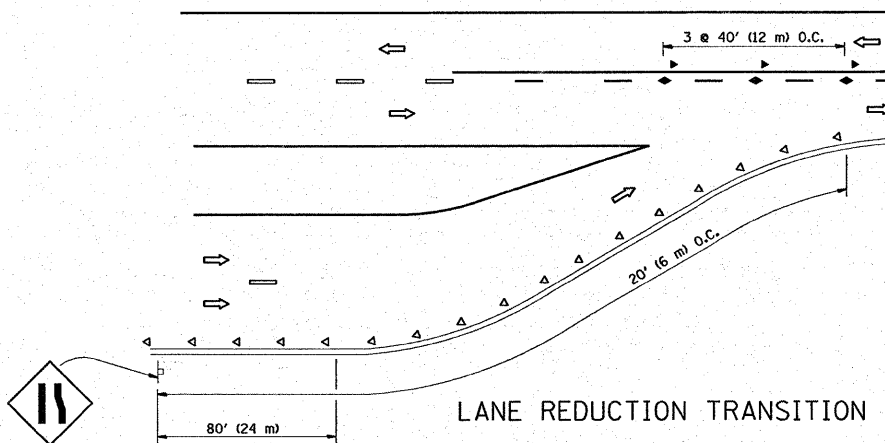
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10		CONTRACT NO. 60C53		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

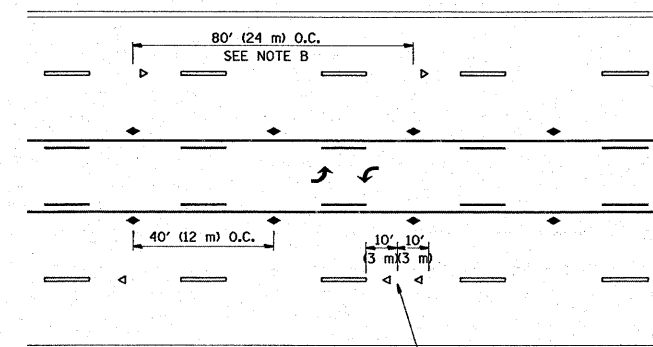


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

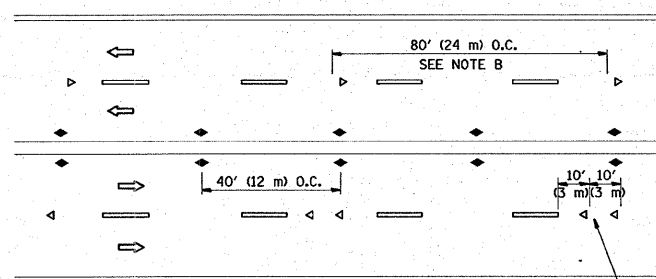
TWO-LANE/TWO-WAY



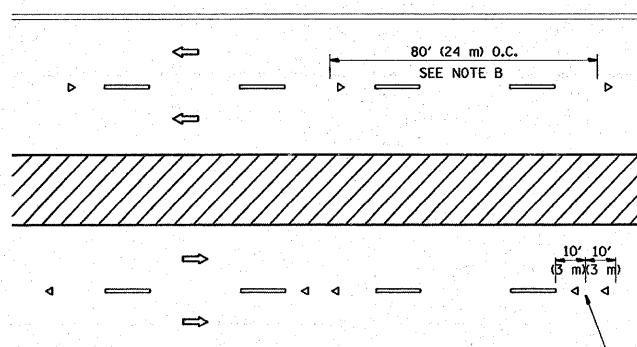
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

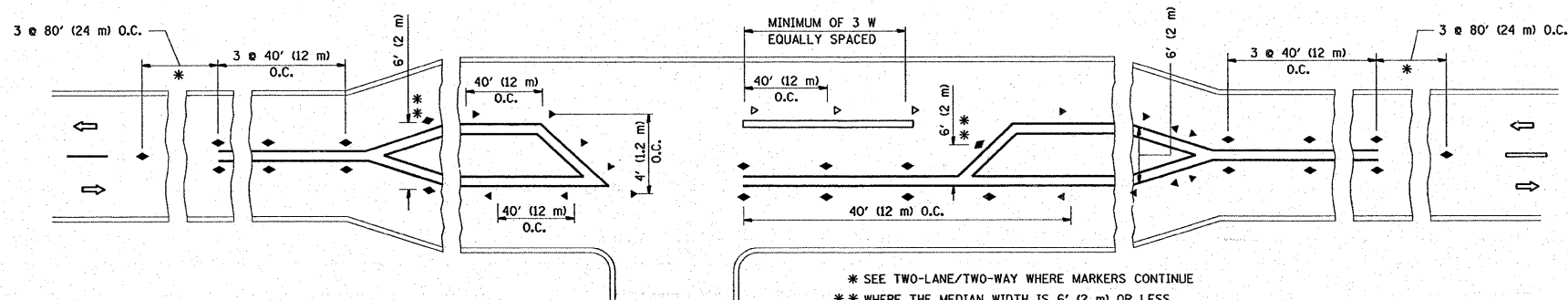
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

All dimensions are in inches (millimeters) unless otherwise shown.

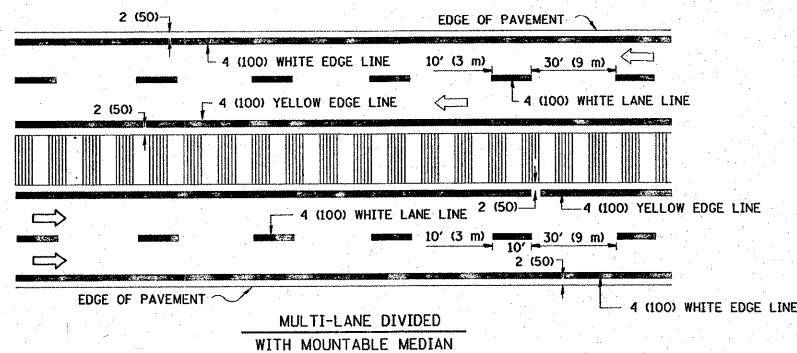
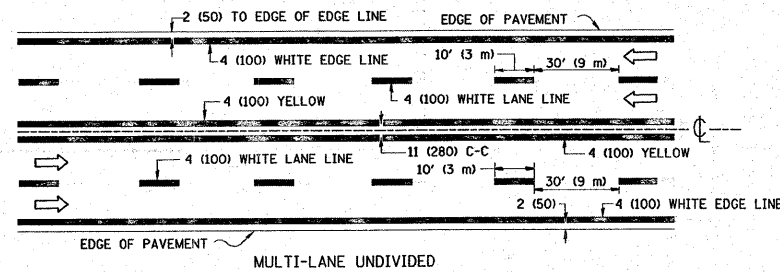
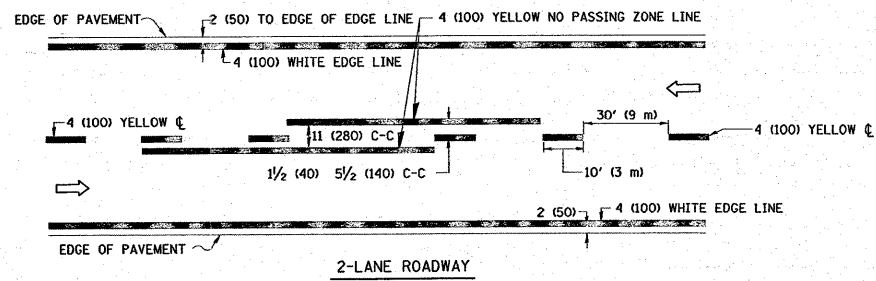
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	PLOT DATE = 2/20/2008	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

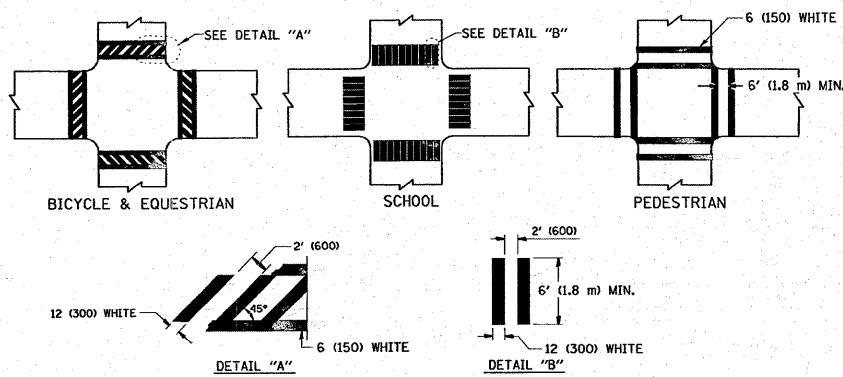
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

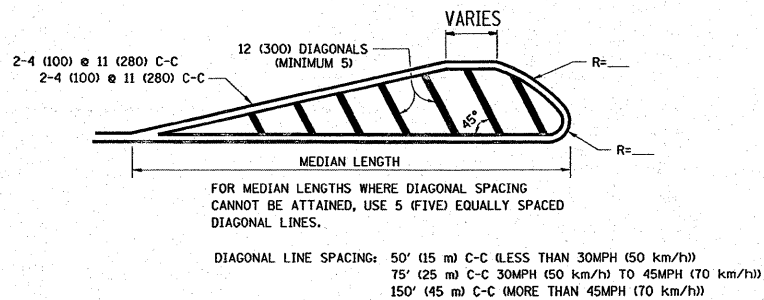
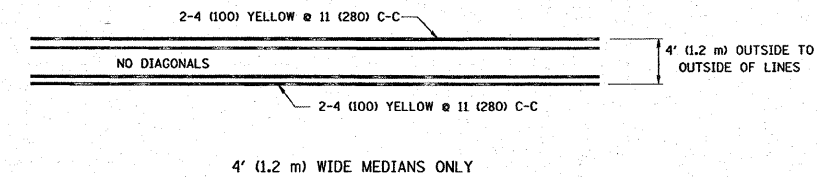


NOTE: MEDIANS WITH BARRIER CURBS DO NOT REQUIRE AN EDGE LINE

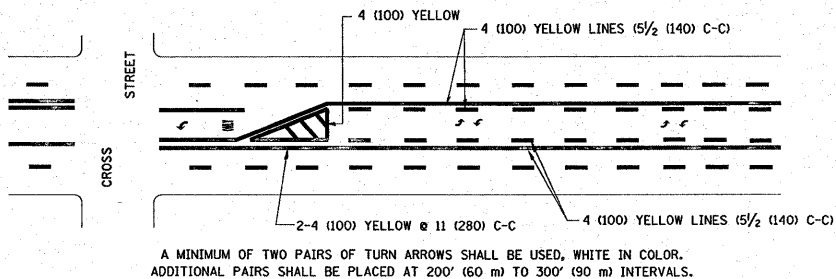
TYPICAL LANE AND EDGE LINE MARKING



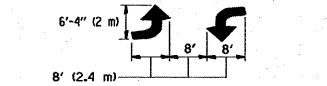
TYPICAL CROSSWALK MARKING



MEDIANS OVER 4' (1.2 m) WIDE

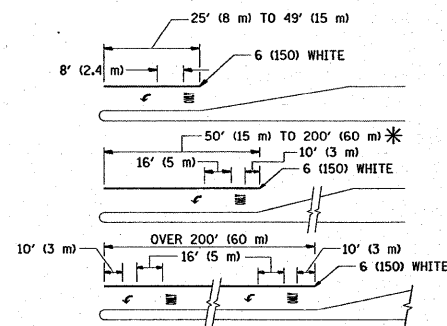


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

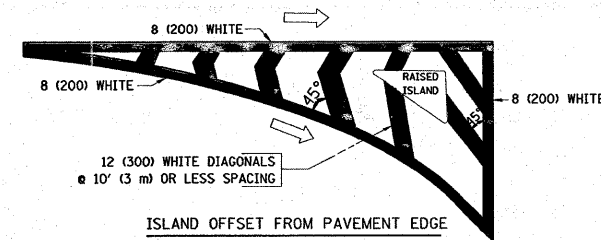
TYPICAL PAINTED MEDIAN MARKING



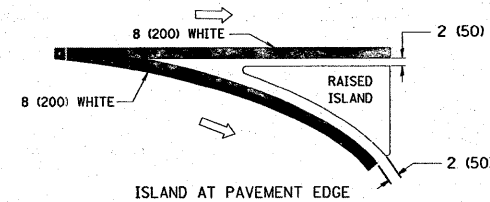
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m²) ONLY. AREA = 20.8 SQ. FT. (1.9 m²) * TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



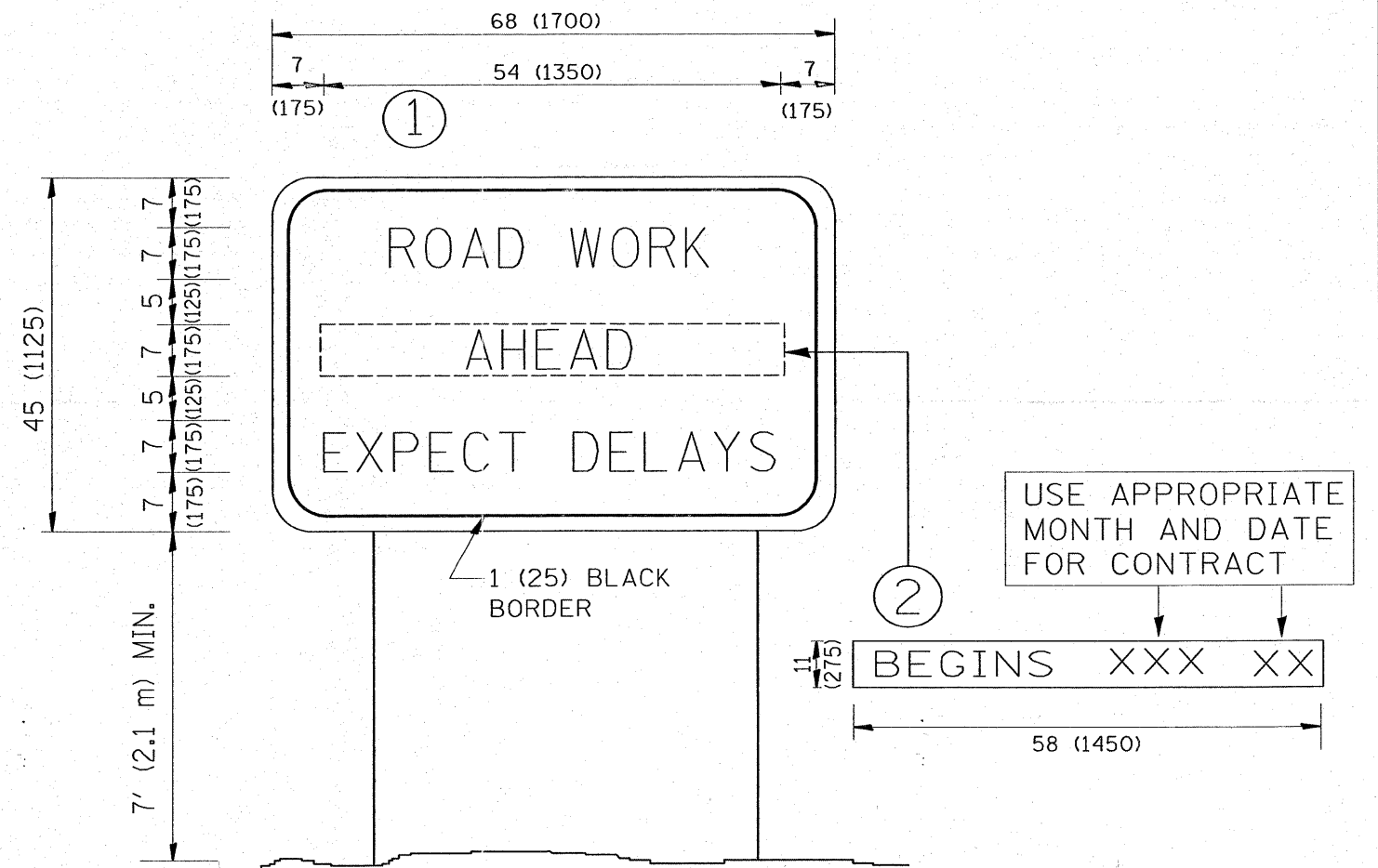
ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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		DATE -	REVISED - C. JUCIUS 01-31-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT		