

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2692	2011-205-F	COOK	17	1
		ILLINOIS	CONTRACT NO. 60R35	

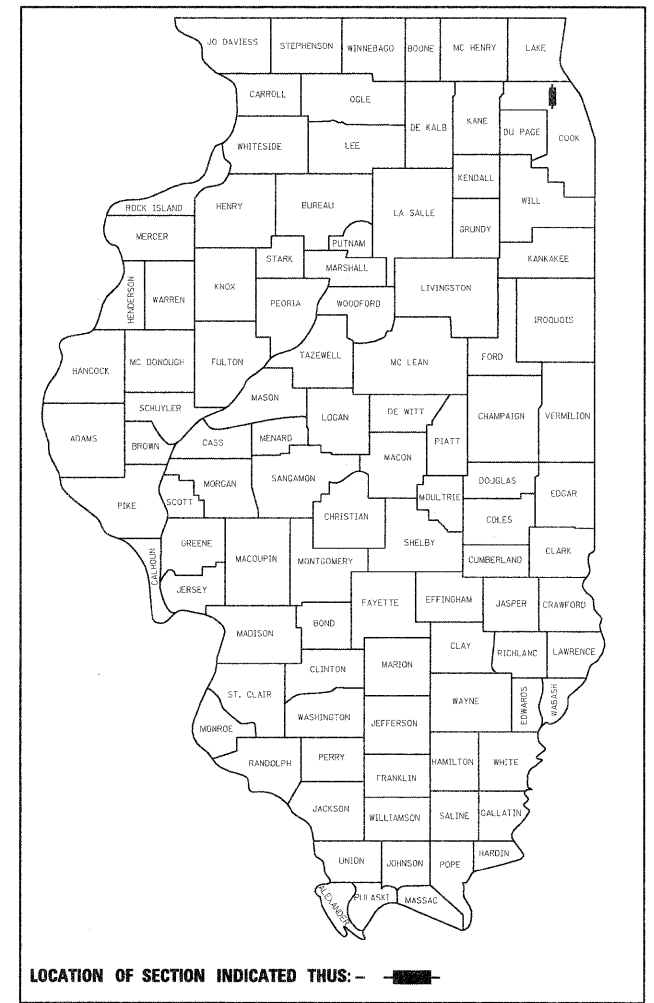
D-91-071-12

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

**FAU ROUTE 2692 – WOLF ROAD (SN 016-0680)
OVER PALATINE ROAD
SECTION 2011-205-F
PROJECT: ACM-2692(003)
COOK COUNTY
BEAM AND BEARING FABRICATION
C-91-071-12**



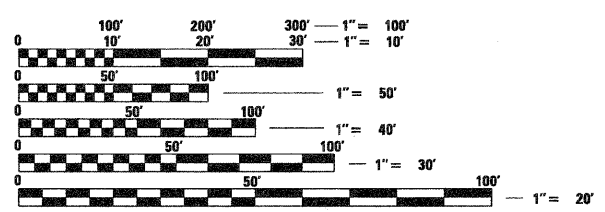
TRAFFIC DATA

WOLF ROAD
EXISTING ADT : 35,100
POSTED SPEED LIMIT 40 MPH

PALATINE ROAD
EXISTING ADT : 54,200 (2010)
POSTED SPEED LIMIT 45 MPH

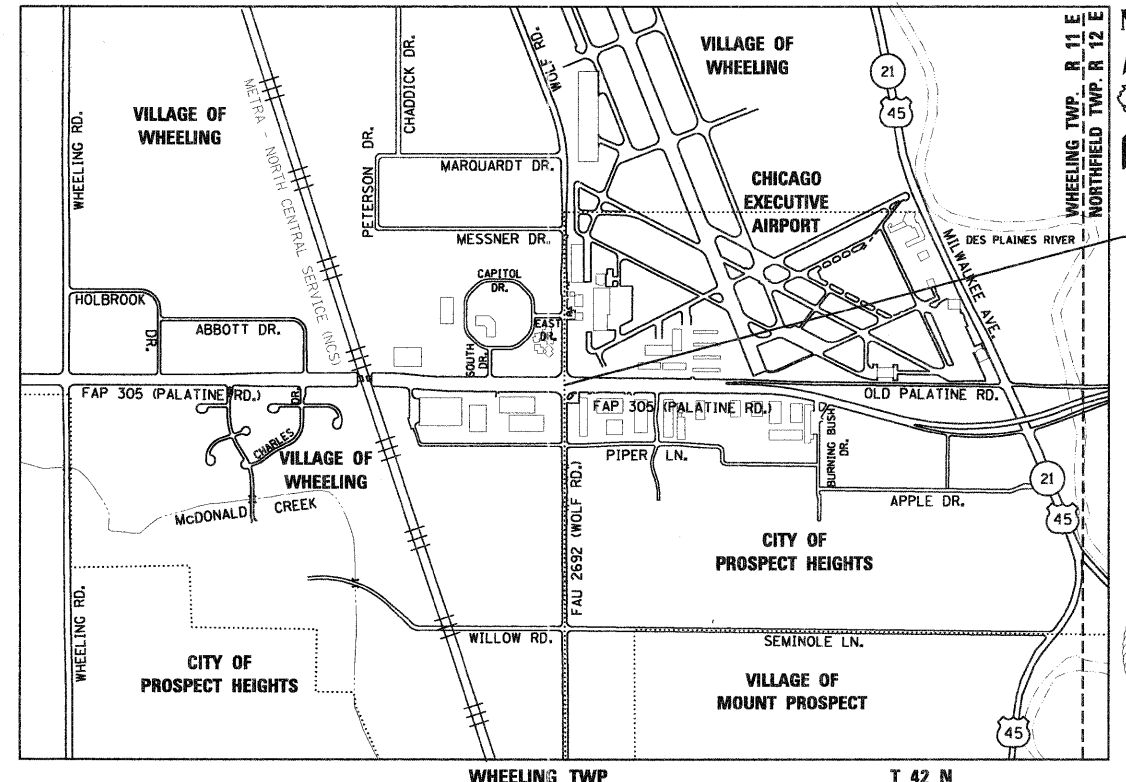
FRONTAGE ROAD
POSTED SPEED LIMIT 30 MPH

IMPROVEMENT IS LOCATED IN THE CITY OF PROSPECT HEIGHTS AND VILLAGE OF WHEELING.



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



**WOLF ROAD OVER
PALATINE ROAD
SN: 016-0680**



Thomas M. Hein
THOMAS M. HEIN, P. E.
IL. LIC. NO. 062-053199
EXP 11-30-11
DATE 9-12-11

PROJECT ENGINEER **ROBERT BORO (847) 705-4237**
PROJECT MANAGER **ISSAM RAYYAN**
CONTRACT NO. 60R35



LOCATION MAP
NOT TO SCALE
GROSS LENGTH = 225 FT. = 0.043 MILE
NET LENGTH = 225 FT. = 0.043 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED SEPTEMBER 13, 20 11

Diana M. O'Keefe DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 14 20 11

Scott E. Stiff, PE. acting ENGINEER OF DESIGN AND ENVIRONMENT
October 14 20 11

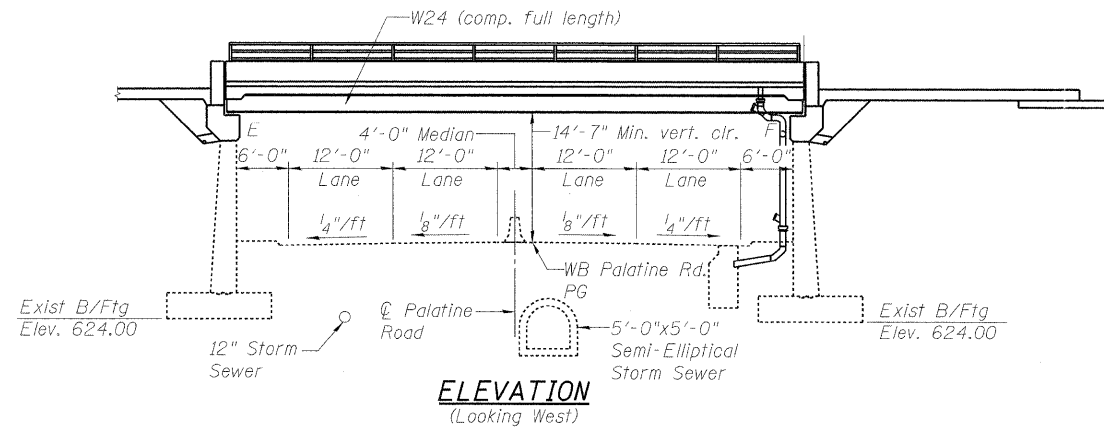
Christine M. Rodda DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

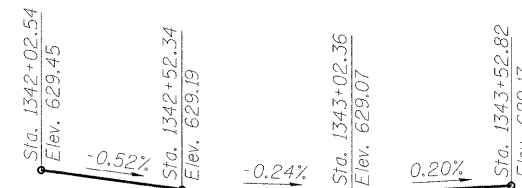
Benchmark: Chiseled "X" in N.W. bolt of "Wolf Rd." exit sign located on the north side of Palatine Rd. and east of Wolf Rd. - Elev. = 648.63

Existing Structure: Structure No. 016-0680 built as Wolf Road over Palatine Road, Section 110-1415 in 1963 by the Cook County Highway Department. The length of the structure is 66'-2" center to center of bearings. The superstructure consists of 33"x36" PPC Deck Beams. The existing deck is 70'-0" out to out of deck. In 2006, 6 PPC Deck Beams, the sidewalks and concrete pedestrian rail were removed and replaced. Also in 2006, the bituminous wearing surface was replaced with a concrete wearing surface. Traffic to be maintained utilizing stage construction.

Salvage: Existing pedestrian bridge railing.

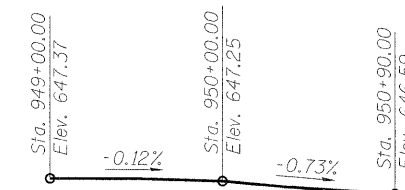


ELEVATION
(Looking West)



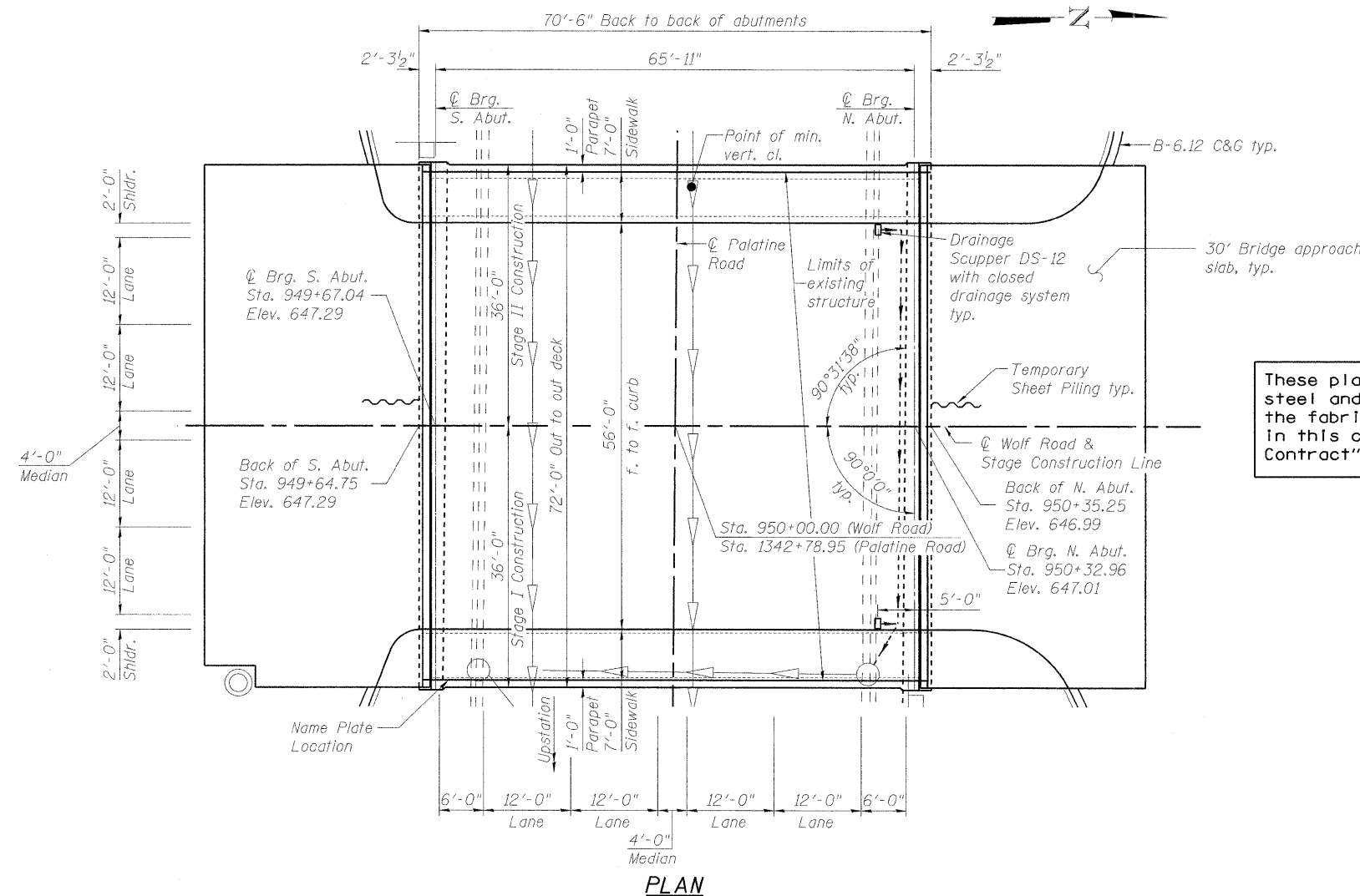
PROFILE GRADE
PALATINE RD

(Westbound Palatine Road PGL)



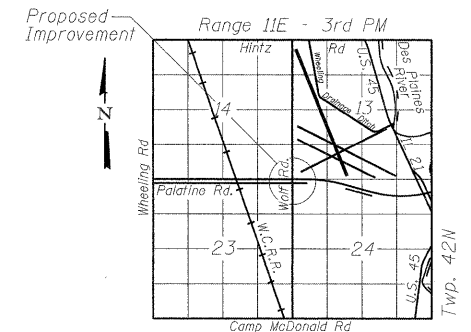
PROFILE GRADE
WOLF RD

(Along Roadway)



PLAN

These plans are for the fabrication of the structural steel and bearings. All work shown that is not related to the fabrication is for information only. It is not included in this contract, and is identified as "Not Included in this Contract" or "For Information only"



LOCATION SKETCH



APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Brad H. Sayers
BRAD H. SAYERS, S.E.
IL. LIC. NO. 081-006267

EXP 11/30/12
DATE 10/15/11

GENERAL PLAN & ELEVATION
WOLF ROAD OVER PALATINE ROAD
F.A.U. 2692 - SEC. 2011-205-F
COOK COUNTY
STATION 950+00.00
STRUCTURE NO. 016-0680

FILE NAME: G:\proj\sect\2012\2155_00\1\CAD\01\Structure\016-0680-001_CPE.dgn



USER NAME = 2sayerb
PLOT SCALE = N/A
PLOT DATE = 10/15/2011

DESIGNED - BPS	REVISED -
CHECKED - BHS	REVISED -
DRAWN - BPS	REVISED -
CHECKED - BHS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
S.N. 016-0680

SHEET NO. S1 OF 29 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2692	2011-205-F	COOK	17	3
CONTRACT NO. 60R35			ILLINOIS FED. AID PROJECT	

INDEX OF SHEETS

- S1. General Plan and Elevation
- S2. General Notes, Index of Sheets & Total Bill of Material
- S3. Stage Construction Details
- S4. Temporary Concrete Barrier for Stage Construction
- S5. Top of Deck Elevations (1 of 2)
- S6. Top of Deck Elevations (2 of 2)
- S7. South Approach Slab Elevations
- S8. North Approach Slab Elevations
- S9. Deck Plan and Section
- S10. Parapet and Sidewalk Details
- S11. Preformed Joint Strip Seal
- S12. Drainage Scupper DS-12
- S13. Bridge Drainage System
- S14. South Approach Slab
- S15. North Approach Slab
- S16. Approach Slab Section and Details
- S17. Framing Plan
- S18. Structural Steel Details
- S19. Bearing Details
- S20. Cantilever Forming Brackets
- S21. South Abutment Plan and Elevation
- S22. South Abutment Details
- S23. North Abutment Plan and Elevation
- S24. North Abutment Details
- S25. Bar Splicer Assembly
- S26. Existing Bridge Plans (1 of 4)
- S27. Existing Bridge Plans (2 of 4)
- S28. Existing Bridge Plans (3 of 4)
- S29. Existing Bridge Plans (4 of 4)

STATION 950+00.00
REBUILT 20 BY
STATE OF ILLINOIS
F.A.U. RTE. 2692 SEC. 1415B-1
LOADING HL-93
STRUCTURE NO. 016-0680

NAME PLATE
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.
See Sheet S1 for Name Plate location.

For Information Only

- - This work is not included in the fabrication contract and is provided for information only.
- - This work is not in the fabrication contract and sheet is not included in these plans.

These plans are for the fabrication of the structural steel and bearings. All work shown that is not related to the fabrication is for information only. It is not included in this contract, and is identified as "Not Included in this Contract" or "For Information only"

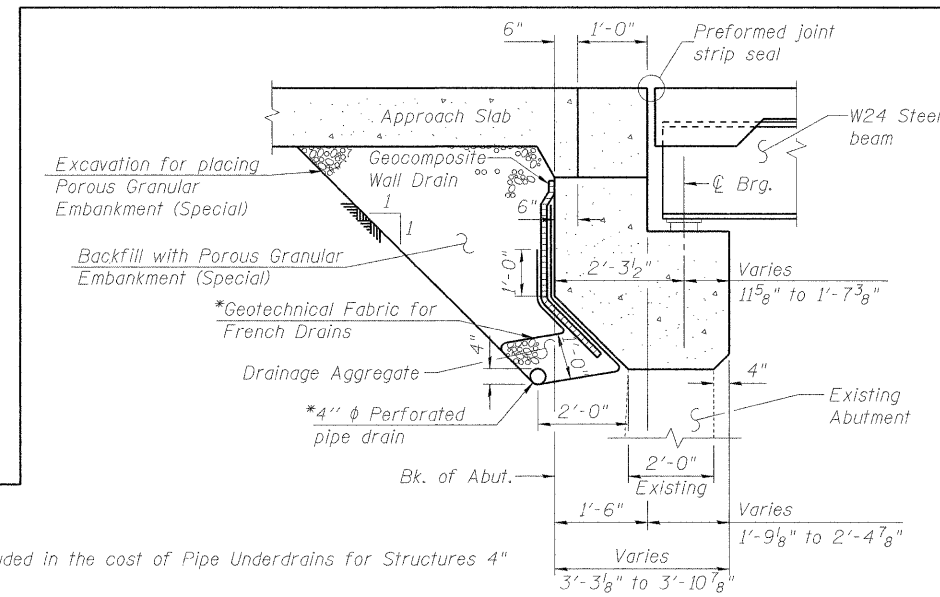
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Furnishing Structural Steel	L Sum	1		1
Storage of Structural Steel	Cal Day	120		120
Furnishing Elastomeric Bearing Assembly, Type I	Each	12		12
Storage of Elastomeric Bearing Assemblies	Cal Day	120		120

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{3}{4}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
2. Calculated weight of Structural Steel (M270, Grade 50) = 117,240 lbs.
Calculated weight of Structural Steel (M270, Grade 36) = 11,770 lbs.
3. No field welding is permitted except as specified in the contract documents.
- 4. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- 5. Reinforcement bars designated (E) shall be epoxy coated.
- 6. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- 7. Concrete Sealer shall be applied to the designated areas of the exposed surface of the new abutment caps and backwalls.
8. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown (Munsell No. 2.5YR 3/4). See Special Provision for "Cleaning and Painting New Metal Structures".
- 9. Slipforming of parapets is not allowed.

For Information Only



SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. L's)

Note:
All drainage system components shall extend parallel 2'-0" beyond the ends of the abutment. At 2'-0" beyond the abutment ends, an outlet pipe shall extend into the retaining walls. The retaining walls shall be cored to accept the outlet pipe. This work shall be included in the pay item for Pipe Underdrains for Structures 4".

*Included in the cost of Pipe Underdrains for Structures 4"

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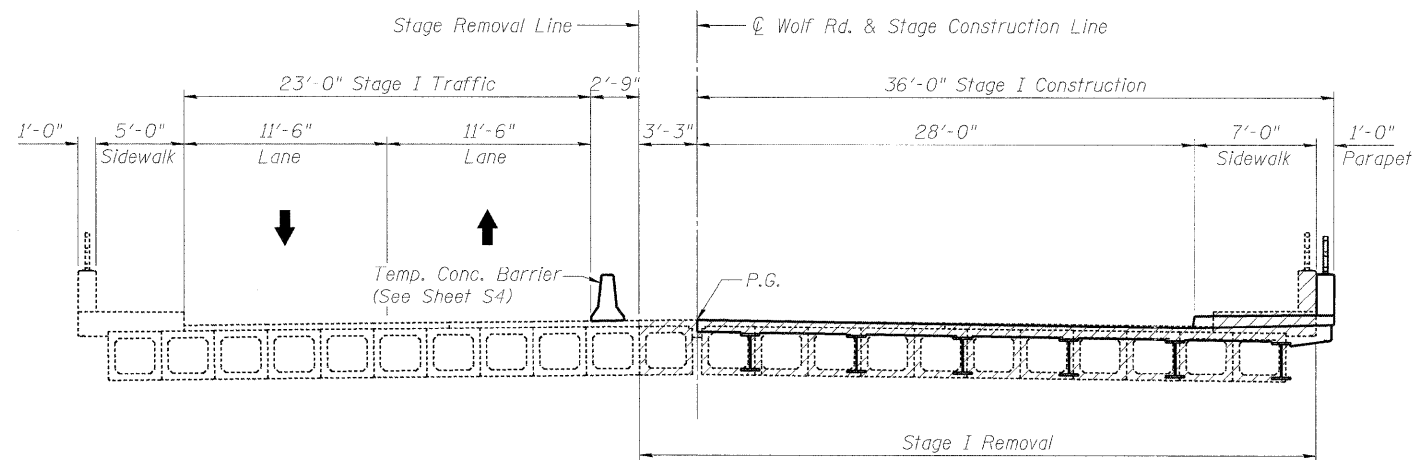
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PLOT DATE = 10/15/2011	CHECKED - BHS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

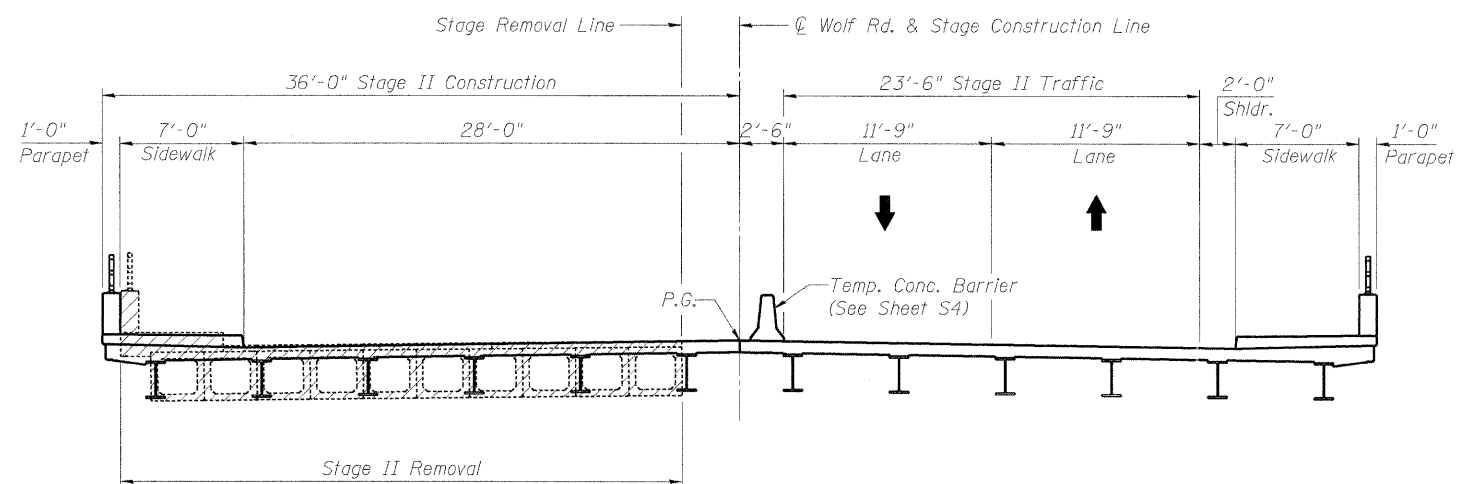
**GENERAL NOTES
S.N. 016-0680**

SHEET NO. S2 OF 29 SHEETS

F.A.U. RTE. 2692	SECTION 2011-205-F	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 4
CONTRACT NO. 60R35				
ILLINOIS FED. AID PROJECT				



STAGE I CROSS SECTION
(Looking North)



STAGE II CROSS SECTION
(Looking North)

TEMPORARY SHEET PILING

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

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 PLOT SCALE = N/A
 PLOT DATE = 9/12/2011

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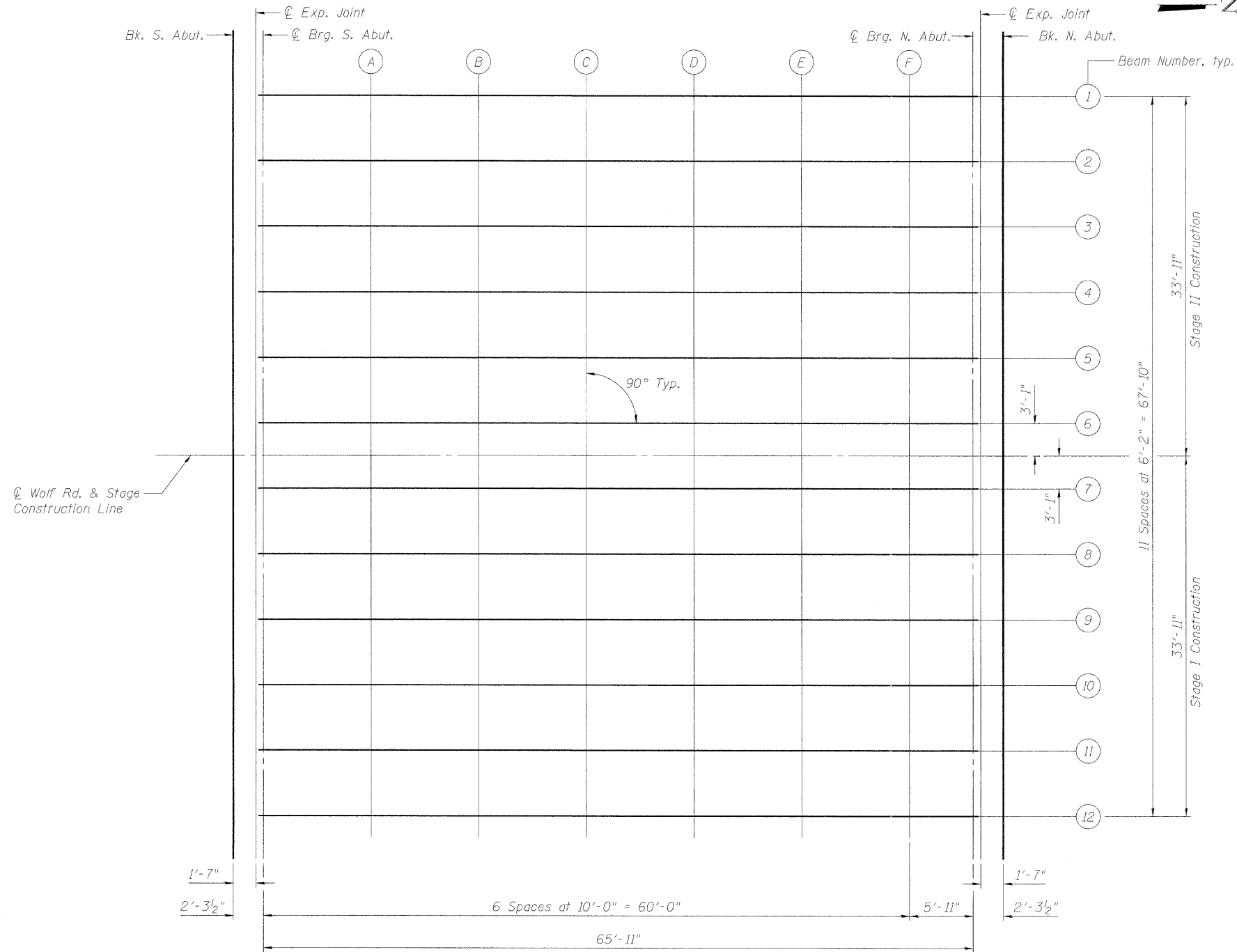
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS
 S.N. 016-0680**

SHEET NO. 53 OF 29 SHEETS

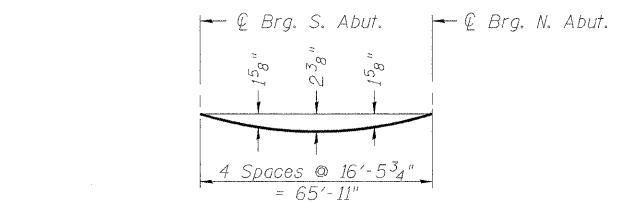
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2692	2011-205-F	COOK	17	5
CONTRACT NO. 60R35			ILLINOIS FED. AID PROJECT	

FOR INFORMATION ONLY



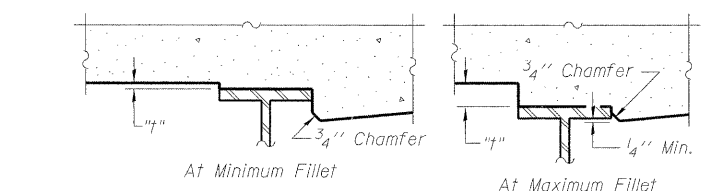
WOLF RD. & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	949+64.75	0.00	647.29	647.29
Exp. Joint	949+66.33	0.00	647.29	647.29
Brg. S. Abut.	949+67.04	0.00	647.29	647.29
A	949+77.04	0.00	647.28	647.37
B	949+87.04	0.00	647.27	647.43
C	949+97.04	0.00	647.25	647.45
D	950+07.04	0.00	647.20	647.38
E	950+17.04	0.00	647.13	647.26
F	950+27.04	0.00	647.05	647.11
Brg. N. Abut.	950+32.96	0.00	647.01	647.01
Exp. Joint	950+33.67	0.00	647.00	647.00
Bk. N. Abut.	950+35.25	0.00	646.99	646.99



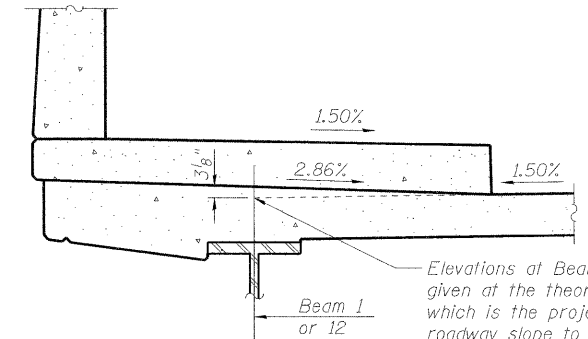
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S5 & S6.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheet S5 & S6. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S5 & S6, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PROJECTION UNDER SIDEWALK DETAIL

FILE NAME: g:\projects\2012\15-007\road\structures\skt\0106880-68M52-005-Deck Elev. Idgn

	USER NAME = zsaigerb	DESIGNED - BPS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF DECK ELEVATION (1 OF 2) S.N. 016-0680	F.A.U. RTE. = 2692	SECTION = 2011-205-F	COUNTY = COOK	TOTAL SHEETS = 17	SHEET NO. = 6	
	PLOT SCALE = N/A	DRAWN - BPS	REVISED -			CONTRACT NO. 60R35					
	PLOT DATE = 10/15/2011	CHECKED - BHS	REVISED -			ILLINOIS FED. AID PROJECT					
	SHEET NO. 55 OF 29 SHEETS										

FOR INFORMATION ONLY

BEAM 1

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 2

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 3

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 4

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 5

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 6

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 7

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 8

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 9

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 10

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 11

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

BEAM 12

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. S. Abut., Exp. Joint, Brg. S. Abut., points A-F, Brg. N. Abut., Exp. Joint, and Bk. N. Abut.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

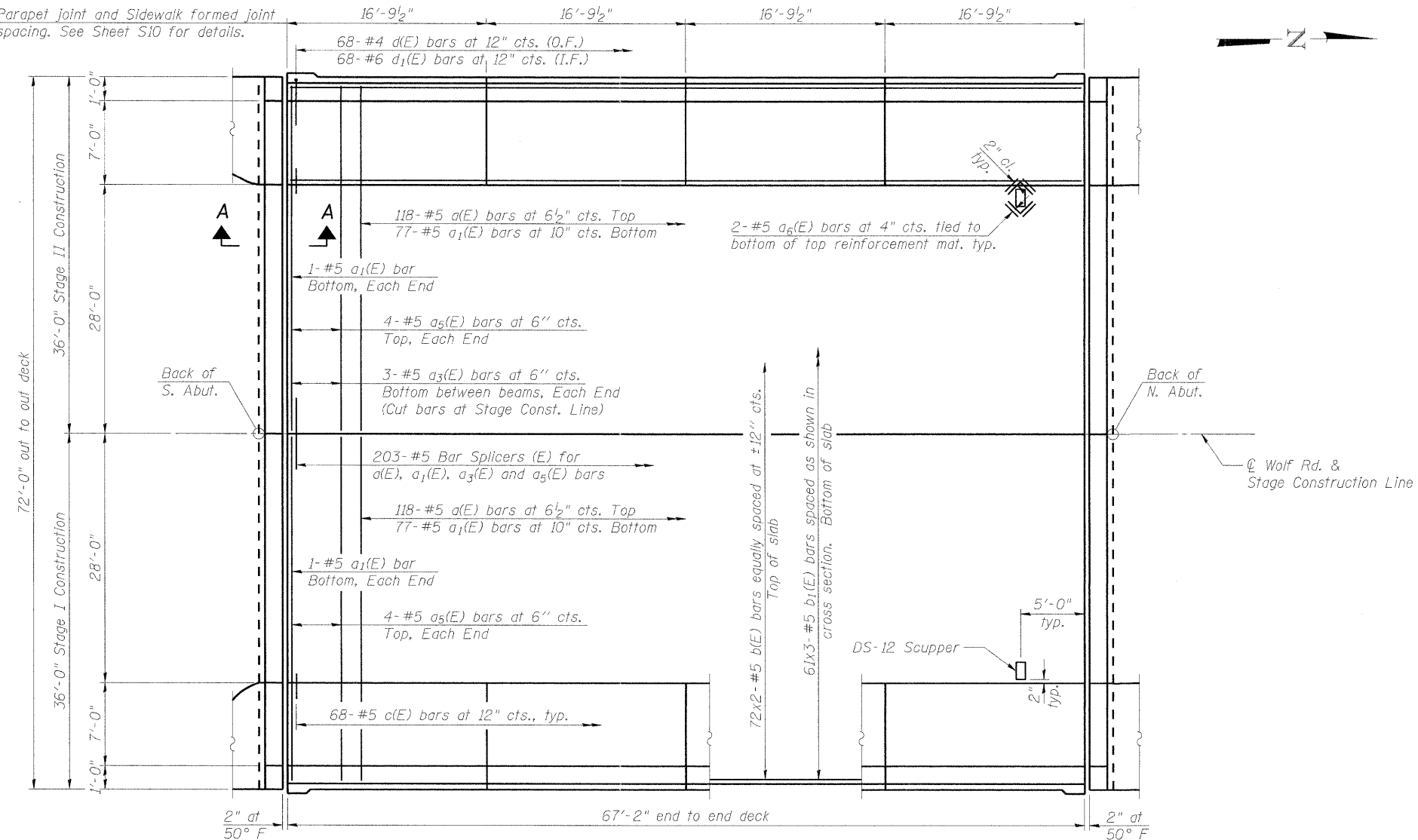
TOP OF SLAB ELEVATIONS (2 OF 2)
S.N. 016-0680

SHEET NO. 56 OF 29 SHEETS

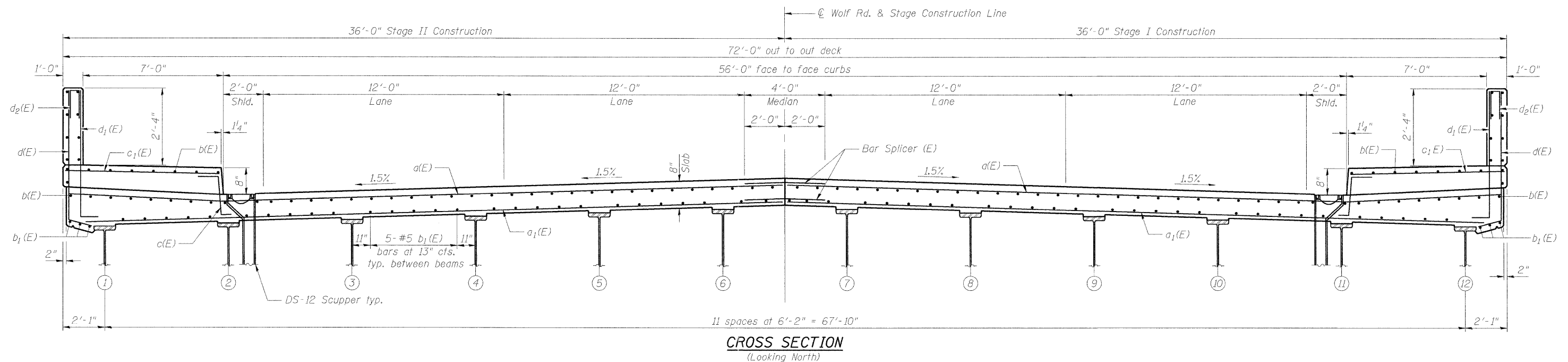
F.A.U. RTE. 2692
SECTION 2011-205-F
COUNTY COOK
TOTAL SHEETS 17
SHEET NO. 7
CONTRACT NO. 60R35
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

Parapet joint and Sidewalk formed joint spacing. See Sheet S10 for details.



Notes:
See Sheet S10 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet S10 for parapet reinforcement.



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PLOT DATE = 9/12/2011

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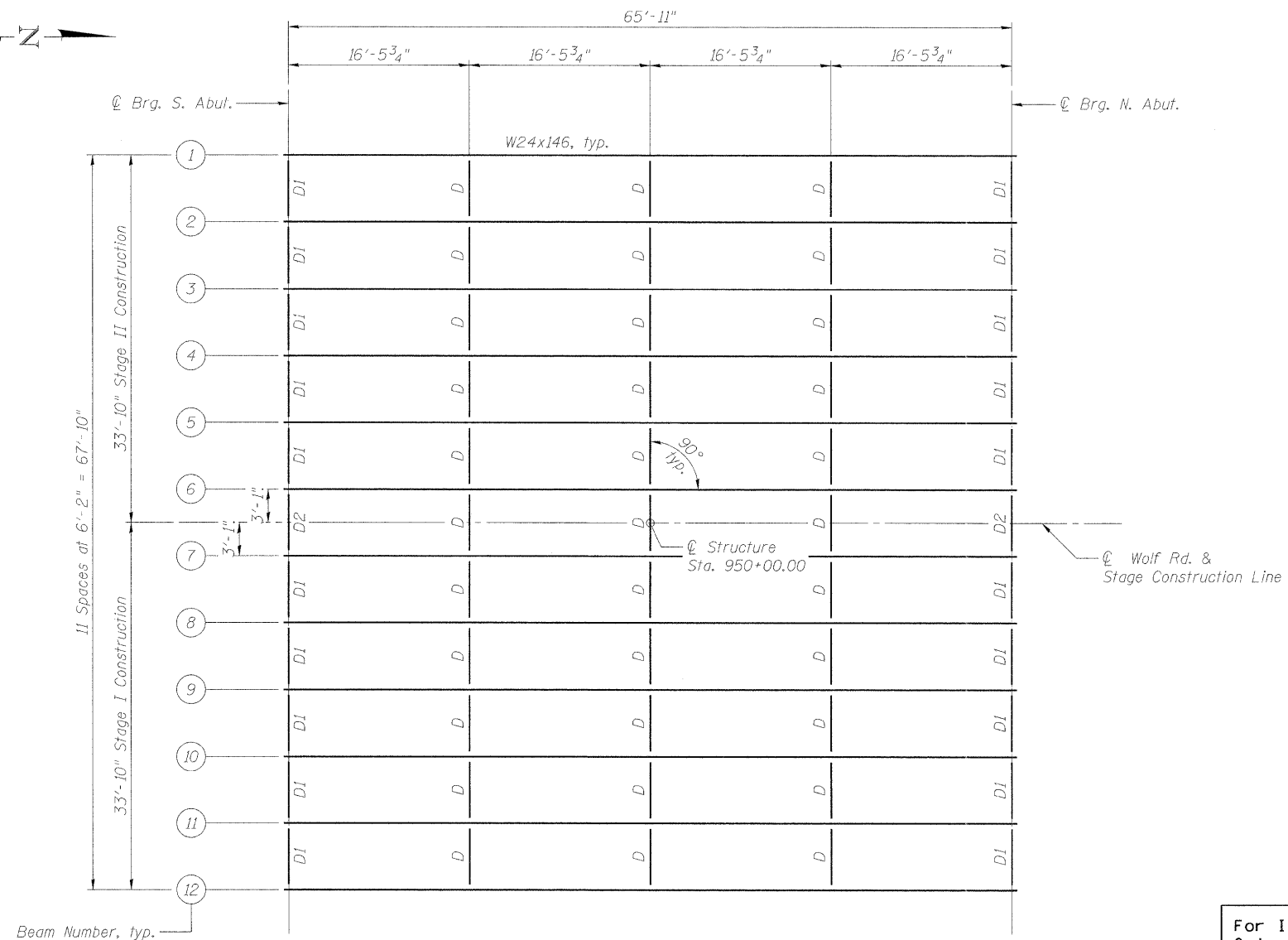
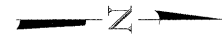
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN AND SECTION
S.N. 016-0680

SHEET NO. 59 OF 29 SHEETS

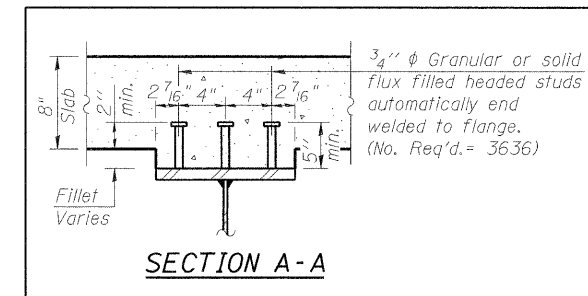
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2692	2011-205-F	COOK	17	8
CONTRACT NO. 60R35				
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY

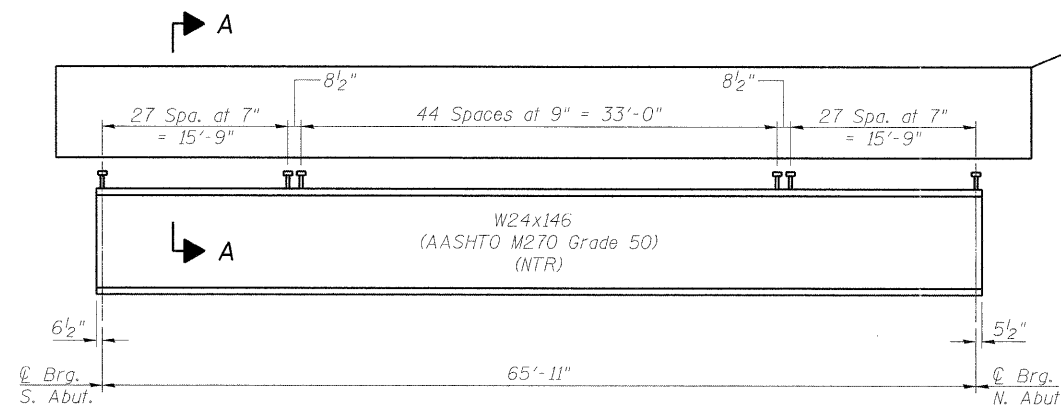


TOP OF BEAM ELEVATION TABLE
(For Fabrication use only)

Beam	☉ Brg. S. Abut.	☉ Brg. N. Abut.
1	646.07	645.79
2	646.16	645.88
3	646.26	645.98
4	646.35	646.07
5	646.44	646.16
6	646.53	646.25
7	646.53	646.25
8	646.44	646.16
9	646.35	646.07
10	646.26	645.98
11	646.16	645.88
12	646.07	645.79



For Information Only



BEAM ELEVATION

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

FILE NAME = g:\proj\proj\12102155_007\cadd\structure\12102155-07-Framing.dgn

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	PLOT SCALE = N/A	CHECKED - BHS	REVISED -			CONTRACT NO. 60R35				
	PLOT DATE = 10/15/2011	DRAWN - BPS	REVISED -	SHEET NO. 517 OF 29 SHEETS			ILLINOIS FED. AID PROJECT			

INTERIOR GIRDER MOMENT TABLE		0.5 Span
I_s	(in ⁴)	4,580
$I_c(n)$	(in ⁴)	12,313
$I_c(3n)$	(in ⁴)	8,820
S_s	(in ³)	371
$S_c(n)$	(in ³)	546
$S_c(3n)$	(in ³)	489
DC1	(k/')	0.802
MDC1	(k)	4.35
DC2	(k/')	0.183
MDC2	(k)	99
DW	(k/')	0.308
MDW	(k)	167
$M_L + IM$	(k)	793
M_u (Strength I)	(k)	2,306
$\phi_r M_n$	(k)	2,527
f_s DC1	(ksi)	14.1
f_s DC2	(ksi)	2.4
f_s DW	(ksi)	4.1
f_s ($L + IM$)	(ksi)	17.4
f_s (Service II)	(ksi)	43.3
$0.95R_h F_y$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	
V_r	(k)	22.7

INTERIOR GIRDER REACTION TABLE		Abutment
RDC1	(k)	26.4
RDC2	(k)	6.0
RDW	(k)	10.2
$R_L + IM$	(k)	70.5
R _{Total}	(k)	113.1

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

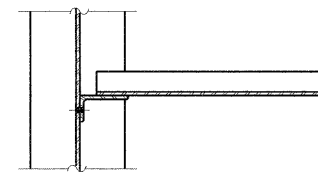
$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

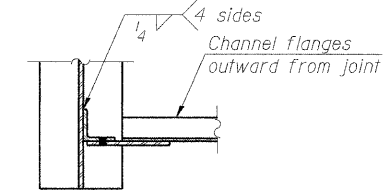
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 $M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$
 f_s ($L + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
 $M_L + IM / S_c(n)$
 f_s (Service II): Sum of stresses as computed below (ksi).
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L + IM)$
 $0.95R_h F_y$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (L + IM)$
 V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Not Included in this Contract

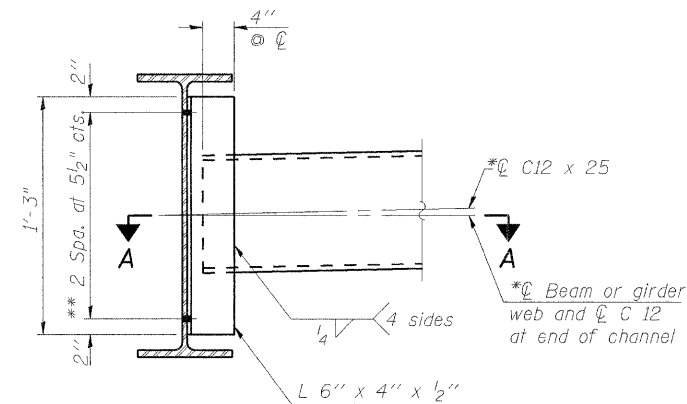
Note:
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



SECTION A-A

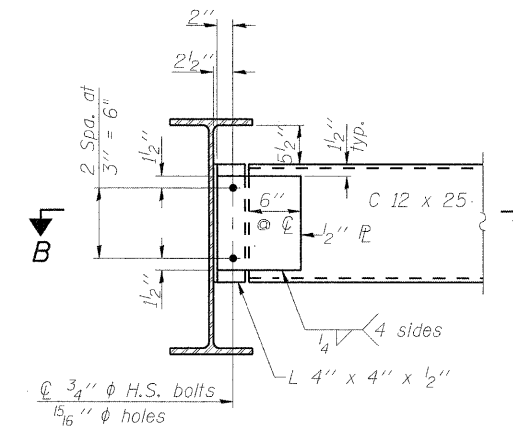


SECTION B-B



INTERIOR DIAPHRAGM D

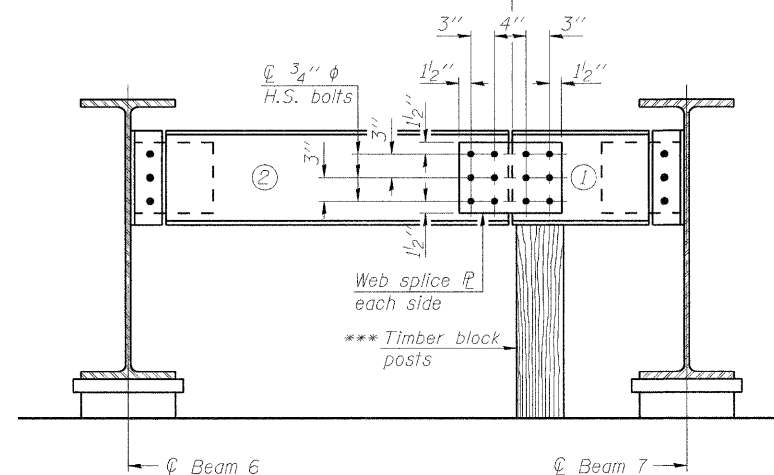
Note:
Two hardened washers required for each set of oversized holes.
*C12 x 30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
** $3/4$ " ϕ HS bolts, $15/16$ " ϕ holes
The interior diaphragms below the stage construction line (between Beams 6 and 7) require standard long slotted holes ($1 1/8$ " x $1 7/8$ ") in both connection angles. The bolts in the long slots shall be finger tight until the second stage pour is complete. Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load. All holes shall have appropriate hardened or plate washers.



END DIAPHRAGM D1

Note:
Two hardened washers required for each set of oversized holes.

Stage II construction Stage I construction



END DIAPHRAGM D2

*** Cost of Timber Block Posts is included with Erecting Structural Steel.

END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

- 1.) Order diaphragm in two sections.
- 2.) Attach section ① of diaphragm to Beam 7
- 3.) Place timber block posts between section ① of diaphragm and abutment bearing section.
- 4.) Attach section ② of diaphragm to both Beam 6 and section ① of diaphragm during stage II construction with splice plates.
- 5.) Remove timber block posts.

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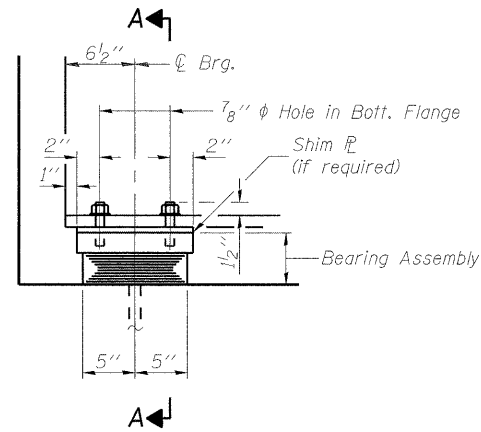
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

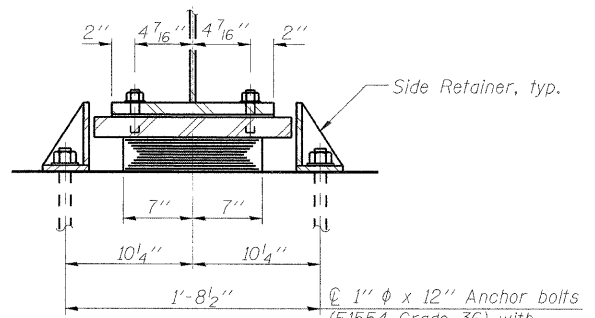
STRUCTURAL STEEL DETAILS
S.N. 016-0680

SHEET NO. 518 OF 29 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2692	2011-205-F	COOK	17	10
CONTRACT NO. 60R35			ILLINOIS FED. AID PROJECT	

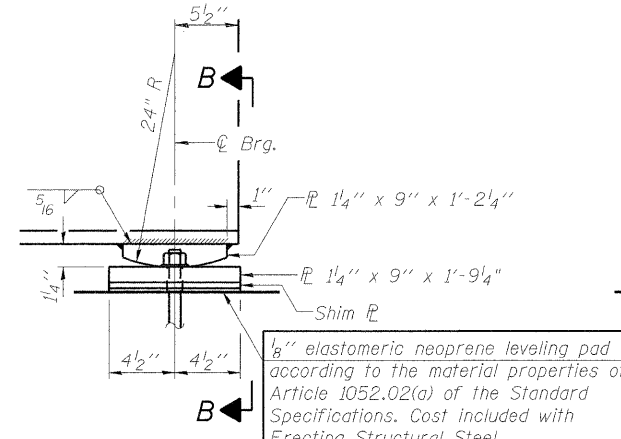


ELEVATION AT S. ABUT.

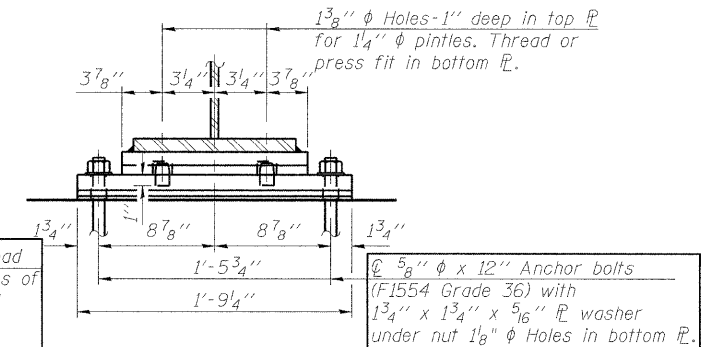


SECTION A-A

1" ϕ x 12" Anchor bolts (F1554 Grade 36) with 2 1/4" x 2 1/4" x 5/16" \mathbb{E} washer under nut



ELEVATION AT N. ABUT.



SECTION B-B

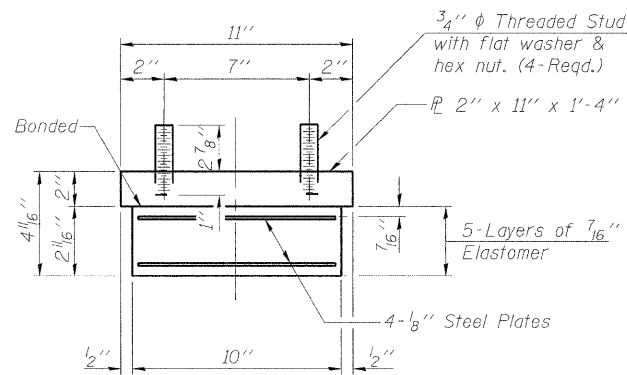
1 3/8" ϕ Holes-1" deep in top \mathbb{E} for 1 1/4" ϕ pintles. Thread or press fit in bottom \mathbb{E} .

5/8" ϕ x 12" Anchor bolts (F1554 Grade 36) with 1 3/4" x 1 3/4" x 5/16" \mathbb{E} washer under nut 1 1/8" ϕ Holes in bottom \mathbb{E} .

FIXED BEARING

For Information Only

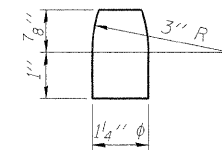
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

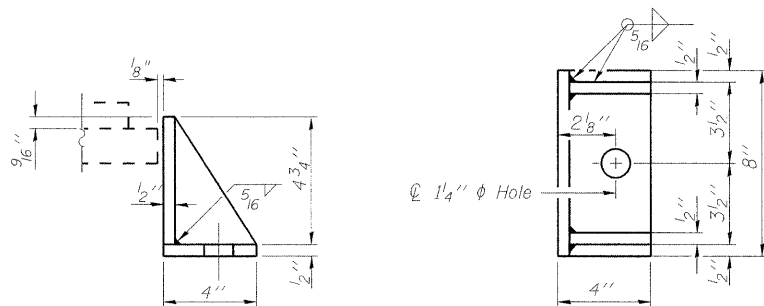
Note: Shim plates shall not be placed under Bearing Assembly.

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Furnishing Elastomeric Bearing Assembly, Type I.



PINTLE

For Information Only



SIDE RETAINER

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

These plans are for the fabrication of the structural steel and bearings. All work shown that is not related to the fabrication is for information only. It is not included in this contract, and is identified as "Not Included in this Contract" or "For Information only"

BILL OF MATERIAL

Item	Unit	Total
Furnishing Elastomeric Bearing Assembly Type I	Each	12
Storage of Elastomeric Bearing Assemblies	Cal Day	120

I-2E-1

7-1-10

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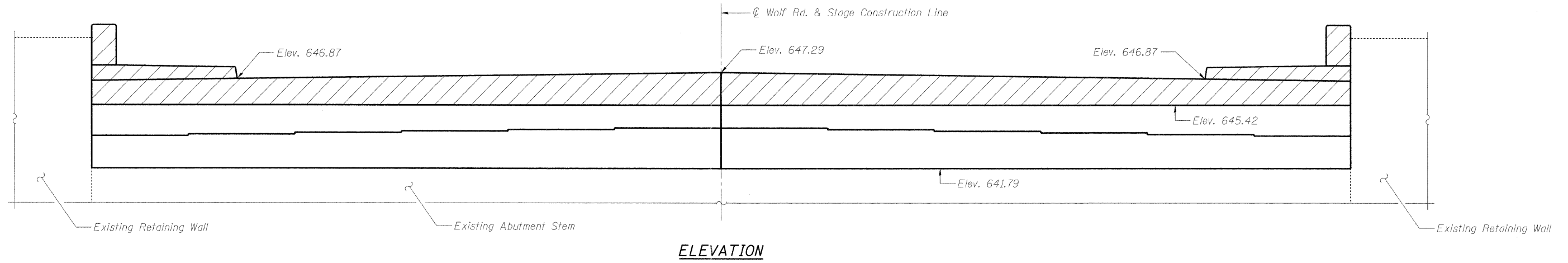
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

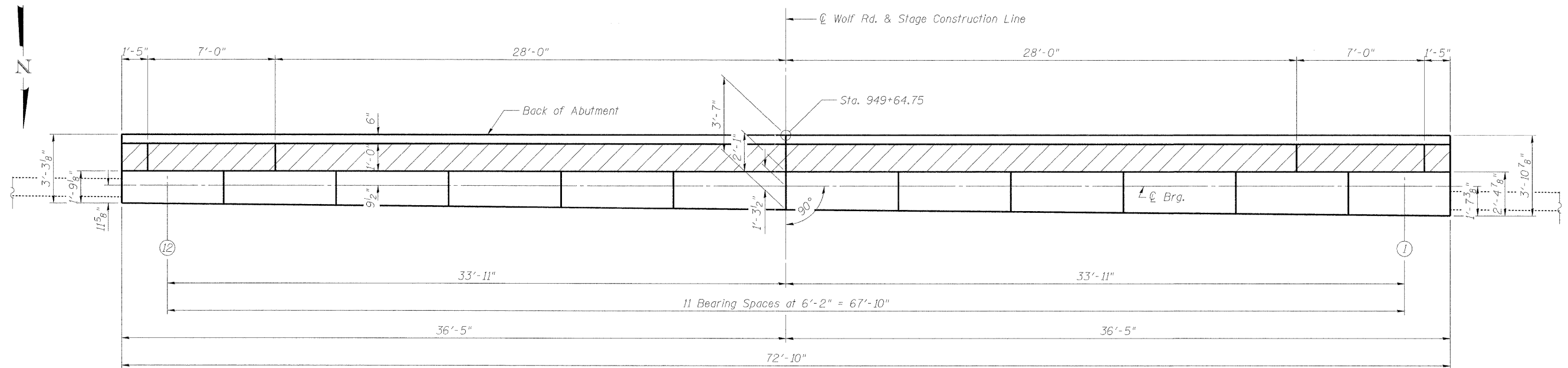
BEARING DETAILS
S.N. 016-0680

SHEET NO. S19 OF 29 SHEETS

F.A.J. RTE. 2692	SECTION 2011-205-F	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 11
CONTRACT NO. 60R35				
ILLINOIS FED. AID PROJECT				



ELEVATION



TOP VIEW

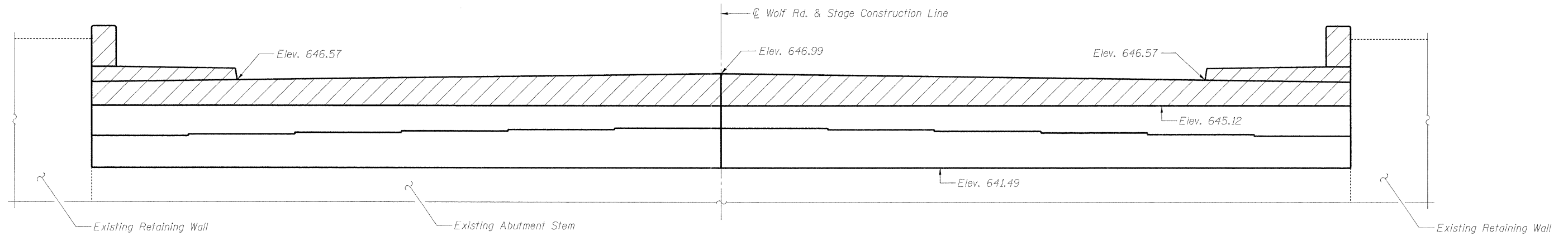
BEARING SEAT ELEVATIONS

Beam	Bearing Seat Elevation
1	643.60
2	643.69
3	643.79
4	643.88
5	643.97
6	644.06
7	644.06
8	643.97
9	643.88
10	643.79
11	643.69
12	643.60

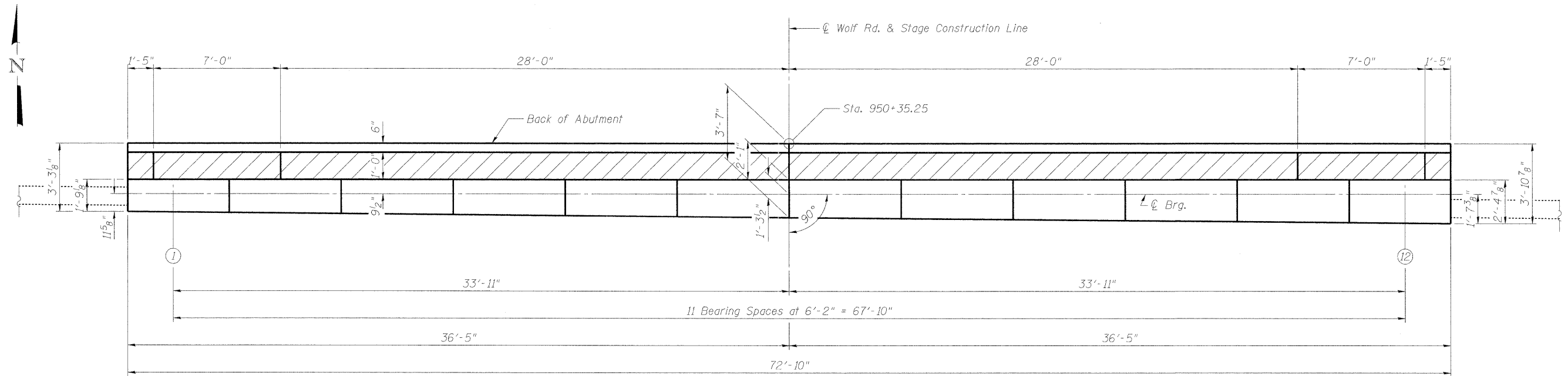
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	PLOT DATE = 10/15/2011	DRAWN - BPS	REVISED -			ILLINOIS FED. AID PROJECT					
		CHECKED - BHS	REVISED -			SHEET NO. S21 OF 29 SHEETS					

FOR INFORMATION ONLY



ELEVATION



TOP VIEW

BEARING SEAT ELEVATIONS

Beam	Bearing Seat Elevation
1	643.51
2	643.60
3	643.70
4	643.79
5	643.88
6	643.97
7	643.97
8	643.88
9	643.79
10	643.70
11	643.60
12	643.51

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

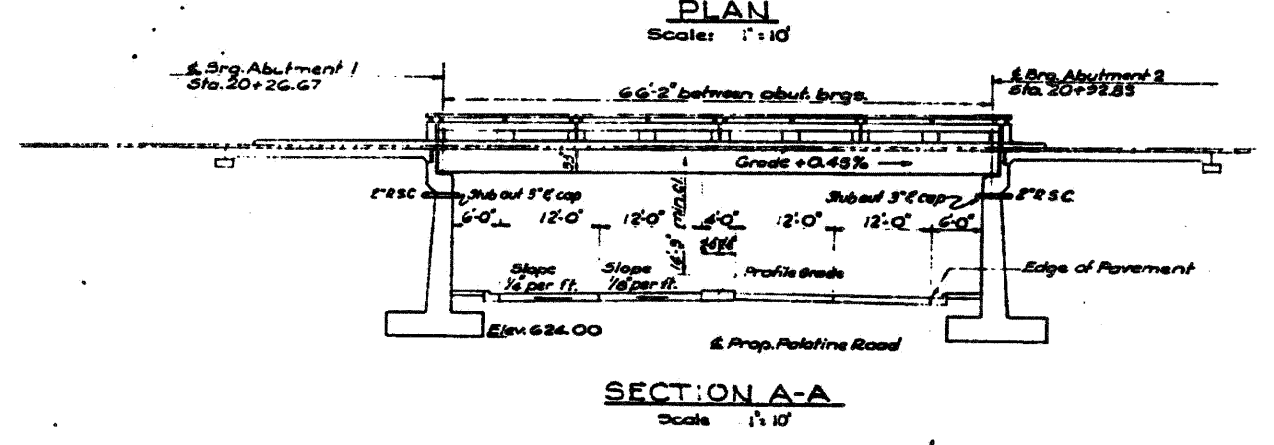
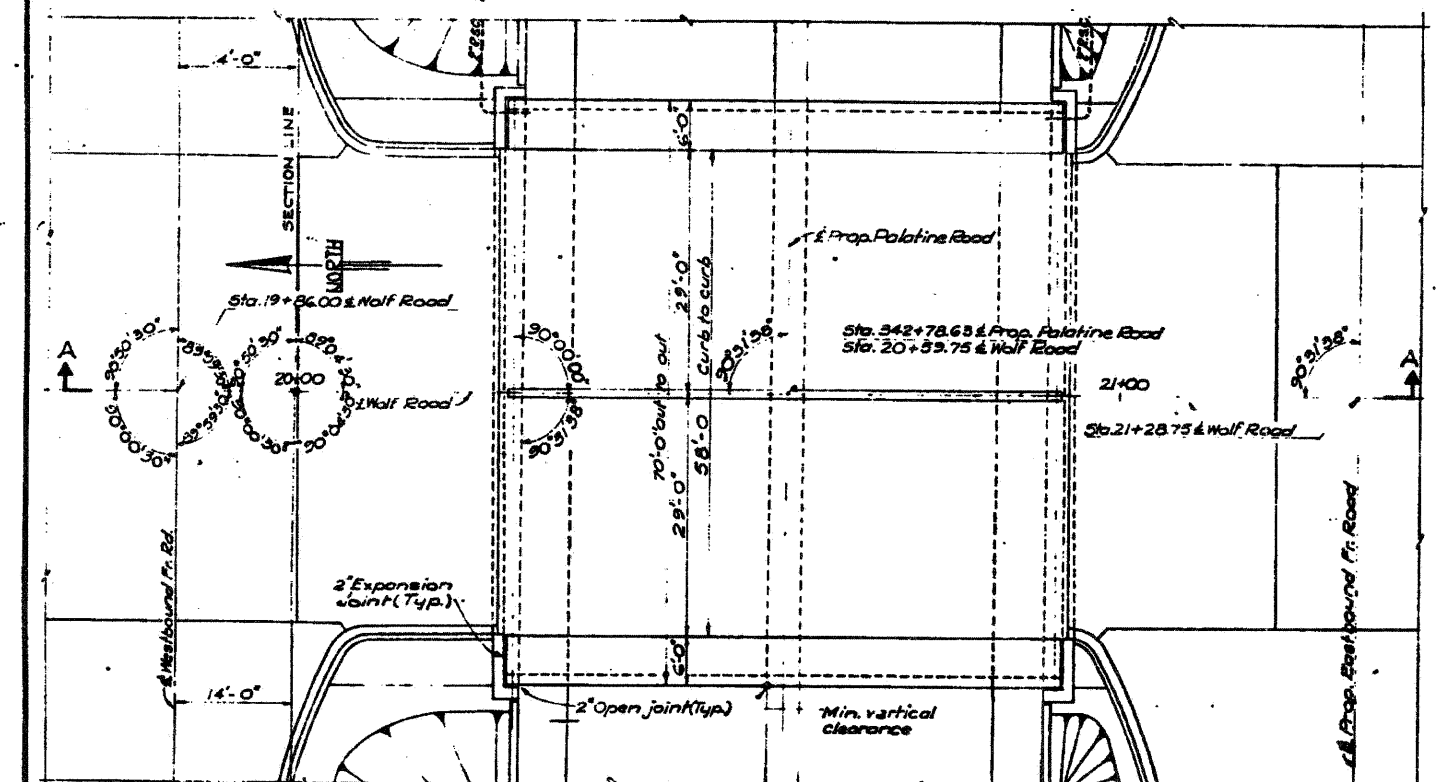
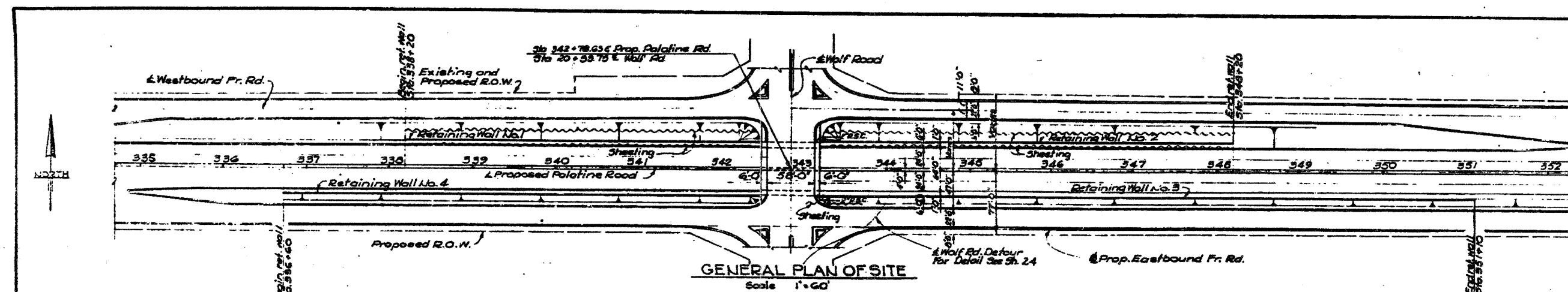
**NORTH ABUTMENT PLAN AND ELEVATION
S.N. 016-0680**

F.A.U. RTE. 2692	SECTION 2011-205-F	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 13
CONTRACT NO. 60R35			ILLINOIS FED. AID PROJECT	

SHEET NO. 523 OF 29 SHEETS

FOR INFORMATION ONLY

Sheet No.	Year	Sheet No.	Total Sheets
116		95	129



GENERAL NOTES

SPECIFICATIONS
General:
 Standard Specifications for Road and Bridge Construction, 1958 Edition, and Supplemental Specifications, effective April 2, 1962, of the Division of Highways, State of Illinois, and Special Provisions.

Design:
Bridges:
 Standard Specifications for Highway Bridges, 1961 Edition, of the American Association of State Highway Officials (AASHTO) with tentative Revision T.8 (59) and "Criteria for Prestressed Concrete Bridges," 1954 Edition, Bureau of Public Roads, supplemented with Tentative Recommendations for Prestressed Concrete, 1958 Edition American Concrete Inst. & American Society of Civil Engineers except as noted.

Retaining Walls:
 Standard Specifications for Highway Bridges 1957 Edition of the AASHTO except as noted.

LOADING
 Bridges: H-20-S16-44
 Retaining Walls: Equip. Fluid Pressure 40 lb/cu.ft.

MATERIALS
Concrete:
 Class X (General Specifications) with $f'_c = 3,500$ psi at 28 days shall be used throughout except in Precast Prestressed Concrete Bridge Box Beams (See Special Provisions.)

Reinforcing Steel:
 Intermediate grade conforming to A.S.T.M. Specifications A15-58T, with deformations conforming to A.S.T.M. Specifications A503-56T.

Structural Steel: Shall be of Carbon Steel and conform to A.S.T.M. Spec. A-36.

Prestressing Steel: Be 1/8" seven wire cable strands with a minimum ultimate strength of 250,000 psi.

ALLOWABLE STRESSES
 Concrete: Class X (w/o Earth Pressure) $f_c = 1,400$ psi. (With Earth Pressure) $f_c = 1,000$ psi.

Concrete for P.R.C. & B.B.: (See Special Provisions.)

Reinforcing Steel: Intermediate grade $f_s = 20,000$ psi.

Structural Steel: A.S.T.M. Specifications A-36.

Prestressing Steel: Special Provisions.

Foundation Bearing Pressure: 4,000 p.s.f.

CONSTRUCTION
Bridge Seats: Shall be constructed to exact elevations shown. If brush former or grading is necessary, this work shall be done at no additional cost.

Latent Reinforcing: When deck units are in place prior to grouting fascia beam cavities, the transverse rods shall be given preliminary tightening to pull the deck units together. Final tightening shall be done by loosening the nuts, then giving sufficient turns from a hand-tight position to develop a stress of 30,000 psi of the tensile stress area. This requires a wrenching torque of about 1,050 ft.-lb. The tensioning rods are not required to be grouted except at fascia beams.

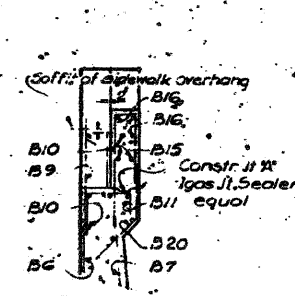
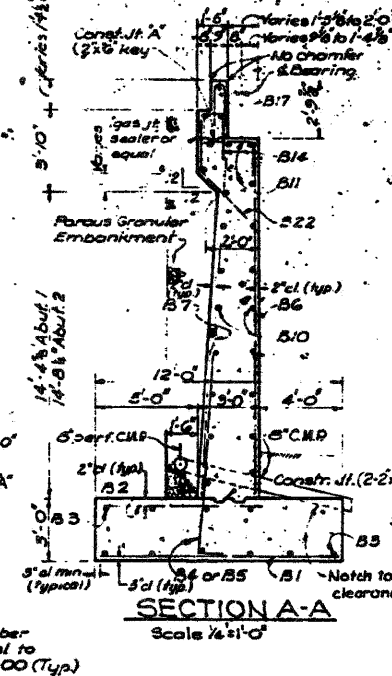
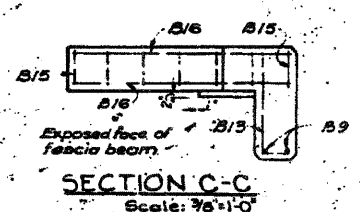
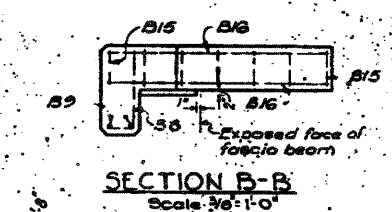
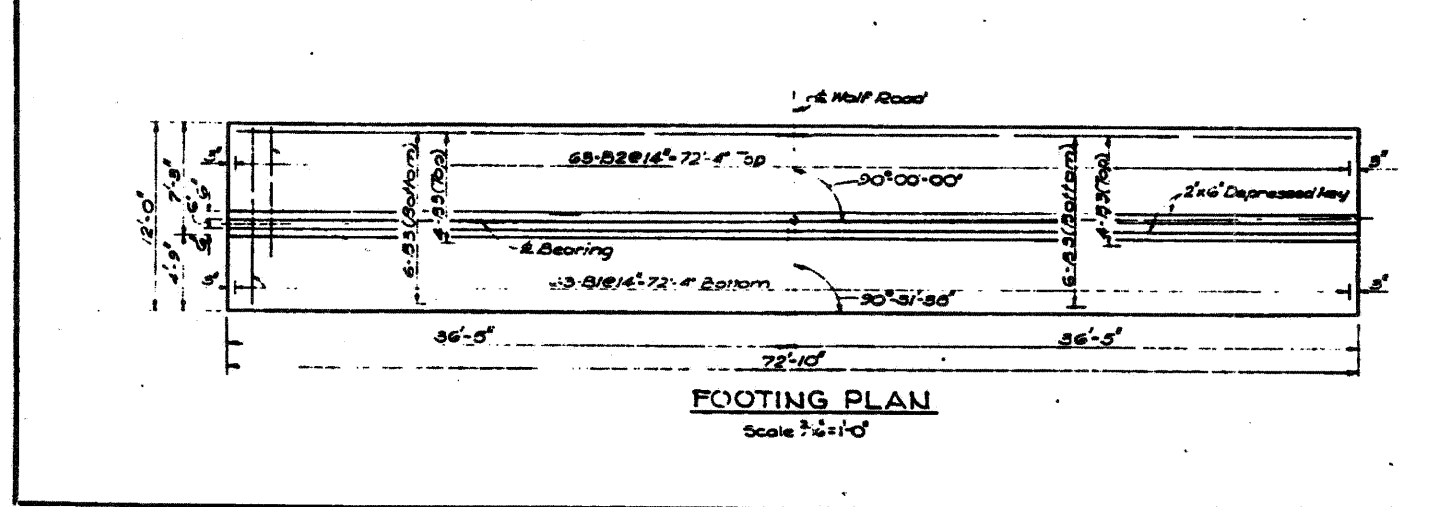
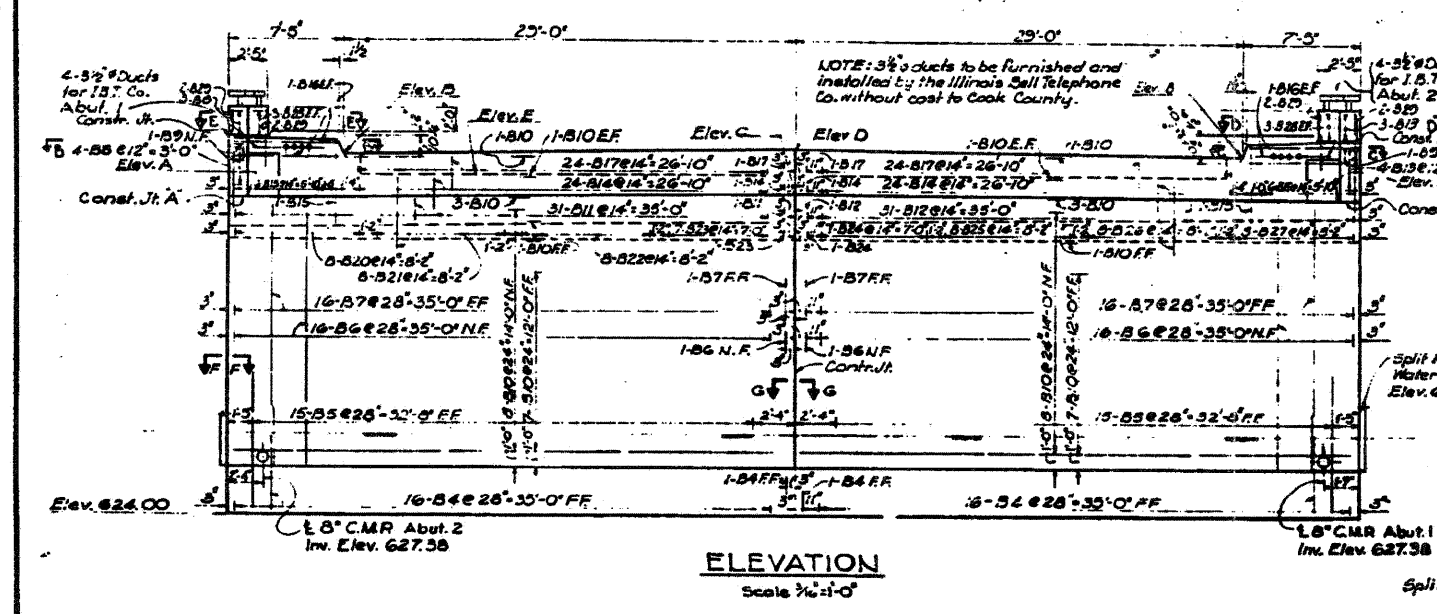
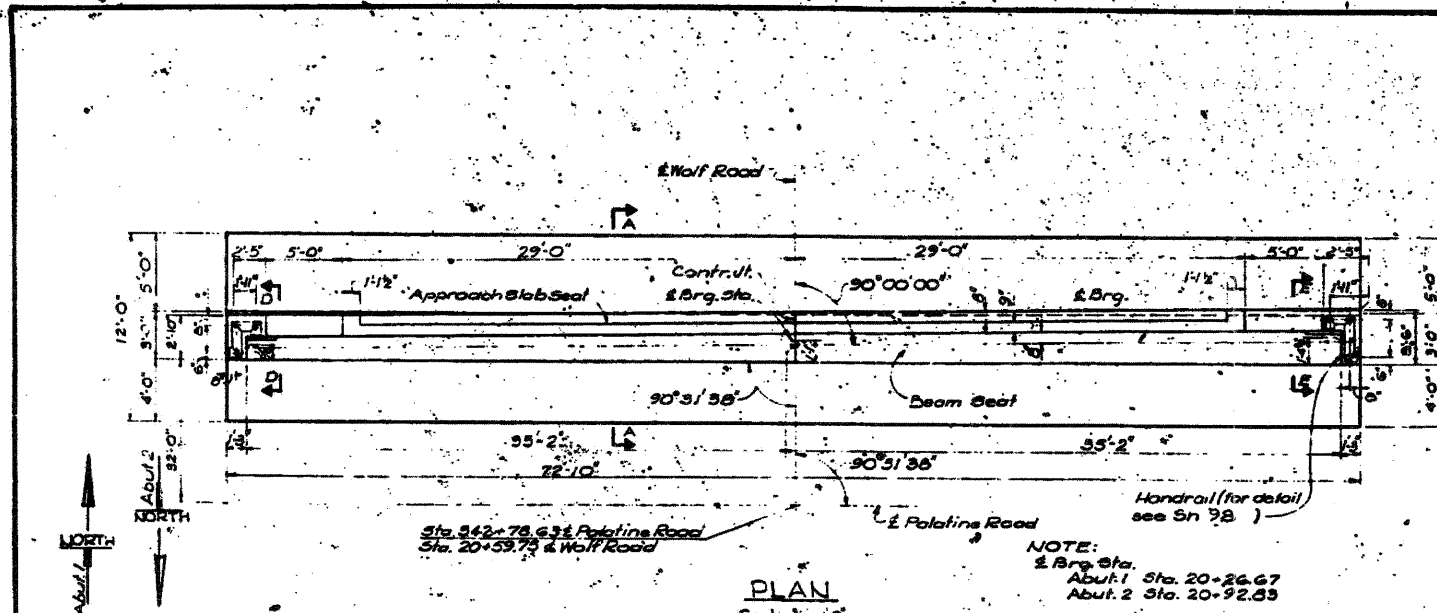
Exposed Surfaces: of concrete or rebar to be treated with silicone. (See Special Provisions, Re: Water Soluble Silicone Surface Treatment).

SHEETING
 The Contractor shall submit to the Engineer for his approval, plans for the sheeting in accordance with Article 5.3 of the Standard Specifications. The cost for furnishing, installing & subsequent removal of the sheeting shall be considered as included in the unit price bid per cubic yard for Excavation for Structures.

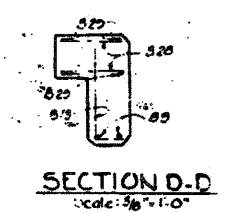
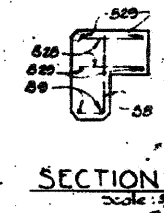
DEPARTMENT OF HIGHWAYS COOK COUNTY, ILLINOIS			
JEROME SIMON President, Board of Commissioners	WILLIAM J. MORTIMER Superintendent of Highways		
PROP. PALATINE ROAD UNDER WOLF ROAD			
GENERAL PLAN			
VOGT, IVERS, & ASSOCIATES ENGINEERS - ARCHITECTS CHICAGO	COMPUTED: T.E.C. DRAWN: T.E.C.	CHECKED: C.E.L. SCALE: AS NOTED	
APPROVED [Signature]	PROJECT APPROVED [Signature]	SHEET NO. 116	TOTAL SHEETS 129

REVISIONS		
DATE	BY	DESCRIPTION

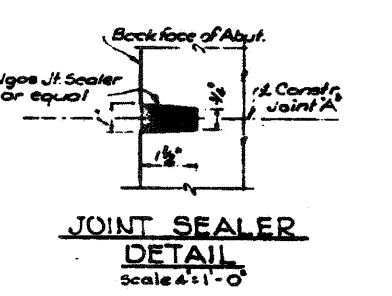
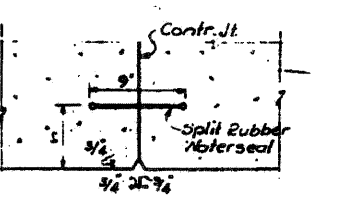
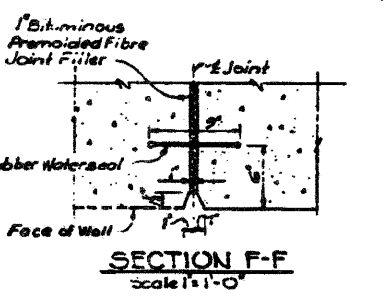
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ABUTMENT	ELEVATION				
	A	B	C	D	E
1	643.70	646.39	646.07	646.89	645.22
2	644.00	646.89	644.37	647.9	645.52



- NOTES**
- Designations used:
 N.F. = Near Face
 F.F. = Far Face
 E.F. = Each Face
 - Porous Granular Embankment shall extend the full length of the abutment, from top of footing to the underside of the approach slab.
 - Chamfer all exposed edges of concrete 3/4" unless otherwise noted.
 - The exposed portion of construction joint 'A' shall be chamfered 3/4".
 - The backfill behind the abutments shall be completed to the elevation of construction joint 'A' prior to placing the superstructure.
 - The portion of the abutment concrete above construction joint 'A' shall not be placed until after the setting of the precast beams has been completed.
 - For Reinforcement Bar List see Sh. 112.
 - For Handrail & Bridgeway Detail see Sh. 98.
 - For Subdrain Details see Sh. 99.
 - The back of abutment shall be waterproofed in accordance with Art. 51.21, State of Illinois, Standard Specifications.
 - Joint Sealer, Exp. Joint Filler, Waterproofing and Split Rubber Waterseal shall be included in the unit price bid per cubic yard for the concrete.



BILL OF MATERIAL FOR 2 ABUTMENTS

Class A Excavation For Structures	281 C.
Class A Excavation For Structures Modified	1046 C.
Class X Concrete - Footings	194 C.
Class X Concrete Above Footings	256 C.
Reinforcement Bars	20,766 L.
Perforated Corrugated Metal Pipe	146 L.
Porous Granular Embankment	190 C.
Sand or Gravel Embankment	970 C.
Furnishing and Erecting Metal Handrail	19 L.

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

SEYMOUR SIMON
 PRESIDENT, BOARD OF SUPERVISORS

WILLIAM J. MORTIMER
 COMMISSIONER OF HIGHWAYS

PROP. PALATINE ROAD UNDER WOLF RY.
ABUTMENTS 1&2

VOGT, IVERS, & ASSOCIATES
 ENGINEERS - ARCHITECTS
 CHICAGO

COMPUTED: C.F.L.
 DRAWN: C.F.L.
 CHECKED: SCALE: C.B.

PROJECT APPROVED: *[Signature]*

Approved Oct 4, 1962
[Signature]

116

96 129

REVISIONS

DATE	BY	DESCRIPTION

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ENTRAN

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 DESIGNED - BPS
 CHECKED - BHS
 DRAWN - BPS
 CHECKED - BHS

REVISIONS
 REVISED -
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 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (2 OF 4)
 S.N. 016-0680

SHEET NO. 527 OF 29 SHEETS

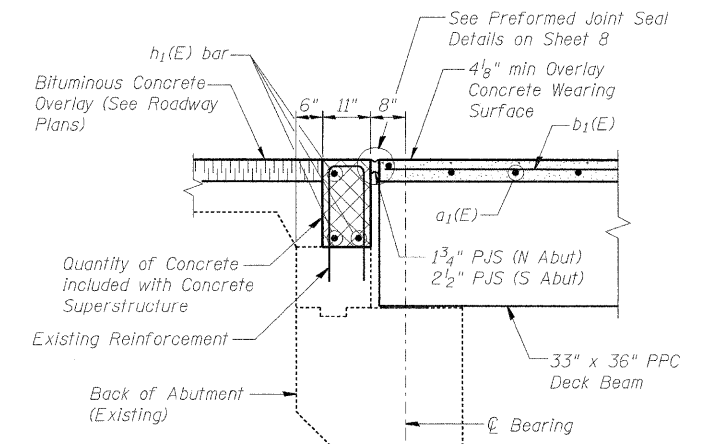
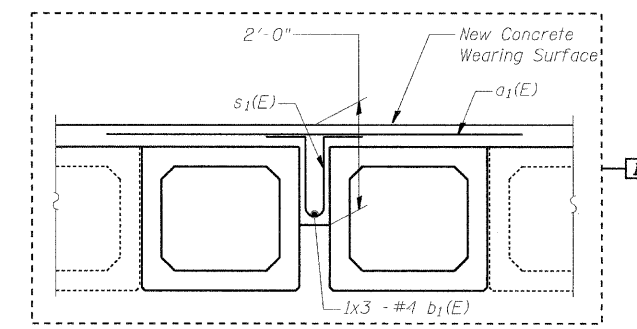
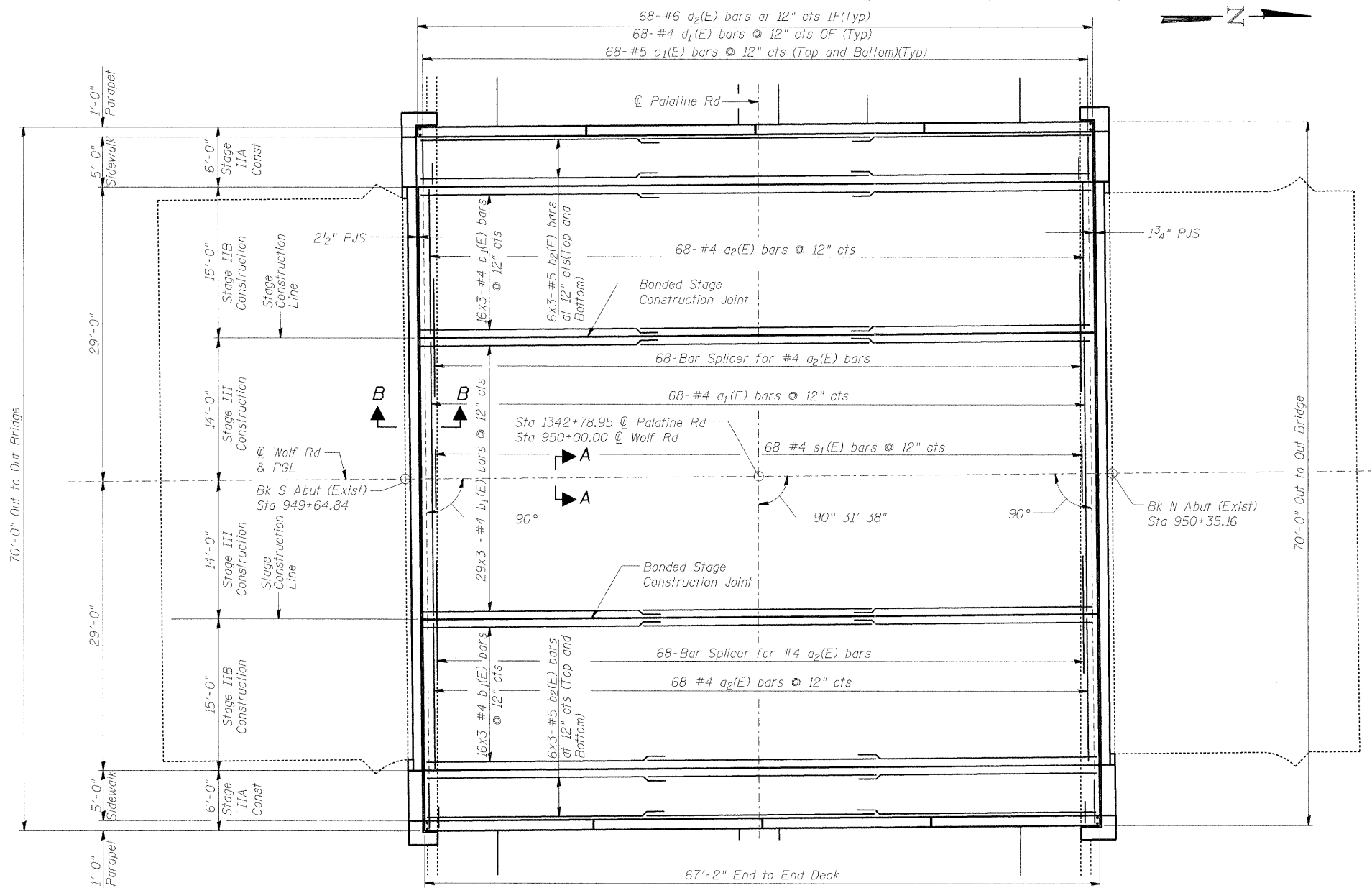
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 COUNTY COOK
 TOTAL SHEETS 17
 SHEET NO. 15

CONTRACT NO. 60R35
 ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

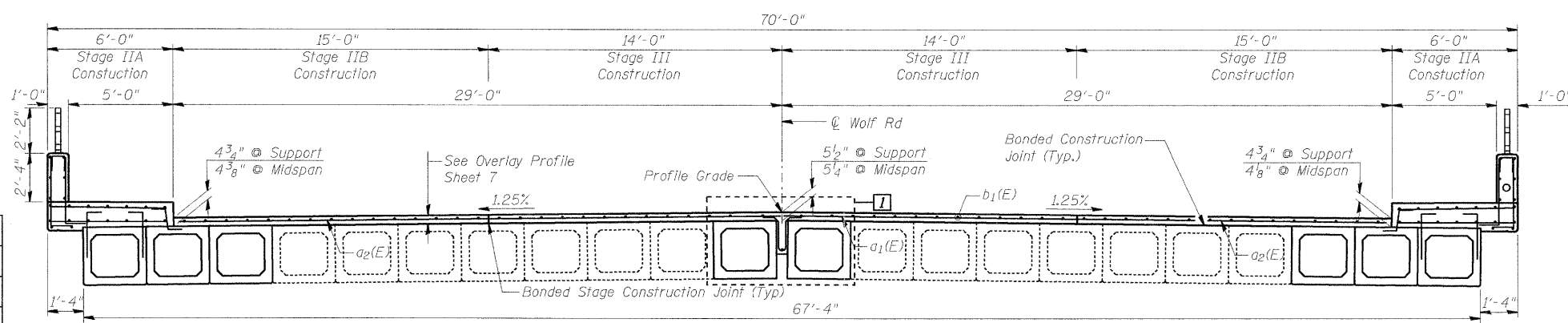
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 305	SECTION *	COUNTY Cook	TOTAL SHEETS 72	SHEET NO. 64	SHEET NO. 6 14 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		
Contract No. 62853 *2004-108 BR					



- NOTES
- Bars indicated thus: 30x3 - #4 etc indicates 30 lines of bars with 3 lengths per line.
 - EF = Each Face, OF = Outer Face, IF = Inner Face
 - For Parapet Elevation, Sidewalk Details and Bill of Material See Sheet 7.
 - See Electrical Plans for proposed conduit.

LAP LENGTHS
#4 - 1'-8"
#5 - 2'-2"



DECK PLAN AND CROSS SECTION
WOLF RD. OVER PALATINE RD.
F.A.P. RTE. 305 SECT. 2004-108 BR
COOK COUNTY
STATION 950+00.00
STRUCTURE NO. 016-0680

DESIGNED	BPS
CHECKED	KFA
DRAWN	BPS
CHECKED	GSP

AMERICAN CONSULTING ENGINEERS

CONSULTING ENGINEERS & PLANNERS
CHICAGO, ILLINOIS

USER NAME	= 2pennid
PLOT SCALE	= N/A
PLOT DATE	= 9/12/2011

DESIGNED	- BPS	REVISED	-
CHECKED	- BHS	REVISED	-
DRAWN	- BPS	REVISED	-
CHECKED	- BHS	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (3 OF 4)
S.N. 016-0680

SHEET NO. 528 OF 29 SHEETS

F.A.U. RTE. 2692	SECTION 2011-205-F	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 16
CONTRACT NO. 60R35				ILLINOIS FED. AID PROJECT

7 - REVISED 07-26-06, BPS

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 9
FAP 305	*	Cook	72	67	14 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			
Contract No. 62853			*2004-108 BR		

NOTES

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the Contract Unit Price per foot for Pedestrian Railing.

Hollow structural sections shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.

If the option of drilling and epoxy grouting the anchor rods is chosen, the Contractor shall use 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 shall be sealed with pre-measured amounts of the adhesive chemical.

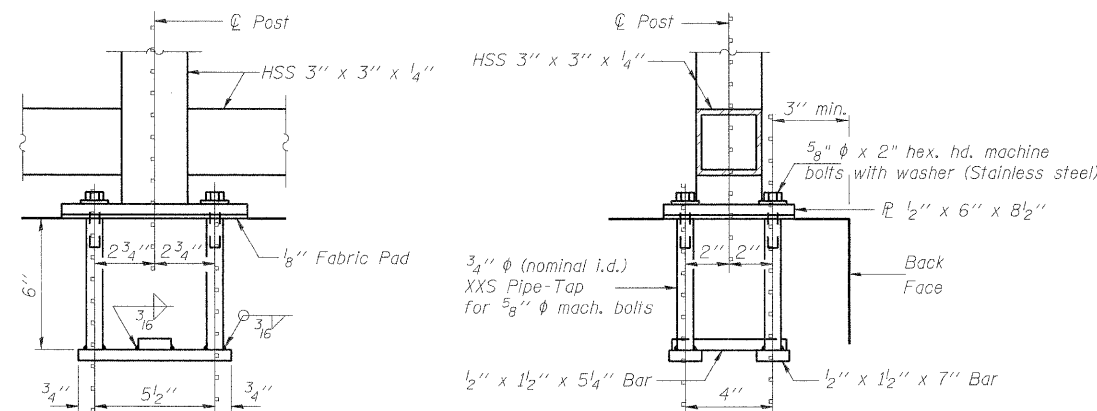
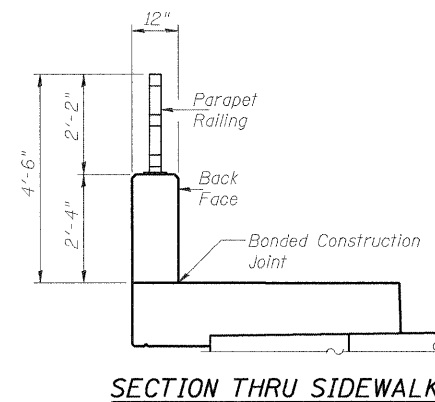
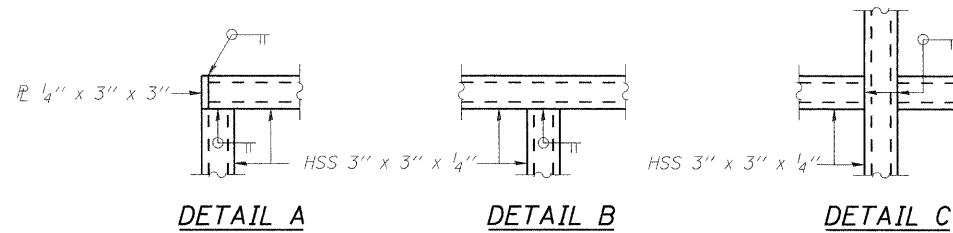
Space reinforcement to miss anchor rods.

All posts, railing, splices anchor devices, and bent plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All bolts, nuts, washers, and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted.

Vent holes for galvanized shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.

BILL OF MATERIAL

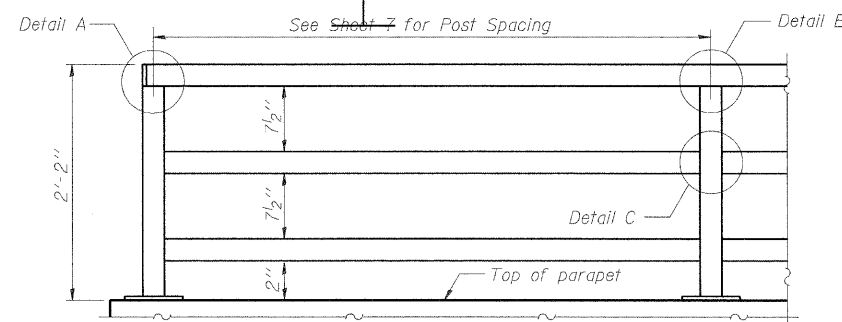
ITEM	UNIT	QUANTITY
Pedestrian Railing	Foot	135



ANCHOR BOLT DETAILS

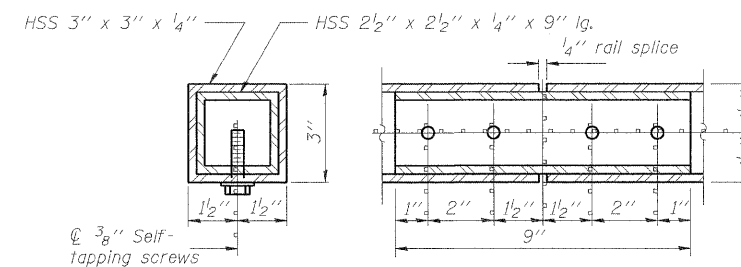
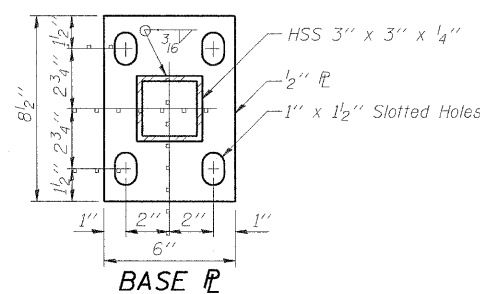
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 5/8\"/>

Sheet S7 of 29



PARAPET RAILING ELEVATION

(Inside Face of Three Element Rail)



RAIL SPLICE

DESIGNED	BPS
CHECKED	KFA
DRAWN	BPS
CHECKED	GSP

R-29 (Modified) 9-01-03 (10'-0" Maximum Post Spacing)

PEDESTRIAN RAILING
WOLF RD. OVER PALATINE RD.
F.A.P. RTE. 305 SECT. 2004-108 BR
COOK COUNTY
STATION 950+00.00
STRUCTURE NO. 016-0680

FILE NAME = g:\projects\2102195_001\veed\structure\shs\0160680-02-Existing_Adgn

AMERICAN CONSULTING ENGINEERS

CONSULTING ENGINEERS & PLANNERS
CHICAGO, ILLINOIS



USER NAME = zpiend	DESIGNED - BPS	REVISED -
PLOT SCALE = N/A	CHECKED - BHS	REVISED -
PLOT DATE = 9/12/2011	DRAWN - BPS	REVISED -
	CHECKED - BHS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS (4 OF 4)
S.N. 016-0680

SHEET NO. S29 OF 29 SHEETS

F.A.U. RTE. 2692	SECTION 2011-205-F	COUNTY COOK	TOTAL SHEETS 17	SHEET NO. 17
				CONTRACT NO. 60R35
ILLINOIS FED. AID PROJECT				

FOR INFORMATION ONLY