11-6-09 Letting, Item 065

PROJECT ENGINEER: REBECCA MARRUFFO

SQUAD LEADER: KEVIN HENSON (815)-284-5971

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 64264		

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001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
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BLR 23-3	TRAFFIC BARRIER TERMINAL TYPE 1
BLR 26-1	STEEL PLATE BEAM GUERDRAIL 700 mm (27 1/2") HEIGHT

100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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

CONTRACT NO. 64264

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI ROUTE 74 (I-74)
SECTION 37-(4HB,4HB-1,4HB-2)D
PROJECT ESP-074-2(127)031
HENRY COUNTY

C-92-054-09

R.1E.

IMPROVEMENT BEGINS
STA.1404 + 01.50

SECTION BEGINS
STA. 1421 + 35.68

REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON BRIDGES CARRYING I-74 OVER OPHIEM RD, 3 MILES SOUTH OF IL 81 (SN 037-0015 & -0016) INCLUDING A 1 FT. DROP IN VERTICAL ALIGNMENT ON OPHIEM RD. FOR A LENGTH OF 950 FT.

SECTION ENDS
STA. 1423 + 04.18

SECTION BEGINS
STA. 1629 + 27.61

REMOVAL AND REPLACEMENT OF DECKS ON SN 037-0017 & -0018 OVER TR 379B, 1 MILE NORTH OF IL 17.

SECTION ENDS
STA. 1631 + 23.62

IMPROVEMENT ENDS
STA. 1649 + 16.97

LYNN TOWNSHIP, SECTION 25,36
OXFORD TOWNSHIP, SECTION 13,24

GROSS LENGTH OF PROJECT = 24,515.47 LIN. FT. = 4.64 MILES
NET LENGTH OF PROJECT = 364.51 LIN. FT. = 0.07 MILES

D-92-002-98

LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 6 2009
George F. Ryan
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 2, 2009
Charles J. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT
October 2, 2009
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

HENRY COUNTY SECTION 37-(4HB,4HB-1,4HB-2)D FAI ROUTE 74

SUMMARY OF QUANTITIES

	CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	ROADWAY I000	STRUCTURES X220-2A	STRUCTURES X271-2A
					100% FEDERAL		
	20200100	EARTH EXCAVATION	CU YD	2785	2785		
	20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	436		116	320
	21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	3156	3156		
*	25000210	SEEDING, CLASS 2A	ACRE	0.50	0.50		
*	25000310	SEEDING, CLASS 4	ACRE	0.25	0.25		
:)	25000750	MOWING	ACRE	0.75	0.75		
*	25100115	MULCH, METHOD 2	ACRE	0.75	0.75		
*	25100900	TURF REINFORCEMENT MAT	SQ YD	342	342		
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	216	216		
	28000300	TEMPORARY DITCH CHECKS	EACH	8	8		
	28000400	PERIMETER EROSION BARRIER	FOOT	373	373		
	28000500	INLET AND PIPE PROTECTION	EACH	2	2		
	31100910	SUBBASE GRANULAR MATERIAL, TYPE A 12"	SQ YD	3156	3156		
	35101400	AGGREGATE BASE COURSE, TYPE B	TON	92	92		
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	489	489		
	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	530	530		
	42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	447	447		
	44000100	PAVEMENT REMOVAL	SQ YD	2322	2322		
	44004000	PAVED DITCH REMOVAL	FOOT	371	371		
	44000700	APPROACH SLAB REMOVAL	SQ YD	853	853		
	44200089	PAVEMENT PATCHING, TYPE I, 8 INCH	SQ YD	324	324		
	44200094	PAVEMENT PATCHING, TYPE II, 8 INCH	SQ YD	324	324		
	44200549	CLASS A PATCHES, TYPE I, 10 INCH	SQ YD	389	389		
	44200553	CLASS A PATCHES, TYPE II, 10 INCH	SQ YD	389	389		
	44213000	PATCHING REINFORCEMENT	SQ YD	778	778		
	44213200	SAW CUTS	FOOT	3684	3684		
	50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	2		2	
	50102400	CONCRETE REMOVAL	CU YD	78			78
	50104650	SLOPE WALL REMOVAL	SQ YD	2185		980	1205
	50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	2			2
	50157300	PROTECTIVE SHIELD	SQ YD	926		456	470

* SPECIALTY ITEM
:) NON-PARTICIPATION (100% STATE)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	2
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	ROADWAY I000	STRUCTURES X220-2A	STRUCTURES X271-2A
				100% FEDERAL		
50200100	STRUCTURE EXCAVATION	CU YD	546		170	376
50300100	FLOOR DRAINS	EACH	24			24
50300225	CONCRETE STRUCTURES	CU YD	289.3		106.5	182.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1578.2		915.8	662.4
50300260	BRIDGE DECK GROOVING	SQ YD	3171		1429	1742
50300280	CONCRETE ENCASEMENT	CU YD	8.4		8.4	
50300300	PROTECTIVE COAT	SQ YD	3863		1746	2117
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	15,980		6060	9920
50500505	STUD SHEAR CONNECTORS	EACH	6134			6134
Z0031200	JACKING AND CRIBBING	EACH	28			28
50600300	CLEANING AND PAINTING STEEL BRIDGE	L SUM	1			1
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1			1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	377,700		209,390	168,310
50800515	BAR SPLICERS	EACH	2359		870	1489
51100100	SLOPE WALL 4 INCH	SQ YD	2013		800	1213
51201400	FURNISHING STEEL PILES HP10X42	FOOT	1200		1200	
51202305	DRIVING PILES	FOOT	1200		1200	
51205200	TEMPORARY SHEET PILING	SQ FT	1487		518	969
51500100	NAME PLATES	EACH	4		2	2
52000110	PREFORMED JOINT STRIP SEAL	FOOT	176.5			176.5
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	46		18	28
52100520	ANCHOR BOLTS, 1"	EACH	128		72	56
542D5473	PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 18"	FOOT	108	108		
54213447	END SECTIONS 12"	EACH	4	4		
54215763	METAL END SECTIONS, EQUIVALENT ROUND-SIZE 18"	EACH	4	4		
58700300	CONCRETE SEALER	SQ FT	814			814
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	213		68	145
60108000	PIPE UNDERDRAINS 12"	FOOT	115	115		
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	591		263	328
60900115	TYPE B INLET BOX, STANDARD 609001	EACH	2	2		

* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	3
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

	CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	ROADWAY I000	STRUCTURES X220-2A	STRUCTURES X271-2A
					100% FEDERAL		
	60900330	TYPE D INLET BOX, STANDARD 609001	EACH	2	2		
*	63000130	STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL)	FOOT	512.5	512.5		
*	63100215	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH	10	10		
	63200310	GUARDRAIL REMOVAL	FOOT	500	500		
	63500105	DELINEATORS	EACH	2	2		
	66600400	REMOVE AND RE-ERECT RIGHT-OF-WAY MARKERS	EACH	3	3		
	66700305	PERMANENT SURVEY MARKERS, TYPE II	EACH	8	8		
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	7	7		
	67100100	MOBILIZATION	L SUM	1	1		
	70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	4	4		
	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
	70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1		
	70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1		
	70300625	TEMPORARY PAINT PAVEMENT MARKING LINE 4"	FOOT	22812	22812		
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	7604	7604		
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	1575	1575		
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1437.5	1437.5		
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	42655	42655		
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	8	8		
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH	4	4		
*	78200520	BARRIER WALL MARKERS, TYPE B	EACH	32	32		
*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2	2		
*	78300100	PAVEMENT MARKING REMOVAL	SQ FT	2669	2669		
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1		
	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	4		
	Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	4		
†	Z0076600	TRAINEES	HOUR	1,000	1,000		
*	LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2	2		
	X0300136	BRIDGE APPROACH SHOULDER REMOVAL	SQ YD	498	498		
	X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	9		9	

* SPECIALTY ITEM

† Y080

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	4
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

ROUTE NO.	SEC.		COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74 (I-74)	37-(4HB, 4HB-1, 4HB-2)D		Henry	148	5
FED ROAD DIST. NO.		ILLINOIS	PROJECT		
Contract #64264					

The final top 100 mm (four inches) of soil in any right-of-way area disturbed by the Contractor must be capable of supporting vegetation. The soil must be from the A horizon (zero to 2' deep) of soil profiles of local soils.

All Borrow/Waste/Use sites must be approved by the Department prior to removing any material from the project or initiating any earthmoving activities, including temporary stockpiling outside the limits of construction.

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches.

Program #5
(Arch. Size)
Enlarge
200%
Enlarge 107%

Fertilizer Nutrients shall be applied at the rate specified in Sections 250 and 252 of the Standard Specifications. This shall be included in the cost of the SEEDING or SODDING.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of EARTH EXCAVATION.

Previously pugmilled stockpiles of "Type A" older than 1 month will not be approved for use until a moisture check is run to verify moisture content. Material shipped to projects without being tested will not be accepted.

The subgrade on this project, exclusive of rock cut areas is scheduled to be improved to a 300 mm (12") depth according to Mechanistic Pavement Design. The areas scheduled to be improved to a depth greater than 300 mm (12") are estimated based on the original geotechnical investigation. The subgrade shall be processed in accordance with Article 301.03 of the Standard Specifications before the engineer shall determine the limits and the additional thickness of improvement required, if any. Any additional undercutting required after this evaluation shall be paid for as EARTH EXCAVATION.

Except for the top 75 mm (3"), all aggregate bases and subbases 300 mm (12") in thickness shall be constructed of aggregate gradation CA-2. If the specified thickness exceeds 300 mm (12"), the bases or subbases shall be constructed of topsize 150 mm (6") breaker-run crushed stone with 70% to 90% by weight, passing the 4" sieve and 15% to 40% by weight, passing the 50 mm (2") size sieve, except for the top 75 mm (3"). The breaker-run crushed stone shall be reasonably uniformly graded from coarse to fine and be taken from a quarry ledge capable of producing Class "D" quality aggregate. The top 75 mm (3") shall be gradation CA-6 or CA-10 regardless of thickness. The water necessary to achieve compaction in all but the top 75 mm (3") layer may be added after the subbase or base course is placed on the grade.

The following Mixture Requirements are applicable for this project:

Mixture Uses(s):	Surface	Binder
PG:	PG 58-22	PG 58-22
Design Air Voids	3.0 @ N50	3.0 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5	IL 19.0
Friction Aggregate	C	N/A
20 Year ESAL	0.1	0.1

The area to be primed shall be limited to that which can be covered with HMA the same day, unless otherwise permitted by the Engineer.

On full depth pavement, shoulder widths of 1.8 m (6 ft.) or less may be placed, at the Contractor's option, simultaneously with the adjacent traffic lane for both the binder and surface courses, provided the cross slope of both the pavement and shoulder can be satisfactorily obtained. The shoulder will be paid for at the contract unit price per Square Meter (Square Yard) for HOT-MIX ASPHALT SHOULDERS of the thickness specified on the plans.

Bituminous and Aggregate prime coat shall be placed in accordance with Section 406 of the Standard Specifications. The cost of the prime coats shall be included in the contract unit price per metric ton (ton) for HOT-MIX ASPHALT BINDER COURSE of the type specified.

The contractor shall submit four copies of the required shop drawings for review and approval to the Bureau of Bridges and Structures, 2300 South Dirksen Parkway, Springfield, IL 62764. After approval of initial submittal, the contractor shall submit one set of shop drawings to Dave Lippert, Engineer of Materials, 126 East Ash Street, Springfield, IL 62704, and eight (8) sets of shop drawings to be distributed to:

District 2 District Engineer (1)
Fabricator (1)
Contractor (2)
Resident Engineer (2)
District 2 Bureau of Materials (2)

The review and approval of temporary sheet piling will require 4 to 6 weeks. The Contractor shall schedule his work accordingly.

At bridge expansion joints, if temporary expansion joint bulkheads are attached to adjacent deck slabs or abutments for support, the Contractor shall cut the attachments as soon as the concrete has set to prevent joint damage due to horizontal contraction or expansion.

The Contractor shall sandblast the top of the beams upon removal of the bridge deck. This work will be included in the cost of removing the bridge deck.

Reflector Markers Type B shall be installed on the top of bridge parapet walls. The markers shall be according to Standard 635011 and the color and spacing according to Standard 635006, except the minimum is 2 per side.

The Contractor shall remove all entrance culverts in condition for reuse which are not to be left in place. They shall be cleaned and stored along the right of way as directed. In no case shall they be roughly handled or shoved by heavy machinery. Unusable material shall be disposed of by the Contractor at his expense. Cost of the work to be included in the contract unit price for EARTH EXCAVATION.

The proposed pipes for entrances and side roads shall be placed in line with the existing or proposed ditch line.

Connecting bands for corrugated metal pipes shall be metal and shall be coated with the same material as the pipe sections. The connecting bands shall be a minimum of 18" wide.

Embankment quantities for the construction of the Traffic Barrier Terminals as shown in the plans are included in quantities for Earth Excavation.

Delineators shall be installed as shown in Standard 635001, except that the post shall be rotated 180° and only metal-backed delineators shall be permitted.

Delineators shall be placed at the ends of approach guardrail terminal sections, and at each headwall or end section of AR Culverts. This work will be paid for at the contract unit price each for DELINEATORS.

Pavement Marking shall be done according to Standard 780001, except as follows:

1. All words, such as ONLY, shall be 2.4 m (8 feet) high.
2. All non-freeway arrows shall be the large size.
3. The distance between yellow no-passing lines shall be 200 mm (8"), not 180 mm (7") as shown in the detail of Typical Lane and Edge Lines.

GENERAL NOTES

ROUTE NO.	SEC.		COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74 (I-74)	37-(4HB, 4HB-1, 4HB-2)D		Henry	148	6
FED ROAD DIST. NO.		ILLINOIS	PROJECT		
Contract #64264					

PERMANENT SURVEY MARKERS, TYPE II, shall be set at intervals of 1.6 Km (1 mile) or as directed by the Engineer. Bridge or culvert projects shall have one survey marker placed near the structure. Estimated: 8 Each.

Permanent Survey Markers, Type II shall be cast-in-place as shown on District Standard 66.2. The bottom of the marker shall be 5'-0" below the ground surface.

The Contractor shall submit to the Engineer a description of location, elevation, and coordinates for each permanent survey marker. The horizontal and vertical coordinates must be derived by GPS and the elevation derived by a closed level circuit. The Engineer shall submit this information to the Survey Crew.

Aggregate Base Course, Type B, is provided in the plan quantities and shall be used only as needed when directed by the Engineer.

Program #5
(Arch. Size)
Enlarge
200%
Enlarge 107%

Right-of-way markers will be erected with the back face of the marker on the right-of-way line unless the new right-of-way line has been surveyed and pinned, in which instance the right-of-way markers will be erected 300 mm (12 inches) inside the new right-of-way line.

During construction, one lane on Ophiem Road shall remain open to accommodate vehicular traffic and all farm (18' wide, full height) equipment from April 1 – June 1 and September 15 – November 15. The road may be closed at other times. Advance notice of road closure shall be posted in local newspapers and broadcast on local radio and television 2 weeks prior to the actual closure.

Protective shield shall be used in the event construction is not complete on the structures when the roadway below structures is open to traffic.

The structure at Sta. 1422+17 (SB) will retain the same Structure No. 037-0015
The structure at Sta. 1422+17 (NB) will retain the same Structure No. 037-0016
The structure at Sta. 1630+16 (SB) will retain the same Structure No. 037-0017
The structure at Sta. 1630+16 (NB) will retain the same Structure No. 037-0018

The cost of the concrete curb required for Highway Standard 631031 shall be included in the contract unit price per Square Yard for BRIDGE APPROACH PAVEMENT CONNECTOR (PCC).

Highway Standard 609001 shall be used to replace existing drains located within the Bridge Approach Pavement Connector (PCC).

Quantities for Pipe Underdrains, 12" have been included and shall only be used if the Engineer determines in the field that the tangent section of pipe drain identified in the schedule of quantities needs to be replaced.

Quantities for End Sections, 12" have been included and shall only be used if the Engineer determines in the field that the end section identified in the schedule of quantities needs to be replaced.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

American Natural Resources Pipeline Co.	AT&T
Ameren IP	MidAmerican Energy Corp
Frontier/Citizens	Woodhull Community Telephone Co.
McLeod USA	Lightcore

The applicable portions of Article 105.07 of the Standard Specification shall apply except for the following: The Contractor shall be responsible to locate the vertical depths of the underground utilities which may interfere with construction operations. This work will not be measured or paid for separately, but shall be considered as included in the unit bid price for the item of construction involved.

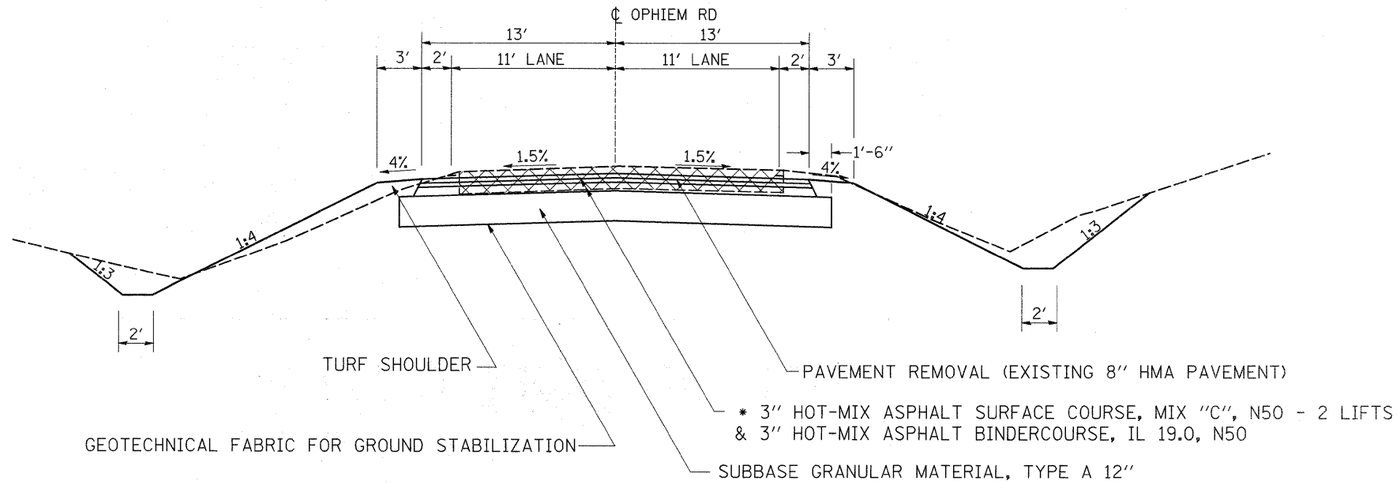
Per SB 699 (90 day utility relocation law), once right-of-way is clear to award the project, a notice will be sent to the utility companies instructing them to have their facilities relocated within 90 days. Estimated date relocation complete = Letting Date + 135 days.

CADD data will be available to Contractors and Consultants working on this project. This information will be provided upon request as MicroStation CADD files and Geopak coordinate geometry files ONLY. If data is required in other formats it will be your responsibility to make these conversions. If any discrepancy or inconsistency arises between the electronic data and the information on the hard copy, the information on the hard copy should be used. Contact the District's Project Engineer to request these files.

TYPICAL SECTIONS

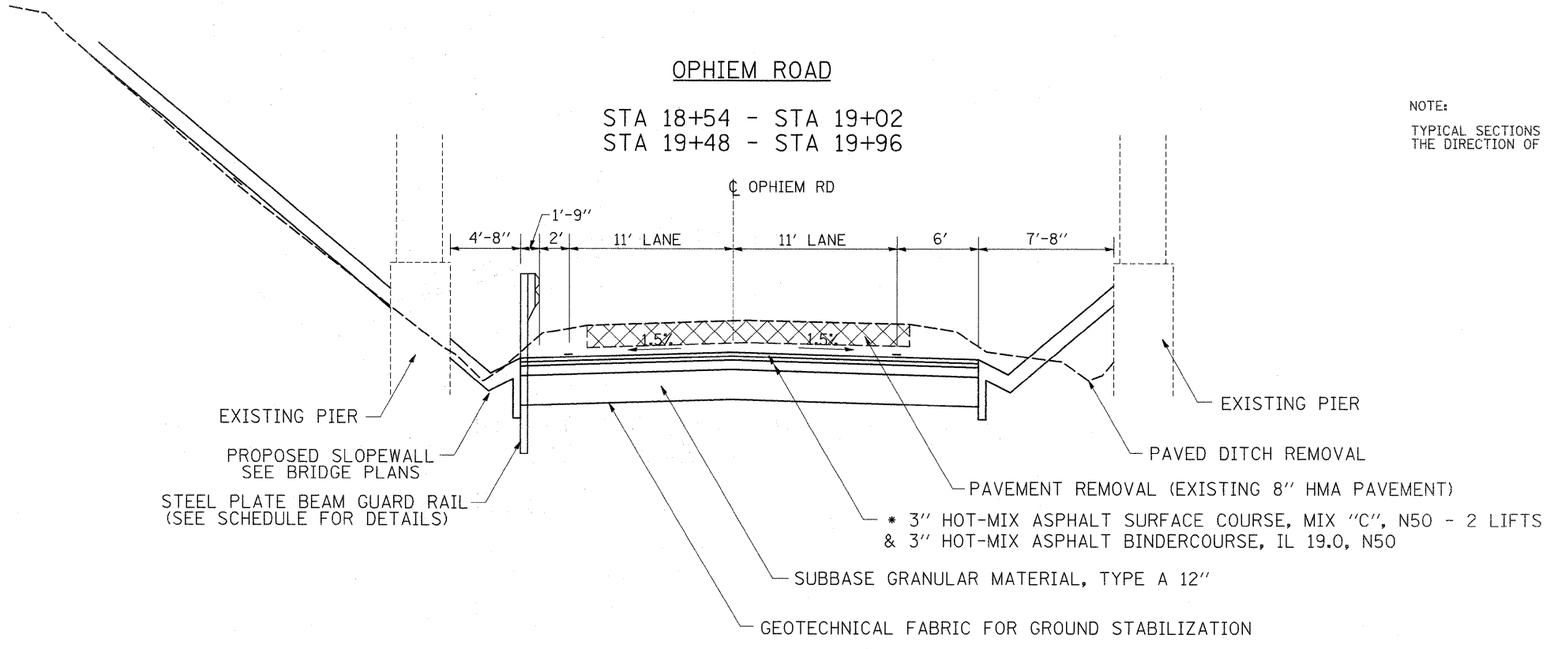
OPHIEM ROAD

STA 14+50 - STA 18+54
STA 19+96 - STA 24+00



OPHIEM ROAD

STA 18+54 - STA 19+02
STA 19+48 - STA 19+96



NOTE:

TYPICAL SECTIONS ARE LOOKING EAST,
THE DIRECTION OF INCREASING STATIONING.

NOTES:

* RATE OF APPLICATION = 112 LB/SQ YD/IN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

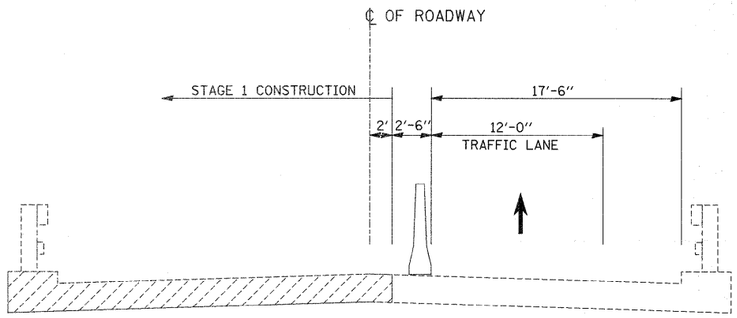
SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	7
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

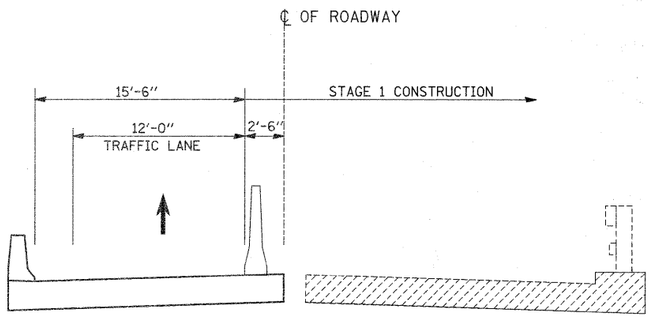
STAGING TYPICAL SECTIONS

STAGING TYPICALS FOR I-74 SN 037-0015 & 0016

STAGE 1



STAGE 2

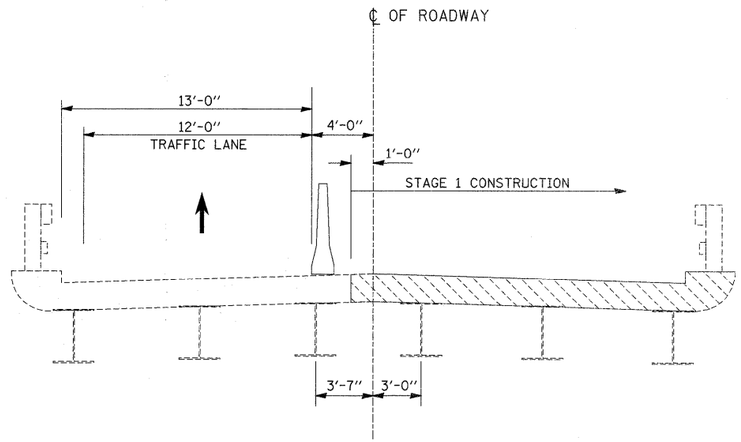


NOTES: (FOR SN 037-0015 & 0016)

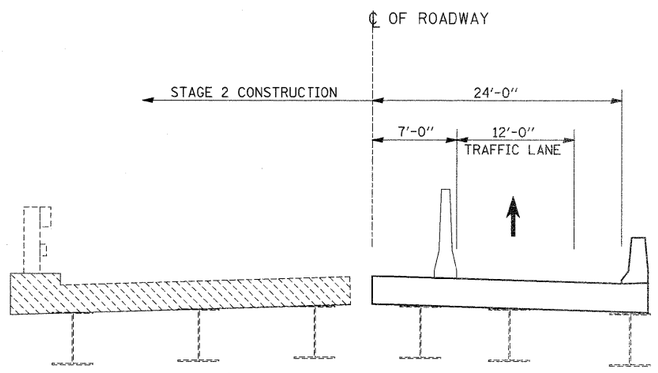
HATCH AREAS INDICATE REMOVAL OF EXISTING CONCRETE DECK.
FOR QUANTITY OF TEMPORARY CONCRETE BARRIER, SEE ROADWAY PLANS. ALL TYPICAL SECTIONS ARE LOOKING SOUTH FOR SOUTH BOUND STRUCTURE AND LOOKING NORTH FOR NORTH BOUND STRUCTURE.

STAGING TYPICALS FOR I-74 SN 037-0017

STAGE 1



STAGE 2



NOTES: (FOR STRUCTURE 037-0017)

ALL STAGING TYPICALS ARE LOOKING SOUTH.

FOR QUANTITY OF TEMPORARY CONCRETE BARRIER, SEE ROADWAY PLANS.

HATCH AREA INDICATES REMOVAL OF EXISTING STRUCTURES.
COST OF REMOVAL OF EXISTING STEEL RAILING AND BITUMINOUS OVERLAY IS INCLUDED IN REMOVAL OF EXISTING CONCRETE DECK.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING TYPICAL SECTIONS

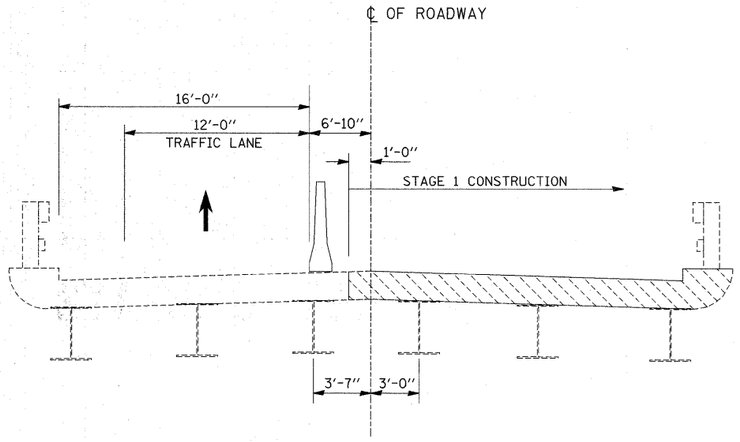
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	8
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

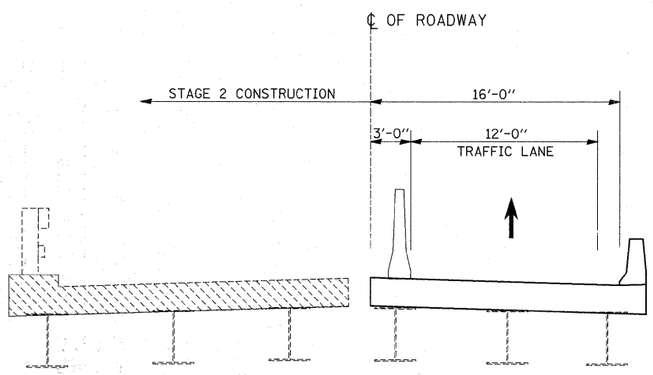
STAGING TYPICAL SECTIONS

STAGING TYPICALS FOR
I-74 SN 037-0018

STAGE 1



STAGE 2



NOTES: (FOR STRUCTURE 037-0018)

ALL STAGING TYPICALS ARE LOOKING SOUTH.

FOR QUANTITY OF TEMPORARY CONCRETE BARRIER, SEE ROADWAY PLANS.

HATCH AREA INDICATES REMOVAL OF EXISTING STRUCTURES. COST OF REMOVAL OF EXISTING STEEL RAILING AND BITUMINOUS OVERLAY IS INCLUDED IN REMOVAL OF EXISTING CONCRETE DECK.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING TYPICAL SECTIONS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	9
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

25100900 TURF REINFORCEMENT MAT

SQ YD	LOCATION						REMARKS
132	RT. STA	17+	90	TO	18+	55	
110	LT. STA.	17+	97	TO	18+	55	
99	RT. STA	20 +	25	TO	20 +	60	
342	TOTAL						

28000300 TEMPORARY DITCH CHECKS

EACH	LOCATION			REMARKS
1	RT. STA	15+	00	
1	RT. STA	16 +	00	
1	RT. STA	17+	00	
2	LT/RT	21+	00	
1	RT. STA	22+	00	
2	LT/RT	23+	00	
8	TOTAL			

28000400 PERIMETER EROSION BARRIER

FOOT	LOCATION						REMARKS
345	LT. STA.	14+	00	TO	17+	43	
28	RT. STA	17 +	85	TO	18+	13	
373	TOTAL						

28000500 INLET AND PIPE PROTECTION

EACH	LOCATION			REMARKS
1	LT. STA.	18+	00	
1	LT. STA.	21+	97	
2	TOTAL			

42001420 BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)

SQ YD	LOCATION						REMARKS
65	RT	1421+	21	TO	1421 +	36	SN 037-0015 North Side
65	RT	1423+	04	TO	1423 +	19	SN 037-0015 South Side
64	LT	1421+	21	TO	1421 +	36	SN 037-0016 North Side
65	LT	1423+	04	TO	1423 +	19	SN 037-0016 South Side
56	LT/RT	1629 +	17	TO	1629 +	29	SN 037-0017 North Side
46	LT/RT	1631+	24	TO	1631 +	35	SN 037-0017 South Side
41	LT/RT	1629+	09	TO	1629 +	19	SN 037-0018 North Side
45	LT/RT	1631+	14	TO	1631 +	24	SN 037-0018 South side
447	TOTAL						

44004000 PAVED DITCH REMOVAL

FOOT	LOCATION						REMARKS
348	LT/RT	18+	21	TO	19 +	95	existing paved ditch in front of piers
23	RT. STA	20 +	41	TO	20 +	52	
371	TOTAL						

44000700 APPROACH SLAB REMOVAL

SQ YD	LOCATION						REMARKS
107	LT/RT	1421+	21	TO	1421 +	61	SN 037-0015 North side
107	LT/RT	1422+	79	TO	1423+	19	SN 037-0015 South side
107	LT/RT	1421+	21	TO	1421 +	61	SN 037-0016 North side
107	LT/RT	1422+	79	TO	1423+	19	SN 037-0016 South side
107	LT/RT	1629 +	17	TO	1629 +	57	SN 037-0017 North side
107	LT/RT	1630 +	95	TO	1631+	35	SN 037-0017 South side
107	LT/RT	1629+	09	TO	1629 +	49	SN 037-0018 North side
107	LT/RT	1630 +	84	TO	1631+	24	SN 037-0018 South side
853	TOTAL						

44200089 PAVEMENT PATCHING, TYPE I, 8 INCH

SQ YD	LOCATION						REMARKS
73	LT/RT	1418+	56	TO	1425 +	14	SN 037-0015 contingency shoulder TBD by RE
69	LT/RT	1419 +	28	TO	1425 +	49	SN 037-0016 contingency shoulder TBD by RE
93	LT/RT	1625 +	70	TO	1634 +	11	SN 037-0017 contingency shoulder TBD by RE
88	LT/RT	1626 +	54	TO	1634 +	50	SN 037-0018 contingency shoulder TBD by RE
324	TOTAL						

44200094 PAVEMENT PATCHING, TYPE II, 8 INCH

SQ YD	LOCATION						REMARKS
73	LT/RT	1418+	56	TO	1425 +	14	SN 037-0015 contingency shoulder TBD by RE
69	LT/RT	1419 +	28	TO	1425 +	49	SN 037-0016 contingency shoulder TBD by RE
93	LT/RT	1625 +	70	TO	1634 +	11	SN 037-0017 contingency shoulder TBD by RE
88	LT/RT	1626 +	54	TO	1634 +	50	SN 037-0018 contingency shoulder TBD by RE
324	TOTAL						

44200549 CLASS A PATCHES, TYPE I, 10 INCH

SQ YD	LOCATION						REMARKS
88	LT/RT	1418+	56	TO	1425 +	14	SN 037-0015 contingency pavement TBD by RE
83	LT/RT	1419 +	28	TO	1425 +	49	SN 037-0016 contingency pavement TBD by RE
112	LT/RT	1625 +	70	TO	1634 +	11	SN 037-0017 contingency pavement TBD by RE
106	LT/RT	1626 +	54	TO	1634 +	50	SN 037-0018 contingency pavement TBD by RE
389	TOTAL						

44200553 CLASS A PATCHES, TYPE II, 10 INCH

SQ YD	LOCATION						REMARKS
88	LT/RT	1418+	56	TO	1425 +	14	SN 037-0015 contingency pavement TBD by RE
83	LT/RT	1419 +	28	TO	1425 +	49	SN 037-0016 contingency pavement TBD by RE
112	LT/RT	1625 +	70	TO	1634 +	11	SN 037-0017 contingency pavement TBD by RE
106	LT/RT	1626 +	54	TO	1634 +	50	SN 037-0018 contingency pavement TBD by RE
389	TOTAL						

44213000 PATCHING REINFORCEMENT

SQ YD	LOCATION						REMARKS
175	LT/RT	1418+	56	TO	1425 +	14	SN 037-0015 contingency pavement TBD by RE
166	LT/RT	1419 +	28	TO	1425 +	49	SN 037-0016 contingency pavement TBD by RE
224	LT/RT	1625 +	70	TO	1634 +	11	SN 037-0017 contingency pavement TBD by RE
212	LT/RT	1626 +	54	TO	1634 +	50	SN 037-0018 contingency pavement TBD by RE
778	TOTAL						

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	10
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

44213200 SAW CUTS

FEET		LOCATION				REMARKS
850	LT/RT	1418+ 56	TO	1425 + 14		SN 037-0015 contingency pavement TBD by RE
813	LT/RT	1419 + 28	TO	1425 + 49		SN 037-0016 contingency pavement TBD by RE
1033	LT/RT	1625 + 70	TO	1634 + 11		SN 037-0017 contingency pavement TBD by RE
988	LT/RT	1626 + 54	TO	1634 + 50		SN 037-0018 contingency pavement TBD by RE
3684	TOTAL					

542D5473 PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 18"

FOOT		LOCATION				REMARKS
54	RT. STA	17+ 43	TO	17 + 97		FE - Pipe set at 30' LT
54	RT. STA	21+ 40	TO	21 + 94		FE - Pipe set at 28.5' LT
108	TOTAL					

54213447 END SECTIONS 12"

EACH		LOCATION	REMARKS
2	LT STA	1421+ 26.00	TBD necessary by RE
2	RT Sta	1421 + 25.63	TBD necessary by RE
4	TOTAL		

54215763 METAL END SECTIONS, EQUIVALENT ROUND-SIZE 18"

EACH		LOCATION	REMARKS
1	LT. STA.	17+ 43	Field Entrance - Ophiem Rd
1	LT. STA.	17 + 97	Field Entrance - Ophiem Rd
1	LT. STA.	21+ 40	Field Entrance - Ophiem Rd
1	LT. STA.	21 + 94	Field Entrance - Ophiem Rd
4	TOTAL		

60108000 PIPE UNDERDRAINS 12"

FOOT		LOCATION	REMARKS
50	LT STA	1421+ 26.00	Inside - 25', Outside 25' (TBD necessary by RE)
65	RT Sta	1421 + 25.63	Inside - 25', Outside 40' (TBD necessary by RE)
115	TOTAL		

60900115 TYPE B INLET BOX, STANDARD 609001

EACH		LOCATION	REMARKS
1	RT STA	1421+ 25.68	Inside Shoulder - use HS 609001
1	LT STA	1421 + 26.11	Inside Shoulder - use HS 609002
2	TOTAL		

60900330 TYPE D INLET BOX, STANDARD 609001

EACH		LOCATION	REMARKS
1	RT STA	1421+ 25.63	Outside Shoulder - use HS 609001
1	LT STA	1421 + 26.11	Outside Shoulder - use HS 609002
2	TOTAL		

63000130 STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL)

FOOT		LOCATION				REMARKS
262.5	LT. STA.	18+ 28.90	TO	20 + 91.44		Ophiem Rd.
50.0	LT/RT	1420+ 87.68	TO	1421+ 00.18		I-74 (SN 037-0015)
50.0	LT/RT	1418+ 00.18	TO	1418 + 12.68		I-74 (SN 037-0016)
50.0	LT/RT	1423 + 39.68	TO	1423 + 52.18		I-74 (SN 037-0017)
50.0	LT/RT	1628 + 70.45	TO	1628 + 82.95		I-74 (SN 037-0018) Departing
50.0	LT/RT	1631+ 49.95	TO	1631 + 62.45		I-74 (SN 037-0018)
512.5	TOTAL					

63100215 TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)

EACH		LOCATION				REMARKS
2	LT/RT	1421+ 00.18	TO	1421 + 50.18		SN 037-0015
2	LT/RT	1422+ 89.68	TO	1423+ 39.68		SN 037-0016
2	LT/RT	1628 + 91.87	TO	1629 + 41.87		SN 037-0017
2	LT/RT	1628 + 82.95	TO	1629 + 32.95		SN 037-0018 Departing
2	LT/RT	1630 + 99.95	TO	1631+ 49.95		SN 037-0018
10	TOTAL					

63200310 GUARDRAIL REMOVAL

FOOT		LOCATION				REMARKS
100	LT/RT	1421+ 04	TO	1421 + 54		SN 037-0015
100	LT/RT	1422+ 79	TO	1423+ 29		SN 037-0016
100	LT/RT	1629 + 58	TO	1629 + 08		SN 037-0017
100	LT/RT	1629 + 00	TO	1629 + 50		SN 037-0018 Departing
100	LT/RT	1630 + 84	TO	1631+ 34		SN 037-0018
500	TOTAL					

63500105 DELINEATORS

EACH		LOCATION	REMARKS
1	LT. STA.	18+ 04	
1	LT. STA.	21+ 16	
2	TOTAL		

66600400 REMOVE AND RE-ERECT RIGHT-OF-WAY MARKERS

EACH		LOCATION			REMARKS
1		17+ 94.00 @	40' RT.		Use if existing marker is disturbed
1		20+ 45.24 @	40' LT.		Use if existing marker is disturbed
1		20+ 79.41 @	40' LT.		Use if existing marker is disturbed
3	TOTAL				

66700305 PERMANENT SURVEY MARKERS, TYPE II

EACH		LOCATION	REMARKS
2		1422+ 17	SN 037-0015 - See general notes
2		1422 + 17	SN 037-0016 - See general notes
2		1630+ 16	SN 037-0017 - See general notes
2		1630 + 16	SN 037-0018 - See general notes
8	TOTAL		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	11
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

70300625 TEMPORARY PAINT PAVEMENT MARKING LINE 4"

FOOT	LOCATION					REMARKS
	Stage 1 SB (SN 037-0015)					
1000	RT. STA	1403 + 56	TO	1413 + 56		Lane closure taper - inside edge line
500	CL	1413 + 56	TO	1418 + 56		Inside edge line
185	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Inside edge line
185	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Outside edge line
288	LT. STA.	1420 + 41	TO	1423 + 29		Inside edge line
288	LT. STA.	1420 + 41	TO	1423 + 29		Outside edge line
185	LT. STA.	1423 + 29	TO	1425 + 14		Taper - inside edge line
185	LT. STA.	1423 + 29	TO	1425 + 14		Taper - Outside edge line
	Stage 2 SB (SN 037-0015)					
1000	RT. STA	1403 + 56	TO	1413 + 56		Lane closure taper - inside edge line
500	CL	1413 + 56	TO	1418 + 56		Inside edge line
185	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Inside edge line
185	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Outside edge line
288	LT. STA.	1420 + 41	TO	1423 + 29		Inside edge line
288	LT. STA.	1420 + 41	TO	1423 + 29		Outside edge line
125	LT. STA.	1423 + 29	TO	1424 + 54		Taper - inside edge line
125	LT. STA.	1423 + 29	TO	1424 + 54		Taper - Outside edge line
	Stage 1 NB (SN 037-0016)					
190	LT. STA.	1419 + 29	TO	1421 + 19		Taper - inside edge line
190	LT. STA.	1419 + 29	TO	1421 + 19		Taper - outside edge line
275	LT. STA.	1421 + 19	TO	1423 + 94		Inside edge line
275	LT. STA.	1421 + 19	TO	1423 + 94		Outside edge line
155	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Inside edge line
155	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Outside edge line
500	CL	1425 + 49	TO	1430 + 49		Inside edge line
1000	LT. STA.	1430 + 49	TO	1440 + 49		Lane closure taper - inside edge line
	Stage 2 NB (SN 037-0016)					
105	LT. STA.	1420 + 14	TO	1421 + 19		Taper - inside edge line
105	LT. STA.	1420 + 14	TO	1421 + 19		Taper - outside edge line
275	LT. STA.	1421 + 19	TO	1423 + 94		Inside edge line
275	LT. STA.	1421 + 19	TO	1423 + 94		Outside edge line
155	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Inside edge line
155	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Outside edge line
500	LT. STA.	1425 + 49	TO	1430 + 49		Inside edge line
1000	LT. STA.	1430 + 49	TO	1440 + 49		Lane closure taper - inside edge line
	Stage 1 SB (SN 037-0017)					
1000	RT. STA	1611 + 70	TO	1621 + 70		Lane closure taper - inside edge line
500	CL	1621 + 70	TO	1626 + 70		Inside edge line
180	LT. STA.	1626 + 70	TO	1628 + 50		Taper - Inside edge line
180	LT. STA.	1626 + 70	TO	1628 + 50		Taper - Outside edge line
300	LT. STA.	1628 + 50	TO	1631 + 50		Inside edge line
300	LT. STA.	1628 + 50	TO	1631 + 50		Outside edge line
150	LT. STA.	1631 + 50	TO	1633 + 00		Taper - inside edge line
150	LT. STA.	1631 + 50	TO	1633 + 00		Taper - Outside edge line
	Stage 2 SB (SN 037-0017)					
1000	LT. STA.	1610 + 70	TO	1620 + 70		Lane closure taper - inside edge line
500	CL	1620 + 70	TO	1625 + 70		Inside edge line
280	LT. STA.	1625 + 70	TO	1628 + 50		Taper - Inside edge line
280	LT. STA.	1625 + 70	TO	1628 + 50		Taper - Outside edge line
300	LT. STA.	1628 + 50	TO	1631 + 50		Inside edge line
300	LT. STA.	1628 + 50	TO	1631 + 50		Outside edge line
261	LT. STA.	1631 + 50	TO	1634 + 11		Taper - inside edge line
261	LT. STA.	1631 + 50	TO	1634 + 11		Taper - Outside edge line
	Stage 1 NB (SN 037-0018)					
221	LT. STA.	1626 + 85	TO	1629 + 07		Taper - inside edge line
221	LT. STA.	1626 + 85	TO	1629 + 07		Taper - outside edge line
288	LT. STA.	1629 + 07	TO	1631 + 94		Inside edge line
288	LT. STA.	1629 + 07	TO	1631 + 94		Outside edge line
223	LT. STA.	1631 + 94	TO	1634 + 17		Taper - Inside edge line
223	LT. STA.	1631 + 94	TO	1634 + 17		Taper - Outside edge line
500	CL	1634 + 17	TO	1639 + 17		Inside edge line
1000	RT. STA	1639 + 17	TO	1649 + 17		Lane closure taper - inside edge line
	Stage 2 NB (SN 037-0018)					
252	RT. STA	1626 + 54	TO	1629 + 07		Taper - inside edge line
252	RT. STA	1626 + 54	TO	1629 + 07		Taper - outside edge line
288	RT. STA	1629 + 07	TO	1631 + 94		Inside edge line
288	RT. STA	1629 + 07	TO	1631 + 94		Outside edge line
255	RT. STA	1631 + 94	TO	1634 + 49		Taper - Inside edge line
255	RT. STA	1631 + 94	TO	1634 + 49		Taper - Outside edge line
500	CL	1634 + 49	TO	1639 + 49		Inside edge line
1000	LT. STA.	1639 + 49	TO	1649 + 49		Lane closure taper - inside edge line
22812	TOTAL					

70301000 WORK ZONE PAVEMENT MARKING REMOVAL

SQ FT	LOCATION					REMARKS
	Stage 1 SB (SN 037-0015)					
333.3	RT. STA	1403 + 56	TO	1413 + 56		Lane closure taper - inside edge line
166.7	CL	1413 + 56	TO	1418 + 56		Inside edge line
61.7	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Inside edge line
61.7	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Outside edge line
95.8	LT. STA.	1420 + 41	TO	1423 + 29		Inside edge line
95.8	LT. STA.	1420 + 41	TO	1423 + 29		Outside edge line
61.7	LT. STA.	1423 + 29	TO	1425 + 14		Taper - inside edge line
61.7	LT. STA.	1423 + 29	TO	1425 + 14		Taper - Outside edge line
	Stage 2 SB (SN 037-0015)					
333.3	RT. STA	1403 + 56	TO	1413 + 56		Lane closure taper - inside edge line
166.7	CL	1413 + 56	TO	1418 + 56		Inside edge line
61.7	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Inside edge line
61.7	LT. STA.	1418 + 56	TO	1420 + 41		Taper - Outside edge line
95.8	LT. STA.	1420 + 41	TO	1423 + 29		Inside edge line
95.8	LT. STA.	1420 + 41	TO	1423 + 29		Outside edge line
41.7	LT. STA.	1423 + 29	TO	1424 + 54		Taper - inside edge line
41.7	LT. STA.	1423 + 29	TO	1424 + 54		Taper - Outside edge line
	Stage 1 NB (SN 037-0016)					
63.3	LT. STA.	1419 + 29	TO	1421 + 19		Taper - inside edge line
63.3	LT. STA.	1419 + 29	TO	1421 + 19		Taper - outside edge line
91.7	LT. STA.	1421 + 19	TO	1423 + 94		Inside edge line
91.7	LT. STA.	1421 + 19	TO	1423 + 94		Outside edge line
51.7	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Inside edge line
51.7	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Outside edge line
166.7	CL	1425 + 49	TO	1430 + 49		Inside edge line
333.3	LT. STA.	1430 + 49	TO	1440 + 49		Lane closure taper - inside edge line
	Stage 2 NB (SN 037-0016)					
34.9	LT. STA.	1420 + 14	TO	1421 + 19		Taper - inside edge line
34.9	LT. STA.	1420 + 14	TO	1421 + 19		Taper - outside edge line
91.7	LT. STA.	1421 + 19	TO	1423 + 94		Inside edge line
91.7	LT. STA.	1421 + 19	TO	1423 + 94		Outside edge line
51.7	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Inside edge line
51.7	LT. STA.	1423 + 94	TO	1425 + 49		Taper - Outside edge line
166.7	LT. STA.	1425 + 49	TO	1430 + 49		Inside edge line
333.3	LT. STA.	1430 + 49	TO	1440 + 49		Lane closure taper - inside edge line
	Stage 1 SB (SN 037-0017)					
333.3	RT. STA	1611 + 70	TO	1621 + 70		Lane closure taper - inside edge line
166.7	CL	1621 + 70	TO	1626 + 70		Inside edge line
59.9	LT. STA.	1626 + 70	TO	1628 + 50		Taper - Inside edge line
59.9	LT. STA.	1626 + 70	TO	1628 + 50		Taper - Outside edge line
100.0	LT. STA.	1628 + 50	TO	1631 + 50		Inside edge line
100.0	LT. STA.	1628 + 50	TO	1631 + 50		Outside edge line
50.0	LT. STA.	1631 + 50	TO	1633 + 00		Taper - inside edge line
50.0	LT. STA.	1631 + 50	TO	1633 + 00		Taper - Outside edge line
	Stage 2 SB (SN 037-0017)					
333.3	LT. STA.	1610 + 70	TO	1620 + 70		Lane closure taper - inside edge line
166.7	CL	1620 + 70	TO	1625 + 70		Inside edge line
93.3	LT. STA.	1625 + 70	TO	1628 + 50		Taper - Inside edge line
93.3	LT. STA.	1625 + 70	TO	1628 + 50		Taper - Outside edge line
100.0	LT. STA.	1628 + 50	TO	1631 + 50		Inside edge line
100.0	LT. STA.	1628 + 50	TO	1631 + 50		Outside edge line
86.8	LT. STA.	1631 + 50	TO	1634 + 11		Taper - inside edge line
86.8	LT. STA.	1631 + 50	TO	1634 + 11		Taper - Outside edge line
	Stage 1 NB (SN 037-0018)					
73.7	LT. STA.	1626 + 85	TO	1629 + 07		Taper - inside edge line
73.7	LT. STA.	1626 + 85	TO	1629 + 07		Taper - outside edge line
95.9	LT. STA.	1629 + 07	TO	1631 + 94		Inside edge line
95.9	LT. STA.	1629 + 07	TO	1631 + 94		Outside edge line
74.3	LT. STA.	1631 + 94	TO	1634 + 17		Taper - Inside edge line
74.3	LT. STA.	1631 + 94	TO	1634 + 17		Taper - Outside edge line
166.7	CL	1634 + 17	TO	1639 + 17		Inside edge line
333.3	RT. STA	1639 + 17	TO	1649 + 17		Lane closure taper - inside edge line
	Stage 2 NB (SN 037-0018)					
84.1	RT. STA	1626 + 54	TO	1629 + 07		Taper - inside edge line
84.1	RT. STA	1626 + 54	TO	1629 + 07		Taper - outside edge line
95.9	RT. STA	1629 + 07	TO	1631 + 94		Inside edge line
95.9	RT. STA	1629 + 07	TO	1631 + 94		Outside edge line
85.0	RT. STA	1631 + 94	TO	1634 + 49		Taper - Inside edge line
85.0	RT. STA	1631 + 94	TO	1634 + 49		Taper - Outside edge line
166.7	CL	1634 + 49	TO	1639 + 49		Inside edge line
333.3	LT. STA.	1639 + 49	TO	1649 + 49		Lane closure taper - inside edge line
7604.0	TOTAL					

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	12
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

70400100 TEMPORARY CONCRETE BARRIER

FOOT		LOCATION			REMARKS
		Stage 1 (SN 037-0015)			
112.5	RT	1419+ 79	TO	1420 + 91	Taper Section - Stage 1 (SN 037-0015)
237.5	RT	1420 + 91	TO	1423 + 29	Tangent Section - Stage 1 (SN 037-0015)
		Stage 2 (SN 037-0015)			
37.5	RT	1420 + 91	TO	1423 + 29	Taper Section - Stage 2 (SN 037-0015)
		Stage 1 (SN 037-0016)			
225	LT	1421+ 19	TO	1423+ 44	Taper Section - Stage 1 (SN 037-0016)
87.5	LT	1423 + 44	TO	1425 + 18	Tangent Section - Stage 1 (SN 037-0016)
		Stage 2 (SN 037-0016)			
87.5	RT	1423 + 44	TO	1425 + 18	Tangent Section - Stage 1 (SN 037-0015)
		Stage 1 (SN 037-0017)			
162.5	RT	1627+ 38	TO	1629+ 00	Taper Section - Stage 1 (SN 037-0017)
250	LT	1629 + 00	TO	1631+ 50	Tangent Section - Stage 1 (SN 037-0017)
		Stage 1 (SN 037-0018)			
237.5	RT	1629+ 07	TO	1631+ 44	Tangent Section - Stage 1 (SN 037-0018)
137.5	LT	1631 + 44	TO	1633+ 06	Taper Section - Stage 1 (SN 037-0018)
		Stage 2 (SN 037-0018)			
25	LT	1631+ 44	TO	1633+ 06	Taper Section - Stage 2 (SN 037-0018)
1575	TOTAL				

70400200 RELOCATE TEMPORARY CONCRETE BARRIER

FOOT		LOCATION			REMARKS
		Stage 2 (SN 037-0015)			
112.5	RT	1419+ 42	TO	1420 + 91	Taper Section - Stage 1 (SN 037-0015)
237.5	RT	1420 + 91	TO	1423 + 29	Tangent Section - Stage 1 (SN 037-0015)
		Stage 2 (SN 037-0016)			
225	LT	1421+ 19	TO	1423+ 44	Tangent Section - Stage 2 SN 037-0016
87.5	LT	1423 + 44	TO	1425 + 18	Taper Section - Stage 2 SN 037-0016
		Stage 2 (SN 037-0017)			
150	RT	1627+ 50	TO	1629+ 00	Taper Section - Stage 2 SN 037-0017
250	RT	1629 + 00	TO	1631+ 50	Tangent Section - Stage 2 SN 037-0017
		Stage 2 (SN 037-0018)			
237.5	RT	1629+ 07	TO	1631+ 44	Taper Section - Stage 2 SN 037-0018
137.5	RT	1631 + 44	TO	1633+ 06	Tangent Section - Stage 2 SN 037-0018
1437.5	TOTAL				

78001110 PAINT PAVEMENT MARKING - LINE 4"

FOOT		LOCATION			REMARKS
		Ophiem Rd.			
3800	LT/RT	14+ 50.0	TO	24 + 00.0	White - EOP (2 applications) Ophiem Rd
3800	RT. STA	14 + 50.0	TO	24 + 00.0	Yellow - CL Double Yellow (2 applications) Ophiem rd
		(SN 037-0015) SB			
4315	RT. STA	1403+ 56.3	TO	1425 + 13.9	White - Outside EOP (2 applications) I-74
4195	RT. STA	1403 + 56.3	TO	1424 + 53.9	Yellow - Inside EOP (2 applications) I-74
59	CL	1418 + 56.3	TO	1423 + 28.8	White - Skip dashes CL (2 applications) I-74
		(SN 037-0016) NB			
4240	LT. STA.	1419 + 28.8	TO	1440 + 48.7	White - Outside EOP (2 applications) I-74
4069	LT. STA.	1420 + 14.1	TO	1440 + 48.7	Yellow - Inside EOP (2 applications) I-74
50	CL	1421+ 18.7	TO	1425+ 17.9	White - Skip dashes CL (2 applications) I-74
		(SN 037-0017) SB			
4260	LT. STA.	1611+ 70.2	TO	1633+ 00.0	White - Outside EOP (2 applications) I-74
4681	LT. STA.	1610 + 70.2	TO	1634 + 10.5	Yellow - Inside EOP (2 applications) I-74
72	CL	1625 + 70.2	TO	1631+ 49.9	White - Skip dashes CL (2 applications) I-74
		(SN 037-0018) NB			
4590	LT. STA.	1626+ 54.3	TO	1649 + 49.2	White - Outside EOP (2 applications) I-74
4456	LT. STA.	1627+ 21.0	TO	1649+ 49.2	Yellow - Inside EOP (2 applications) I-74
68	CL	1629 + 06.5	TO	1634 + 49.2	White - Skip dashes CL (2 applications) I-74
42655	TOTAL				

78100105 RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)

EACH	LOCATION				REMARKS
2	RT. STA	1421+ 35.7	TO	1423+ 04.2	SN 037-0015
2	LT. STA.	1421+ 35.7	TO	1423+ 04.2	SN037-0016
2	LT. STA.	1629 + 27.6	TO	1631+ 23.6	SN037-0017
2	LT. STA.	1629+ 48.0	TO	1630 + 85.0	SN037-0018
8	TOTAL				

78200410 GUARDRAIL MARKERS, TYPE A

EACH	LOCATION				REMARKS
4	LT. STA.	18+ 29	TO	20 + 35	@ 50' spacing
4	TOTAL				

78200520 BARRIER WALL MARKERS, TYPE B

EACH	LOCATION				REMARKS
8	LT/RT	1421+ 65	TO	1422+ 75	SN 037-0015
8	LT/RT	1421+ 65	TO	1422+ 75	SN 037-0016
8	LT/RT	1629+ 60	TO	1630 + 94	SN 037-0017
8	LT/RT	1629 + 51	TO	1630 + 82	SN 037-0018
32	TOTAL				

78201000 TERMINAL MARKER - DIRECT APPLIED

EACH	LOCATION		REMARKS
1	LT. STA.	18+ 04	Traffic Barrier Terminal Type 1, Ophiem Rd.
1	LT. STA.	21+ 16	Traffic Barrier Terminal Type 1, Ophiem Rd.
2	TOTAL		

78300100 PAVEMENT MARKING REMOVAL

SQ FT	LOCATION				REMARKS
	Stage 1 SB (SN 037-0015)				
212	RT. STA	1403+ 56	TO	1420 + 50	Skips
219	RT. STA	1418 + 56	TO	1425 + 14	Edge Line
	Stage 2 SB (SN 037-0015)				
93	RT. STA	1413 + 56	TO	1421+ 00	Skips
200	RT. STA	1418+ 56	TO	1424 + 57	Edge Line
	Stage 1 NB (SN 037-0016)				
207	LT. STA.	1419 + 29	TO	1425 + 49	Edge Line
87	LT. STA.	1423 + 50	TO	1430 + 49	Skips
	Stage 2 NB (SN 037-0016)				
178	LT. STA.	1420 + 14	TO	1425 + 49	Edge Line
87	LT. STA.	1423 + 50	TO	1430 + 49	Skips
	Stage 1 SB (SN 037-0017)				
91	CL	1621+ 70	TO	1629+ 00	Skips
210	LT. STA.	1626 + 70	TO	1633 + 00	Edge Line
	Stage 2 SB (SN 037-0017)				
99	CL	1620 + 70	TO	1628 + 60	Skips
280	RT. STA	1625 + 70	TO	1634 + 11	Edge Line
	Stage 1 NB (SN 037-0018)				
265	LT. STA.	1626 + 54	TO	1634 + 49	Edge Line
97	CL	1631+ 75	TO	1639+ 49	Skips
	Stage 2 NB (SN 037-0018)				
243	RT. STA	1627+ 21	TO	1634+ 49	Edge Line
101	CL	1631+ 40	TO	1639+ 49	Skips
2669	TOTAL				

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	13
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

✓Z0030250 IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

EACH	LOCATION		REMARKS
1	RT. STA	1419+ 79	Stage 1 (SN 037-0015)
1	LT. STA.	1424 + 31	Stage 1 (SN 037-0016)
1	RT. STA	1627+ 38	Stage 1 (SN 037-0017)
1	RT. STA	1632 + 81	Stage 1 (SN 037-0018)
✓4	TOTAL		

✓Z0030350 IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3

EACH	LOCATION		REMARKS
1	RT. STA	1419+ 42	Stage 2 (SN 037-0015)
1	LT. STA.	1425 + 18	Stage 2 (SN 037-0016)
1	LT. STA.	1627+ 50	Stage 2 (SN 037-0017)
1	LT. STA.	1633+ 06	Stage 2 (SN 037-0017)
✓4	TOTAL		

✓LR631020 TRAFFIC BARRIER TERMINAL, TYPE 1

EACH	LOCATION				REMARKS
1	LT. STA.	18+ 04	TO	18 + 29	
1	LT. STA.	20 + 91	TO	21+ 16	
✓2	TOTAL				

✓X0300136 BRIDGE APPROACH SHOULDER REMOVAL

SQ YD	LOCATION				REMARKS
44	RT	1421+ 21	TO	1421 + 61	SN 037-0015 North side
18	LT	1421 + 21	TO	1421 + 61	SN 037-0015 North side
44	RT	1422+ 79	TO	1423+ 19	SN 037-0015 South side
18	LT	1422+ 79	TO	1423+ 19	SN 037-0015 South side
18	RT	1421+ 21	TO	1421 + 61	SN 037-0016 North side
44	LT	1421 + 21	TO	1421 + 61	SN 037-0016 North side
18	RT	1422+ 79	TO	1423+ 19	SN 037-0016 South side
44	LT	1422+ 79	TO	1423+ 19	SN 037-0016 South side
44	RT	1629 + 17	TO	1629 + 57	SN 037-0017 North side
18	LT	1629 + 17	TO	1629 + 57	SN 037-0017 North side
44	RT	1630 + 95	TO	1631+ 35	SN 037-0017 South side
18	LT	1630+ 95	TO	1631+ 35	SN 037-0017 South side
18	RT	1629+ 09	TO	1629 + 49	SN 037-0018 North side
44	LT	1629 + 09	TO	1629 + 49	SN 037-0018 North side
18	RT	1630 + 84	TO	1631+ 24	SN 037-0018 South side
44	LT	1630+ 84	TO	1631+ 24	SN 037-0018 South side
✓498	TOTAL				

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	14
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BITUMINOUS /EARTHWORK & SEEDING SCHEDULE

BITUMINOUS SCHEDULE

Location						Remarks	Length	Proposed Surface		21001000 Geotechnical Fabric for Ground Stabilization	31100910 Subbase Granular Material Type A, 12"	35101400 Aggregate Base Course, Type B	40603080 Hot–Mix Asphalt Binder Cse, IL–19.0, N50	40603310 Hot–Mix Asphalt Surface Cse, Mix "C", N50	Bituminous Materials (Prime Coat)	44000100 Pavement Removal
								Width	Sq Yd	Sq Yd	Sq Yd	Ton	Ton	Ton	Ton	Sq Yd
Ophiem Rd.																
Lt & Rt Sta	14	+ 50	– 17	+ 95			345	26	997	1112	1112		167.4	186.8	0.6	843.3
Lt & Rt Sta	17	+ 95	– 20	+ 0			205	31.75	723	723	723		121.5	121.5	0.4	501.1
Lt & Rt Sta	20	+ 0	– 21	+ 68			168	27.75	518	574	574		87.0	96.4	0.3	410.7
Lt & Rt Sta	21	+ 68	– 24	+ 0			232	26	670	748	748		112.6	125.6	0.4	567.1
Entrance																
Lt – FE	17	+ 70				Aggregate						46.1				
Lt – FE	21	+ 68				Aggregate						46.1				
TOTALS										3156	3156	92.2	489	530	1.7	2322

EARTH WORK SCHEDULE /SEEDING SCHEDULE

LOCATION				20200100 EARTH EXC (CUT) CU YD	EARTH EXC ADJ SHRINK 25% EARTH CU YD	EMBANKEMENT (FILL) CU YD	EARTH WORK BALANCE WASTE (+) SHORTAGE (-) CU YD	25000210 SEEDING CLASS 2A ACRE	25000310 SEEDING CLASS 4 ACRE	25000750 MOWING ACRE	25100115 MULCH METHOD 2 ACRE	28000250 TEMPORARY EROSION CONTROL SEEDING POUND
14 + 50	-	20 + 00		1775.8	1331.9	96.7	1235.2	0.24	0.13	0.38	0.38	96.00
20 + 00	-	24 + 00		1005.3	754.0	87.0	667.0	0.30	0.10	0.37	0.37	120.00
TOTAL				2781	2085.8	183.7	1902.1	0.54	0.23	0.75	0.75	216.00

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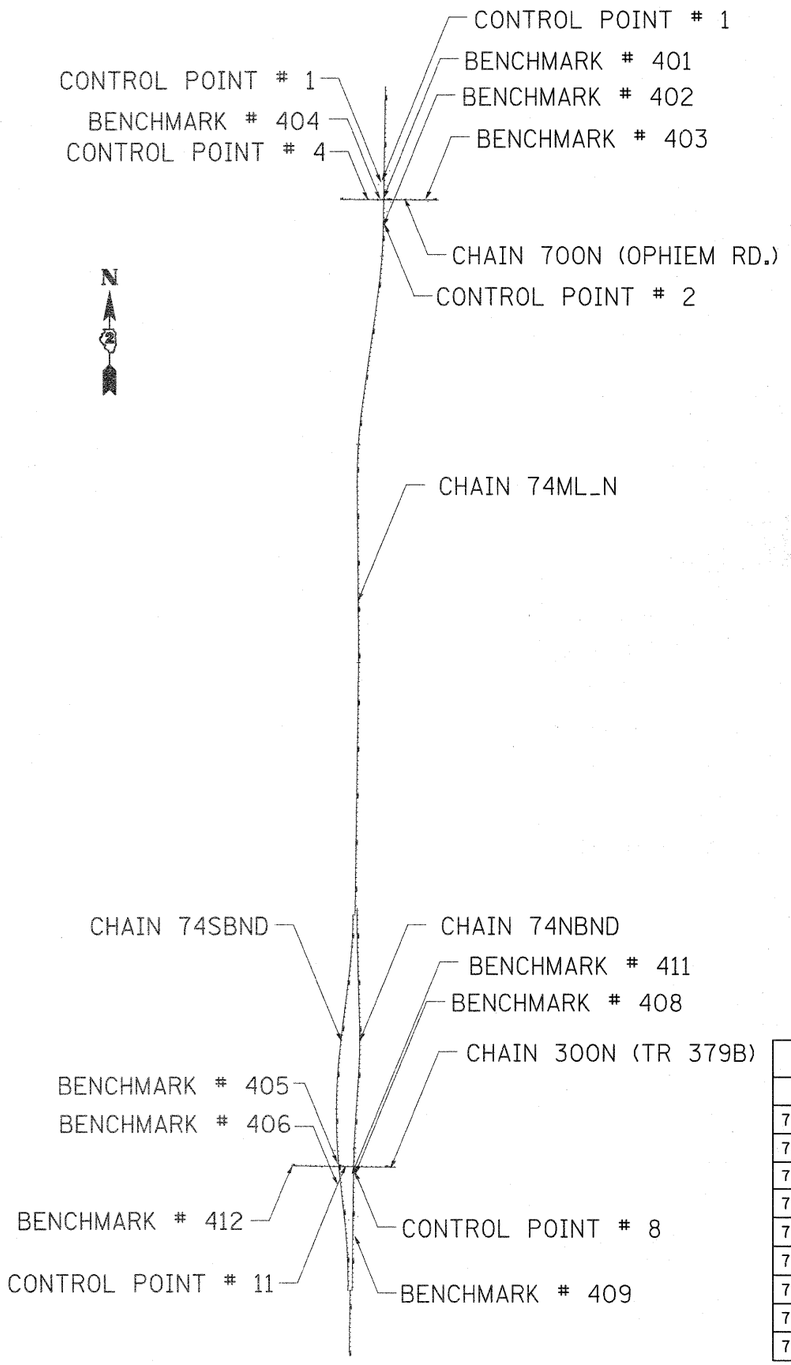
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BITUMINOUS /EARTHWORK & SEEDING SCHEDULE

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	15
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

HORIZONTAL & VERTICAL CONTROL



Chain 700N contains:
91 89

Beginning chain 700N description
==========

Point 91 N 1,669,951.39 E 2,250,786.83 Sta 10+00.00

Course from 91 to 89 S 89° 38′ 32.65″ E Dist 2,098.48′

Point 89 N 1,669,938.29 E 2,252,885.26 Sta 30+98.48

==========
Ending chain 700N description

Chain 74ML_S contains:
59 60

Beginning chain 74ML_S description
==========

Point 59 N 1,646,529.39 E 2,250,998.92 Sta 1656+96.49

Course from 59 to 60 S 0° 45′ 04.38″ W Dist 1,323.04′

Point 60 N 1,645,206.46 E 2,250,981.57 Sta 1670+19.53

==========
Ending chain 74ML_S description

Chain 300N contains:
98 99

Beginning chain 300N description
==========

Point 98 N 1,649,205.78 E 2,249,753.21 Sta 50+00.00

Course from 98 to 99 S 89° 03′ 45.09″ E Dist 2,216.82′

Point 99 N 1,649,169.51 E 2,251,969.74 Sta 72+16.82

==========
Ending chain 300N description

CURVE POINT NUMBERS					
CHAIN	CURVE	PI	CC	PC	PT
74ML_N	200	200	201	202	203
74ML_N	210	210	211	212	213
74ML_N	220	220	221	222	223
74SBND	230	230	231	232	233
74SBND	240	240	241	242	243
74SBND	250	250	251	252	253
74NBND	260	260	261	262	263
74NBND	270	270	271	272	273
74NBND	280	280	281	282	283

Chain 74ML_N contains:
20 CUR 200 CUR 210 CUR 220 37

Beginning chain 74ML_N description
==========

Point 20 N 1,672,342.4931 E 2,251,748.7425 Sta 1398+19.63

Course from 20 to PC 200 S 0° 53′ 17.96″ W Dist 2,949.5615′

Curve Data

Curve 200
P.I. Station 1435+30.34 N 1,668,632.2352 E 2,251,691.2137
Delta = 7° 05′ 41.63″ (RT)
Degree = 0° 28′ 00.00″
Tangent = 761.1423′
Length = 1,520.3390′
Radius = 12,277.7000′
External = 23.5705′
Long Chord = 1,519.3678′
Mid. Ord. = 23.5253′
P.C. Station 1427+69.20 N 1,669,393.2861 E 2,251,703.0139
P.T. Station 1442+89.53 N 1,667,878.4692 E 2,251,585.5041
C.C. N 1,669,583.6314 E 2,239,426.7895

Course from PT 200 to PC 210 S 7° 58′ 59.55″ W Dist 2,306.8573′

Curve Data

Curve 210
P.I. Station 1475+10.73 N 1,664,688.4923 E 2,251,138.1354
Delta = 8° 31′ 05.03″ (LT)
Degree = 0° 28′ 00.00″
Tangent = 914.3368′
Length = 1,825.3043′
Radius = 12,277.7000′
External = 33.9989′
Long Chord = 1,823.6237′
Mid. Ord. = 33.9050′
P.C. Station 1465+96.39 N 1,665,593.9681 E 2,251,265.1211
P.T. Station 1484+21.70 N 1,663,774.1953 E 2,251,146.6706
C.C. N 1,663,888.8060 E 2,263,423.8357

Course from PT 210 to PC 220 S 0° 32′ 05.48″ E Dist 3,134.8674′

Curve Data

Curve 220
P.I. Station 1520+39.13 N 1,660,156.9143 E 2,251,180.4389
Delta = 1° 17′ 12.49″ (RT)
Degree = 0° 08′ 00.00″
Tangent = 482.5713′
Length = 965.1019′
Radius = 42,971.8400′
External = 2.7095′
Long Chord = 965.0817′
Mid. Ord. = 2.7094′
P.C. Station 1515+56.56 N 1,660,639.4645 E 2,251,175.9342
P.T. Station 1525+21.67 N 1,659,674.3846 E 2,251,174.1058
C.C. N 1,660,238.3283 E 2,208,205.9665

Course from PT 220 to 37 S 0° 45′ 06.99″ W Dist 5,075.8952′

Point 37 N 1,654,598.9265 E 2,251,107.4925 Sta 1575+97.56

==========
Ending chain 74ML_N description

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HORIZONTAL & VERTICAL CONTROL

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	16
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

HORIZONTAL & VERTICAL CONTROL

Chain 74NBND contains:
CUR 260 CUR 270 CUR 280 1013

Beginning chain 74NBND description

Curve Data

Curve 260
P.I. Station 1579+36.13 N 1,654,259.81 E 2,251,147.05
Delta = 2° 21′ 02.16″ (LT)
Degree = 0° 14′ 27.08″
Tangent = 488.04′
Length = 975.94′
Radius = 23,788.56′
External = 5.01′
Long Chord = 975.87′
Mid. Ord. = 5.00′
P.C. Station 1574+48.09 N 1,654,747.81 E 2,251,153.45
P.T. Station 1584+24.03 N 1,653,771.96 E 2,251,160.66
C.C. N 1,654,435.62 E 2,274,939.96

Course from PT 260 to PC 270 S 1° 35′ 55.16″ E Dist 1,490.70′

Curve Data

Curve 270
P.I. Station 1604+90.96 N 1,651,705.83 E 2,251,218.32
Delta = 5° 22′ 27.07″ (RT)
Degree = 0° 28′ 00.00″
Tangent = 576.23′
Length = 1,151.61′
Radius = 12,277.70′
External = 13.51′
Long Chord = 1,151.19′
Mid. Ord. = 13.50′
P.C. Station 1599+14.73 N 1,652,281.84 E 2,251,202.25
P.T. Station 1610+66.35 N 1,651,130.85 E 2,251,180.38
C.C. N 1,651,939.31 E 2,238,929.33

Course from PT 270 to PC 280 S 3° 46′ 31.91″ W Dist 875.88′

Curve Data

Curve 280
P.I. Station 1625+28.04 N 1,649,672.34 E 2,251,084.13
Delta = 3° 01′ 27.54″ (LT)
Degree = 0° 15′ 29.49″
Tangent = 585.81′
Length = 1,171.34′
Radius = 22,191.15′
External = 7.73′
Long Chord = 1,171.21′
Mid. Ord. = 7.73′
P.C. Station 1619+42.23 N 1,650,256.88 E 2,251,122.71
P.T. Station 1631+13.57 N 1,649,086.58 E 2,251,076.45
C.C. N 1,648,795.64 E 2,273,265.69

Course from PT 280 to 1013 S 0° 45′ 04.37″ W Dist 2,558.37′

Point 1013 N 1,646,528.43 E 2,251,042.91 Sta 1656+71.94

Ending chain 74NBND description

Chain 74SBND contains:
CUR 230 CUR 240 CUR 250

Beginning chain 74SBND description

Curve Data

Curve 230
P.I. Station 1582+64.80 N 1,653,932.32 E 2,251,054.74
Delta = 6° 14′ 53.75″ (RT)
Degree = 0° 28′ 07.26″
Tangent = 667.24′
Length = 1,333.15′
Radius = 12,224.83′
External = 18.20′
Long Chord = 1,332.49′
Mid. Ord. = 18.17′
P.C. Station 1575+97.56 N 1,654,599.50 E 2,251,063.50
P.T. Station 1589+30.71 N 1,653,270.06 E 2,250,973.42
C.C. N 1,654,759.94 E 2,238,839.72

Course from PT 230 to PC 240 S 7° 00′ 00.75″ W Dist 1,456.54′

Curve Data

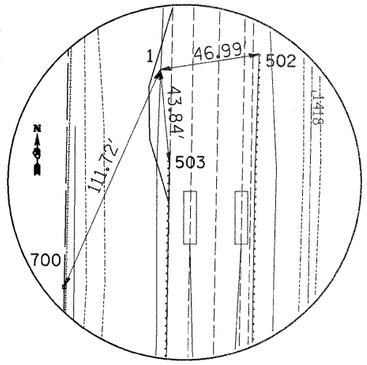
Curve 240
P.I. Station 1618+16.13 N 1,650,406.15 E 2,250,621.77
Delta = 13° 16′ 35.08″ (LT)
Degree = 0° 28′ 00.00″
Tangent = 1,428.88′
Length = 2,844.95′
Radius = 12,277.70′
External = 82.87′
Long Chord = 2,838.59′
Mid. Ord. = 82.31′
P.C. Station 1603+87.25 N 1,651,824.38 E 2,250,795.91
P.T. Station 1632+32.21 N 1,648,985.84 E 2,250,777.97
C.C. N 1,650,328.06 E 2,262,982.09

Course from PT 240 to PC 250 S 6° 16′ 34.33″ E Dist 952.55′

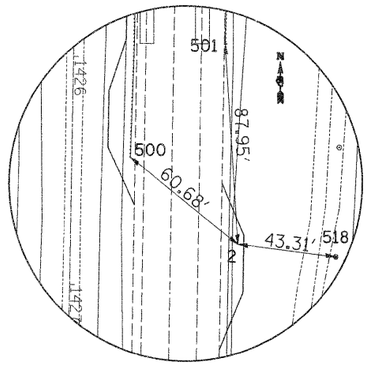
Curve Data

Curve 250
P.I. Station 1649+41.58 N 1,647,286.72 E 2,250,964.84
Delta = 7° 01′ 38.71″ (RT)
Degree = 0° 27′ 53.49″
Tangent = 756.82′
Length = 1,511.74′
Radius = 12,325.46′
External = 23.21′
Long Chord = 1,510.79′
Mid. Ord. = 23.17′
P.C. Station 1641+84.76 N 1,648,039.00 E 2,250,882.11
P.T. Station 1656+96.49 N 1,646,529.97 E 2,250,954.92
C.C. N 1,646,691.56 E 2,238,630.52

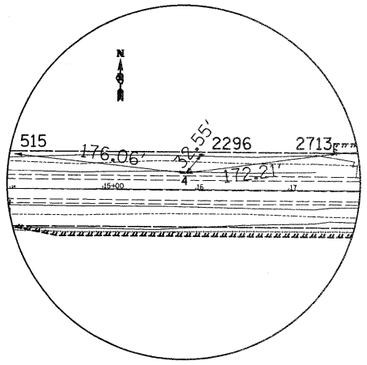
Ending chain 74SBND description



HORIZONTAL CONTROL
POINT NO. 1



HORIZONTAL CONTROL
POINT NO. 2



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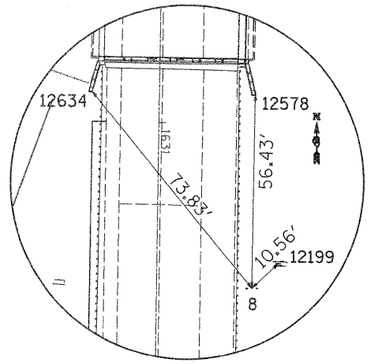
POINT NO. 4



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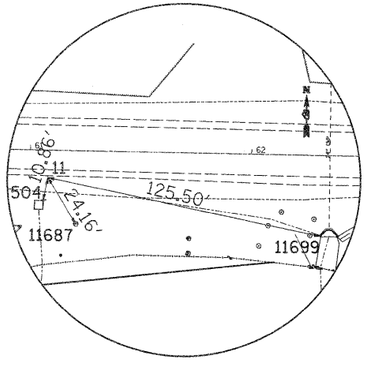
POINT NO. 8



HORIZONTAL CONTROL
POINT NO. 11

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HORIZONTAL & VERTICAL CONTROL

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	17
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

HORIZONTAL & VERTICAL CONTROL

SURVEY WORK POINTS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
100	1669956.9940	2251870.2360	731.1830	74ML_N	1422+02.96	158.4625' LT	TOPO SURVEY POINT, NAIL
101	1669932.4810	2251587.2510	729.0480	74ML_N	1422+31.86	124.1084' RT	TOPO SURVEY POINT, NAIL
102	1669685.8610	2251783.2540	748.8200	74ML_N	1424+75.41	75.6945' LT	TOPO SURVEY POINT, NAIL
103	1670241.4410	2251789.8450	739.0630	74ML_N	1419+19.80	73.6712' LT	TOPO SURVEY POINT, NAIL
104	1669932.8350	2251712.8140	730.0470	74ML_N	1422+29.56	1.434' LT	TOPO SURVEY POINT, NAIL
110	1649178.9940	2250728.4960	789.4560	74SBND	1630+35.27	29.6486' RT	TOPO SURVEY POINT, NAIL
111	1649199.7670	2250994.5100	789.7170	74NBND	1630+01.89	83.7005' RT	TOPO SURVEY POINT, NAIL
115	1649010.0130	2251054.4110	809.5470	74NBND	1631+90.42	21.0347' RT	TOPO SURVEY POINT, NAIL
116	1649428.2400	2251104.9300	806.8640	74NBND	1627+71.23	21.3586' LT	TOPO SURVEY POINT, NAIL
117	1649408.1790	2251067.9020	807.2590	74NBND	1627+92.32	15.092' RT	TOPO SURVEY POINT, NAIL
118	1649489.1280	2251070.4390	806.4240	74NBND	1627+11.39	14.9365' RT	TOPO SURVEY POINT, NAIL
119	1649549.7270	2251072.4230	805.7700	74NBND	1626+50.80	14.9288' RT	TOPO SURVEY POINT, NAIL
120	1649711.4180	2251078.3560	803.4160	74NBND	1624+89.11	15.0795' RT	TOPO SURVEY POINT, NAIL
121	1649848.8330	2251120.9770	800.9050	74NBND	1623+49.92	21.4022' LT	TOPO SURVEY POINT, NAIL
122	1649338.6100	2250718.1710	805.7400	74SBND	1628+75.72	26.065' RT	TOPO SURVEY POINT, NAIL
123	1649181.6210	2250785.4115	789.1105	74SBND	1630+37.97	27.2633' LT	NAIL

BENCH MARKS

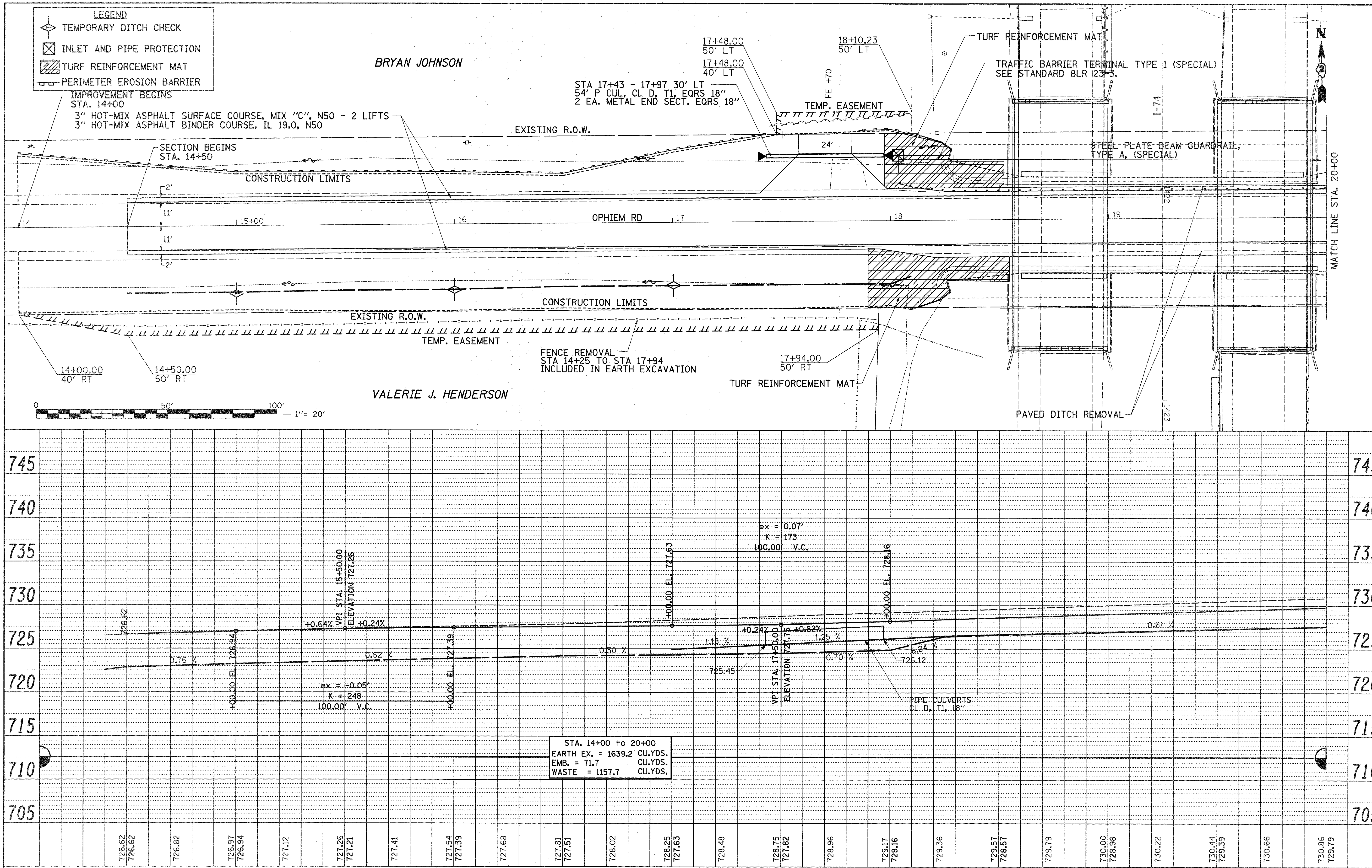
POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
401	1670001.7469	2251644.4845	745.9590	74ML_N	1421+61.72	67.9557' RT	PERM. SURVEY MARKER, DISK
402	1669393.5478	2251703.0189	752.2241	74ML_N	1427+68.93	0.0009' LT	POT, DISK
403	1669979.3940	2252648.8510	737.9562	700N	28+61.81	39.6277' LT	CHISELED SQUARE
404	1669978.7614	2251615.3094	730.9231	700N	18+28.30	32.5446' LT	HEADWALL
405	1649256.8310	2250728.3860	807.4249	74SBND	1629+57.91	22.7351' RT	PERM. SURVEY MARKER, DISK
406	1648799.1430	2250723.9330	804.3516	74SBND	1634+11.88	74.1269' RT	SIGN
408	1649118.1950	2251100.7960	810.5829	74NBND	1630+81.61	23.9049' LT	PERM. SURVEY MARKER, DISK
409	1647658.5110	2251108.9870	807.3401	74NBND	1645+41.09	51.2558' LT	SIGN, CHISELED SQUARE
411	1649160.8030	2251067.1620	793.0976	74NBND	1630+39.51	10.3854' RT	PIER, CHISELED SQUARE
412	1649185.8100	2249753.5700	800.8702	300N	50+00.68	19.9617' RT	POWER POLE, RAIL ROAD SPIKE

HORIZONTAL CONTROL POINTS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
1	1670372.4680	2251646.7230	737.2235	74ML_N	1417+91.00	71.4649' RT	GPS CONTROL POINT, PIN
2	1669479.9110	2251777.9220	752.5020	74ML_N	1426+81.42	73.5561' LT	GPS CONTROL POINT, PIN
3	1669905.3300	2252663.5600	735.5570	700N	28+76.9849	34.343' RT	GPS CONTROL POINT, PIN
4	1669964.7020	2251367.5250	726.2150	700N	15+80.6046	16.939' LT	GPS CONTROL POINT, PIN
5	1649532.1310	2250674.2540	807.1368	74SBND	1626+80.18	55.8414' RT	GPS CONTROL POINT, PIN
6	1648816.4330	2250816.3560	807.2910	74SBND	1634+04.80	19.6323' LT	GPS CONTROL POINT, PIN
7	1649568.4480	2251107.0080	805.3858	74NBND	1626+30.90	18.9916' LT	GPS CONTROL POINT, PK NAIL
8	1649051.9780	2251103.7870	809.5700	74NBND	1631+47.81	27.7868' LT	TRAVERSE STATION, PIN
9	1648045.4740	2251088.1470	811.5490	74NBND	1641+54.44	25.3442' LT	GPS CONTROL POINT, PIN
10	1649193.9830	2251462.2110	800.1676	300N	67+08.9623	16.1658' LT	GPS CONTROL POINT, PIN
11	1649175.3840	2250861.4010	788.8860	300N	61+08.5370	12.2607' RT	GPS CONTROL POINT, PIN
12	1649177.6150	2250396.5940	803.0569	300N	56+43.7557	17.6349' RT	GPS CONTROL POINT, PIN
21	1669393.5478	2251703.0189	752.2102	74ML_N	1427+68.93	0.0009' LT	PIN
23	1668737.1928	2251647.5105	762.6731	74ML_N	1434+27.87	27.7008' RT	PIN
24	1668734.8694	2251703.0036	762.3587	74ML_N	1434+26.36	27.8203' LT	PIN
25	1667878.6478	2251585.5292	761.6695	74ML_N	1442+89.35	0.0001' LT	PIN
26	1665596.7278	2251265.5080	772.1444	74ML_N	1465+93.61	0.0001' RT	PIN
28	1664680.4884	2251143.9562	780.4481	74ML_N	1475+16.64	27.6728' RT	PIN
29	1664673.2140	2251199.8804	780.8187	74ML_N	1475+20.31	28.603' LT	PIN
30	1663775.4356	2251146.6590	781.0975	74ML_N	1484+20.46	0.0001' RT	PIN
32	1663779.8983	2251140.4345	783.2464	74ML_N	1484+15.94	6.184' RT	PIN

REFERENCE TIES

POINT	CHAIN	STATION	OFFSET	DESCRIPTION
500	74ML_N	1426+43.92	25.7889' LT	GUARDRAIL STEEL PLATE BEAM
501	74ML_N	1425+93.65	66.6145' LT	GUARDRAIL
502	74ML_N	1417+83.07	25.1152' RT	GUARDRAIL, END
503	74ML_N	1418+34.56	66.4810' RT	STEEL PLATE BEAM GUARDRAIL, END
504	300N	61+06.10	22.8442' LT	WINNEBAGO INLET
515	700N	14+05.7314	36.9290' LT	POWER POLE
518	74ML_N	1426+85.8305	116.6396' LT	TREE DECIDUOUS
700	74ML_N	1418+93.87	115.0283' RT	RIGHT OF WAY MARKER
2296	700N	16+06.07	37.3534' RT	POWER POLE
2713	700N	17+51.38	39.6393' RT	FIBER OPT WARNING SIGN
11687	300N	61+20.96	32.9812' RT	TREE
11699	300N	62+31.66	36.5892' RT	HEADWALL
12199	74NBND	1631+40.47	35.3945' LT	PIPE CULVERT
12579	74NBND	1630+91.41	27.09582' LT	HEADWALL
12634	74NBND	1630+91.33	19.6503' RT	HEADWALL



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

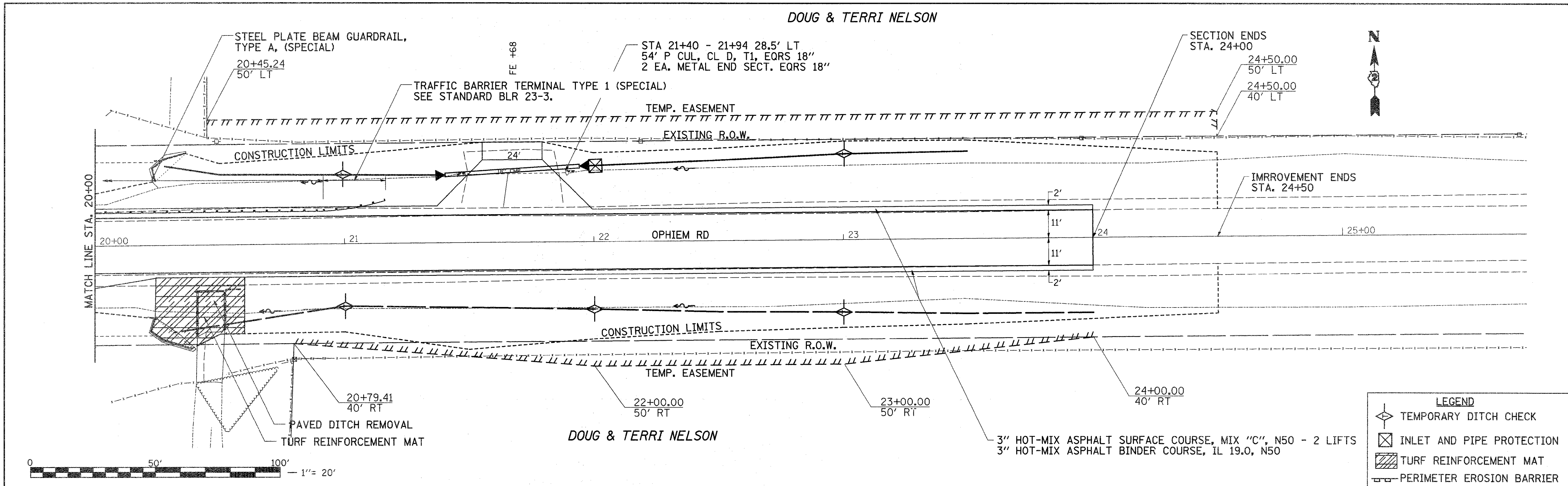
PLAN & PROFILE

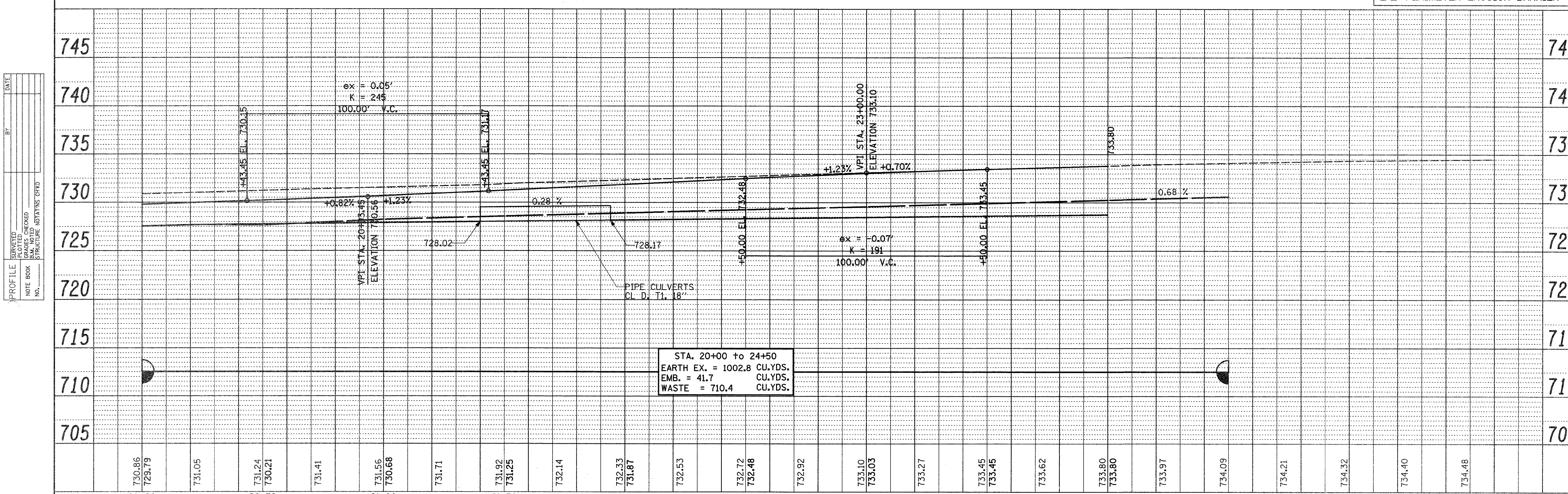
SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	19

CONTRACT NO. 64264

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





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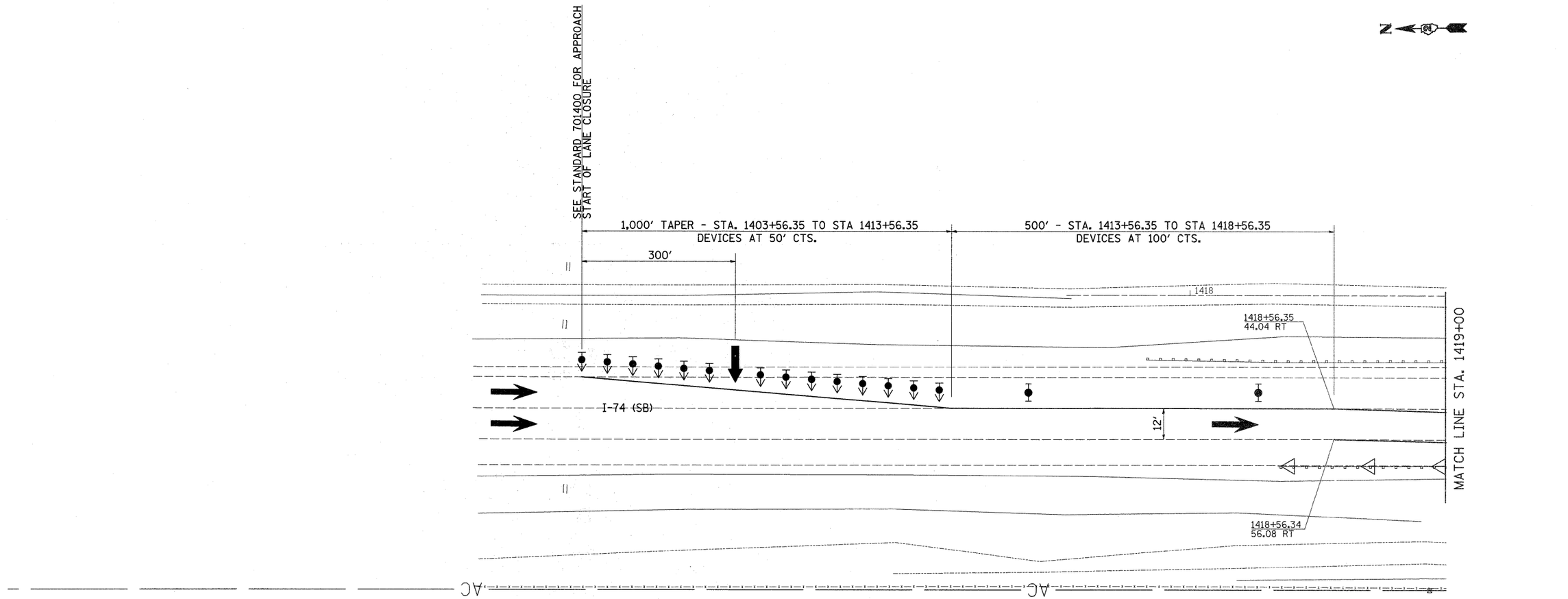
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	20
		CONTRACT NO. 64264		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

STAGE I
SN 037–0015



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE EAST SIDE OF BRIDGE (SN 037-0015)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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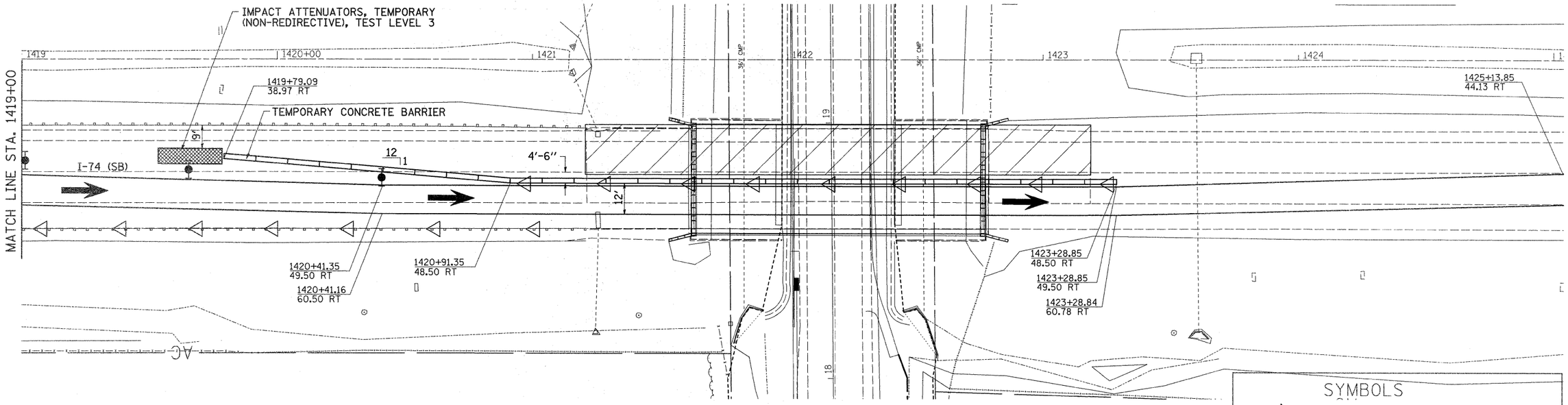
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0015)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	21
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE I
SN 037–0015



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE EAST SIDE OF BRIDGE (SN 037-0015)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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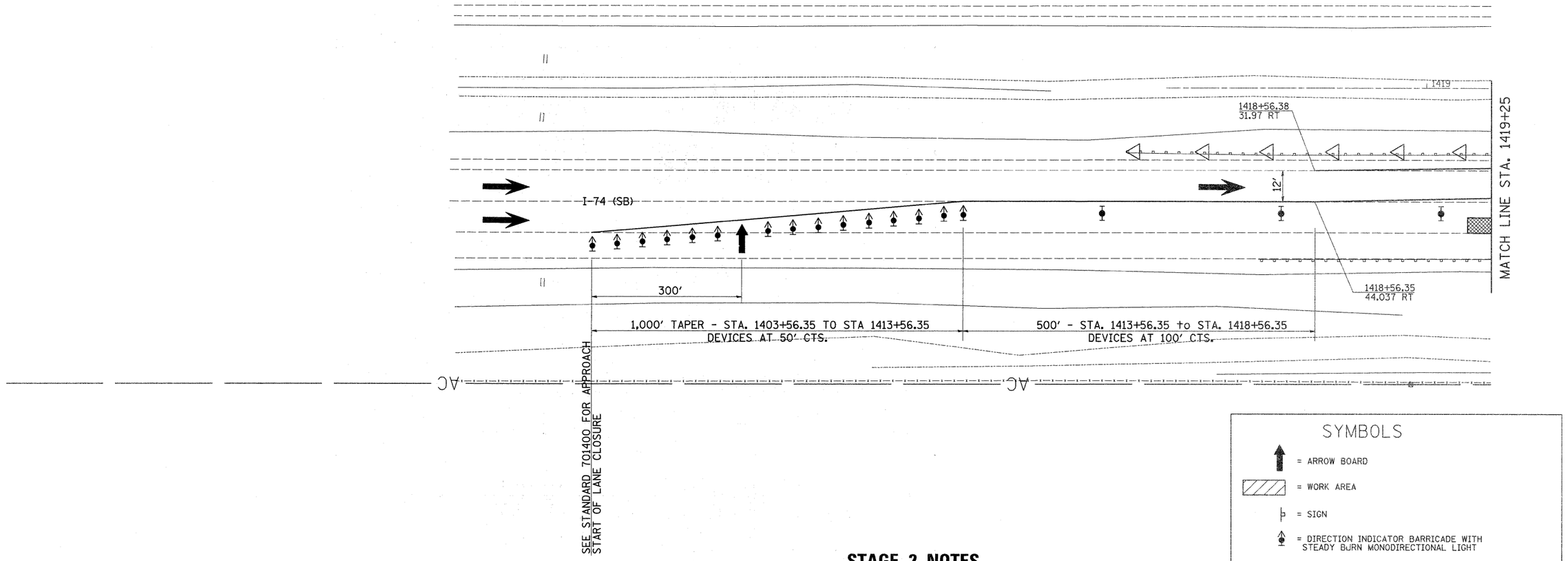
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0015)
STAGING PLAN SHEETS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	22
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE 2
SN 037–0015



STAGE 2 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE WEST SIDE OF BRIDGE (SN 037-0015)

SYMBOLS

= ARROW BOARD

= WORK AREA

= SIGN

= DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT

= TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT

= MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER

= IMPACT ATTENUATOR

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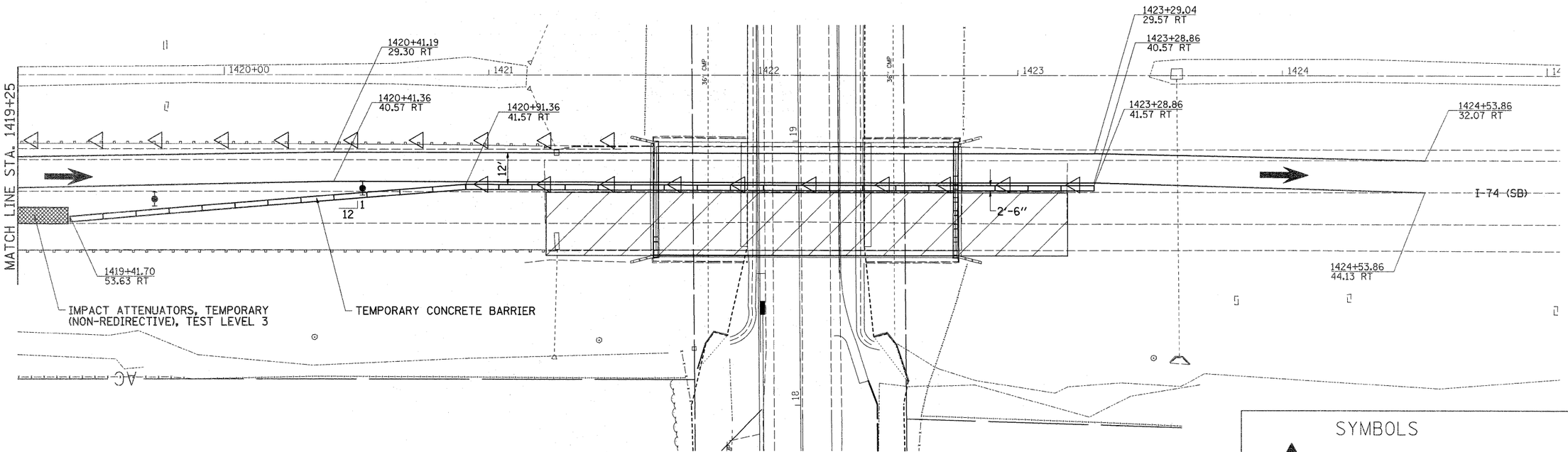
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037–0015)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	23
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE 2
SN 037–0015



STAGE 2 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE WEST SIDE OF BRIDGE (SN 037-0015)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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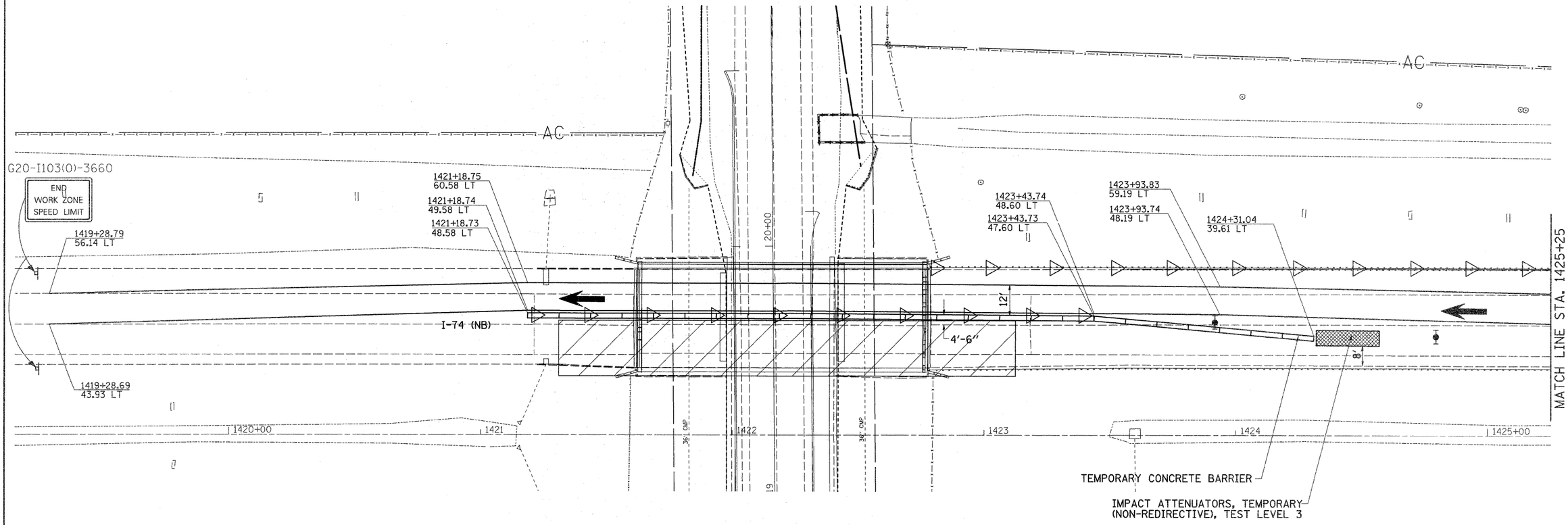
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037–0015)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	24
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE I
SN 037–0016



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE WEST SIDE OF BRIDGE (SN 037-0016)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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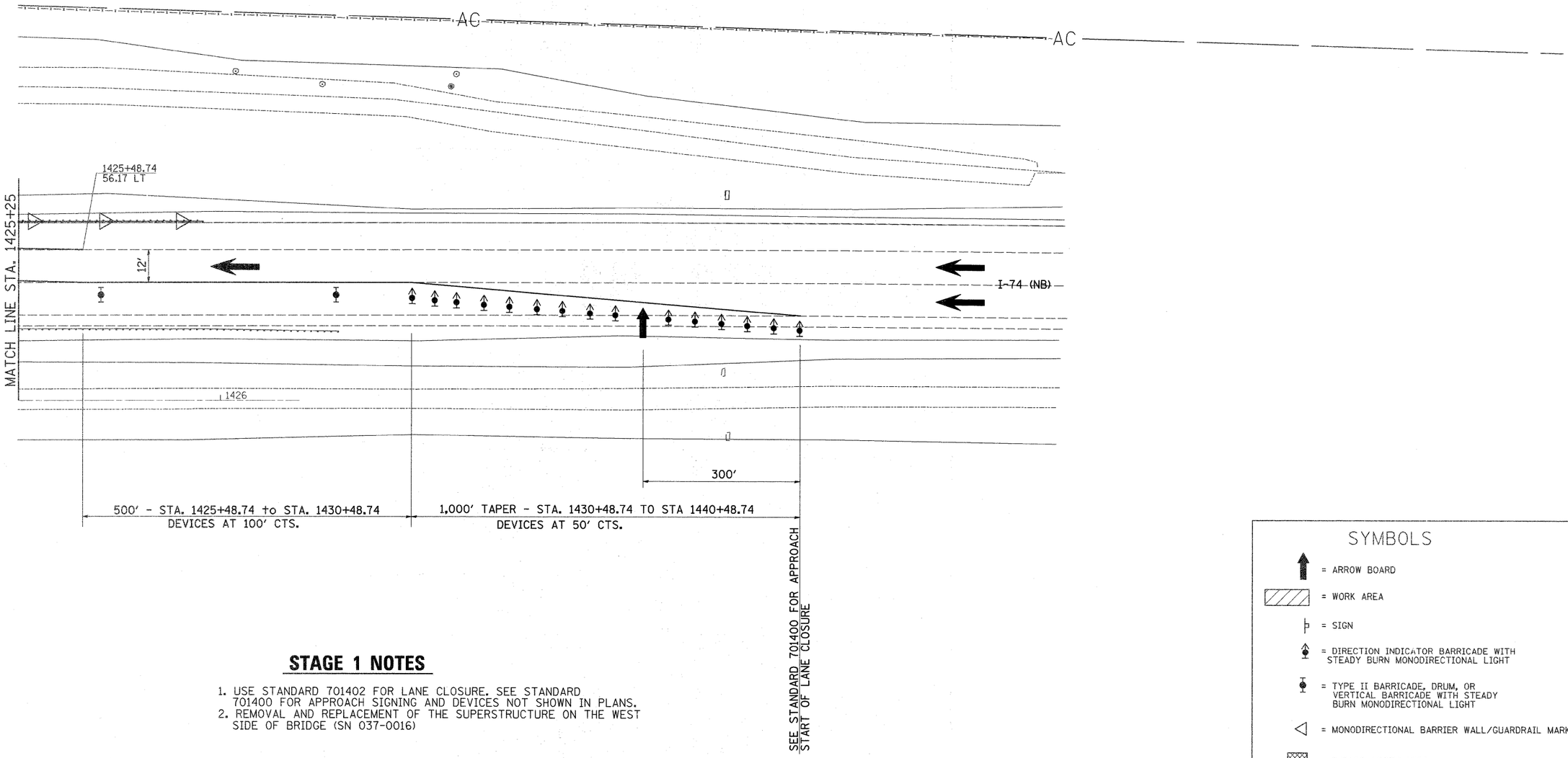
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0016)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	25
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE I
SN 037–0016



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE WEST SIDE OF BRIDGE (SN 037-0016)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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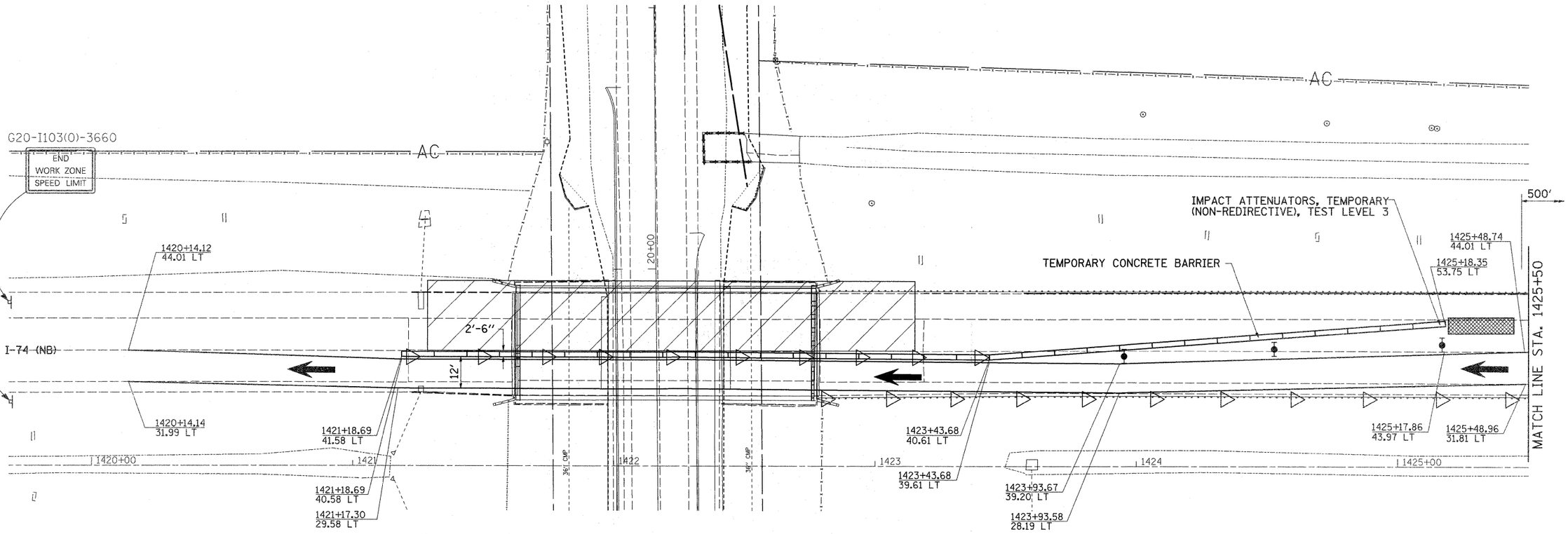
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0016)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	26
		CONTRACT NO. 64264		
	ILLINOIS	FED. AID PROJECT		

STAGE 2
SN 037–0016



STAGE 2 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE EAST SIDE OF BRIDGE (SN 037-0016)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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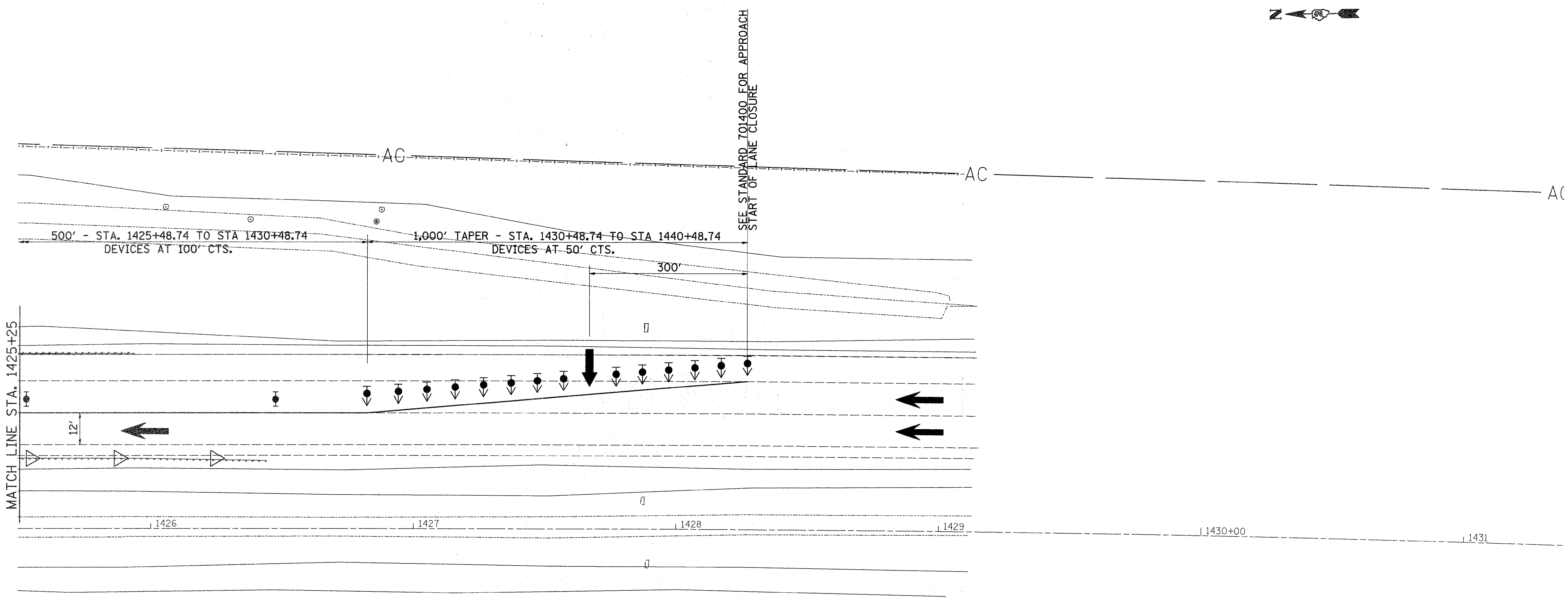
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037–0016)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	27
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE 2
SN 037–0016



STAGE 2 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF THE SUPERSTRUCTURE ON THE EAST SIDE OF BRIDGE (SN 037-0016)

SYMBOLS

🡅	= ARROW BOARD
▨	= WORK AREA
⊢	= SIGN
●	= DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
●	= TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
◁	= MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
▩	= IMPACT ATTENUATOR

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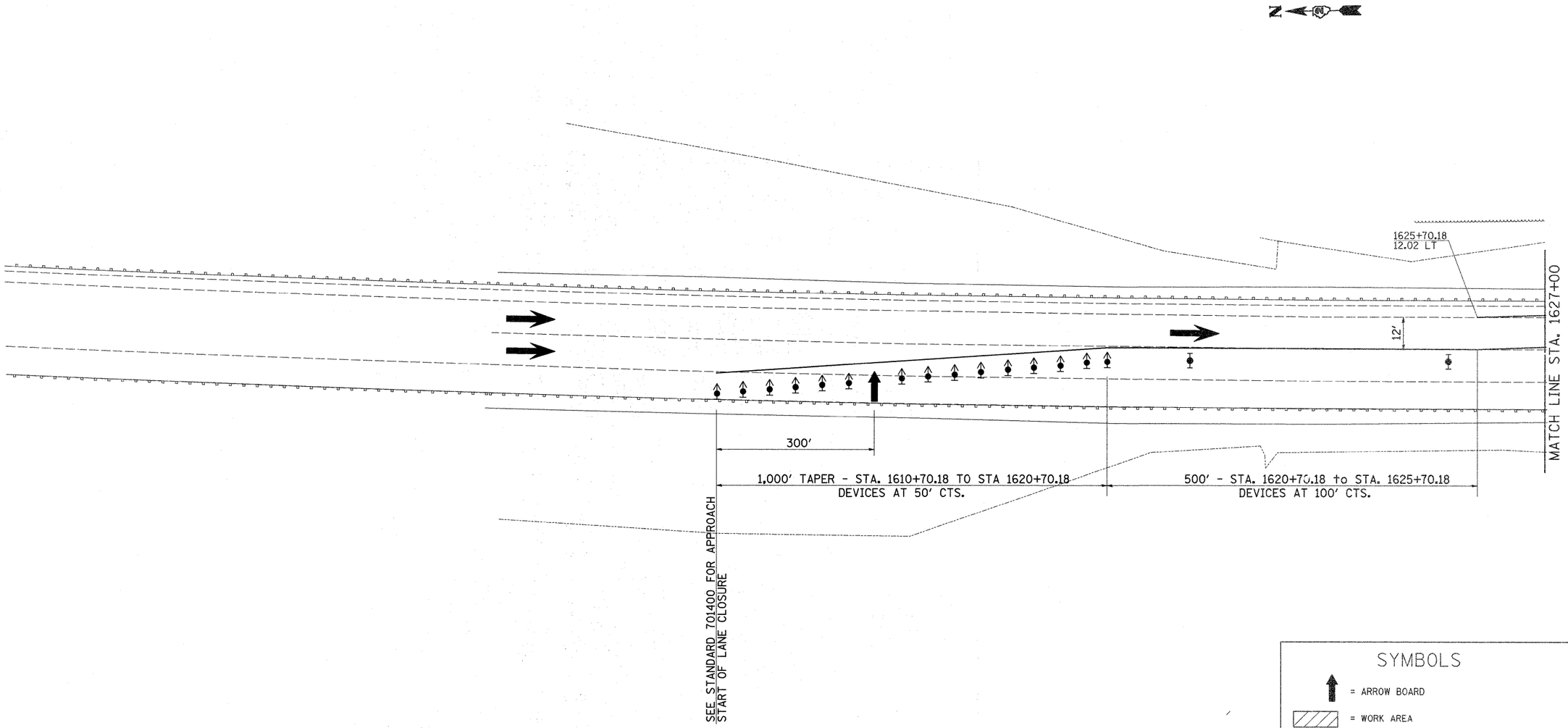
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037–0016)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	28
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE I
SN 037–0017



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE WEST SIDE OF BRIDGE (SN 037-0017)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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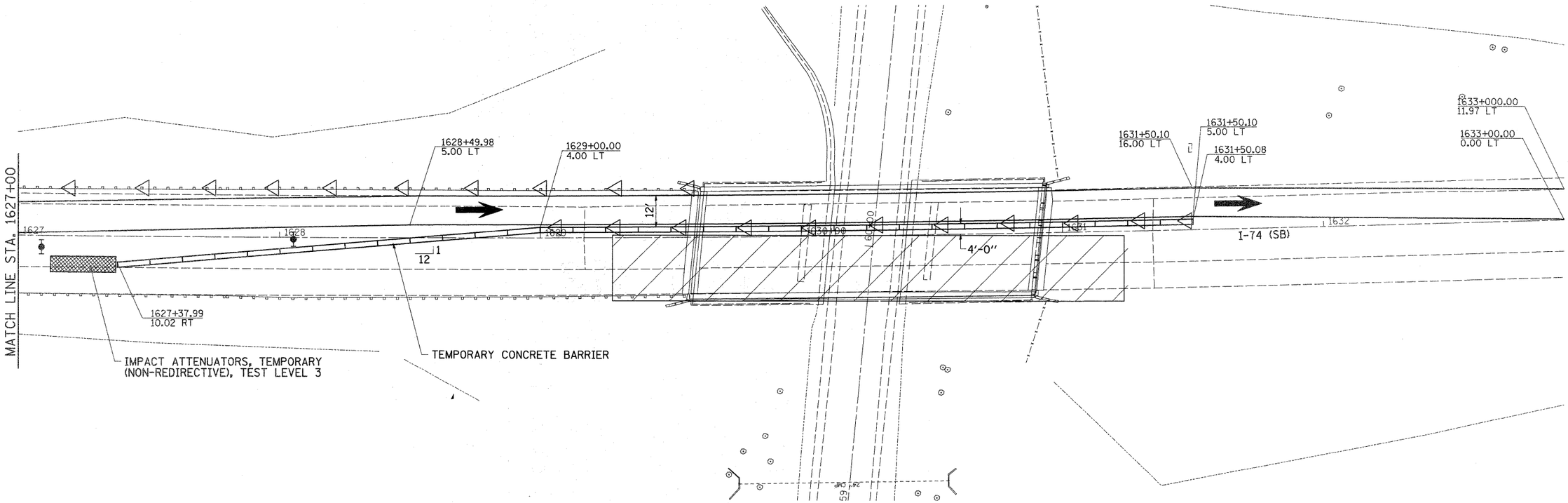
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0017)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	29
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE I
SN 037-0017



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE WEST SIDE OF BRIDGE (SN 037-0017)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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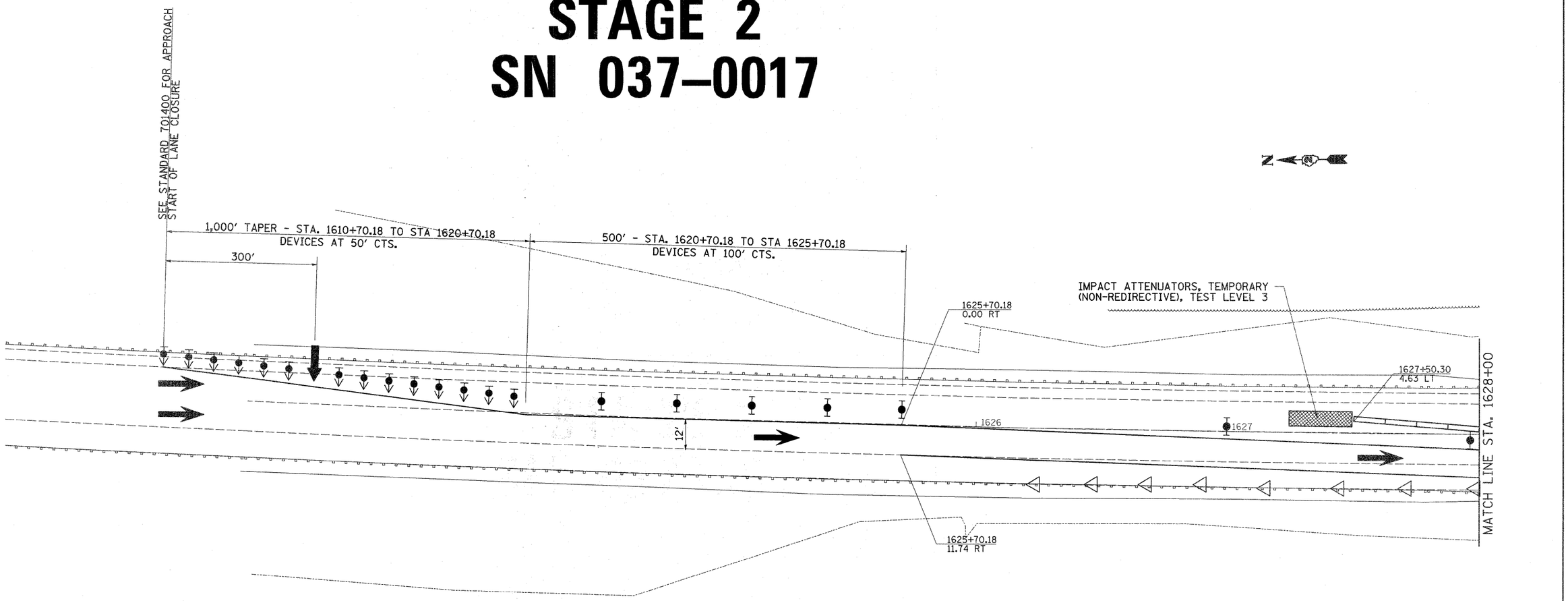
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037-0017)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	30
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE 2
SN 037–0017



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE EAST SIDE OF BRIDGE (SN 037-0017)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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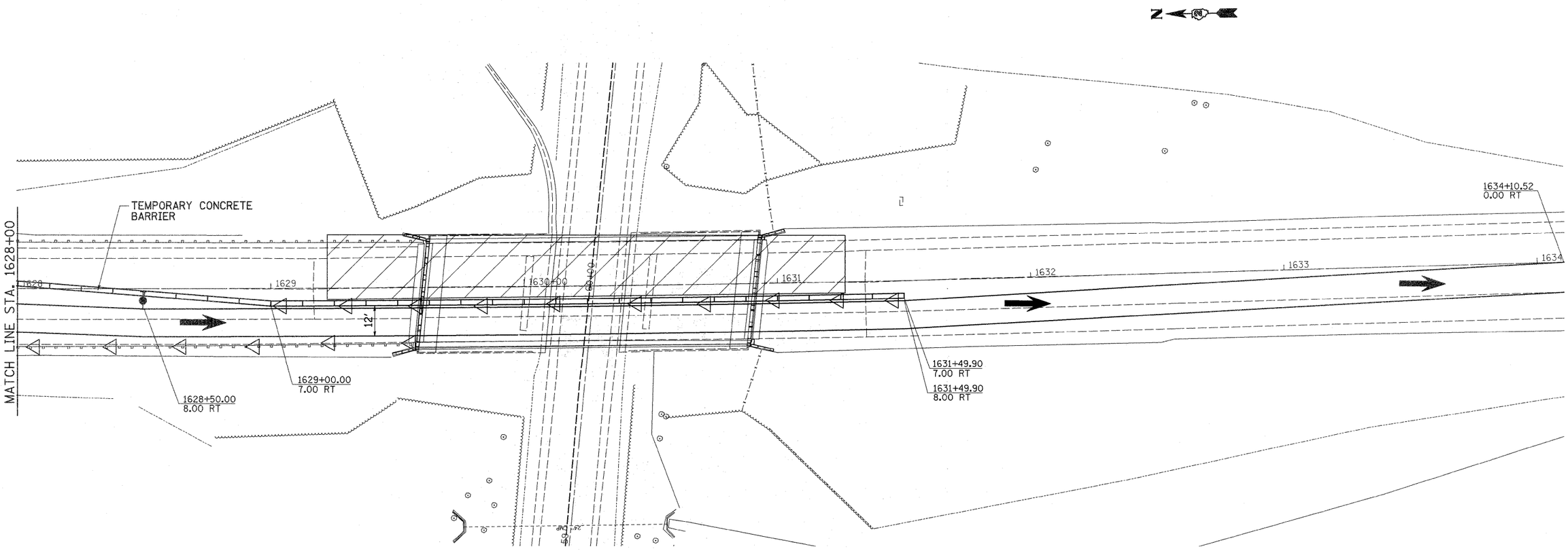
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037-0017)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	31
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE 2
SN 037-0017



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE EAST SIDE OF BRIDGE (SN 037-0017)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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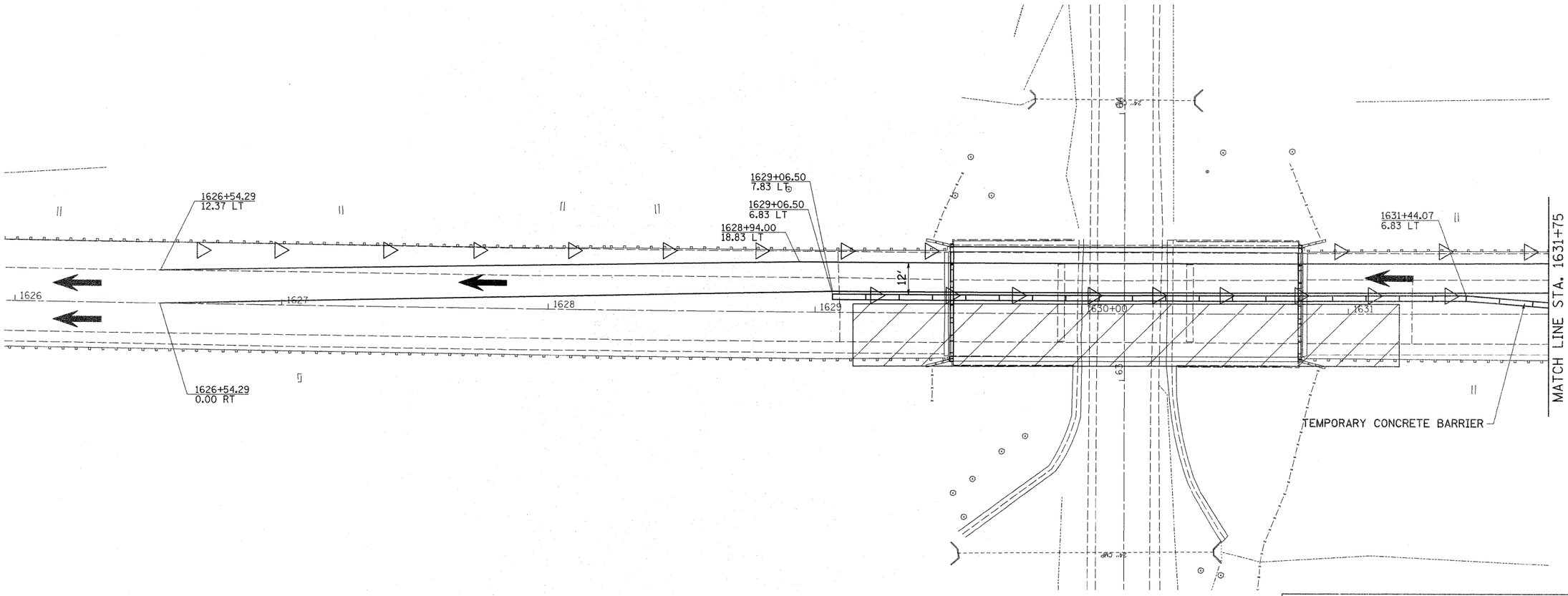
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037-0017)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	32
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE I
SN 037–0018



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE WEST SIDE OF BRIDGE (SN 037-0018)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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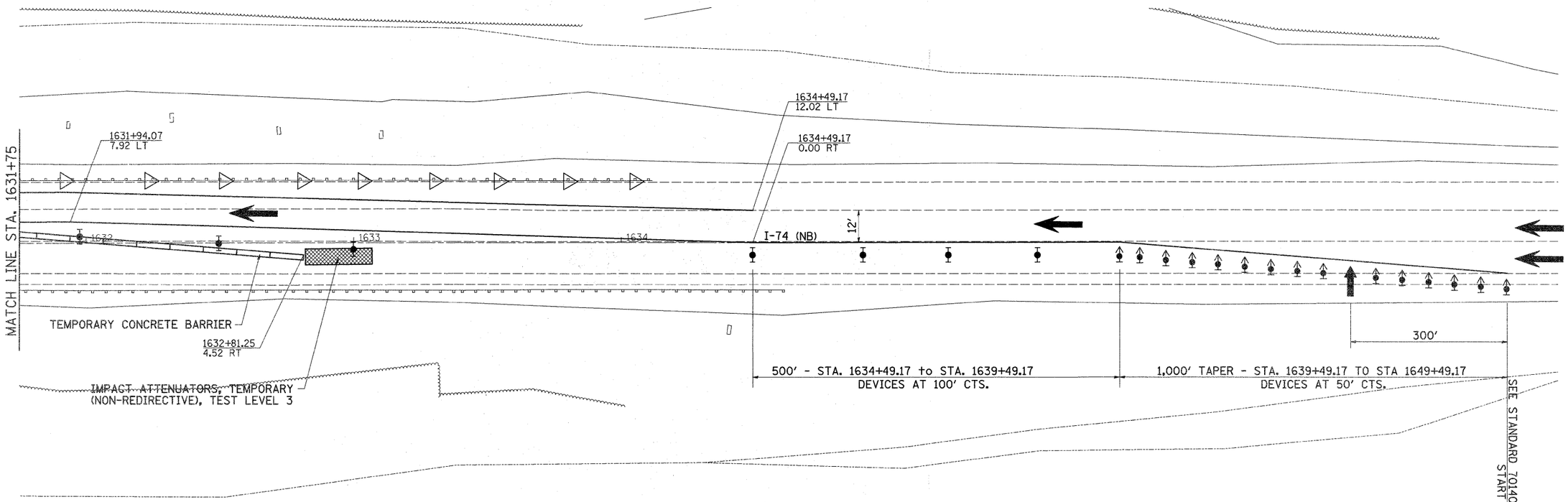
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037–0018)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	33
		CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT		

STAGE I
SN 037–0018



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE WEST SIDE OF BRIDGE (SN 037-0018)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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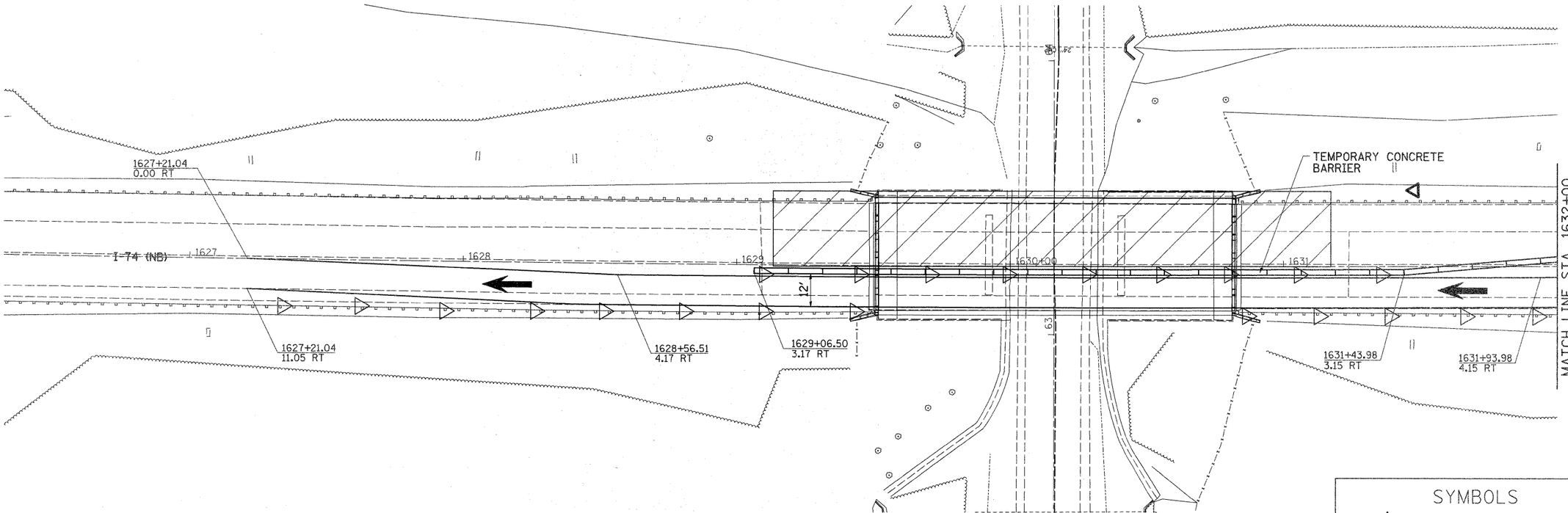
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 (SN 037-0018)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	34
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

STAGE 2
SN 037–0018



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE EAST SIDE OF BRIDGE (SN 037-0018)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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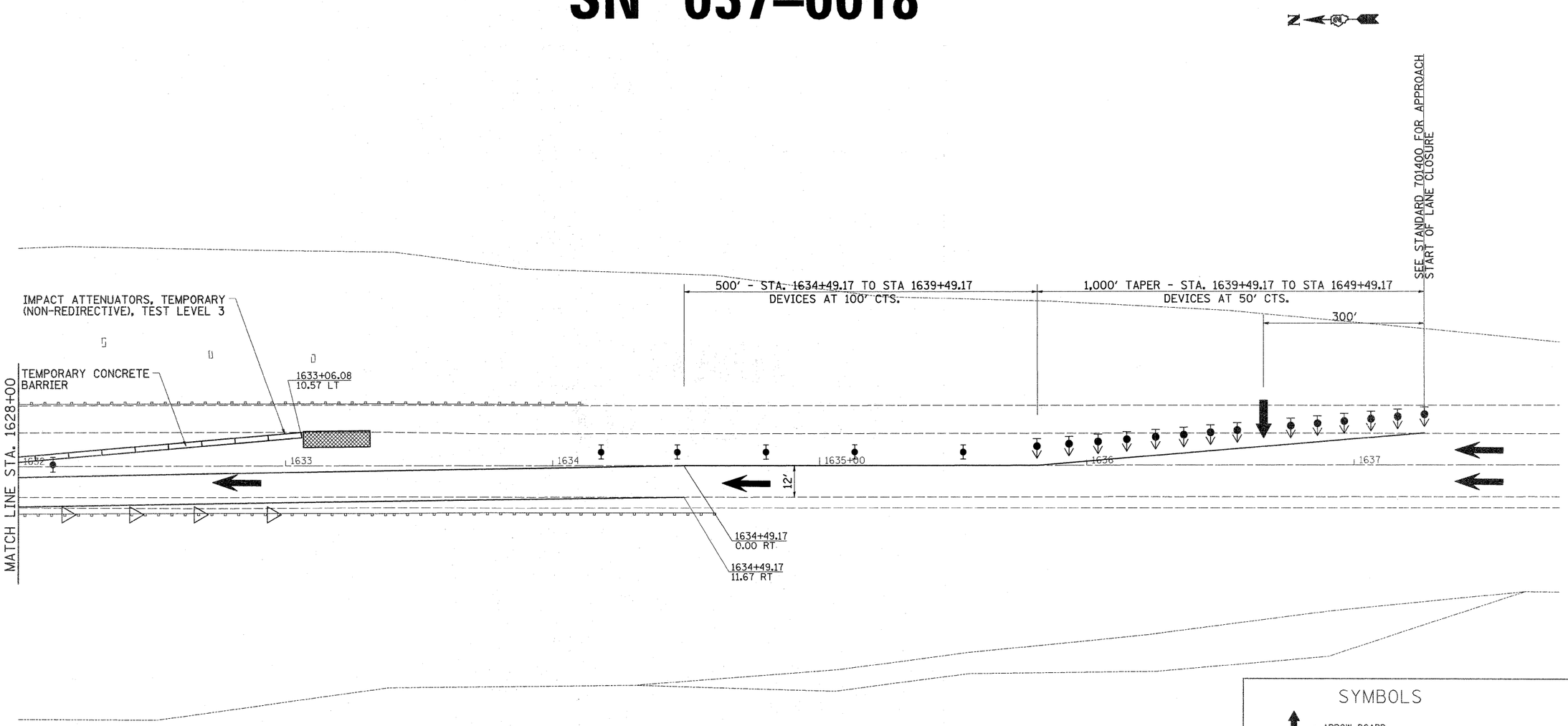
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037-0018)
STAGING PLAN SHEETS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	35
		CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT	

STAGE 2
SN 037–0018



STAGE 1 NOTES

1. USE STANDARD 701402 FOR LANE CLOSURE. SEE STANDARD 701400 FOR APPROACH SIGNING AND DEVICES NOT SHOWN IN PLANS.
2. REMOVAL AND REPLACEMENT OF DECKS ON THE EAST SIDE OF BRIDGE (SN 037-0018)

SYMBOLS

- = ARROW BOARD
- = WORK AREA
- = SIGN
- = DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- = MONODIRECTIONAL BARRIER WALL/GUARDRAIL MARKER
- = IMPACT ATTENUATOR

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		DRAWN -	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = Wed Aug 05 13:11:48 2009	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 (SN 037–0018)
STAGING PLAN SHEETS

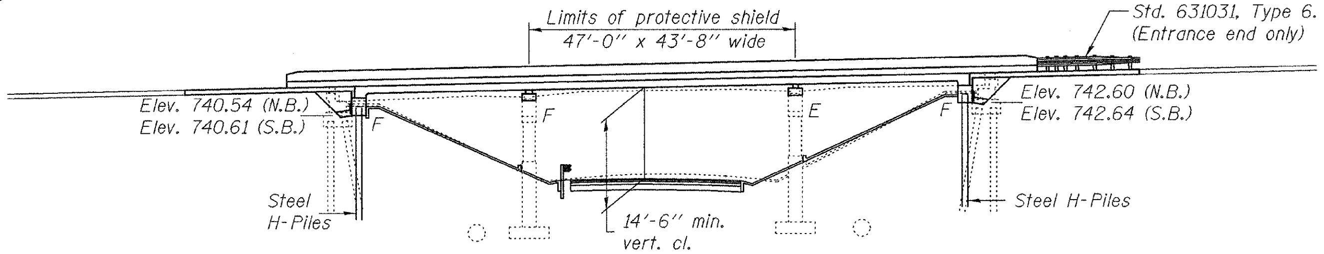
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	37-(4HB,4HB-1,4HB-2)D	HENRY	148	36
		CONTRACT NO. 64264		
	ILLINOIS FED. AID PROJECT			

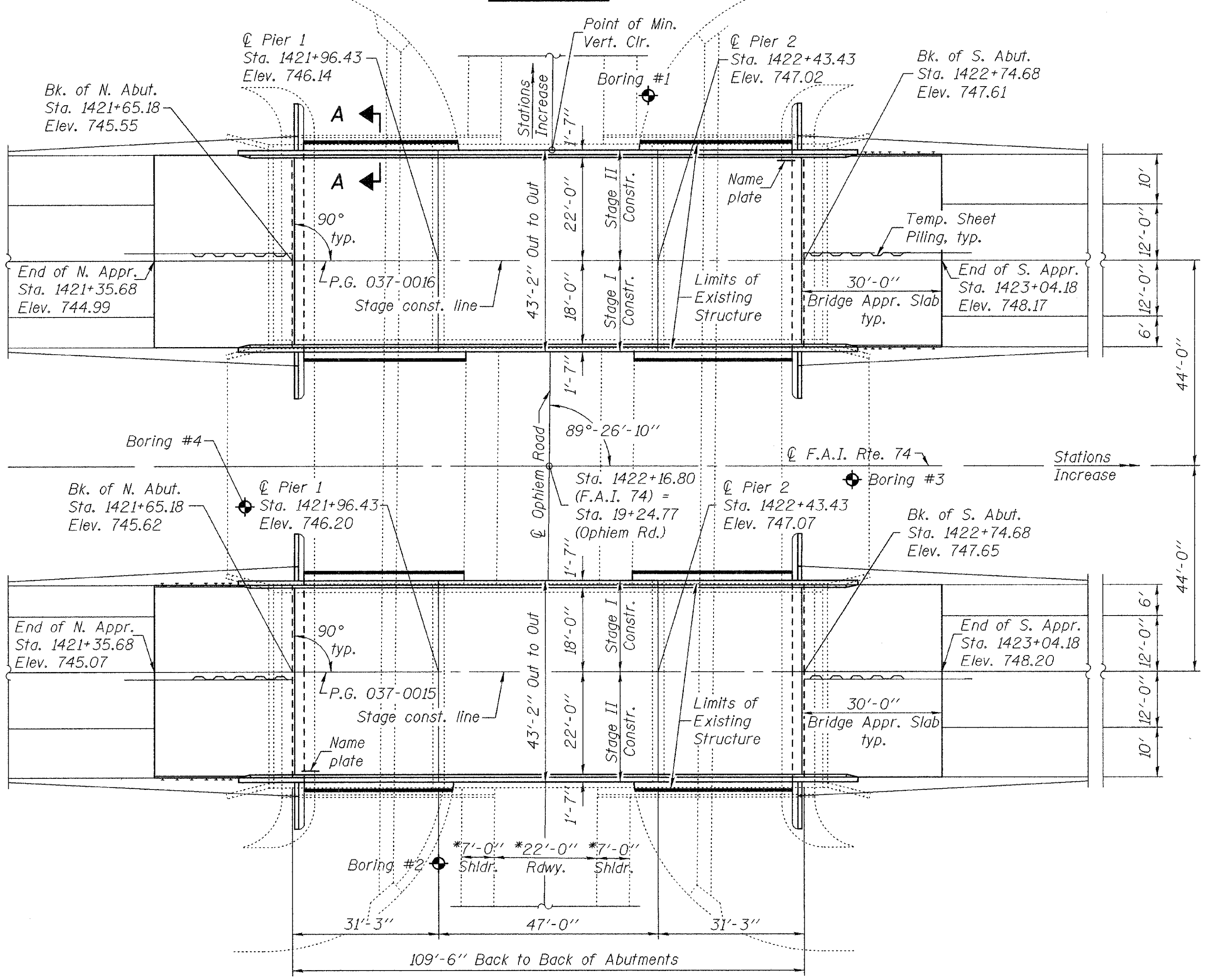
Existing Structure: S.N. 037-0015 and 037-0016 Built as F.A.I. 74 in 1967 section 37-4HB. 3 span concrete slab bridges 117'-6" Back to Back Abuts. 43'-8" out to out width. Superstructures and abutments are to be removed and replaced. Traffic is to be maintained using stage construction.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

Note: For Section A-A see sheet 2 of 30.

* Dimensions are taken from existing plans. For proposed dimensions, see roadway plans.

DESIGNED	[signature]
CHECKED	[signature]
DRAWN	h.t. duong
CHECKED	NRB / MOR / GRA

September 29, 2009

EXAMINED [signature] ENGINEER OF BRIDGE DESIGN

PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS RALPH E. ANDERSON 081-004625 SPRINGFIELD LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2010

INDEX OF SHEETS

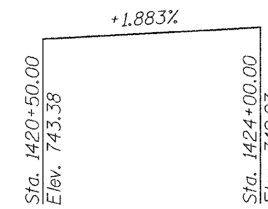
STATION 1422+16.80
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RTE. 74 SEC. 37-4HB
LOADING HL-93
STRUCTURE NO. 037-0015 (S.B.)

STATION 1422+16.80
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RTE. 74 SEC. 37-4HB
LOADING HL-93
STRUCTURE NO. 037-0016 (N.B.)

NAME PLATE

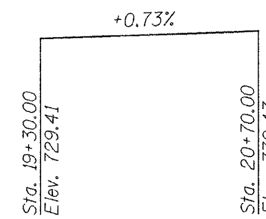
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



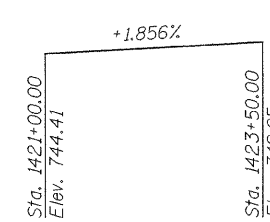
PROFILE GRADE

(F.A.I. Rte. 74 SN 037-0016, N.B.)



PROFILE GRADE

(Ophiem Road)



PROFILE GRADE

(F.A.I. Rte. 74 SN 037-0015, S.B.)

LOADING HL 93

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims (Superstructure)

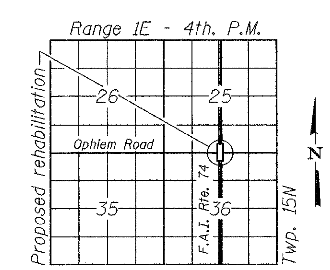
DESIGN STRESSES

FIELD UNITS NEW CONSTRUCTION	FIELD UNITS EXISTING STRUCTURE
f'_c = 3,500 psi	fc = 1,400 psi
f_y = 60,000 psi (reinforcement)	fs = 20,000 psi (Reinforcement)

SEISMIC DATA

New Construction:
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.057g
Design Spectral Acceleration at 0.2 Sec. (S_{DS}) = 0.09g
Soil Site Class = D

Existing Piers:
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-74 OVER OPHIEM ROAD
F.A.I. RTE. 74 - SEC. 37-4HB
HENRY COUNTY
STA. 1422+16.80
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEET	74	37-4HB	Henry	148	37
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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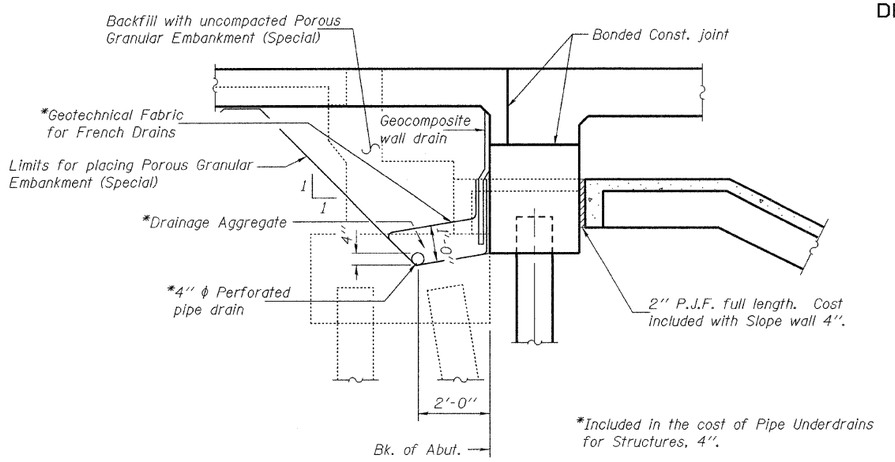
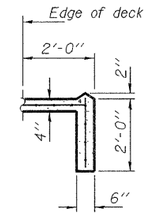
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

SECTION THRU ABUTMENT

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION A-A

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.

Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

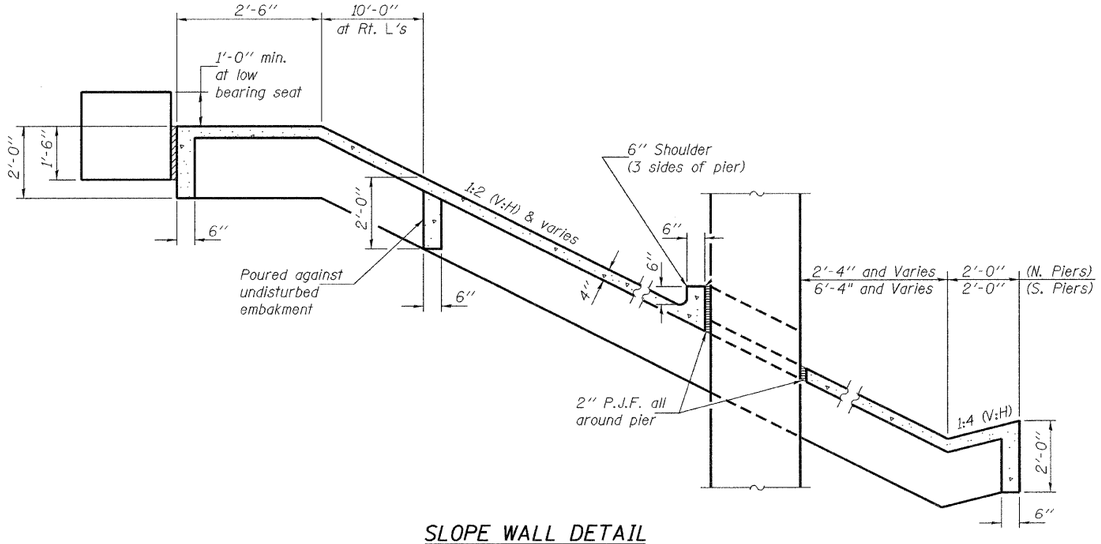
The Contractor is advised that the existing concrete superstructure is a continuous structure and removal must be done in a proper sequence, possibly with falsework support. See special provisions.

Slip-forming of the parapets is not allowed.

Existing abutments shall be removed to bottom of footing elevation.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		116	116
Removal of Existing Superstructures	Each	2		2
Structure Excavation	Cu. Yd.		170	170
Concrete Superstructure	Cu. Yd.	915.8		915.8
Concrete Structures	Cu. Yd.		106.5	106.5
Bridge Deck Grooving	Sq. Yd.	1429		1429
Concrete Encasement	Cu. Yd.		8.4	8.4
Protective Coat	Sq. Yd.	1746		1746
Furnishing and Erecting Structural Steel	Pound		6060	6060
Reinforcement Bars, Epoxy Coated	Pound	200650	8740	209390
Bar Splicers	Each	662	208	870
Slope wall 4"	Sq. Yd.		800	800
Furnishing Steel Piles HP10x42	Foot		1200	1200
Driving Piles	Foot		1200	1200
Temporary Sheet Piling	Sq. Ft.		518	518
Name Plates	Each	2		2
Elastomeric Bearing Assembly, Type I	Each		18	18
Anchor Bolt 1" ϕ	Each		72	72
Geocomposite Wall Drain	Sq. Yd.		68	68
Pipe Underdrains for Structures, 4"	Foot		263	263
Slope wall Removal	Sq. Yd.		980	980
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.		9	9
Protective Shield	Sq. Yd.	456		456



SLOPE WALL DETAIL

Note: Layout of the slope wall may be varied to suit ground conditions in the field as directed by the Engineer. Removal of existing abutments is included with the cost of the Removal of Existing Superstructure.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009

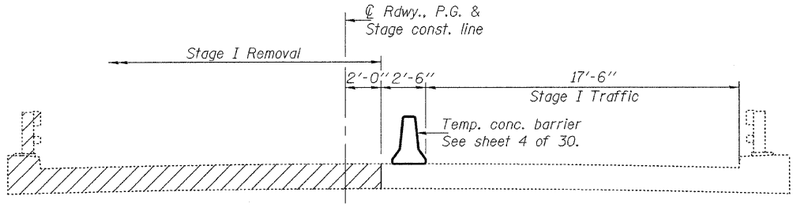
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

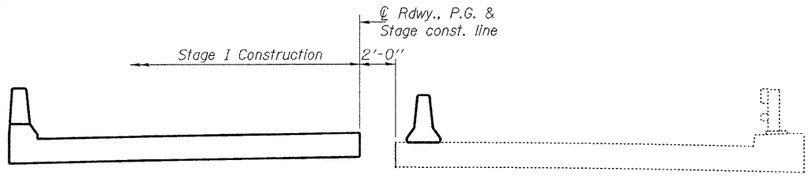
GENERAL DATA
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	38
30 SHEETS			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

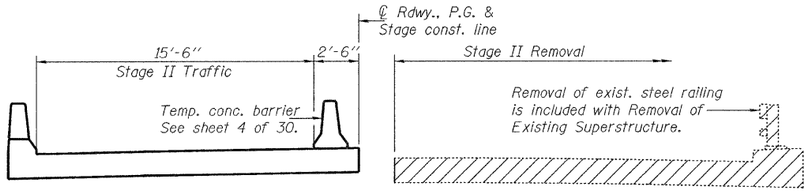
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



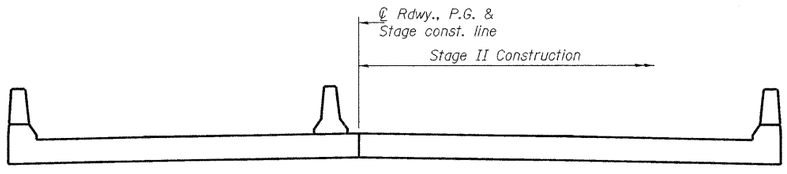
STAGE I REMOVAL



STAGE I CONSTRUCTION

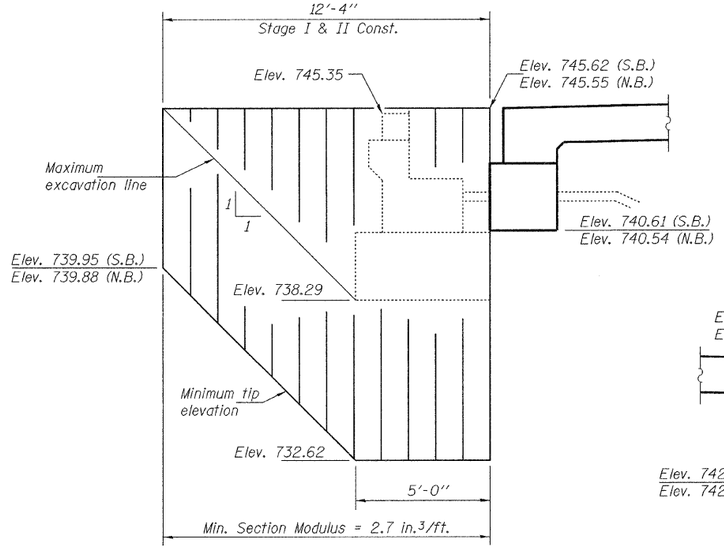


STAGE II REMOVAL

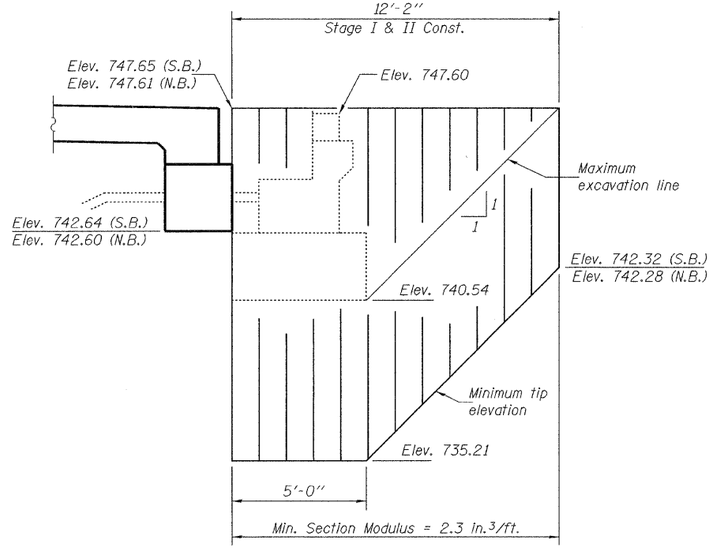


STAGE II CONSTRUCTION

Notes: Hatched areas indicate removal of existing concrete deck.
For quantity of temporary concrete barrier, see Roadway Plans.
All cross sections are looking south for South Bound structure and looking north for North Bound strucrure.



TEMPORARY SHEET PILING
AT NORTH ABUTMENTS



TEMPORARY SHEET PILING
AT SOUTH ABUTMENTS

Notes: 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.
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

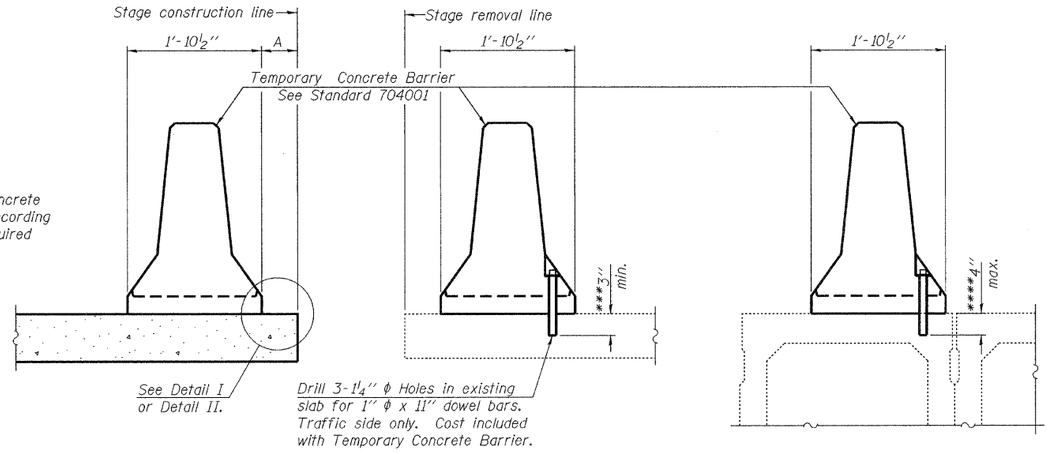
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	39
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

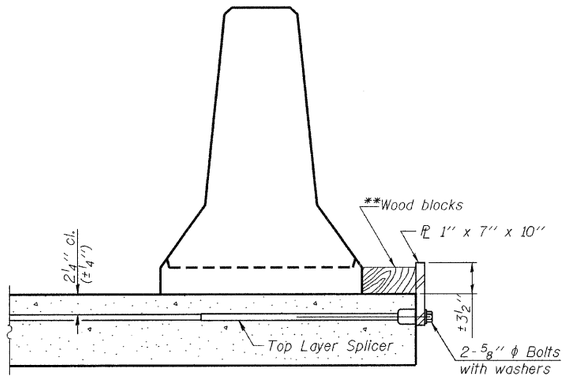
Cost of anchorage is included with Temporary Concrete Barrier.

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.

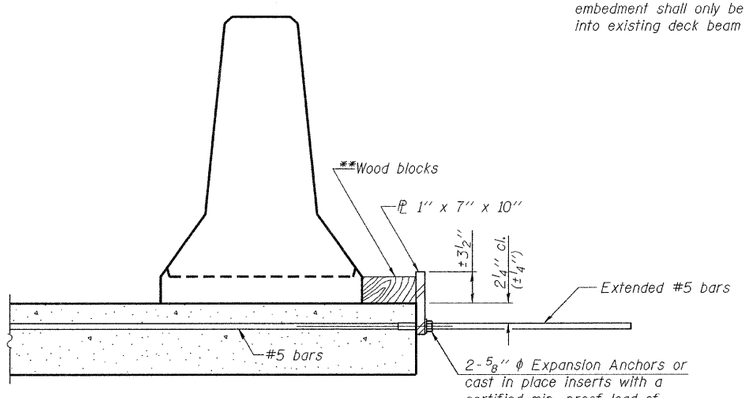
SECTIONS THRU SLAB OR DECK BEAM

*** 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.

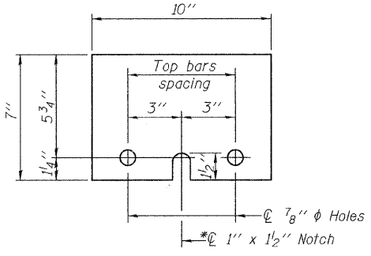
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℄ 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.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

R-27 10-1-08

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 037-0015 (S.B.) STRUCTURE NO. 037-0016 (N.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 4	74	37-4HB	HENRY	148	40
30 SHEETS			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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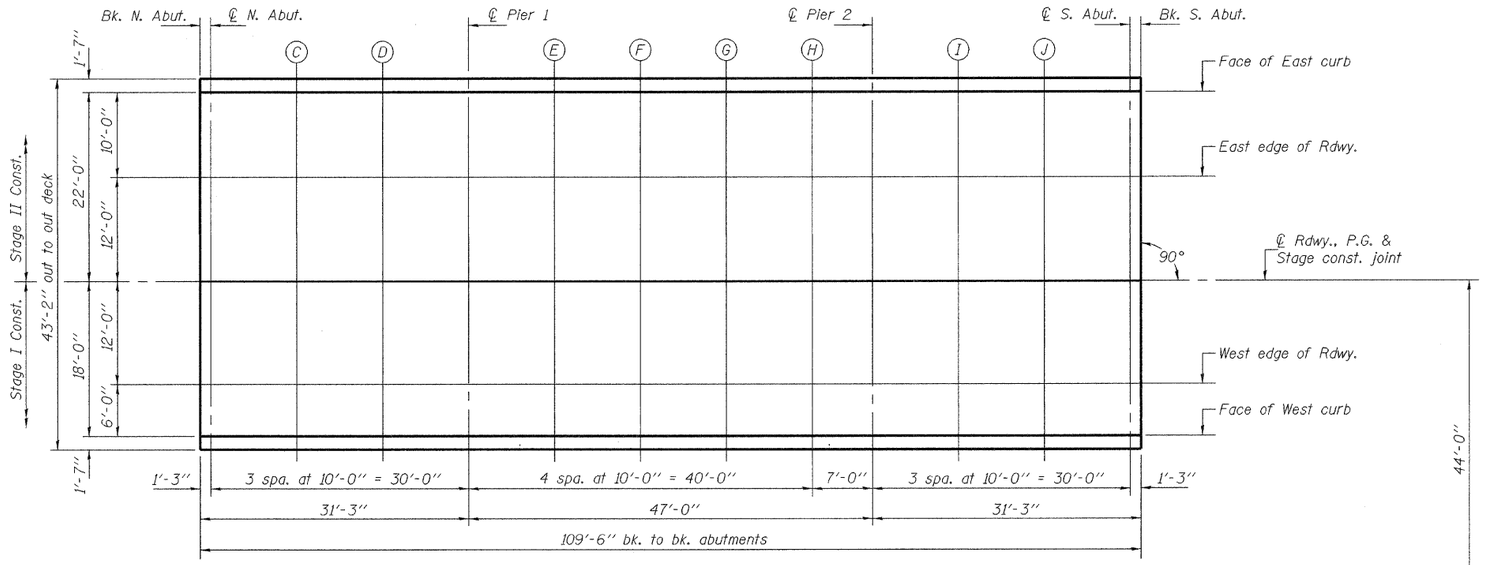
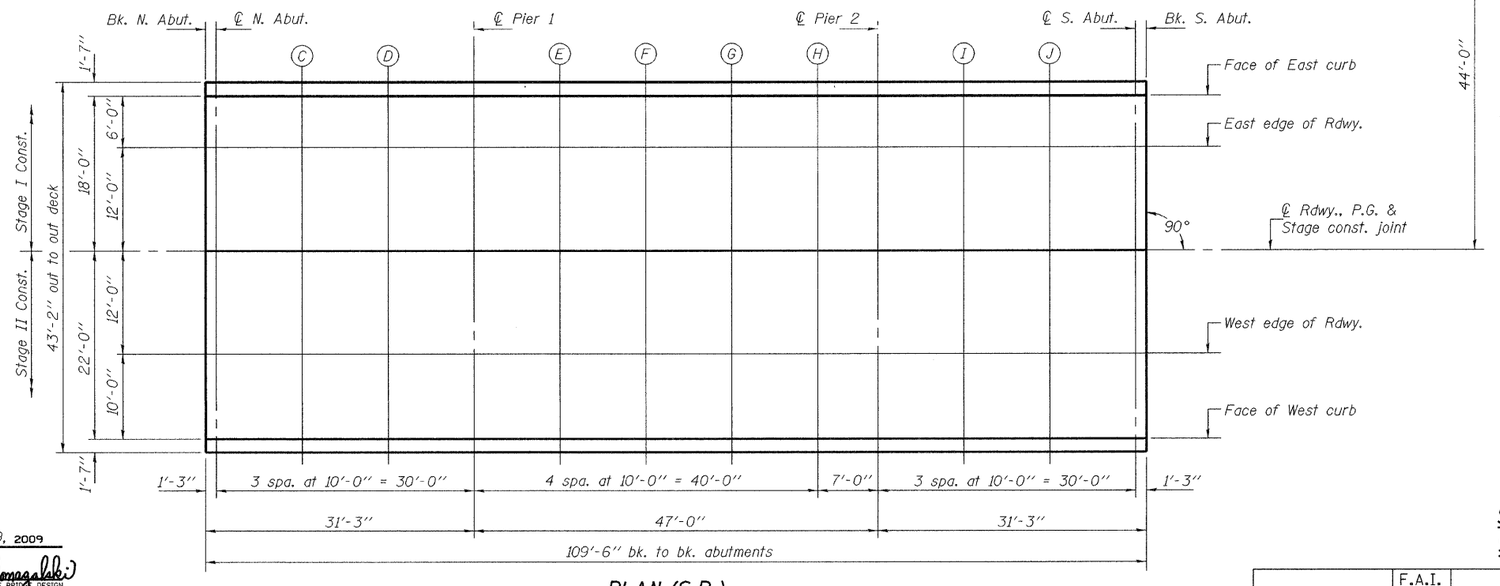
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN (N.B.)



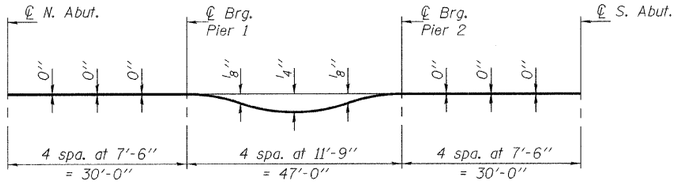
PLAN (S.B.)

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	41
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



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 below.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FACE OF EAST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	-18.00	745.33	745.33
C	142176.43	-18.00	745.52	745.52
D	142186.43	-18.00	745.70	745.70
CL Brg. Pier 1	142196.43	-18.00	745.89	745.89
E	142206.43	-18.00	746.07	746.09
F	142216.43	-18.00	746.26	746.28
G	142226.43	-18.00	746.44	746.46
H	142236.43	-18.00	746.63	746.64
CL Brg. Pier 2	142243.43	-18.00	746.76	746.76
I	142253.43	-18.00	746.95	746.95
J	142263.43	-18.00	747.13	747.13
CL S. Abut	142273.43	-18.00	747.32	747.32

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	-12.00	745.46	745.46
C	142176.43	-12.00	745.64	745.64
D	142186.43	-12.00	745.83	745.83
CL Brg. Pier 1	142196.43	-12.00	746.01	746.01
E	142206.43	-12.00	746.20	746.21
F	142216.43	-12.00	746.38	746.41
G	142226.43	-12.00	746.57	746.59
H	142236.43	-12.00	746.75	746.76
CL Brg. Pier 2	142243.43	-12.00	746.88	746.88
I	142253.43	-12.00	747.07	747.07
J	142263.43	-12.00	747.26	747.26
CL S. Abut	142273.43	-12.00	747.44	747.44

℄ ROADWAY, PROFILE GRADE, & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	0.00	745.64	745.64
C	142176.43	0.00	745.83	745.83
D	142186.43	0.00	746.01	746.01
CL Brg. Pier 1	142196.43	0.00	746.20	746.20
E	142206.43	0.00	746.39	746.40
F	142216.43	0.00	746.57	746.59
G	142226.43	0.00	746.76	746.78
H	142236.43	0.00	746.94	746.95
CL Brg. Pier 2	142243.43	0.00	747.07	747.07
I	142253.43	0.00	747.26	747.26
J	142263.43	0.00	747.44	747.44
CL S. Abut	142273.43	0.00	747.63	747.63

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	12.00	745.46	745.46
C	142176.43	12.00	745.64	745.64
D	142186.43	12.00	745.83	745.83
CL Brg. Pier 1	142196.43	12.00	746.01	746.01
E	142206.43	12.00	746.20	746.21
F	142216.43	12.00	746.38	746.41
G	142226.43	12.00	746.57	746.59
H	142236.43	12.00	746.75	746.76
CL Brg. Pier 2	142243.43	12.00	746.88	746.88
I	142253.43	12.00	747.07	747.07
J	142263.43	12.00	747.26	747.26
CL S. Abut	142273.43	12.00	747.44	747.44

FACE OF WEST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	22.00	745.25	745.25
C	142176.43	22.00	745.43	745.43
D	142186.43	22.00	745.62	745.62
CL Brg. Pier 1	142196.43	22.00	745.80	745.80
E	142206.43	22.00	745.99	746.00
F	142216.43	22.00	746.18	746.20
G	142226.43	22.00	746.36	746.38
H	142236.43	22.00	746.55	746.56
CL Brg. Pier 2	142243.43	22.00	746.68	746.68
I	142253.43	22.00	746.86	746.86
J	142263.43	22.00	747.05	747.05
CL S. Abut	142273.43	22.00	747.23	747.23

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

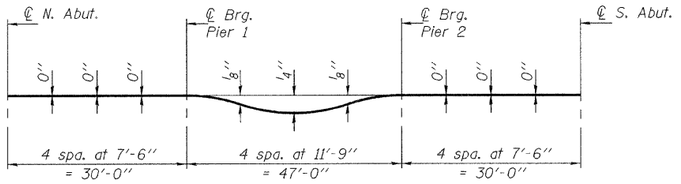
September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 6 30 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	42
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



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 below.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FACE OF EAST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	-22.00	745.18	745.18
C	142176.43	-22.00	745.37	745.37
D	142186.43	-22.00	745.55	745.55
CL Brg. Pier 1	142196.43	-22.00	745.74	745.74
E	142206.43	-22.00	745.93	745.94
F	142216.43	-22.00	746.12	746.14
G	142226.43	-22.00	746.31	746.33
H	142236.43	-22.00	746.49	746.50
CL Brg. Pier 2	142243.43	-22.00	746.63	746.63
I	142253.43	-22.00	746.82	746.82
J	142263.43	-22.00	747.00	747.01
CL S. Abut	142273.43	-22.00	747.19	747.19

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	-12.00	745.38	745.38
C	142176.43	-12.00	745.57	745.57
D	142186.43	-12.00	745.76	745.76
CL Brg. Pier 1	142196.43	-12.00	745.95	745.95
E	142206.43	-12.00	746.14	746.15
F	142216.43	-12.00	746.33	746.35
G	142226.43	-12.00	746.51	746.53
H	142236.43	-12.00	746.70	746.71
CL Brg. Pier 2	142243.43	-12.00	746.83	746.83
I	142253.43	-12.00	747.02	747.02
J	142263.43	-12.00	747.21	747.21
CL S. Abut	142273.43	-12.00	747.40	747.40

℄ ROADWAY, PROFILE GRADE, & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	0.00	745.57	745.57
C	142176.43	0.00	745.76	745.76
D	142186.43	0.00	745.95	745.95
CL Brg. Pier 1	142196.43	0.00	746.14	746.14
E	142206.43	0.00	746.33	746.34
F	142216.43	0.00	746.51	746.54
G	142226.43	0.00	746.70	746.72
H	142236.43	0.00	746.89	746.90
CL Brg. Pier 2	142243.43	0.00	747.02	747.02
I	142253.43	0.00	747.21	747.21
J	142263.43	0.00	747.40	747.40
CL S. Abut	142273.43	0.00	747.59	747.59

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	12.00	745.38	745.38
C	142176.43	12.00	745.57	745.57
D	142186.43	12.00	745.76	745.76
CL Brg. Pier 1	142196.43	12.00	745.95	745.95
E	142206.43	12.00	746.14	746.15
F	142216.43	12.00	746.33	746.35
G	142226.43	12.00	746.51	746.53
H	142236.43	12.00	746.70	746.71
CL Brg. Pier 2	142243.43	12.00	746.83	746.83
I	142253.43	12.00	747.02	747.02
J	142263.43	12.00	747.21	747.21
CL S. Abut	142273.43	12.00	747.40	747.40

FACE OF WEST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL N. Abut	142166.43	18.00	745.26	745.26
C	142176.43	18.00	745.45	745.45
D	142186.43	18.00	745.64	745.64
CL Brg. Pier 1	142196.43	18.00	745.82	745.82
E	142206.43	18.00	746.01	746.03
F	142216.43	18.00	746.20	746.22
G	142226.43	18.00	746.39	746.41
H	142236.43	18.00	746.58	746.59
CL Brg. Pier 2	142243.43	18.00	746.71	746.71
I	142253.43	18.00	746.90	746.90
J	142263.43	18.00	747.09	747.09
CL S. Abut	142273.43	18.00	747.27	747.27

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Rafael E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	43
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST CURB LINE

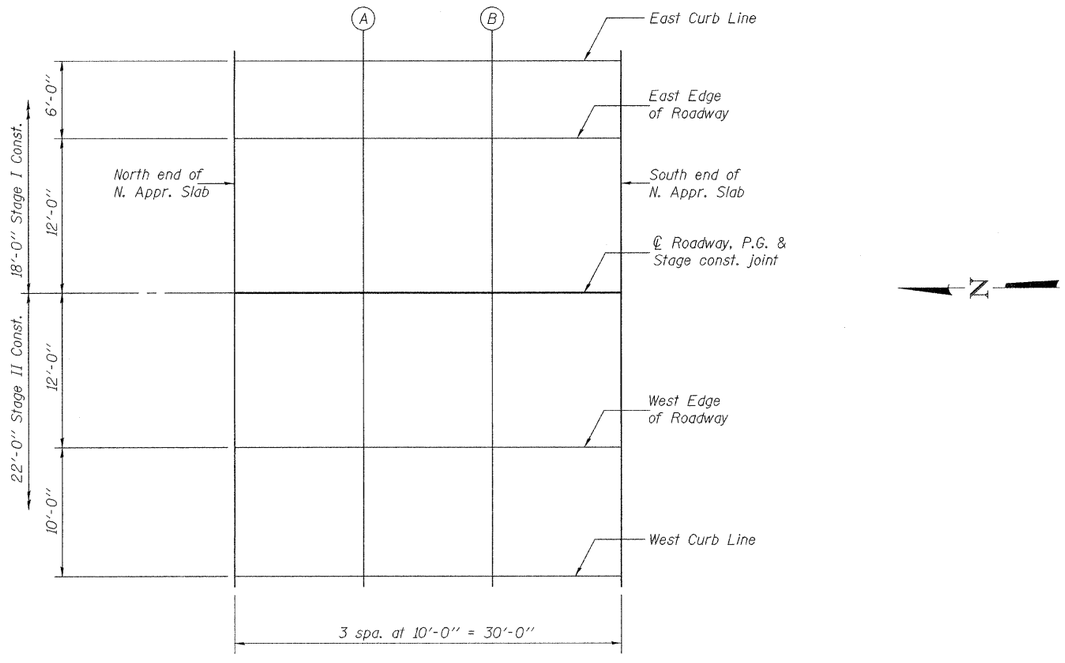
Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	-18.00	744.76
A	142145.68	-18.00	744.95
B	142155.68	-18.00	745.13
South end of N. Appr. Slab	142165.68	-18.00	745.32

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	-12.00	744.88
A	142145.68	-12.00	745.07
B	142155.68	-12.00	745.26
South end of N. Appr. Slab	142165.68	-12.00	745.44

℄ ROADWAY, P.G. & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	0.00	745.07
A	142145.68	0.00	745.26
B	142155.68	0.00	745.44
South end of N. Appr. Slab	142165.68	0.00	745.63



PLAN

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	12.00	744.88
A	142145.68	12.00	745.07
B	142155.68	12.00	745.26
South end of N. Appr. Slab	142165.68	12.00	745.44

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	22.00	744.68
A	142145.68	22.00	744.86
B	142155.68	22.00	745.05
South end of N. Appr. Slab	142165.68	22.00	745.23

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF NORTH APPROACH SLAB ELEVATIONS (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 8 30 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	44
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST CURB LINE

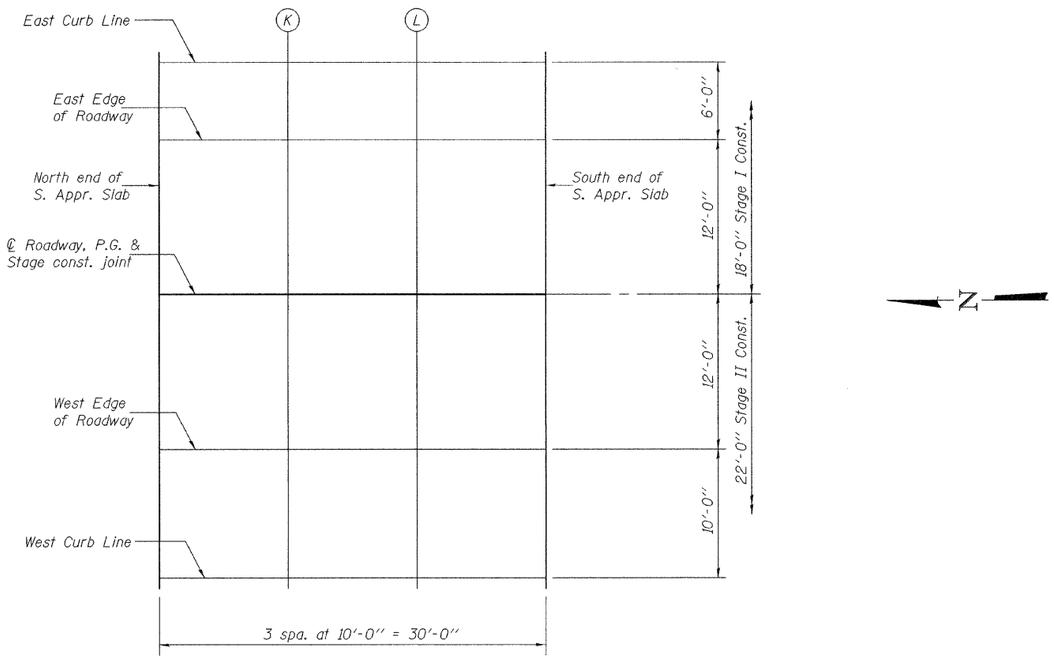
Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	-18.00	747.33
K	142284.18	-18.00	747.52
L	142294.18	-18.00	747.70
South end of S. Appr. Slab	142304.18	-18.00	747.89

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	-12.00	747.46
K	142284.18	-12.00	747.64
L	142294.18	-12.00	747.83
South end of S. Appr. Slab	142304.18	-12.00	748.01

℄ ROADWAY, P.G. & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	0.00	747.64
K	142284.18	0.00	747.83
L	142294.18	0.00	748.01
South end of S. Appr. Slab	142304.18	0.00	748.20



PLAN

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	12.00	747.46
K	142284.18	12.00	747.64
L	142294.18	12.00	747.83
South end of S. Appr. Slab	142304.18	12.00	748.01

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	22.00	747.25
K	142284.18	22.00	747.43
L	142294.18	22.00	747.62
South end of S. Appr. Slab	142304.18	22.00	747.80

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SOUTH APPROACH SLAB ELEVATIONS (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 9 30 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	45
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST CURB LINE

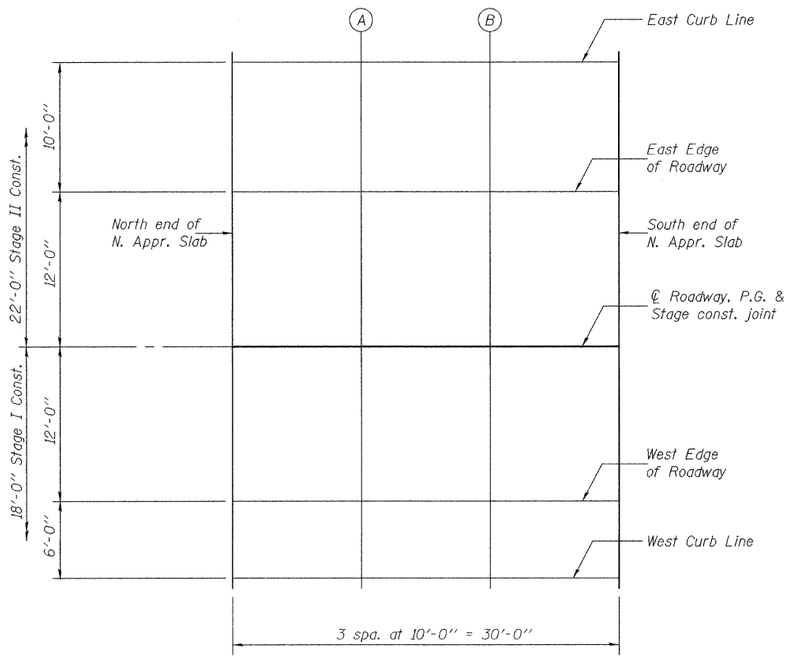
Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	-22.00	744.60
A	142145.68	-22.00	744.79
B	142155.68	-22.00	744.97
South end of N. Appr. Slab	142165.68	-22.00	745.16

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	-12.00	744.81
A	142145.68	-12.00	744.99
B	142155.68	-12.00	745.18
South end of N. Appr. Slab	142165.68	-12.00	745.37

℄ ROADWAY, P.G. & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	0.00	744.99
A	142145.68	0.00	745.18
B	142155.68	0.00	745.37
South end of N. Appr. Slab	142165.68	0.00	745.56



PLAN

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	12.00	744.81
A	142145.68	12.00	744.99
B	142155.68	12.00	745.18
South end of N. Appr. Slab	142165.68	12.00	745.37

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
North end of N. Appr. Slab	142135.68	18.00	744.68
A	142145.68	18.00	744.87
B	142155.68	18.00	745.06
South end of N. Appr. Slab	142165.68	18.00	745.25

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF NORTH APPROACH SLAB ELEVATIONS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	46
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST CURB LINE

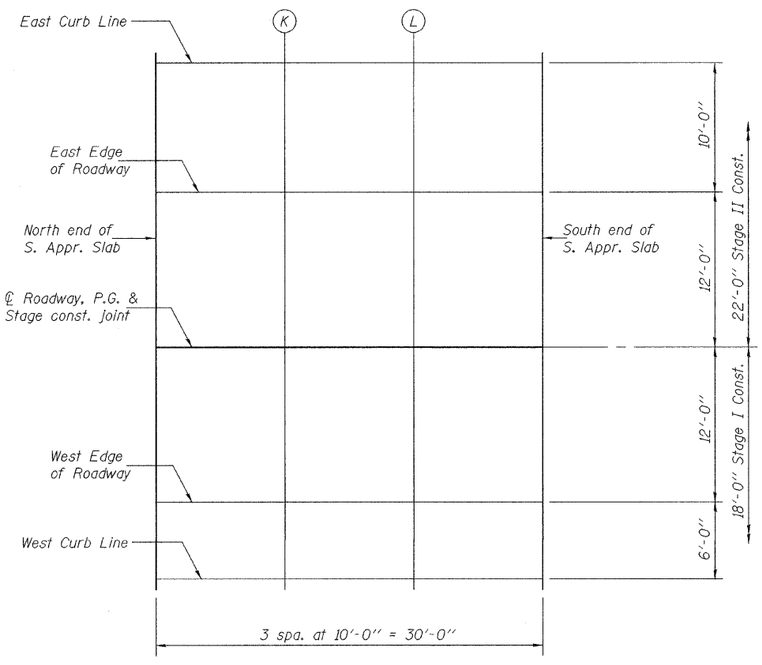
Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	-22.00	747.21
K	142284.18	-22.00	747.39
L	142294.18	-22.00	747.58
South end of S. Appr. Slab	142304.18	-22.00	747.77

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	-12.00	747.41
K	142284.18	-12.00	747.60
L	142294.18	-12.00	747.79
South end of S. Appr. Slab	142304.18	-12.00	747.98

℄ ROADWAY, P.G. & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	0.00	747.60
K	142284.18	0.00	747.79
L	142294.18	0.00	747.98
South end of S. Appr. Slab	142304.18	0.00	748.17



PLAN

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	12.00	747.41
K	142284.18	12.00	747.60
L	142294.18	12.00	747.79
South end of S. Appr. Slab	142304.18	12.00	747.98

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
North end of S. Appr. Slab	142274.18	18.00	747.29
K	142284.18	18.00	747.48
L	142294.18	18.00	747.67
South end of S. Appr. Slab	142304.18	18.00	747.85

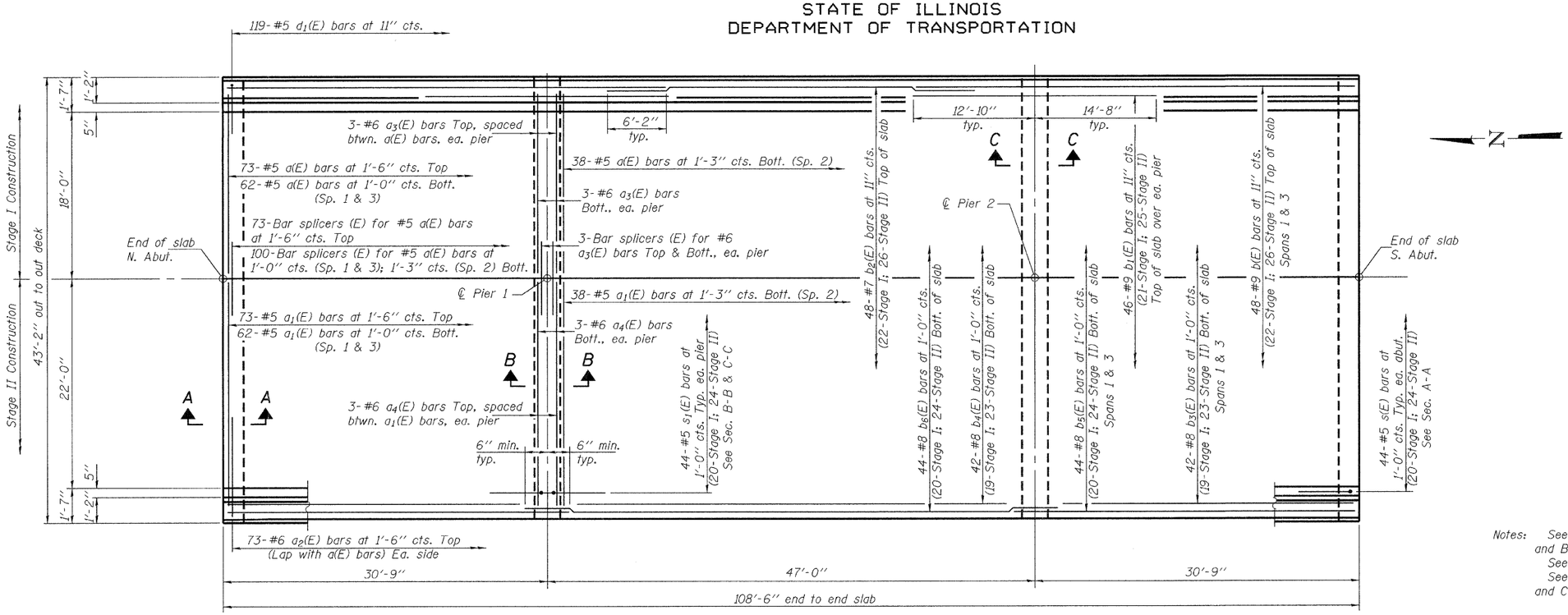
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SOUTH APPROACH SLAB ELEVATIONS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	47
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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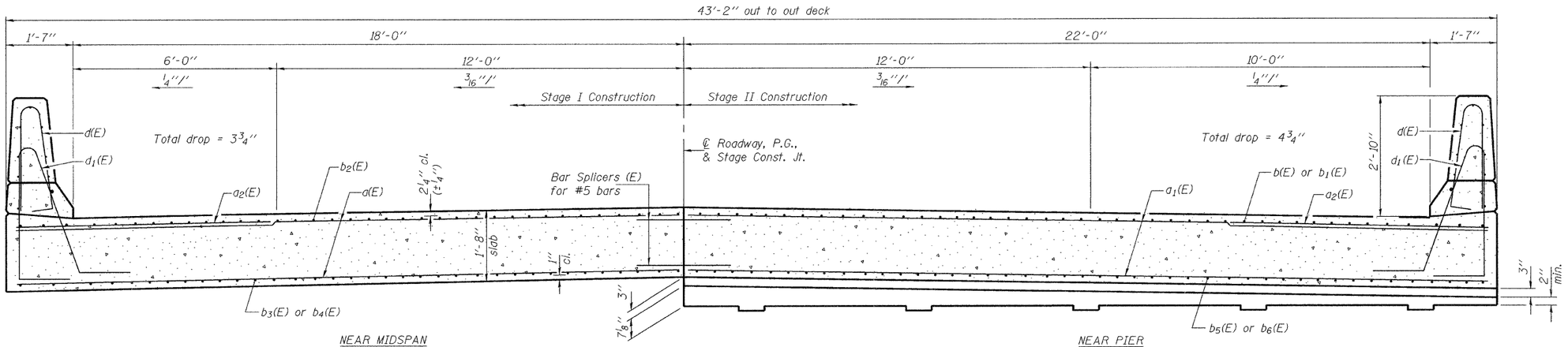


CROSS SECTION
(Looking South)

Notes: See sheet 14 of 30 for superstructure details and Bill of Material.
See sheet 14 of 30 for parapet reinforcement.
See sheet 14 of 30 for Sections A-A, B-B and C-C.

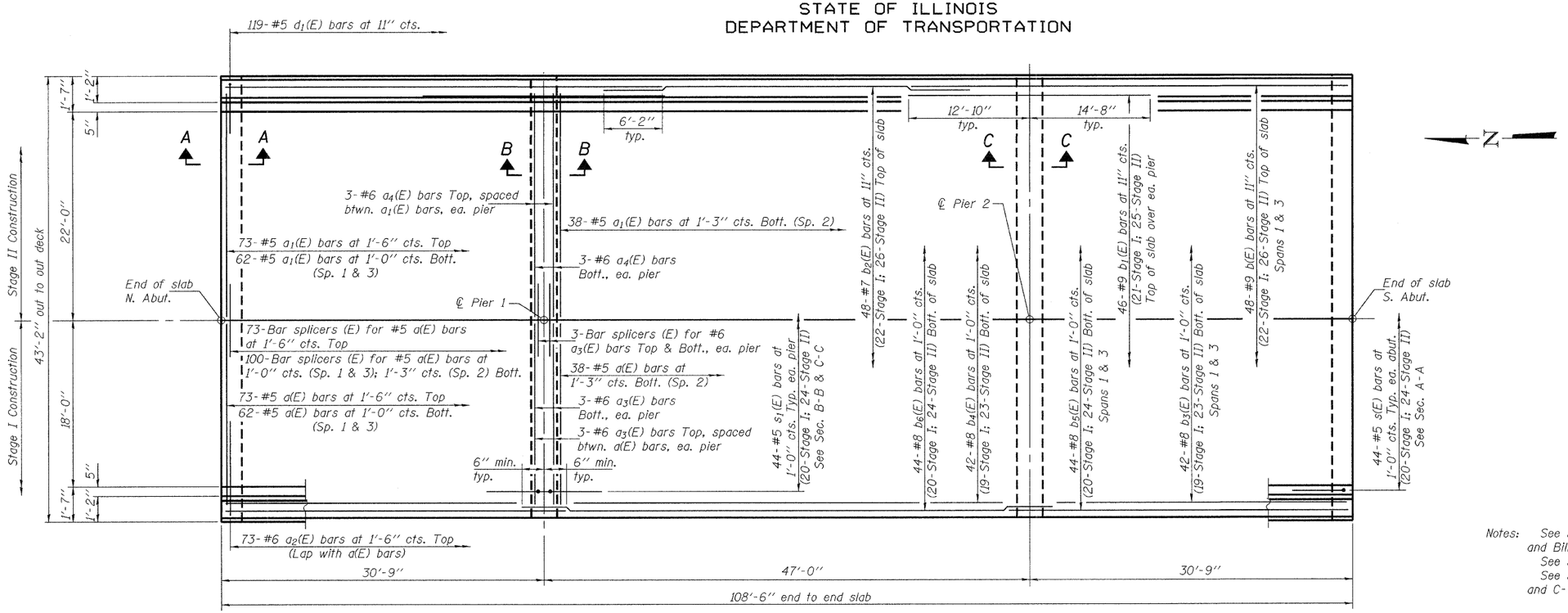
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	48
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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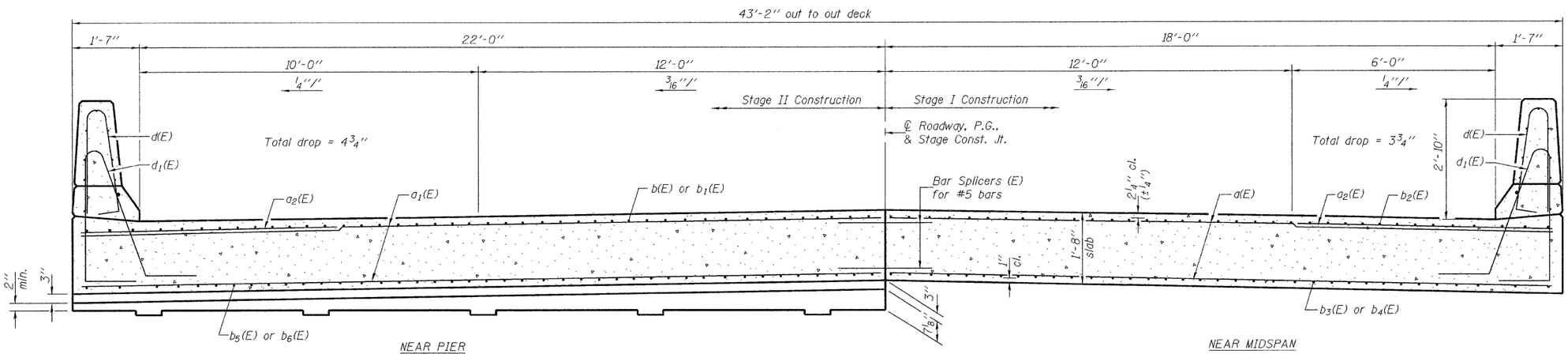


CROSS SECTION
(Looking South)

Notes: See sheet 14 of 30 for superstructure details and Bill of Material.
See sheet 14 of 30 for parapet reinforcement.
See sheet 14 of 30 for Sections A-A, B-B and C-C.

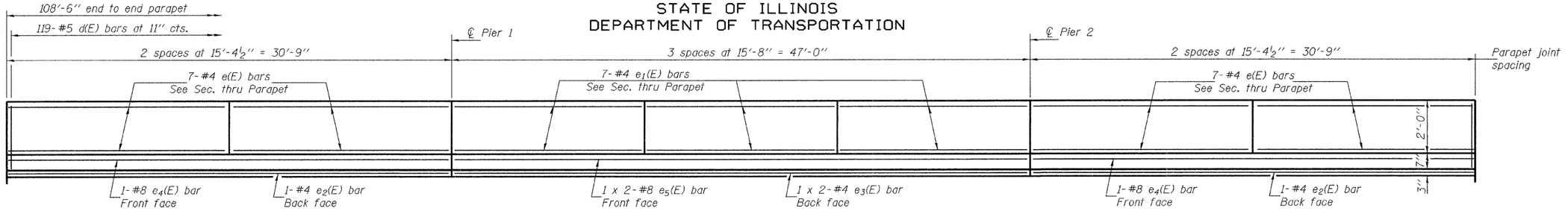
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

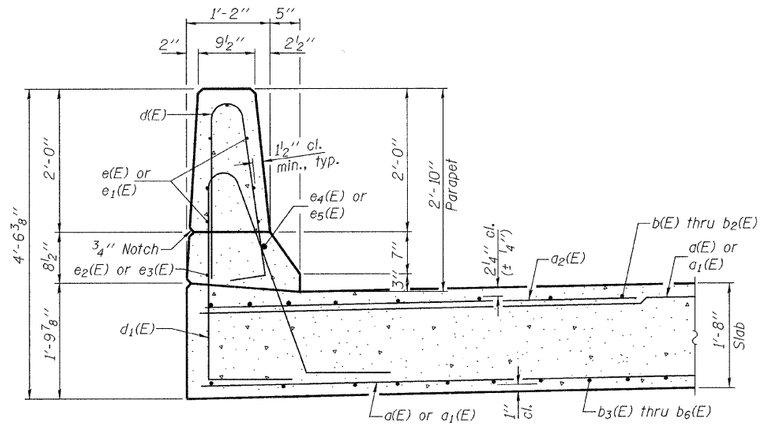
SHEET NO. 13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	49
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

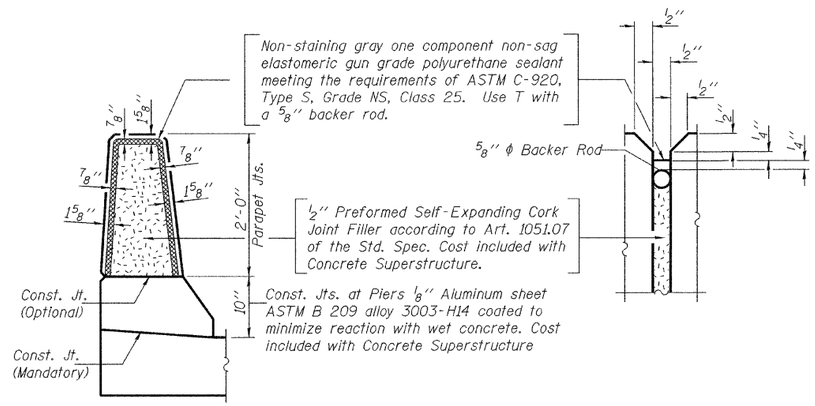


INSIDE ELEVATION OF PARAPET

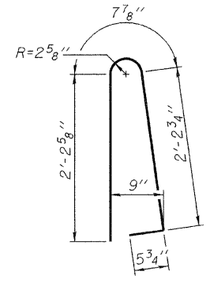
(East parapets - Looking east; West parapets similar)



SECTION THRU PARAPET



PARAPET JOINT DETAILS



BAR d(E)

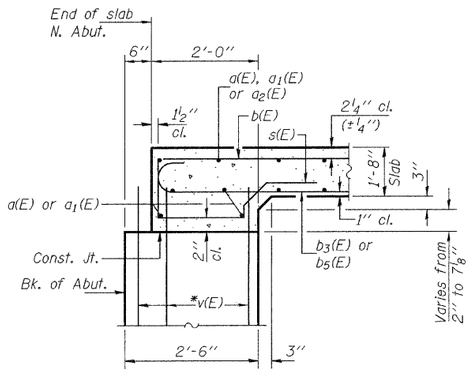
MIN. BAR LAPS

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"

TWO SUPERSTRUCTURE BILL OF MATERIAL (S.B. & N.B.)

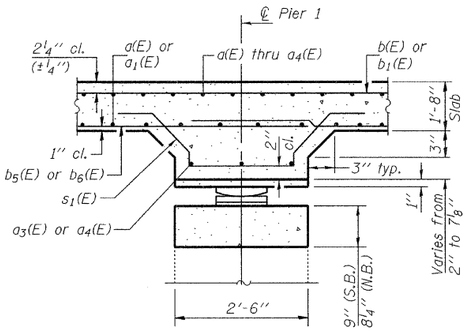
Bar	No.	Size	Length	Shape
a(E)	354	#5	19'-3"	——
a1(E)	354	#5	23'-3"	——
a2(E)	292	#6	6'-0"	——
a3(E)	24	#6	19'-3"	——
a4(E)	24	#6	23'-3"	——
b(E)	192	#9	45'-8"	——
b1(E)	184	#9	27'-6"	——
b2(E)	96	#7	30'-3"	——
b3(E)	168	#8	28'-7"	⊃
b4(E)	84	#8	36'-3"	——
b5(E)	176	#8	32'-6"	⊃
b6(E)	88	#8	48'-0"	——
d(E)	476	#5	5'-7"	∣
d1(E)	476	#5	9'-0"	∟
e(E)	112	#4	15'-1"	——
e1(E)	84	#4	15'-5"	——
e2(E)	8	#4	30'-6"	——
e3(E)	8	#4	24'-1"	——
e4(E)	8	#8	30'-6"	——
e5(E)	8	#8	25'-1"	——
s(E)	176	#5	5'-8"	⌐
s1(E)	176	#5	6'-8"	⌐⌐
Reinforcement Bars, Epoxy Coated		Pound	133290	
Concrete Superstructure		Cu. Yds.	649.4	

Bars indicated thus 1 x 4-#8 etc. indicates 1 line of bars with 4 lengths per line.

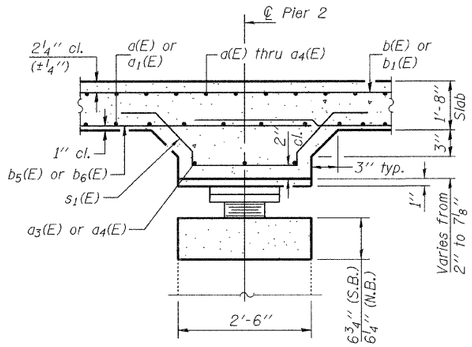


SECTION A-A

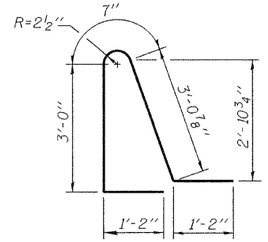
*v(E) bars billed with abutments.



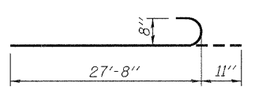
SECTION B-B



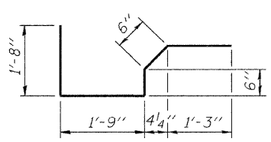
SECTION C-C



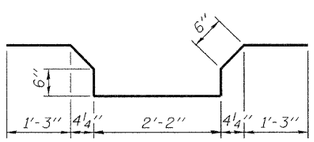
BAR d1(E)



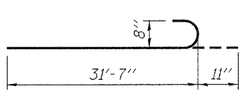
BAR b3(E)



BAR s(E)



BAR s1(E)



BAR b5(E)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 14	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	50
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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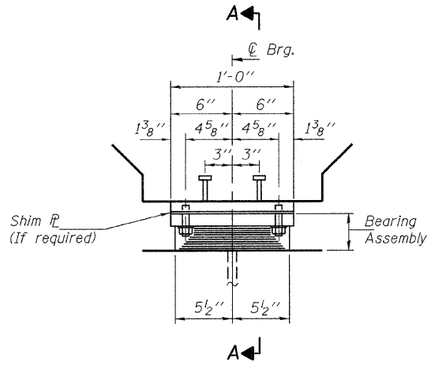
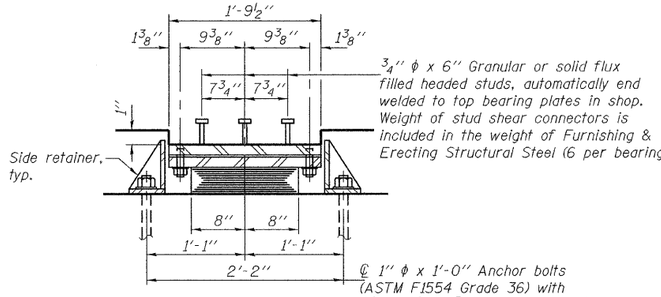
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

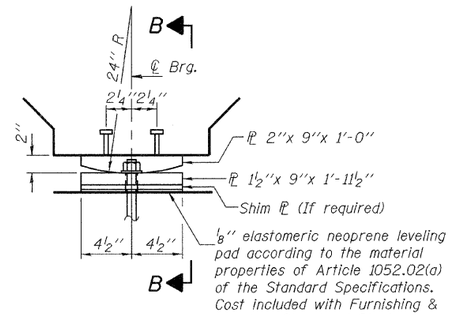


ELEVATION AT PIER 2

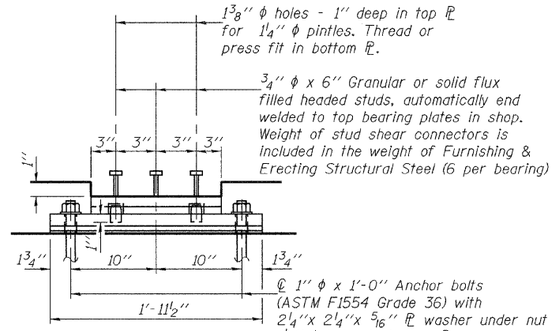


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

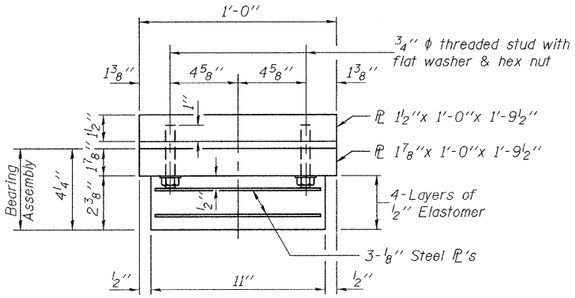


ELEVATION AT PIER 1



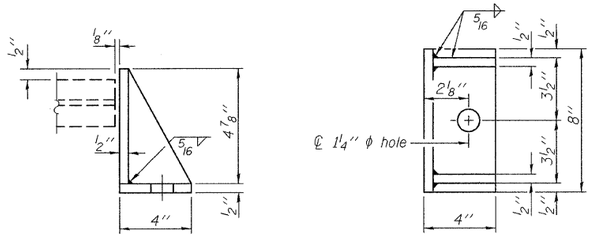
SECTION B-B

FIXED BEARING
(18 Required)



BEARING ASSEMBLY

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



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

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 before the supported slab is in place.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before the slab is in place.

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

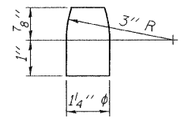
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 36.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

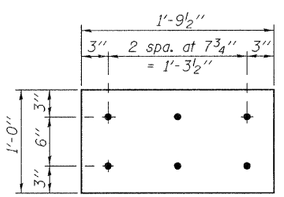
All embedded and separate bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).

H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.

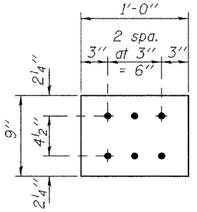
All top bearing plates for elastomeric bearings, top fixed bearing plates, elastomeric bearing assembly, anchor bolts, side retainers, pintles and bottom bearing plates for fixed bearings shall be formed and installed before the deck is poured. Forms shall be removed after the construction of the deck is complete.



PINTLE



SHEAR STUD LAYOUT
(At Pier 2)



SHEAR STUD LAYOUT
(At Pier 1)

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18
Anchor Bolts 1" ϕ	Each	72

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BEARING DETAILS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	51
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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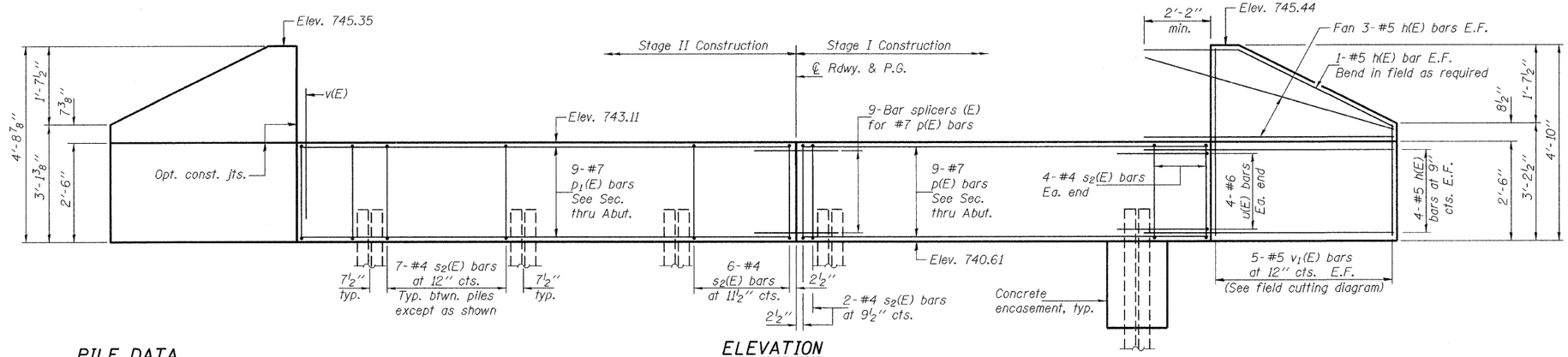
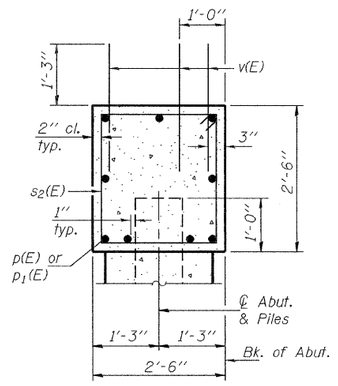
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



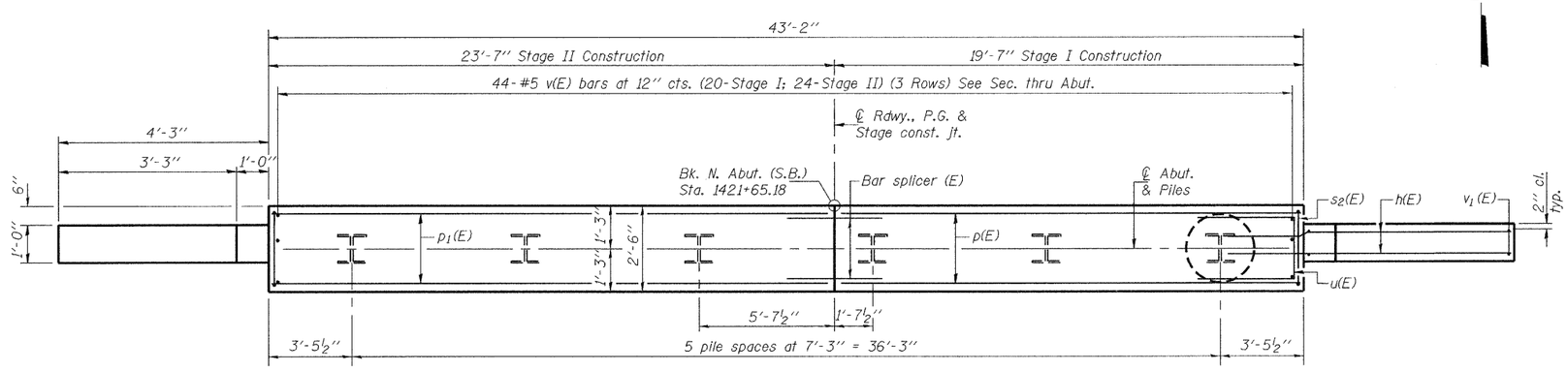
ELEVATION
(Looking north)



SEC. THRU ABUT.

PILE DATA

Type: Steel HP10x42
Nominal Required Bearing: 236 Kips
Factored Resistance Available: 118 Kips
Est. Length: 49'
No. Production Piles: 6
No. Test Piles: 0



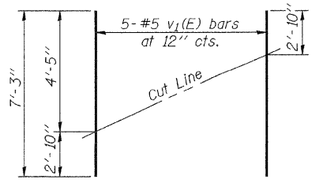
PLAN

N

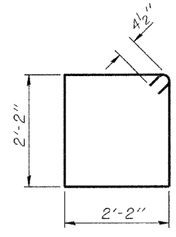
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	6'-8"	
p(E)	9	#7	19'-3"	
p1(E)	9	#7	23'-3"	
s2(E)	44	#4	9'-5"	
u(E)	8	#6	8'-1"	
v(E)	132	#5	2'-10"	
v1(E)	10	#5	7'-3"	
Structure Excavation		Cu. Yd.	42.5	
Concrete Structures		Cu. Yd.	11.3	
Reinforcement Bars, Epoxy Coated		Pound	1840	
Furnishing Steel Piles HP10x42		Foot	294	
Driving Piles		Foot	294	
Concrete Encasement		Cu. Yd.	2.1	

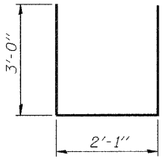
For details of bar splicers, see sheet 26 of 30.
For details of piles and concrete encasement, see sheet 27 of 30.



FIELD CUTTING DIAGRAM
Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR $s_2(E)$



BAR u(E)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

NORTH ABUTMENT (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	52
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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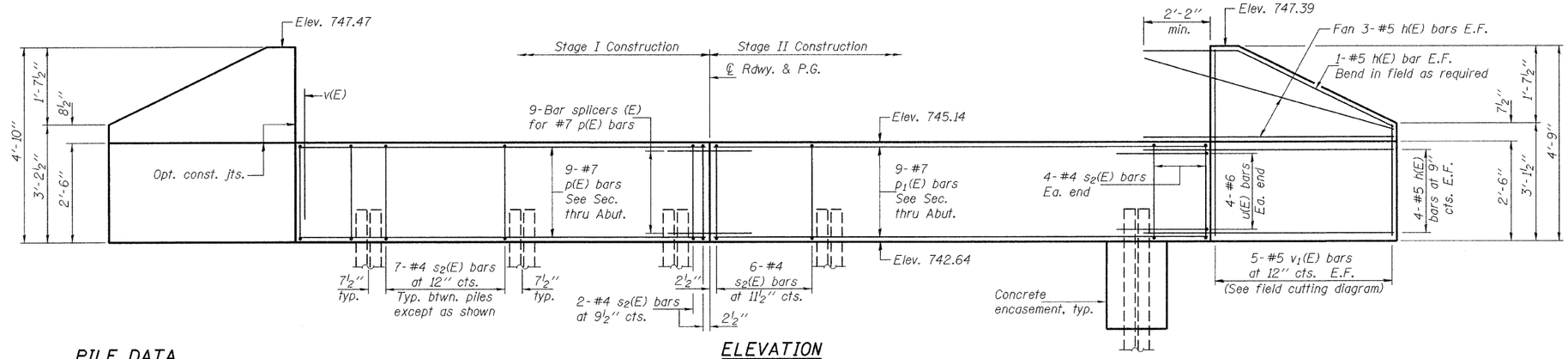
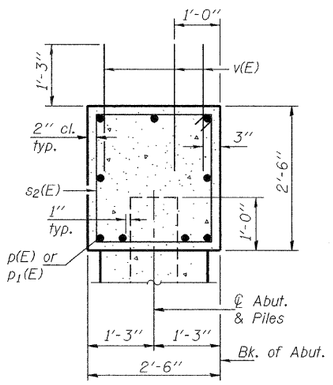
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



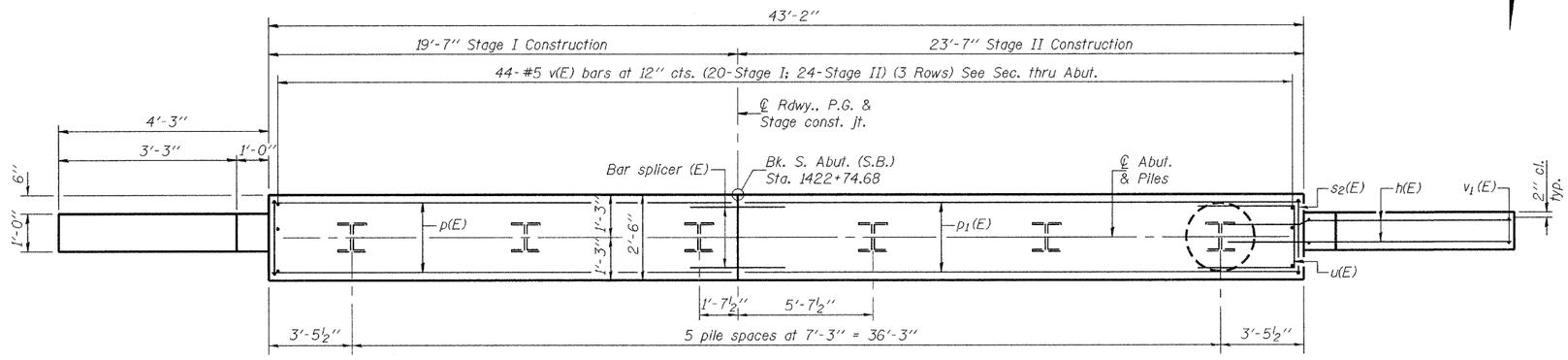
ELEVATION
(Looking south)



SEC. THRU ABUT.

PILE DATA

Type: Steel HP10x42
Nominal Required Bearing: 236 Kips
Factored Resistance Available: 118 Kips
Est. Length: 51'
No. Production Piles: 6
No. Test Piles: 0

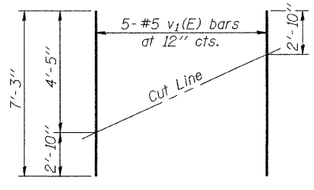


PLAN

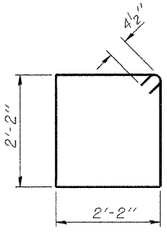
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	6'-8"	
p(E)	9	#7	19'-3"	
p1(E)	9	#7	23'-3"	
s2(E)	44	#4	9'-5"	
u(E)	8	#6	8'-1"	
v(E)	132	#5	2'-10"	
v1(E)	10	#5	7'-3"	
Structure Excavation		Cu. Yd.	42.5	
Concrete Structures		Cu. Yd.	11.3	
Reinforcement Bars, Epoxy Coated		Pound	1840	
Furnishing Steel Piles HP10x42		Foot	306	
Driving Piles		Foot	306	
Concrete Encasement		Cu. Yd.	2.1	

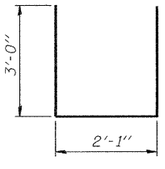
For details of bar splicers, see sheet 26 of 30.
For details of piles and concrete encasement, see sheet 27 of 30.



FIELD CUTTING DIAGRAM
Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR $s_2(E)$



BAR u(E)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SOUTH ABUTMENT (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 17	74	37-4HB	HENRY	148	53
30 SHEETS			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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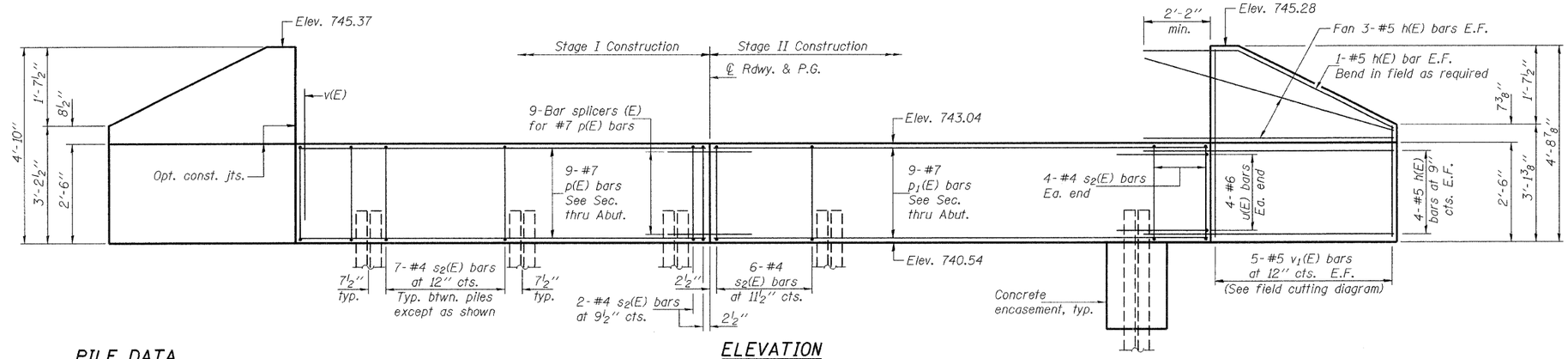
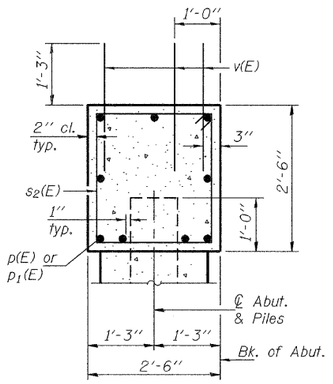
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



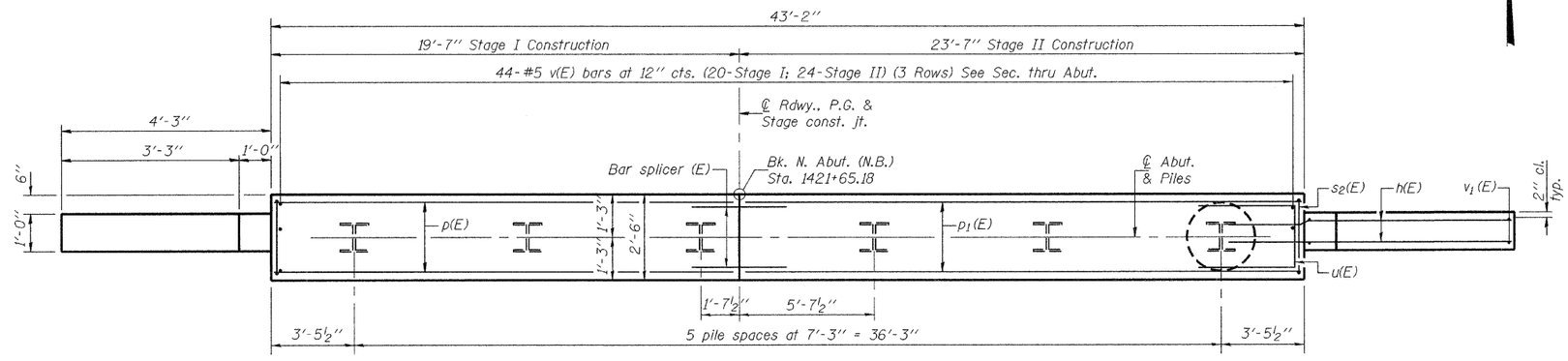
ELEVATION
(Looking north)



SEC. THRU ABUT.

PILE DATA

Type: Steel HP10x42
Nominal Required Bearing: 236 Kips
Factored Resistance Available: 118 Kips
Est. Length: 49'
No. Production Piles: 6
No. Test Piles: 0

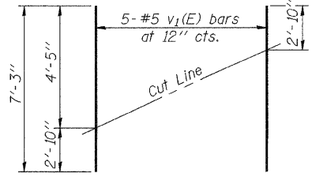


PLAN

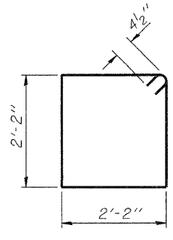
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	6'-8"	
p(E)	9	#7	19'-3"	
p1(E)	9	#7	23'-3"	
s2(E)	44	#4	9'-5"	
u(E)	8	#6	8'-1"	
v(E)	132	#5	2'-10"	
v1(E)	10	#5	7'-3"	
Structure Excavation		Cu. Yd.	42.5	
Concrete Structures		Cu. Yd.	11.3	
Reinforcement Bars, Epoxy Coated		Pound	1840	
Furnishing Steel Piles HP10x42		Foot	294	
Driving Piles		Foot	294	
Concrete Encasement		Cu. Yd.	2.1	

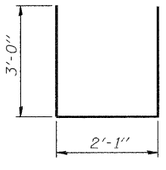
For details of bar splicers, see sheet 26 of 30.
For details of piles and concrete encasement, see sheet 27 of 30.



FIELD CUTTING DIAGRAM
Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

NORTH ABUTMENT (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 18	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	54
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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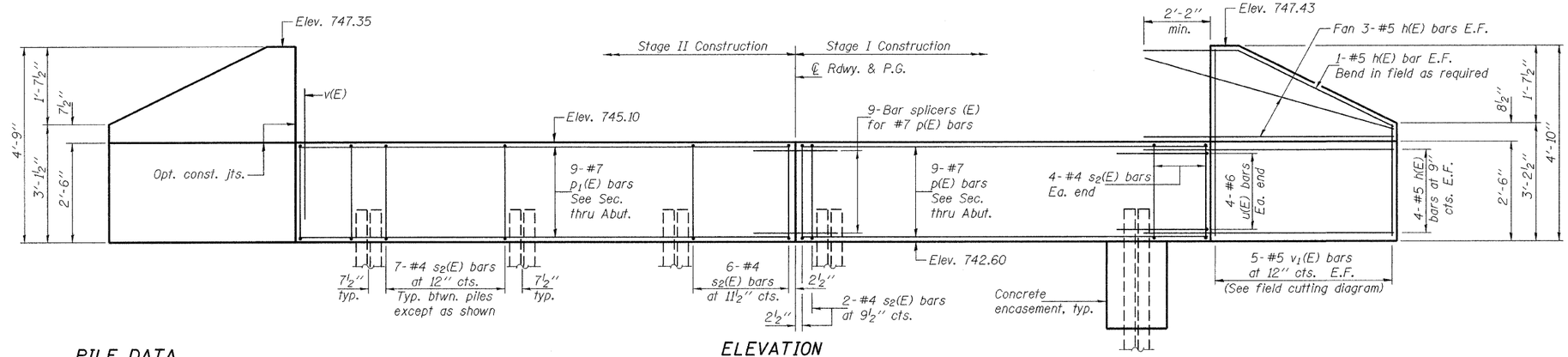
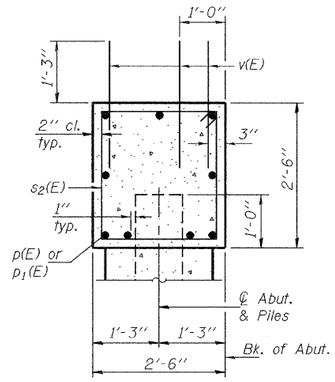
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



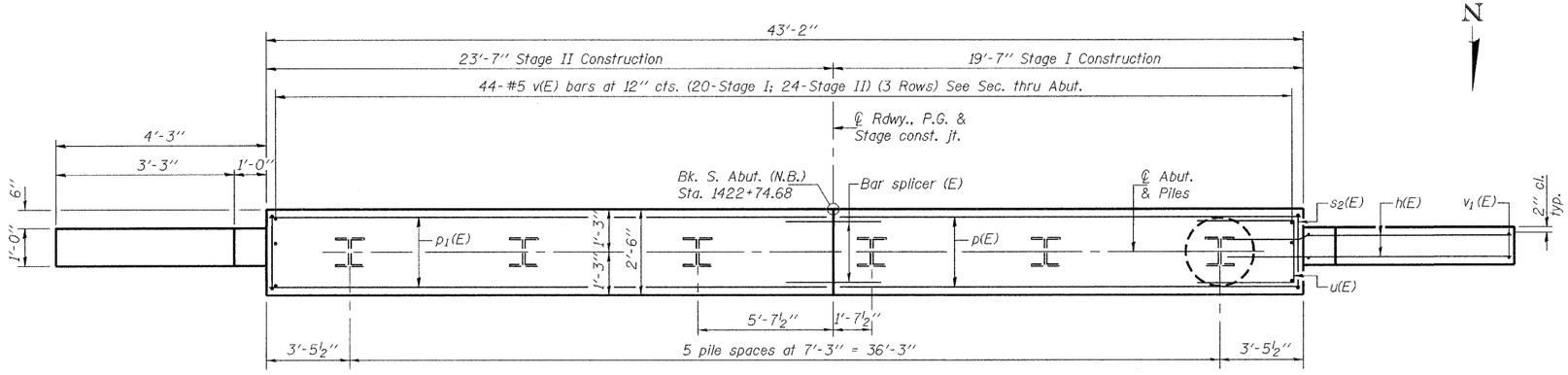
ELEVATION
(Looking south)



SEC. THRU ABUT.

PILE DATA

Type: Steel HP10x42
Nominal Required Bearing: 236 Kips
Factored Resistance Available: 118 Kips
Est. Length: 51'
No. Production Piles: 6
No. Test Piles: 0



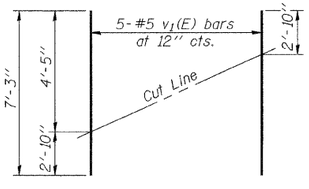
PLAN

N

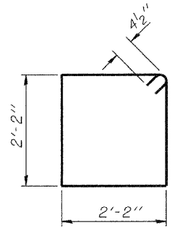
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	6'-8"	——
p(E)	9	#7	19'-3"	——
p1(E)	9	#7	23'-3"	——
s2(E)	44	#4	9'-5"	⌐
u(E)	8	#6	8'-1"	⊐
v(E)	132	#5	2'-10"	——
v1(E)	10	#5	7'-3"	——
Structure Excavation		Cu. Yd.	42.5	
Concrete Structures		Cu. Yd.	11.3	
Reinforcement Bars, Epoxy Coated		Pound	1840	
Furnishing Steel Piles HP10x42		Foot	306	
Driving Piles		Foot	306	
Concrete Encasement		Cu. Yd.	2.1	

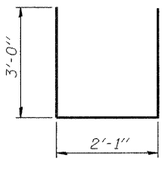
For details of bar splicers, see sheet 26 of 30.
For details of piles and concrete encasement, see sheet 27 of 30.



FIELD CUTTING DIAGRAM
Order $v_1(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

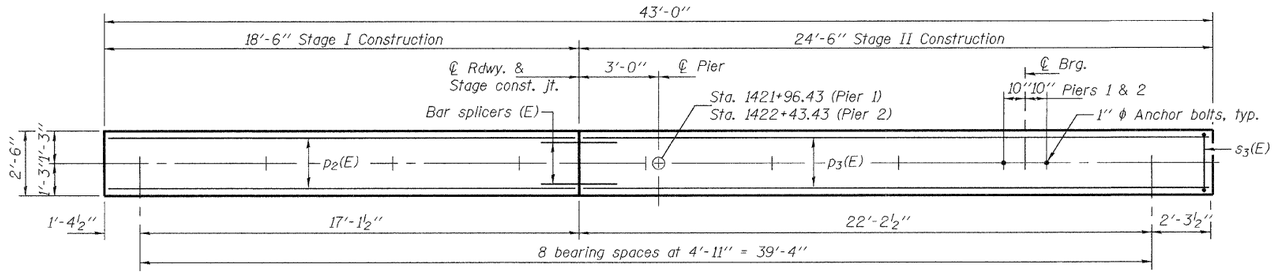
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

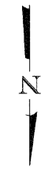
SOUTH ABUTMENT (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

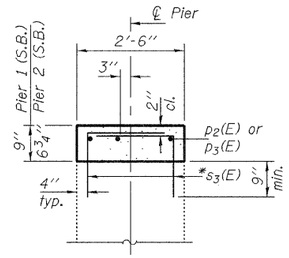
SHEET NO. 19	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	55
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

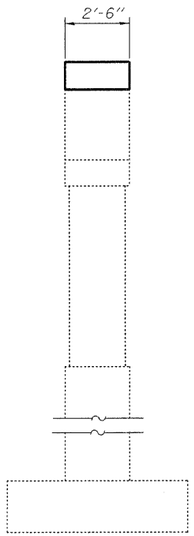


TOP PLAN

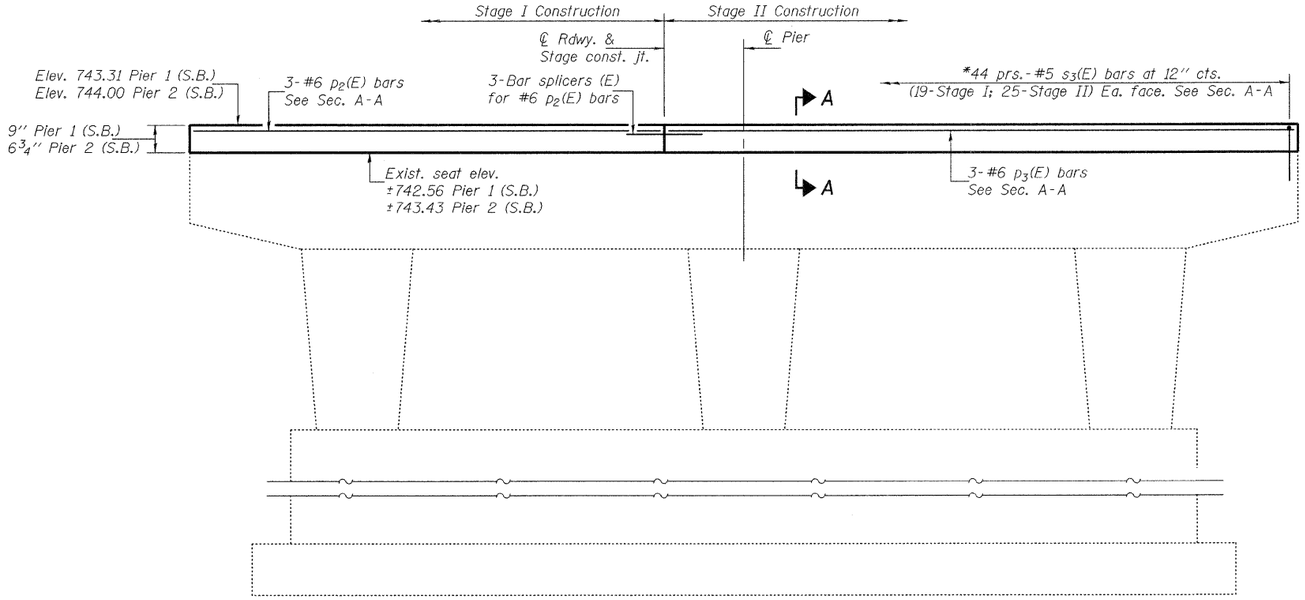




SECTION A-A

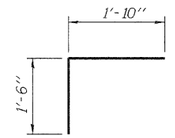


END VIEW

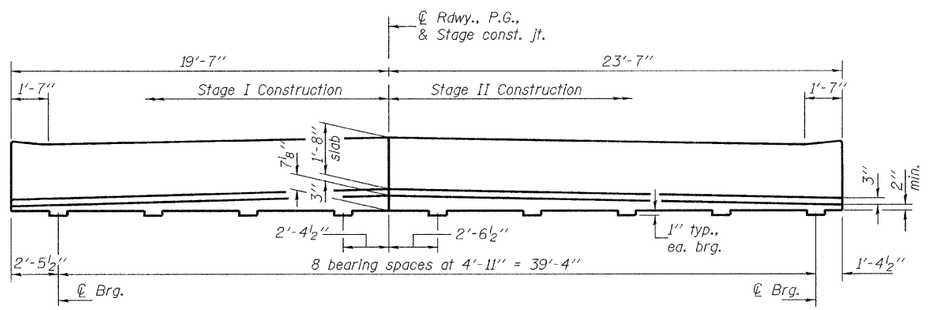


ELEVATION
(Looking south)

*Epoxy grout $s_3(E)$ bars in 9" min. drilled holes according to section 584 of the Std. Spec's. Cost included with Reinforcement Bars, Epoxy Coated. All grouted bars shall have 4" cl. to the edge of existing concrete.



BAR $s_3(E)$



CROSS SECTION
(S.B. Lane - Looking south)

BILL OF MATERIAL
FOR PIERS 1 & 2 (S.B.)

Bar	No.	Size	Length	Shape
$p_2(E)$	6	#6	18'-2"	——
$p_3(E)$	6	#6	24'-2"	——
$s_3(E)$	88	#5	3'-4"	⌐
Concrete Structures			Cu. Yd.	5.1
Reinforcement Bars, Epoxy Coated			Pound	690

For details of bar splicers, see sheet 26 of 30.

DESIGNED	Nicholas R. Barnett	
CHECKED	Michael D. Rolape	
DRAWN	h.t. duong	
CHECKED	NRB/MDR/GRA	

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PIERS (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 20	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	56
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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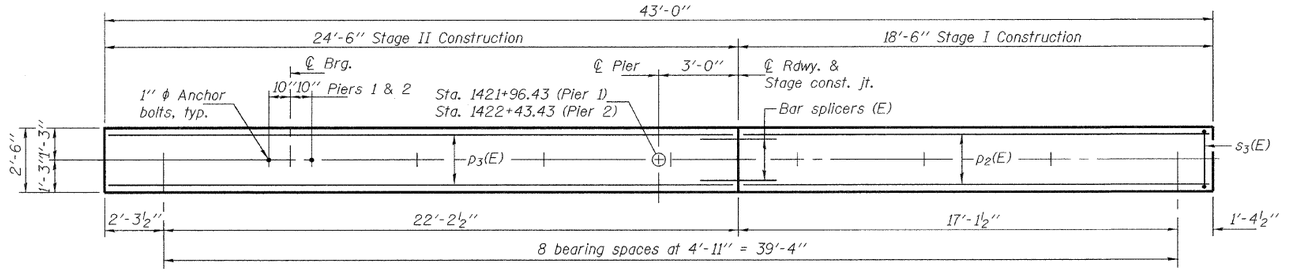
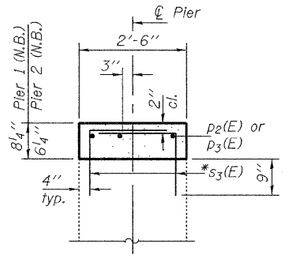
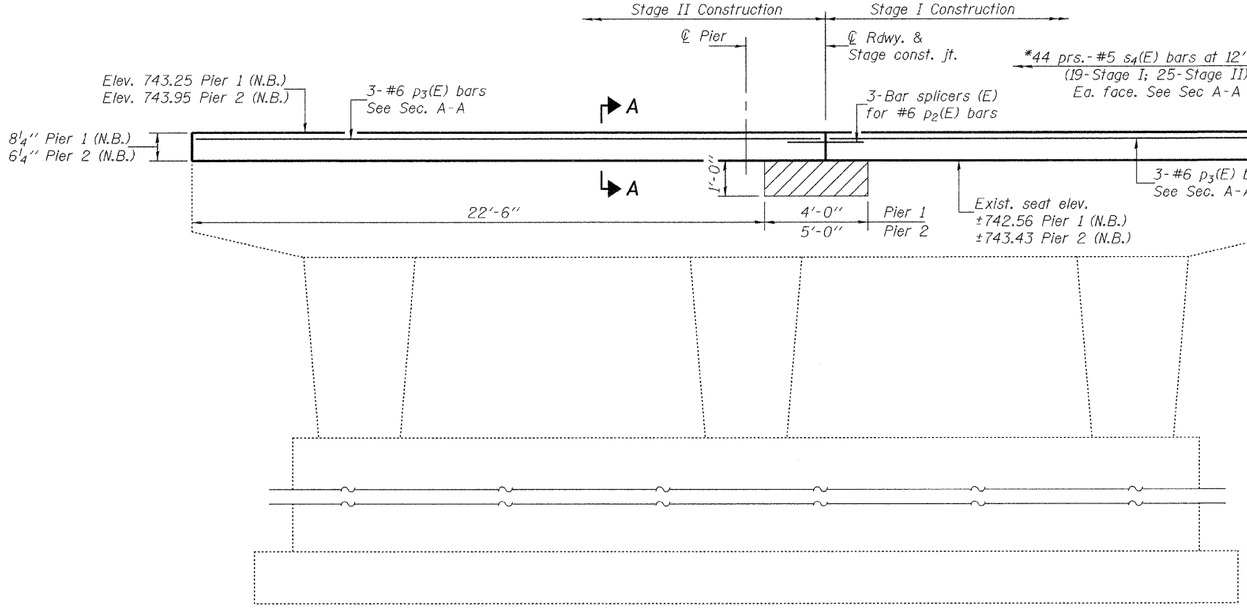
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN



SECTION A-A



END VIEW

ELEVATION
(Looking south)

*Epoxy grout $s_3(E)$ bars in 9" min. drilled holes according to section 584 of the Std. Spec's. Cost included with Reinforcement Bars, Epoxy Coated. All grouted bars shall have 4" cl. to the edge of existing concrete.

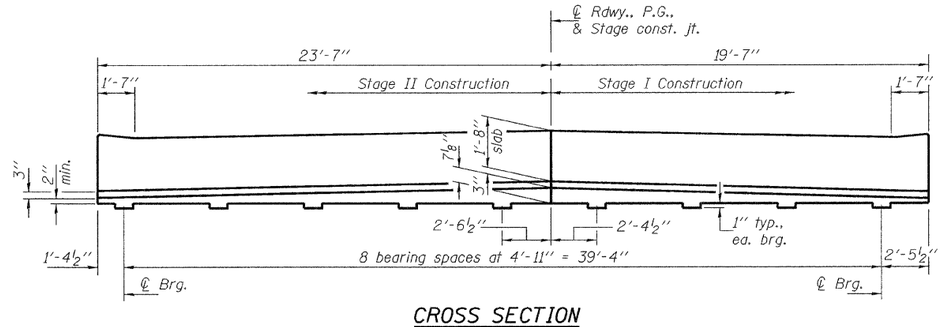
BAR $s_3(E)$

BILL OF MATERIAL
FOR PIERS 1 & 2 (N.B.)

Bar	No.	Size	Length	Shape
$p_2(E)$	6	#6	18'-2"	——
$p_3(E)$	6	#6	24'-2"	——
$s_3(E)$	88	#5	3'-4"	⌐
Concrete Structures			Cu. Yd.	4.6
Reinforcement Bars, Epoxy Coated			Pound	690
Structural Repair of Concrete (Depth greater than 5")			Sq. Ft.	9

For details of bar splicers, see sheet 26 of 30.

Note: Hatched area indicates Structural Repair of Concrete (Depth greater than 5").



CROSS SECTION
(N.B. Lane - Looking south)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PIERS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 21	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	51
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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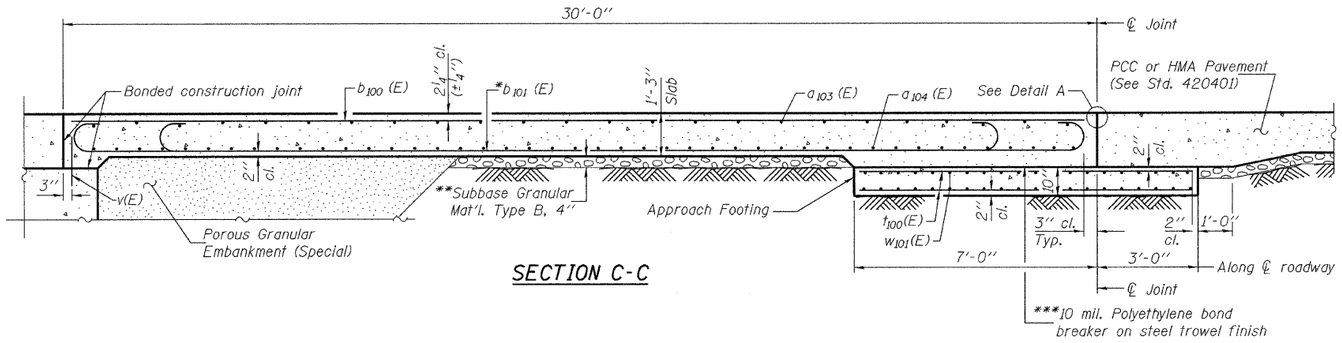
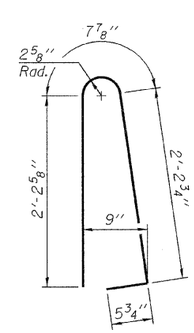
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



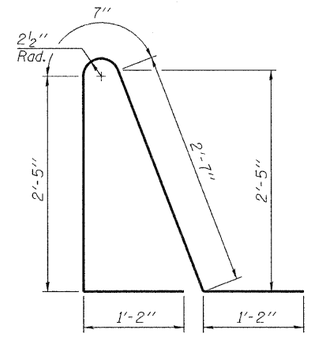
SECTION C-C

Notes:
See sheet 22 of 30 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets 16 & 17 of 30.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 26 of 30.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 30.

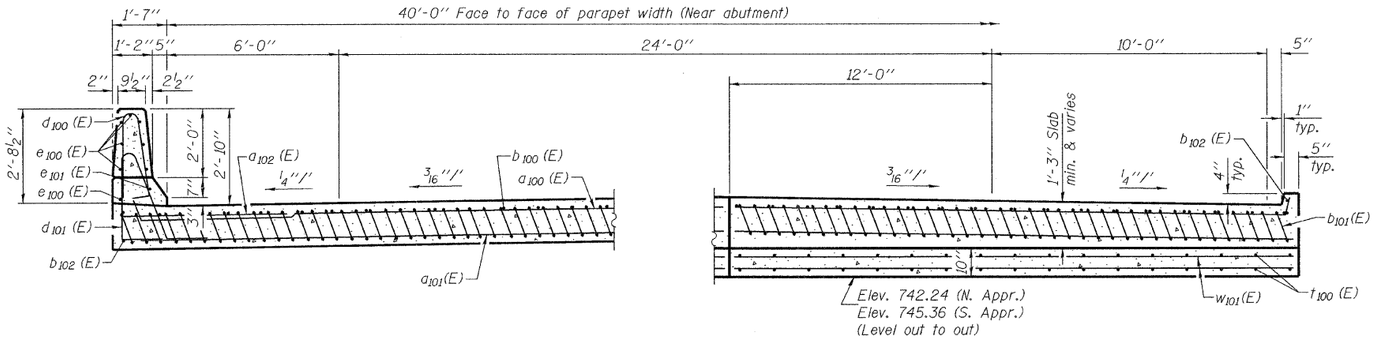
*Tilt #9 b_{101} (E) bars as required to maintain clearance.
***Cost included with Concrete Superstructure.



BAR d_{100} (E)



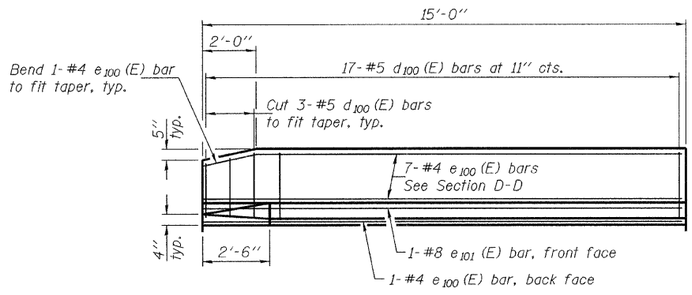
BAR d_{101} (E)



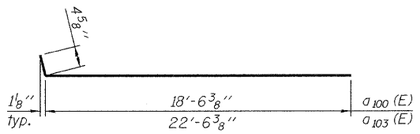
NEAR ABUTMENT AT APPROACH FOOTING

SECTION D-D

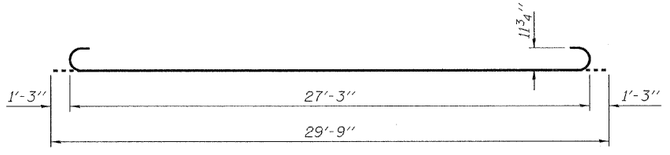
(See Plan for dimensions not shown)
(Section D-D showing South Appr.; North Appr. similar by 180° rotation)



VIEW E-E



BARS a_{100} (E) & a_{103} (E)



BAR b_{101} (E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{100} (E)	50	#4	18'-11"	
a_{101} (E)	92	#5	18'-7"	
a_{102} (E)	48	#6	6'-0"	
a_{103} (E)	50	#4	22'-11"	
a_{104} (E)	92	#5	22'-7"	
b_{100} (E)	70	#4	29'-8"	
b_{101} (E)	202	#9	29'-9"	
b_{102} (E)	8	#4	14'-8"	
d_{100} (E)	68	#5	5'-7"	
d_{101} (E)	68	#5	7'-11"	
e_{100} (E)	32	#4	14'-8"	
e_{101} (E)	4	#8	14'-8"	
t_{100} (E)	176	#4	9'-8"	
w_{100} (E)	80	#5	18'-7"	
w_{101} (E)	80	#5	22'-7"	
Concrete Superstructure		Cu. Yd.	133.2	
Concrete Structures		Cu. Yd.	25.8	
Reinforcement Bars, Epoxy Coated		Pound	33680	

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE APPROACH SLAB DETAILS (S.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 23	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	143	58
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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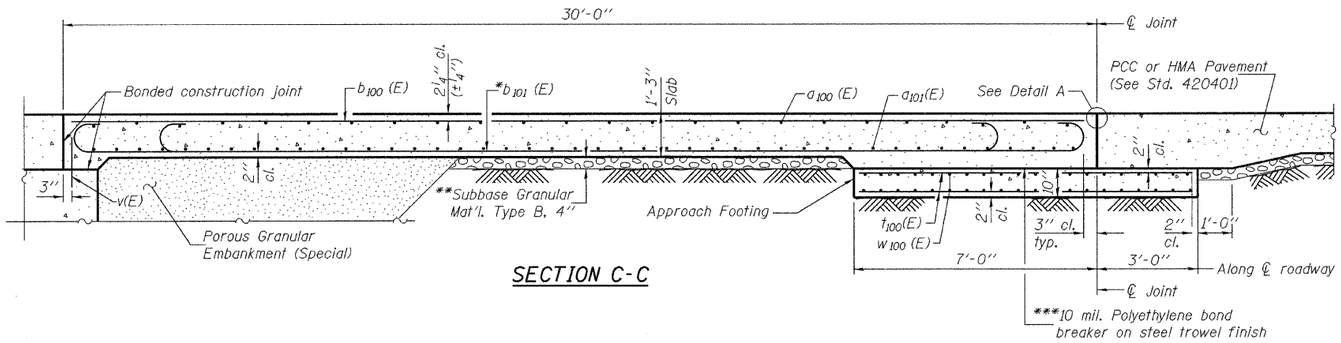
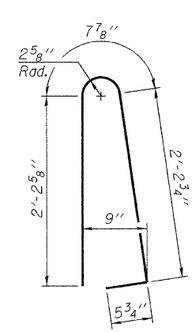
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



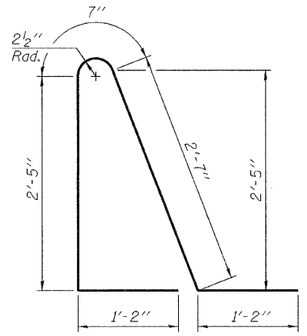
SECTION C-C

Notes:
See sheet 24 of 30 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets 18 & 19 of 30.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 26 of 30.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 30.

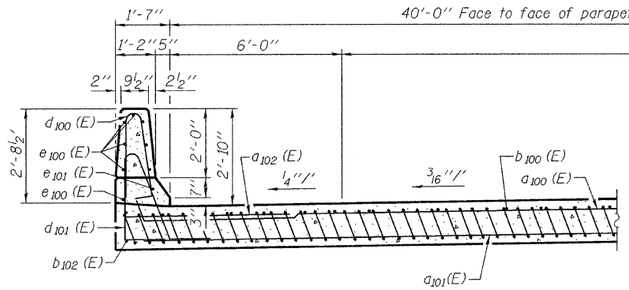
*Tilt #9 b_{101} (E) bars as required to maintain clearance.
***Cost included with Concrete Superstructure.



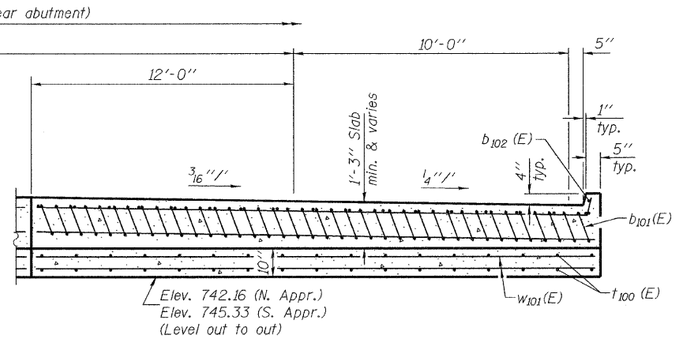
BAR d_{100} (E)



BAR d_{101} (E)

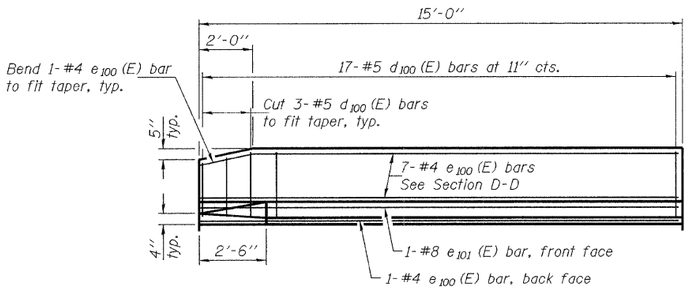


NEAR ABUTMENT

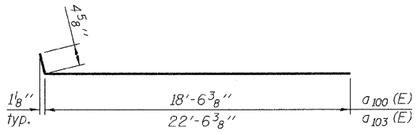


AT APPROACH FOOTING

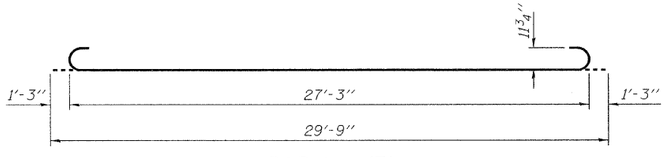
SECTION D-D
(See Plan for dimensions not shown)
(Section D-D showing South Appr.; North Appr. similar by 180° rotation)



VIEW E-E



BARS a_{100} (E) & a_{103} (E)



BAR b_{101} (E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{100} (E)	50	#4	18'-11"	
a_{101} (E)	92	#5	18'-7"	
a_{102} (E)	48	#6	6'-0"	
a_{103} (E)	50	#4	22'-11"	
a_{104} (E)	92	#5	22'-7"	
b_{100} (E)	70	#4	29'-8"	
b_{101} (E)	202	#9	29'-9"	
b_{102} (E)	8	#4	14'-8"	
d_{100} (E)	68	#5	5'-7"	
d_{101} (E)	68	#5	7'-11"	
e_{100} (E)	32	#4	14'-8"	
e_{101} (E)	4	#8	14'-8"	
t_{100} (E)	176	#4	9'-8"	
w_{100} (E)	80	#5	18'-7"	
w_{101} (E)	80	#5	22'-7"	
Concrete Superstructure		Cu. Yd.	133.2	
Concrete Structures		Cu. Yd.	25.8	
Reinforcement Bars, Epoxy Coated		Pound	33680	

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE APPROACH SLAB DETAILS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 25	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	59
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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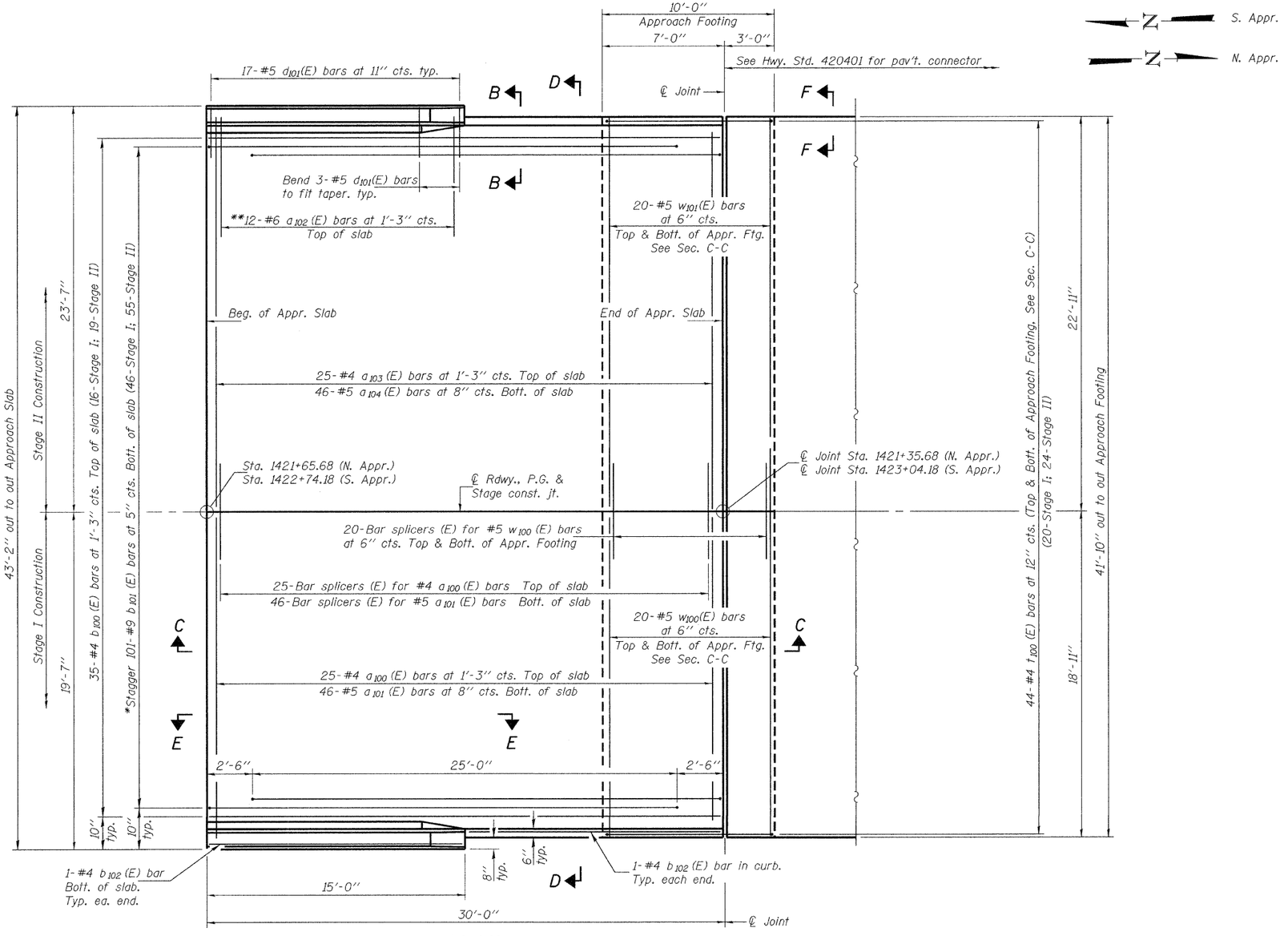
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



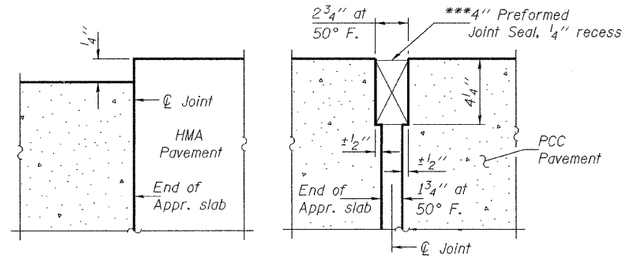
PLAN

(South Approach shown - North Approach similar by mirror image)

*Tilt #9 b_{101} (E) bars as required to maintain clearance.
**Spaced between a_{100} (E) and a_{103} (E) bars, typ. ea. parapet.

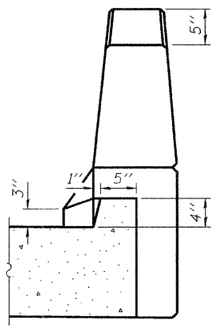
Notes: See sheet 25 of 30 for Sections C-C & D-D and View E-E.
a_{100} (E), a_{101} (E), and w_{100} (E) bar spacings measured perpendicular to ℄ Rdwy.

***Cost included with Concrete Superstructure.

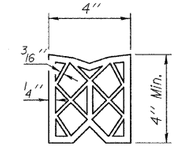


FLEXIBLE PAVEMENT — RIGID PAVEMENT

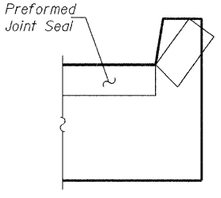
DETAIL A



VIEW B-B



PREFORMED JOINT SEAL



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

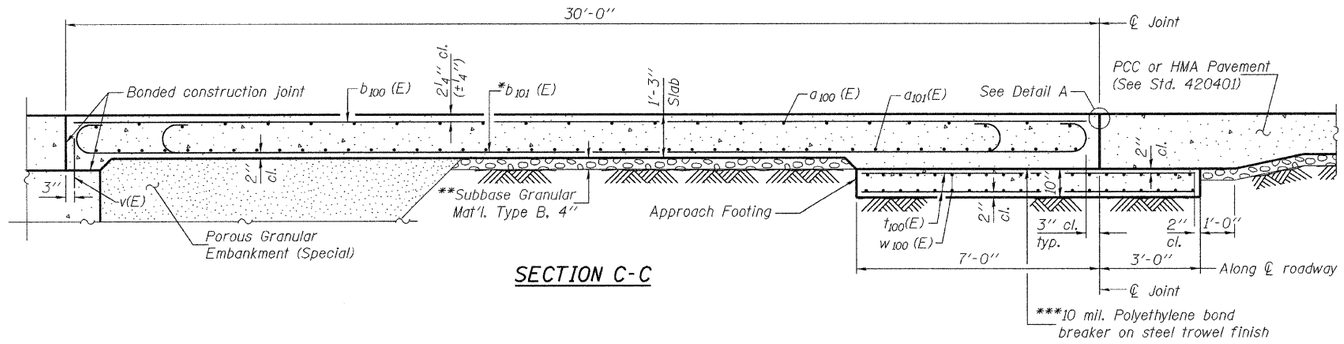
September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE APPROACH SLAB DETAILS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 24 30 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	60
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

0370015-64264.dgn 09/29/2009 10:15:10 AM

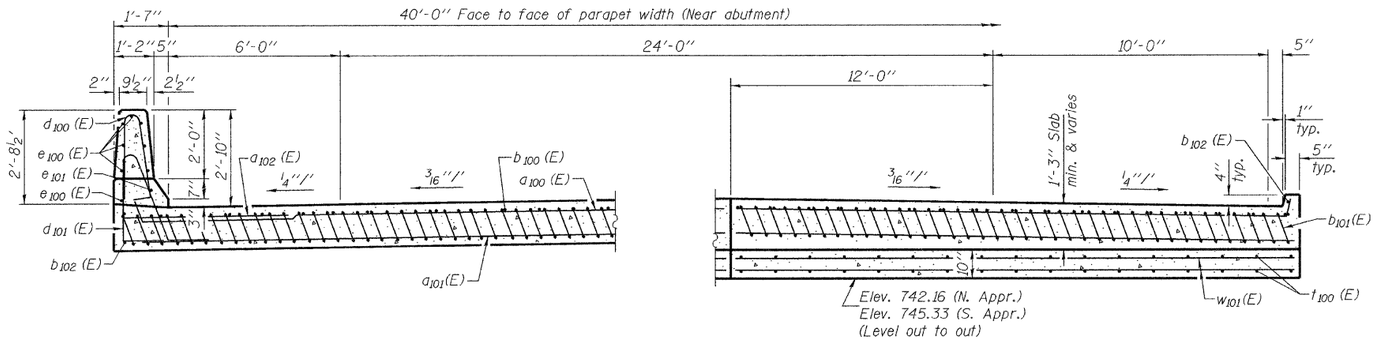
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION C-C

Notes:
See sheet 24 of 30 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets 18 & 19 of 30.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 26 of 30.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 30.

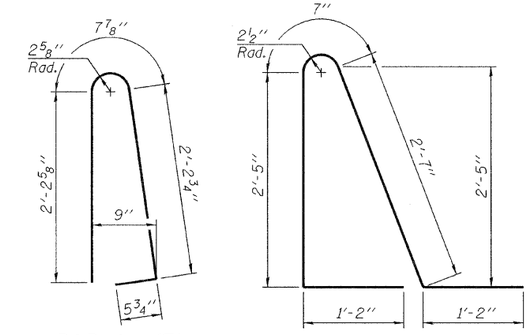
*Tilt #9 b_{101} (E) bars as required to maintain clearance.
***Cost included with Concrete Superstructure.



NEAR ABUTMENT

AT APPROACH FOOTING

SECTION D-D
(See Plan for dimensions not shown)

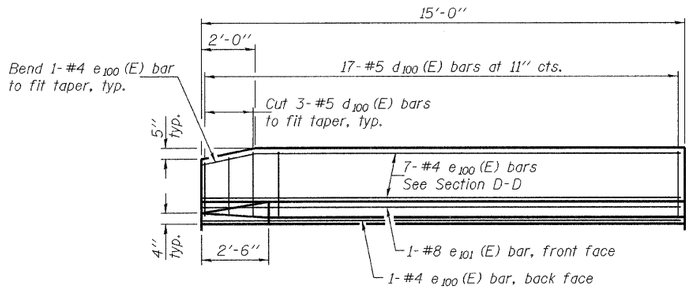


BAR d_{100} (E)

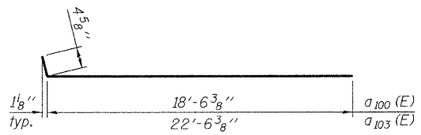
BAR d_{101} (E)

TWO APPROACHES
BILL OF MATERIAL

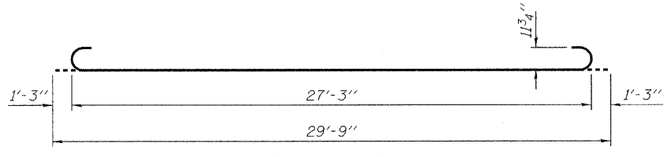
Bar	No.	Size	Length	Shape
a_{100} (E)	50	#4	18'-11"	
a_{101} (E)	92	#5	18'-7"	
a_{102} (E)	48	#6	6'-0"	
a_{103} (E)	50	#4	22'-11"	
a_{104} (E)	92	#5	22'-7"	
b_{100} (E)	70	#4	29'-8"	
b_{101} (E)	202	#9	29'-9"	
b_{102} (E)	8	#4	14'-8"	
d_{100} (E)	68	#5	5'-7"	
d_{101} (E)	68	#5	7'-11"	
e_{100} (E)	32	#4	14'-8"	
e_{101} (E)	4	#8	14'-8"	
t_{100} (E)	176	#4	9'-8"	
w_{100} (E)	80	#5	18'-7"	
w_{101} (E)	80	#5	22'-7"	
Concrete Superstructure			Cu. Yd.	133.2
Concrete Structures			Cu. Yd.	25.8
Reinforcement Bars, Epoxy Coated			Pound	33680



VIEW E-E



BARS a_{100} (E) & a_{103} (E)



BAR b_{101} (E)

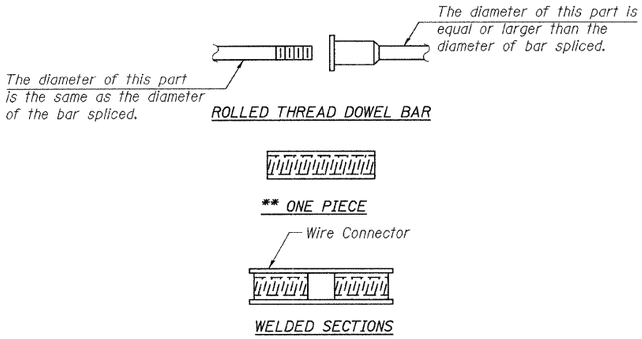
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE APPROACH SLAB DETAILS (N.B.)
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

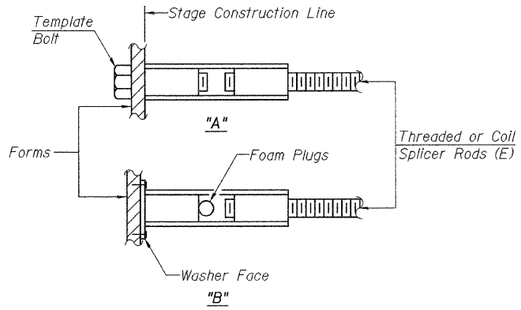
SHEET NO. 25	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	61
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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.

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.

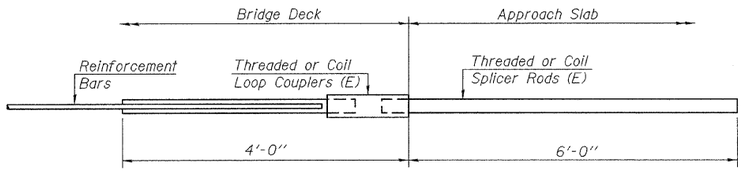
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = 1.25 x fy x A_t

② Minimum *Pull-out Strength (Tension in kips) = 0.66 x fy x A_t

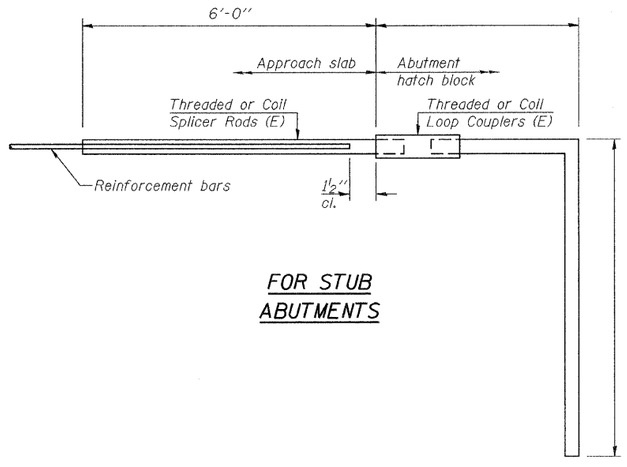
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

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'-2"	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



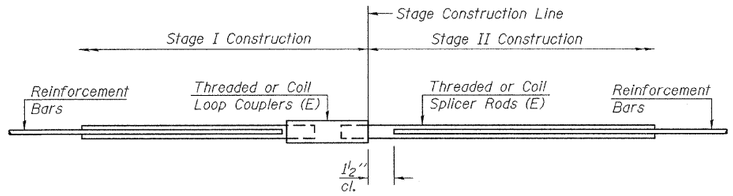
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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
#5	354	Deck
#6	24	Deck
#7	36	Abutments
#6	12	Piers
#4	100	Approach
#5	344	Approach

BAR SPLICERS ASSEMBLY DETAILS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

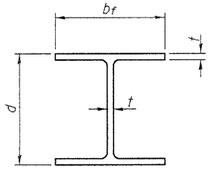
SHEET NO. 26	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	62
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

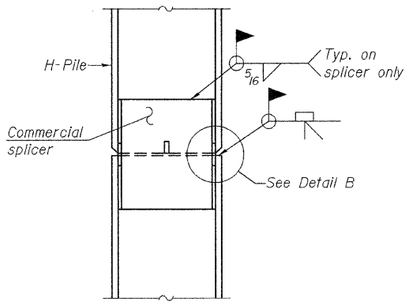
BSD-1 10-1-08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

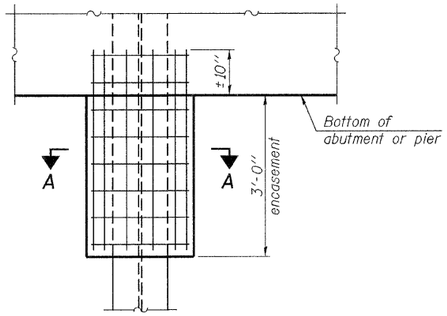


STEEL PILE TABLE

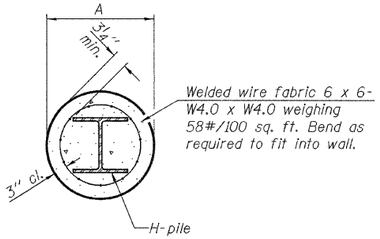
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



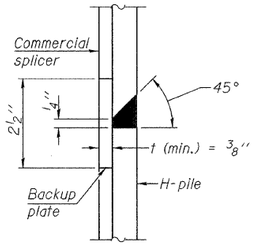
ELEVATION



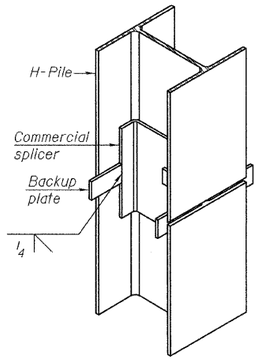
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

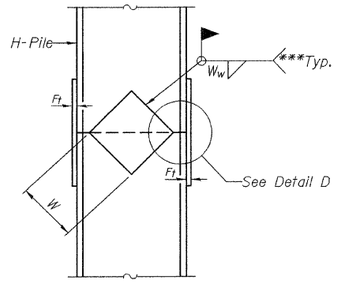


DETAIL "B"

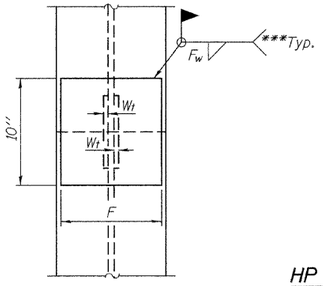


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



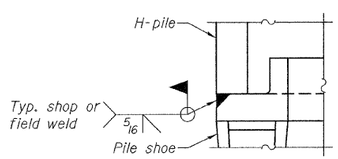
ELEVATION



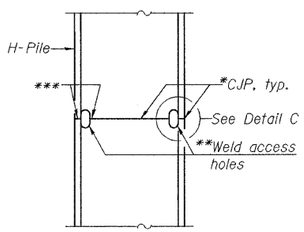
END VIEW

HP PILE DETAILS
STRUCTURE NO.

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



DETAIL A



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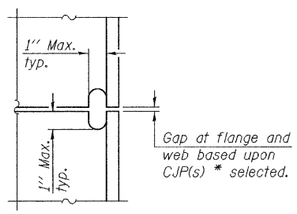
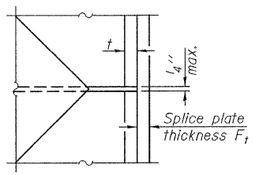


DETAIL C



DETAIL D

H-PILE SHOE ATTACHMENT

COMPLETE PENETRATION WELD SPLICE

WELDED PLATE FIELD SPLICE

* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

*** Interrupt welds 1/4" from end of each pile.

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

HP PILE DETAILS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	h.t. duong
CHECKED	NRB/MDR/GRA

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

F-HP 10-1-08

SHEET NO. 27	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	63
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation — Division of Highways, Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 2

Date 91108

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____
BORING NO. B-1
Station 1422+33
Offset 78.00ft Lt CL
Ground Surface Elev. 729.4 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter 676.9 ft ▼
Upon Completion Dry ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Shoulder on Ophiem Road					8		
		0.9	14		10	3.5	13
MEDIUM brown SILTY CLAY LOAM		P			16	S	
726.90				707.90			
	3			HARD olive-green CLAY LOAM			
MEDIUM gray/green SILTY CLAY LOAM TILL	4	0.7	20	TILL	10	5.4	15
725.40	4	B		705.40	16	S	
–5–				–25–			
STIFF tan SILTY CLAY LOAM TILL	2			VERY STIFF olive-green CLAY LOAM TILL	7		
	3	1.4	19		11	3.7	14
722.90	7	B		702.90	16	B	
VERY STIFF gray LOAM TILL	4			HARD olive-green CLAY LOAM TILL	5		
	5	3.1	13		11	5.6	14
720.40	9	B		700.40	15	S	
–10–				–30–			
VERY STIFF gray LOAM TILL with SAND lens	4			VERY STIFF gray CLAY LOAM TILL with moist fine SAND lens	4		
	6	2.7	16		9	2.5	15
717.90	9	B		697.90	14	B	
VERY STIFF gray CLAY LOAM TILL	4			VERY STIFF gray CLAY LOAM TILL	4		
	6	2.7	16		7	3.7	15
715.40	8	B		695.40	12	B	
–15–				–35–			
VERY STIFF gray CLAY LOAM TILL with SAND lens	5			VERY STIFF gray CLAY LOAM TILL	6		
	9	2.5	16		6	2.5	
712.90	11	S		692.90	11	B	
VERY STIFF gray CLAY LOAM TILL	5			VERY STIFF gray CLAY LOAM TILL	4		
	6	2.1	16		7	2.5	16
710.40	10	B		690.40	10	B	
–20–				–40–			

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

Illinois Department of Transportation — Division of Highways, Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 2 of 2

Date 91108

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____
BORING NO. B-1
Station 1422+33
Offset 76.00ft Lt CL
Ground Surface Elev. 729.4 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter 676.9 ft ▼
Upon Completion Dry ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray CLAY LOAM TILL with SAND lens	3			VERY STIFF gray CLAY TILL	4		
	5	2.7	16		7	2.1	17
687.90	10	B		667.90	9	B	
VERY STIFF gray CLAY LOAM TILL	2			STIFF gray CLAY LOAM TILL	3		
	6	2.3	16		5	1.9	18
685.40	9	B		665.40	8	B	
–45–				–65–			
VERY STIFF gray CLAY LOAM TILL	3			VERY STIFF gray CLAY TILL	3		
	5	2.1	17		6	2.9	17
682.90	9	B		662.90	11	B	
VERY STIFF gray CLAY LOAM TILL	3			VERY STIFF gray CLAY TILL	5		
	6	2.7	16		8	2.5	18
680.40	9	B		660.40	10	B	
–50–				–70–			
VERY STIFF gray CLAY LOAM TILL	3			VERY STIFF gray CLAY TILL	3		
	5	2.5	17		6	2.5	18
677.40	9	B		657.90	12	B	
MEDIUM gray clean medium coarse SAND ▼	3			VERY STIFF gray CLAY TILL	3		
	11				5	2.5	18
674.90	13			655.40	10	B	
–55–				–75–			
VERY STIFF gray CLAY LOAM TILL with SAND on top 6"	5						
	4	2.7	17				
672.90	7	B					
VERY STIFF gray CLAY LOAM TILL	3						
	5	2.3	17				
670.40	8	B					
–60–				–80–			

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

Illinois Department of Transportation — Division of Highways, Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 2

Date 91908

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 1422+17
BORING NO. B-2
Station 1422+09
Offset 80.00ft Rt CL
Ground Surface Elev. 729.0 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter 719.9 ft ▼
Upon Completion 669.9 ft ▽
After 55 ft. Hrs. 674.9 ft ▽

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
9" Asphalt				HARD olive-green CLAY LOAM TILL	8		
		1.5	22		11	5.4	14
STIFF gray SILTY CLAY LOAM		P			17	B	
727.40				708.40			
	4			HARD gray CLAY LOAM TILL	4		
VERY STIFF gray SILTY CLAY LOAM	4	2.3	24		8	4.7	13
725.90	5	P		706.90	15	B	
–5–				–25–			
MEDIUM brown SANDY LOAM	4			HARD gray CLAY LOAM TILL	5		
	8	0.8	16		7	5.0	14
723.40	7	P		703.40	12	B	
MEDIUM tan SILTY CLAY LOAM with SAND lens	1			VERY STIFF gray CLAY LOAM TILL	4		
	2	0.6	21		8	2.9	15
720.90	3	P		700.90	12	B	
VERY STIFF gray LOAM TILL ▼ –10–				–30–			
VERY STIFF gray LOAM TILL with SAND lens	4			HARD gray CLAY LOAM TILL	6		
	5	2.5	15		8	4.5	14
718.40	6	B		698.40	11	B	
VERY STIFF gray CLAY LOAM TILL	4			VERY STIFF gray CLAY LOAM TILL	6		
	5	2.5	17		9	2.9	15
715.90	10	B		695.90	13	B	
–15–				–35–			
VERY STIFF gray CLAY LOAM TILL	4			VERY STIFF gray CLAY LOAM TILL	4		
	6	2.3	16		6	2.9	15
713.40	8	B		693.40	10	B	
VERY STIFF olive-green CLAY LOAM TILL	4			VERY STIFF gray CLAY LOAM TILL	3		
	6	3.9	15		5	2.5	16
710.90	12	B		690.90	8	B	
–20–				–40–			

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

Illinois Department of Transportation — Division of Highways, Illinois Department of Transportation/D-2

SOIL BORING LOG

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Date 91908

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 1422+17
BORING NO. B-2
Station 1422+09
Offset 80.00ft Rt CL
Ground Surface Elev. 729.0 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter 719.9 ft
Upon Completion 669.9 ft
After 55 ft. Hrs. 674.9 ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray CLAY LOAM TILL	3			VERY STIFF gray CLAY LOAM TILL	6		
	6	2.5	16		8	2.9	17
688.40	9	B		668.40	10	B	
VERY STIFF gray CLAY LOAM TILL	4			VERY STIFF gray CLAY LOAM TILL	6		
	7	2.1	17		9	2.5	18
685.90	10	B		665.90	11	B	
–45–				–65–			
VERY STIFF gray CLAY LOAM TILL	5			VERY STIFF gray CLAY LOAM TILL	7		
	6	2.5	18		10	3.1	17
683.40	10	B		663.40	11	B	
VERY STIFF gray CLAY LOAM TILL	3			VERY STIFF gray CLAY LOAM TILL	4		
	5	2.7	17		7	2.7	18
680.90	9	B		660.90	9	B	
–50–				–70–			
VERY STIFF gray CLAY LOAM TILL	5			VERY STIFF gray CLAY LOAM TILL	10		
	8	2.5	18		12	3.1	17
678.40	10	B		658.40	13	B	
VERY STIFF gray CLAY LOAM TILL	5						
	9	3.1	17				
675.90	10	B					
▽ –55–				–75–			
VERY STIFF gray CLAY LOAM TILL	5						
	7	2.3	18				
673.40	10	B					
VERY STIFF gray CLAY LOAM TILL	4						
	7	2.7	17				
670.90	9	B					
▽ –60–				–80–			

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

SOIL BORING LOGS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 28	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	64
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

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Date 92208

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 1422+17

BORING NO. B-3
Station 1422+86
Offset 2.00ft Rt CL
Ground Surface Elev. 746.1 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft

Groundwater Elev.:
First Encounter 718.6 ft ▼
Upon Completion Wash ft
After 24.0 Hrs. 701.1 ft ▽

	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SILTY CLAY LOAM				
			0.5	16
			P	
	743.60			
SOFT brown LOAM		2		
		3	0.3	20
	742.10	3	P	
	-5			
STIFF brown SILTY CLAY LOAM		2		
		5	1.0	18
	739.60	6	P	
VERY STIFF light brown SILTY CLAY LOAM		2		
		4	2.3	16
	737.10	7	B	
	-10			
HARD gray CLAY LOAM		6		
		7	4.7	22
	734.60	9	B	
STIFF gray CLAY LOAM		3		
		5	1.9	22
	732.10	6	B	
	-15			
STIFF gray LOAM		4		
		8	1.7	19
	729.60	9	B	
MEDIUM gray SANDY LOAM		2		
		2	0.8	18
		3	B	
	725.60			
	-20			

	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
MEDIUM tan/gray dirty SAND		1		
		4		
		6		
	724.10			
VERY STIFF gray SILTY CLAY LOAM		1		
		3	2.1	16
	722.10	6	B	
	-25			
VERY STIFF gray CLAY LOAM TILL		1		
		7	2.5	17
	719.60	9	B	
▼		3		
VERY STIFF gray LOAM TILL with SAND lens		7	2.3	13
	717.10	8	B	
	-30			
VERY STIFF gray SANDY LOAM TILL with SAND lens		7		
		8	2.5	14
	714.60	16	S	
HARD gray CLAY LOAM TILL with SAND lens		5		
		7	5.2	13
	712.10	27	B	
	-35			
VERY STIFF olive-green CLAY LOAM TILL		5		
		11	3.5	14
	709.60	17	S	
HARD gray CLAY LOAM TILL		7		
		10	5.6	14
	707.10	16	B	
	-40			

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

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

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Date 92208

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 1422+17

BORING NO. B-3
Station 1422+86
Offset 2.00ft Rt CL
Ground Surface Elev. 746.1 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft

Groundwater Elev.:
First Encounter 718.6 ft ▼
Upon Completion Wash ft
After 24.0 Hrs. 701.1 ft ▽

	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
HARD gray CLAY LOAM TILL		10		
		17	7.4	13
	704.60	21	B	
VERY STIFF gray CLAY LOAM TILL		5		
		11	3.7	15
	702.10	15	B	
▽	-45			
VERY STIFF gray CLAY LOAM TILL		9		
		10	3.1	16
	699.60	15	B	
VERY STIFF gray CLAY LOAM TILL		2		
		5	2.1	17
	697.10	8	B	
	-50			
VERY STIFF gray CLAY LOAM TILL with SAND lens		5		
		9	2.7	15
	694.60	12	B	
STIFF gray CLAY LOAM TILL		4		
		7	1.9	17
	692.10	10	B	
	-55			
VERY STIFF gray CLAY LOAM TILL		3		
		5	2.3	16
	689.60	10	B	
STIFF gray CLAY LOAM TILL		4		
		7	1.9	16
	687.10	10	B	
	-60			

	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray CLAY LOAM TILL		6		
		6	2.1	17
	684.60	10	B	
STIFF gray CLAY LOAM TILL		4		
		7	1.9	18
	682.10	10	B	
	-65			
STIFF gray CLAY LOAM TILL with SAND lens		5		
		7	1.9	17
	679.60	9	B	
VERY STIFF gray CLAY LOAM TILL		3		
		4	2.1	17
	677.10	7	B	
	-70			
VERY STIFF gray CLAY LOAM TILL		5		
		8	2.1	18
	674.60	10	B	
VERY STIFF gray CLAY LOAM TILL		5		
		6	2.3	18
	672.10	10	B	
	-75			
VERY STIFF gray CLAY LOAM TILL		5		
		6	2.3	18
	669.60	10	B	
VERY STIFF gray CLAY LOAM TILL		5		
		8	2.3	18
	667.10	10	B	
	-80			

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

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 3 of 3

Date 92208

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. – 25 S 12, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station 1422+17

BORING NO. B-3
Station 1422+86
Offset 2.00ft Rt CL
Ground Surface Elev. 746.1 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 82.0 ft

Groundwater Elev.:
First Encounter 718.6 ft ▼
Upon Completion Wash ft
After 24.0 Hrs. 701.1 ft ▽

	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
STIFF gray CLAY LOAM TILL		4		
		6	1.9	20
	664.60	8	B	
92308		5		
VERY STIFF gray CLAY LOAM TILL		6	3.1	17
	662.10	12	B	
Wash	-85			
VERY STIFF gray CLAY LOAM TILL		5		
		7	2.3	17
	659.60	9	B	
Wash		6		
STIFF green CLAY LOAM TILL		8	1.9	18
	657.10	10	B	
	-90			
VERY STIFF gray CLAY LOAM TILL		7		
		8	2.5	18
	654.60	10	B	
Wash		5		
VERY STIFF gray CLAY LOAM TILL		8	2.3	18
	652.10	10	B	
	-95			
	-100			

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

SOIL BORING LOGS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 29	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30 SHEETS	74	37-4HB	HENRY	148	65
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
Illinois Department of Transportation/D-2

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Date 9/30/08

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. - 25 S 1/2, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ______
Station 1422+17
BORING NO. B-4
Station 1421+50
Offset 5.00ft Rt CL
Ground Surface Elev. 745.4 ft

Surface Water Elev. ______ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter None ft
Upon Completion 648.9 ft ▽
After 24.0 Hrs. 663.4 ft ▽

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SILTY CLAY LOAM	742.90			0.9 P	15
STIFF brown LOAM	741.40		4 5 7	1.4 S	19
STIFF gray/tan SILTY CLAY LOAM	738.90	-5	4 5 6	1.6 B	27
VERY STIFF gray SILTY CLAY LOAM	736.40		3 4 6	2.7 B	20
VERY STIFF gray CLAY LOAM	733.90	-10	4 5 8	2.5 B	27
VERY STIFF dark gray SILTY CLAY LOAM	731.40		4 8 11	2.5 B	30
STIFF gray LOAM with SAND lens	728.90	-15	4 6 9	1.6 P	27
MEDIUM gray LOAM	725.90	-20	2 3 4	0.7 B	19
STIFF gray CLAY LOAM TILL	723.90		1 3 4	1.3 B	19
STIFF gray CLAY LOAM TILL	721.40		3 6 8	1.9 B	16
VERY STIFF gray CLAY LOAM TILL	718.90	-25	3 6 9	2.1 B	18
VERY STIFF gray CLAY LOAM TILL with SAND lens	716.40		4 4 8	2.5 B	16
VERY STIFF gray CLAY LOAM TILL	713.90	-30	3 6 10	2.7 B	15
VERY STIFF gray CLAY LOAM TILL	711.40		3 8 11	3.7 B	13
HARD gray CLAY LOAM TILL	708.90	-35	3 7 11	4.1 B	14
VERY STIFF gray CLAY LOAM TILL	706.40	-40	3 6 10	2.5 B	14

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

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
Illinois Department of Transportation/D-2

Page 2 of 3
Date 9/30/08

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. - 25 S 1/2, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ______
Station 1422+17
BORING NO. B-4
Station 1421+50
Offset 5.00ft Rt CL
Ground Surface Elev. 745.4 ft

Surface Water Elev. ______ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter None ft
Upon Completion 648.9 ft ▽
After 24.0 Hrs. 663.4 ft ▽

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray CLAY LOAM TILL	703.90		3 6 9	3.3 B	15
STIFF gray CLAY LOAM TILL	701.40		1 4 7	1.9 B	17
VERY STIFF gray CLAY LOAM TILL	698.90	-45	2 6 8	2.1 B	16
VERY STIFF gray CLAY LOAM TILL	696.40		2 4 9	2.1 B	15
STIFF gray CLAY LOAM TILL	693.90	-50	1 4 7	1.4 B	17
VERY STIFF gray CLAY LOAM TILL	691.40		1 4 7	2.1 B	16
VERY STIFF gray CLAY LOAM TILL	688.90	-55	2 5 8	2.1 B	16
VERY STIFF gray CLAY LOAM TILL	686.40	-60	1 4 8	2.0 B	16
VERY STIFF gray CLAY LOAM TILL	683.90		2 5 8	2.0 B	16
VERY STIFF gray CLAY LOAM TILL	681.40		1 4 8	2.1 B	16
VERY STIFF gray CLAY LOAM TILL	678.90	-65	2 5 9	2.1 B	16
VERY STIFF gray CLAY LOAM TILL	676.40		1 3 8	2.1 B	17
VERY STIFF gray CLAY LOAM TILL	673.90	-70	2 5 8	2.3 B	17
VERY STIFF gray CLAY LOAM TILL	671.40		1 5 8	2.3 B	16
VERY STIFF gray CLAY LOAM TILL	668.90	-75	1 6 8	2.3 B	16
VERY STIFF gray CLAY LOAM TILL	666.40	-80	1 3 8	2.1 B	17

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

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
Illinois Department of Transportation/D-2

Page 3 of 3
Date 9/30/08

ROUTE FAI 74 DESCRIPTION P92-002-98 I-74 Bridge over Ophiem Road LOGGED BY W. Garza
SECTION 37-(4HB, 4HB-1, 4HB-2) D LOCATION Lynn Twp. - 25 S 1/2, SEC., TWP. 15N, RNG. 1E, PM
COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ______
Station 1422+17
BORING NO. B-4
Station 1421+50
Offset 5.00ft Rt CL
Ground Surface Elev. 745.4 ft

Surface Water Elev. ______ ft
Stream Bed Elev. 82.0 ft
Groundwater Elev.:
First Encounter None ft
Upon Completion 648.9 ft ▽
After 24.0 Hrs. 663.4 ft ▽

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray CLAY LOAM TILL	663.90 ▽		1 5 9	2.3 B	17
VERY STIFF gray CLAY LOAM TILL	661.40		1 4 9	2.5 B	17
VERY STIFF gray CLAY LOAM TILL	658.90	-85	1 6 9	2.5 B	17
10/1/08 VERY STIFF gray CLAY LOAM TILL	656.40		2 5 8	2.5 B	18
STIFF gray CLAY LOAM TILL	653.90	-90	5 6 9	1.5 B	21
VERY STIFF gray CLAY LOAM TILL	651.40		2 5 8	2.5 B	23
VERY STIFF gray CLAY LOAM TILL	648.90 ▽	-95	7 10 13	3.3 B	17
VERY STIFF olive-green CLAY LOAM TILL	646.40	-100	1 5 9	2.5 B	19

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

SOIL BORING LOGS
STRUCTURE NO. 037-0015 (S.B.)
STRUCTURE NO. 037-0016 (N.B.)

SHEET NO. 30 30 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB	HENRY	148	66
			CONTRACT NO. 64264		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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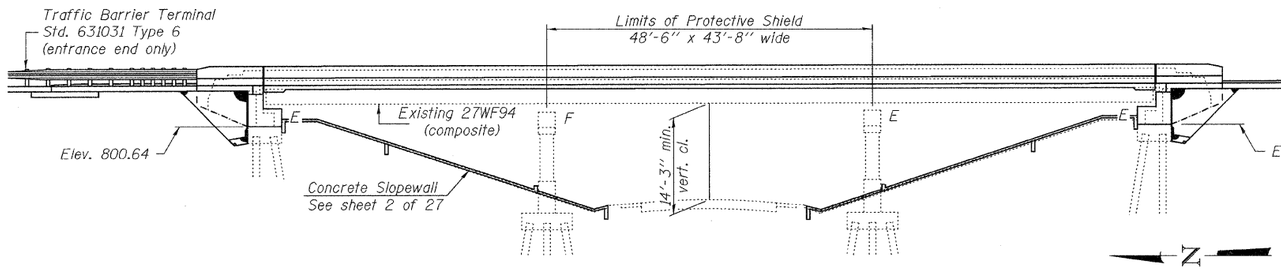
Bench Mark: TR 379B in the N.B. structure S.E. corner, steel plug; Elev. 810.62

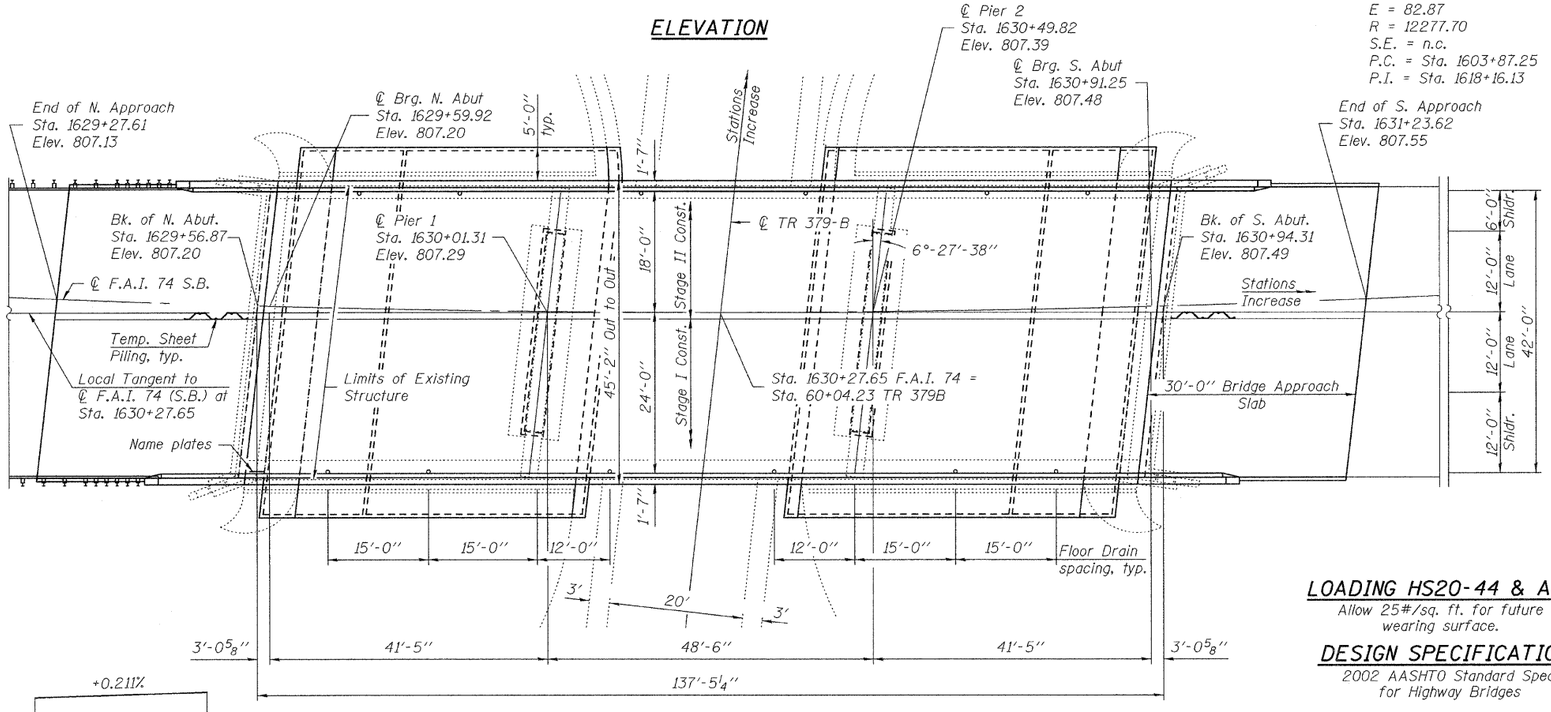
Existing Structure: S.N. 037-0017 Built in 1966 as project I-74-2(54)30 Section 37-4HB-2.
Structure is a three span wide flange bridge with spans of 41'-5" - 48'-6" - 41'-5". 135'-0" Back to Back abutments, 43'-8" Out to Out, supported on spill through abutments and multi column piers. Skew 6°-27'-38"
The existing deck is to be removed and replaced. Traffic to be maintained utilizing stage construction.

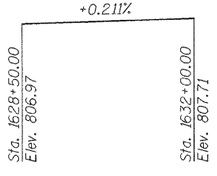
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



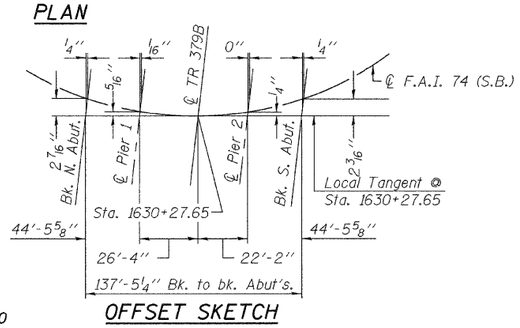
ELEVATION





PROFILE GRADE

PLAN



OFFSET SKETCH

DESIGNED A.L.R.B.
CHECKED M.D.R.
DRAWN W.D. Collins / M.B.M.
CHECKED N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS · RALPH E. ANDERSON · 081-004625 · SPRINGFIELD · LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2010

LOADING HS20-44 & ALT

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Spec. for Highway Bridges

DESIGN STRESSES

FIELD UNITS EXISTING STRUCTURE	FIELD UNITS NEW CONSTRUCTION
f_c = 1,400 psi	f'_c = 3,500 psi
f_s = 20,000 psi (reinforcement)	f_y = 60,000 psi (reinforcement)
f_s = 20,000 psi (structural steel)	

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.036g
Site Coefficient (S) = 1.0

HORIZONTAL CURVE DATA

(S.N. 037-0017)

Δ = 13°16'35"
D = 0°28'00"
T = 1428.88
L = 2844.95
E = 82.87
R = 12277.70
S.E. = n.c.
P.C. = Sta. 1603+87.25
P.I. = Sta. 1618+16.13

GENERAL NOTES

No field welding is permitted except as specified in the contract documents.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
As directed by the Engineer, existing construction accessories welded to the top flange of beams shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.
Any cracks that cannot be removed by grinding 1/4 inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
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.
Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
Concrete Sealer shall be applied to the seat areas, front faces of backwalls and hatch blocks of the abutments.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.
A minimum of one air monitor will be required to monitor abrasive blasting operations at this site, see special provision for Containment and Disposal of Lead Paint Cleaning Residues.
The SSPC-QP1 and SSPC-QP2 Painting Contractor Certifications will be required for this bridge.
Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures." All existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. All existing and new steel shall be painted according to the requirements of Paint System 1 - OZ/E/U. 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 Blue, Munsell No. 10B 3/6.
Slip-forming of the parapets is not allowed.

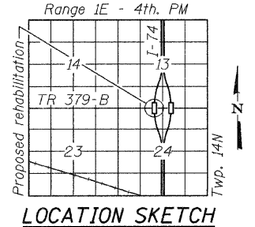
STATION 1630+27.65
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 74 SEC. 37-4HB-1
LOADING HS20-44 & ALT.
STRUCTURE NO. 037-0017

NAME PLATE

See Std. 515001.

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

INDEX OF SHEETS

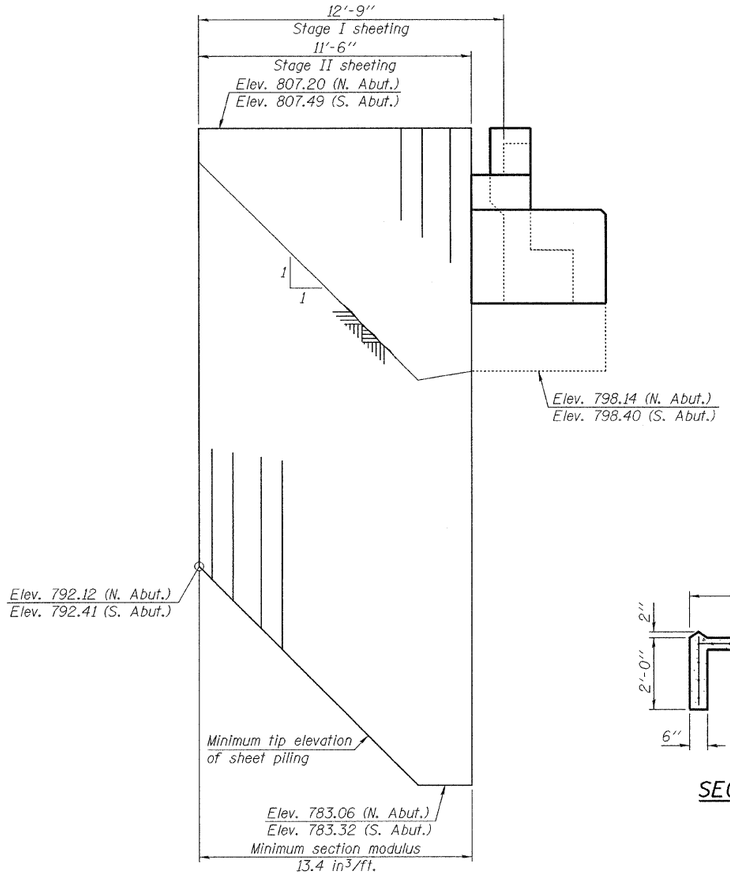


LOCATION SKETCH

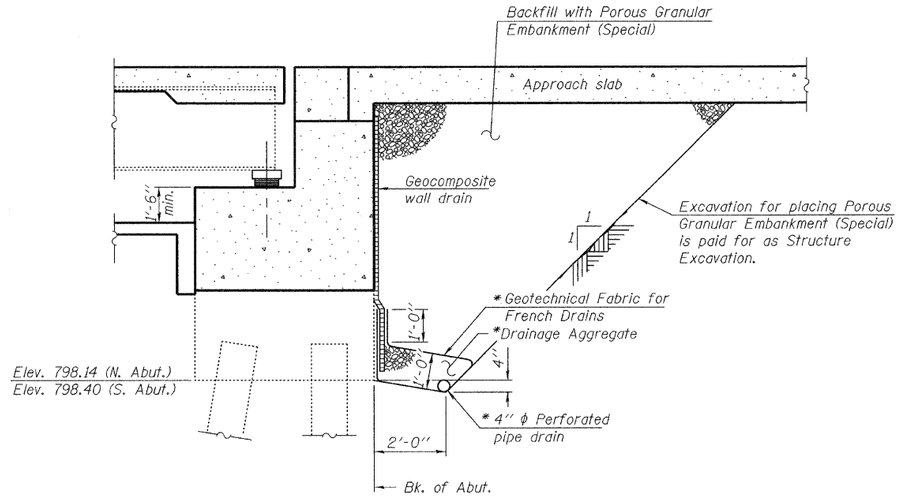
GENERAL PLAN & ELEVATION
I-74 OVER TR 379-B
F.A.I. RTE. 74 - SEC. 37-4HB-1
HENRY COUNTY
STA. 1630+27.65
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	Henry	148	67
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TEMPORARY SHEET PILING



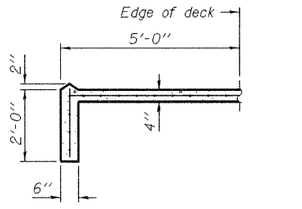
SECTION THRU ABUTMENT

(Horiz. dim @ Rt. L's)

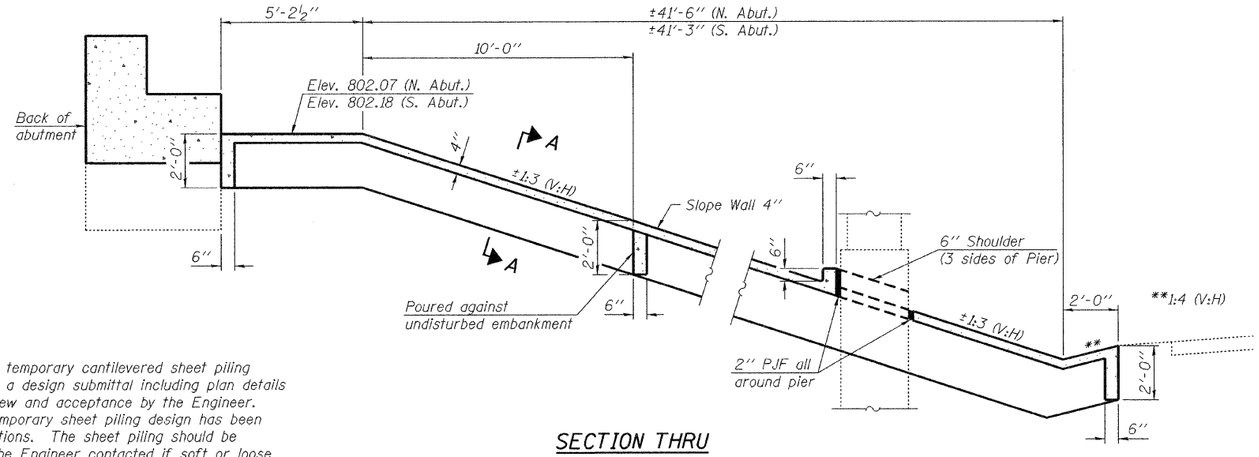
*Included in the cost of Pipe Underdrains for Structures.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		161	161
Concrete Removal	Cu. Yd.		40	40
Slope Wall Removal	Sq. Yd.		600	600
Removal of Existing Concrete Deck	Each	1		1
Protective Shield	Sq. Yd.	235		235
Structure Excavation	Cu. Yd.		186	186
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		91.5	91.5
Concrete Superstructure	Cu. Yd.	330.9		330.9
Bridge Deck Grooving	Sq. Yd.	871		871
Protective Coat	Sq. Yd.	1060		1060
Furnishing and Erecting Structural Steel	Pound	4960		4960
Stud Shear Connectors	Each	3131		3131
Cleaning and Painting Steel Bridge	L. Sum	1		1
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	78230	6020	84250
Bar Splicers	Each	625	124	749
Slope Wall 4 Inch	Sq. Yd.		613	613
Temporary Sheet Piling	Sq. Ft.		486	486
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	88.5		88.5
Elastomeric Bearing Assembly, Type I	Each		14	14
Anchor Bolts, 1"	Each		28	28
Concrete Sealer	Sq. Ft.		410	410
Geocomposite Wall Drain	Sq. Yd.		74	74
Pipe Underdrains for Structures, 4"	Foot		164	164
Jacking and Cribbing	Each		14	14



SECTION A-A



SECTION THRU CONCRETE SLOPEWALL

(Horiz. dim @ Rt. L's)

Notes

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.

Due to the lack of boring data, the temporary sheet piling design has been developed to account for most soil conditions. The sheet piling should be monitored for excessive deflection and the Engineer contacted if soft or loose soils are encountered.

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

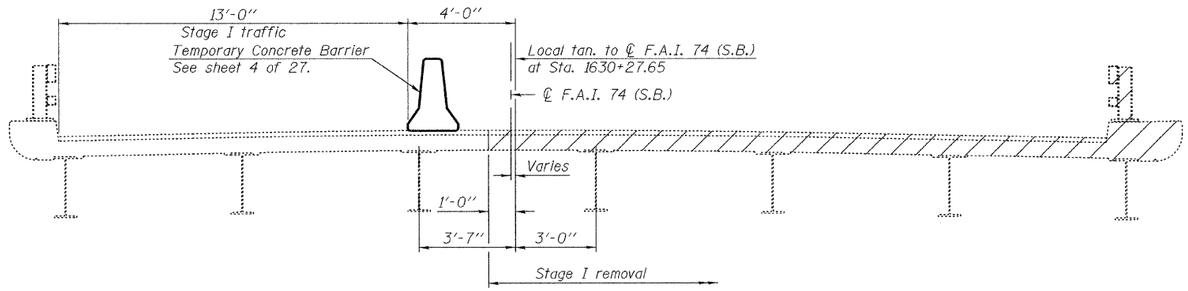
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

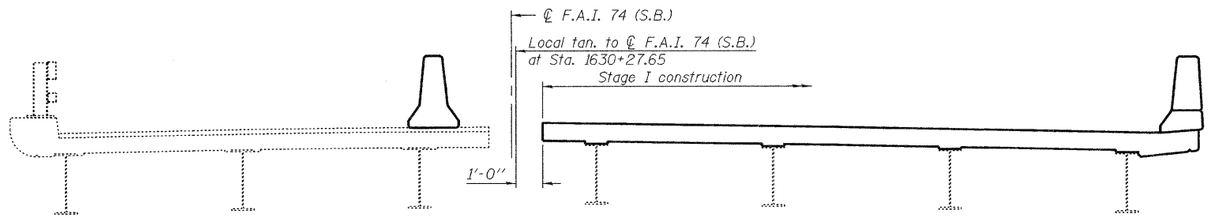
GENERAL DETAILS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	14	8
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

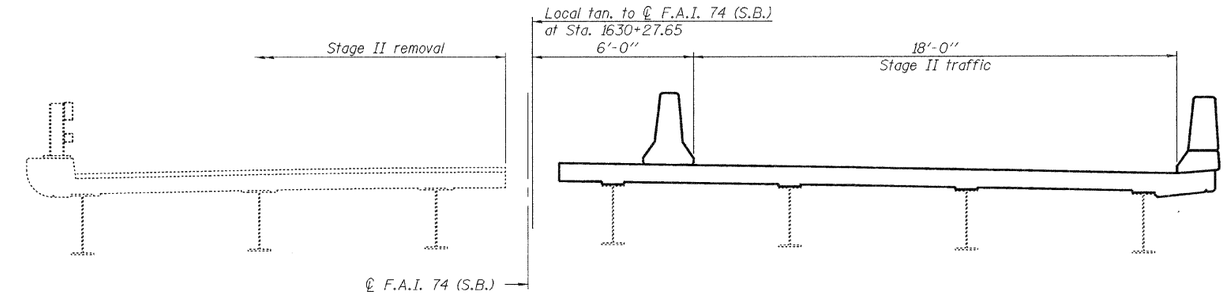
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



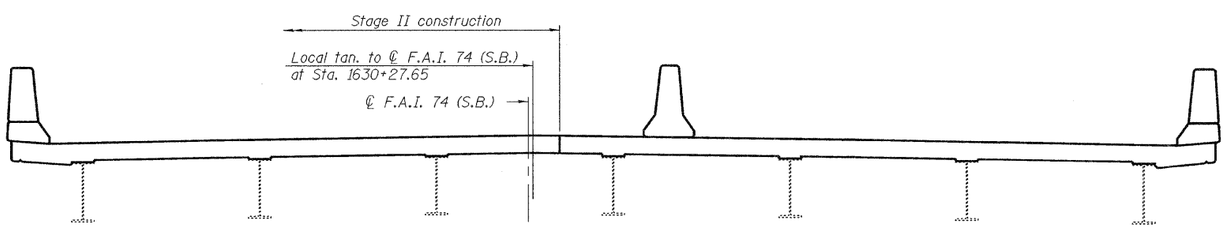
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION

Notes:
All staging cross sections are taken looking South.
For quantity of Temporary Concrete Barrier, see roadway plans.
Hatched area indicates Removal of Existing Concrete Deck.
Cost of removal of existing steel railing and bituminous overlay is included in Removal of Existing Concrete Deck.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	69
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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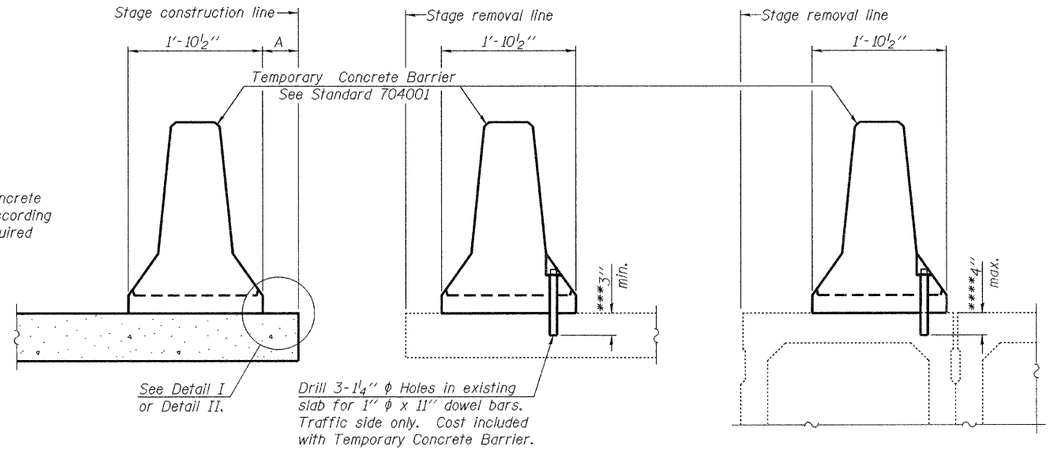
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

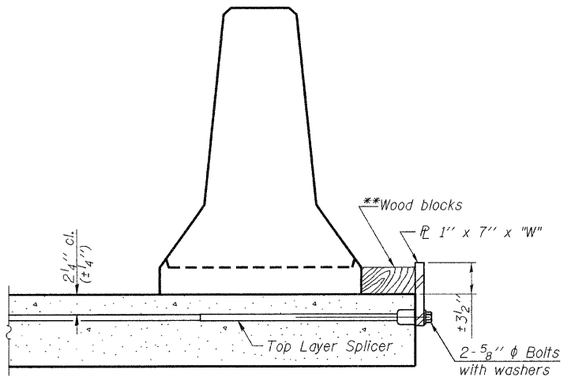
Cost of anchorage is included with Temporary Concrete Barrier.

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.

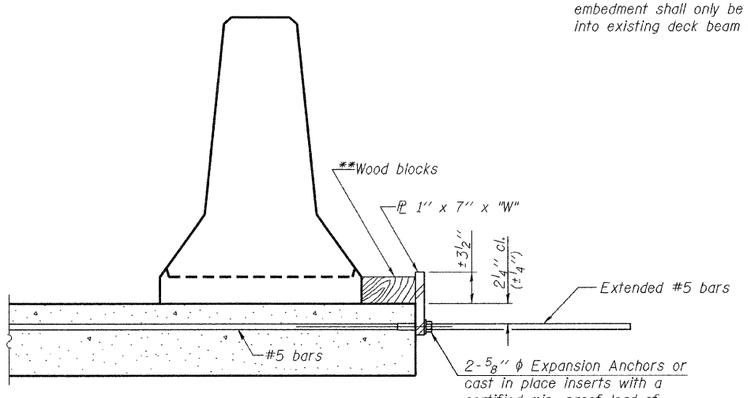
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



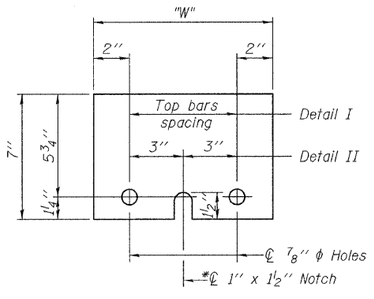
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 037-0017 (S.B.)

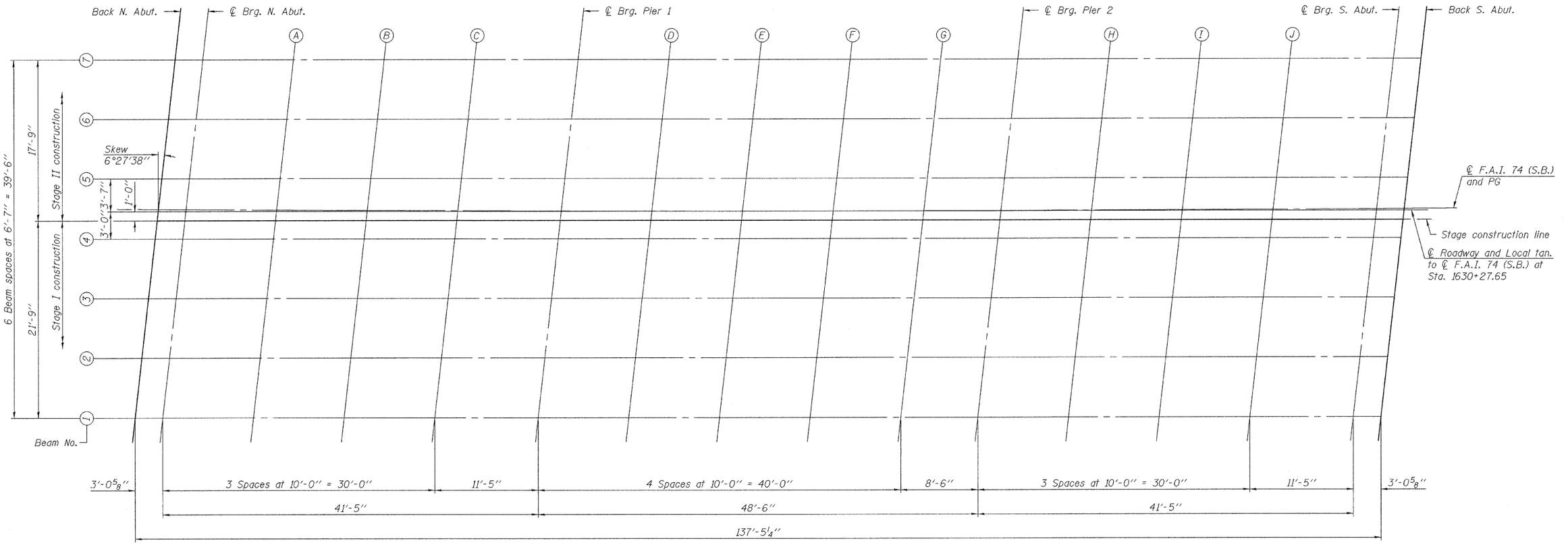
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

R-27 6-1-09

SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	76
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

N

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	71
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+54.41	22.97	806.77	806.77
℄ Brg. N. Abut.	1629+57.46	22.95	806.78	806.78
A	1629+67.44	22.90	806.80	806.82
B	1629+77.42	22.85	806.83	806.84
C	1629+87.40	22.81	806.85	806.86
℄ Pier 1	1629+98.80	22.78	806.87	806.87
D	1630+08.78	22.76	806.89	806.90
E	1630+18.76	22.75	806.91	806.93
F	1630+28.74	22.75	806.94	806.95
G	1630+38.72	22.75	806.96	806.96
℄ Pier 2	1630+47.21	22.76	806.97	806.97
H	1630+57.19	22.78	807.00	807.00
I	1630+67.17	22.81	807.02	807.03
J	1630+77.15	22.85	807.04	807.05
℄ Brg. S. Abut.	1630+88.55	22.90	807.06	807.06
Bk. S. Abut.	1630+91.59	22.91	807.07	807.07

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+55.12	16.38	806.91	806.91
℄ Brg. N. Abut.	1629+58.16	16.36	806.92	806.92
A	1629+68.15	16.31	806.94	806.96
B	1629+78.14	16.26	806.96	806.98
C	1629+88.12	16.23	806.99	807.00
℄ Pier 1	1629+99.53	16.20	807.01	807.01
D	1630+09.51	16.18	807.03	807.04
E	1630+19.50	16.17	807.05	807.07
F	1630+29.49	16.17	807.07	807.09
G	1630+39.47	16.17	807.10	807.10
℄ Pier 2	1630+47.96	16.18	807.11	807.11
H	1630+57.95	16.20	807.13	807.14
I	1630+67.94	16.23	807.15	807.17
J	1630+77.92	16.27	807.17	807.19
℄ Brg. S. Abut.	1630+89.32	16.32	807.20	807.20
Bk. S. Abut.	1630+92.37	16.34	807.20	807.20

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+55.82	9.79	807.04	807.04
℄ Brg. N. Abut.	1629+58.87	9.77	807.05	807.05
A	1629+68.86	9.72	807.07	807.08
B	1629+78.86	9.68	807.09	807.11
C	1629+88.85	9.64	807.11	807.12
℄ Pier 1	1630+00.26	9.61	807.14	807.14
D	1630+10.25	9.59	807.16	807.16
E	1630+20.24	9.58	807.18	807.19
F	1630+30.23	9.58	807.20	807.21
G	1630+40.22	9.59	807.22	807.23
℄ Pier 2	1630+48.72	9.60	807.24	807.24
H	1630+58.71	9.62	807.26	807.27
I	1630+68.70	9.65	807.28	807.30
J	1630+78.69	9.69	807.30	807.32
℄ Brg. S. Abut.	1630+90.10	9.74	807.32	807.32
Bk. S. Abut.	1630+93.15	9.76	807.33	807.33

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+56.53	3.21	807.14	807.14
℄ Brg. N. Abut.	1629+59.58	3.19	807.15	807.15
A	1629+69.58	3.14	807.17	807.19
B	1629+79.57	3.09	807.20	807.21
C	1629+89.57	3.06	807.22	807.23
℄ Pier 1	1630+00.99	3.03	807.24	807.24
D	1630+10.98	3.01	807.26	807.27
E	1630+20.98	3.00	807.28	807.30
F	1630+30.98	3.00	807.30	807.32
G	1630+40.98	3.01	807.33	807.33
℄ Pier 2	1630+49.47	3.02	807.34	807.34
H	1630+59.47	3.04	807.36	807.37
I	1630+69.47	3.07	807.39	807.40
J	1630+79.47	3.11	807.41	807.42
℄ Brg. S. Abut.	1630+90.88	3.16	807.43	807.43
Bk. S. Abut.	1630+93.93	3.18	807.44	807.44

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+56.74	1.20	807.18	807.18
℄ Brg. N. Abut.	1629+59.80	1.19	807.18	807.18
A	1629+69.79	1.14	807.21	807.22
B	1629+79.79	1.09	807.23	807.24
C	1629+89.79	1.06	807.25	807.26
℄ Pier 1	1630+01.21	1.03	807.27	807.27
D	1630+11.21	1.01	807.29	807.30
E	1630+21.21	1.00	807.32	807.33
F	1630+31.21	1.00	807.34	807.35
G	1630+41.20	1.01	807.36	807.36
℄ Pier 2	1630+49.70	1.02	807.38	807.38
H	1630+59.70	1.04	807.40	807.41
I	1630+69.70	1.07	807.42	807.43
J	1630+79.70	1.11	807.44	807.45
℄ Brg. S. Abut.	1630+91.12	1.16	807.46	807.46
Bk. S. Abut.	1630+94.17	1.18	807.47	807.47

℄ ROADWAY & LOC. TAN. TO ℄ F.A.I. 74 (S.B.) AT STA. 1630+27.65

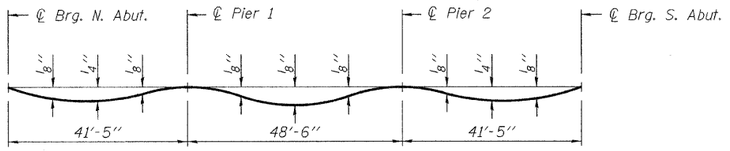
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+56.85	0.20	807.19	807.19
℄ Brg. N. Abut.	1629+59.90	0.19	807.20	807.20
A	1629+69.90	0.13	807.22	807.23
B	1629+79.90	0.09	807.24	807.26
C	1629+89.90	0.06	807.26	807.27
℄ Pier 1	1630+01.32	0.03	807.29	807.29
D	1630+11.32	0.01	807.31	807.32
E	1630+21.32	0.00	807.33	807.34
F	1630+31.32	0.00	807.35	807.36
G	1630+41.32	0.01	807.37	807.38
℄ Pier 2	1630+49.82	0.02	807.39	807.39
H	1630+59.82	0.04	807.41	807.42
I	1630+69.82	0.07	807.43	807.45
J	1630+79.82	0.11	807.45	807.47
℄ Brg. S. Abut.	1630+91.24	0.16	807.48	807.48
Bk. S. Abut.	1630+94.29	0.18	807.48	807.48

DESIGNED Nicholas R. Barnett
CHECKED Michael D. Rolape
DRAWN Michael B. Mossman
CHECKED N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	72
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

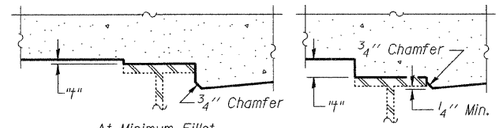


DEAD LOAD DEFLECTION DIAGRAM

(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 below and on sheet 6 of 27.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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 5 of 27. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on sheet 6 of 27, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

℄ F.A.I. 74 (S.B.) & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+56.87	0.00	807.20	807.20
℄ Brg. N. Abut.	1629+59.92	0.00	807.20	807.20
A	1629+69.92	0.00	807.22	807.24
B	1629+79.92	0.00	807.24	807.26
C	1629+89.92	0.00	807.27	807.28
℄ Pier 1	1630+01.32	0.00	807.29	807.29
D	1630+11.32	0.00	807.31	807.32
E	1630+21.32	0.00	807.33	807.34
F	1630+31.32	0.00	807.35	807.36
G	1630+41.32	0.00	807.37	807.38
℄ Pier 2	1630+49.82	0.00	807.39	807.39
H	1630+59.82	0.00	807.41	807.42
I	1630+69.82	0.00	807.43	807.45
J	1630+79.82	0.00	807.45	807.47
℄ Brg. S. Abut.	1630+91.25	0.00	807.48	807.48
Bk. S. Abut.	1630+94.31	0.00	807.49	807.49

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+57.24	-3.38	807.14	807.14
℄ Brg. N. Abut.	1629+60.29	-3.40	807.15	807.15
A	1629+70.29	-3.45	807.17	807.18
B	1629+80.29	-3.49	807.19	807.21
C	1629+90.30	-3.53	807.21	807.22
℄ Pier 1	1630+01.72	-3.56	807.23	807.23
D	1630+11.72	-3.57	807.26	807.26
E	1630+21.72	-3.58	807.28	807.29
F	1630+31.73	-3.58	807.30	807.31
G	1630+41.73	-3.58	807.32	807.32
℄ Pier 2	1630+50.23	-3.56	807.34	807.34
H	1630+60.23	-3.54	807.36	807.37
I	1630+70.24	-3.51	807.38	807.40
J	1630+80.24	-3.47	807.40	807.42
℄ Brg. S. Abut.	1630+91.66	-3.42	807.43	807.43
Bk. S. Abut.	1630+94.71	-3.40	807.43	807.43

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+57.94	-9.97	807.04	807.04
℄ Brg. N. Abut.	1629+61.00	-9.99	807.05	807.05
A	1629+71.01	-10.04	807.07	807.08
B	1629+81.01	-10.08	807.09	807.11
C	1629+91.02	-10.11	807.11	807.12
℄ Pier 1	1630+02.45	-10.14	807.13	807.13
D	1630+12.46	-10.16	807.15	807.16
E	1630+22.47	-10.17	807.18	807.19
F	1630+32.47	-10.17	807.20	807.21
G	1630+42.48	-10.16	807.22	807.22
℄ Pier 2	1630+50.99	-10.14	807.24	807.24
H	1630+61.00	-10.12	807.26	807.27
I	1630+71.01	-10.09	807.28	807.30
J	1630+81.01	-10.05	807.30	807.31
℄ Brg. S. Abut.	1630+92.44	-10.00	807.33	807.33
Bk. S. Abut.	1630+95.49	-9.98	807.33	807.33

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+58.65	-16.56	806.92	806.92
℄ Brg. N. Abut.	1629+61.71	-16.57	806.92	806.92
A	1629+71.72	-16.62	806.94	806.96
B	1629+81.74	-16.66	806.96	806.98
C	1629+91.75	-16.70	806.98	806.99
℄ Pier 1	1630+03.18	-16.73	807.01	807.01
D	1630+13.20	-16.74	807.03	807.03
E	1630+23.21	-16.75	807.05	807.06
F	1630+33.22	-16.75	807.07	807.08
G	1630+43.24	-16.74	807.09	807.10
℄ Pier 2	1630+51.75	-16.73	807.11	807.11
H	1630+61.76	-16.70	807.13	807.14
I	1630+71.78	-16.67	807.15	807.17
J	1630+81.79	-16.63	807.18	807.19
℄ Brg. S. Abut.	1630+93.22	-16.58	807.20	807.20
Bk. S. Abut.	1630+96.28	-16.56	807.21	807.21

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0017 (S.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 7	74	37-4HB-1	HENRY	148	7
27 SHEETS			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST CURB LINE

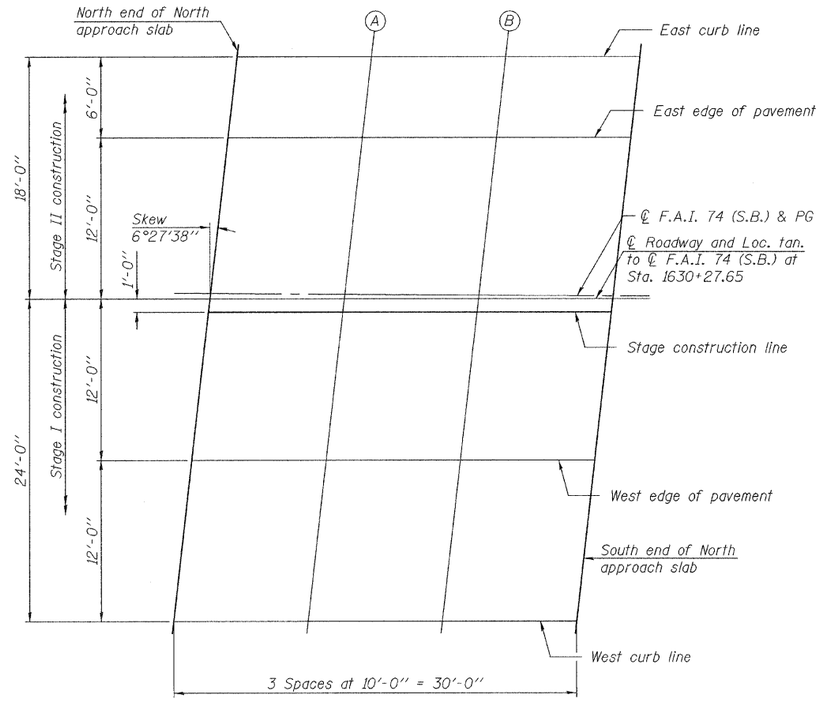
Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+25.05	24.43	806.68
A	1629+35.03	24.35	806.71
B	1629+45.01	24.28	806.73
S. end of N. approach slab	1629+54.99	24.22	806.75

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+26.30	12.42	806.93
A	1629+36.29	12.34	806.96
B	1629+46.28	12.27	806.98
S. end of N. approach slab	1629+56.27	12.21	807.00

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+27.46	1.41	807.11
A	1629+37.46	1.33	807.13
B	1629+47.46	1.26	807.16
S. end of N. approach slab	1629+57.46	1.20	807.18



PLAN

℄ ROADWAY AND LOC. TAN. TO ℄ F.A.I. 74 (S.B.) AT STA. 1630+94.30

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+27.56	0.41	807.13
A	1629+37.56	0.33	807.15
B	1629+47.56	0.26	807.17
S. end of N. approach slab	1629+57.56	0.20	807.19

℄ F.A.I. 74 (S.B.) & P.G.

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+27.61	0.00	807.13
A	1629+37.61	0.00	807.15
B	1629+47.61	0.00	807.18
S. end of N. approach slab	1629+57.58	0.00	807.20

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+28.83	-11.60	806.96
A	1629+38.84	-11.68	806.97
B	1629+48.84	-11.75	807.00
S. end of N. approach slab	1629+58.85	-11.81	807.02

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. end of N. approach slab	1629+29.46	-17.61	806.83
A	1629+39.47	-17.68	806.85
B	1629+49.49	-17.75	806.87
S. end of N. approach slab	1629+59.50	-17.81	806.89

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./C.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF NORTH APPROACH SLAB ELEVATIONS STRUCTURE NO. 037-0017 (S.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 8	74	37-4HB-1	HENRY	148	74
27 SHEETS			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST CURB LINE

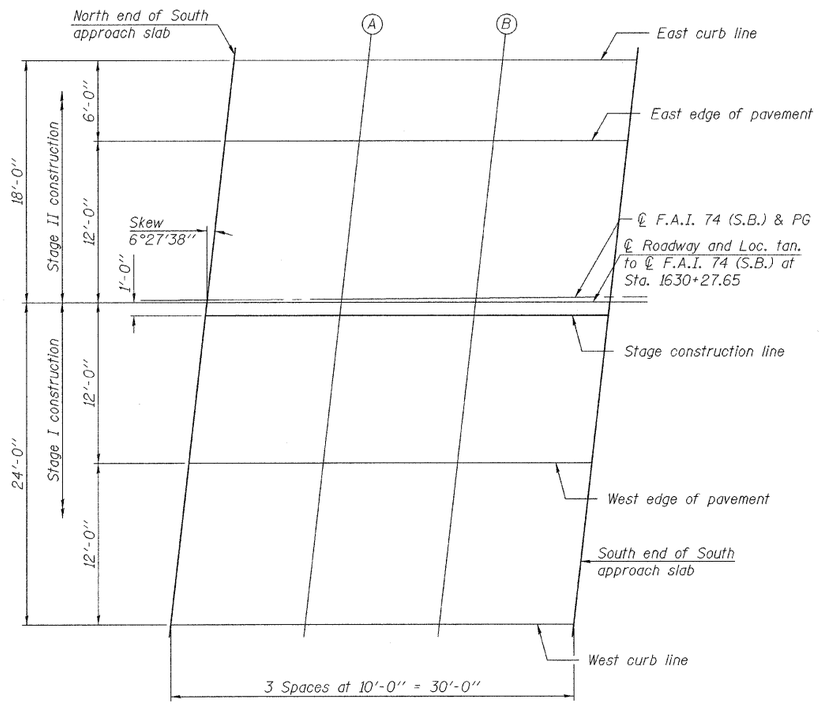
Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+90.73	24.16	807.04
A	1631+00.71	24.22	807.06
B	1631+10.69	24.28	807.08
S. end of S. approach slab	1631+20.67	24.35	807.10

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+92.15	12.17	807.29
A	1631+02.14	12.23	807.31
B	1631+12.13	12.29	807.33
S. end of S. approach slab	1631+22.12	12.36	807.35

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+93.46	1.18	807.47
A	1631+03.45	1.23	807.49
B	1631+13.45	1.30	807.51
S. end of S. approach slab	1631+23.45	1.37	807.53



PLAN

N

℄ ROADWAY AND LOC. TAN. TO ℄ F.A.I. 74 (S.B.) AT STA. 1630+94.30

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+93.57	0.18	807.48
A	1631+03.57	0.23	807.50
B	1631+13.57	0.30	807.52
S. end of S. approach slab	1631+23.57	0.37	807.54

℄ F.A.I. 74 (S.B.) & P.G.

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+93.60	0.00	807.48
A	1631+03.60	0.00	807.51
B	1631+13.60	0.00	807.53
S. end of S. approach slab	1631+23.62	0.00	807.55

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+95.00	-11.82	807.30
A	1631+05.01	-11.76	807.32
B	1631+15.02	-11.69	807.35
S. end of S. approach slab	1631+25.03	-11.61	807.37

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. end of S. approach slab	1630+95.71	-17.81	807.18
A	1631+05.73	-17.75	807.20
B	1631+15.74	-17.68	807.22
S. end of S. approach slab	1631+25.75	-17.61	807.25

DESIGNED Nicholas R. Barnett
CHECKED Michael D. Rolape
DRAWN Michael B. Mossman
CHECKED N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SOUTH APPROACH SLAB ELEVATIONS STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	75
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

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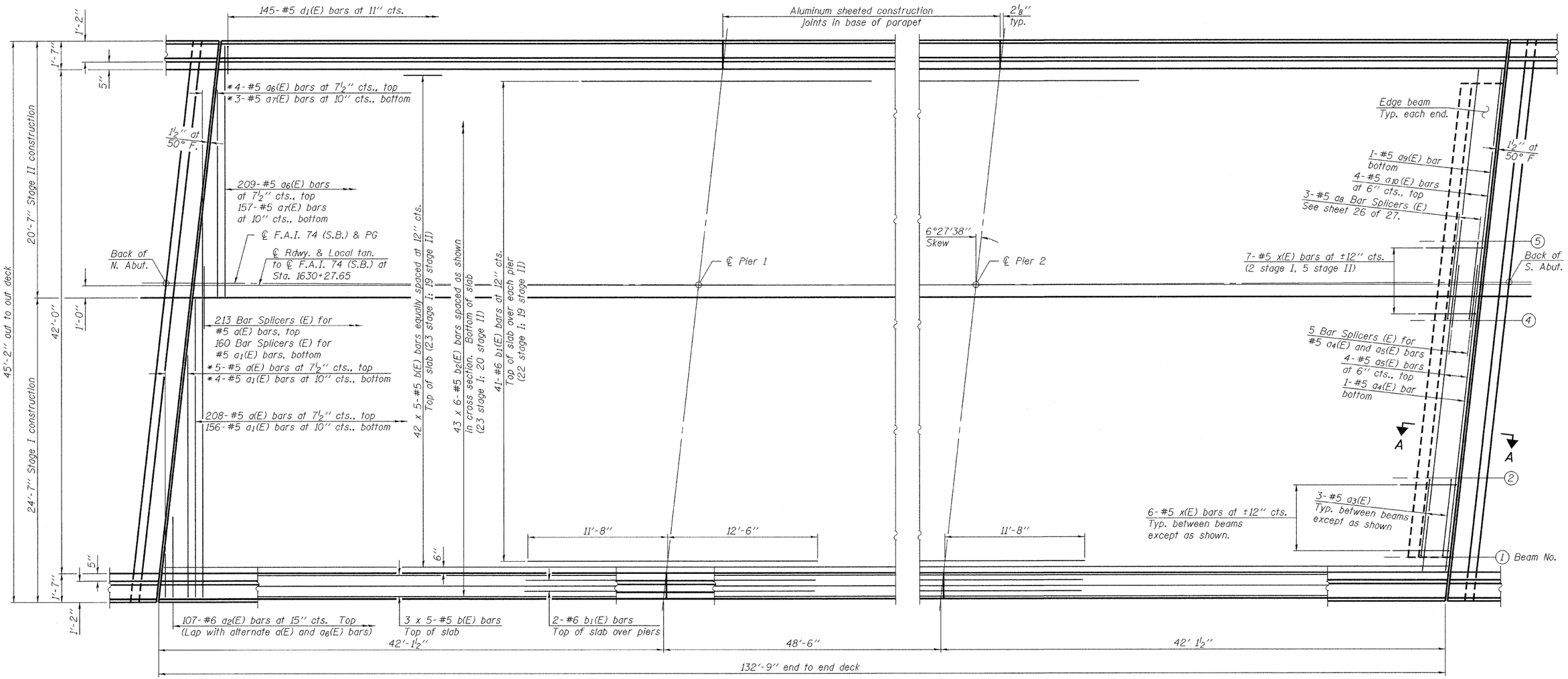
* Order $a(E)$, $a_1(E)$, $a_6(E)$ and $a_7(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

MINIMUM BAR LAP
(Slab)
#5 bar = 2'-2"

Notes:
See Sheet 12 of 27 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 12 of 27 for parapet reinforcement.
See sheet 12 of 27 for Section A-A.

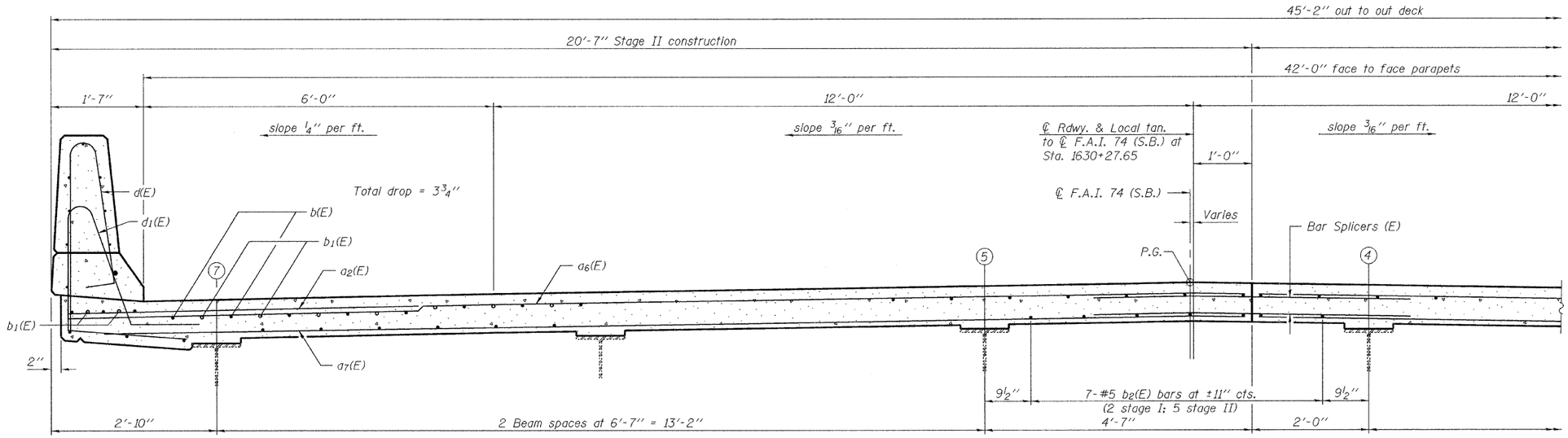
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

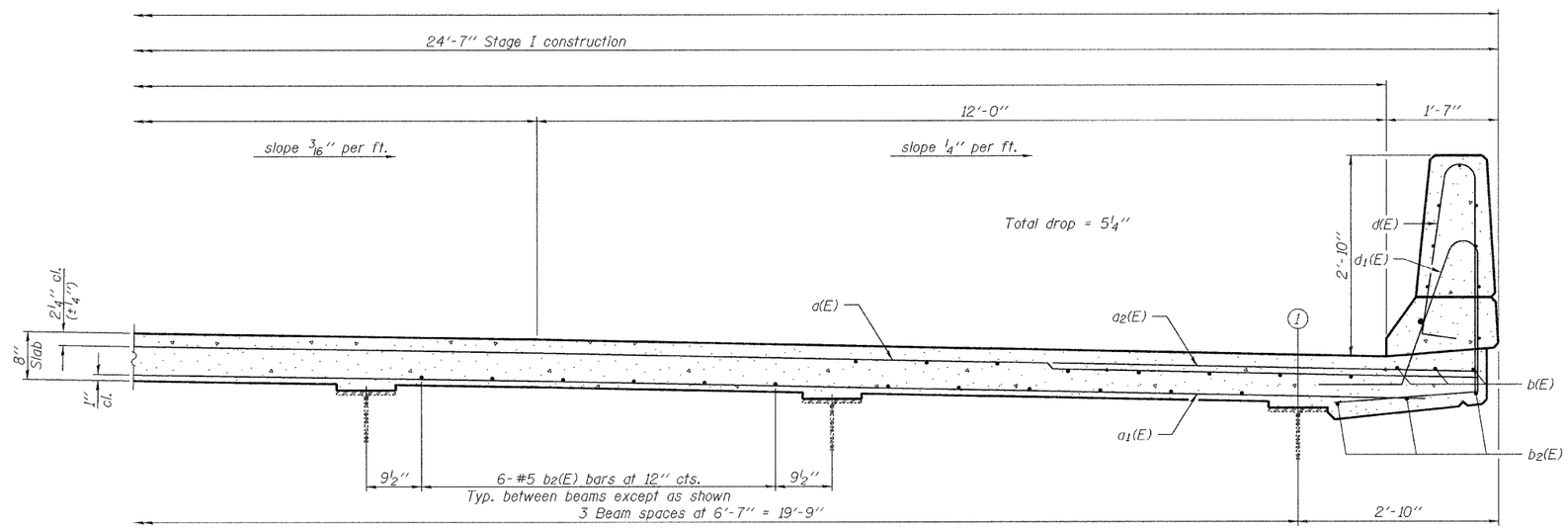
SUPERSTRUCTURE
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	76
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NEAR PIER



NEAR MIDSPAN

Notes:
See Sheet 12 of 27 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 12 of 27 for parapet reinforcement.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

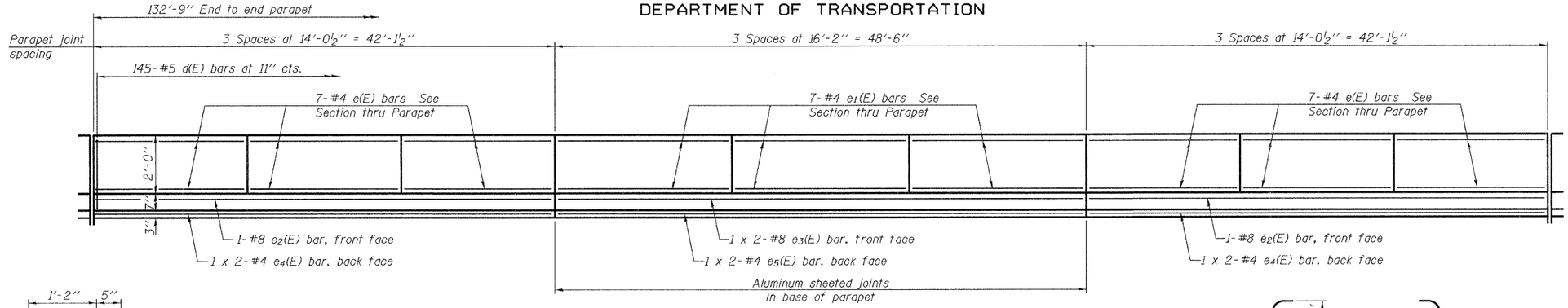
September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

CROSS SECTION
(Looking South)

SUPERSTRUCTURE
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	77
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

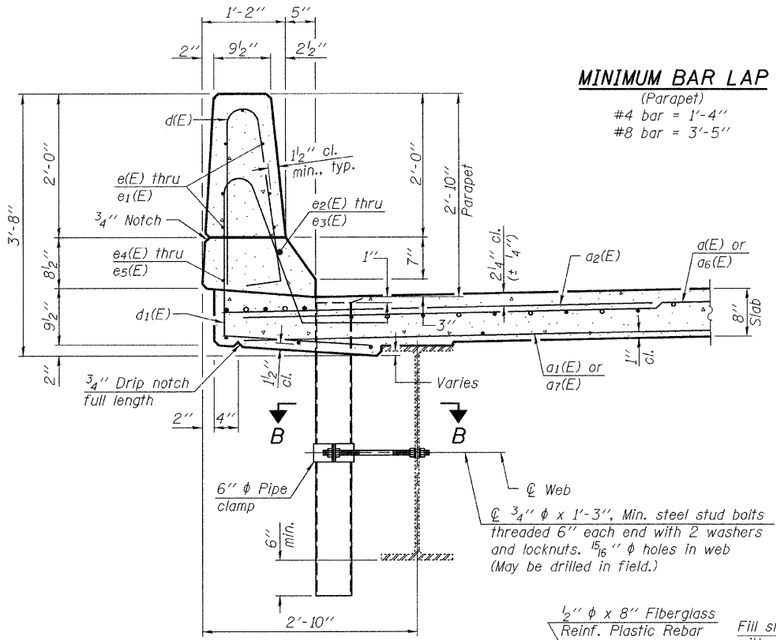
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



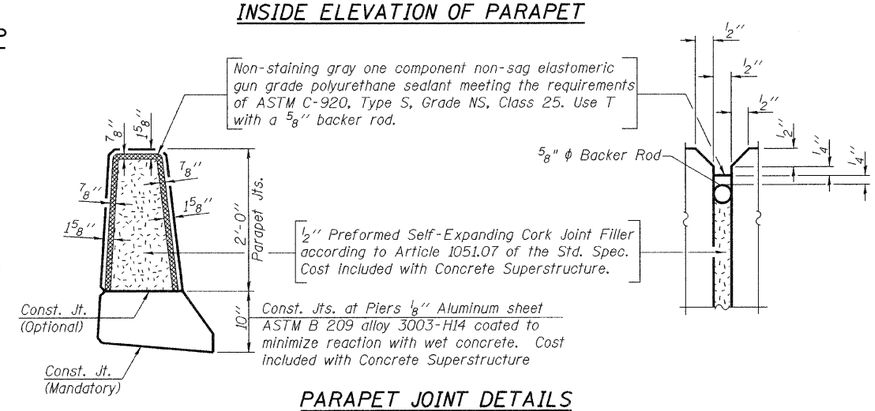
MINIMUM BAR LAP

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"

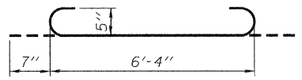
INSIDE ELEVATION OF PARAPET



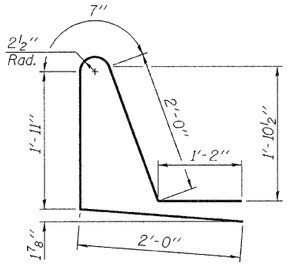
SECTION THRU PARAPET



PARAPET JOINT DETAILS



a3(E) BAR

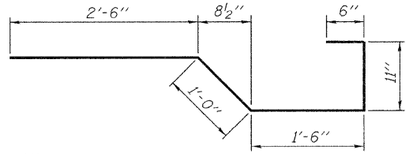


BAR d1(E)

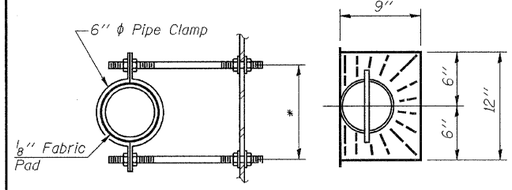
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	213	#5	24'-2"	——
a1(E)	160	#5	23'-5"	——
a2(E)	214	#6	6'-0"	——
a3(E)	30	#5	7'-6"	⊂ ⊃
a4(E)	2	#5	21'-7"	——
a5(E)	8	#5	24'-3"	——
a6(E)	213	#5	20'-2"	——
a7(E)	160	#5	19'-5"	——
a9(E)	2	#5	17'-7"	——
a10(E)	8	#5	20'-3"	——
b(E)	240	#5	28'-3"	——
b1(E)	90	#6	24'-2"	——
b2(E)	258	#5	23'-11"	——
d(E)	290	#5	5'-7"	⌋
d1(E)	290	#5	7'-8"	⌊
e(E)	84	#4	13'-9"	——
e1(E)	42	#4	15'-11"	——
e2(E)	4	#8	41'-10"	——
e3(E)	4	#8	25'-10"	——
e4(E)	8	#4	21'-8"	——
e5(E)	4	#4	24'-10"	——
x(E)	74	#5	6'-5"	⌐ ⌋
Reinforcement Bars, Epoxy Coated			Pound	43,010
Concrete Superstructure			Cu. Yds.	193.1

Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



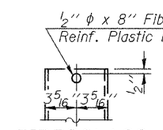
BAR x(E)



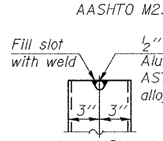
SECTION B-B

* Dimension as required by Pipe Clamp

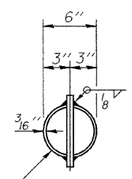
TOP PLAN



FIBERGLASS PIPE



ALUMINUM TUBE

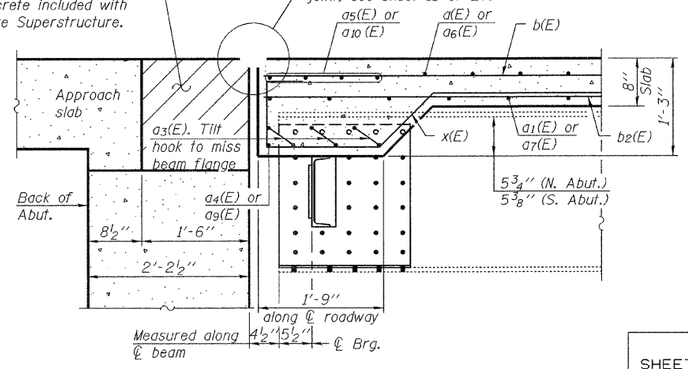


6" O.D. Aluminum Tube alloy 6061-T6 or 6" ϕ Fiberglass Pipe

TOP PLAN

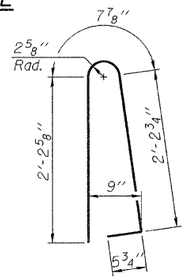
(Showing Aluminum Tube)

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.



SECTION A-A

Dimensions are at right angles to abutment except as noted.



BAR d(E)

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 037-0017 (S.B.)

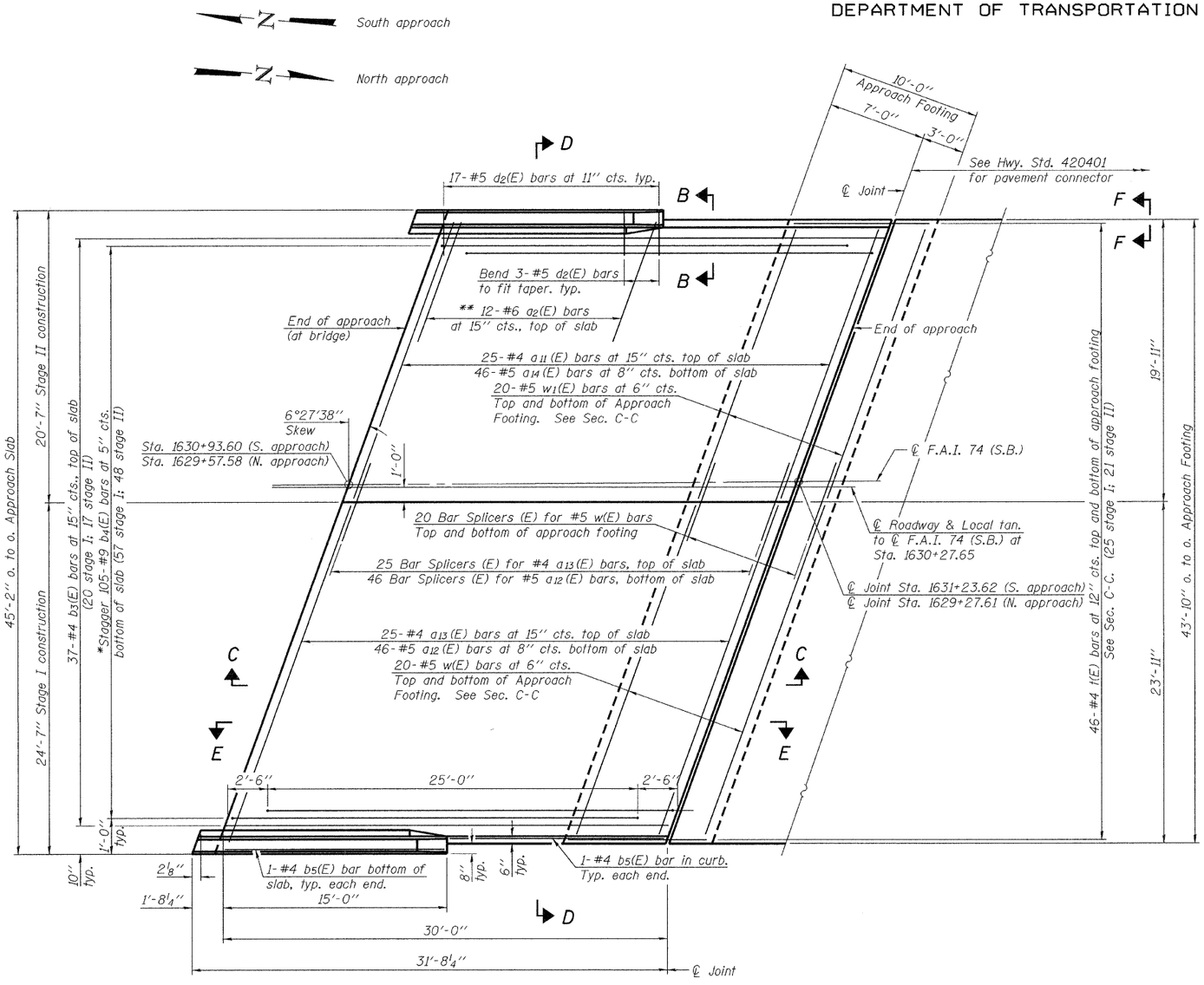
SHEET NO. 12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	73
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

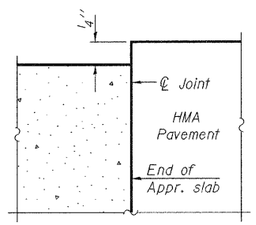
Notes:
See sheet 14 of 27 for Sections C-C & D-D and View E-E.
a_{11}(E) thru a_{14}(E), w(E), and w_1(E) bar spacings measured along ℄ Rdwy.



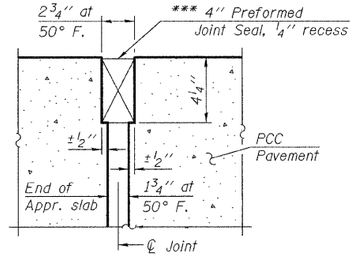
PLAN
(South approach slab shown; North approach slab similar)

* Tilt #9 b_4(E) bars as required to maintain clearance.
** Space between a_{11}(E) and a_{13}(E) bars, typ. each parapet.

*** Cost included with Concrete Superstructure.

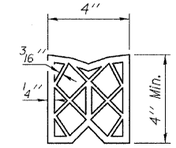


FLEXIBLE PAVEMENT

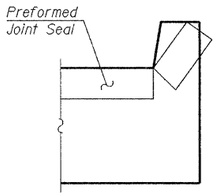


RIGID PAVEMENT

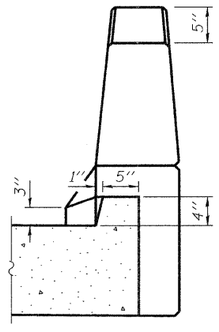
DETAIL A



PREFORMED JOINT SEAL



VIEW F-F
Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW B-B

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

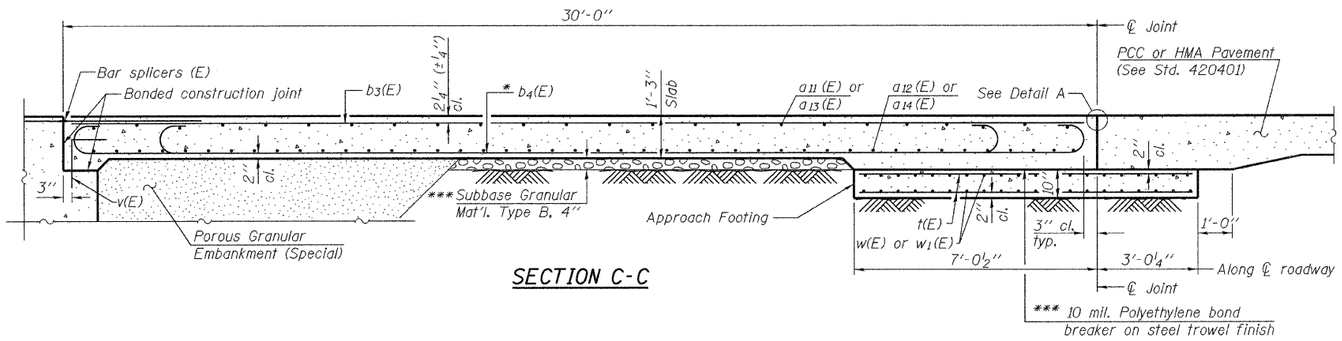
September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

(Sheet 1 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 037-0017 (S.B.)

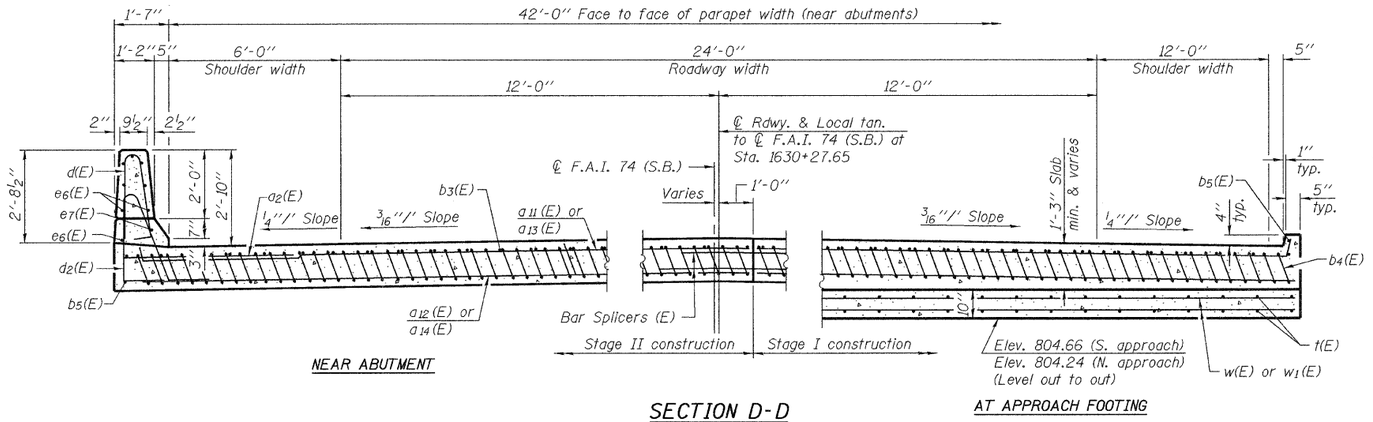
SHEET NO. 13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	79
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 13 of 27 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 23 of 27.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 26 of 27.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 27.
For additional parapet details, see sheet 12 of 27.



SECTION C-C

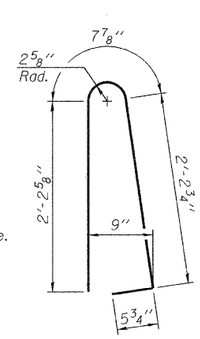


NEAR ABUTMENT

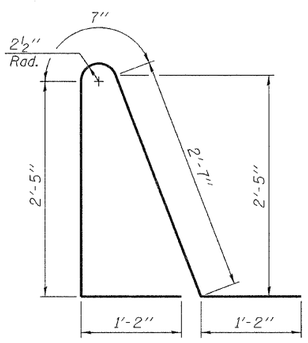
AT APPROACH FOOTING

* Tilt #9 b4(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



BAR d(E)



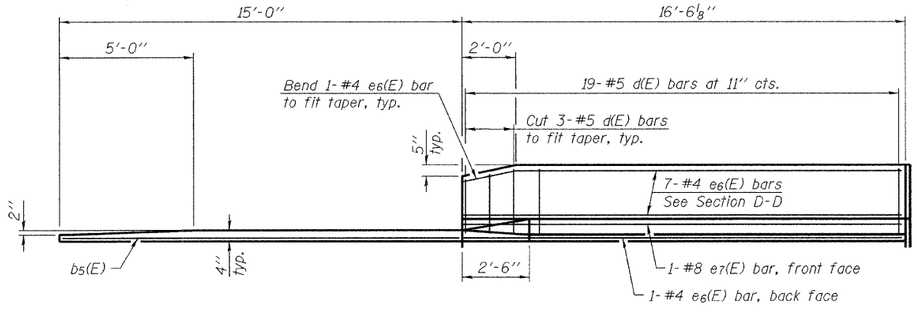
BAR d_2(E)

TWO APPROACHES
BILL OF MATERIAL

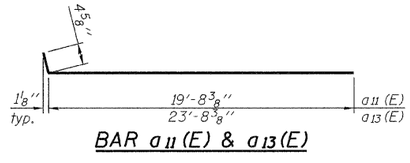
Bar	No.	Size	Length	Shape
a_2(E)	48	#6	6'-0"	——
a11(E)	50	#4	20'-1"	L
a12(E)	92	#5	23'-9"	——
a13(E)	50	#4	24'-1"	L
a14(E)	92	#5	19'-9"	——
b3(E)	74	#4	29'-8"	——
b4(E)	210	#9	29'-9"	⊂—⊃
b5(E)	8	#4	14'-8"	——
d(E)	76	#5	5'-7"	
d_2(E)	68	#5	7'-11"	
e6(E)	32	#4	16'-2"	——
e7(E)	4	#8	16'-2"	——
t(E)	184	#4	9'-9"	——
w(E)	80	#5	23'-9"	——
w1(E)	80	#5	19'-9"	——
Concrete Superstructure			Cu. Yd.	137.8
Concrete Structures			Cu. Yd.	27.2
Reinforcement Bars, Epoxy Coated			Pound	35,220

SECTION D-D

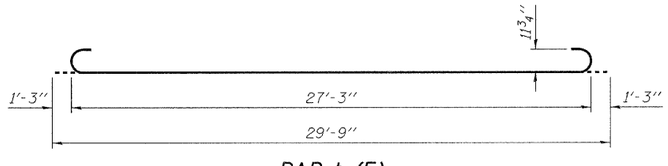
(See Plan for dimensions not shown)
Section D-D showing S. Approach.
N. Approach similar by 180° rotation.



VIEW E-E



BAR a11(E) & a13(E)



BAR b4(E)

DESIGNED	Nicholas R. Barnett
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DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 14 27 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB-1	HENRY	148	80
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS
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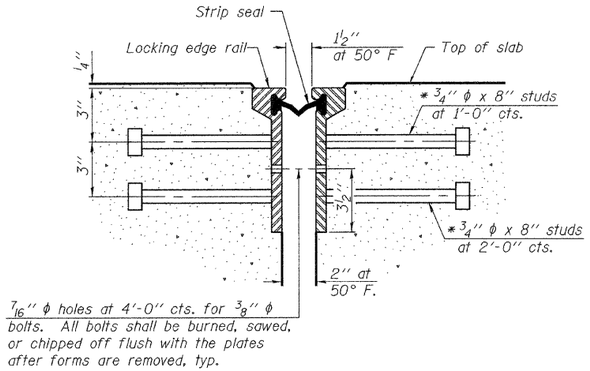
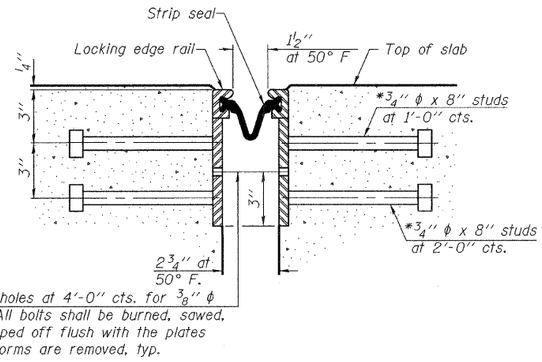
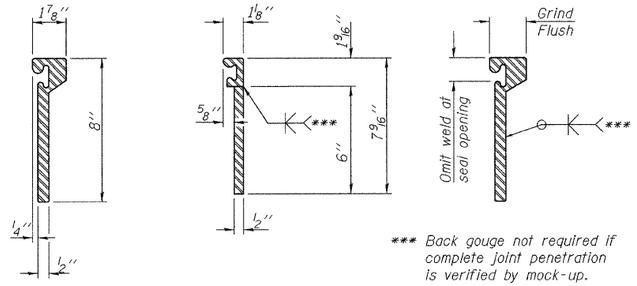




SECTION THRU ROLLED RAIL JOINT



*** Back gouge not required if complete joint penetration is verified by mock-up.

ROLLED EXTRUDED RAIL

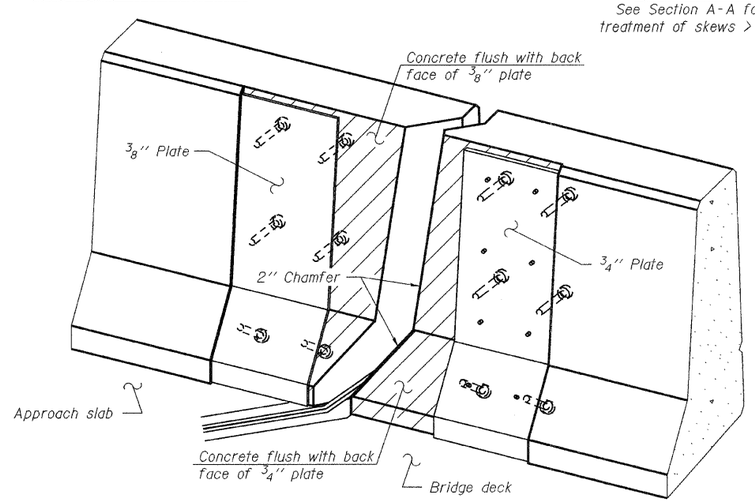
WELDED RAIL

LOCKING EDGE RAIL SPLICE

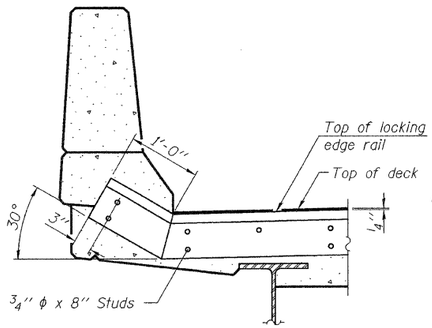
The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

SECTION THRU WELDED RAIL JOINT

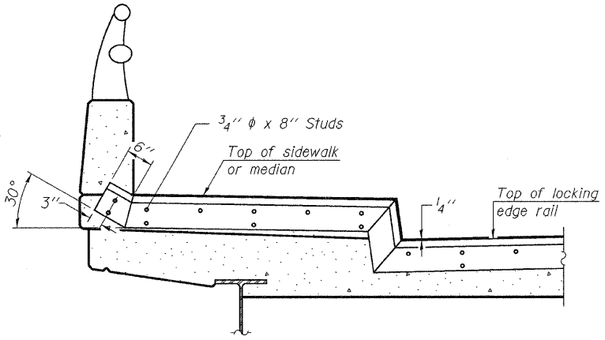


TRIMETRIC VIEW
(Showing back plates only)



AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

Notes:

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. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

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. Locking Edge Rails may be spliced at slope discontinuities.

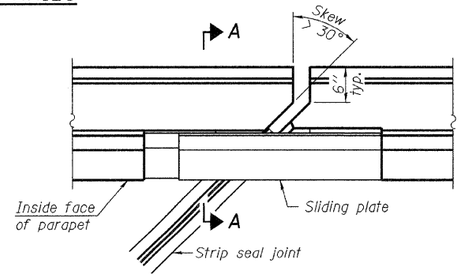
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

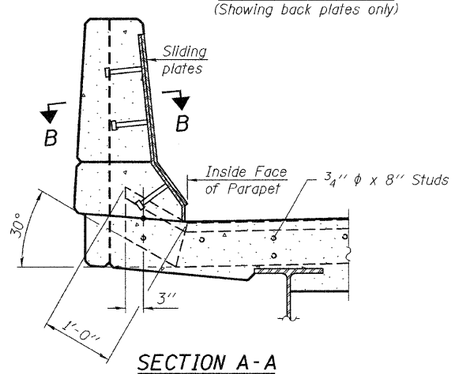
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

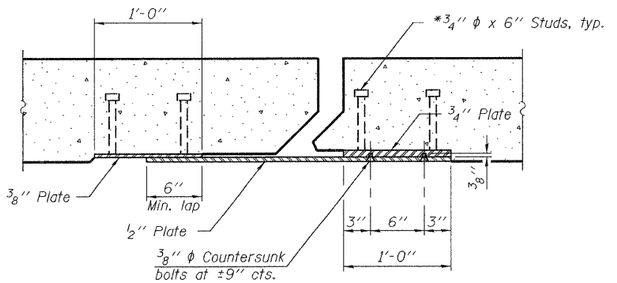
LOCKING EDGE RAILS



PLAN



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	88'-6"

PREFORMED JOINT STRIP SEAL STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	81
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
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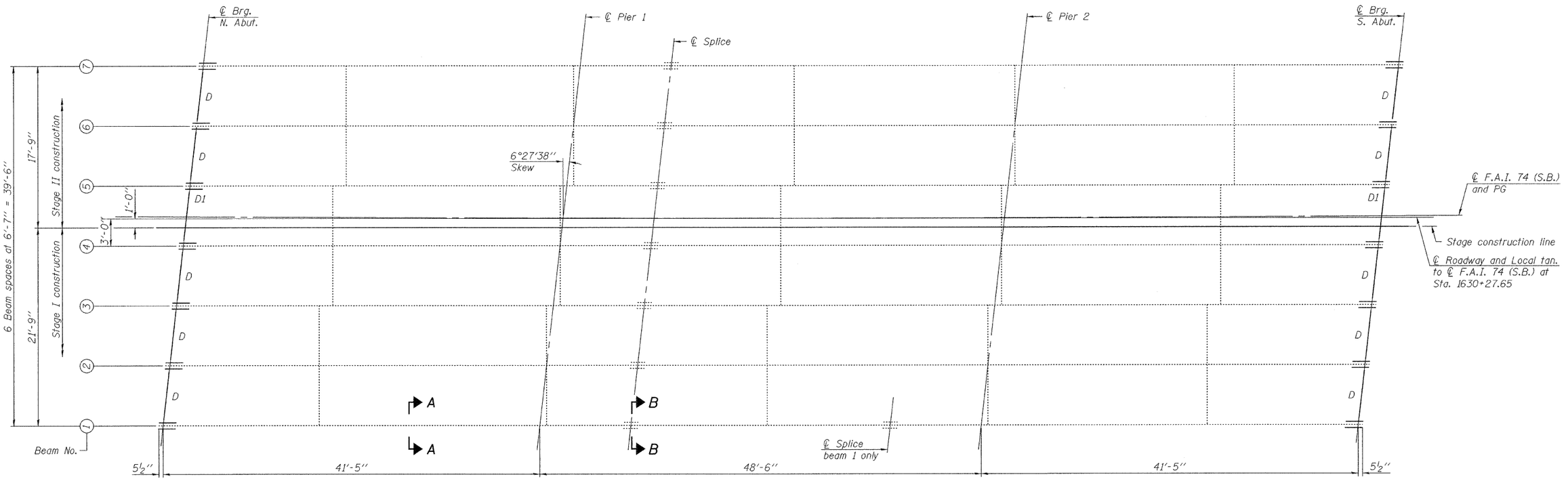
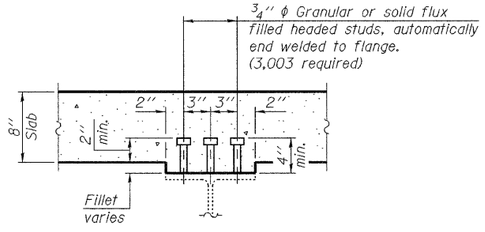
EJ-SSJ 6-1-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

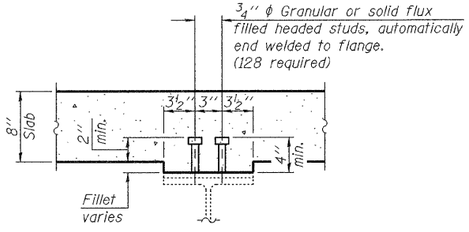


PLAN
Existing beams 27WF94

Note:
See sheet 18 of 27 for diaphragm D and D1 details.
Shear connectors over the splice are in rows of 2. See Sec. B-B. Shear connectors in other locations, except over the splice, are in rows of 3. See Sec. A-A.



SECTION A-A



SECTION B-B
(Over splice only)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
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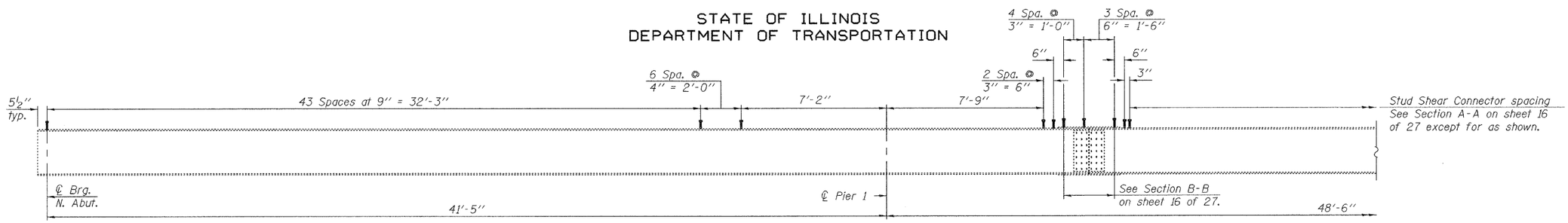
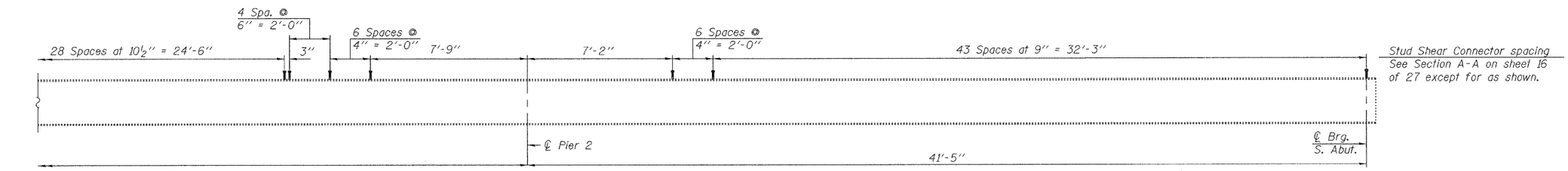
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL
STRUCTURE NO. 037-0017 (S.B.)

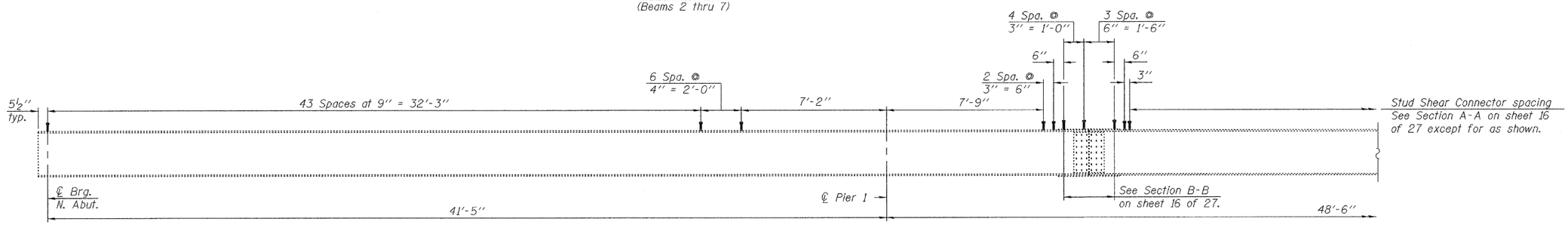
SHEET NO. 16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	82
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

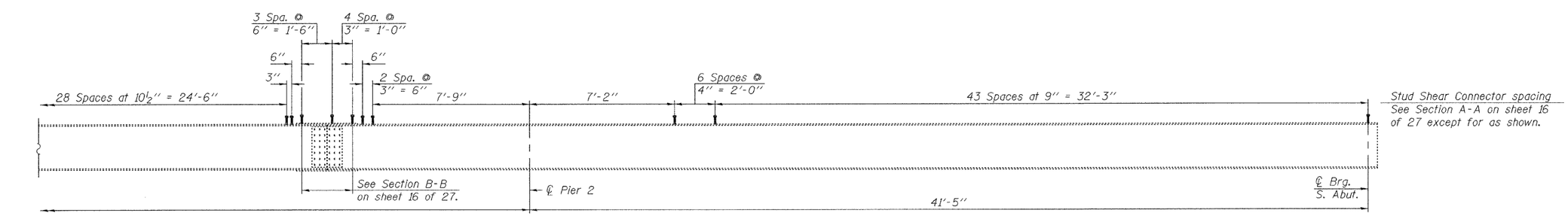
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





ELEVATION
(Beams 2 thru 7)





ELEVATION
(Beam 1)

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 037-0017 (S.B.)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	83
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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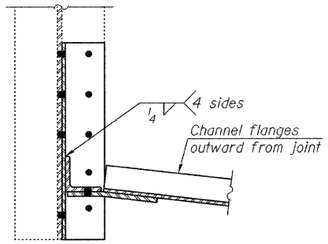
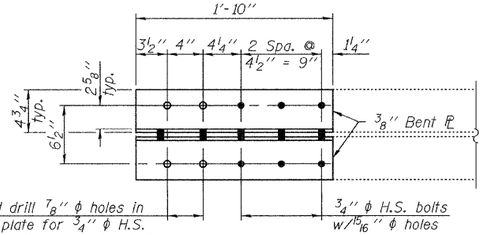
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

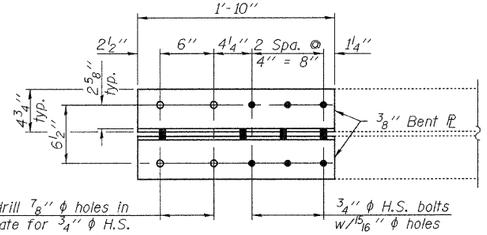


SECTION C-C



Field drill ⅞" ϕ holes in ⅜" plate for ¾" ϕ H.S. bolts. See sheet 19 of 27.

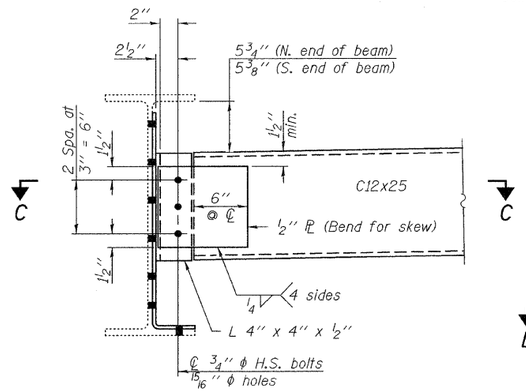
¾" ϕ H.S. bolts w/ 15/16" ϕ holes



Field drill ⅞" ϕ holes in ⅜" plate for ¾" ϕ H.S. bolts. See sheet 19 of 27.

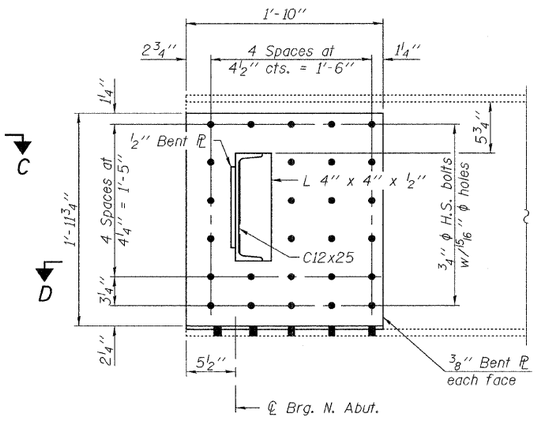
¾" ϕ H.S. bolts w/ 15/16" ϕ holes

SECTION D-D



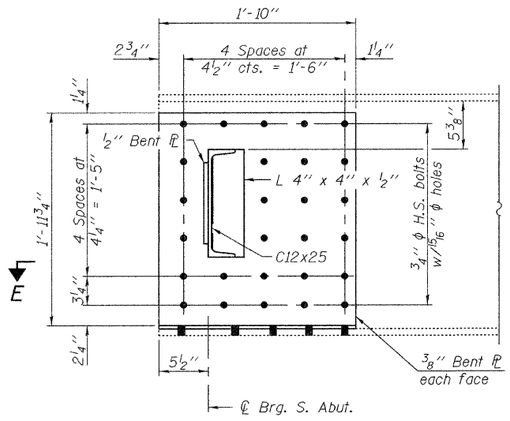
DIAPHRAGM D

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



NORTH END OF BEAM ELEVATION

SECTION E-E



SOUTH END OF BEAM ELEVATION

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in^4)	3270	3270	3270
$I_c(n)$	(in^4)	10045	-	10045
$I_c(3n)$	(in^4)	7483	-	7483
S_s	(in^3)	243	243	243
$S_c(n)$	(in^3)	382	-	382
$S_c(3n)$	(in^3)	345	-	345
w_Q	(k/')	0.776	1.07	0.776
M_Q	('k)	96.8	201.7	70.9
s_Q	(k/')	0.294	-	0.294
M_{sQ}	('k)	42.7	-	42.0
M_L	('k)	244.4	122.8	255.5
M_{IM}	('k)	73.3	36.1	73.6
$\frac{5}{3}[M_L + I]$	('k)	529.5	264.8	548.5
M_a	('k)	869.8	606.6	859.7
* M_u	('k)	1021.4	-	1155.1
f_s Q non-comp	(ksi)	4.8	10.0	3.5
f_s Q (comp)	(ksi)	1.5	-	1.5
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	16.6	13.1	17.2
f_s (Overload)	(ksi)	22.9	23.1	22.2
** f_s (Total)	(ksi)	-	30.0	-
VR	(k)	38.0	-	34.1

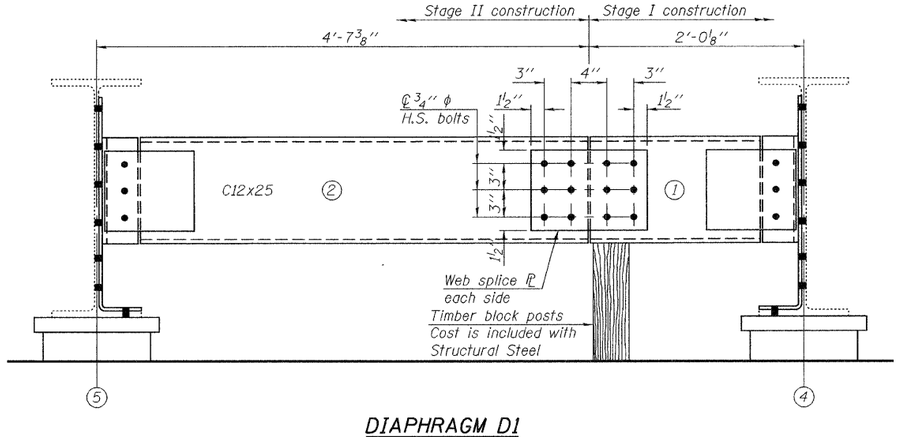
INTERIOR BEAM REACTION TABLE			
		Abut.	Pier
R_Q	(k)	17.3	53.0
R_L	(k)	32.2	39.2
R_I	(k)	9.7	11.8
R_{Total}	(k)	59.2	104.0

* Compact section
** Braced non-compact and partially braced section

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).
$I_c(3n)$, $S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).
Q: Un-factored non-composite dead load (kips/ft.).
M_Q: Un-factored moment due to non-composite dead load (kip-ft.).
s_Q: Un-factored long-term composite (superimposed) dead load (kips/ft.)
M_{sQ}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment (kip-ft.).
M_I: Un-factored moment due to impact (kip-ft.).
M_a: Factored design moment (kip-ft.).
$1.3\ [M_Q + M_{sQ} + \frac{5}{3}(M_L + M_I)]$
M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M_Q + M_{sQ} + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M_Q + M_{sQ} + \frac{5}{3}(M_L + M_I)]$
VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

1.) Order diaphragm in two sections.
2.) Attach section (1) of diaphragm to beam (See Diaphragm D for connection).
3.) Place timber block posts between section (1) of diaphragm and abutment bearing section.
4.) Attach section (2) of diaphragm to both beam (See Diaphragm D for connection) and section (1) of diaphragm during stage II construction with splice plates.
5.) Remove timber block posts.



DIAPHRAGM D1
(North diaphragm D1 looking South. South diaphragm D1 similar)

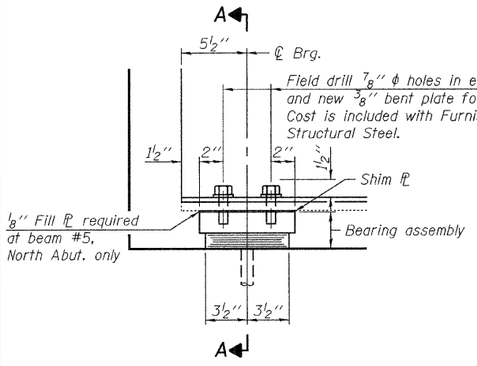
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

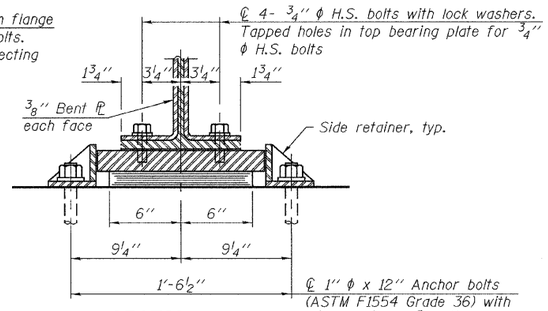
STRUCTURAL STEEL DETAILS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 18	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	84
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

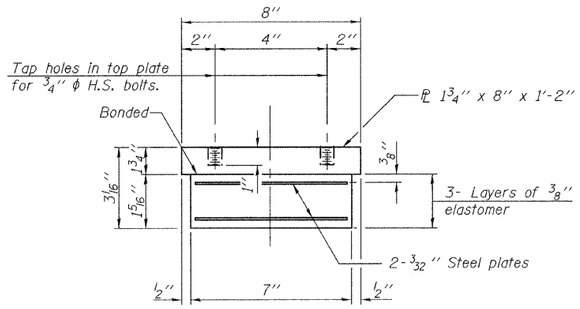


ELEVATION AT ABUT.

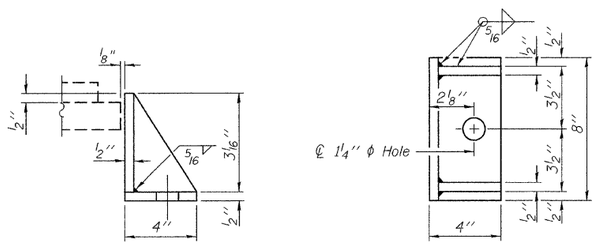


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. AT NORTH ABUTMENT



NORTH ABUTMENT
BEARING ASSEMBLY



NORTH ABUTMENT
SIDE RETAINER

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

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.

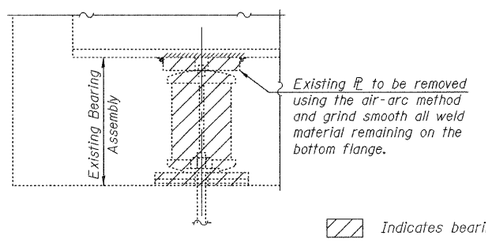
Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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 bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

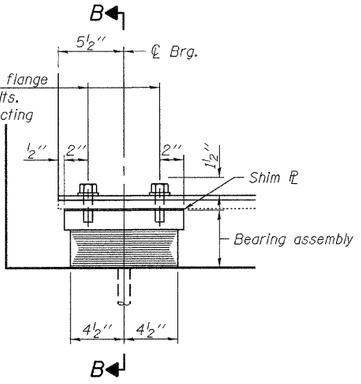
Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Shim plates shall not be placed under Bearing Assembly.

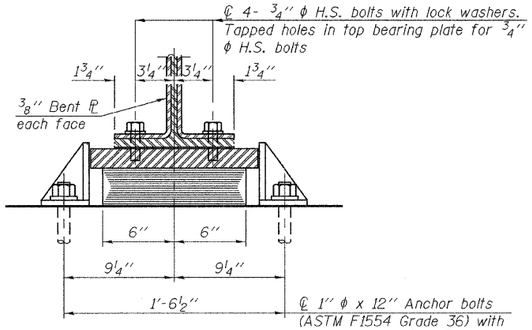


EXISTING BEARING REMOVAL DETAIL

Cost included with Jacking and Cribbing.

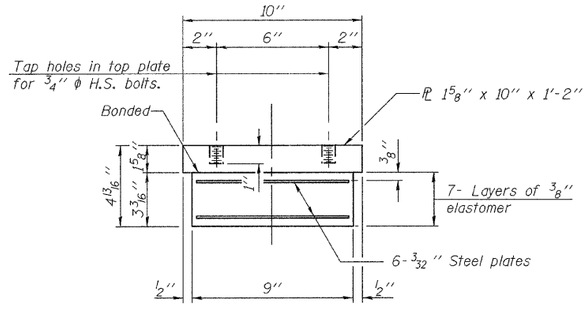


ELEVATION AT ABUT.

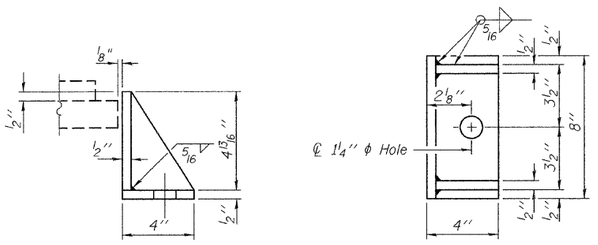


SECTION B-B

TYPE I ELASTOMERIC EXP. BRG. AT SOUTH ABUTMENT



SOUTH ABUTMENT
BEARING ASSEMBLY



SOUTH ABUTMENT
SIDE RETAINER

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

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

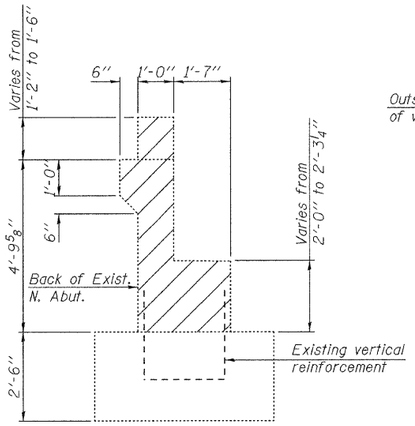
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Anchor Bolts	Each	28

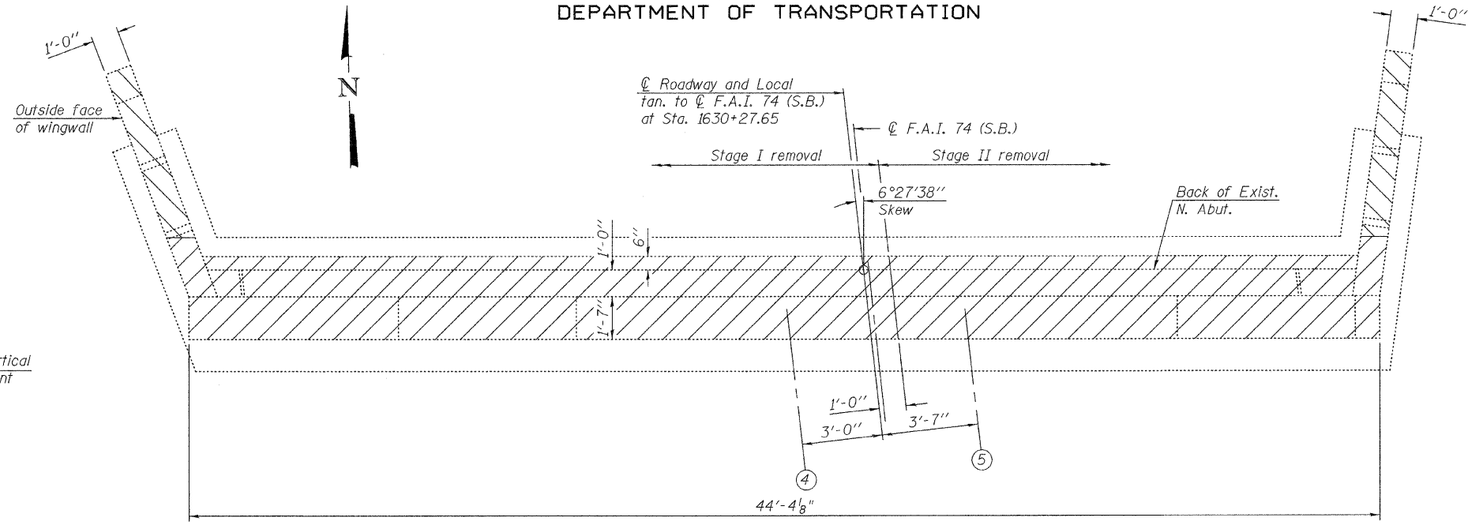
BEARING DETAILS
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 19	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	85
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU ABUTMENT



PLAN

JACKING AND CRIBBING AT NORTH ABUTMENT

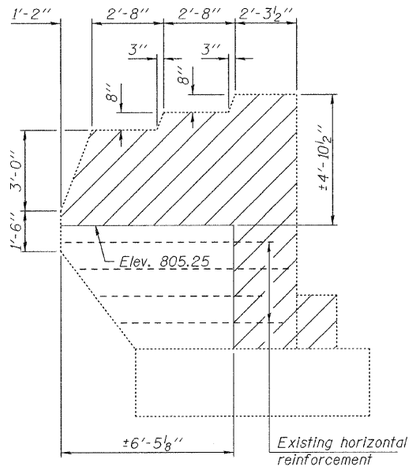
1.) The Contractor shall submit for approval by the Engineer plans for jacking and cribbing prior to commencing any work at the bearings.

2.) Jacking and removing existing bearings shall be done after the deck removal is completed and before the concrete removal at the abutments.

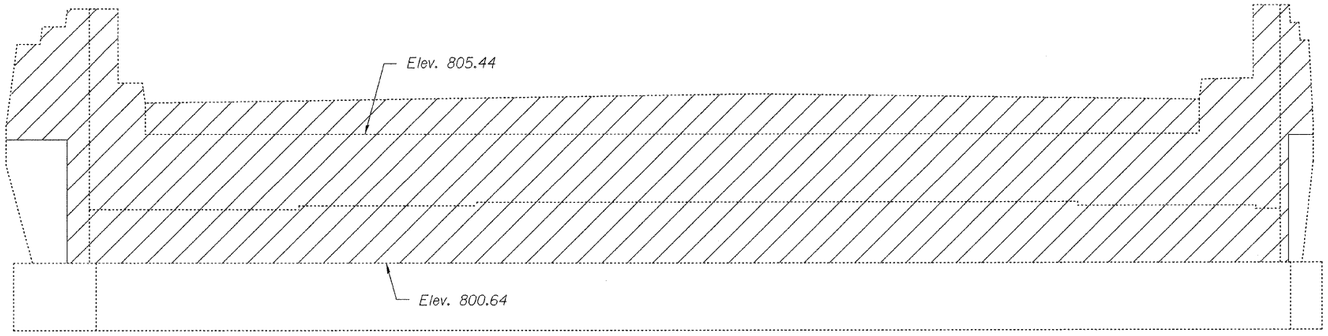
3.) Jacking shall be limited to a maximum of ¾" lift to remove the existing bearing assembly, utilizing a jack or series of jacks. The max. dead load reaction at each beam with the deck removed is 1.8 k at abutments. The minimum jack capacity for each beam is 3 k at abutments.

4.) Reconstruct abutment as detailed on sheets 22 and 23 of 27.

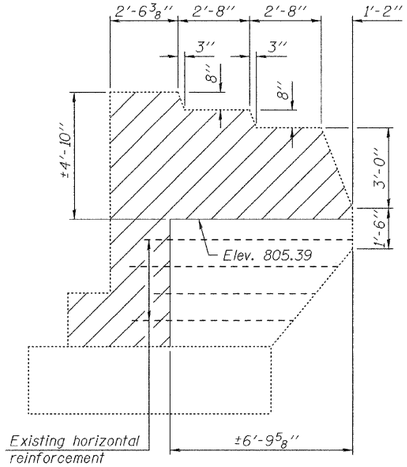
5.) The new bearings, fill plates and shim plates shall be in place and the beams shall be lowered before the new concrete deck is poured.



WEST WINGWALL ELEVATION
(Outside face)



ELEVATION



EAST WINGWALL ELEVATION
(Outside face)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
Existing horizontal and vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with the cost of Concrete Removal.
Hatched areas indicate the limits of concrete removal.

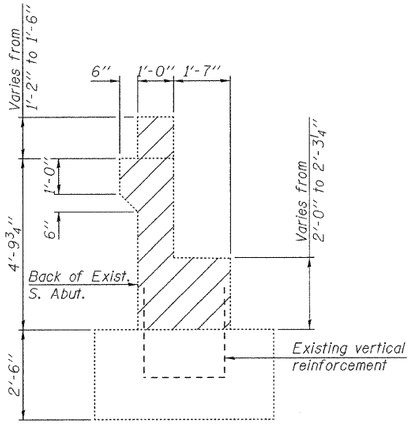
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	20
Jacking and Cribbing	Each	7

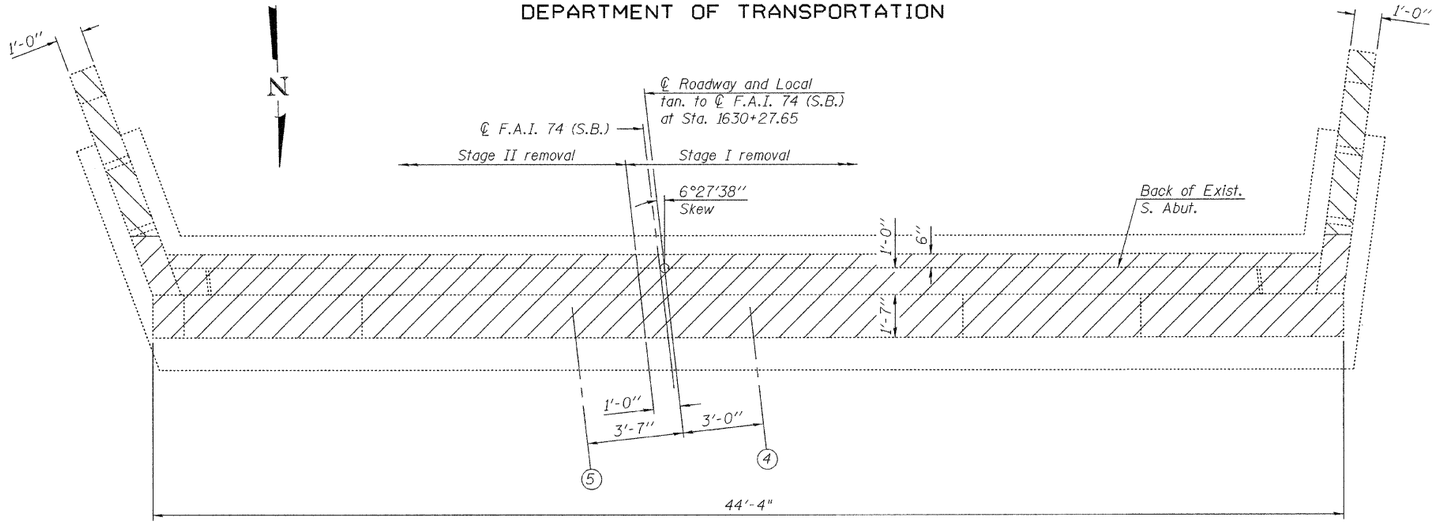
NORTH ABUTMENT CONCRETE REMOVAL STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 20 27 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	37-4HB-1	HENRY	148	86
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU ABUTMENT



PLAN

JACKING AND CRIBBING AT SOUTH ABUTMENT

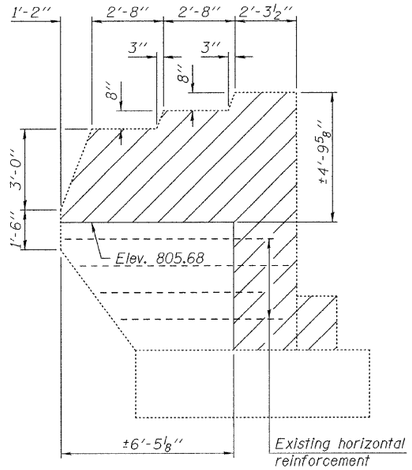
1.) The Contractor shall submit for approval by the Engineer plans for jacking and cribbing prior to commencing any work at the bearings.

2.) Jacking and removing existing bearings shall be done after the deck removal is completed and before the concrete removal at the abutments.

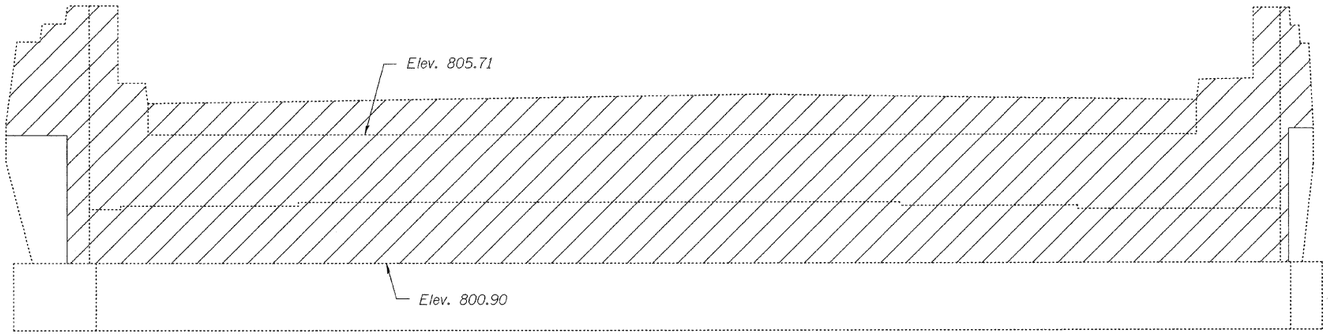
3.) Jacking shall be limited to a maximum of $\frac{3}{4}$" lift to remove the existing bearing assembly, utilizing a jack or series of jacks. The max. dead load reaction at each beam with the deck removed is 1.8 k at abutments. The minimum jack capacity for each beam is 3 k at abutments.

4.) Reconstruct abutment as detailed on sheets 24 and 25 of 27.

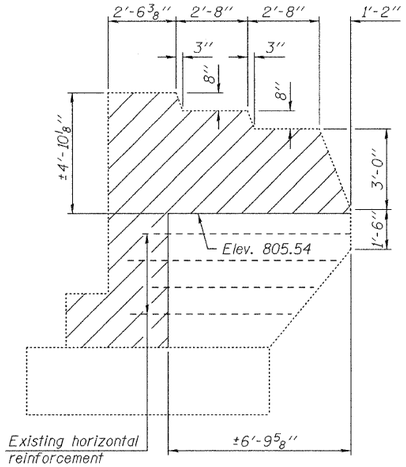
5.) The new bearings, fill plates and shim plates shall be in place and the beams shall be lowered before the new concrete deck is poured.



EAST WINGWALL ELEVATION
(Outside face)



ELEVATION



WEST WINGWALL ELEVATION
(Outside face)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
Existing horizontal and vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with the cost of Concrete Removal.
Hatched areas indicate the limits of concrete removal.

BILL OF MATERIAL

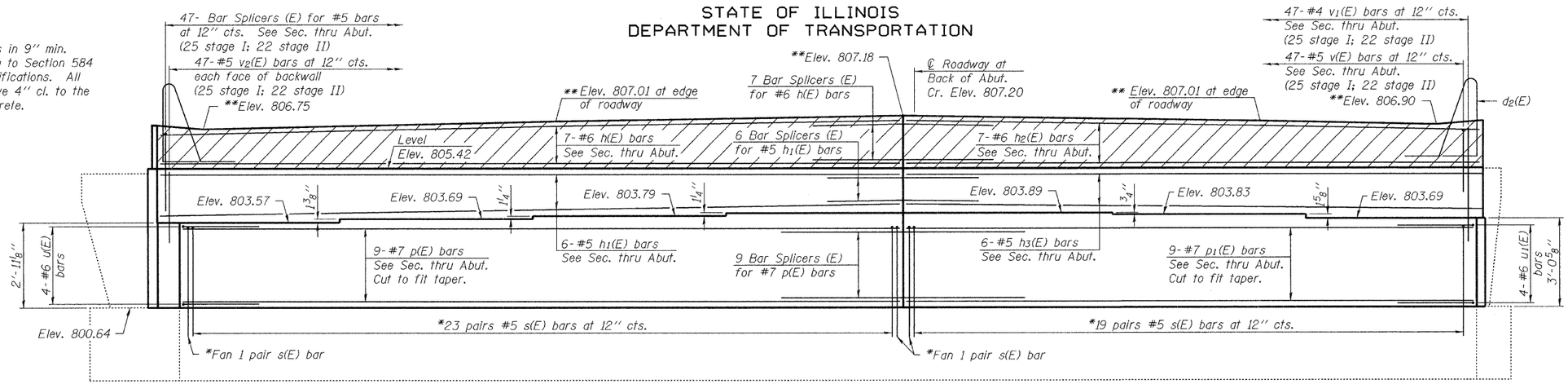
Item	Unit	Total
Concrete Removal	Cu. Yd.	20
Jacking and Cribbing	Each	7

SOUTH ABUTMENT CONCRETE REMOVAL STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 21	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	87
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

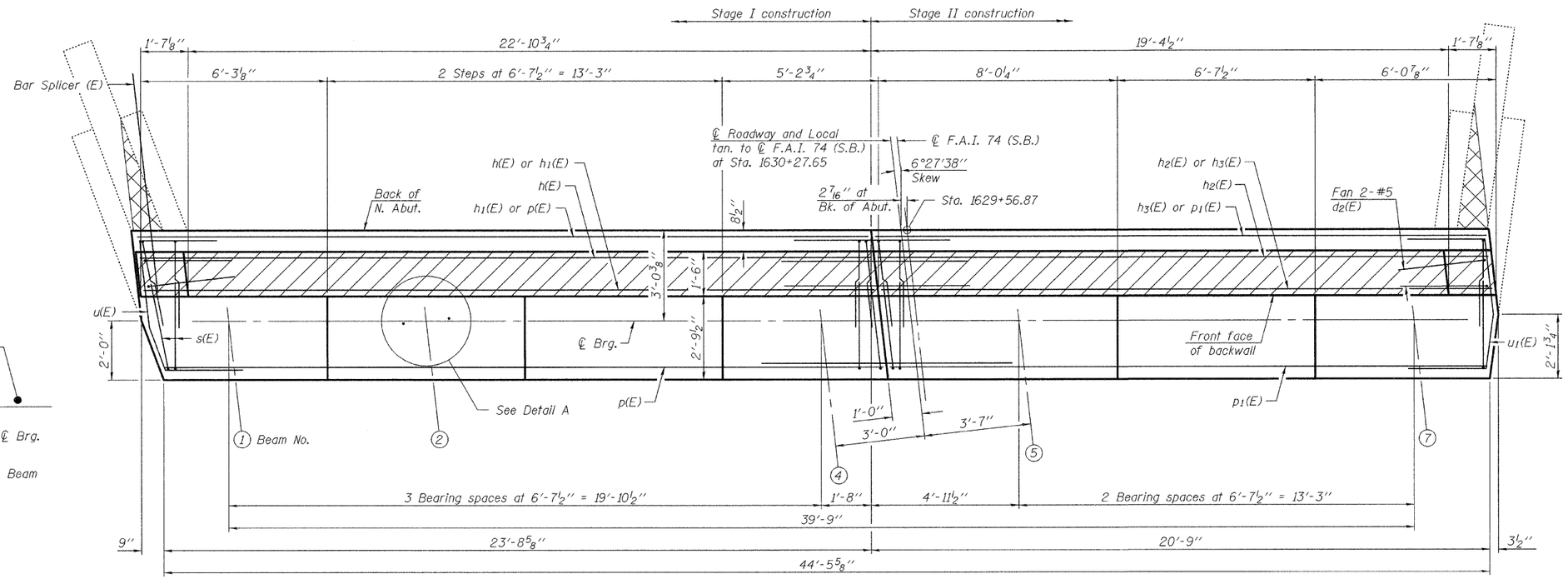
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

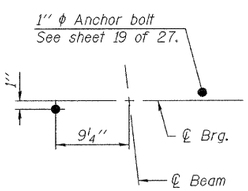
* Epoxy grout s(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications. All grouted bars shall have 4" cl. to the edge of existing concrete.



ELEVATION

** Elevations are taken at front face of backwall.





DETAIL A

PLAN

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Cross-hatched area indicates location of 1" PJF at top of remaining wingwalls. See wingwall elevations on sheet 23 of 27.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
p(E) and p1(E) bars may need to be cut to maintain minimum clearance.

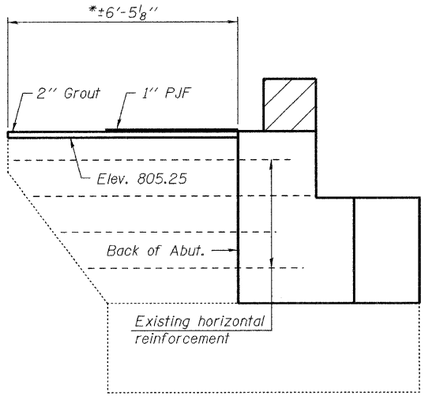
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

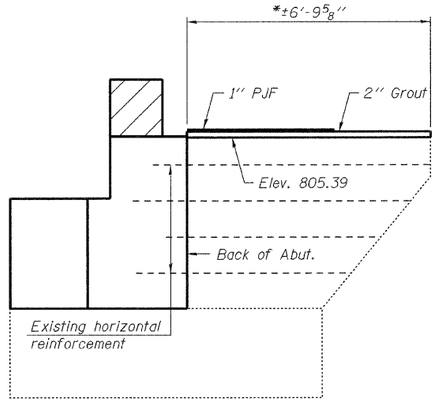
NORTH ABUTMENT
STRUCTURE NO. 037-0017 (S.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 22	74	37-4HB-1	HENRY	148	88
27 SHEETS			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



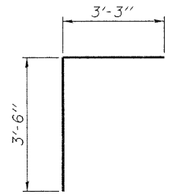
WEST WINGWALL ELEVATION



EAST WINGWALL ELEVATION

* Measured along outside face of wingwall.

Notes:
Existing horizontal and vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with the cost of Concrete Removal.
Cost of 1" PJF is included with Concrete Structures.
Cost of 2" cement grout is included with Concrete Removal.

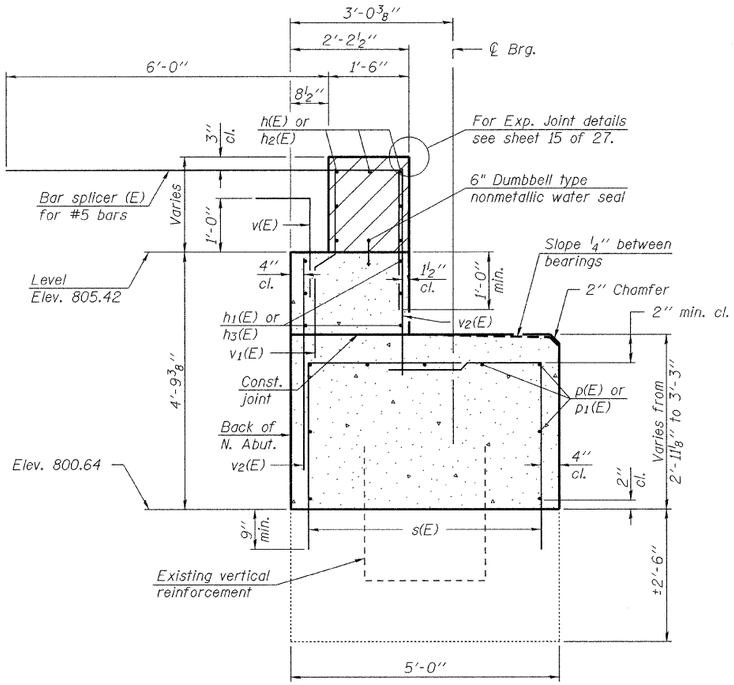


BAR s(E)

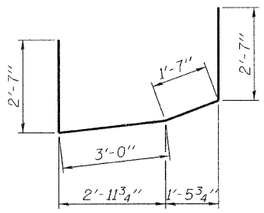
NORTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$d_2(E)$	4	#5	7'-11"	
h(E)	7	#6	24'-5"	
$h_1(E)$	6	#5	24'-5"	
$h_2(E)$	7	#6	20'-5"	
$h_3(E)$	6	#5	20'-5"	
p(E)	9	#7	24'-5"	
$p_1(E)$	9	#7	20'-5"	
s(E)	90	#5	6'-9"	
u(E)	4	#6	9'-8"	
$u_1(E)$	4	#6	9'-7"	
v(E)	47	#5	3'-3"	
$v_1(E)$	47	#4	3'-6"	
$v_2(E)$	94	#5	3'-11"	
Structure Excavation		Cu. Yd.	93	
Concrete Structures		Cu. Yd.	32.4	
Reinforcement Bars, Epoxy Coated		Pound	3,010	
Concrete Sealer		Sq. Ft.	201	

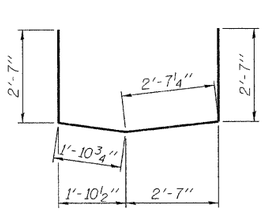
For details of Bar Splicers, see sheet 26 of 27.
For $d_2(E)$ bar bending diagram, see sheet 14 of 27.



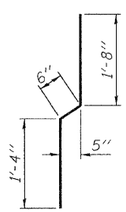
SECTION THRU ABUTMENT
(Horizontal dims. are at right angles)



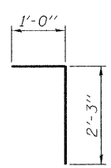
BAR u(E)



BAR $u_1(E)$



BAR $v_1(E)$



BAR v(E)

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

NORTH ABUTMENT
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 23	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	89
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

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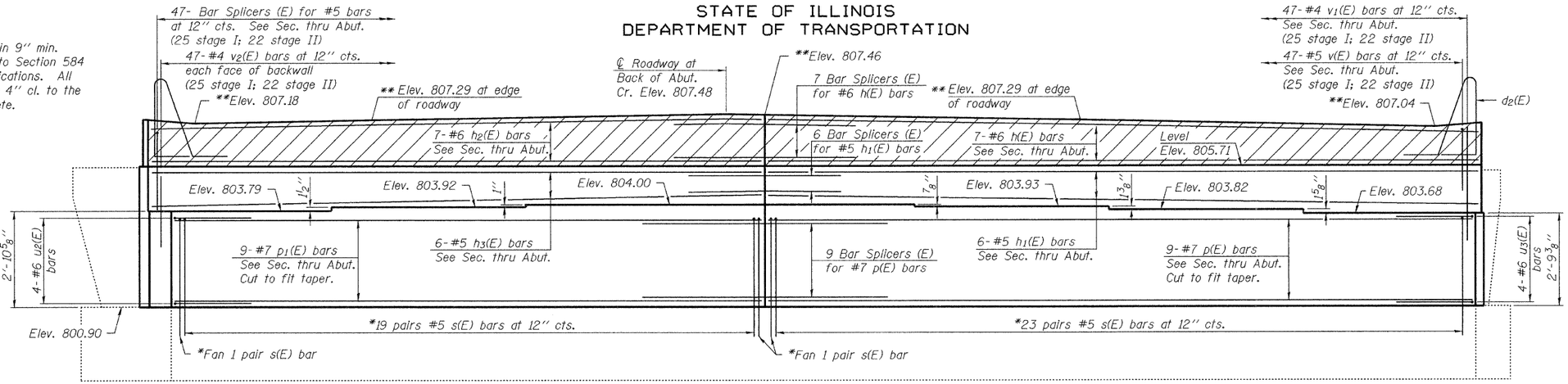
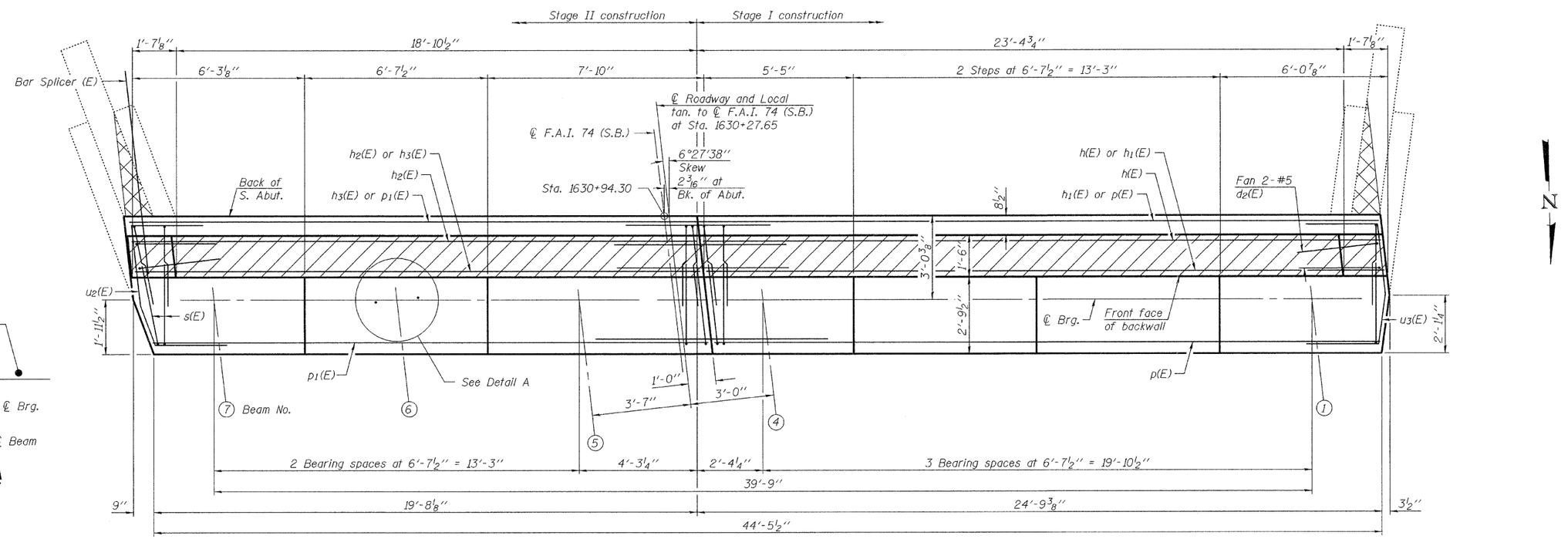
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

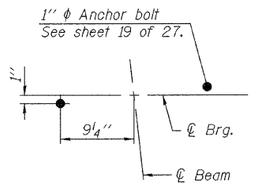
* Epoxy grout s(E) bars in 9'' min. drilled holes according to Section 584 of the Standard Specifications. All grouted bars shall have 4'' cl. to the edge of existing concrete.



ELEVATION

** Elevations are taken at front face of backwall.





DETAIL A

PLAN

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Cross-hatched area indicates location of 1'' PJF at top of remaining wingwalls. See wingwall elevations on sheet 25 of 27.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
p(E) and p1(E) bars may need to be cut to maintain minimum clearance.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SOUTH ABUTMENT
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 24	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	198	90
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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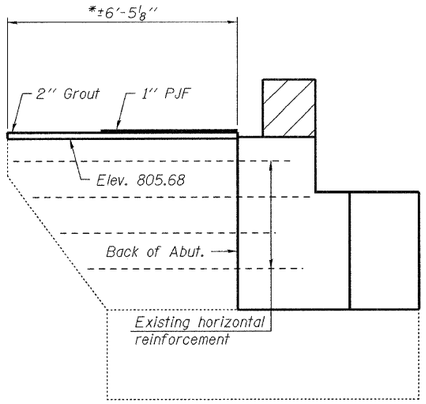
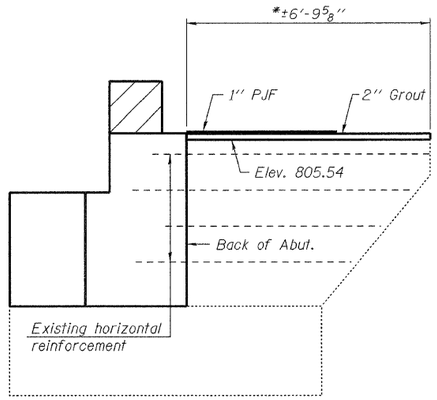
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



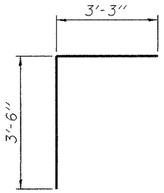
EAST WINGWALL ELEVATION



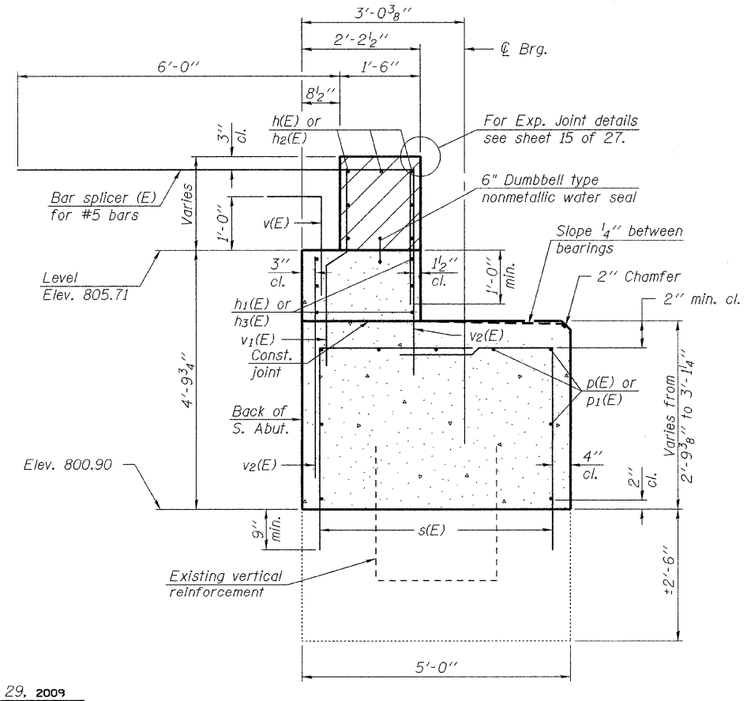
WEST WINGWALL ELEVATION

* Measured along outside face of wingwall.

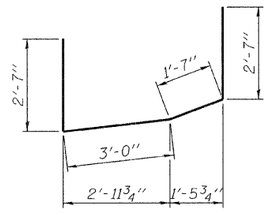
Notes:
Existing horizontal and vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with the cost of Concrete Removal.
Cost of 1" PJF is included with Concrete Structures.
Cost of 2" cement grout is included with Concrete Removal.



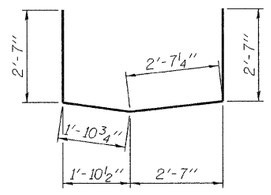
BAR s(E)



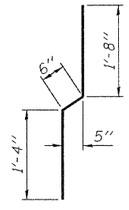
SECTION THRU ABUTMENT
(Horizontal dims. are at right angles)



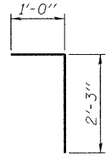
BAR u2(E)



BAR u3(E)



BAR v1(E)



BAR v(E)

SOUTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d2(E)	4	#5	7'-11"	
h(E)	7	#6	24'-5"	
h1(E)	6	#5	24'-5"	
h2(E)	7	#6	20'-5"	
h3(E)	6	#5	20'-5"	
p(E)	9	#7	24'-5"	
p1(E)	9	#7	20'-5"	
s(E)	90	#5	6'-9"	
u2(E)	4	#6	9'-9"	
u3(E)	4	#6	9'-8"	
v(E)	47	#5	3'-3"	
v1(E)	47	#4	3'-6"	
v2(E)	94	#5	3'-11"	
Structure Excavation			Cu. Yd.	93
Concrete Structures			Cu. Yd.	31.9
Reinforcement Bars, Epoxy Coated			Pound	3,010
Concrete Sealer			Sq. Ft.	209

For details of Bar Splicers, see sheet 26 of 27.
For d2(E) bar bending diagram, see sheet 14 of 27.

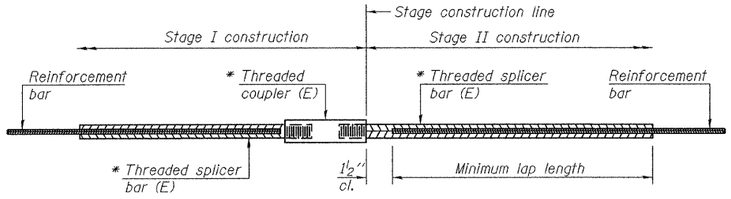
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SOUTH ABUTMENT
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 25	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	91
			CONTRACT NO. 64264		
		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

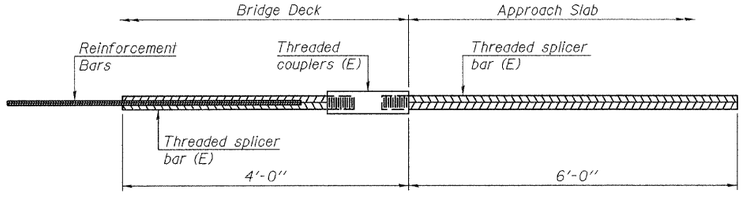
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

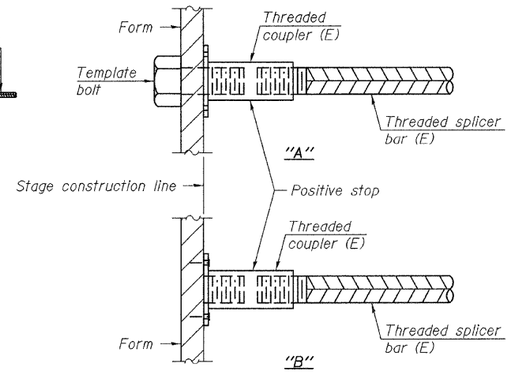
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Slab	#5	373	3
Slab edge beams	#5	10	3
Approach slab	#4	50	3
Approach slab	#5	92	3
Approach slab ftg.	#5	80	3
Abutments	#6	14	3
Abutments	#5	12	3
Abutments	#7	18	3



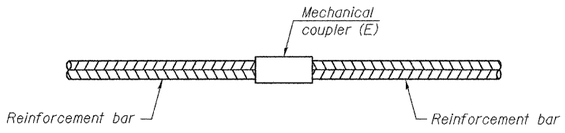
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =

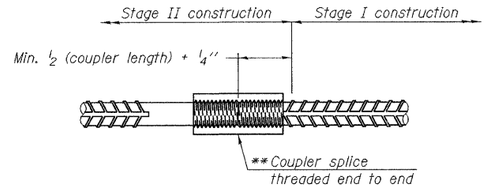


INSTALLATION AND SETTING METHODS

"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.



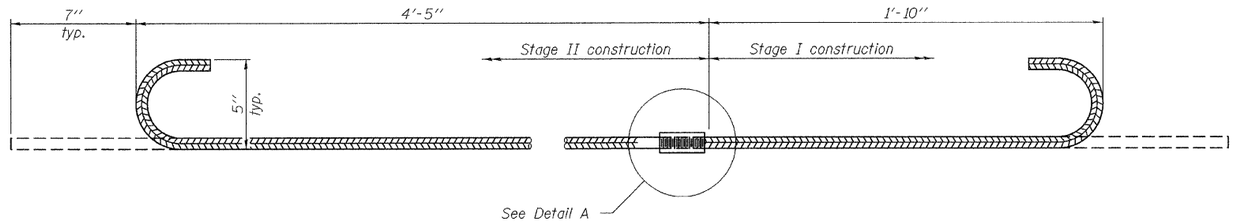
STANDARD MECHANICAL SPLICER



DETAIL A

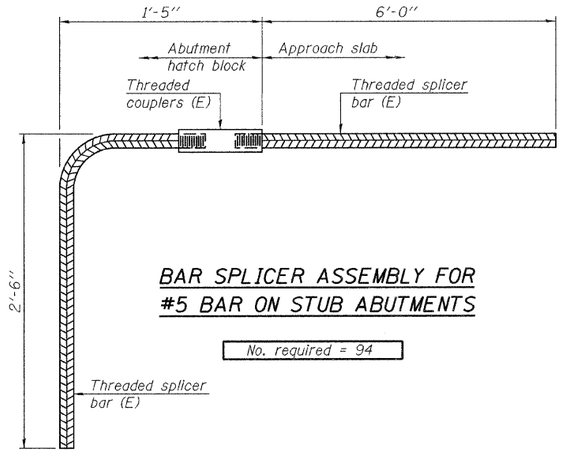
Location	Bar size	No. assemblies required

** The bar splicer assembly shall untilize splice bars with the threaded ends oversized to ensure no reduction in cross sectional area after threading and be designed to allow completion of the splice without turning either of the splice bars.



#5 d_B(E) BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT

No. required = 6



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 94

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

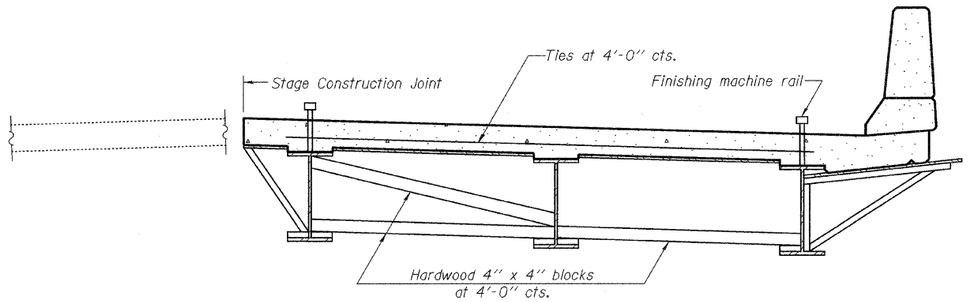
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 26	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	42
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

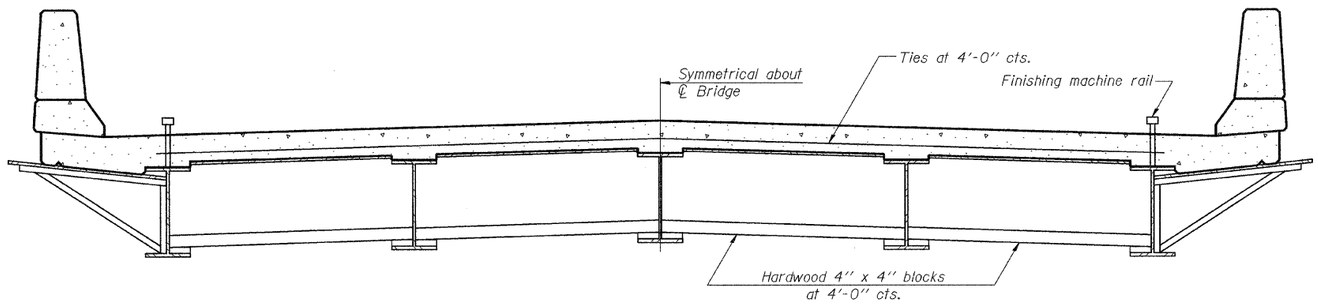
DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

DESIGNED	Nicholas R. Barnett
CHECKED	Michael D. Rolape
DRAWN	Michael B. Mossman
CHECKED	N.R.B./M.D.R./G.R.A.

September 29, 2009
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ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SB-1 6-1-09

CANTILEVER FORMING BRACKETS
FOR SUPERSTRUCTURES WITH
W27 BEAMS AND SMALLER
STRUCTURE NO. 037-0017 (S.B.)

SHEET NO. 27	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	93
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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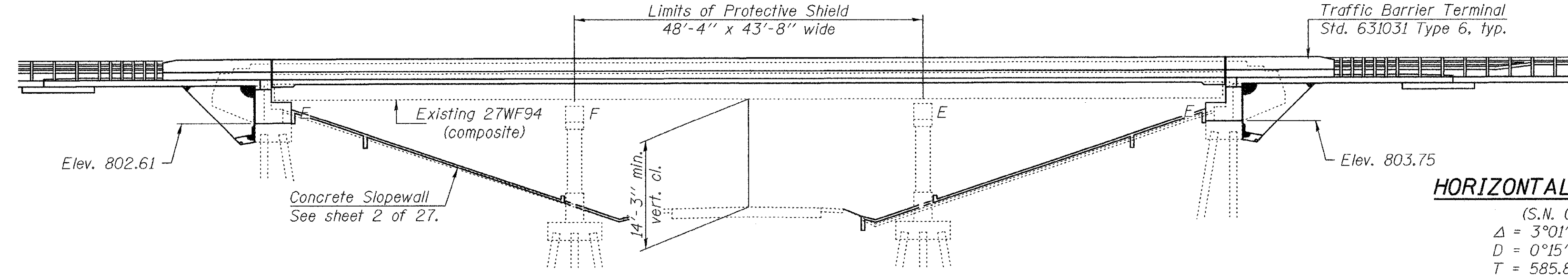
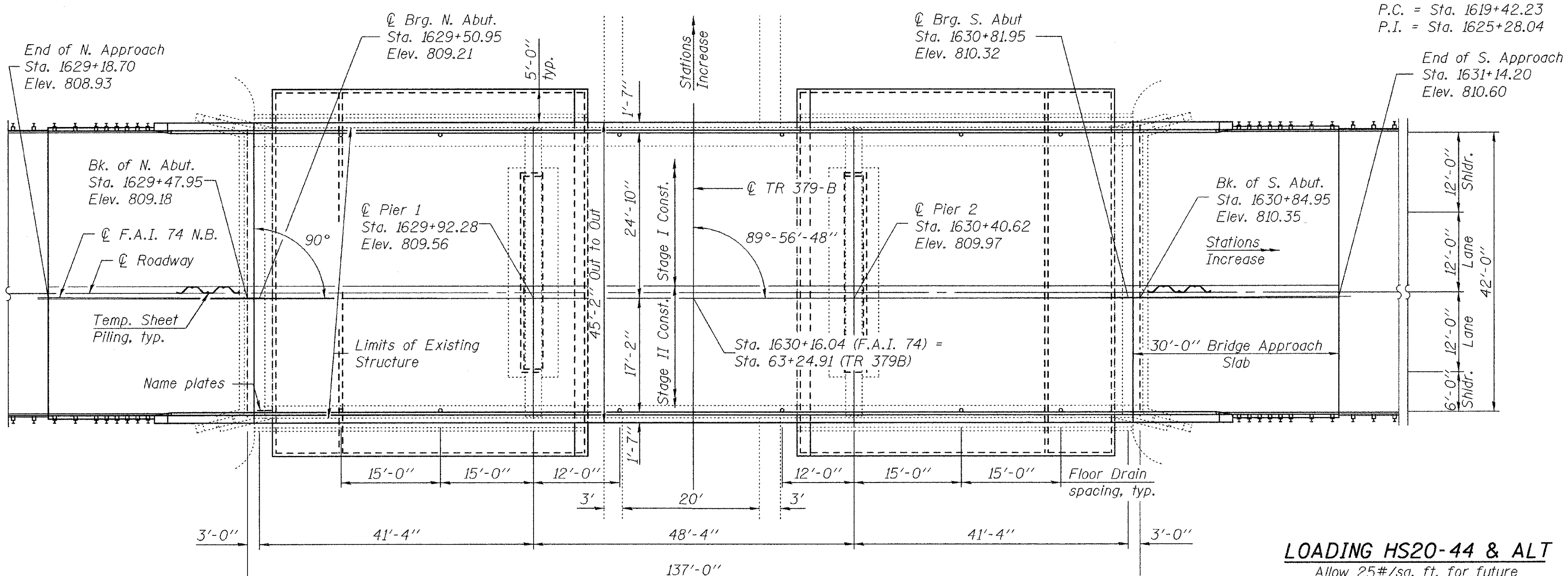
Bench Mark: TR 379B in the N.B. structure S.E. corner, steel plug; Elev. 810.62

Existing Structure: S.N. 037-0018 Built in 1966 as project I-74-2(54)30 Section 37-4HB-1. Structure is a three span wide flange bridge with spans of 41'-4" - 48'-4" - 41'-4". 134'-6" Back to Back abutments, 43'-8" Out to Out, supported on spill through abutments and multi-column piers. No Skew. The existing deck will be removed and replaced. Traffic to be maintained utilizing stage construction.

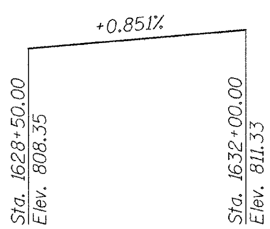
No salvage.



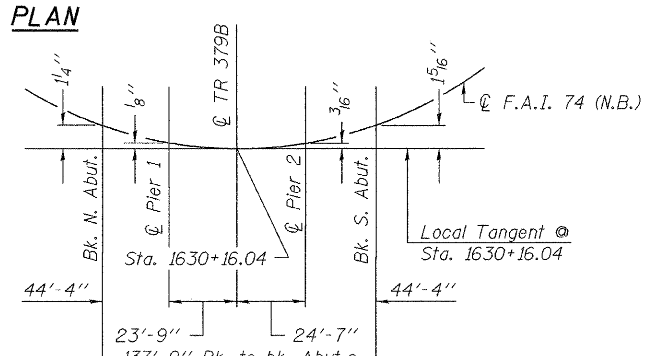
ELEVATION



PLAN



PROFILE GRADE



OFFSET SKETCH

HORIZONTAL CURVE DATA

(S.N. 037-0018)
Δ = 3°01'26"
D = 0°15'29"
T = 585.81
L = 1171.34
E = 7.73
R = 22191.15
S.E. = n.c.
P.C. = Sta. 1619+42.23
P.I. = Sta. 1625+28.04

LOADING HS20-44 & ALT

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Spec. for Highway Bridges

DESIGN STRESSES

FIELD UNITS EXISTING STRUCTURE	FIELD UNITS NEW CONSTRUCTION
f_c = 1,400 psi	f'_c = 3,500 psi
f_s = 20,000 psi (reinforcement)	f_y = 60,000 psi (reinforcement)
f_s = 20,000 psi (structural steel)	

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.036g
Site Coefficient (S) = 1.0

GENERAL NOTES

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of ⅛ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Concrete Sealer shall be applied to the seat areas, front faces of backwalls and hatch blocks of the abutments.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type I.

A minimum of one air monitor will be required to monitor abrasive blasting operations at this site, see special provision for "Containment and Disposal of Lead Paint Cleaning Residues".

The SSPC-QP1 and SSPC-QP2 Painting Contractor Certifications will be required for this bridge.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures." All existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. All existing and new steel shall be painted according to the requirements of Paint System 1 - OZ/E/U. 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 Blue, Munsell No. 10B 3/6.

Slip-forming of the parapets is not allowed.

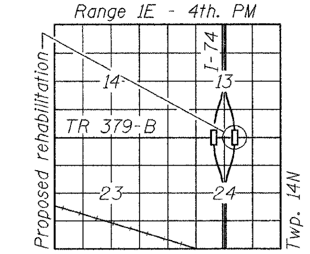
STATION 1630+16.04
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 74 SEC. 37-4HB-1
LOADING HS20-44 & ALT.
STRUCTURE NO. 037-0018

NAME PLATE

See Std. 515001.

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

INDEX OF SHEETS



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-74 OVER TR 379-B
F.A.I. RTE. 74 - SEC. 37-4HB-1
HENRY COUNTY
STA. 1630+16.04
STRUCTURE NO. 037-0018 (N.B.)

DESIGNED	Michael D. [signature]
CHECKED	[signature]
DRAWN	W.D. Collins / M.B.M.
CHECKED	MDR/NRB/GRA

September 29, 2009
EXAMINED [signature]
ENGINEER OF BRIDGE DESIGN
PASSED [signature]
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS — RALPH E. ANDERSON — 081-004625 — SPRINGFIELD — LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2010

SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	Henry	148	94
			CONTRACT NO. 64264		
			ILLINOIS FED. AID PROJECT		

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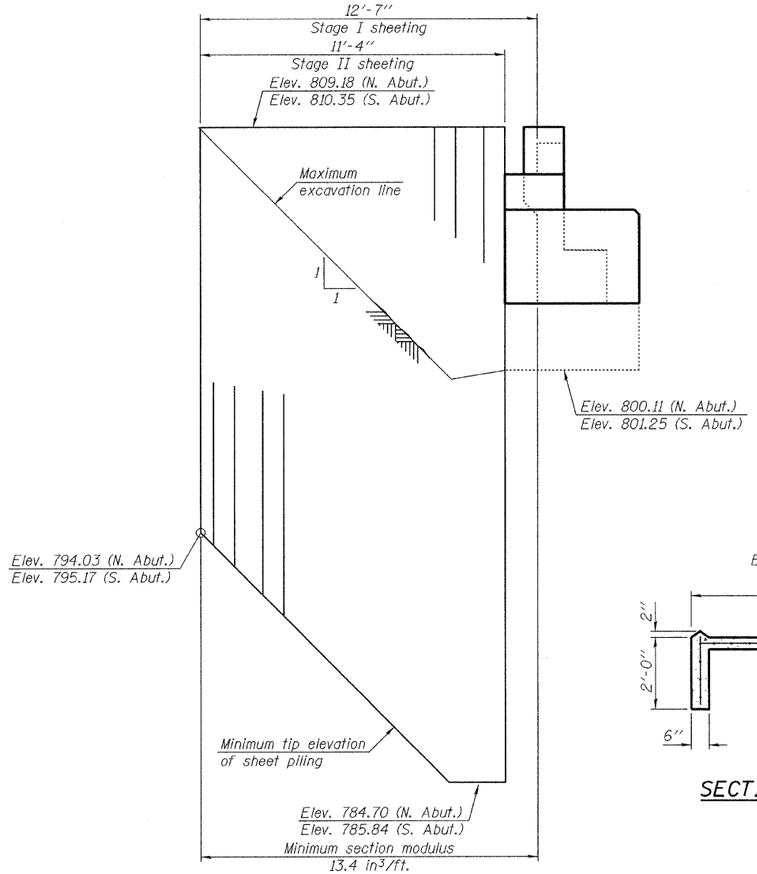
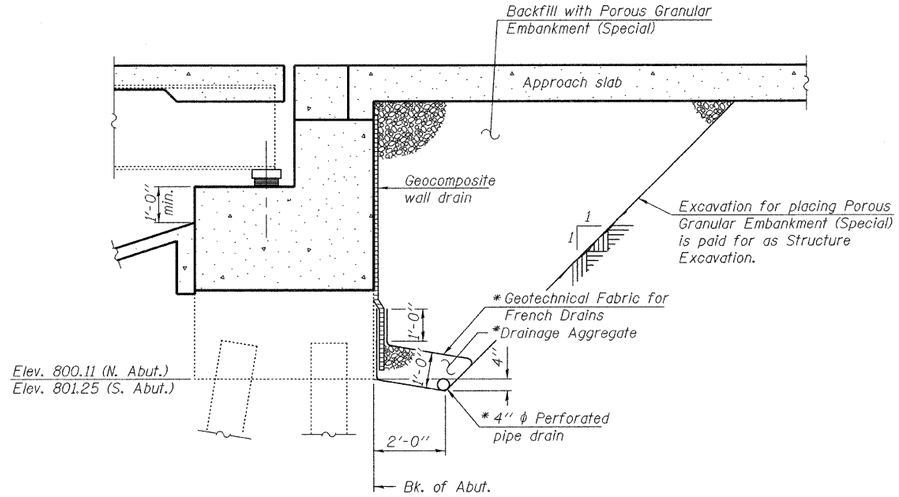
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

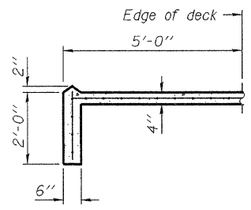


TEMPORARY SHEET PILING



SECTION THRU ABUTMENT
(Horiz. dim @ Rt. L's)

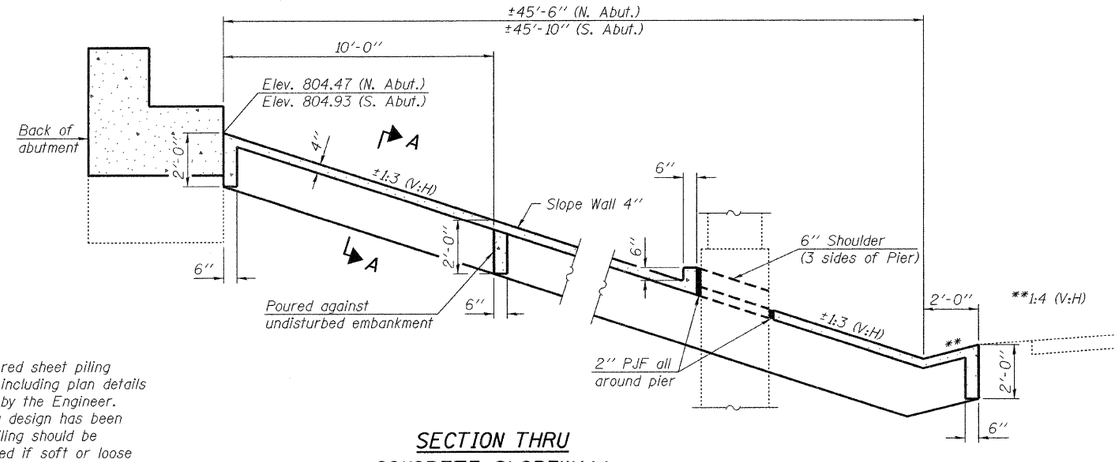
*Included in the cost of Pipe Underdrains for Structures.



SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		159	159
Concrete Removal	Cu. Yd.		38	38
Slope Wall Removal	Sq. Yd.		605	605
Removal of Existing Concrete Deck	Each	1		1
Protective Shield	Sq. Yd.	235		235
Structure Excavation	Cu. Yd.		190	190
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		91.3	91.3
Concrete Superstructure	Cu. Yd.	331.5		331.5
Bridge Deck Grooving	Sq. Yd.	871		871
Protective Coat	Sq. Yd.	1057		1057
Furnishing and Erecting Structural Steel	Pound	4960		4960
Stud Shear Connectors	Each	3003		3003
Cleaning and Painting Steel Bridge	L. Sum			1
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum			1
Reinforcement Bars, Epoxy Coated	Pound	78,040	6,020	84,060
Bar Splicers	Each	630	110	740
Slope Wall 4 Inch	Sq. Yd.		600	600
Temporary Sheet Piling	Sq. Ft.		483	483
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	88		88
Elastomeric Bearing Assembly, Type I	Each		14	14
Anchor Bolts, 1"	Each		28	28
Concrete Sealer	Sq. Ft.		404	404
Geocomposite Wall Drain	Sq. Yd.		71	71
Pipe Underdrains for Structures, 4"	Foot		164	164
Jacking and Cribbing	Each		14	14



SECTION THRU
CONCRETE SLOPEWALL

Notes

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.

Due to the lack of boring data, the temporary sheet piling design has been developed to account for most soil conditions. The sheet piling should be monitored for excessive deflection and the Engineer contacted if soft or loose soils are encountered.

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL DETAILS
STRUCTURE NO. 037-0018 (N.B.)

SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	95
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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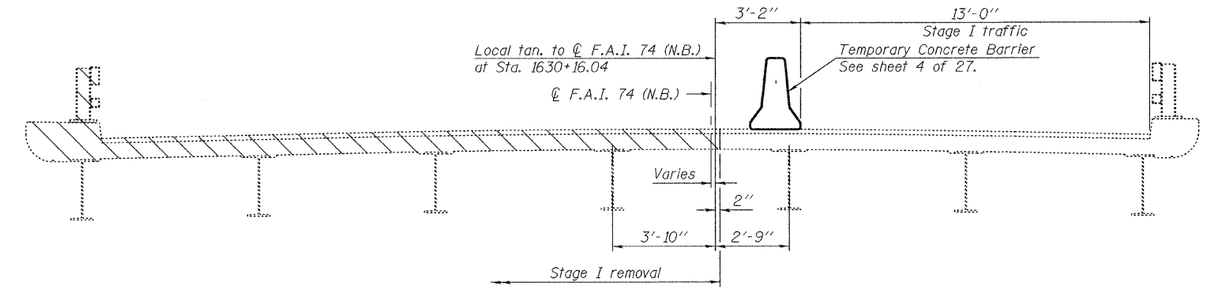
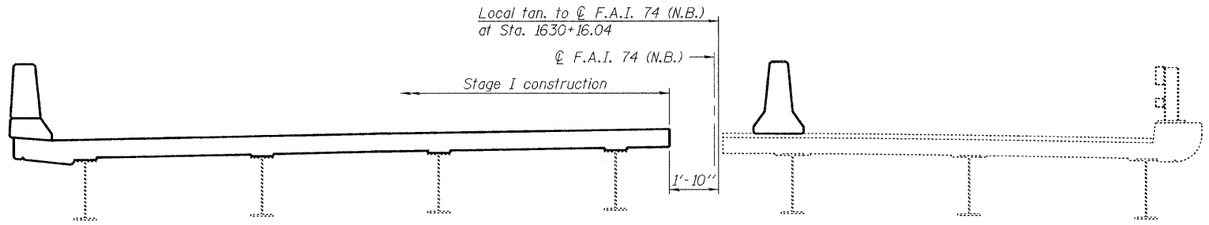
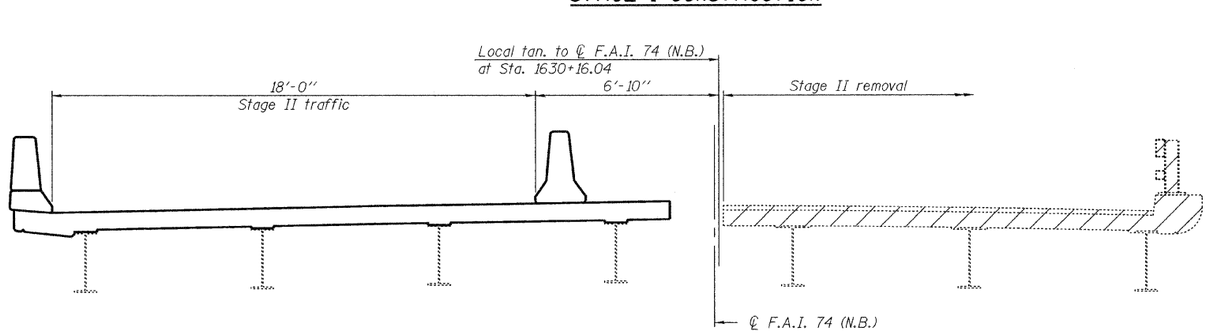
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



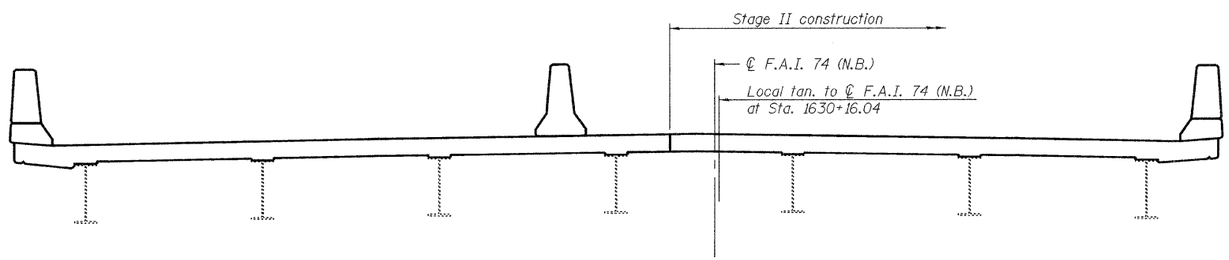
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION

Notes:
All staging cross sections are taken looking South.
For quantity of Temporary Concrete Barrier, see roadway plans.
Hatched area indicates Removal of Existing Concrete Deck. Cost of removal of existing steel railing and bituminous overlay is included in Removal of Existing Concrete Deck.

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 037-0018 (N.B.)

SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	96
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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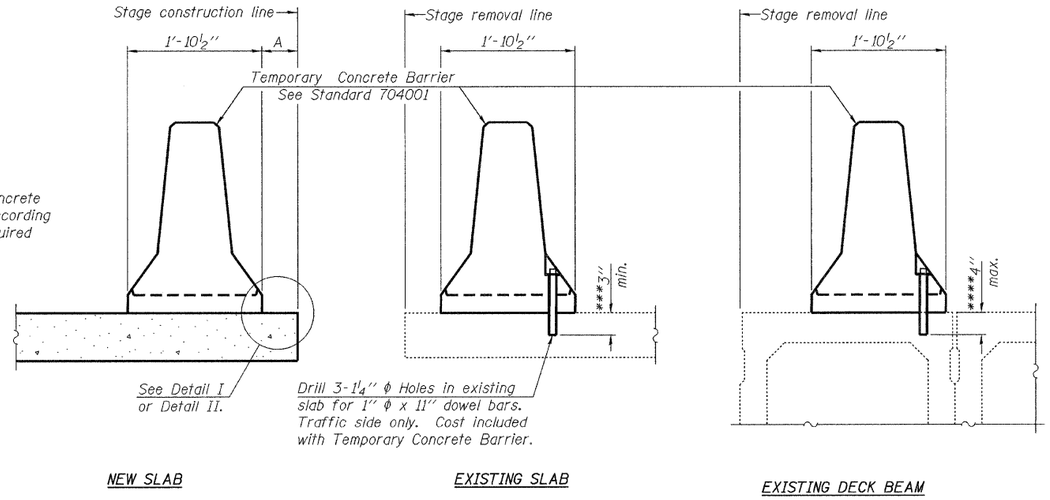
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

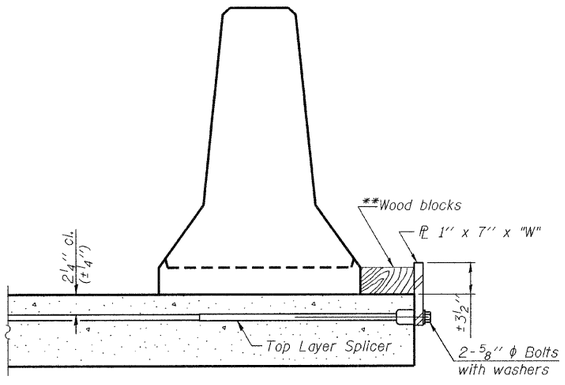
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

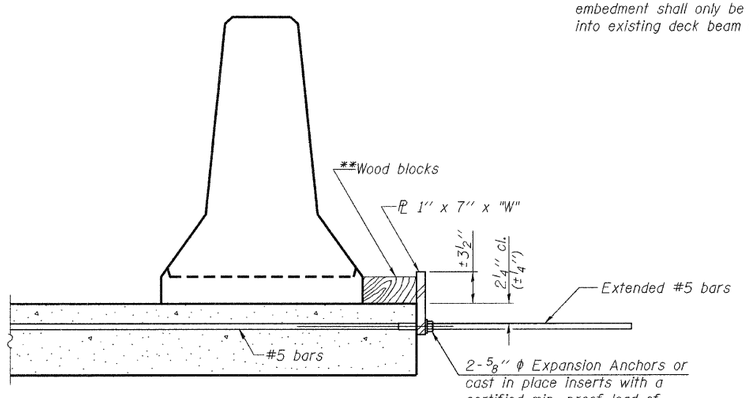
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.



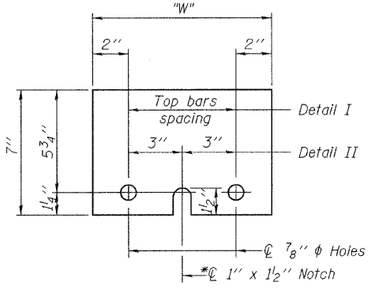
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 037-0018 (N.B.)

SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	97
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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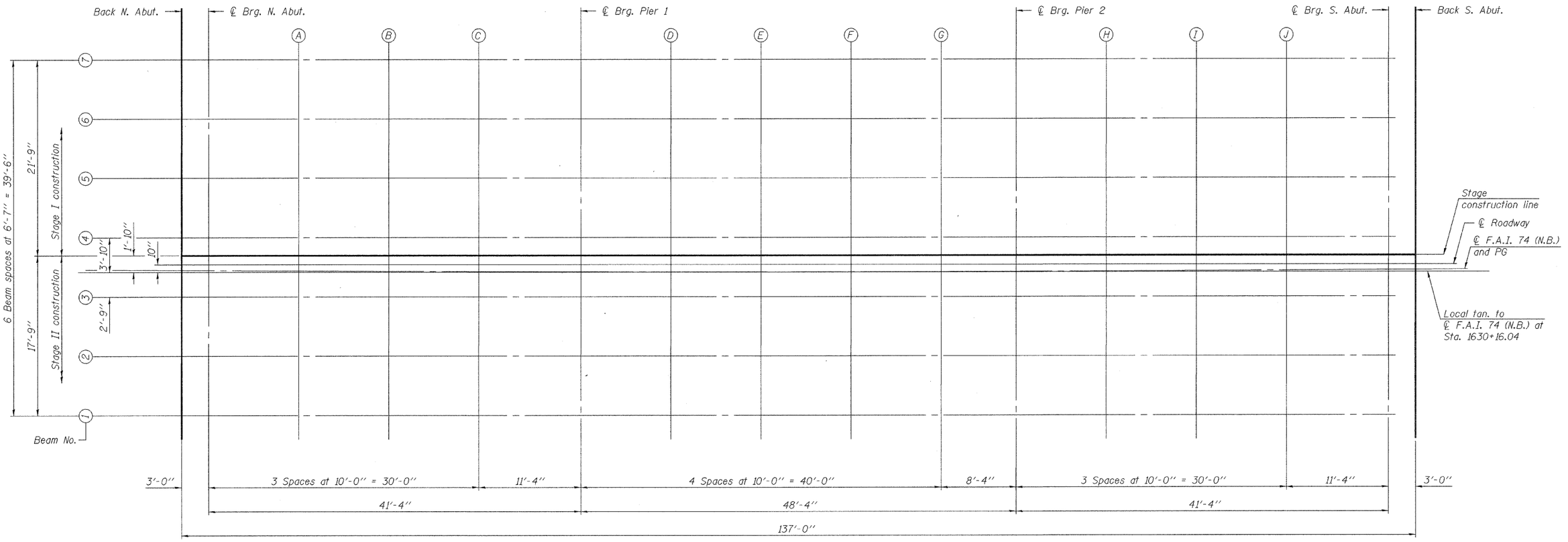
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Z

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0018 (N.B.)

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	98
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+48.00	16.02	808.91	808.91
℄ Brg. N. Abut.	1629+51.00	16.01	808.93	808.93
A	1629+60.99	15.98	809.02	809.03
B	1629+70.98	15.96	809.11	809.12
C	1629+80.98	15.94	809.19	809.20
℄ Pier 1	1629+92.30	15.93	809.29	809.29
D	1630+02.29	15.92	809.37	809.38
E	1630+12.29	15.92	809.46	809.47
F	1630+22.28	15.92	809.54	809.55
G	1630+32.27	15.92	809.63	809.63
℄ Pier 2	1630+40.60	15.93	809.70	809.70
H	1630+50.59	15.94	809.78	809.79
I	1630+60.58	15.96	809.87	809.89
J	1630+70.58	15.98	809.95	809.97
℄ Brg. S. Abut.	1630+81.90	16.01	810.05	810.05
Bk. S. Abut.	1630+84.90	16.02	810.07	810.07

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.98	9.44	809.04	809.04
℄ Brg. N. Abut.	1629+50.98	9.43	809.06	809.06
A	1629+60.97	9.40	809.15	809.16
B	1629+70.97	9.38	809.23	809.25
C	1629+80.96	9.36	809.32	809.33
℄ Pier 1	1629+92.29	9.34	809.42	809.42
D	1630+02.29	9.34	809.50	809.51
E	1630+12.28	9.33	809.59	809.60
F	1630+22.28	9.33	809.67	809.68
G	1630+32.28	9.34	809.76	809.76
℄ Pier 2	1630+40.61	9.35	809.83	809.83
H	1630+50.60	9.36	809.91	809.92
I	1630+60.60	9.38	810.00	810.01
J	1630+70.59	9.40	810.08	810.10
℄ Brg. S. Abut.	1630+81.92	9.43	810.18	810.18
Bk. S. Abut.	1630+84.92	9.44	810.20	810.20

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.96	2.85	809.14	809.14
℄ Brg. N. Abut.	1629+50.96	2.84	809.16	809.16
A	1629+60.96	2.82	809.25	809.26
B	1629+70.96	2.79	809.34	809.35
C	1629+80.95	2.78	809.42	809.43
℄ Pier 1	1629+92.29	2.76	809.52	809.52
D	1630+02.28	2.75	809.60	809.61
E	1630+12.28	2.75	809.69	809.70
F	1630+22.28	2.75	809.77	809.78
G	1630+32.28	2.75	809.86	809.86
℄ Pier 2	1630+40.61	2.76	809.93	809.93
H	1630+50.61	2.78	810.01	810.02
I	1630+60.61	2.79	810.10	810.12
J	1630+70.61	2.82	810.18	810.20
℄ Brg. S. Abut.	1630+81.94	2.85	810.28	810.28
Bk. S. Abut.	1630+84.94	2.86	810.30	810.30

℄ F.A.I. 74 (N.B.) & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.95	0.00	809.18	809.18
℄ Brg. N. Abut.	1629+50.95	0.00	809.21	809.21
A	1629+60.95	0.00	809.29	809.31
B	1629+70.95	0.00	809.38	809.40
C	1629+80.95	0.00	809.46	809.47
℄ Pier 1	1629+92.28	0.00	809.56	809.56
D	1630+02.28	0.00	809.65	809.65
E	1630+12.28	0.00	809.73	809.74
F	1630+22.28	0.00	809.82	809.83
G	1630+32.28	0.00	809.90	809.91
℄ Pier 2	1630+40.62	0.00	809.97	809.97
H	1630+50.62	0.00	810.06	810.07
I	1630+60.62	0.00	810.14	810.16
J	1630+70.62	0.00	810.23	810.24
℄ Brg. S. Abut.	1630+81.95	0.00	810.32	810.32
Bk. S. Abut.	1630+84.95	0.00	810.35	810.35

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.95	-0.73	809.19	809.19
℄ Brg. N. Abut.	1629+50.95	-0.74	809.22	809.22
A	1629+60.95	-0.77	809.31	809.32
B	1629+70.95	-0.79	809.39	809.41
C	1629+80.95	-0.81	809.48	809.49
℄ Pier 1	1629+92.28	-0.82	809.57	809.57
D	1630+02.28	-0.83	809.66	809.67
E	1630+12.28	-0.83	809.74	809.76
F	1630+22.28	-0.83	809.83	809.84
G	1630+32.28	-0.83	809.91	809.92
℄ Pier 2	1630+40.62	-0.82	809.98	809.98
H	1630+50.62	-0.81	810.07	810.08
I	1630+60.62	-0.79	810.15	810.17
J	1630+70.62	-0.77	810.24	810.25
℄ Brg. S. Abut.	1630+81.95	-0.74	810.34	810.34
Bk. S. Abut.	1630+84.95	-0.73	810.36	810.36

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.94	-1.73	809.18	809.18
℄ Brg. N. Abut.	1629+50.94	-1.74	809.21	809.21
A	1629+60.95	-1.77	809.29	809.31
B	1629+70.95	-1.79	809.38	809.40
C	1629+80.95	-1.81	809.46	809.47
℄ Pier 1	1629+92.28	-1.82	809.56	809.56
D	1630+02.28	-1.83	809.64	809.65
E	1630+12.28	-1.83	809.73	809.74
F	1630+22.28	-1.83	809.81	809.82
G	1630+32.28	-1.83	809.90	809.90
℄ Pier 2	1630+40.62	-1.82	809.97	809.97
H	1630+50.62	-1.81	810.06	810.06
I	1630+60.62	-1.79	810.14	810.16
J	1630+70.62	-1.77	810.23	810.24
℄ Brg. S. Abut.	1630+81.95	-1.74	810.32	810.32
Bk. S. Abut.	1630+84.95	-1.73	810.35	810.35

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0018 (N.B.)

	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 6	74	37-4HB-1	HENRY	148	99
27 SHEETS			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		

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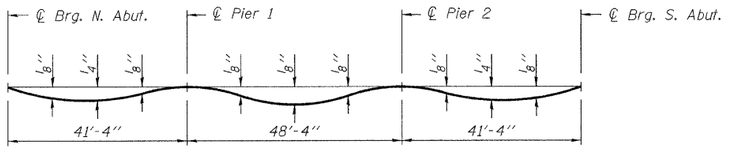
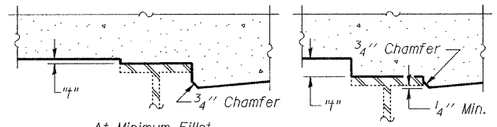


DEAD LOAD DEFLECTION DIAGRAM

(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 below and on sheet 6 of 27.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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 5 of 27. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on sheet 6 of 27, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.94	-3.73	809.15	809.15
℄ Brg. N. Abut.	1629+50.94	-3.74	809.18	809.18
A	1629+60.94	-3.77	809.26	809.28
B	1629+70.94	-3.79	809.35	809.36
C	1629+80.94	-3.81	809.43	809.44
℄ Pier 1	1629+92.28	-3.82	809.53	809.53
D	1630+02.28	-3.83	809.61	809.62
E	1630+12.28	-3.83	809.70	809.71
F	1630+22.28	-3.83	809.78	809.79
G	1630+32.29	-3.83	809.87	809.87
℄ Pier 2	1630+40.62	-3.82	809.94	809.94
H	1630+50.62	-3.81	810.02	810.03
I	1630+60.62	-3.79	810.11	810.13
J	1630+70.63	-3.77	810.19	810.21
℄ Brg. S. Abut.	1630+81.96	-3.74	810.29	810.29
Bk. S. Abut.	1630+84.96	-3.73	810.32	810.32

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.92	-10.31	809.05	809.05
℄ Brg. N. Abut.	1629+50.92	-10.32	809.07	809.07
A	1629+60.92	-10.35	809.16	809.17
B	1629+70.93	-10.37	809.24	809.26
C	1629+80.93	-10.39	809.33	809.34
℄ Pier 1	1629+92.27	-10.40	809.42	809.42
D	1630+02.28	-10.41	809.51	809.52
E	1630+12.28	-10.42	809.59	809.61
F	1630+22.29	-10.42	809.68	809.69
G	1630+32.29	-10.41	809.76	809.77
℄ Pier 2	1630+40.63	-10.40	809.84	809.84
H	1630+50.63	-10.39	809.92	809.93
I	1630+60.64	-10.37	810.01	810.02
J	1630+70.64	-10.35	810.09	810.11
℄ Brg. S. Abut.	1630+81.98	-10.32	810.19	810.19
Bk. S. Abut.	1630+84.98	-10.31	810.21	810.21

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.90	-16.90	808.92	808.92
℄ Brg. N. Abut.	1629+50.90	-16.90	808.95	808.95
A	1629+60.91	-16.93	809.03	809.05
B	1629+70.92	-16.95	809.12	809.14
C	1629+80.92	-16.97	809.20	809.21
℄ Pier 1	1629+92.26	-16.99	809.30	809.30
D	1630+02.27	-17.00	809.39	809.39
E	1630+12.28	-17.00	809.47	809.48
F	1630+22.29	-17.00	809.56	809.57
G	1630+32.30	-16.99	809.64	809.65
℄ Pier 2	1630+40.63	-16.99	809.71	809.71
H	1630+50.64	-16.97	809.80	809.81
I	1630+60.65	-16.96	809.88	809.90
J	1630+70.66	-16.93	809.97	809.98
℄ Brg. S. Abut.	1630+82.00	-16.90	810.07	810.07
Bk. S. Abut.	1630+85.00	-16.89	810.09	810.09

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1629+47.88	-23.48	808.79	808.79
℄ Brg. N. Abut.	1629+50.88	-23.49	808.81	808.81
A	1629+60.89	-23.51	808.90	808.91
B	1629+70.90	-23.54	808.98	809.00
C	1629+80.91	-23.56	809.07	809.08
℄ Pier 1	1629+92.26	-23.57	809.16	809.16
D	1630+02.27	-23.58	809.25	809.25
E	1630+12.28	-23.58	809.33	809.35
F	1630+22.29	-23.58	809.42	809.43
G	1630+32.30	-23.58	809.50	809.51
℄ Pier 2	1630+40.64	-23.57	809.57	809.57
H	1630+50.65	-23.56	809.66	809.67
I	1630+60.66	-23.54	809.75	809.76
J	1630+70.67	-23.52	809.83	809.85
℄ Brg. S. Abut.	1630+82.02	-23.49	809.93	809.93
Bk. S. Abut.	1630+85.02	-23.48	809.95	809.95

DESIGNED	Michael D. Rolape
CHECKED	Nicholas R. Barnett
DRAWN	Michael B. Mossman
CHECKED	M.D.R./N.R.B./G.R.A.

September 29, 2009
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 037-0018 (N.B.)

SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27 SHEETS	74	37-4HB-1	HENRY	148	100
			CONTRACT NO. 64264		
		ILLINOIS	FED. AID PROJECT		