

SOFFIT PLAN

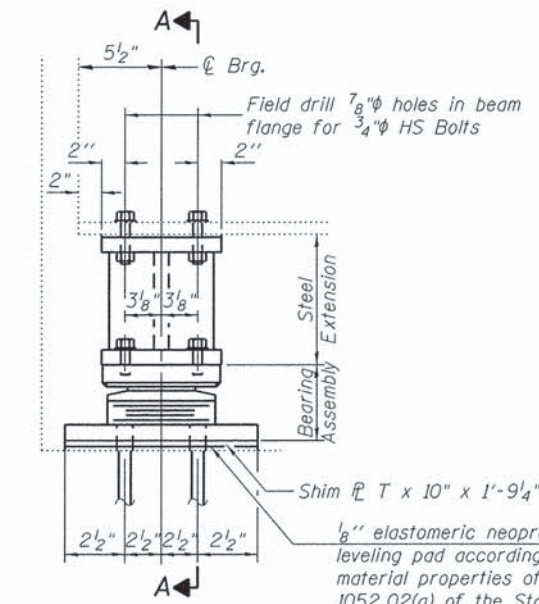
BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Cleaning and Painting Exposed Rebar	Sq. Ft.	241

Notes:
 All interior beams are 33WF130. All fascia beams are WF36x150.
 All spans simple composite.
 Repair areas estimated based on visual inspection completed in March, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.

USER NAME =	DESIGNED - AMS	REVISED
	CHECKED - EKM	REVISED
PLOT SCALE =	DRAWN - DR	REVISED
PLOT DATE =	CHECKED - AMS	REVISED

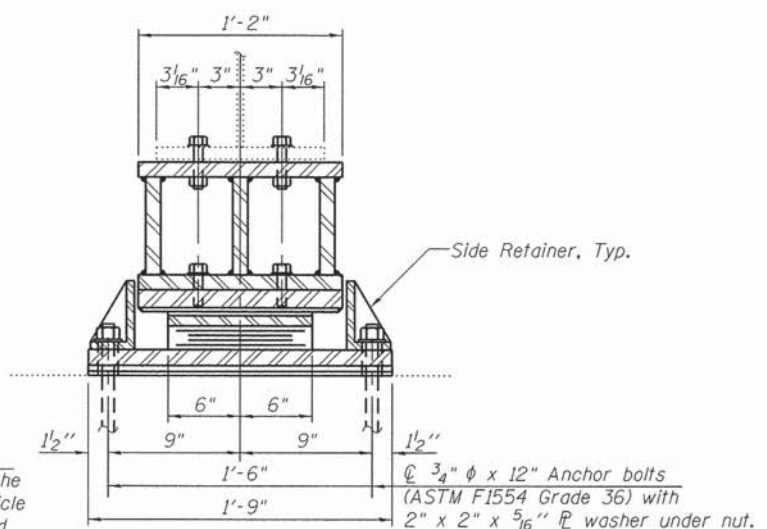
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	401
CONTRACT NO. 63882			ILLINOIS FED. AID PROJECT	



ELEVATION AT ABUT.

TYPE II ELASTOMERIC EXP. BRG.

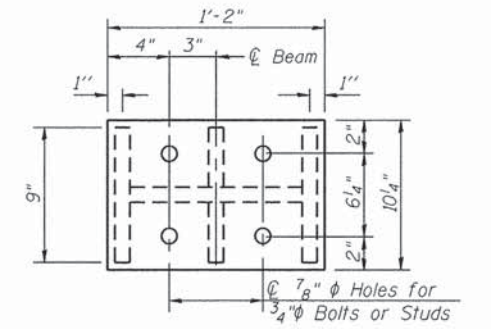
At West Abutment (11 Req'd)



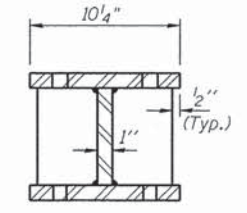
SECTION A-A

'T' DIMENSIONS

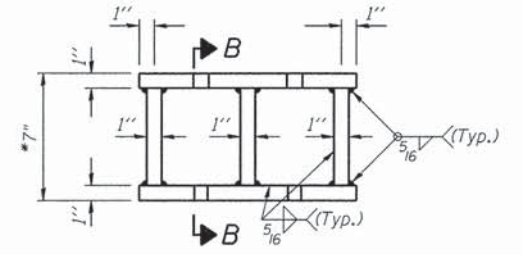
Beam	W. Abut.
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	$7/8"$
9	$7/8"$
10	$7/8"$
11	-



PLAN STEEL EXTENSION



SECTION B-B

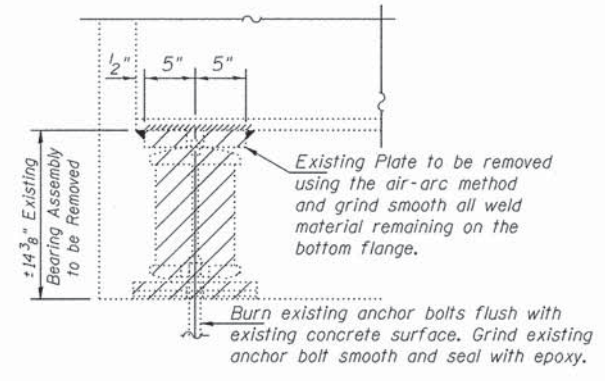


ELEVATION STEEL EXTENSION

* 8" for Girders 3, 4, & 8 thru 10.

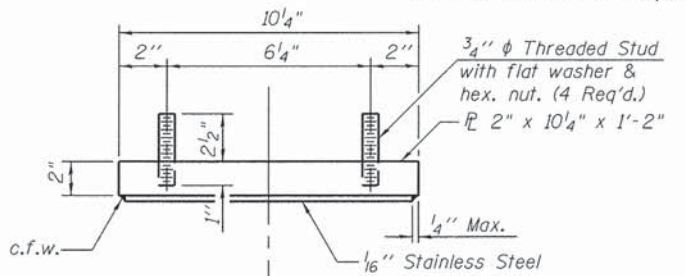
FABRICATED STEEL EXTENSION

(11 Req'd: (6)-7" tall & (5)-8" tall)

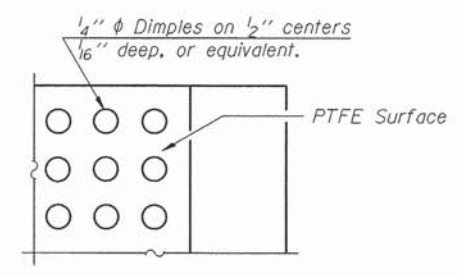


EXISTING BEARING REMOVAL DETAIL

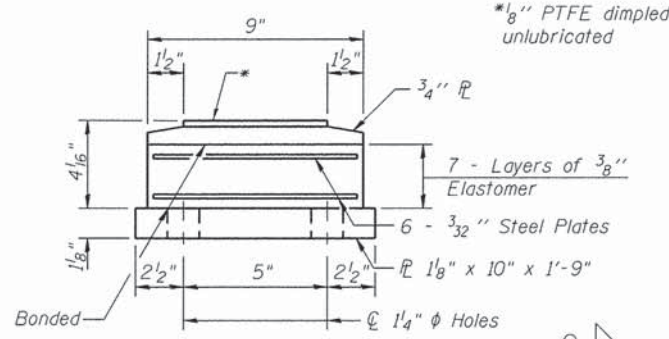
Cost included with Jack and Remove Existing Bearings (11 Req'd)



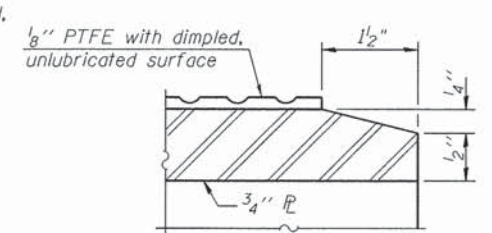
TOP BEARING ASSEMBLY



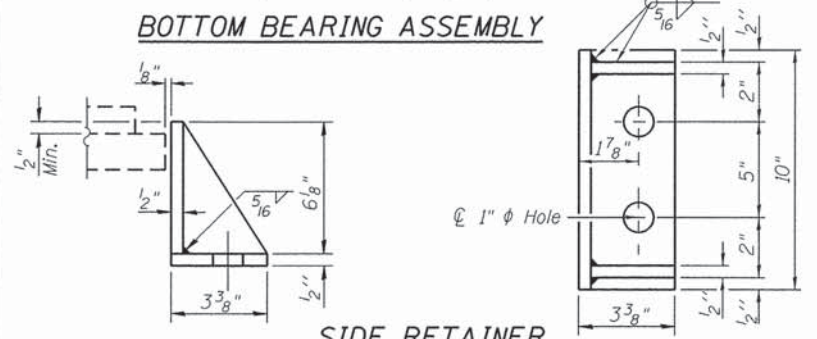
PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY

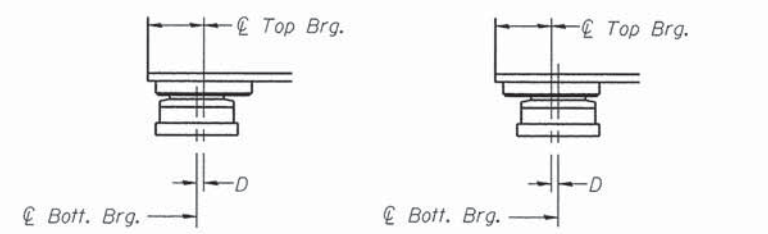


SECTION THRU PTFE



SIDE RETAINER

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



BELOW 50°F.

ABOVE 50°F.

(Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

$D=1/8$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	11
Jack and Remove Existing Bearings	Each	11
Anchor Bolts, $3/4$ "	Each	44
Furnishing and Erecting Structural Steel	Pound	1,700

INTERIOR BEAM REACTION TABLE

		West Abutment
R_{DL}	(k)	33.6
R_{LL}	(k)	41.8
R_T	(k)	10.6
R_{TOTAL}	(k)	86.0

Minimum Jack Size = 50 Tons

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing & Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing & Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Fasteners shall be ASTM A325, Type I, mechanically galvanized bolts.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

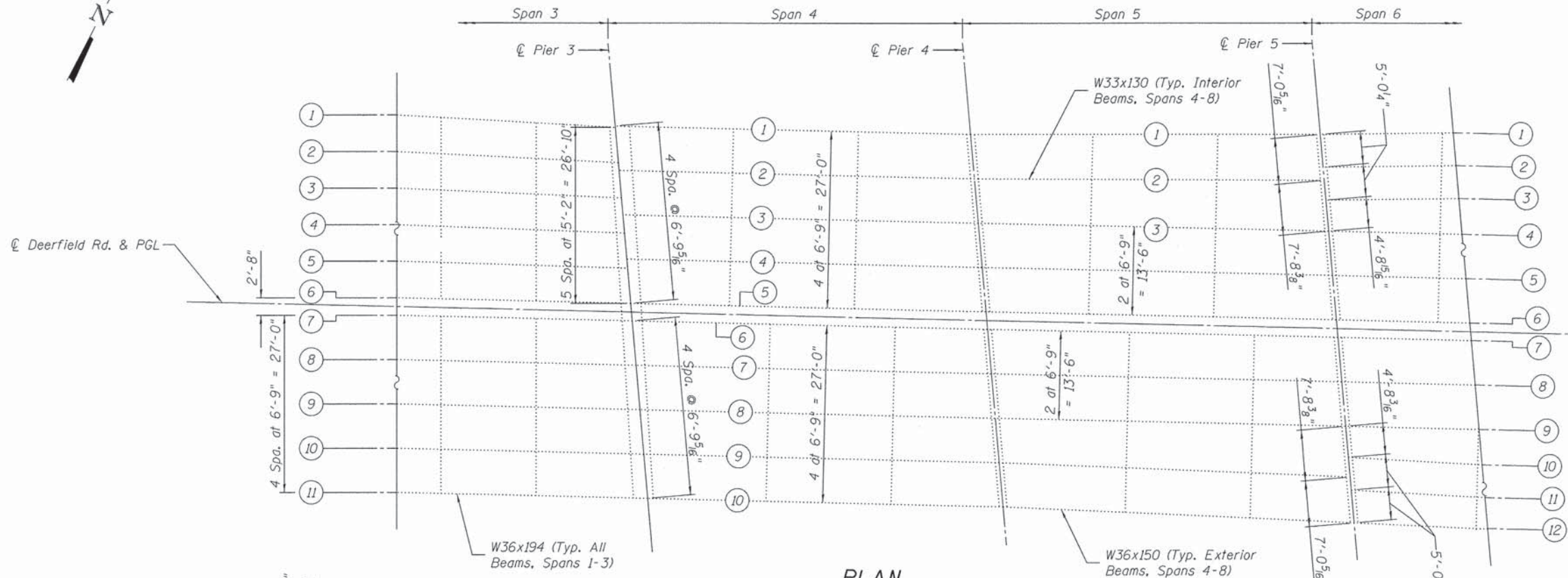
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The $1/8$ " PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

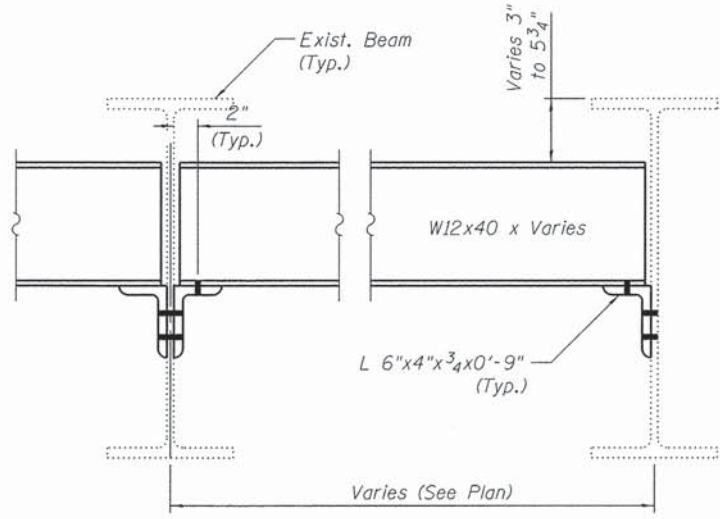
Bonding of $1/8$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

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



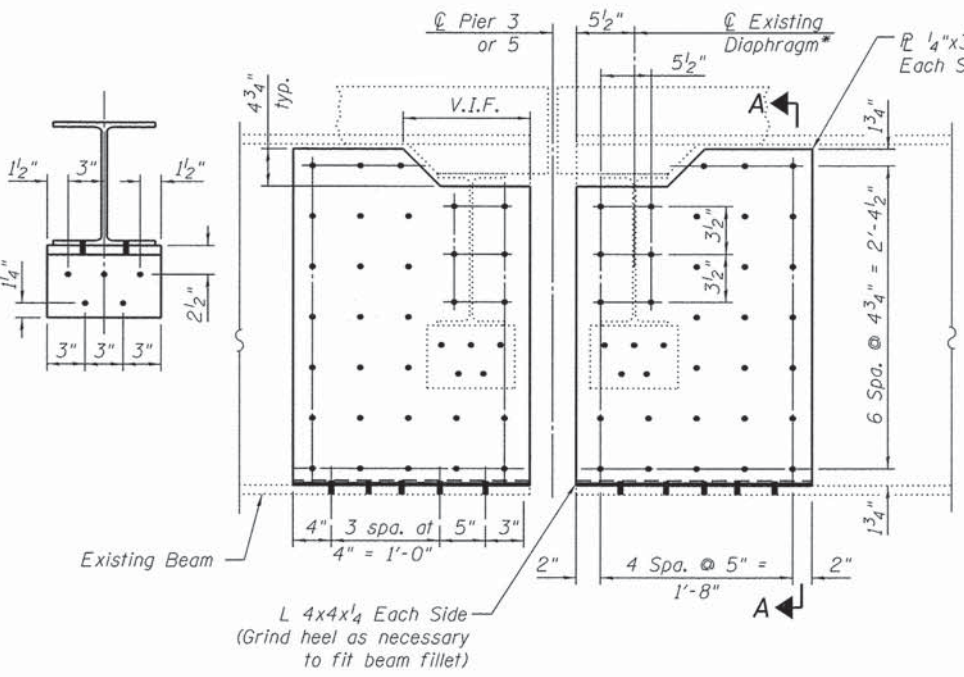
ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	5,000
Furnishing and Erecting Structural Steel	Pound	10,350

PLAN



DIAPHRAGM REPAIR DETAIL

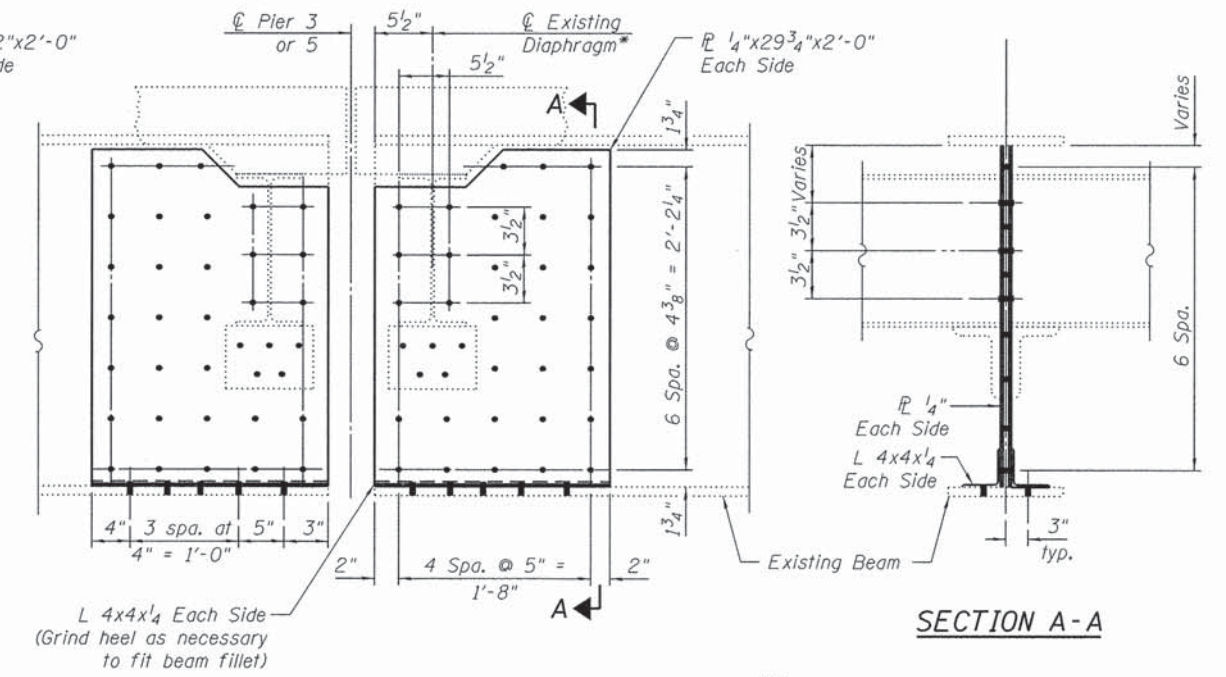
Notes:
 An allowance for end diaphragm removal and replacement was included. The Engineer shall verify in the field which diaphragms shall be replaced.
 The diaphragms shall be removed without removal of the existing deck. The deck shall be supported during beam end repair and/or diaphragm replacement. Gaps between existing deck and new diaphragms shall be injected with epoxy to ensure good fit.
 Field drill $\frac{5}{16}$ " ϕ holes in new connection angles to match existing holes in beam webs.
 Prior to ordering any material, the Contractor shall verify in the field all existing bolt hole dimensions in existing beam web and revise the location of holes in bottom flange as required.



W36 BEAM END REPAIR DETAIL

Beams 1-11 at Pier 3 (Span 3), Beams 1 & 10 at Pier 3 (Span 4), Beam 1 at Pier 5 (Span 5), Beams 1 & 12 at Pier 5 (Span 6).

V.I.F. - Verify In Field

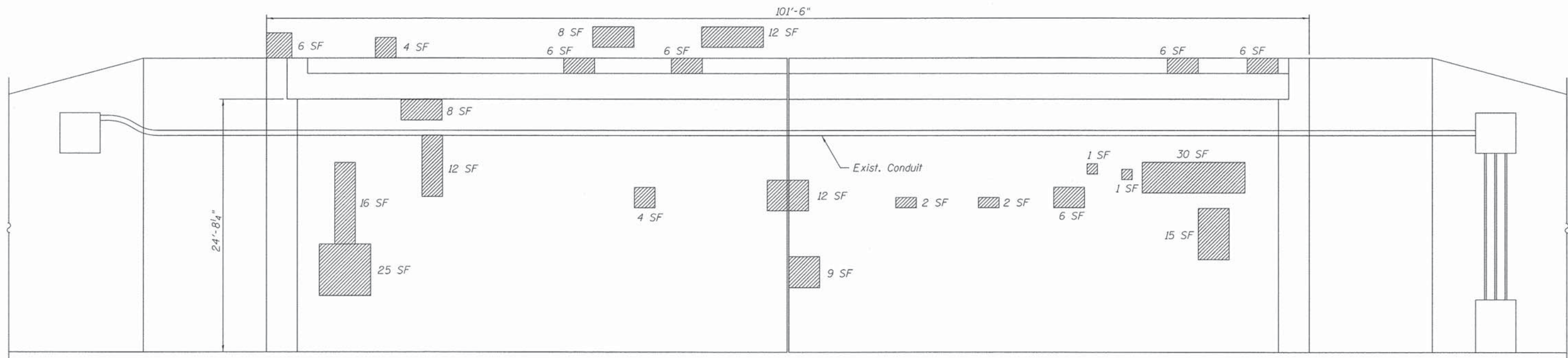


W33 BEAM END REPAIR DETAIL

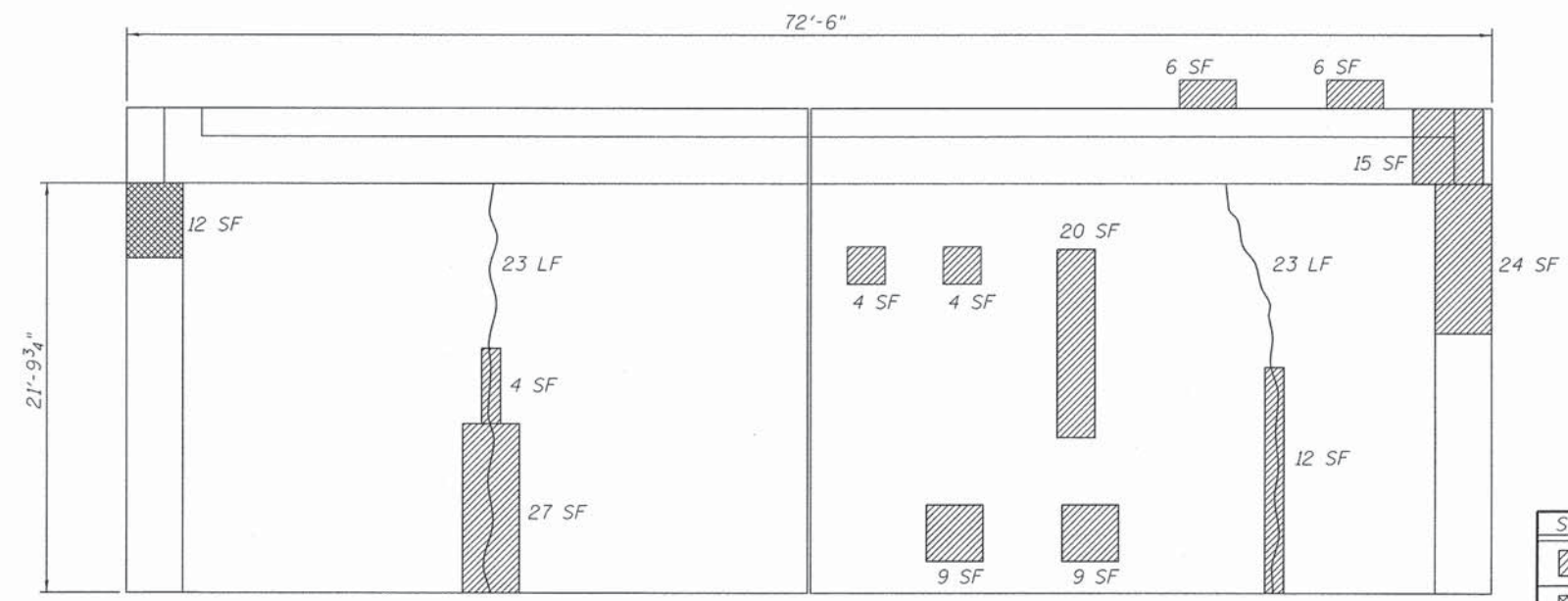
Beams 2-9 at Pier 3 (Span 4), Beams 2 & 3 at Pier 5 (Span 5) and Beams 2-11 at Pier 5 (Span 6).

SECTION A-A

Note:
 Existing diaphragms shall be shortened to accommodate beam repairs.



EAST ABUTMENT

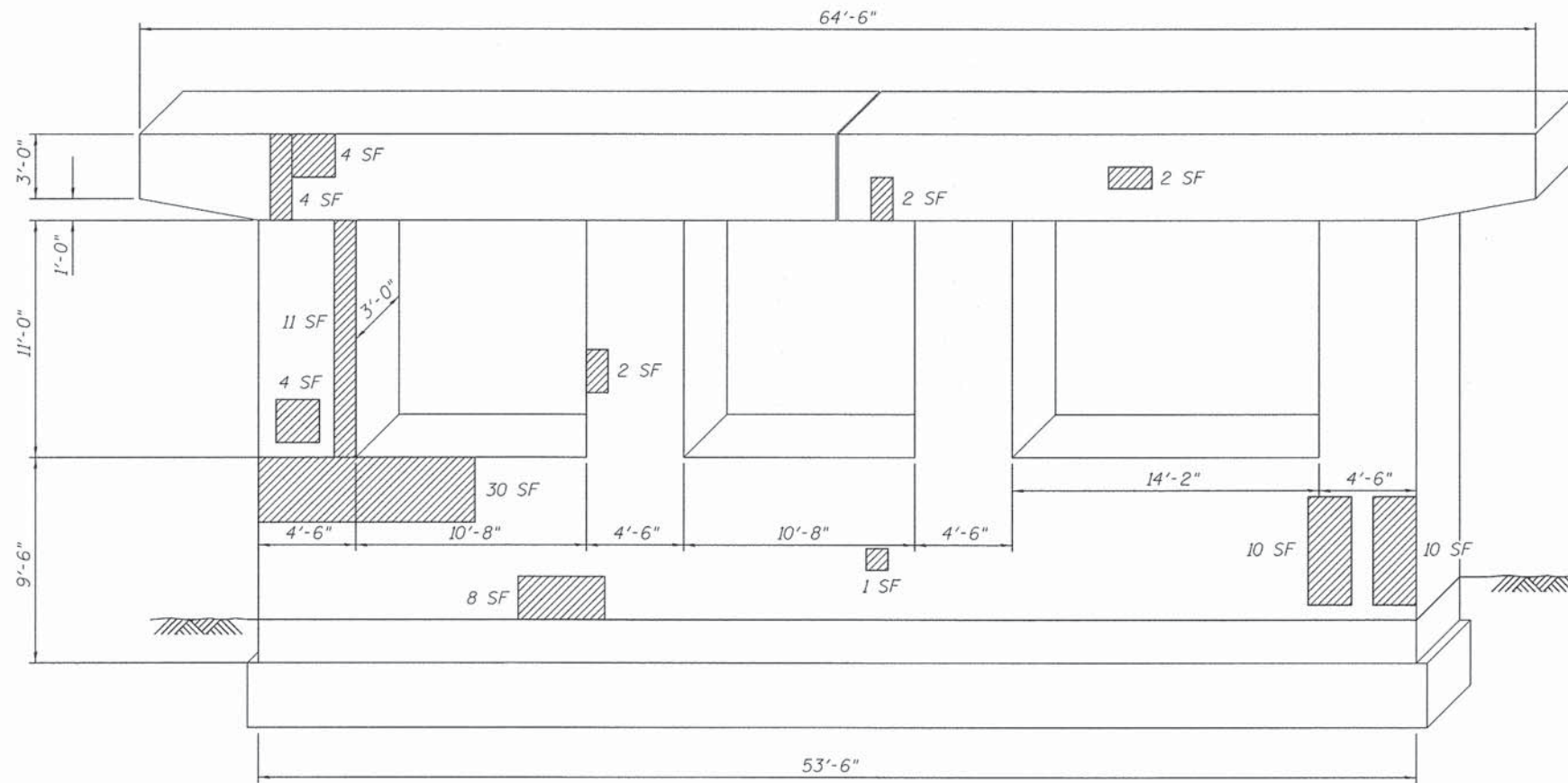


WEST ABUTMENT

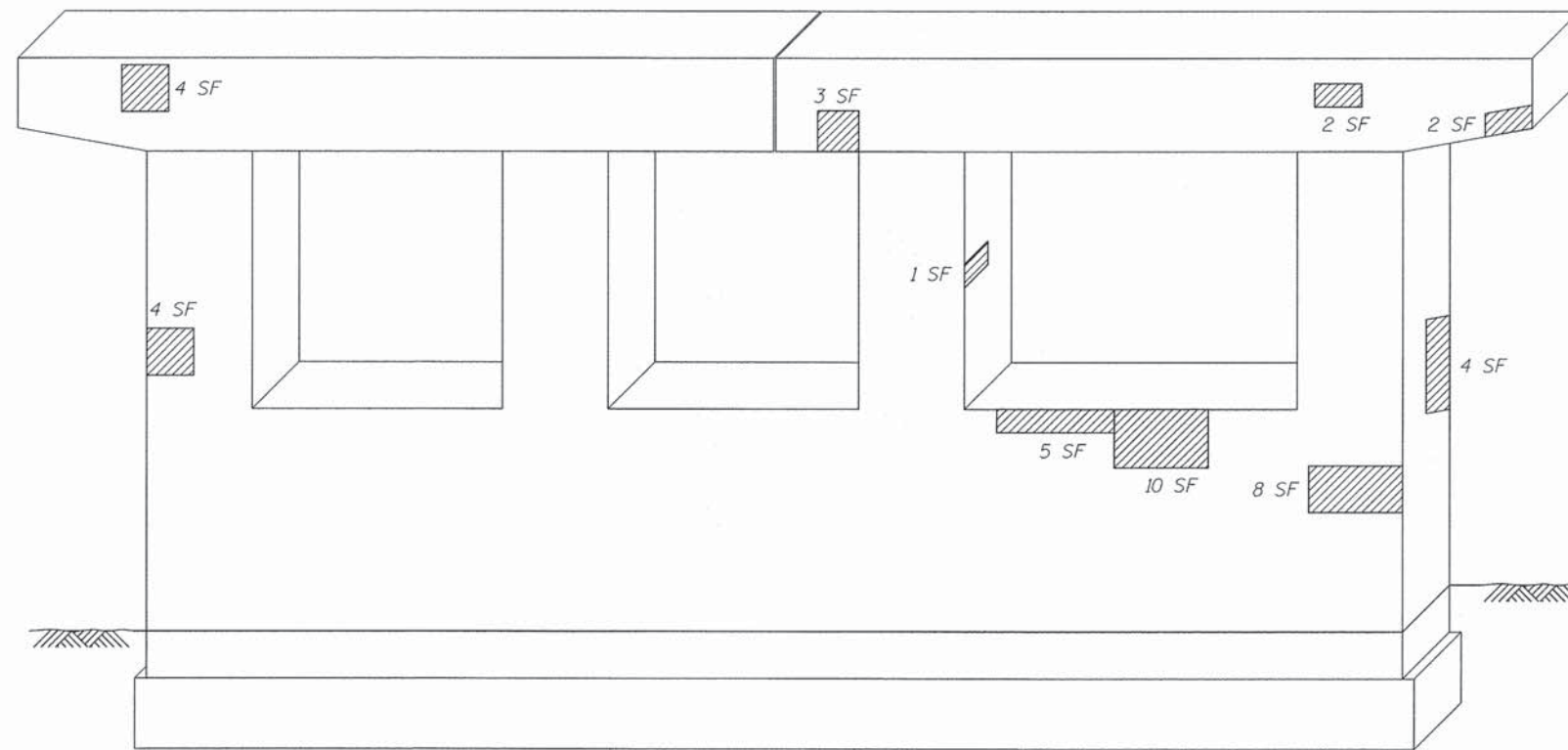
BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	337
	Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	12
	Epoxy Crack Injection	Foot	46

Note:
 Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.
 Concrete Sealer shall be applied to all repaired concrete areas on the East Abutment. Cost included with Structural Repair of Concrete.
 Cost of removal and reattachment of the existing conduit attached to the Abutment required for repair work shall be included with Structural Repair of Concrete.



PIER NO. 1 WEST FACE

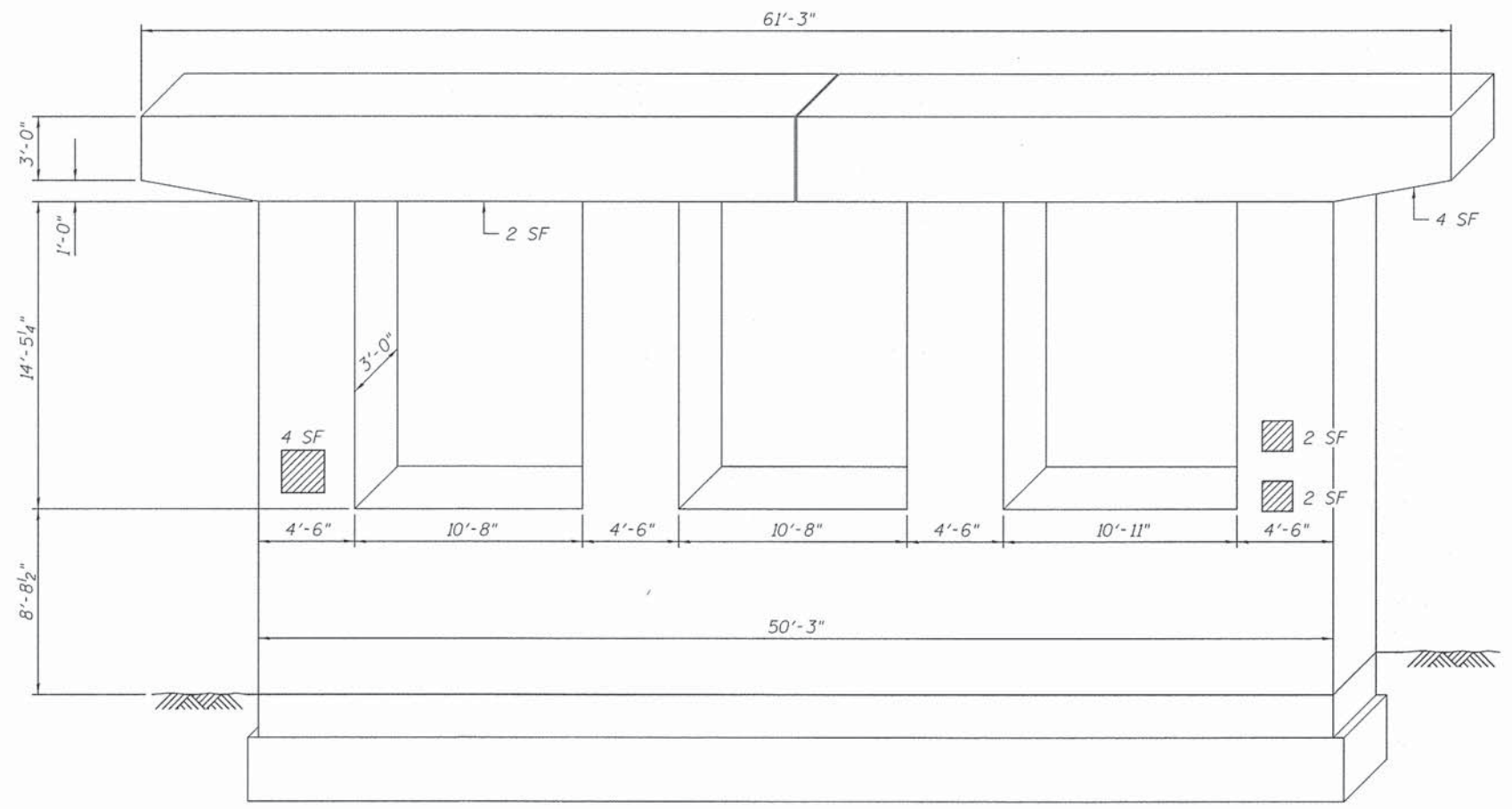


PIER NO. 1 EAST FACE

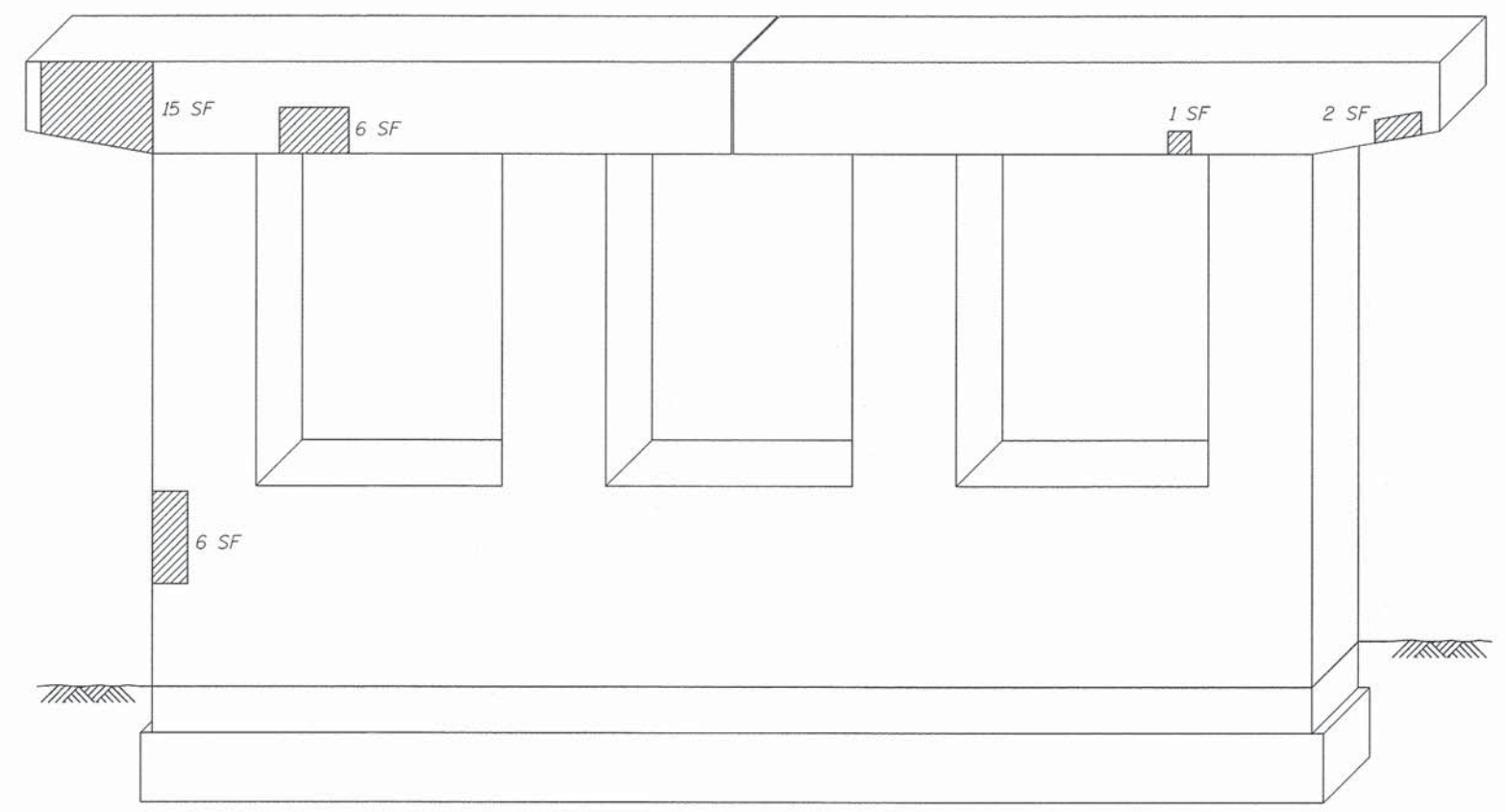
BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	131

Note:
 Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.




PIER NO. 2 WEST FACE

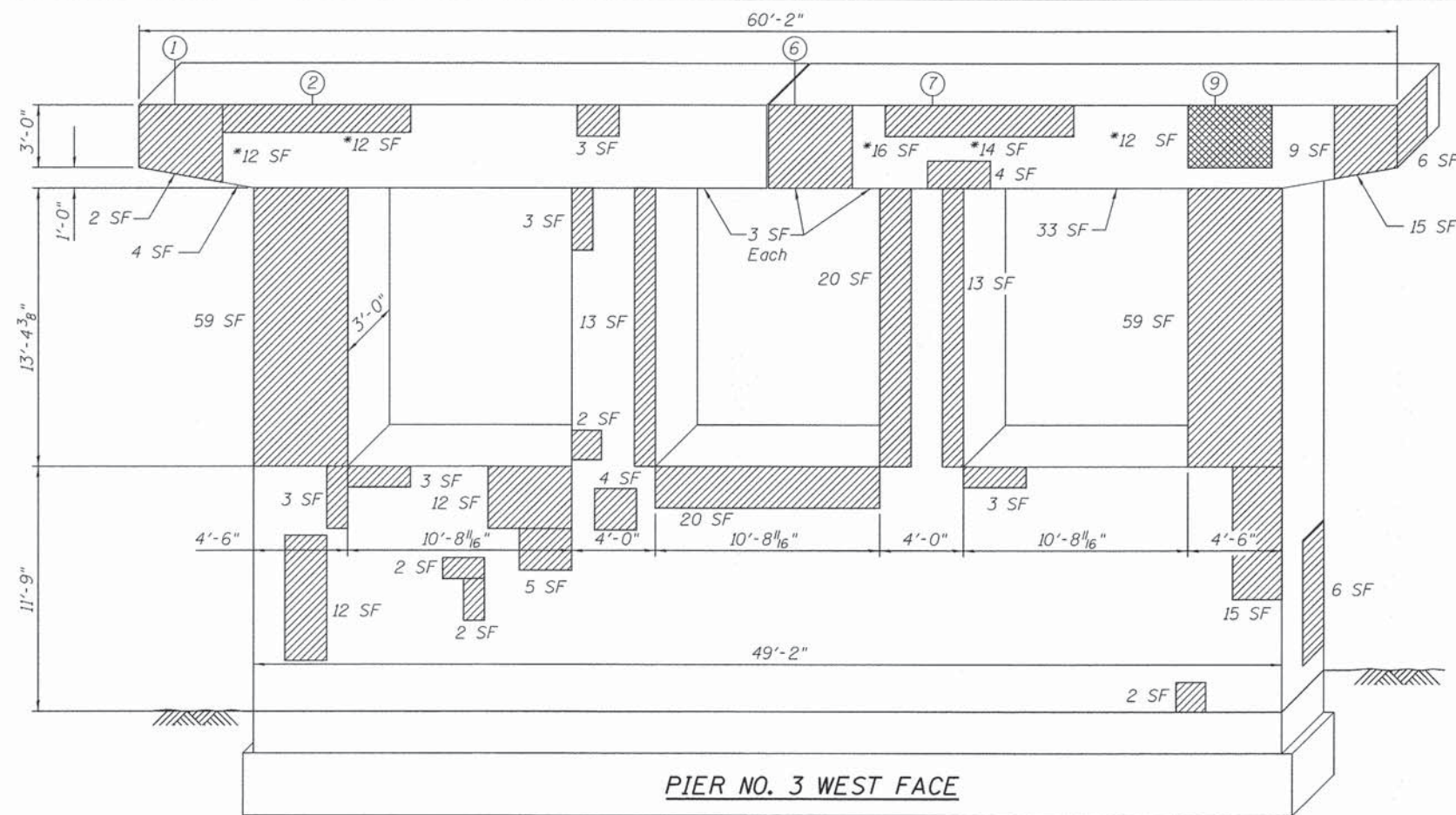


PIER NO. 2 EAST FACE

BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	44

Note:
Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.

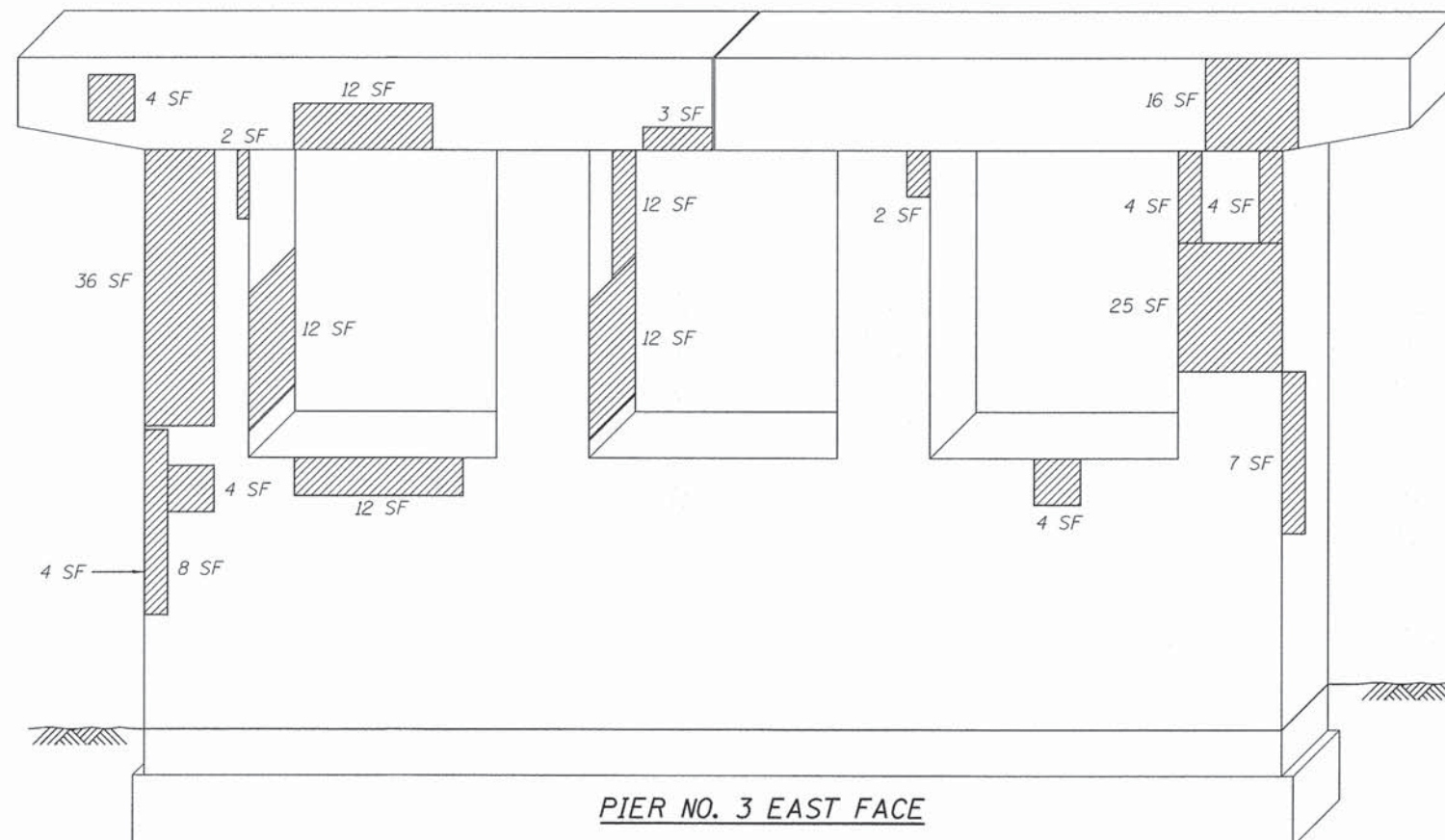


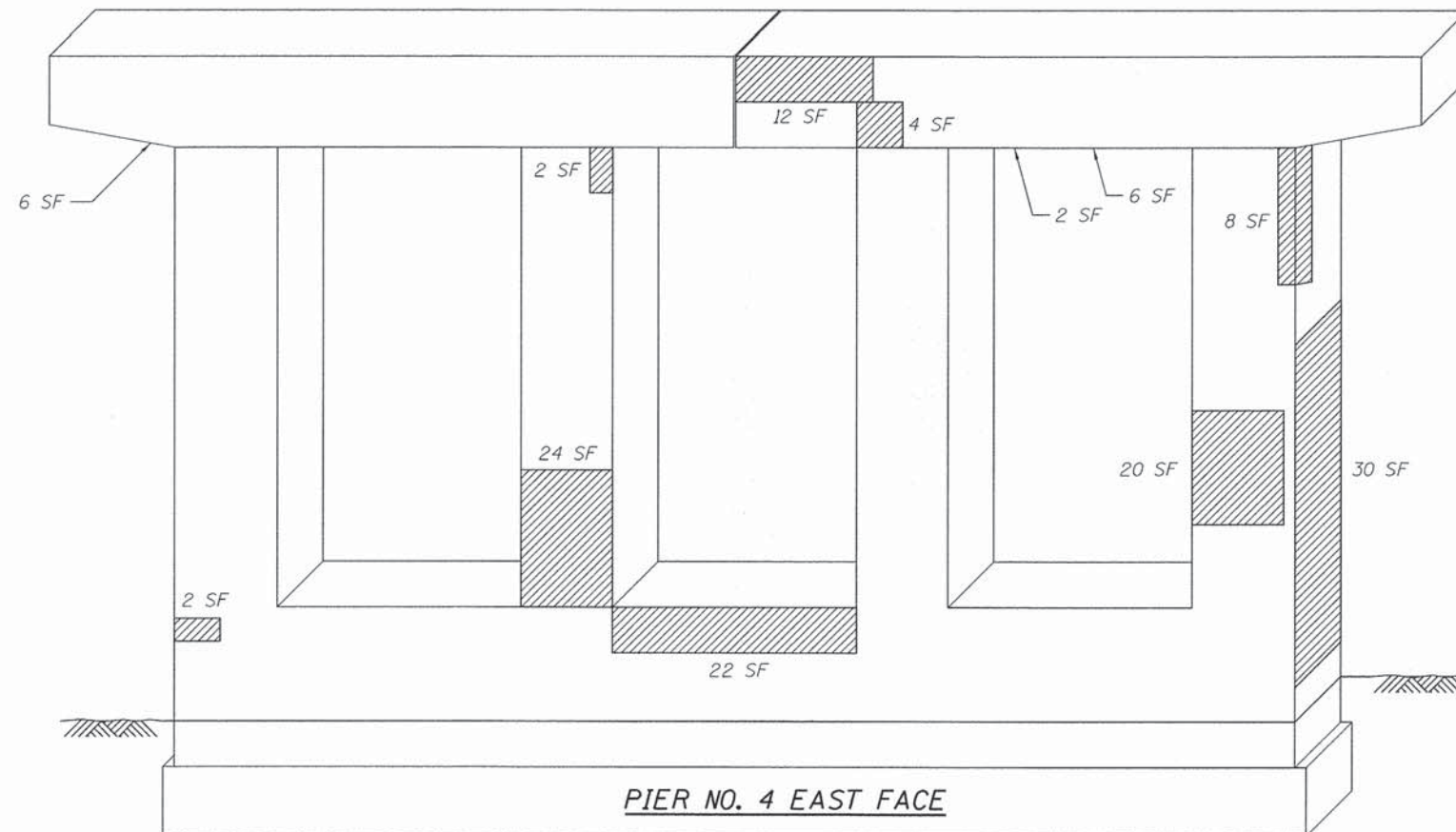
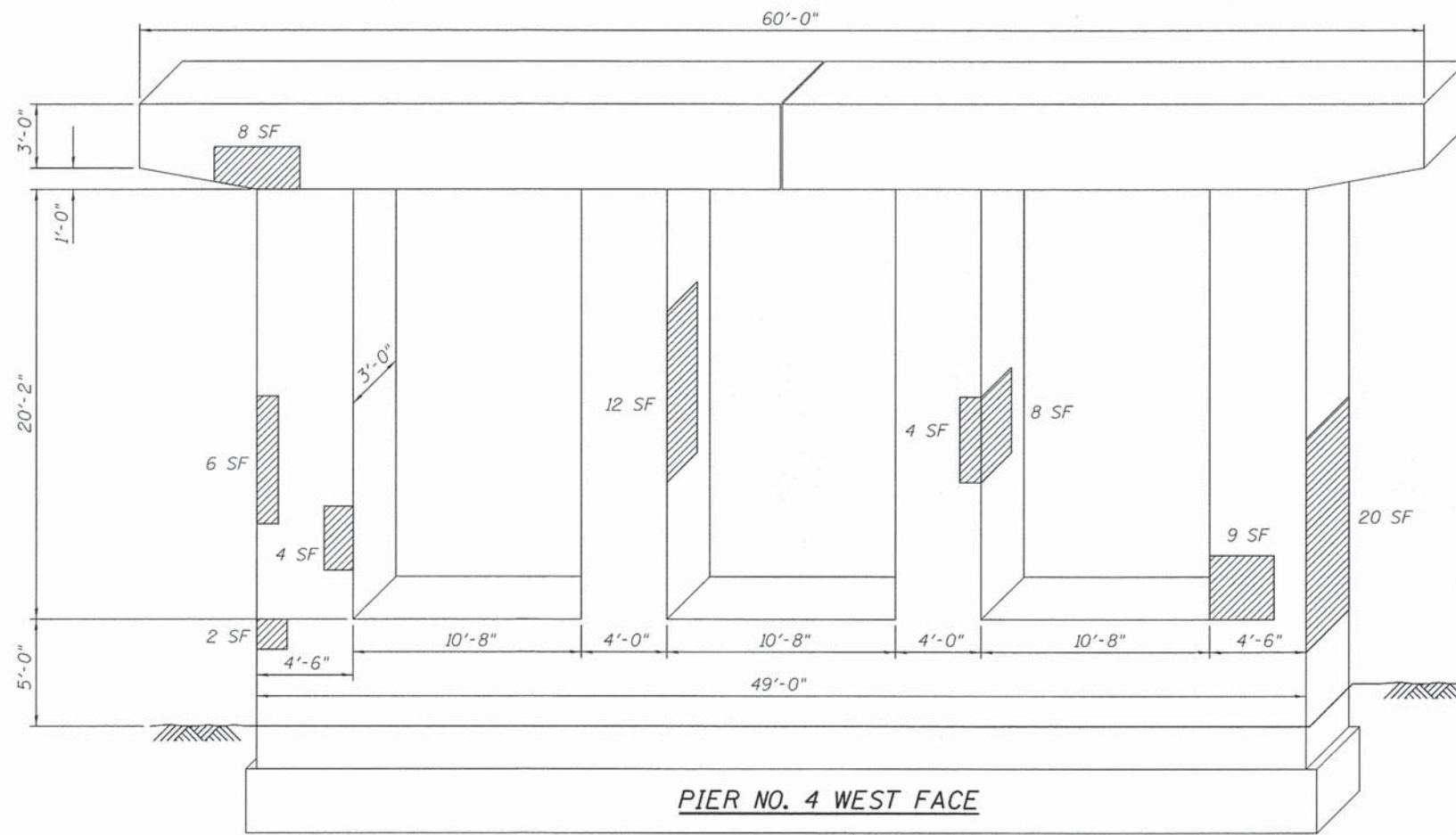
* Temporary shoring required to facilitate structural repair of concrete. Work to be done during bearing replacement. Cost of shoring shall be included with the cost of Jack and Remove Existing Bearings. See sheet S8 of S16 for Beam Reaction Table.

BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	584
	Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	12

Note:
Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.

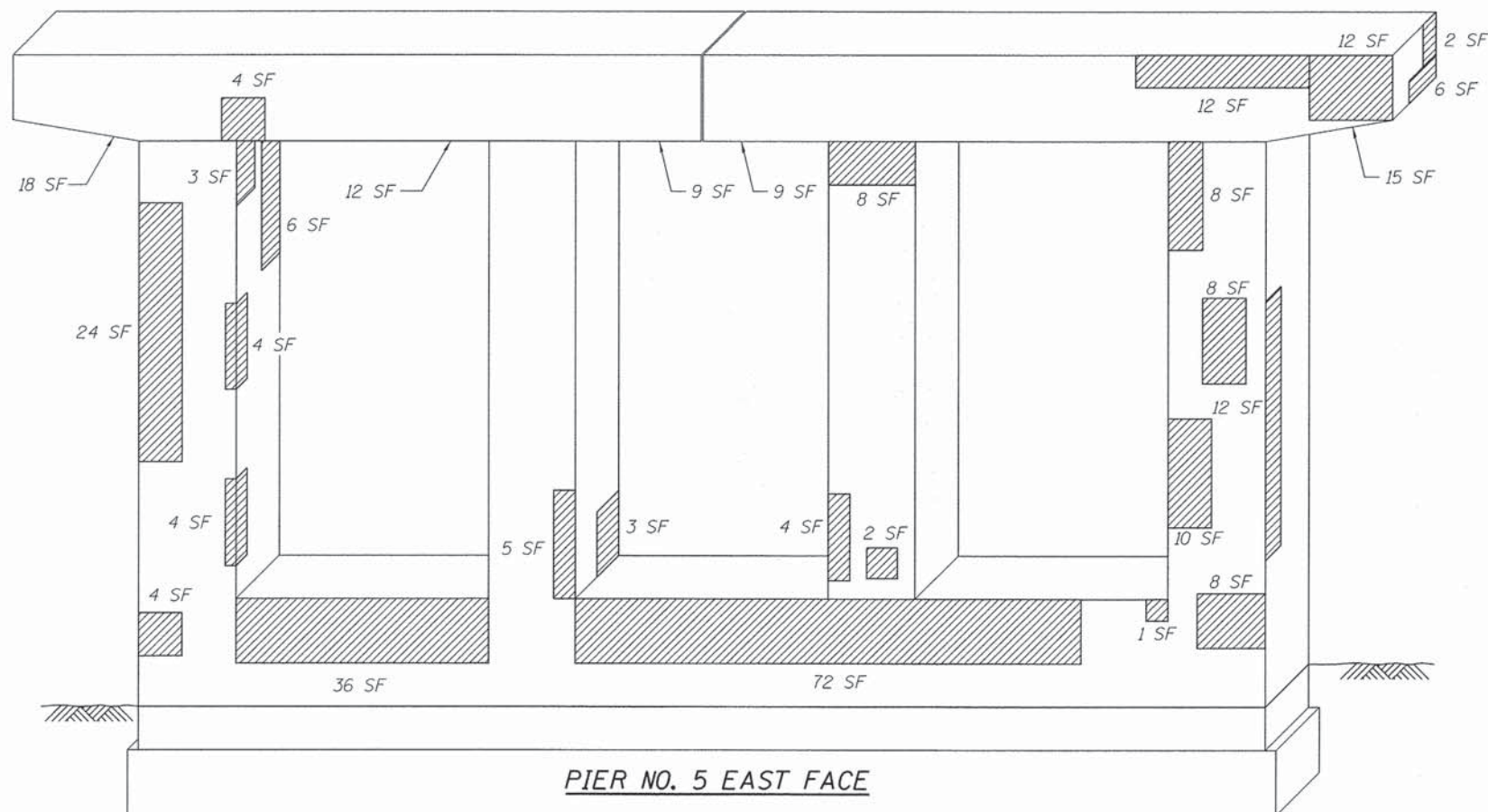
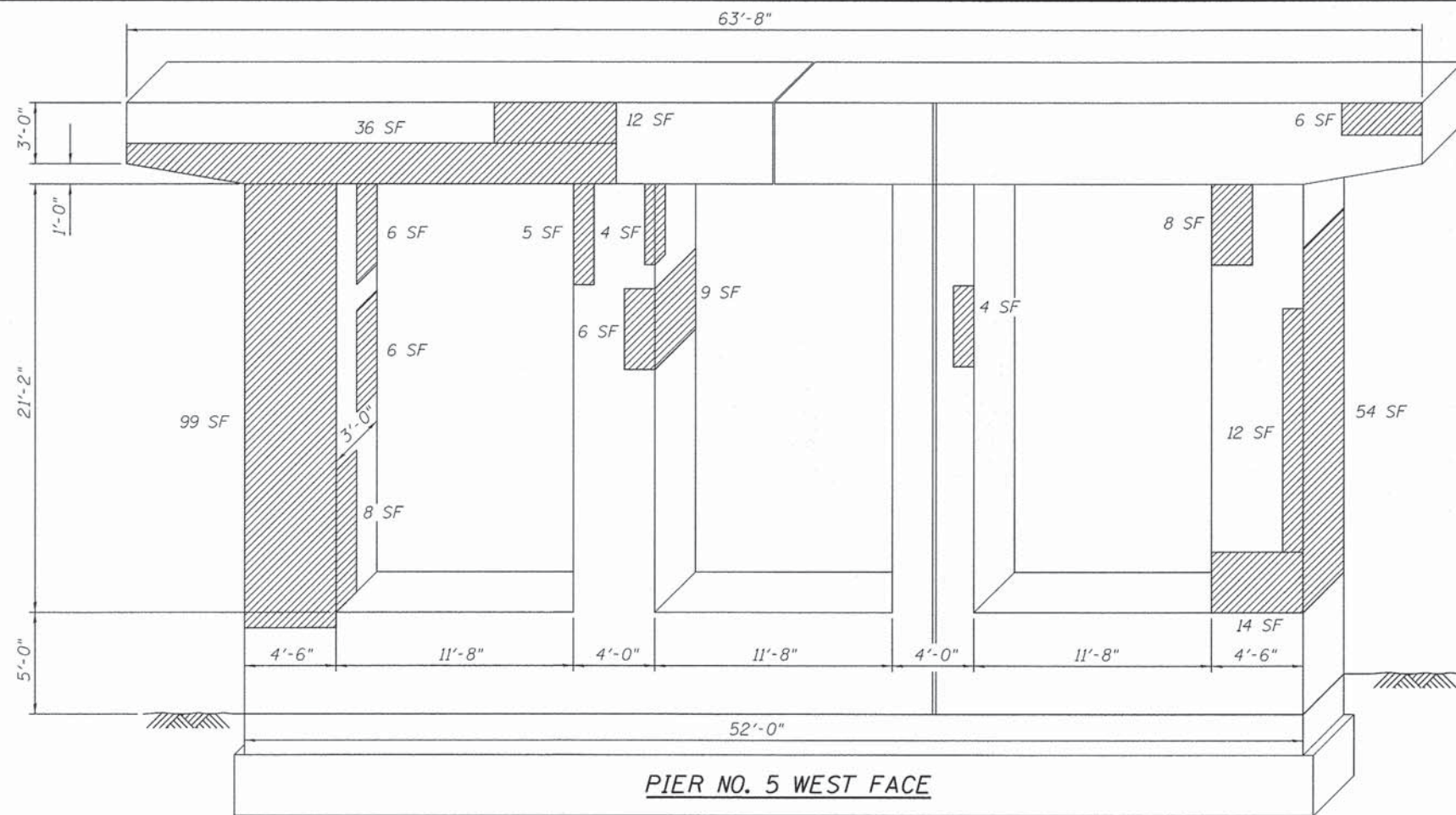




BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	211

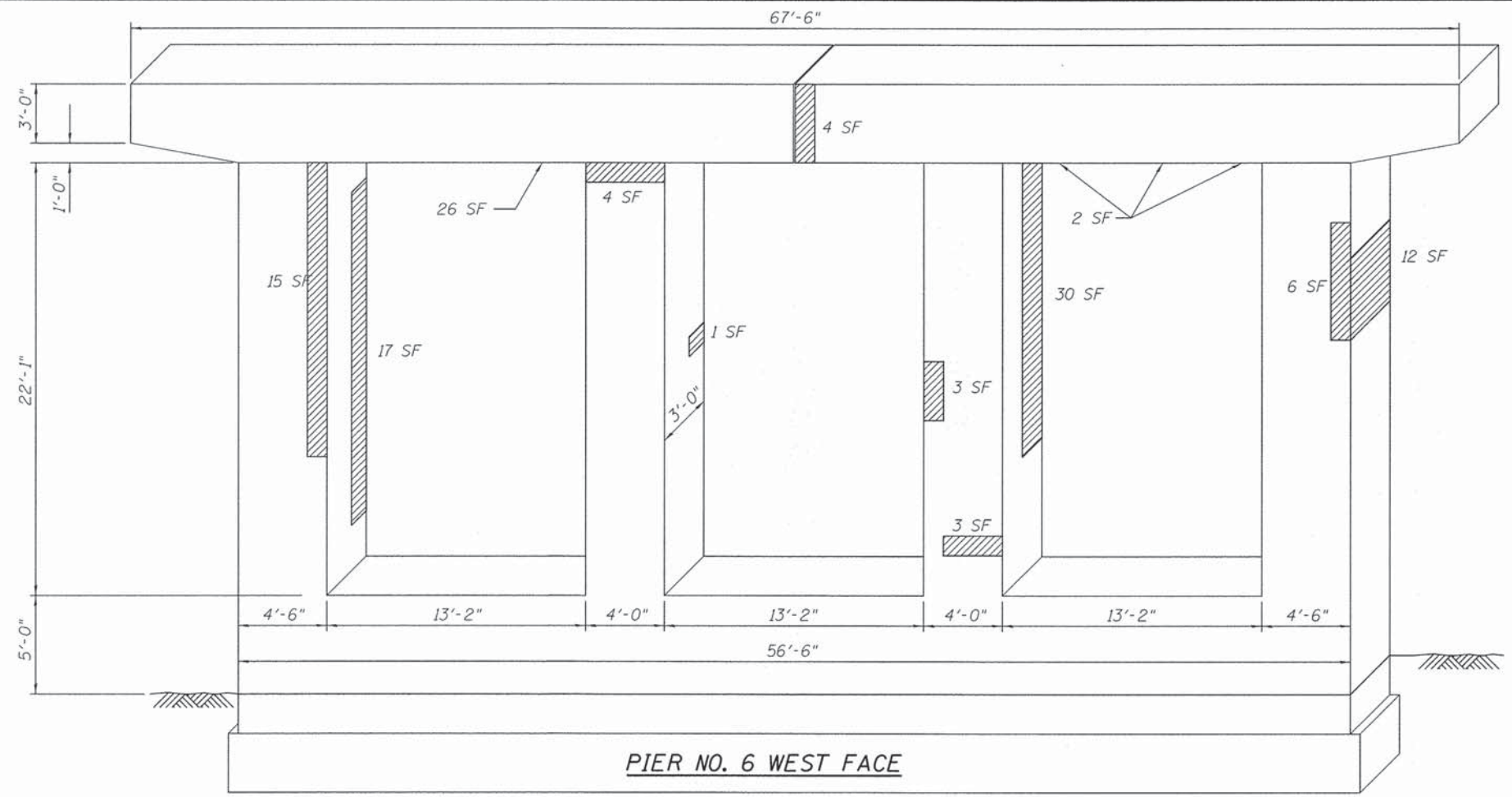
Note:
 Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.



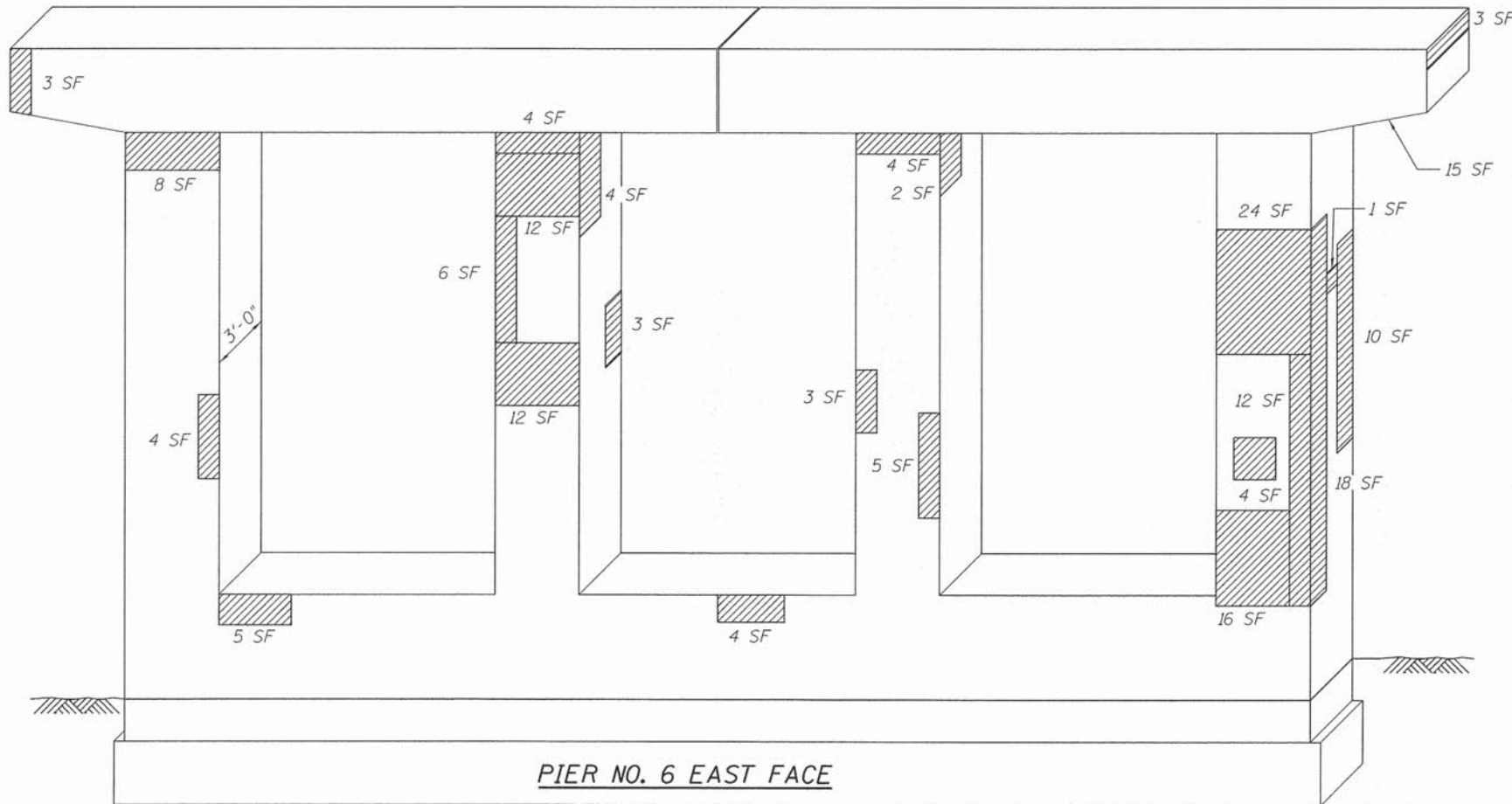
BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	610

Note:
Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.



PIER NO. 6 WEST FACE

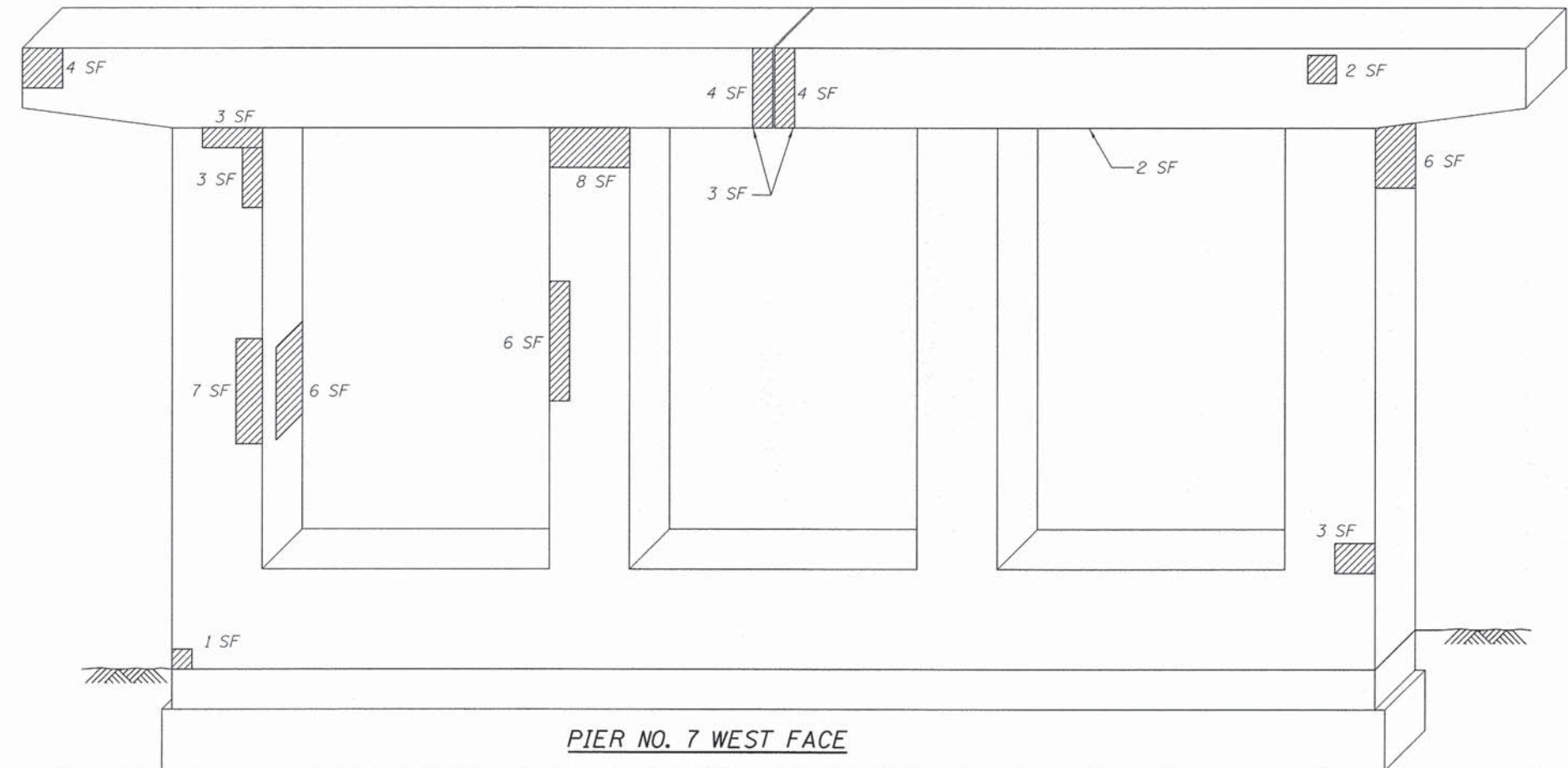
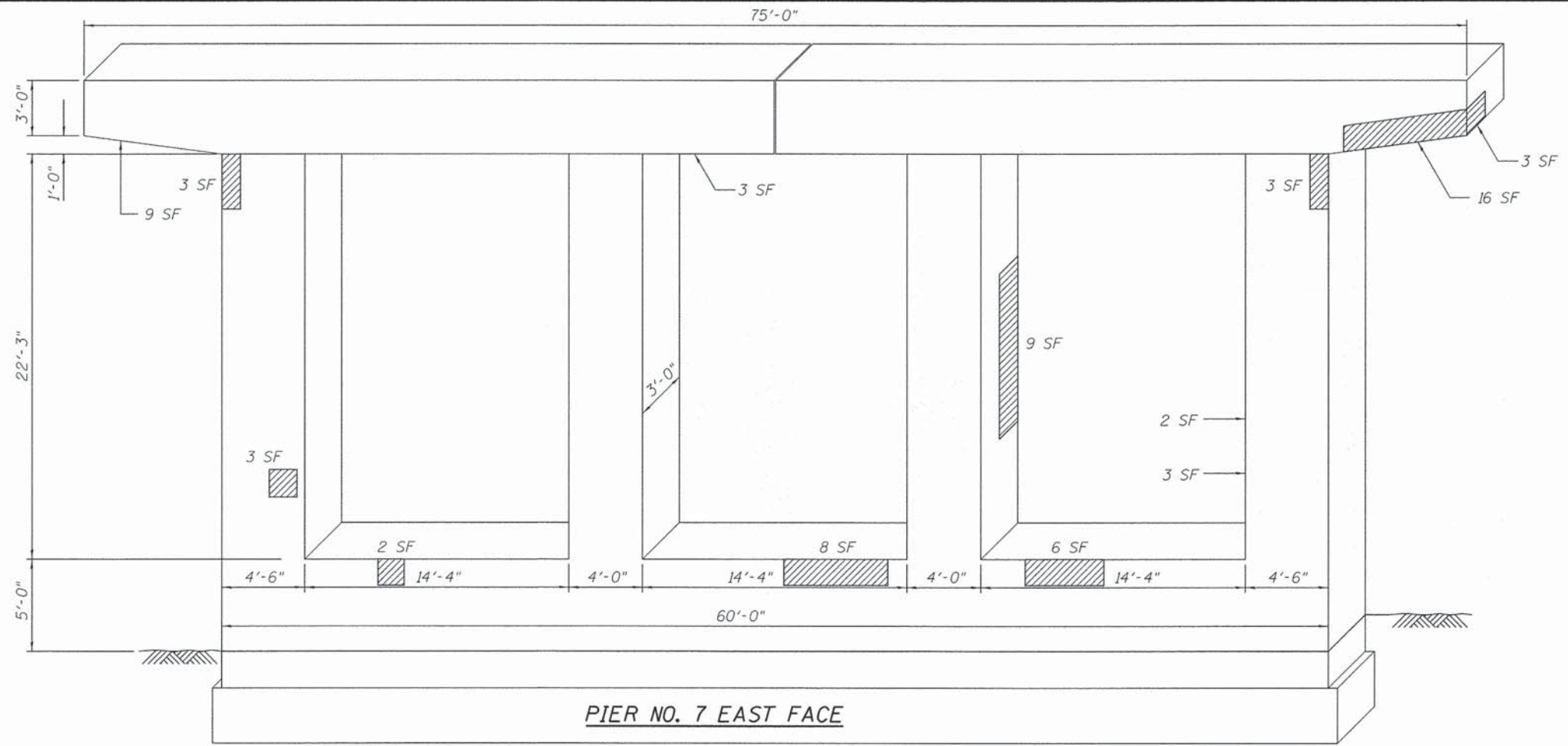


PIER NO. 6 EAST FACE

BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	309

Note:
Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.



BILL OF MATERIAL

SYMBOL	ITEM DESCRIPTION	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	135

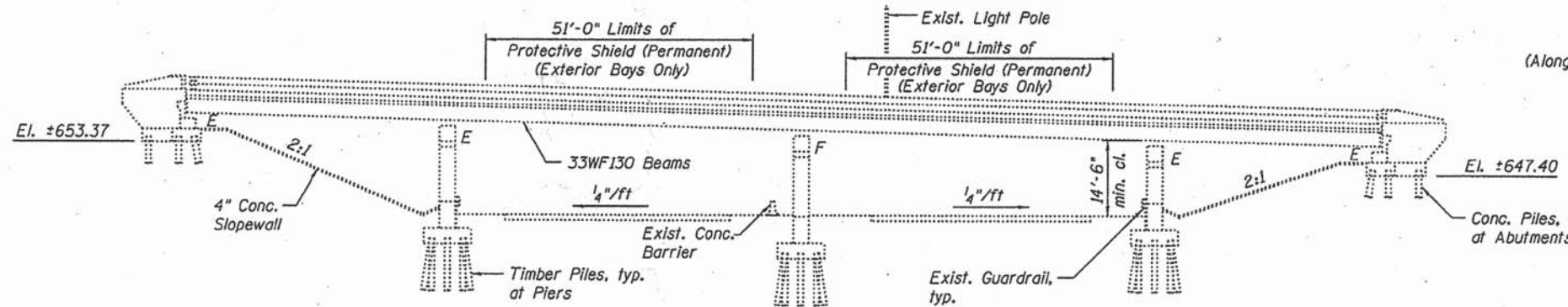
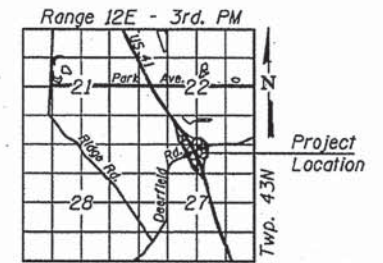
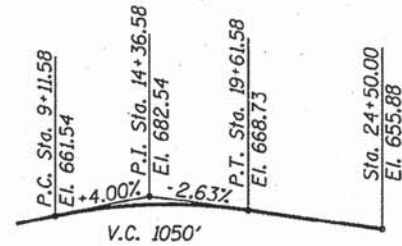
Note:
 Repair areas estimated based on inspection completed in November, 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built Plans.

Existing Structure: S.N. 049-0074 was originally constructed in 1960 as Route FA99, Section 104R-HB. The structure carries Deerfield Road over U.S. 41. This bridge consists of a four-span continuous steel superstructure with a reinforced concrete deck and substructure. In 1999 the superstructure was rehabilitated.

Staged construction will be utilized to maintain traffic during construction.

No Salvage.

Note: Profile Grade and vertical clearance taken from existing plans, and are for information use only.



ELEVATION



COLLINS ENGINEERS, INC.
EWA MROTCZEK, P.E., S.E.
NO. 081-006067
EXP.: 11/30/2016

LOCATION SKETCH

SCOPE OF WORK

1. Remove & replace concrete median.
2. Perform expansion joint repairs.
3. Seal bridge deck, median, and curbs.
4. Remove and replace HMA overlay on approaches.
5. Clean and reseal relief joints.
6. Clean and paint exposed rebar on deck soffit.
7. Replace the existing rocker bearings at the abutments with elastomeric bearings and steel extensions.
8. Replace the steel end diaphragms at the abutments & repair beam ends.
9. Install permanent protective shielding in spans 2 and 3.
10. Perform substructure repairs.
11. Remove and replace sections of the Slope wall.

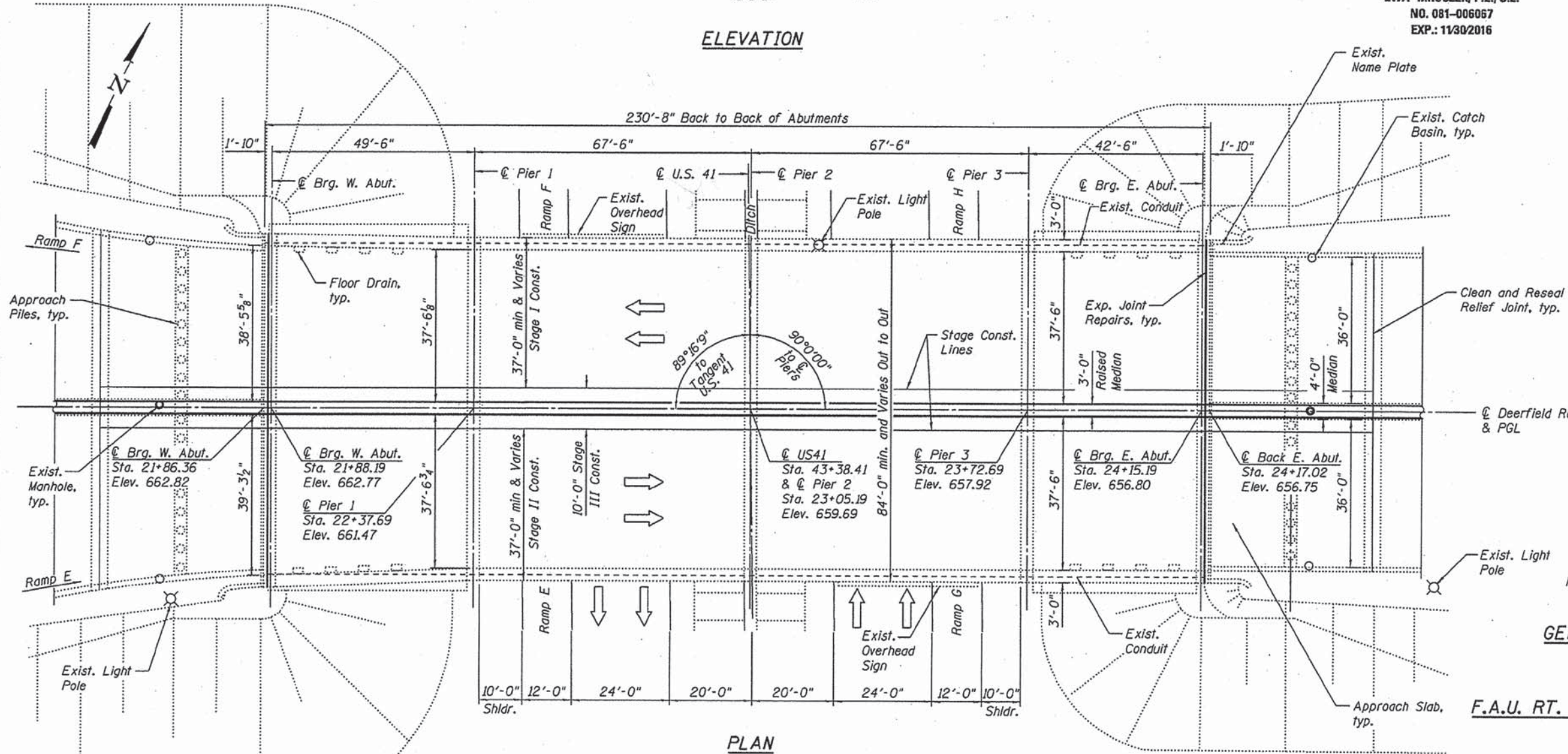
DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS EXISTING
 $f_c^o = 1,400$ psi (superstructure)
 $f_s^o = 1,000$ psi (substructure)
 $f_s^r = 20,000$ psi (reinforcement)
 $f = 18,000$ psi (structural steel)

SEISMIC DATA

Seismic Performance Zone (SPC) = A
 Horizontal Bedrock Acceleration Coefficient (A) = 0.035g
 Site Coefficient (S) = 1.0



PLAN

GENERAL PLAN AND ELEVATION
DEERFIELD ROAD OVER
F.A.P. RT. 346 (U.S. 41)
F.A.U. RT. 1257 - SECT. ZW-RS-1 & 104R-HB-I
LAKE COUNTY
STATION 23+07.72
STRUCTURE NO. 049-0074

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PLOT DATE =	DRAWN - PRH	REVISED
	CHECKED - AMS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 049-0074
 SHEET NO. S1 OF S11 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	413
				CONTRACT NO. 63882
ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

- S1 General Plan and Elevation
- S2 General Notes, Bill of Material and Index of Sheets
- S3 Stage Construction Details
- S4 Bridge Deck Repair
- S5 Bridge Deck Soffit Repair
- S6 Structural Steel Repairs
- S7 Bearing Details
- S8 East and West Abutment Repairs
- S9 Pier 1 Repairs
- S10 Pier 2 Repairs
- S11 Pier 3 Repairs

GENERAL NOTES:

Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. Bolts 7/8" ϕ for 15/16" ϕ holes, unless noted otherwise.

All structural steel shall be AASHTO M-270 Gr. 36, unless otherwise noted.

No field welding is permitted except as specified in the Contract Documents.

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 existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead in this project.

Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures".

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Structural Steel Repair.

Cost for removal and disposal of existing expansion joints shall be included in the pay item Silicone Joint Sealer, 1.75".

The removal and reattachment of guardrail, hand rail, steel railings, traffic barrier terminal, etc. required for repair work shall be included in the pay item Structural Repair of Concrete.

TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu. Yd.		9.1	9.1
Polymerized Hot-Mix Asphalt Surface Course, Mix "E", N70	Ton	71		71
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	634		634
Concrete Removal	Cu. Yd.	16.0		16.0
Slope Wall Removal	Sq. Yd.		64	64
Concrete Superstructure	Cu. Yd.	16.8		16.8
Furnishing and Erecting Structural Steel	Pound	13,660		13,660
Reinforcement Bars, Epoxy Coated	Pound	2,880		2,880
Slope Wall, 4"	Sq. Yd.		76	76
Elastomeric Bearing Assembly, Type II	Each	28		28
Anchor Bolts, 3/4"	Each	112		112
Cleaning and Painting Exposed Rebar	Sq. Ft.	379		379
Clean and Reseal Relief Joint	Foot	166.5		166.5
Bituminous Materials (Prime Coat)	Pound	285		285
Protective Shield (Permanent)	Sq. Yd.	148		148
Bridge Deck Concrete Sealer	Sq. Ft.	20,266		20,266
Jack and Remove Existing Bearings	Each	28		28
Structural Steel Removal	Pound	6,400		6,400
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.		584	584
Silicone Joint Sealer, 1.75"	Foot	171		171
Polymer Concrete	Cu. Ft.	5		5
TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE SPECIM)	EACH	15		15

I:\8274 - IDOT PTB 168 - 07 Vertical Road Bridge\Structural Drawings\049-0074\Sheets\049-0074-8274-002-Gen.Dwg

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 ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 084-000943

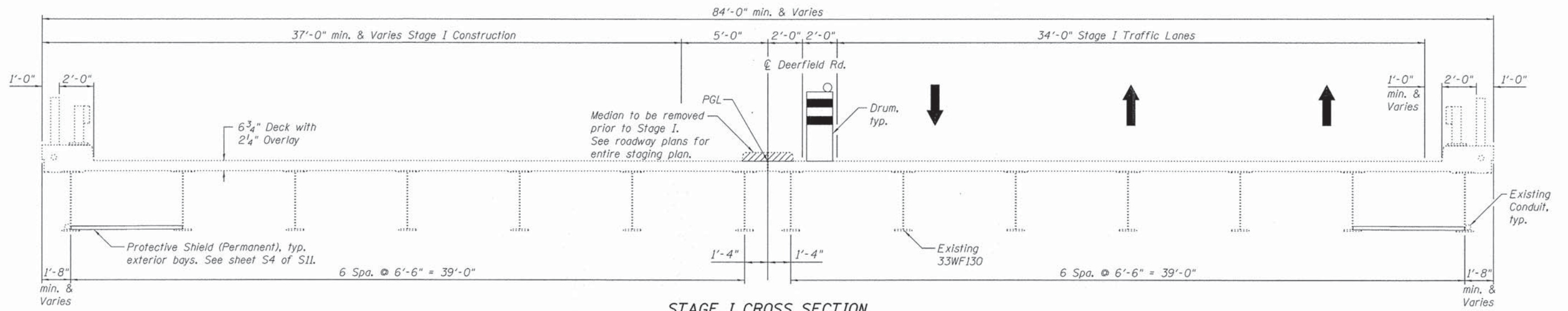
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

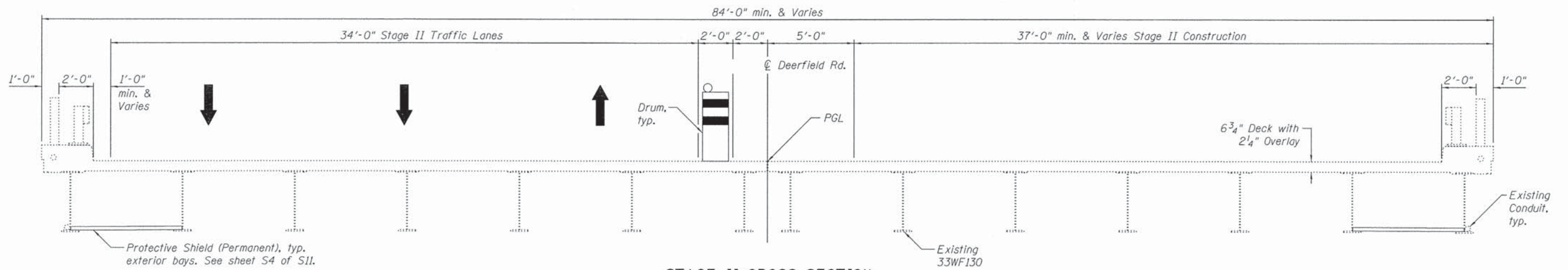
**GENERAL NOTES, BILL OF MATERIAL AND INDEX OF SHEETS
 STRUCTURE NO. 049-0074**

SHEET NO. S2 OF S11 SHEETS

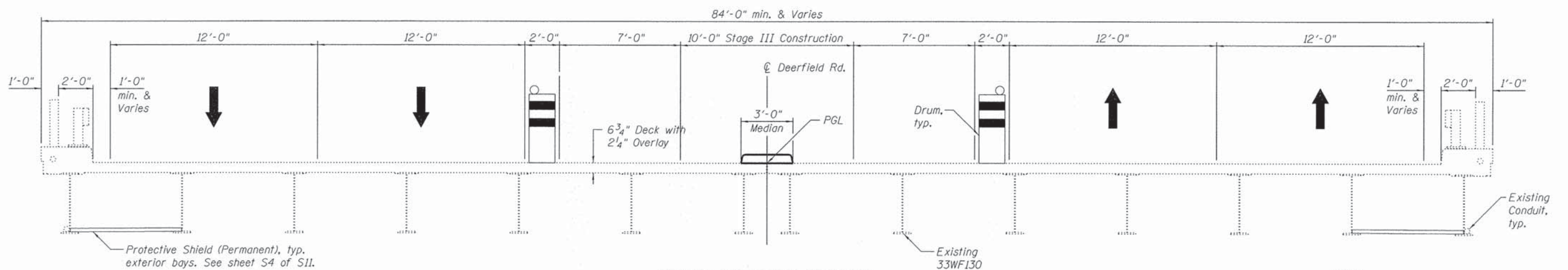
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	414
CONTRACT NO. 63882				
ILLINOIS FED. AID PROJECT				



STAGE I CROSS SECTION



STAGE II CROSS SECTION



STAGE III CROSS SECTION

Notes:
 All sections looking east.
 Hatched area indicates Concrete Removal.
 Median to be removed to facilitate construction of SN. 049-0072 & SN. 049-0073. See roadway plans.
 For quantity of Drums, see roadway plans.

USER NAME = 11-0274 - IDOT P1B 168 - 07 Various 10274.04 - Deerfield Road Bridges CAD Structural Drawings 1049-0074 Sheets 04-0074-0075-0085-Stage Const. Details.dgn

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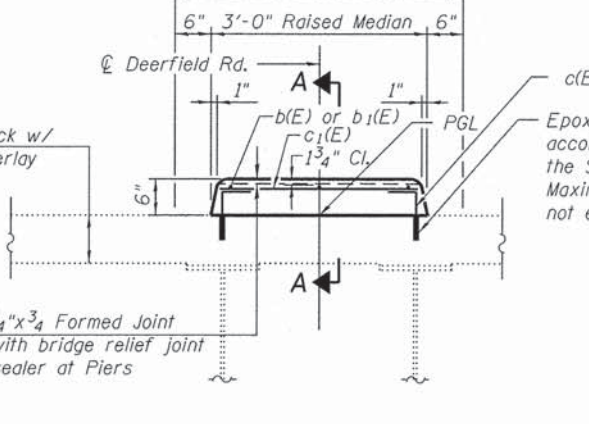
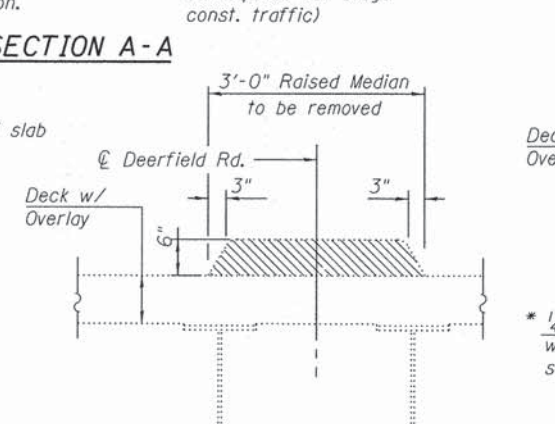
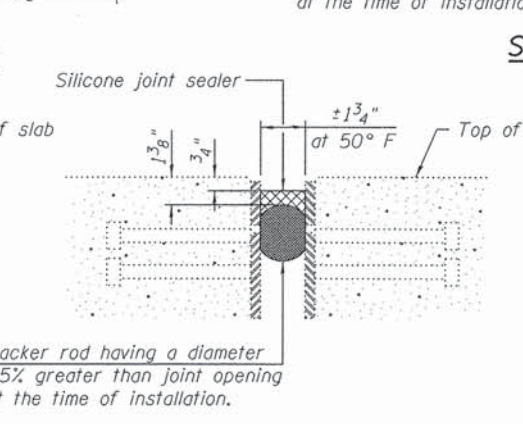
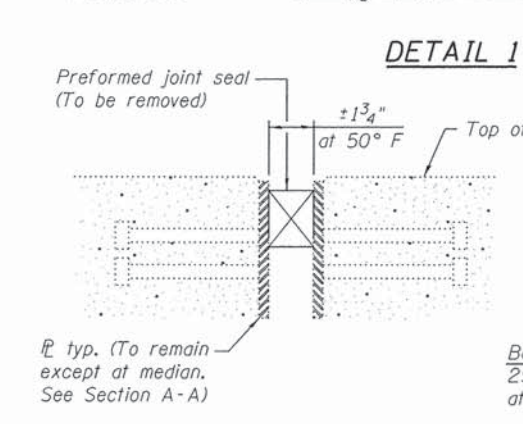
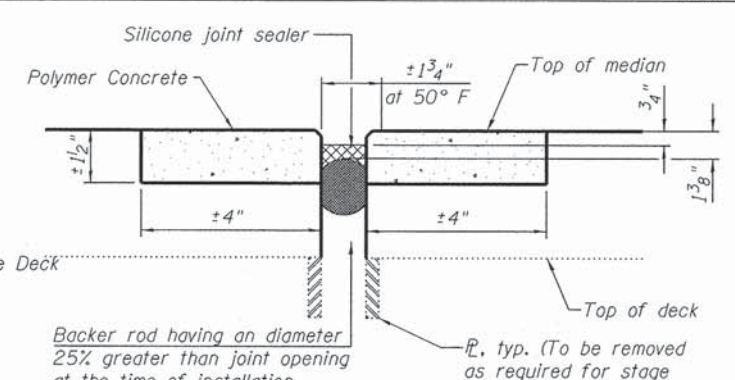
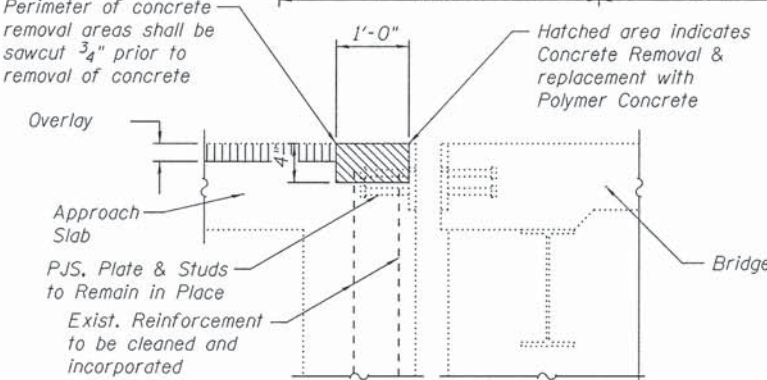
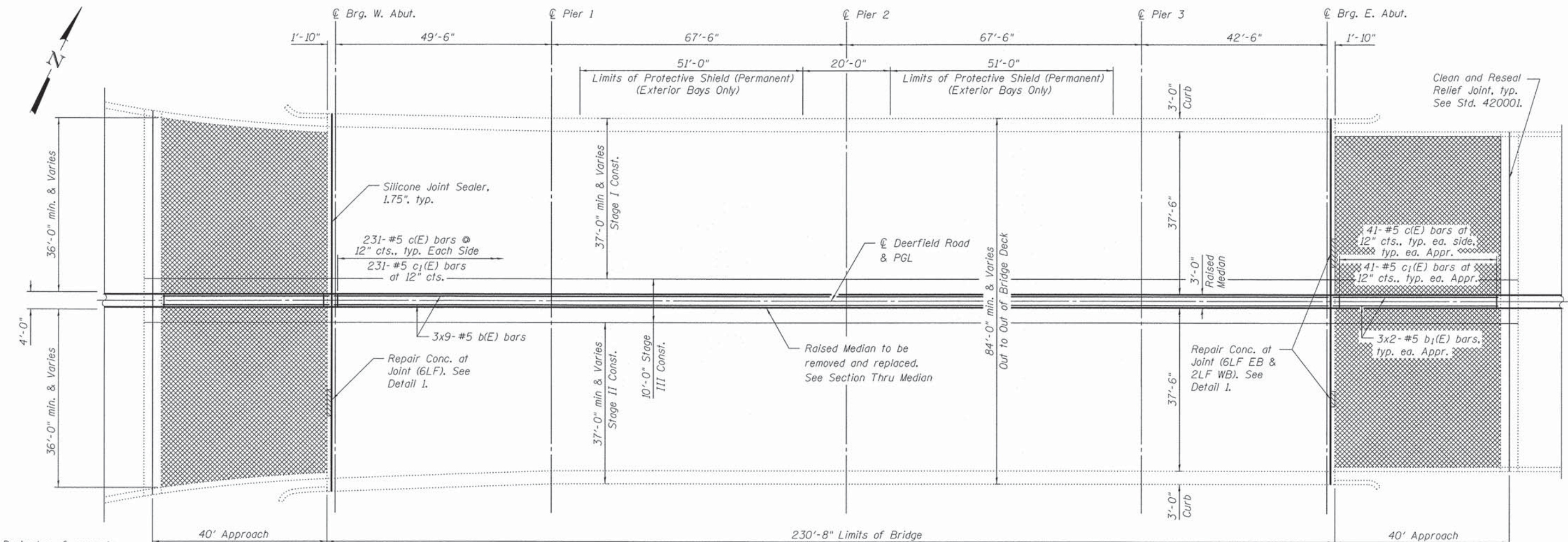
**STATE OF ILLINOIS
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**STAGE CONSTRUCTION DETAILS
 STRUCTURE NO. 049-0074**

SHEET NO. S3 OF S11 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	415
			CONTRACT NO. 63882	
[ILLINOIS] FED. AID PROJECT				

USER NAME = 1108274 - IDOT PTB 168 - 07 Various Road Bridges - Deerfield Road Bridge Structural Drawings 049-0074-Sheets 049-0074-82752-001-Bridge_Deck_Repair.dgn
 COLLINS ENGINEERS 133 N. Wacker Dr. Suite 300 Chicago, IL 60606 Phone: (312) 704-3300 Fax: (312) 704-9300 www.collinsengr.com ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 08-009993



PLAN

Notes:
 Protective coat shall be applied to extents of the bridge including the median and inside & top faces of the curbs. Protective coat shall be applied to the median on both approaches. Paid for as Bridge Deck Concrete Sealer.
 Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
 Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 Protective Shield (Permanent) shall be placed in the exterior bays over US 41. See Plan and sheet S3 of S11 for more details.

LEGEND

- Bituminous Materials (Prime Coat)
- Polymerized Hot-Mix Asphalt Surface Course, Mix "E", N70 (2")
- Hot-Mix Asphalt Surface Removal, 2"

MIN. BAR LAP
 #5 bar = 3'-3"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b(E)	27	#5	28'-5"	—
b ₁ (E)	12	#5	22'-2"	—
c(E)	626	#5	1'-6"	—
c ₁ (E)	313	#5	2'-6"	—
Concrete Removal			Cu. Yd.	16.0
Bridge Deck Concrete Sealer			Sq. Ft.	20,266
Polymer Concrete			Cu. Ft.	5
Concrete Superstructure			Cu. Yd.	16.8
Clean & Reseal Relief Joint			Foot	166.5
Bituminous Materials (Prime Coat)			Pound	285
Polymerized Hot-Mix Asphalt Surface Course Mix "E", N70			Ton	71
Hot-Mix Asphalt Surface Removal, 2"			Sq. Yd.	634
Reinforcement Bars, Epoxy Coated			Pound	2,880
Silicone Joint Sealer, 1.75"			Foot	171
Protective Shield (Permanent)			Sq. Yd.	148

SECTION THROUGH EXISTING PJS JOINT

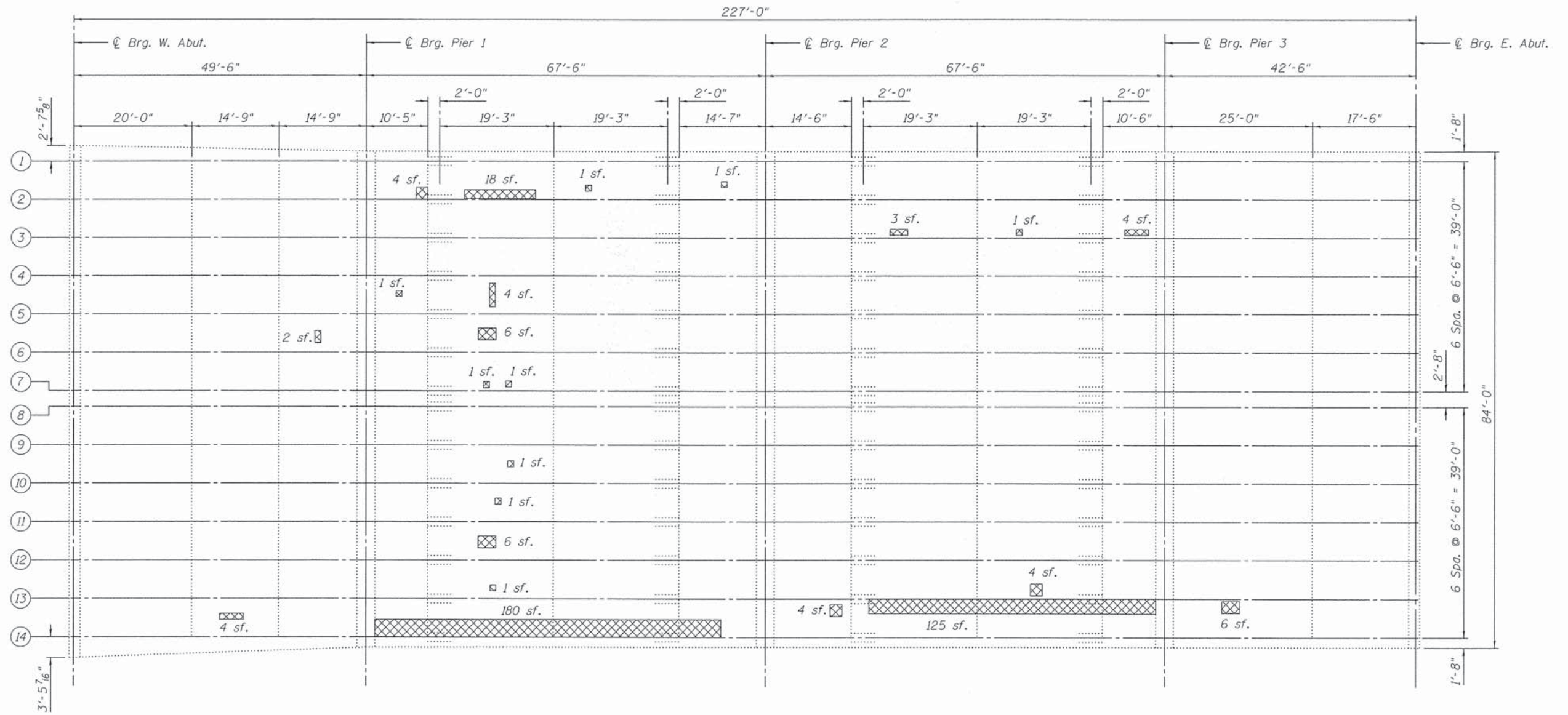
SECTION THROUGH PROPOSED SILICONE JOINT SEALER

SECTION THRU EXISTING MEDIAN

SECTION THRU MEDIAN

c(E) BAR

**** Full width along joint - backer rod not required.



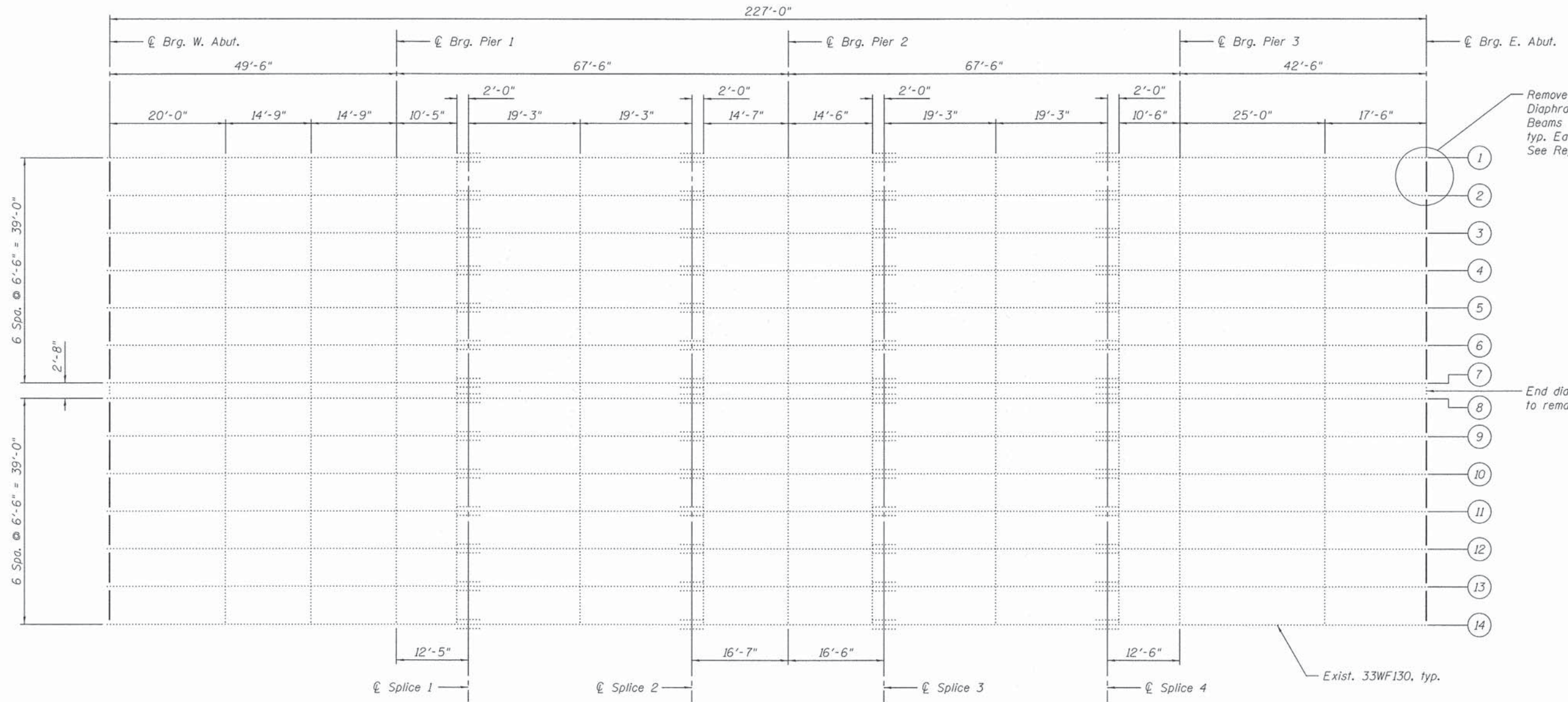
SOFFIT PLAN

Note:
 Repair areas are estimated based on visual inspection completed in March 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans.

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Clean and Paint Exposed Rebar	Sq. Ft.	379

USER NAME = 118274 - IDOT PTB 16B - 87 Various\0274.04 - Deer Field Road Bridges\Collins\Structural Drawings\049-0074\Sheets\0490074-82752-005-Bridge_Deck_Soffit_Repair.dgn
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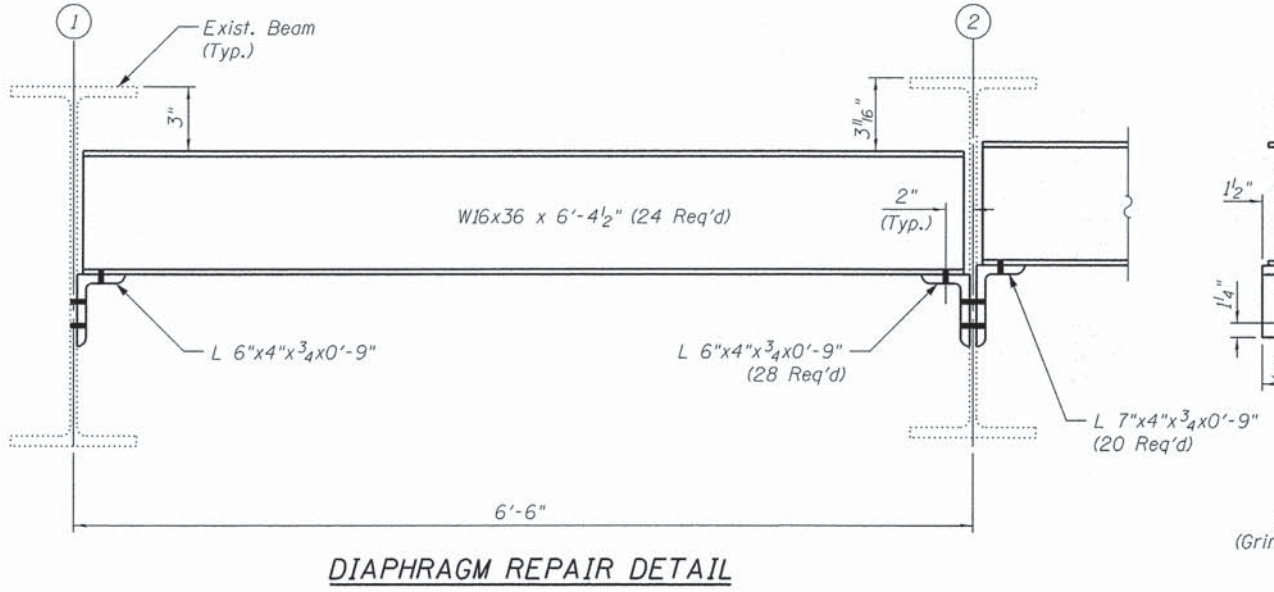


Remove & Replace End Diaphragm, typ. between Beams 1-7 & 8-14, typ. Each Abutment. See Repair Detail.

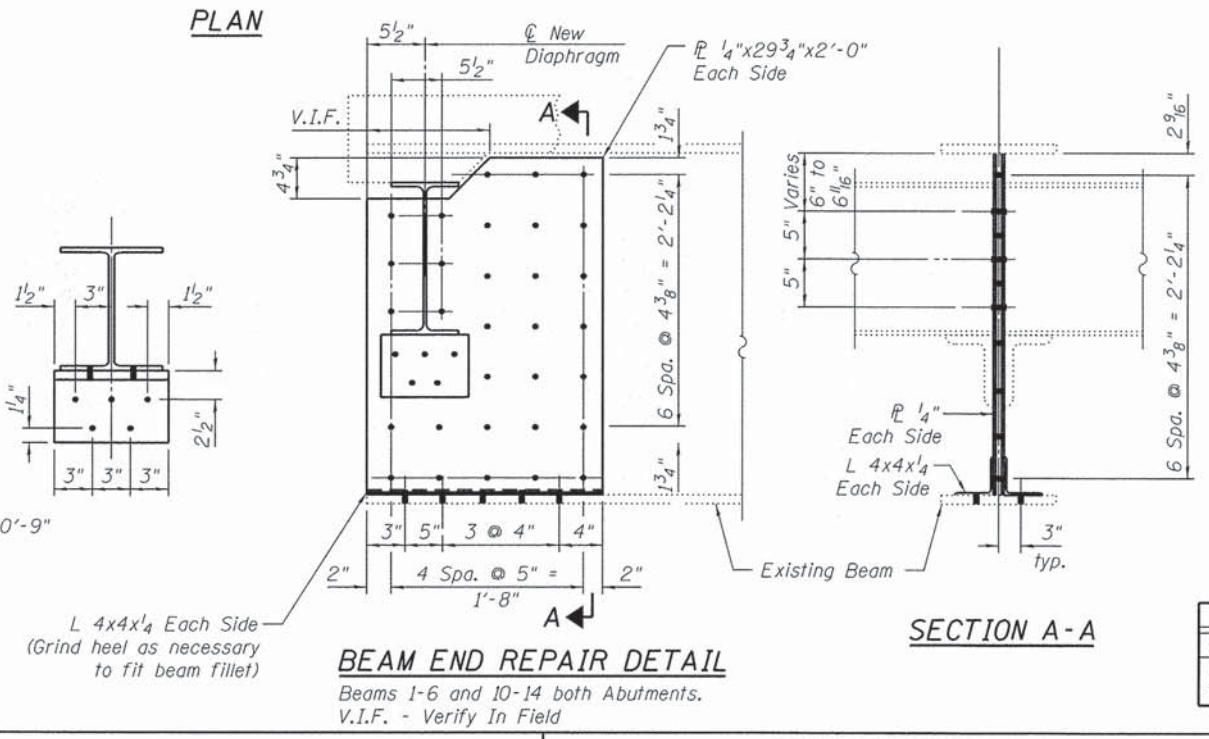
End diaphragm to remain, typ.

Exist. 33WF130, typ.

PLAN



DIAPHRAGM REPAIR DETAIL



BEAM END REPAIR DETAIL

Beams 1-6 and 10-14 both Abutments.
V.I.F. - Verify In Field

SECTION A-A

Notes:
Field drill 15/16" φ holes in new connection angles to match existing holes in beam webs.
Prior to ordering any material, the Contractor shall verify in the field all existing bolt hole dimensions in existing beam web and revise the location of holes in bottom flange as required.
The diaphragms shall be removed without removal of the existing deck. The deck shall be supported during beam end repair and diaphragm replacement. Gaps between existing deck and diaphragms shall be injected with epoxy to ensure good fit.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	6,400
Furnishing and Erecting Structural Steel	Pound	9,600

USER NAME = 1\18274 - IDOT PTB 168 - 07 Various Road Bridge Structural Drawings\049-0074\Sheets\0490074-02\252-006-Structural\Steel_Repair.dgn

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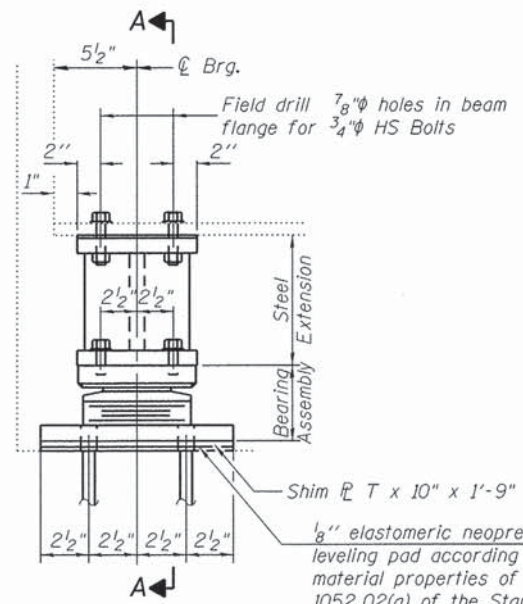
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PLOT DATE =	DRAWN - PRH	REVISED
	CHECKED - AMS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

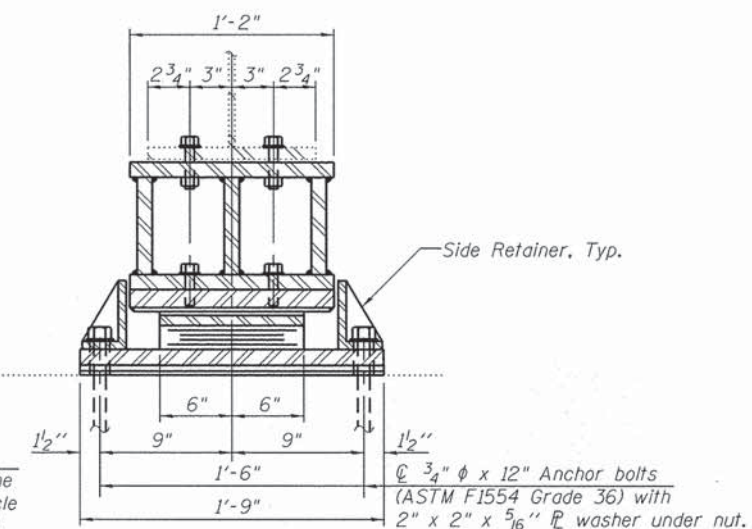
**STRUCTURAL STEEL REPAIRS
STRUCTURE NO. 049-0074**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 63882				
ILLINOIS FED. AID PROJECT				

SHEET NO. 56 OF 511 SHEETS



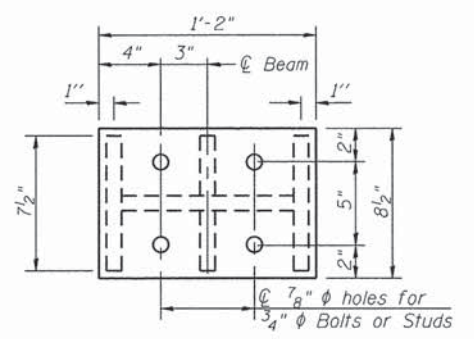
ELEVATION AT ABUT.



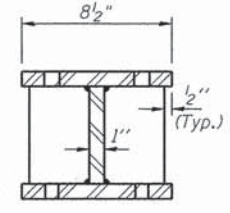
SECTION A-A

'T' DIMENSIONS

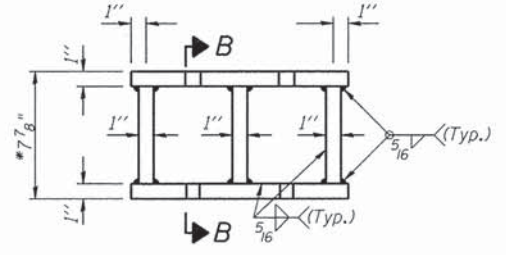
Girder	W. Abut.	E. Abut.
1	1/2"	1/4"
2	3/8"	3/8"
3	-	1/4"
4	-	1/8"
5	1/8"	3/8"
6	1/8"	3/4"
7	1/8"	3/4"
8	1/8"	5/8"
9	3/8"	1/2"
10	-	1/8"
11	3/8"	-
12	-	-
13	1/4"	-
14	-	-



PLAN STEEL EXTENSION



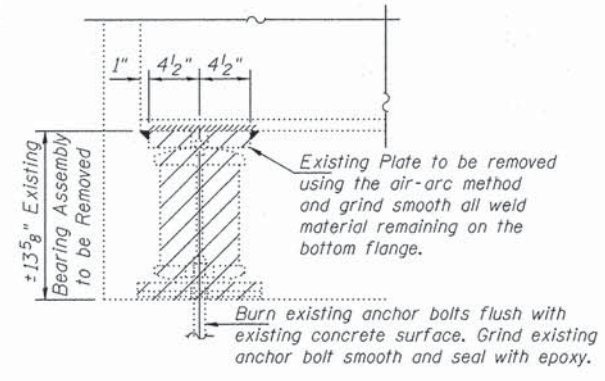
SECTION B-B



ELEVATION STEEL EXTENSION

* 9" for Girders 4, 6, & 9 thru 13, at the East Abutment.

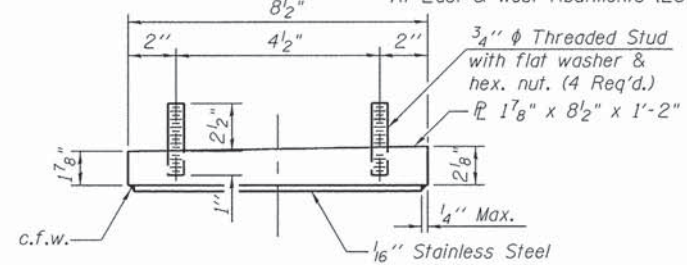
FABRICATED STEEL EXTENSION
 (28 Req'd: (21)-7 7/8" tall & (7)-9" tall)



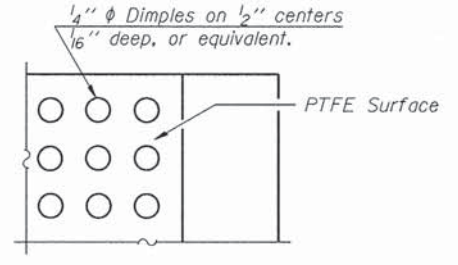
EXISTING BEARING REMOVAL DETAIL
 Cost included with Jack and Remove Existing Bearings (28 Req'd).

TYPE II ELASTOMERIC EXP. BRG.

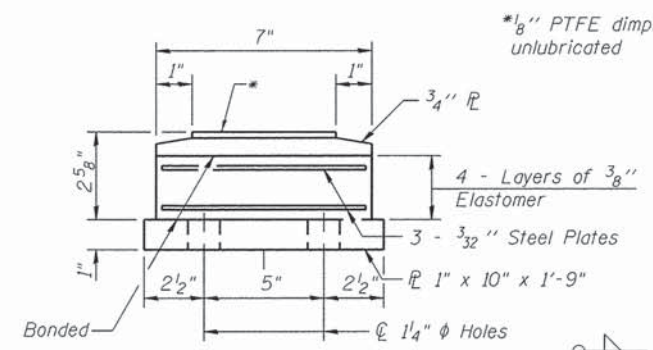
At East & West Abutments (28 Req'd)



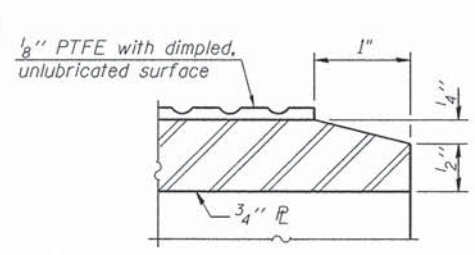
TOP BEARING ASSEMBLY



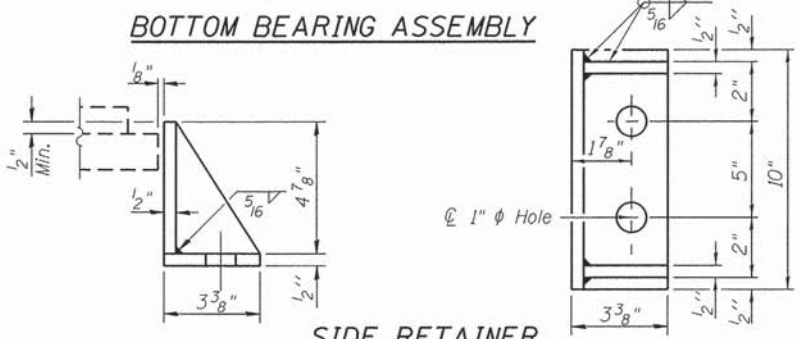
PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY

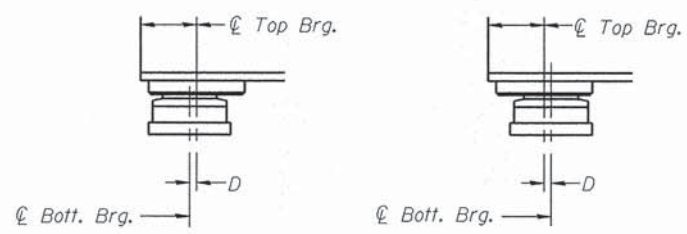


SECTION THRU PTFE



SIDE RETAINER

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



SETTING ANCHOR BOLTS AT EXP. BRG.
 BELOW 50°F. (Move bott. brg. away from fixed brg.)
 ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.
 D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	28
Jack and Remove Existing Bearings	Each	28
Anchor Bolts, 3/4"	Each	112
Furnishing and Erecting Structural Steel	Pound	4,060

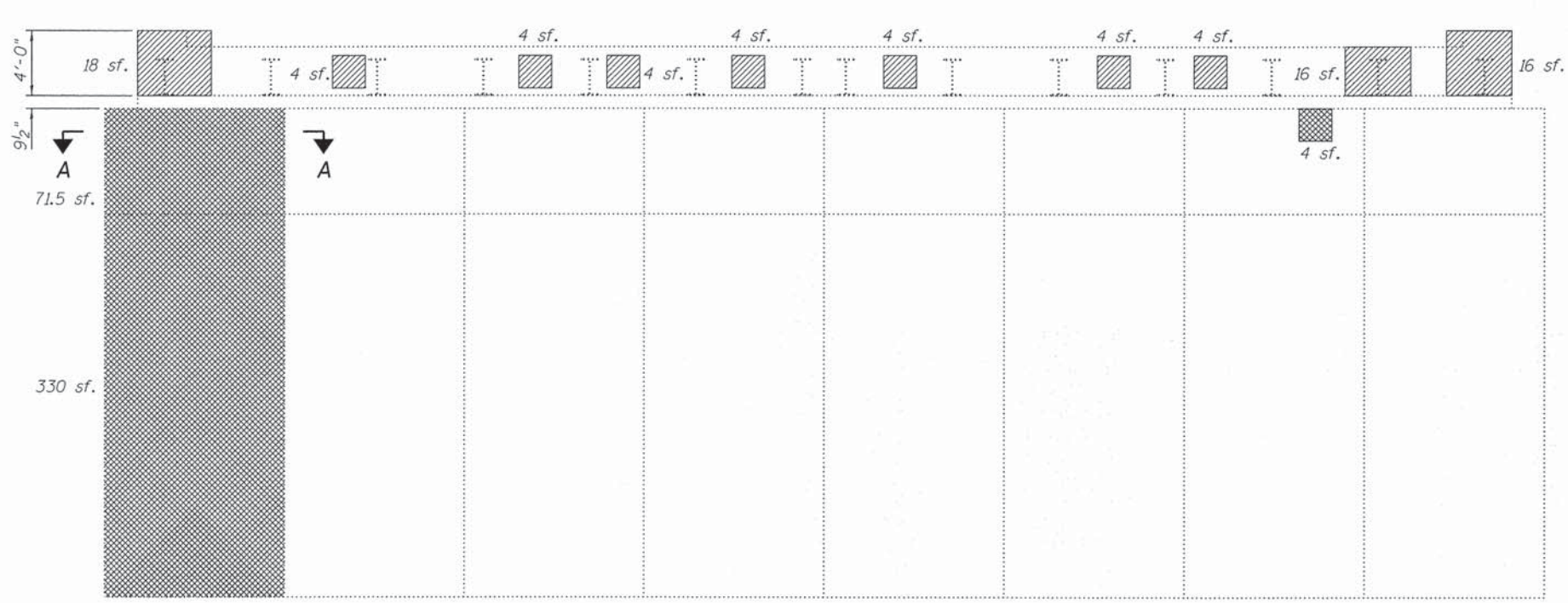
INTERIOR GIRDER REACTION TABLE

	West Abutment	East Abutment
R _{DL} (k)	16.7	13.5
R _{EL} (k)	37.4	36.1
R _T (k)	10.7	10.8
R _{TOTAL} (k)	64.8	60.4

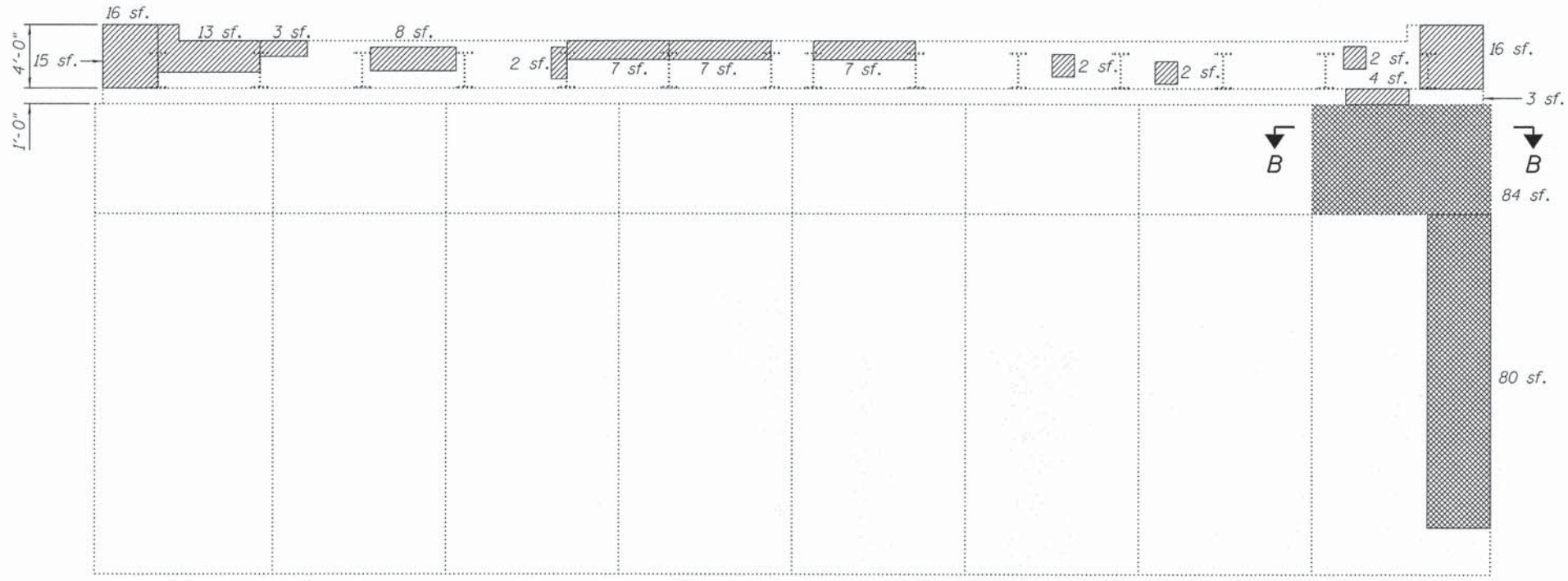
Minimum Jack Size = 35 Tons

Notes:
 See sheet S6 of S11 for diaphragm removal and replacement.
 New steel extensions, shim plates and connection bolts are included with Furnishing & Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
 Fasteners shall be ASTM A325, Type I, mechanically galvanized bolts.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
 Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

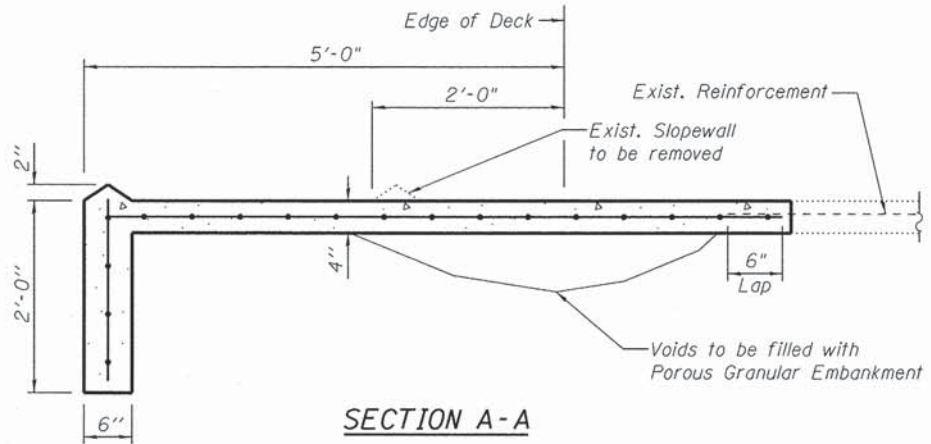
USER NAME = 11-0274 - IDOT PTB 168 - 07 Various 0274.04 - Deerfield Road Bridges, CAD Structural Drawings, 04-09-07, Sheets 04-0907, 4-0274-007-Bearing-Details.dgn
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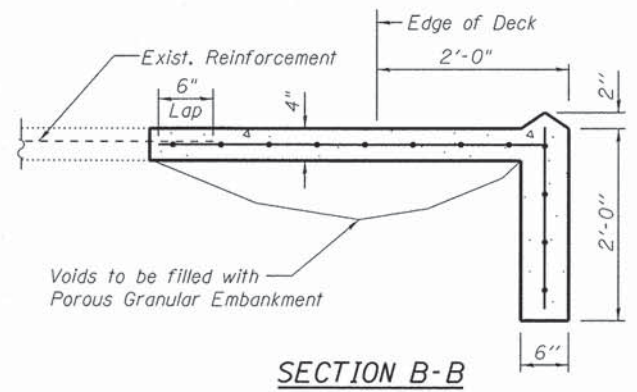
EAST ABUTMENT AND SLOPEWALL
(Looking East)



WEST ABUTMENT AND SLOPEWALL
(Looking West)



SECTION A-A



SECTION B-B

Notes:
 Slope wall shall be reinforced with welded wire fabric, 6"x6"-W4.0xW4.0, weighing 58 Lbs. per 100 Sf. Cost included in the pay item Slope Wall, 4".
 Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slope Wall Removal.
 Existing and new welded wire fabric must be lapped a minimum of 6".
 Porous granular embankment shall be used to in-fill void areas encountered beneath Slope Wall.
 Repair areas are estimated based on inspection completed in November 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans.

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete, (Depth Equal to or Less Than 5")	Sq. Ft.	185
	Slope Wall Removal	Sq. Yd.	64
	Slope Wall, 4"	Sq. Yd.	76
	Porous Granular Embankment	Cu. Yd.	9.1

USER NAME = 11-0274 - IDOT PTB 168 - 07 Various\0274.04 - Deer Field Road Bridges\CID\Structural Drawings\049-0074-Sheets\049-0074-02752-008-Abut-Repairs.dgn
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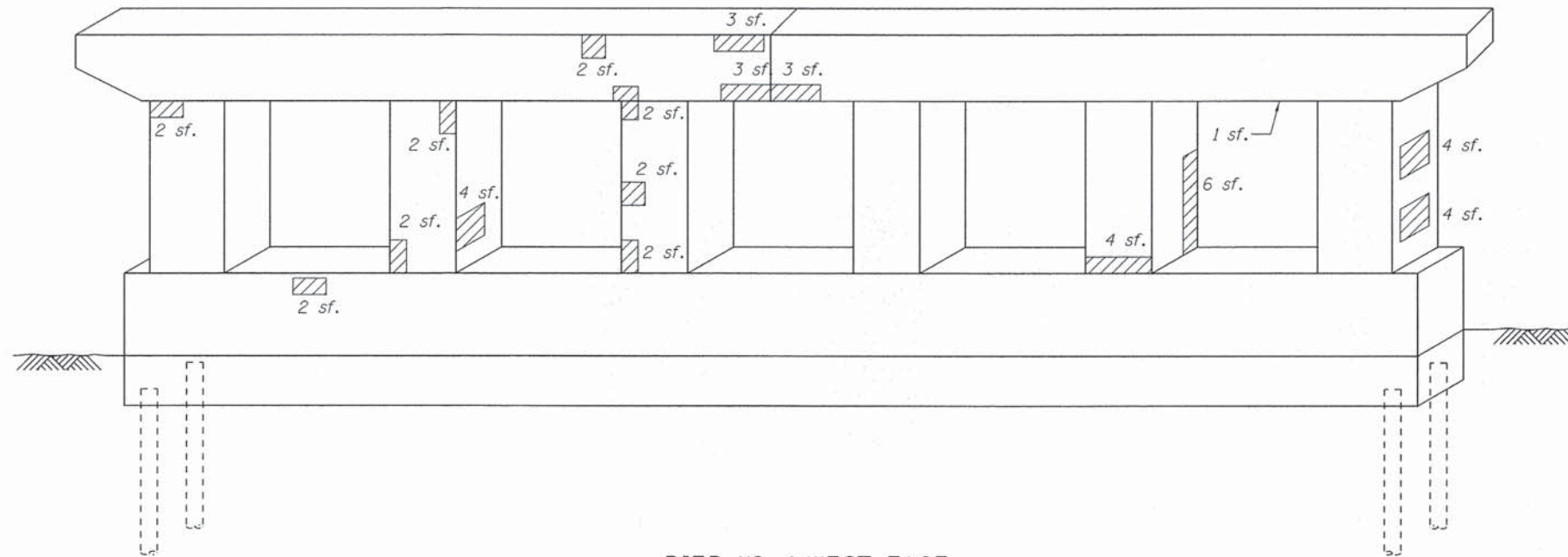
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PLOT DATE =	CHECKED - AMS	REVISED

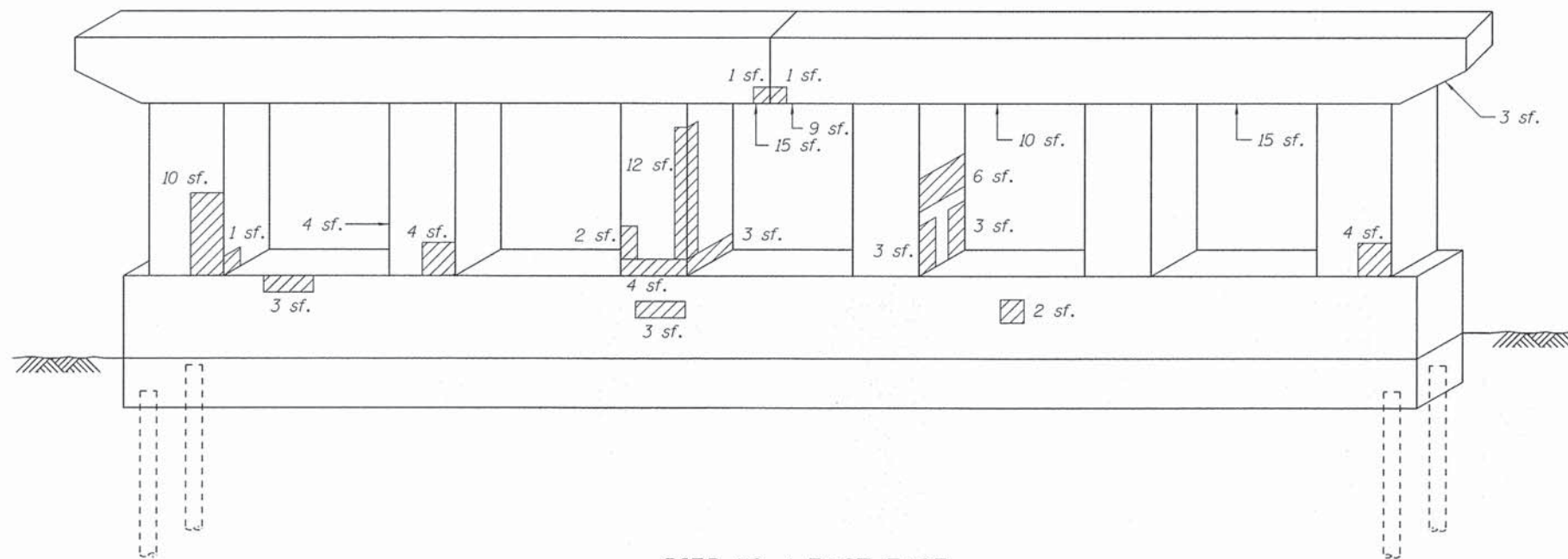
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST AND WEST ABUTMENT REPAIRS
STRUCTURE NO. 049-0074
 SHEET NO. 58 OF 511 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	420
			CONTRACT NO. 63882	
ILLINOIS FED. AID PROJECT				



PIER NO. 1 WEST FACE
(Looking East)



PIER NO. 1 EAST FACE
(Looking West)

Notes:
 Repair areas are estimated based on inspection completed in November 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans.
 Concrete Sealer shall be applied to all repaired concrete areas on all pier faces. Cost included with Structural Repair of Concrete.

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete, (Depth Equal to or Less Than 5")	Sq. Ft.	166

USER NAME = j14874 - 07 Yearous\0274,04 - Deerfield Road Bridge\0400\Structural Drawings\049-0074\Sheets\0490074-02752-006-Pier 1-Repairs.dgn
 COLLINS ENGINEERS 123 N. Western Dr., Suite 900, Chicago, IL 60606
 TEL: 312.354.9300 FAX: 312.354.9325 WWW: collinsengr.com
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DESIGNED - AMS	CHECKED - EKM	REVISED
PLOT SCALE =	DRAWN - PRH	REVISED
PLOT DATE =	CHECKED - AMS	REVISED

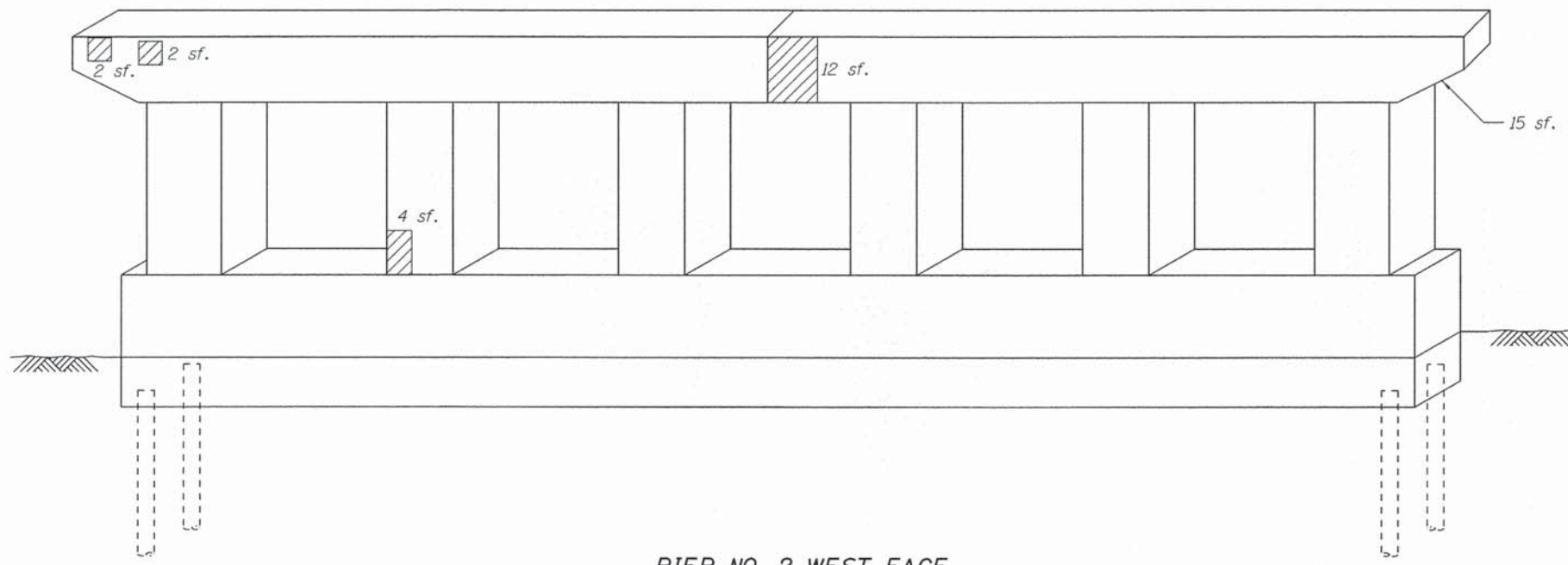
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
STRUCTURE NO. 049-0074

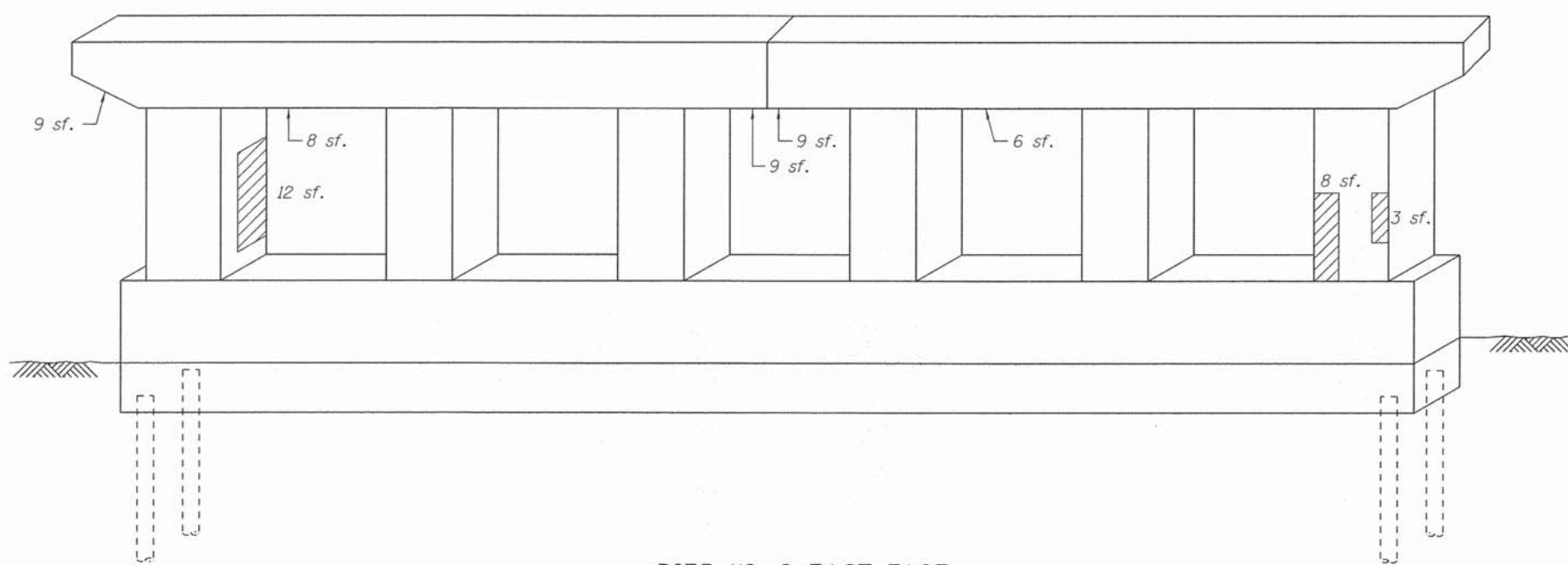
SHEET NO. S9 OF S11 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	421
			CONTRACT NO. 63882	

ILLINOIS FED. AID PROJECT



PIER NO. 2 WEST FACE
(Looking East)



PIER NO. 2 EAST FACE
(Looking West)

Notes:
 Repair areas are estimated based on inspection completed in November 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans.
 Concrete Sealer shall be applied to all repaired concrete areas on all pier faces. Cost included with Structural Repair of Concrete.

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete, (Depth Equal to or Less Than 5")	Sq. Ft.	99

USER NAME = 118274 - IDOT PTB 168 - 07 Vericad\0274.04 - Deerfield Road Bridges\CADD\Structural Drawings\049-0074\Sheets\049-0074-02752-010-Pier-2-Repairs.dgn
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PLOT DATE =	CHECKED - AMS	REVISED

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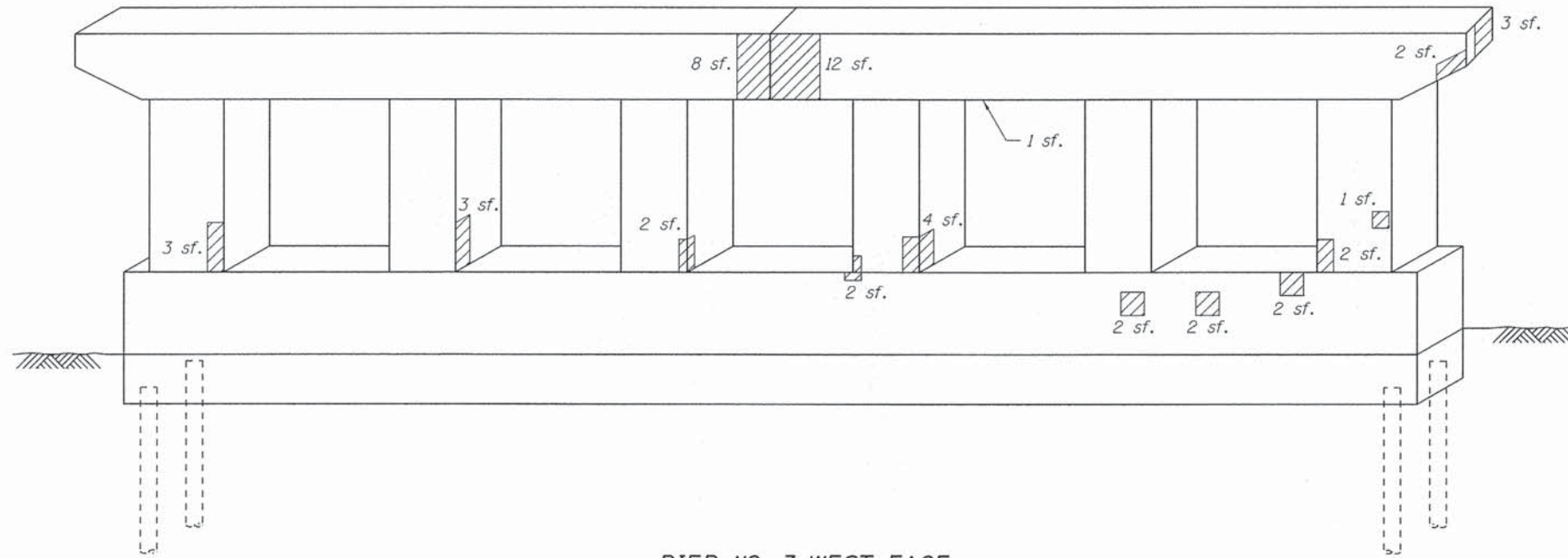
PIER 2 REPAIRS
STRUCTURE NO. 049-0074

SHEET NO. S10 OF S11 SHEETS

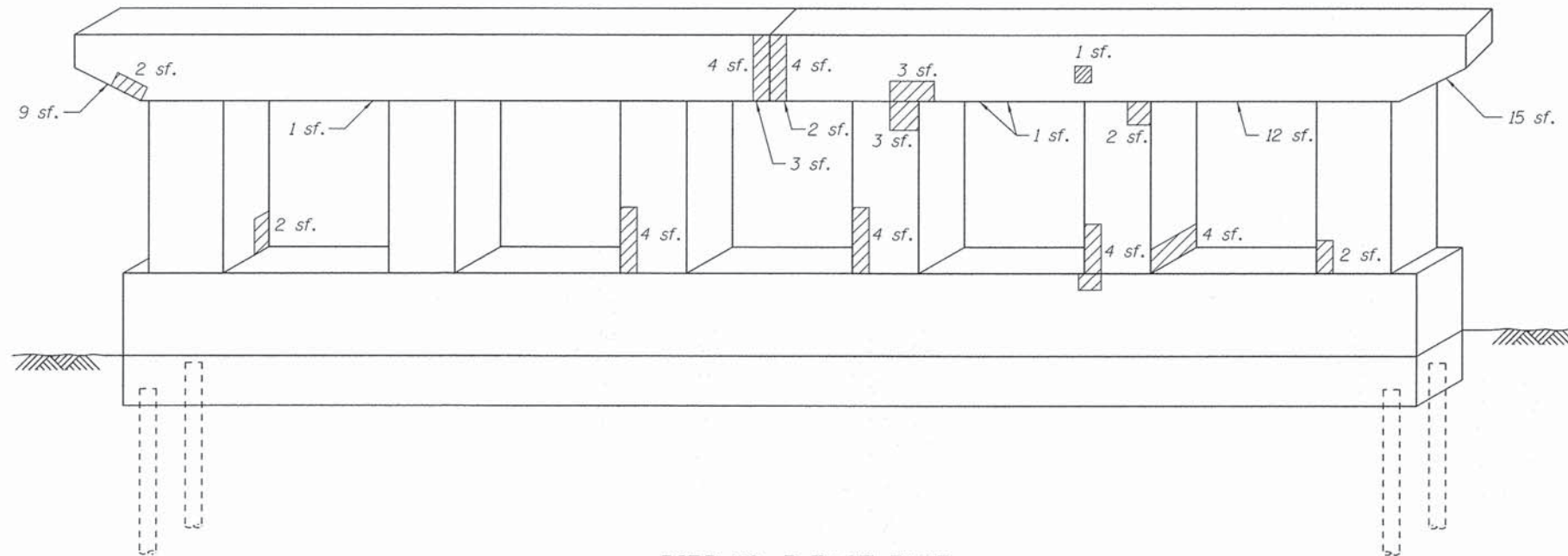
F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	422
			CONTRACT NO. 63882	

ILLINOIS FED. AID PROJECT

USER NAME = J:\B274 - IDOT PTB 168 - 87 Various\B274\84 - Deerfield Road Bridges\CADD\Structural Drawings\049-0074\Sheets\0490074-B2752-011-Pier-3-Repairs.dgn
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PIER NO. 3 WEST FACE
(Looking East)



PIER NO. 3 EAST FACE
(Looking West)

Notes:
 Repair areas are estimated based on inspection completed in November 2014. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans.
 Concrete Sealer shall be applied to all repaired concrete areas on all pier faces. Cost included with Structural Repair of Concrete.

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
▨	Structural Repair of Concrete, (Depth Equal to or Less Than 5")	Sq. Ft.	134

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USER NAME =	DESIGNED - AMS	REVISED
	CHECKED - EKM	REVISED
PLOT SCALE =	DRAWN - PRH	REVISED
PLOT DATE =	CHECKED - AMS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

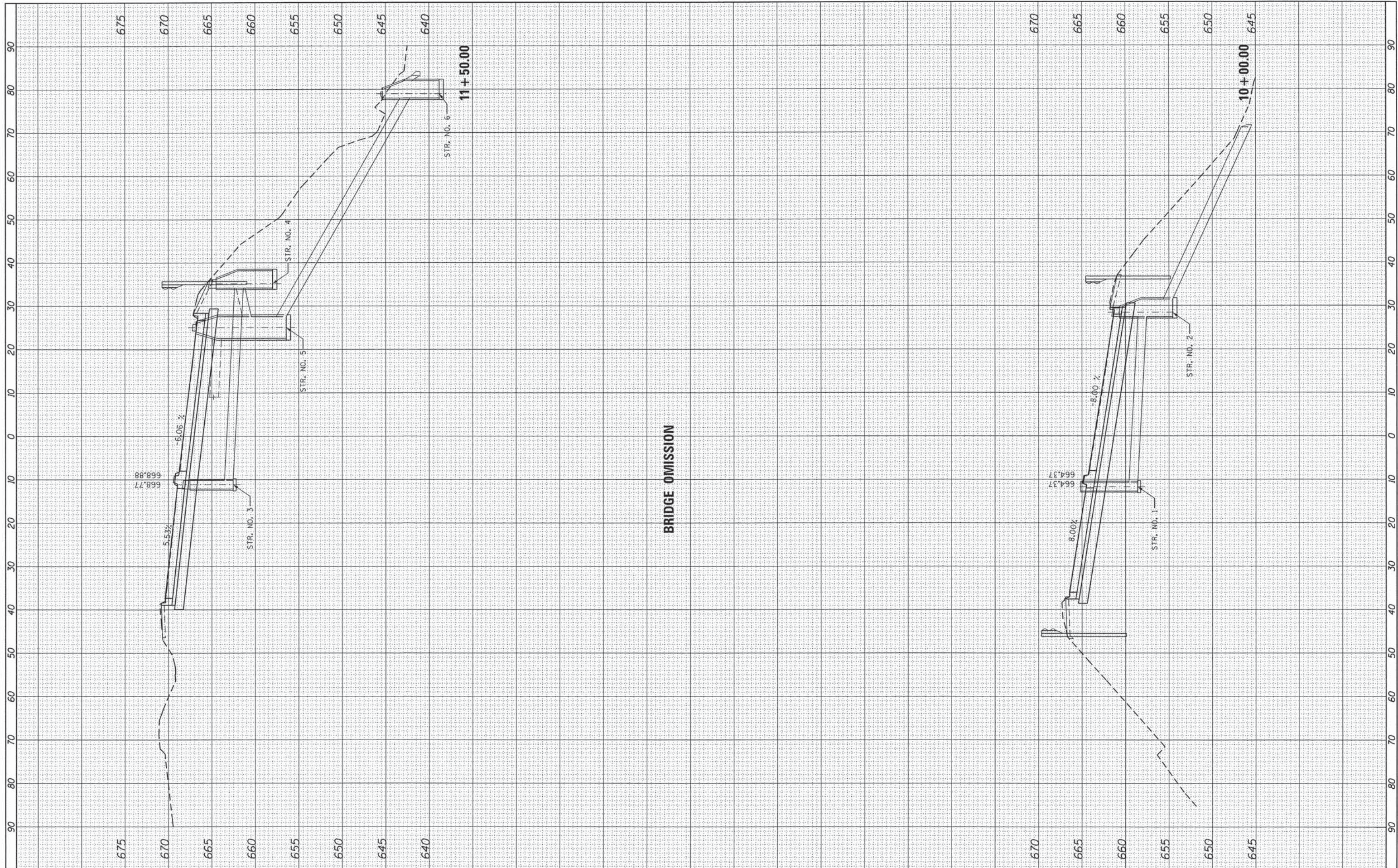
PIER 3 REPAIRS
STRUCTURE NO. 049-0074

SHEET NO. S11 OF S11 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	11-00092-00-PV	LAKE	424	423
			CONTRACT NO. 63882	
ILLINOIS FED. AID PROJECT				

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

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



FILE NAME = I:\8274 - IDOT PTB 168 - 07 Various\8274_04 - Deerfield Road Bridges\CADD\CADD_Sheets\018274_04.dgn	USER NAME = rgall	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAU ROUTE 1257 (DEERFIELD ROAD) CROSS SECTIONS			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
Default	PLOT SCALE = 10.0000' / 1"	CHECKED -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA. 10+00.00 10+35.00 STA.	1257	11-00092-00-PV	LAKE	424	424
	PLOT DATE = 10/02/2015	DATE -	REVISED -											

ILLINOIS FED. AID PROJECT