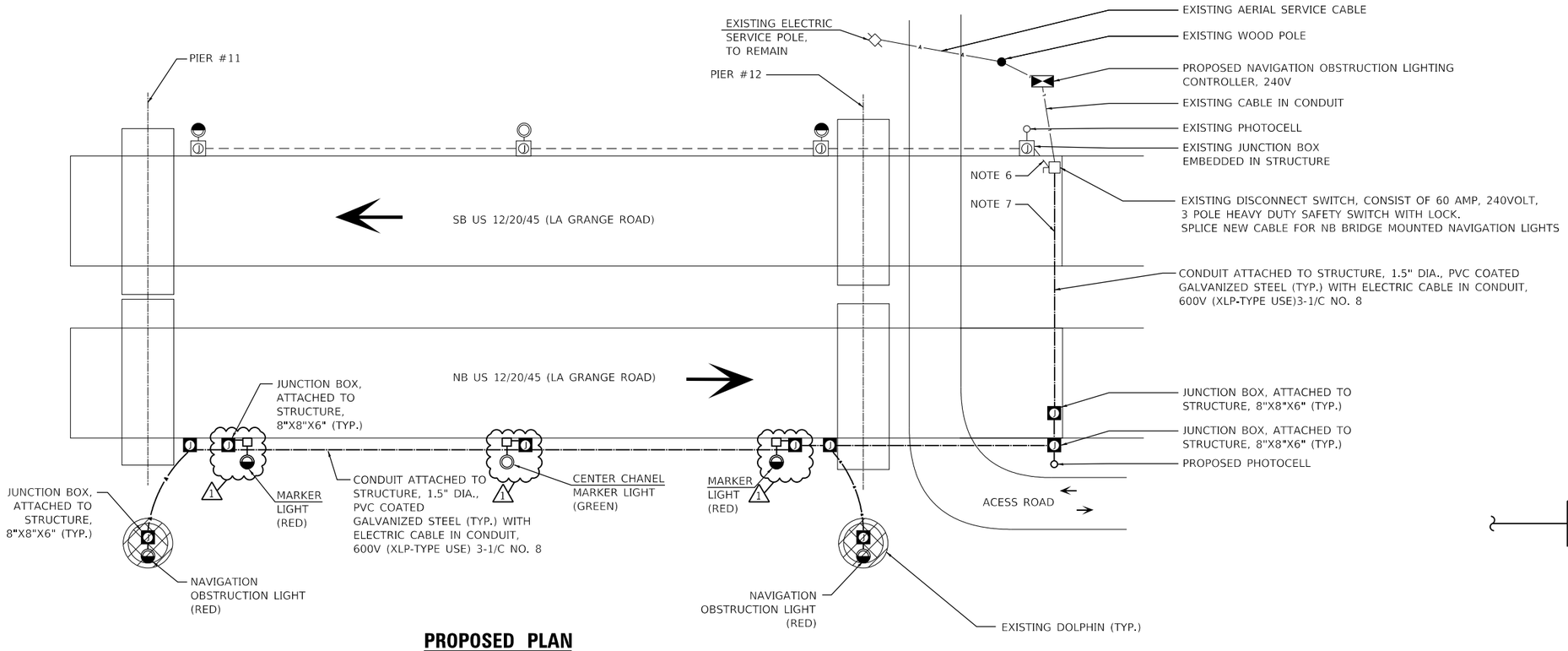
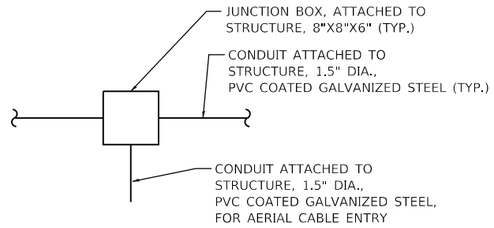


PROPOSED PLAN
N.T.S



AERIAL CABLE CONNECTION TO JUNCTION BOX
N.T.S

LEGEND

- CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL, WITH ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 2-1/C NO. 10, AND 1/C NO. 10 GROUND UNLESS NOTED OTHERWISE
- AERIAL CABLE, SELF SUPPORTING, 600V (XLP-TRPE UES) 3-1/C NO. 8.
- JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6".
- EXISTING JUNCTION BOX, ATTACHED TO STRUCTURE
- WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED CENTER CHANNEL, GREEN, 360°.
- WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED CHANNEL MARGIN, RED 180°
- EXISTING POWER POLE / ELECTRIC UTILITY SERVICE CONNECTION
- TEMPORARY WOOD POLE, 60 FT., CLASS 4
- PROPOSED NAVIGATION OBSTRUCTION LIGHTING CONTROLLER, 240V
- EXISTING AERIEL CABLE
- EXISTING ELECTRIC CABLE IN CONDUIT

NOTES

1. SEE DETAILS FOR CONUIT AND JUCTION BOX MOUNTING METHODS AND LOCATION.
2. SORT LENGTHS OF FLEXIBLE CONDUIT MAY BE UTILIZED TO TRAVERSE OBSTACLES IN THE CONDUIT PATH ON THE BRIDGE STRUCTURE.
3. THE CONTRACTOR SHALL KEEP DEVIATIONS FROM THE CONDUIT ROUTING SHOWN ON THE PLANS TO MINIMUM. MAJOR DEVIATIONS SHALL BE REPORTED TO AND APPROVED BY THE ENGINEER.
4. CONTRACTOR SHALL USE EXPANSION/DEFLECTION COUPLING AT THE EXPANSION JOINTS, 1.5" DIA, AT EACH BRIDGE JOINT, FOR CONDUITS.
5. MAINTENANCE OF THE NAVIGATION LIGHTING SHALL BE INCLUDED IN THE MAINTENANCE OF LIGHTING SYSTEM PAY ITEM.
6. THREE NAVIGATIONAL LIGHTS LOCATED ON SOUTHBOUND BRIDGE CURRENTLY CONNECTED TO RED PHASE FROM CONTOLLER.
7. FIVE NAVIGATIONAL LIGHTS LOCATED ON NORTHBOUND BRIDGE SHALL BE CONNECTED TO BLACK PHASE FROM CONTOLLER.

SUMMARY OF QUANTITY

DESCRIPTION	UNIT	QTY
CONDUIT ATTACHED TO STRUCTURE, 1.5" DIA., PVC COATED GALVANIZED STEEL	FOOT	400
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6"	EACH	9
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	1200
AERIAL CABLE, 3-1/C NO.8 WITH MESSENGER WIRE	FOOT	125
WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED	EACH	5
OBSTRUCTION WARNING LIGHTING CONTROLLER	EACH	1
PHOTOCELL	EACH	1

1 REVISED SHEET 1/3/2022

DELTA ENGINEERING GROUP

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	DRAWN -	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12/20/45 (LA GRANGE ROAD)
PROPOSED NAVIGATION LIGHTING

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	99
		CONTRACT NO. 62H49		
	ILLINOIS	FED. AID PROJECT		

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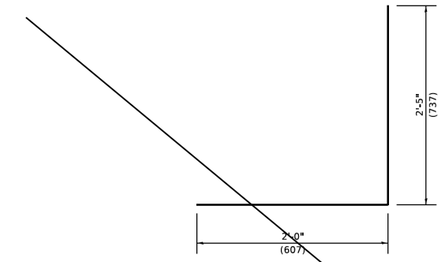
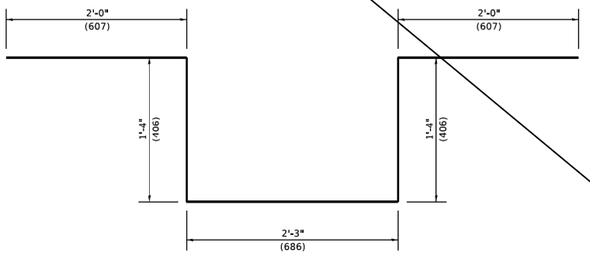
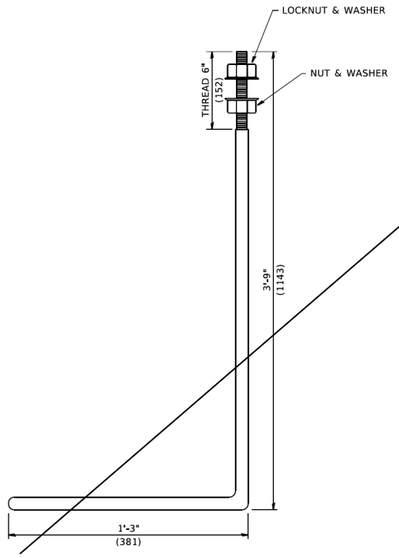


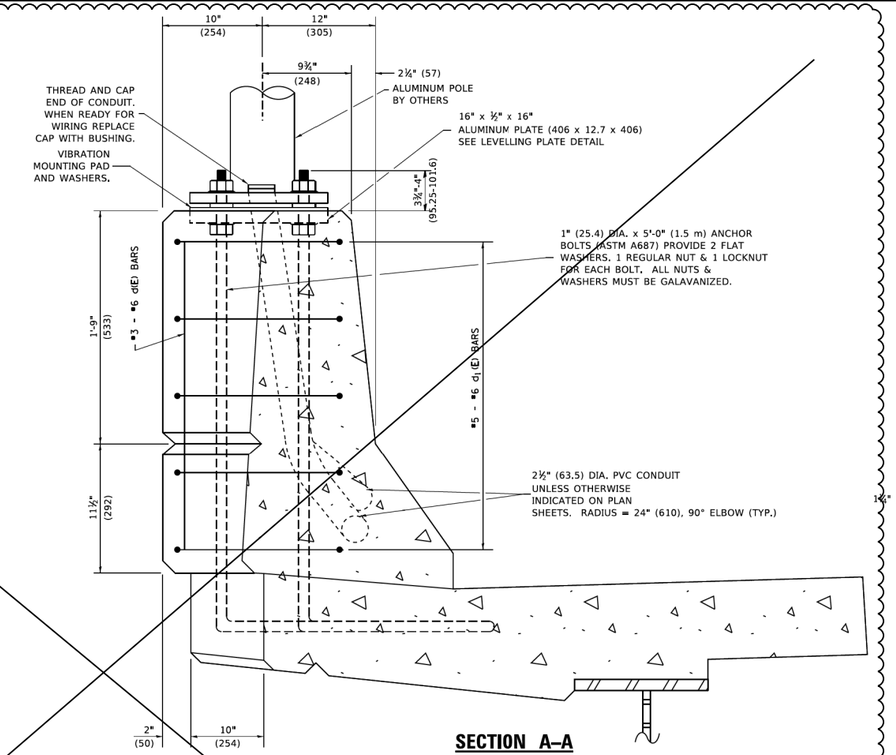
BAR d (E)



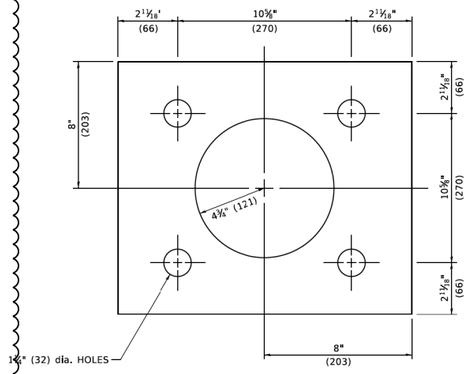
BAR d_1(E)



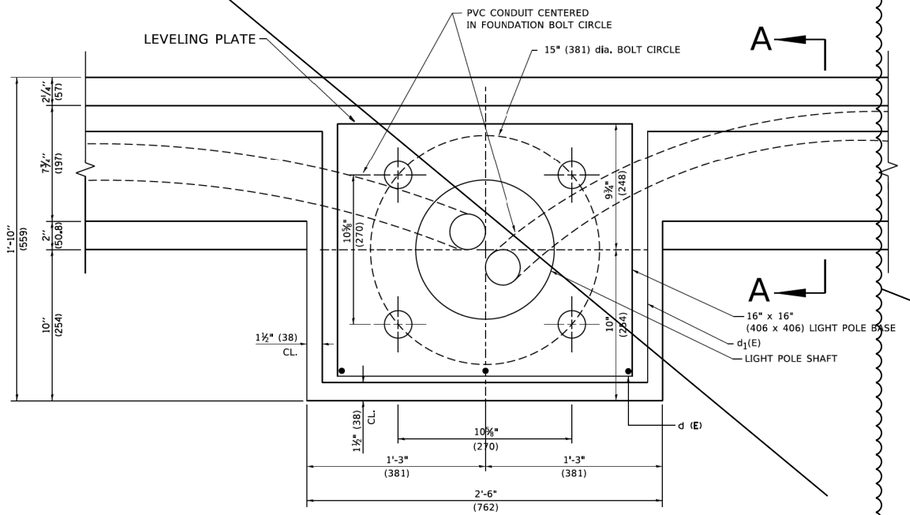
1" (25.4) dia. ANCHOR BOLT



SECTION A–A



LEVELING PLATE DETAIL



PLAN

NOTES

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. LEVEL LIGHT POLE PLATES, USING THE FLANGE NUTS, PRIOR TO POURING THE PARAPET WALL. THE TOP OF THE PLATE SHALL BE AT THE SAME ELEVATION AS THE FINISHED CONCRETE PARAPET.
3. THE COST OF ANCHOR BOLTS, CONDUIT, LEVELLING PLATE AND FOUNDATION IS INCLUDED IN THE COST OF THE BRIDGE STRUCTURE.

4. SEE PARAPET WALL DETAILS ON SHEETS 136 AND 226 FOR LIGHT POLE MOUNTING.

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PLOT DATE = 4/19/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE MOUNTED ON CONCRETE PARAPET WALL
15" (381 mm) BOLT CIRCLE

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE–330	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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DELTA ENGINEERING GROUP

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PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	101
		CONTRACT NO. 62H49		
	ILLINOIS FED. AID PROJECT			

1 REVISED SHEET 1/3/2022

Benchmark: Magnetic nail, ℄ existing NB pavement Sta. 31+44. Elev. 619.86

Existing Structure: S.N. 016-2468, built in 1975 as F.A. Route 45 / Section 462-X-B&R. 13-span steel superstructure consisting of 4 multi-span continuous units, composite in positive moment regions. W36 beams in Units 1-3, variable-depth (80"-120") plate girders in Unit 4. 1348'-7" back to back of abutment length, 42'-0" out to out width. Supported by reinforced concrete stub abutments and multi-column piers.

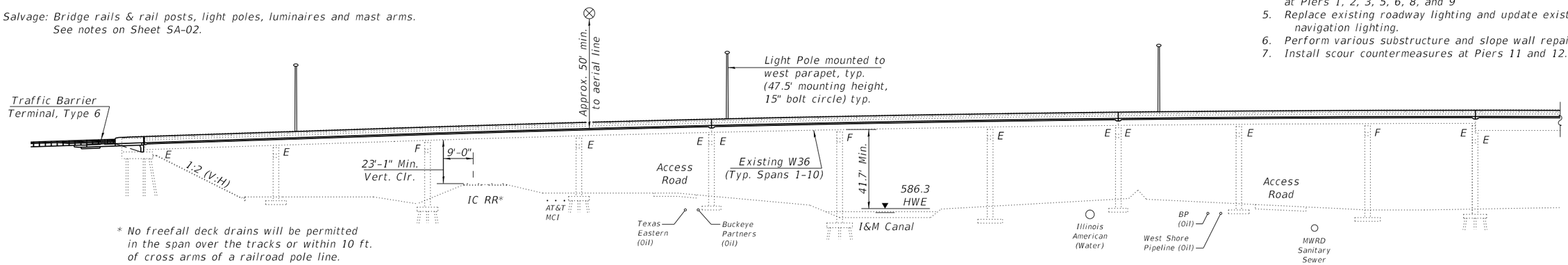
Bridge to be closed and traffic detoured to existing southbound structure during construction.

Salvage: Bridge rails & rail posts, light poles, luminaires and mast arms. See notes on Sheet SA-02.

SCOPE OF WORK

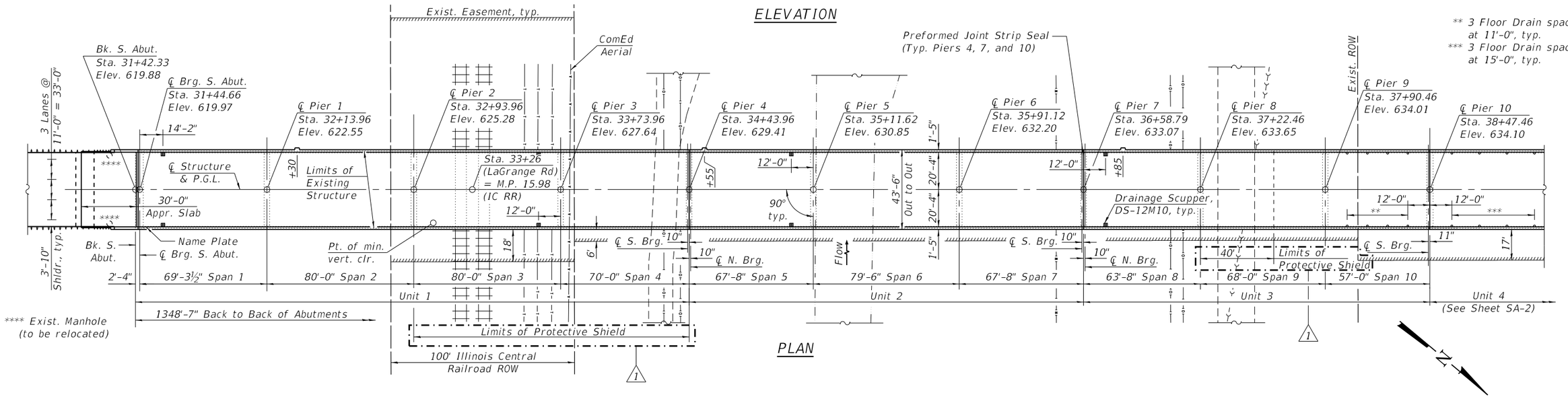
1. Remove and replace existing concrete deck (composite in positive moment regions only).
2. Reconstruct existing abutment back walls.
3. Remove and replace expansion bearings at Abutments and Piers 3, 4, 7, and 10.
4. Install bolted retrofit repairs at existing cover plates at Piers 1, 2, 3, 5, 6, 8, and 9
5. Replace existing roadway lighting and update existing navigation lighting.
6. Perform various substructure and slope wall repairs.
7. Install scour countermeasures at Piers 11 and 12.

ELEVATION



* No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line.

PLAN



DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications For Highway Bridges, 17th Edition

LOADING HS-20-44

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

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.038
Site Coefficient (S) = 1

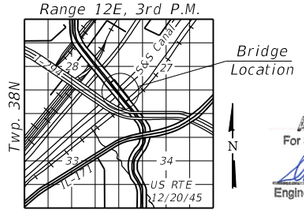
DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (Existing Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)



LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

BRANDON L. BUZZELL
081-006358
LICENSED STRUCTURAL ENGINEER OF
STATE OF ILLINOIS

DATE: 10/20/2021
LICENSE EXPIRES 11/30/22

1 REVISED SHEET 1/3/2022

GENERAL PLAN & ELEVATION I
N.B US RTE 12/20/45 (LAGRANGE ROAD) OVER ILLINOIS CENTRAL RR, I&M CANAL AND PUBLIC WATER
FAP 330, SECTION 2018-133-BR
COOK COUNTY
STATION 38+16.62
STRUCTURE NO. 016-2468

BAXTER & WOODMAN Consulting Engineers

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	CHECKED - AS	REVISED -	
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PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION I
STRUCTURE NO. 016-2468
SHEET SA-01 OF SA-73 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	115
		CONTRACT NO. 62H49		
	ILLINOIS			

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STATION 38+16.62
REBUILT BY
STATE OF ILLINOIS
F.A. RT. 330 SEC. 2018-133-BR
LOADING HS-20-44
STR. NO. 016-2468

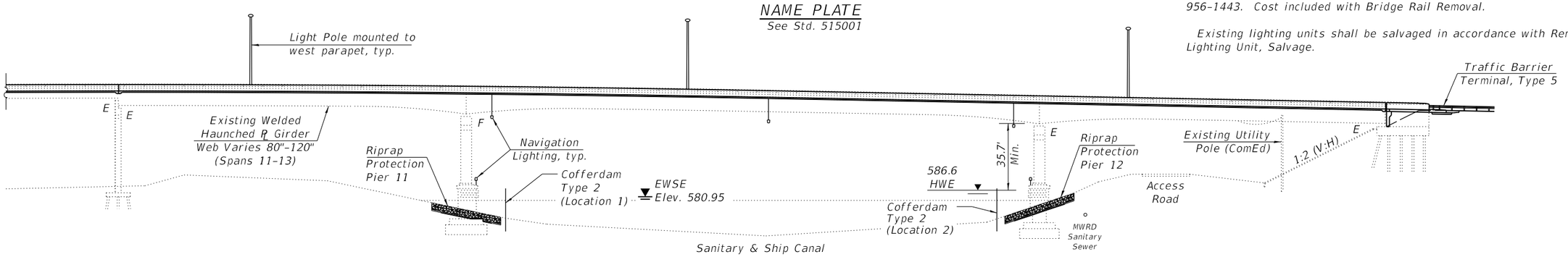
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

NAME PLATE
See Std. 515001

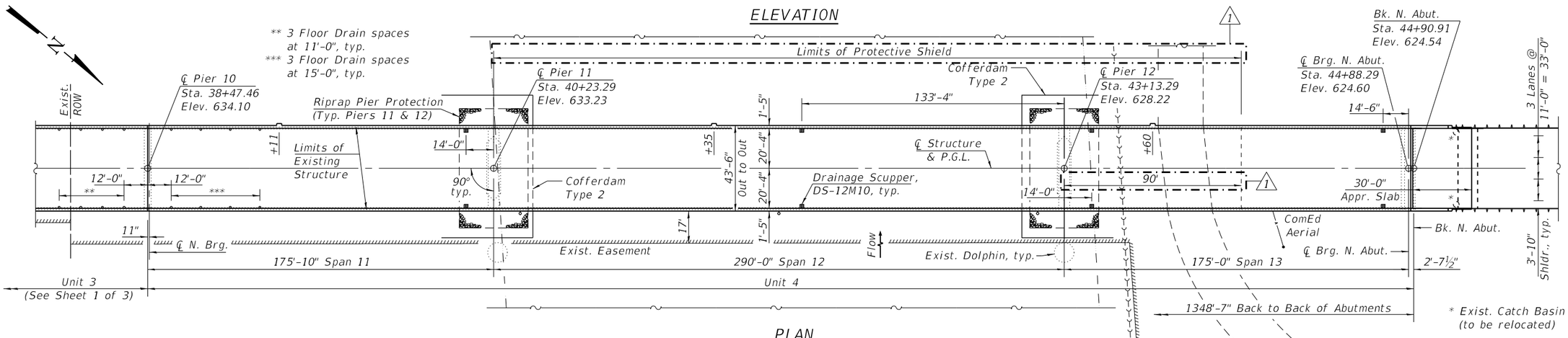
SALVAGE NOTES

The contractor shall salvage the aluminum railing and posts from S.N. 016-2468. The aluminum posts shall be disassembled from the railings. The non-cut railings, posts, and attachments shall be transported and unloaded by the Contractor to the District Bridge Yard in Elk Grove at 1101 Biesterfield Road during the week days of Monday-Friday, and between the hours of 8am and 2pm. The Contractor shall notify the District Bridge Office 48 hours in advance of the delivery at (847) 956-1443. Cost included with Bridge Rail Removal.

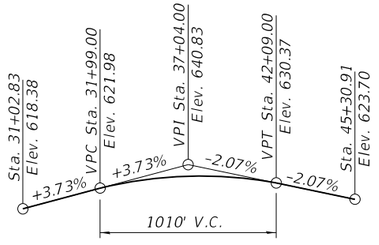
Existing lighting units shall be salvaged in accordance with Removal of Lighting Unit, Salvage.



ELEVATION

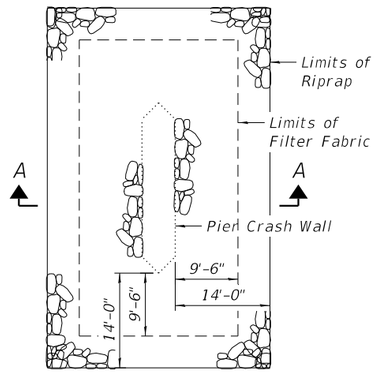


PLAN

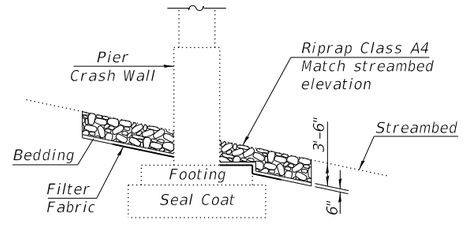


PROFILE GRADE
US RTE. 12/20/45

Note:
The profile grade shows the final elevations after grinding. Up to ¼ inch may be ground off the bridge deck and the bridge approach slabs.



PIER 11 & 12
RIPRAP PROTECTION



SECTION A-A
Pier 11 shown, Pier 12 similar

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) Pier 11	Pier 12	N. Abut.	Item 113
Q100	561.35	559.15	-	5
Q500	561.15	558.95	-	
Design	559.25	557.25	610.75	
Check	N/A	N/A	N/A	

GENERAL PLAN & ELEVATION II
N.B. US RTE 12/20/45 (LAGRANGE ROAD) OVER ILLINOIS CENTRAL RR, I&M CANAL AND S&S CANAL
PUBLIC WATER
FAP 330, SECTION 2018-133-BR
COOK COUNTY
STATION 38+16.62
STRUCTURE NO. 016-2468

1 REVISED SHEET 1/3/2022

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BAXTER & WOODMAN Consulting Engineers

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PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION II
STRUCTURE NO. 016-2468
SHEET SA-02 OF SA-73 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	116
		CONTRACT NO. 62H49		
	ILLINOIS			

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GENERAL NOTES

Fasteners shall be ASTM F3125 A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$-in. Ø, holes $\frac{15}{16}$-in. Ø, unless otherwise noted.

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

The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

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 and girders 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 $\frac{1}{4}$ 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.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

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.

Concrete Sealer shall be applied to the designated areas of the abutment bearing seats and back walls (including abutment hatch block on back walls) and top of pier caps under expansion joints.

All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type 1.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

Up to $\frac{1}{4}$" may be ground off the bridge deck and the bridge approach slabs.

Attention is called to ground wires connecting the existing pier caps to beam webs at Piers 2, 5, and 9. These shall be left undisturbed, and if damaged shall be repaired at the contractor's expense.

All existing drainage system components attached to the structure shall be removed and disposed of in accordance with the applicable portions of Section 501. Existing concrete anchors shall be cut flush with the concrete surface, and attachments to existing girders shall be cut 4 to 6 inches clear of the web. Cost included with Removal of Existing Concrete Deck No. 1.

This project requires a US Army Corps of Engineers (USACE) 404 permit that has been secured by IDOT. As a condition of this permit the contractor will need to submit an in-stream work plan to the Will/South Cook Soil and Water Conservation District (SWCD) for approval. Guidelines on acceptable in-stream work techniques can be found on the USACE website.

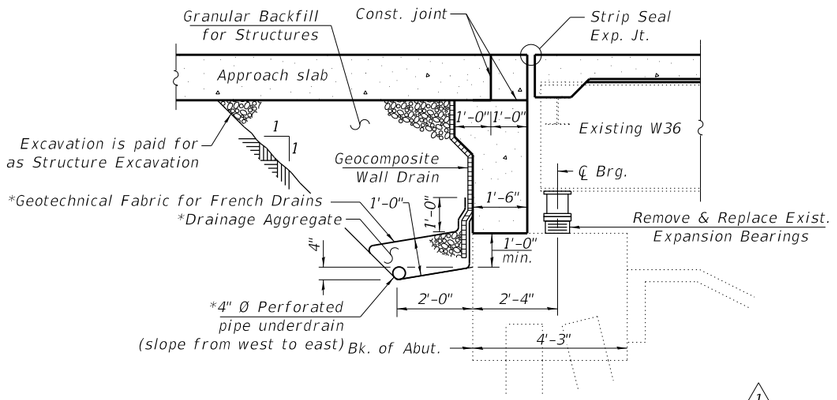
Work shall conform to all provisions of the Erosion Control Plan.

Haul Roads, In-Stream Work Pads and Causeways, if needed, shall be constructed in accordance with the Recurring Special Provision Check Sheet #8.

INDEX OF SHEETS

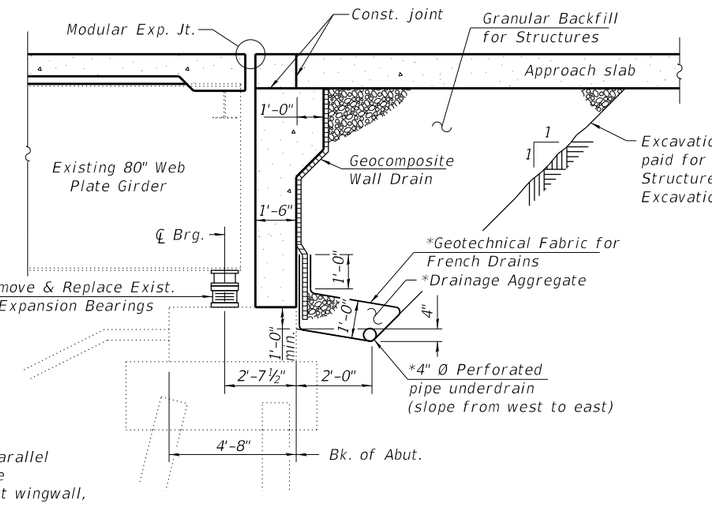
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton		1011	1011
Filter Fabric	Sq Yd		254	254
Concrete Removal	Cu Yd		42.5	42.5
Bridge Rail Removal	Foot	2751		2751
Removal of Existing Concrete Deck No. 1	Each	1		1
Protective Shield	Sq Yd	2658		2658
Structure Excavation	Cu Yd		126	126
Cofferdam (Type 2) (Location - 1)	Each		1	1
Cofferdam (Type 2) (Location - 2)	Each		1	1
Floor Drains	Each	16		16
Concrete Structures	Cu yd		58.8	58.8
Concrete Superstructure	Cu Yd	2177.2		2177.2
Protective Coat	Sq Yd	7720		7720
Concrete Superstructure (Approach Slab)	Cu Yd	121.6		121.6
Furnishing and Erecting Structural Steel	Pound	10410		10410
Stud Shear Connectors	Each	13830		13830
Reinforcement Bars, Epoxy Coated	Pound	548,590	10450	559,040
Bar Splicers	Each		88	88
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	171		171
Elastomeric Bearing Assembly, Type I	Each	48		48
Elastomeric Bearing Assembly, Type III	Each	6		6
Anchor Bolts, $\frac{7}{8}$"	Each		72	72
Anchor Bolts, 1"	Each		36	36
Granular Backfill for Structures	Cu Yd		116	116
Concrete Sealer	Sq Ft		1106	1106
Epoxy Crack Injection	Foot		129	129
Geocomposite Wall Drain	Sq Yd		64	64
Bridge Deck Grooving (Longitudinal)	Sq Yd	5166		5166
Jack and Remove Existing Bearings	Each	54		54
Structural Steel Repair	Pound	73840		73840
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		350	350
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft		220	220
Drainage Scuppers, DS-12M10	Each	16		16
Diamond Grinding (Bridge Section)	Sq Yd	5822		5822
Modular Expansion Joint 6"	Foot	41		41
Pipe Underdrains for Structures 4"	Foot		110	110
Slope Wall Repair	Sq Yd		300	300
Temporary Support System, Location 1	Each		1	1
1 Cofferdam Excavation (Special)	Cu Yd		688	688



SECTION THRU SOUTH ABUTMENT

1 *Included in the cost of Pipe Underdrains for Structures.



SECTION THRU NORTH ABUTMENT

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls. The pipe shall extend through the east wingwall, through a newly cored hole if necessary, until intersecting the side slopes. Cost included with Pipe Underdrains for Structures. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

1 REVISED SHEET 1/3/2022

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BAXTER & WOODMAN Consulting Engineers

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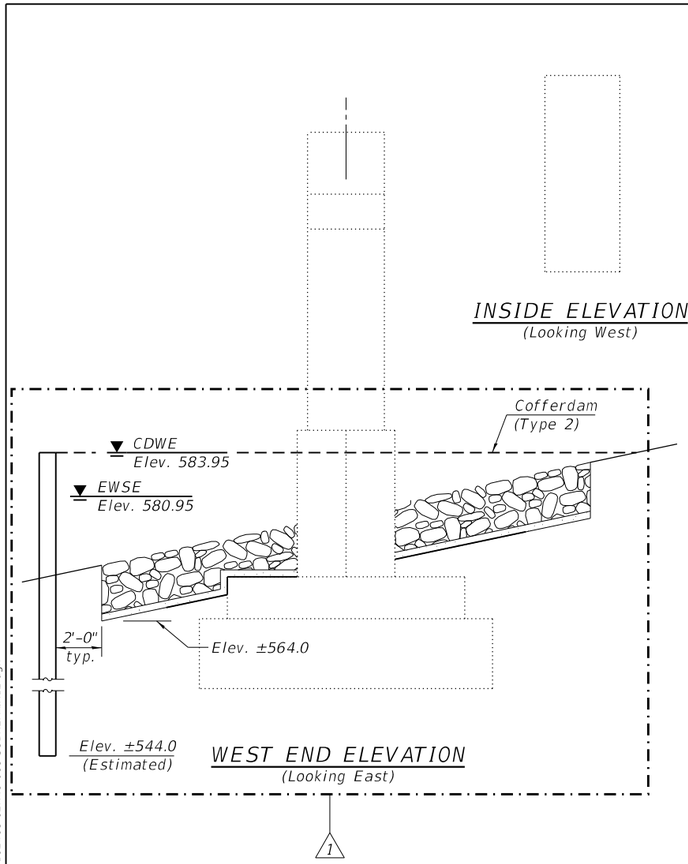
	CHECKED - AS	REVISED -	
PLOT SCALE =	DRAWN - BLB	REVISED -	
PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

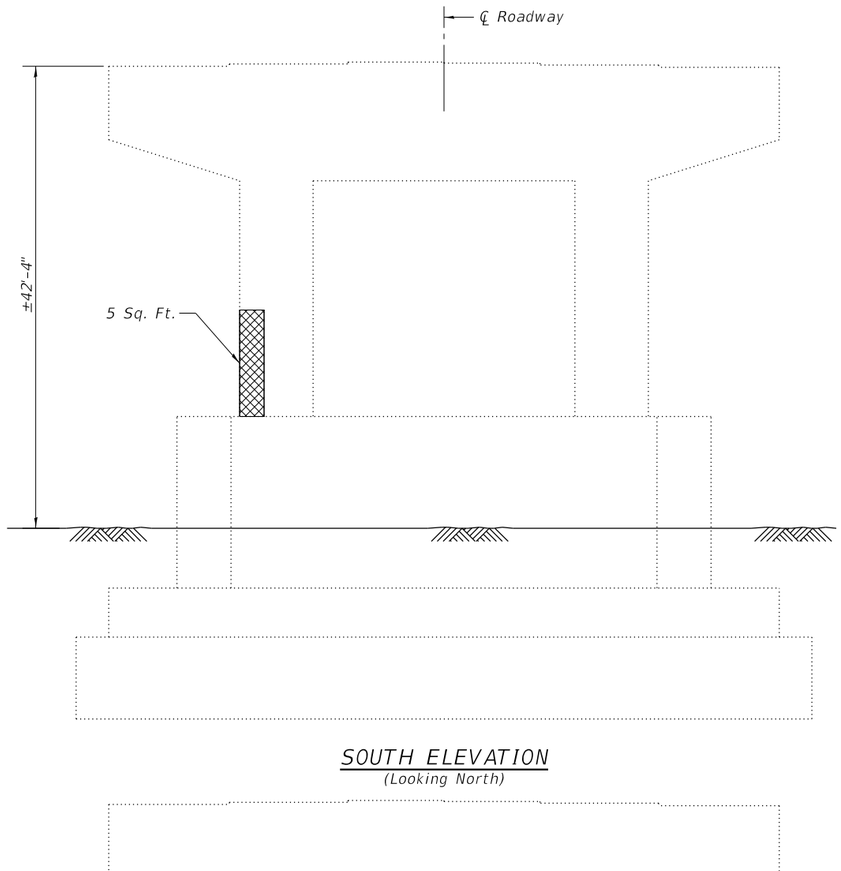
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-2468
SHEET SA-03 OF SA-73 SHEETS

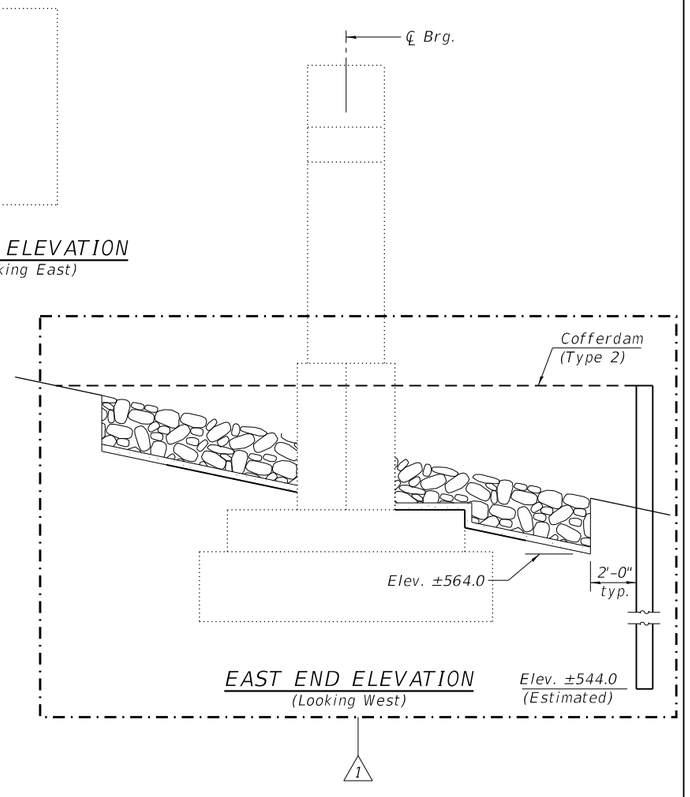
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	117
		CONTRACT NO. 62H49		
		ILLINOIS		



WEST END ELEVATION
(Looking East)



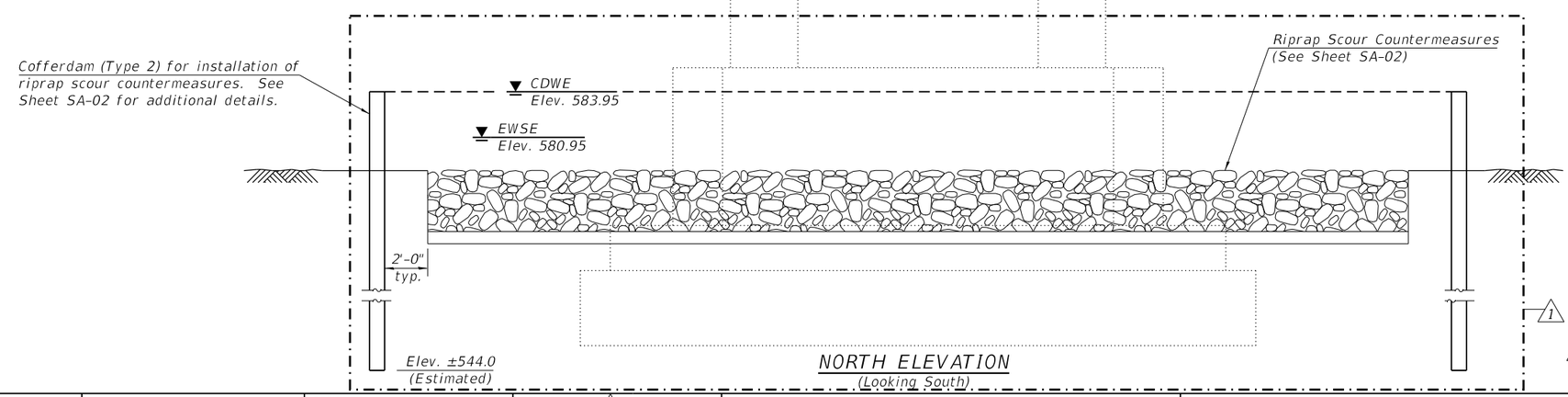
SOUTH ELEVATION
(Looking North)



EAST END ELEVATION
(Looking West)

INSIDE ELEVATION
(Looking West)

INSIDE ELEVATION
(Looking East)



NORTH ELEVATION
(Looking South)

LEGEND

Structural Repair of Concrete (Depth Greater Than 5")

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	10
Cofferdam (Type 2) (Location - 1)	Each	1
Cofferdam Excavation (Special)	Cu Yd	344

NOTES:

Repairs to the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the ENGINEER at the time of construction. The quantities shown are for estimating purposes only. Actual repair locations shall be shown on the as-built plans.

Cofferdam limits shown are the maximum paid limits of Cofferdam Excavation (Special). Actual limits shall be determined by the contractor and shown on the cofferdam plan.

1 REVISED SHEET 1/3/2022

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BAXTER & WOODMAN Consulting Engineers

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	CHECKED - BLB	REVISED -	
PLOT SCALE =	DRAWN - LJK	REVISED -	
PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 11 REPAIR
STRUCTURE NO. 016-2468
SHEET **SA-68** OF **SA-73** SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	182
		CONTRACT NO. 62H49		
	ILLINOIS			

NOTES:

Repairs to the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the ENGINEER at the time of construction. The quantities shown are for estimating purposes only. Actual repair locations shall be shown on the as-built plans.

Cofferdam limits shown are the maximum paid limits of Cofferdam Excavation (Special). Actual limits shall be determined by the contractor and shown on the cofferdam plan. 1

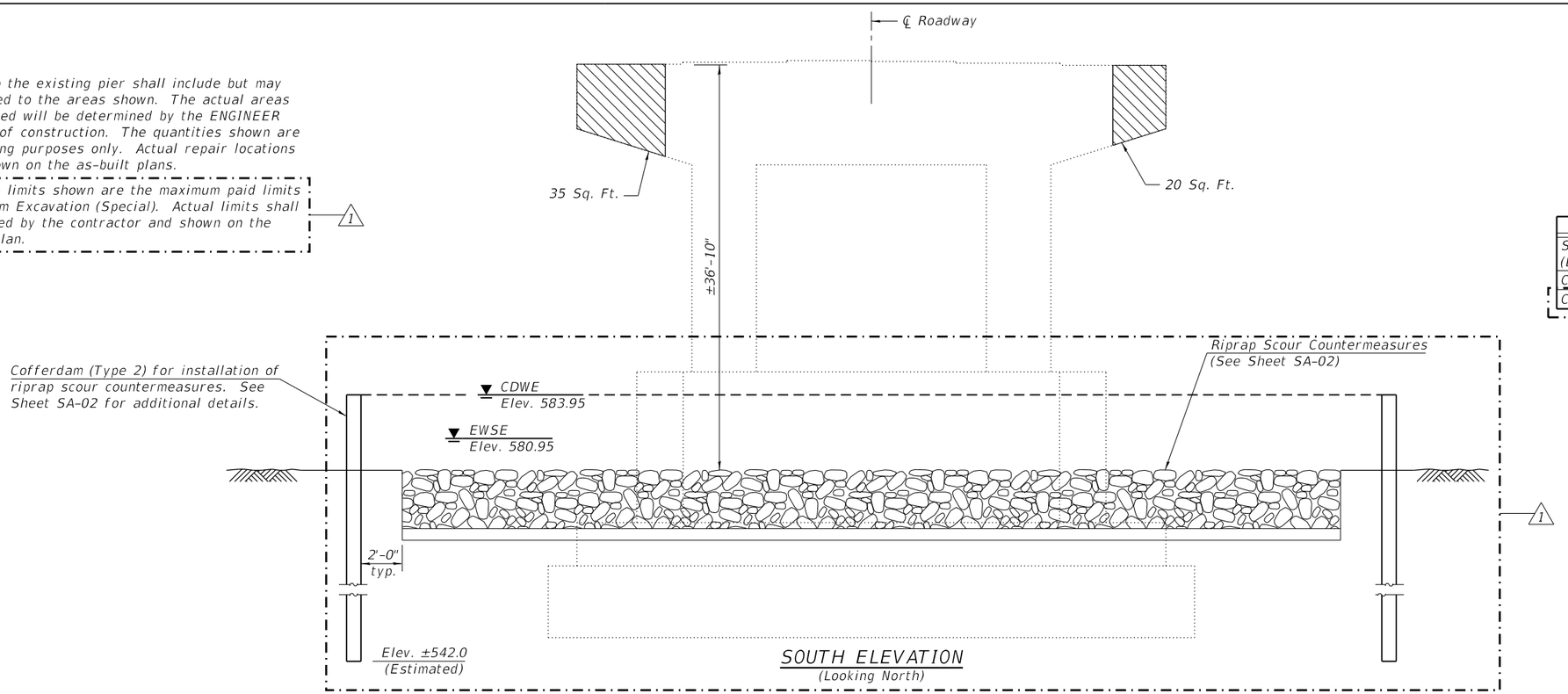
LEGEND

Structural Repair of Concrete (Depth Equal To Or Less Than 5")

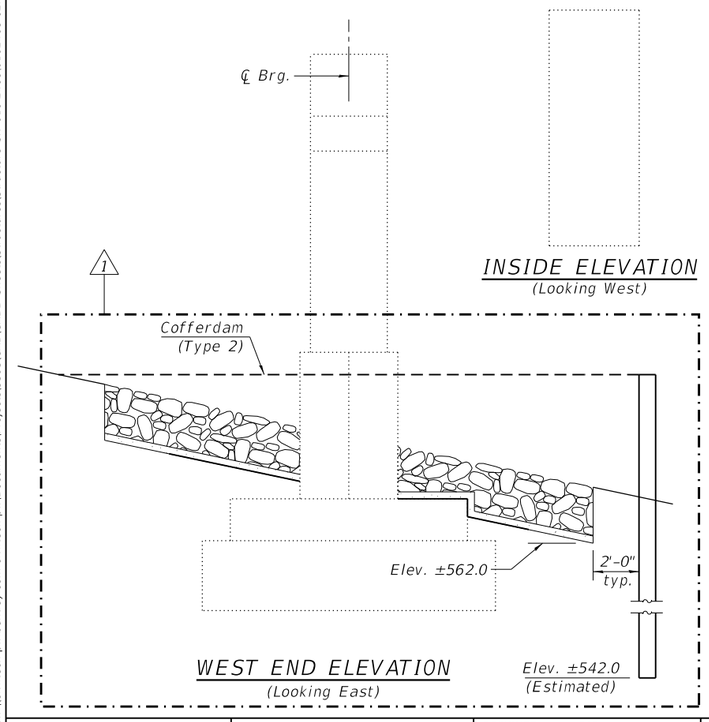
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal To Or Less Than 5")	Sq Ft	75
Cofferdam (Type 2) (Location - 2)	Each	1
Cofferdam Excavation (Special)	Cu Yd	344

1

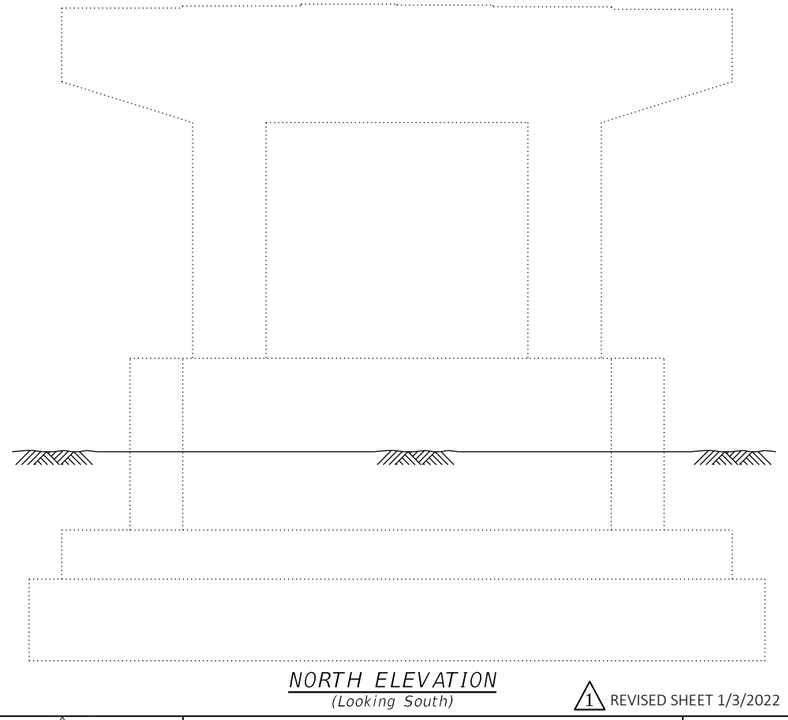


SOUTH ELEVATION
(Looking North)



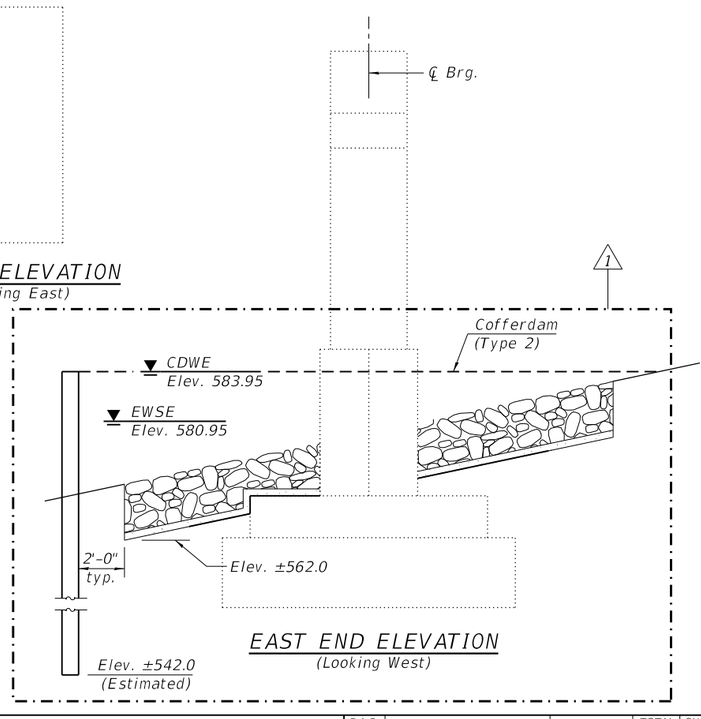
INSIDE ELEVATION
(Looking West)

WEST END ELEVATION
(Looking East)



NORTH ELEVATION
(Looking South)

INSIDE ELEVATION
(Looking East)



EAST END ELEVATION
(Looking West)

1 REVISED SHEET 1/3/2022

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BAXTER & WOODMAN Consulting Engineers

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PLOT SCALE =	DRAWN - LJK	REVISED -	
PLOT DATE = 12/21/2021	DATE - 10/21/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 12 REPAIR
STRUCTURE NO. 016-2468
SHEET SA-69 OF SA-73 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	183
		CONTRACT NO. 62H49		
	ILLINOIS			

GENERAL NOTES

1. Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ in. Dia., holes $\frac{15}{16}$ in. Dia., unless otherwise noted.

2. All structural steel shall be AASHTO M 270 Grade 36.

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

4. The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

5. Reinforcement bars designated (E) shall be epoxy coated.

6. 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 and girders 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 $\frac{1}{4}$ in. 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.

7. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

8. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor Widening, repair or rehabilitation of existing structures. Bridge Manual Section 3 – Design Page 3-5 Jan 2012 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.

9. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

10. Concrete Sealer shall be applied to the reconstructed abutment backwalls and all areas at top of the reconstructed pier caps at Piers 4, 9, 15, 21, 25 & 29.

11. Cleaning and field painting of structural steel shall be done under a separate painting contract.

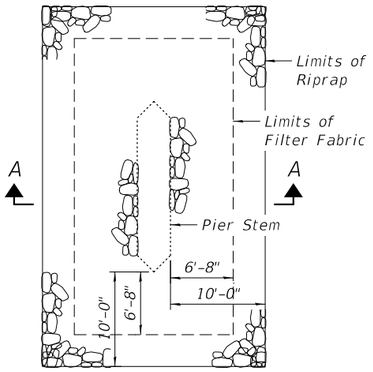
12. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

13. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type 1.

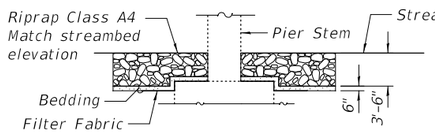
INDEX OF SHEETS

TOTAL BILL OF MATERIAL

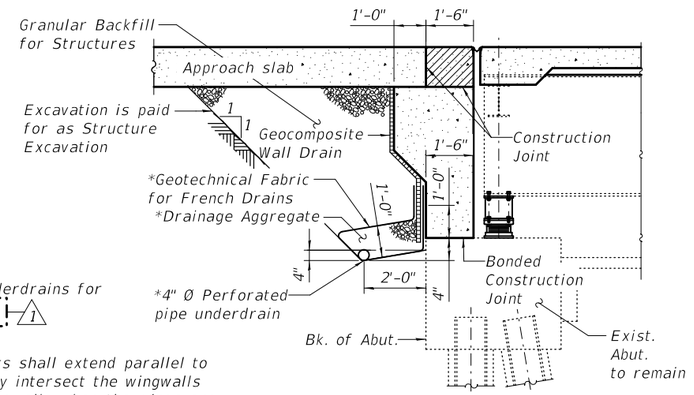
Description	Unit	Sub	Super	Total
Stone Riprap, Class A4	Ton	201		201
Filter Fabric	Sq. Yd.	53		53
Concrete Removal	Cu. Yd.	221.6		221.6
Bridge Rail Removal	Foot		5,535	5,535
Removal of Existing Concrete Deck No. 2	Each		1	1
Protective Shield	Sq. Yd.		12,891	12,891
Structure Excavation	Cu. Yd.	150		150
Cofferdam (Type 2) (Location – 3)	Each	1		1
Concrete Structures	Cu. Yd.	222.0	30.2	252.2
Concrete Superstructure	Cu. Yd.		4,462.1	4,462.1
Protective Coat	Sq. Yd.		15,346	15,346
Concrete Superstructure (Approach Slab)	Cu. Yd.		123.3	123.3
Furnishing and Erecting Structural Steel	Pound		2,585	2,585
Stud Shear Connectors	Each		24,832	24,832
Reinforcement Bars, Epoxy Coated	Pound	58,800	1,013,100	1,071,900
Bar Splicer	Each	98		98
Name Plates	Each		1	1
Preformed Joint Strip Seal	Foot		442	442
Elastomeric Bearing Assembly, Type II	Each		6	6
Anchor Bolts, 1"	Each		24	24
Anchor Bolts, 1 1/4"	Each		376	376
Granular Backfill for Structures	Cu. Yd.	119		119
Concrete Sealer	Sq. Ft.	1,043		1,043
Epoxy Crack Injection	Foot	26		26
Geocomposite Wall Drain	Sq. Yd.	79		79
1 Cofferdam Excavation (Special)	Cu. Yd.	152		152
Bridge Deck Grooving (Longitudinal)	Sq. Yd.		10,260	10,260
High Load Multi-Rotational Bearings, Guided Expansion, 350k	Each		36	36
High Load Multi-Rotational Bearings, Guided Expansion, 750k	Each		18	18
High Load Multi-Rotational Bearings, Guided Expansion, 900k	Each		4	4
High Load Multi-Rotational Bearings, Fixed – 750k	Each		18	18
Jack and Remove Existing Bearings	Each		64	64
Structural Steel Repair	Pound		25,073	25,073
Structural Repair of Concrete (depth equal to or less than 5 inches)	Sq. Ft.	2,010		2,010
Drainage Scuppers, DS-12	Each		61	61
1 Drainage System for Structures	L. Sum		1	1
Diamond Grinding (Bridge Section)	Sq. Yd.		11,409	11,409
Modular Expansion Joint 6"	Foot		41	41
Removal of Existing Bearings	Each		24	24
Pipe Underdrains for Structures 4"	Foot	167		167
Slope Wall Repair	Sq. Yd.	200		200
Temporary Shoring and Cribbing	Each	72		72



PIER 2 RIPRAP PROTECTION



SECTION A-A



SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. ∠'s)
South Abutment shown, North Abutment similar

*Included in the cost of Pipe Underdrains for Structures. 1

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. 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).

14. This project requires a US Army Corp of Engineers (USACE) 404 permit that has been scured by IDOT. As a condition of the permit the Contractor will need to submit a in-stream work plan to the Will/South Cook Soil and Water Conservation District (SWCD) for approval. Guidelines on acceptable in-stream work techniques can be found on the USACE website.

15. Work shall conform to all provisions of the Erosion Control Plan.

16. Haul Roads, In-Stream Work Pads and Causeways, if needed, shall be constructed in accordance with the Recurring Special Provision Check Sheet #8.

1 REVISED SHEET 1/3/2022

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		CHECKED - G. HATLESTAD		REVISED -			
PLOT SCALE = N/A		DRAWN - E. VAYSMAN		REVISED -			
PLOT DATE = 12/22/2021		DATE - 10/21/2021		REVISED -			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-2467
SHEET SB-5 OF SB-104 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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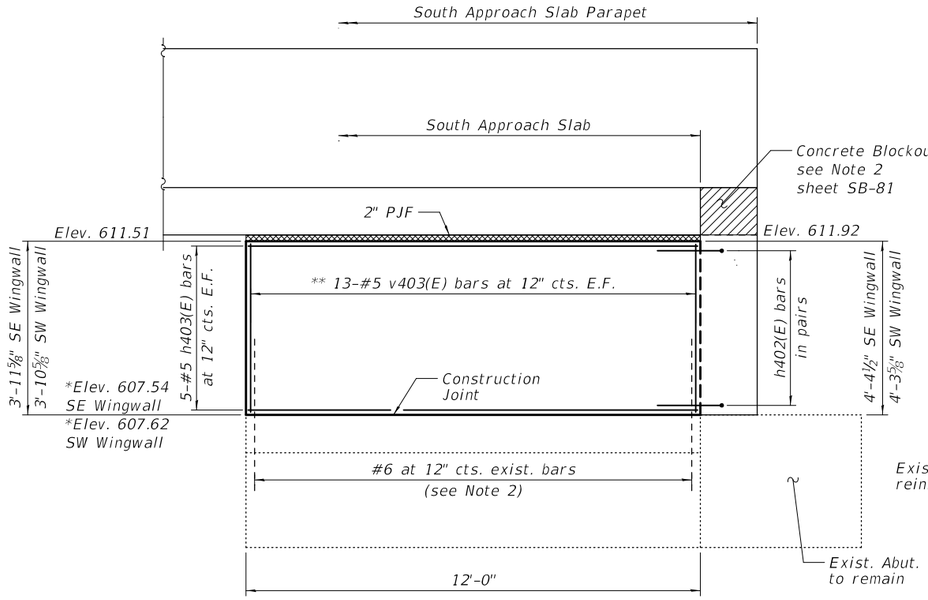
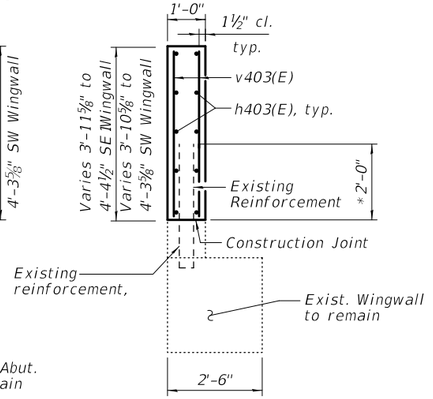
		CONTRACT NO. 62H49		
	ILLINOIS			



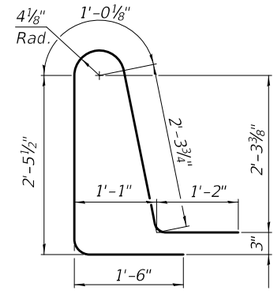
VIEW C-C



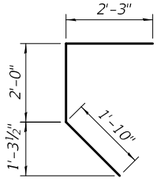
SECTION B-B

* Verify in field

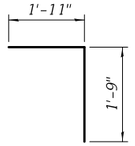
** See Field Cutting Diagram. Cut bars as needed in field



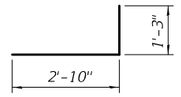
BAR d301(E)



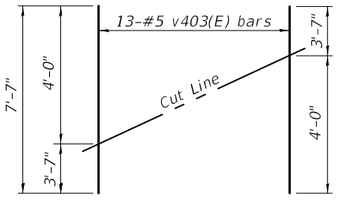
BAR u400E)



BAR v400(E)

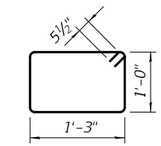


BAR h402(E)



FIELD CUTTING DIAGRAM

Order v403(E) bar full length.
Cut as shown and use remainder
of bars in opposite face

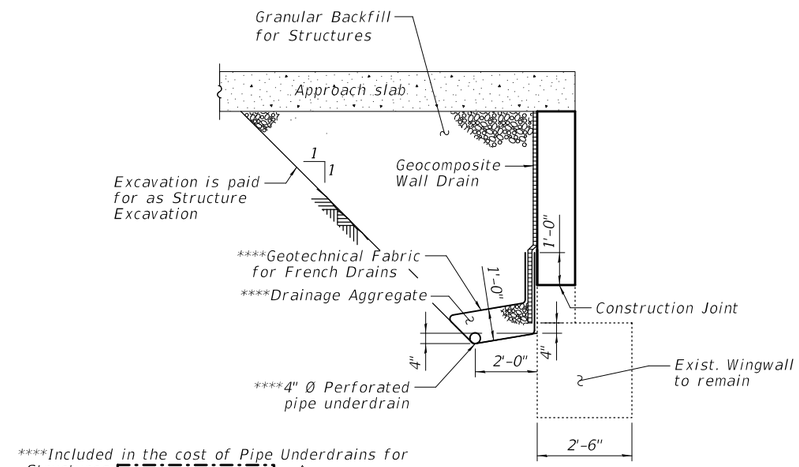


BAR u401(E)

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d301(E)	6	#5	8'-6"	
h400(E)	10	#6	23'-11"	
h401(E)	24	#5	22'-9"	
h402(E)	20	#5	4'-1"	
h403(E)	20	#5	11'-9"	
v400(E)	41	#5	3'-8"	
v401(E)	86	#5	5'-4"	
v403(E)	26	#5	7'-7"	
u400(E)	41	#5	6'-1"	
u401(E)	4	#5	5'-5"	

Structure Excavation	Cu. Yd.	65
Concrete Structures	Cu. Yd.	18.1
Reinforcement Bars, Epoxy Coated	Pound	2,440
Granular Backfill for Structures	Cu. Yd.	52
Concrete Sealer	Sq. Ft.	186
Geocomposite Wall Drain	Sq. Yd.	34
Pipe Underdrains for Structures 4"	Feet	89



SECTION THRU WINGWALL

(Horiz. dim. @ Rt. ℄'s)

Notes:

1. See sheet SB-81 for location of Section B-B and view C-C.
2. Existing reinforcement shall be cleaned, straightened, and incorporated into the new construction. Cost included with "Concrete Removal".

1 REVISED SHEET 1/3/2022

USER NAME = JAL	DESIGNED - E. VAYSMAN	REVISED - 1 12/21/2021 J.A.L.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT DETAILS STRUCTURE NO. 016-2467	F.A.I. RTE. 330 | SECTION 2018-133-BR | COUNTY COOK | TOTAL SHEETS 308 | SHEET NO. 269
	CHECKED - G. HATLESTAD	REVISED -			CONTRACT NO. 62H49
PLOT SCALE = N/A	DRAWN - E. VAYSMAN	REVISED -		SHEET SB-82 OF SB-104 SHEETS	ILLINOIS
PLOT DATE = 12/22/2021	DATE - 10/21/2021	REVISED -			

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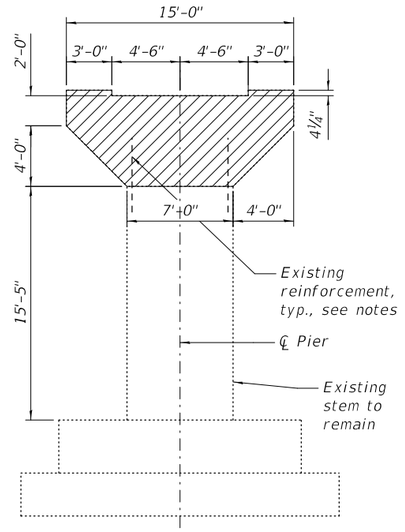
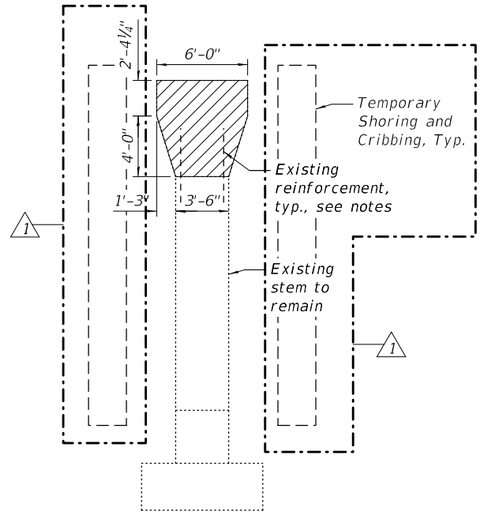
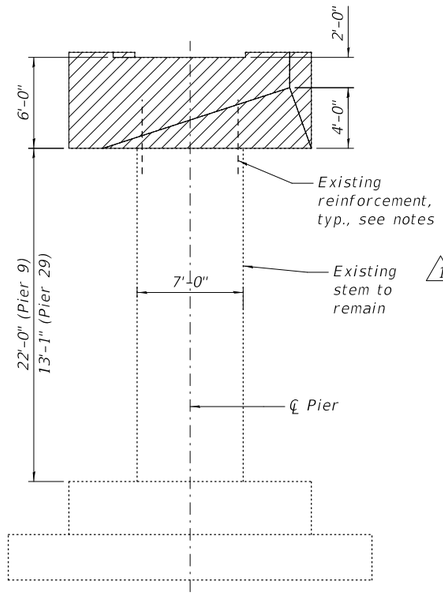


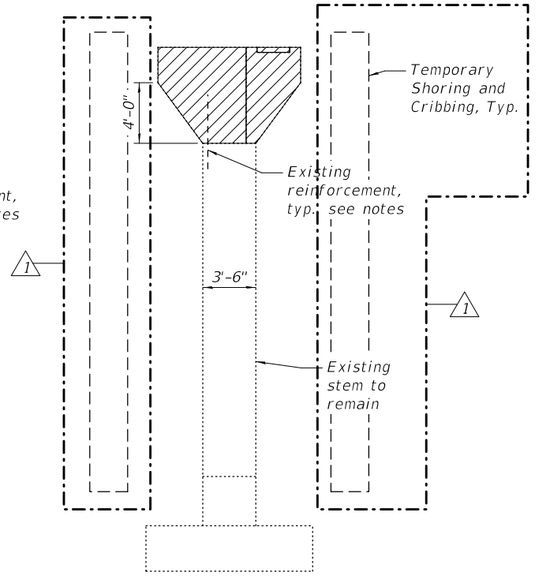
ELEVATION - PIER 4



END VIEW - PIER 4



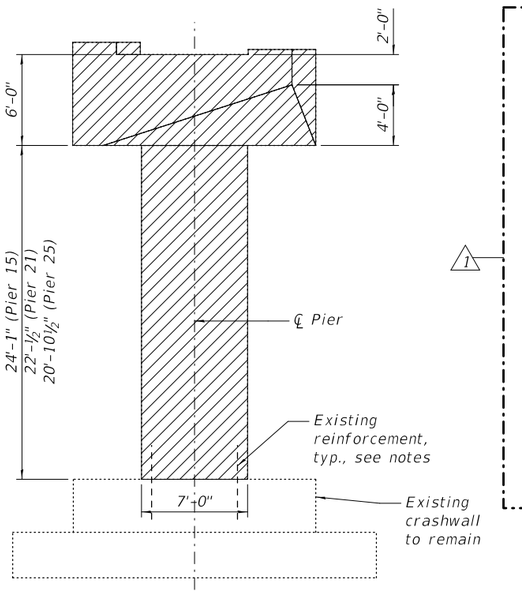
ELEVATION - PIER 9 & 29



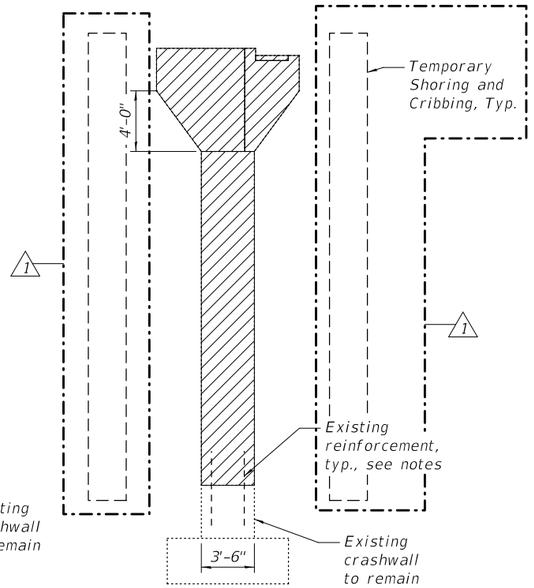
END VIEW - PIER 9 & 29

See Pier Cap Isometric for balance of information

Concrete Removal

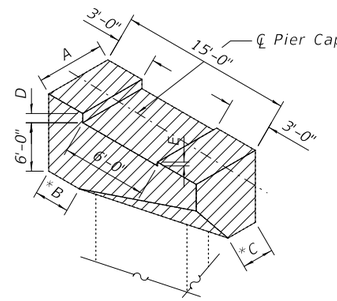


ELEVATION - 15, 21 & 25



END VIEW - PIER 15, 21 & 25

See Pier Cap Isometric for balance of information



PIER CAP ISOMETRIC

*One corner shown, opposite corner similar (Pier 9, 15, 21, 25, & 29)

Pier No.	A	B	C	D	E
Pier 9	6'-0"	2'-7¾"	2'-11½"	4"	4"
Pier 15	6'-0"	2'-7¾"	2'-11½"	4⅛"	4⅛"
Pier 21	6'-0"	3'-1¼"	2'-9½"	9⅝"	9⅝"
Pier 25	7'-0"	4'-3¼"	1'-10"	9¾"	3¾"
Pier 29	7'-0"	5'-9½"	0'-0"	8"	2"

Notes:

Existing vertical reinforcement bars projecting from the pier stem into the pier cap or projecting from the crashwall into the pier stem are to remain in place. The existing reinforcement shall be sandblasted clean, straightened, and incorporated into the new construction. Cost included with Concrete Removal.

Temporary Shoring and Cribbing shall be placed after removal of deck and prior to removal of any pier concrete. The Temporary Shoring and Cribbing shall be removed after the pier has been reconstructed and the new bearings are in place and prior to new deck pour. See Special Provision. See "Beam Reactions for Temporary Shoring and Cribbing" table on Sheet SB-4.

BILL OF MATERIAL

	Item	Unit	Total
	Concrete Removal	Cu. Yd.	180.2
1	Temporary Shoring and Cribbing	Each	72

1 REVISED SHEET 1/3/2022

FILE NAME:

CIVILTECH

USER NAME = JAL		DESIGNED - E. VAYSMAN	REVISED - 1 12/21/2021 J.A.L.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER REMOVAL DETAILS STRUCTURE NO. 016-2467
		CHECKED - G. HATLESTAD	REVISED -		
PLOT SCALE = N/A		DRAWN - E. VAYSMAN	REVISED -		SHEET SB-86 OF SB-104 SHEETS
PLOT DATE = 12/22/2021		DATE - 10/21/2021	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	273
		CONTRACT NO. 62H49		
	ILLINOIS			

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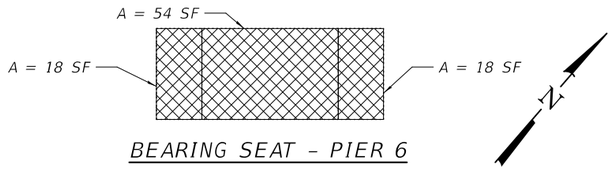
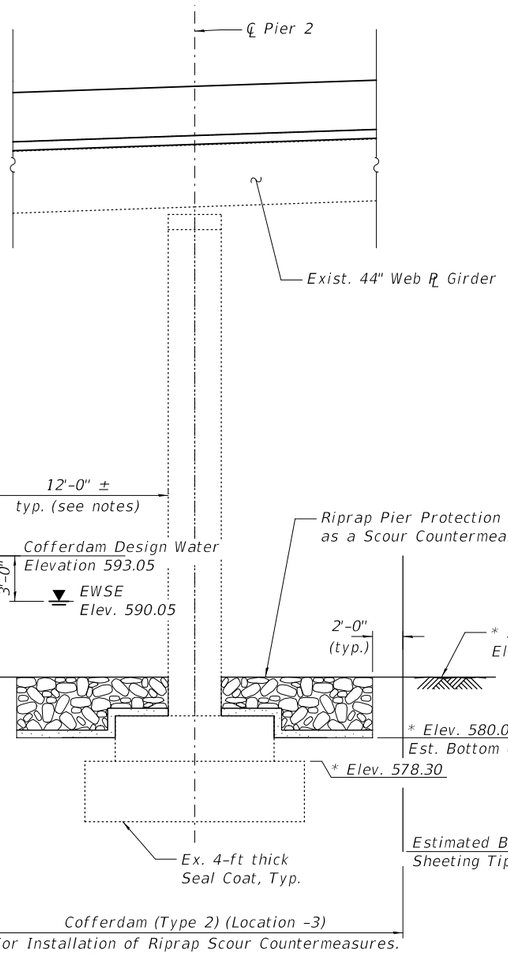
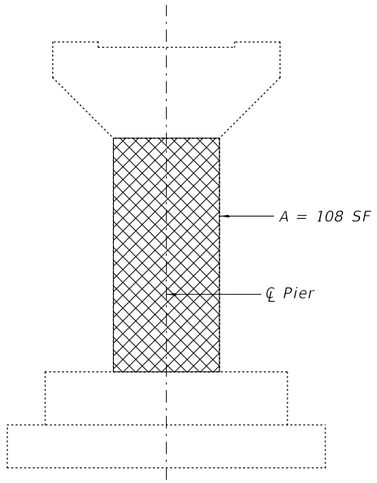


BEARING SEAT – PIER 6



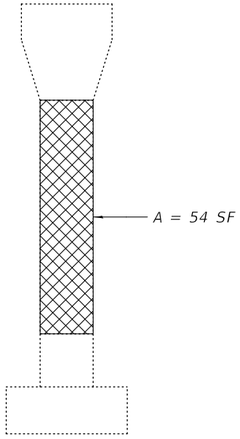
COFFERDAM DETAIL

(at Pier 2)



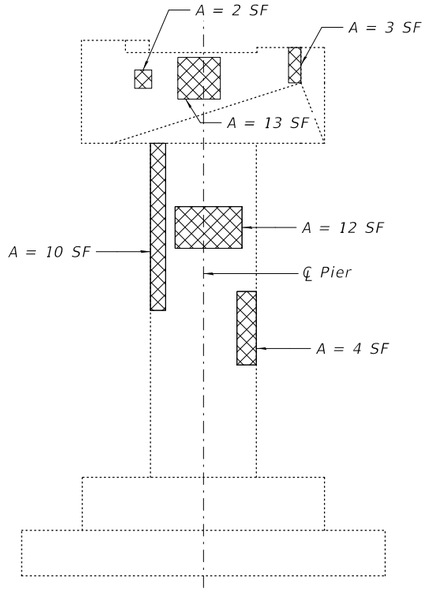
ELEVATION – PIER 4

(Looking North)



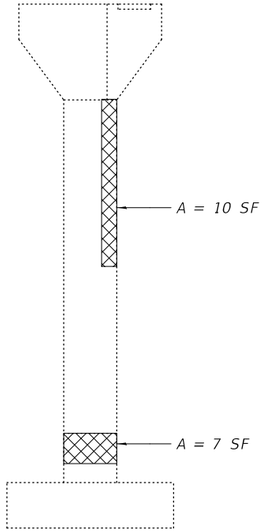
END VIEW – PIER 4

(Looking East)



ELEVATION – PIER 6

(Looking North)

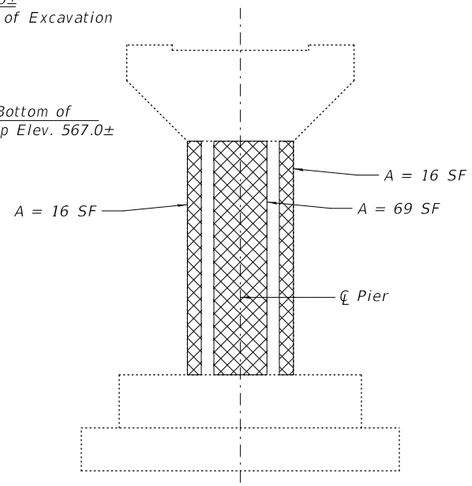


END VIEW – PIER 6

(Looking East)

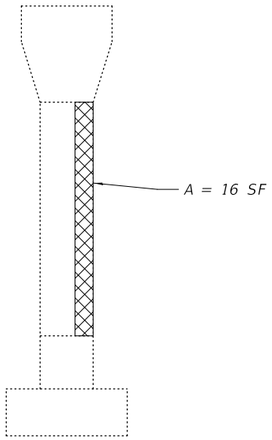
LEGEND

	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
SF	Square Feet



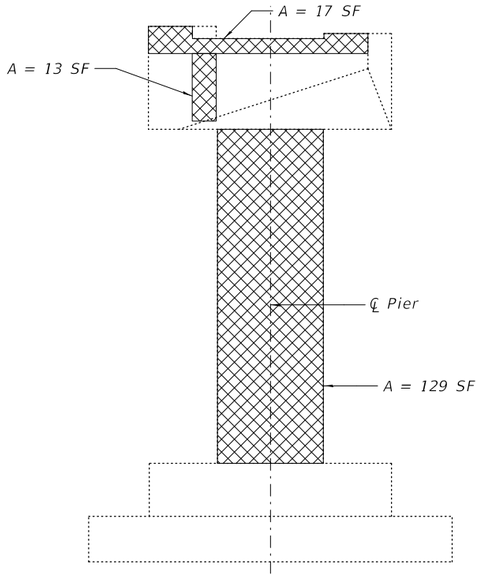
ELEVATION – PIER 4

(Looking South)



END VIEW – PIER 4

(Looking West)



ELEVATION – PIER 6

(Looking South)

Note:

Repairs to the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the ENGINEER at the time of construction. The quantities shown are for estimating purposes only. Actual repair locations shall be shown on the as-built plans.

Additional repair quantity has been included to account for any repair areas not shown.

Cofferdam limits shown are the maximum pay limits for Cofferdam Excavation (Special). Actual limits shall be determined by the Contractor and shown on the cofferdam plan.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	680
Cofferdam (Type 2) (Location -3)	Each	1
1 Cofferdam Excavation (Special)	Cu. Yd.	152

1 REVISED SHEET 1/3/2022

FILE NAME:

CIVILTECH

USER NAME = JAL		DESIGNED - E. VAYSMAN		REVISED - 1 12/21/2021 J.A.L.			
		CHECKED - G. HATLESTAD		REVISED -			
PLOT SCALE = N/A		DRAWN - E. VAYSMAN		REVISED -			
PLOT DATE = 12/22/2021		DATE - 10/21/2021		REVISED -			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER REPAIRS DETAILS 1 - PIERS 2, 4 & 6
STRUCTURE NO. 016-2467

SHEET SB-87 OF SB-104 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	274
		CONTRACT NO. 62H49		
	ILLINOIS			

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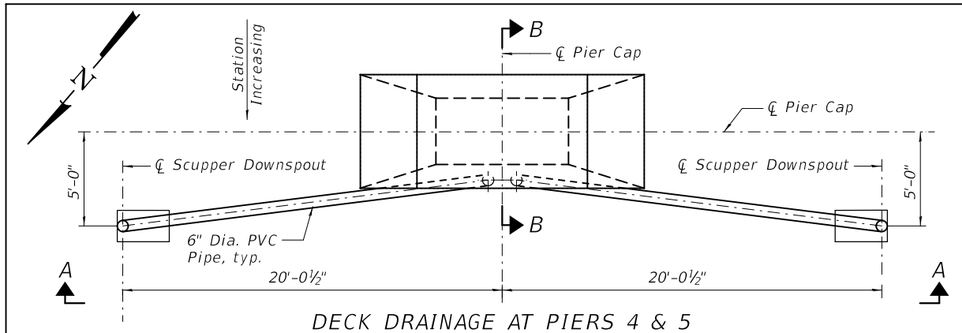
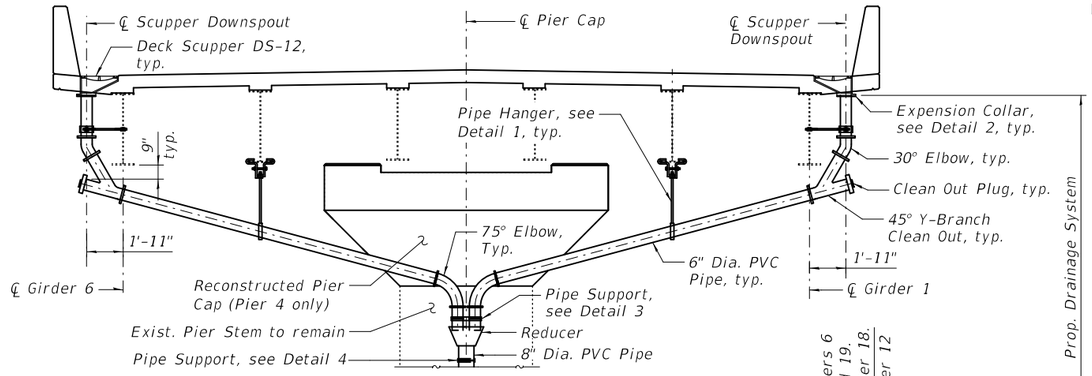
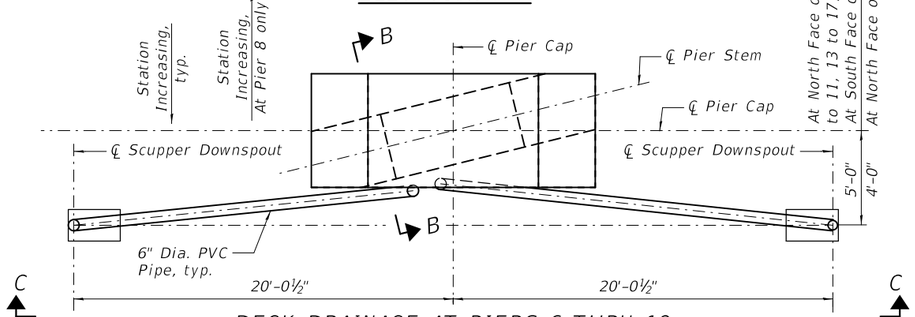


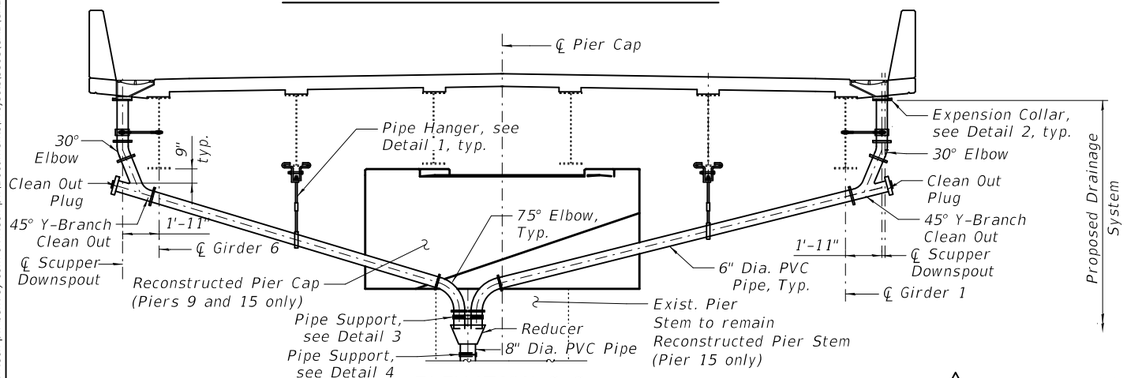
DECK DRAINAGE AT PIERS 4 & 5



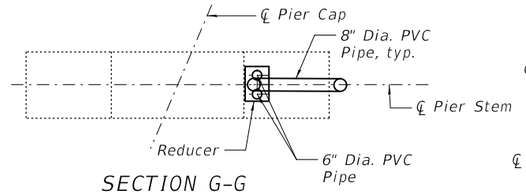
ELEVATION A-A



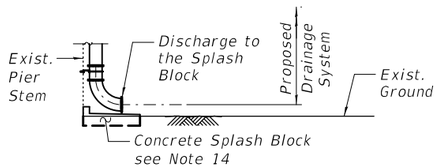
DECK DRAINAGE AT PIERS 6 THRU 19



ELEVATION C-C

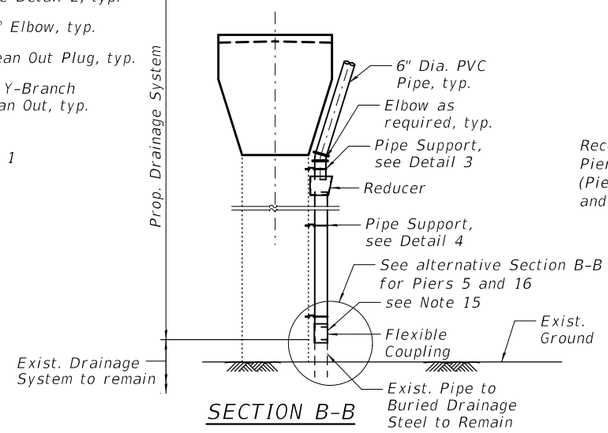


SECTION G-G



SECTION B-B

(Alternative Section for Piers 5 and 16)

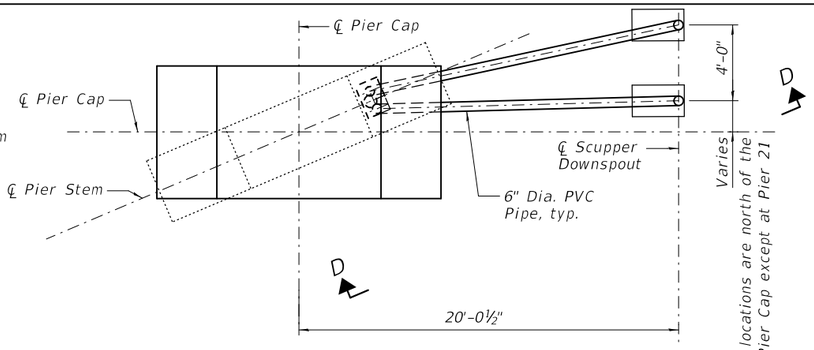


SECTION B-B

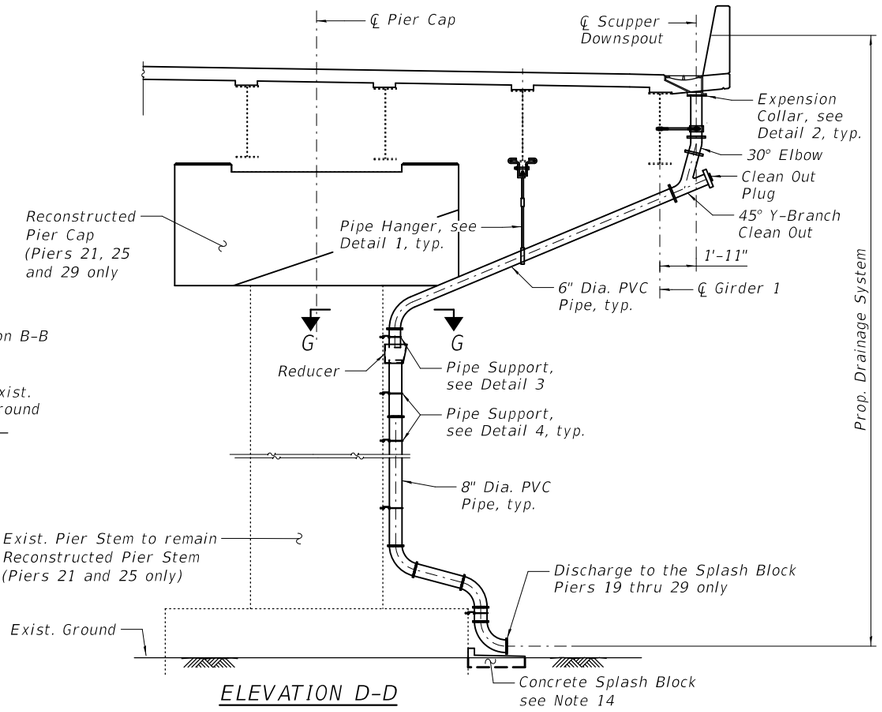
BILL OF MATERIAL

Item	Unit	Total
Drainage System for Structures	L. Sum	1

1



DECK DRAINAGE AT PIERS 20 THRU 29



ELEVATION D-D

Notes:

1. See Superstructure Units plans sheets SB-33 thru SB-55 for drainage scupper location and spacing.
2. See sheet SB-99 for Drainage Scupper details.
3. See sheet SB-101 for Details 1 and 2.
4. See sheet SB-102 for Details 3 and 4.
5. Bolt pattern and size in drain pipe flange to match scupper flange.
6. Pipe hangers and supports shall be provided at each tee, elbow or change of direction per manufacturer recommendation. Cost included with Drainage System for Structures. 1
7. All pipe hangers, supports and hardware shall be hot -dipped galvanized after fabrication in accordance with AASHTO M232 (ASTM A153). All bolts nuts and washers shall be stainless steel according to Std. Spec. Art. 1006.29(d).
8. All steel straps, bars and plates of pipe support hanger shall meet the requirements of AASHTO M270, Gr. 36 or 50.
9. Structural steel shapes used in support of vertical drain pipes shall meet the requirements of AASHTO M270, Gr. 36.
10. All pipes, pipe fittings and brackets needed shall be included with cost of Drainage System.
11. Connect prop. 8" Dia. drainage pipe to existing underground drainage system. Piers 4 thru Piers 18 only.
12. Reducer should be sized to accommodate a longitudinal movement of the superstructure between the abutment or pier and the scupper.
13. The PVC pipe and fittings located outside of the fascia beam shall be colored to match the beam, the remainder shall be grey.
14. For Splash Block details see Sheet SB-102. Cost of Splash Block included with the cost for Drainage System for Structures.
15. Removal of existing drainage system items and connection of proposed drainage elements to existing drainage elements included with the cost for Drainage System for Structures. 1

1 REVISED SHEET 1/3/2022

MODEL: Default
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CIVILTECH

USER NAME = JAL		DESIGNED - E. VAYSMAN	REVISED - 1 12/21/2021 J.A.L.
		CHECKED - G. HATLESTAD	REVISED -
PLOT SCALE = N/A		DRAWN - E. VAYSMAN	REVISED -
PLOT DATE = 12/22/2021		DATE - 10/21/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SYSTEM DETAILS 1
STRUCTURE NO. 016-2467
SHEET SB-100 OF SB-104 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2018-133-BR	COOK	308	287
		CONTRACT NO. 62H49		
	ILLINOIS			