

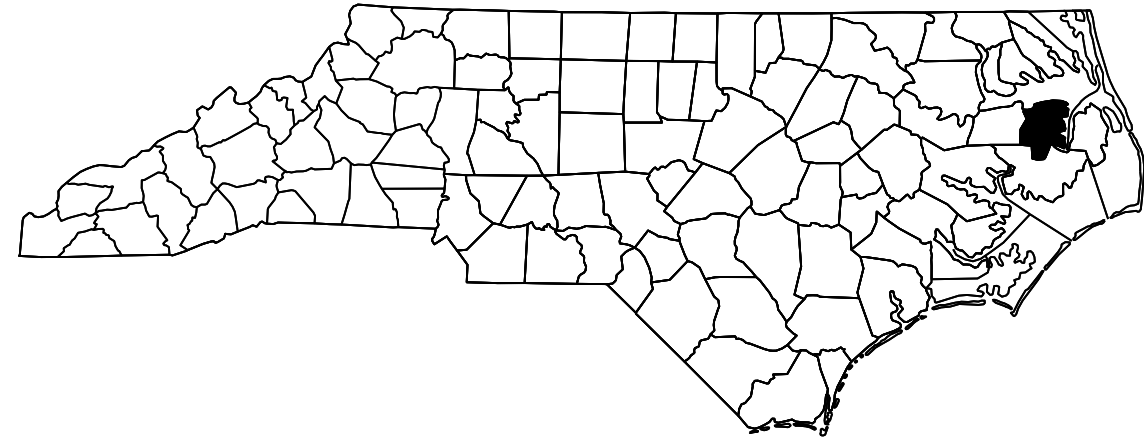
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**This file or an individual page
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PROJECT: 15BPR.11

CONTRACT: C204118



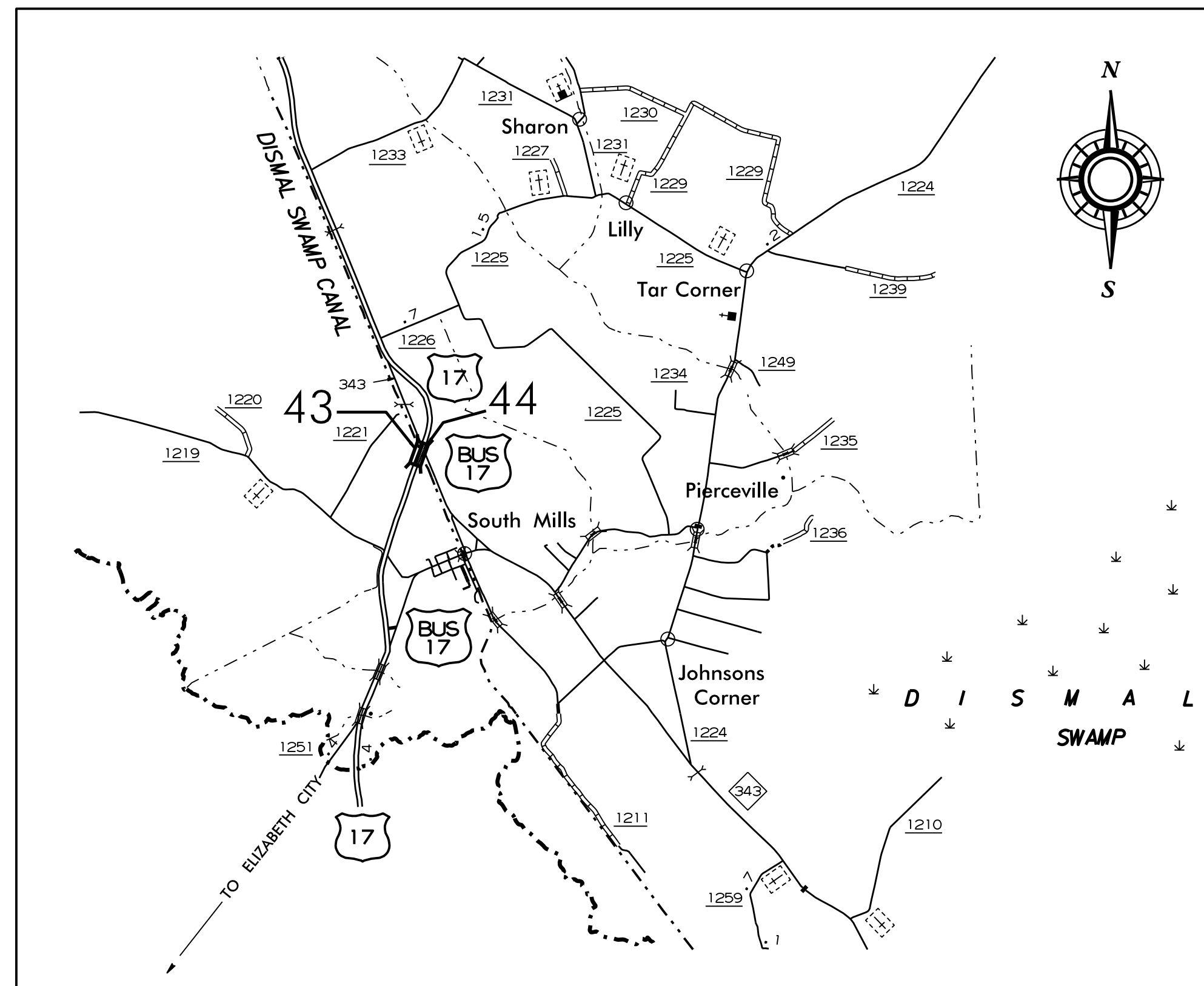
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CAMDEN COUNTY

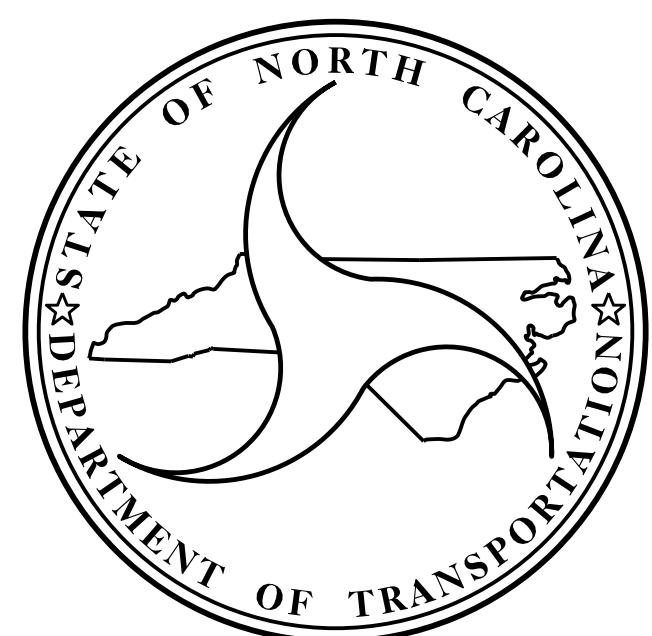
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | 15BPR.11 | 1 | 104 |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 15BPR.11 | | P.E. | |
| 15BPR.11 | | CONST. | |
| | | | |
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**LOCATION: CAMDEN COUNTY: BRIDGE #43 ON US-17 SBL OVER US-17 BUSINESS AND DISMAL SWAMP CANAL
BRIDGE #44 ON US-17 NBL OVER US-17 BUSINESS AND DISMAL SWAMP CANAL**

TYPE OF WORK: BRIDGE PRESERVATION - POLYESTER POLYMER CONCRETE OVERLAY; JOINT DEMOLITION; CLEANING AND PAINTING OF WEATHERING STEEL; CLEANING AND PAINTING EXISTING BEARING WITH HRCSA; SUPERSTRUCTURE REPAIRS; STRUCTURAL STEEL REPAIRS; SUBSTRUCTURE REPAIRS AND EPOXY COATING CAPS.



VICINITY MAP - CAMDEN CO.



DESIGN DATA

CAMDEN COUNTY

| | | |
|---------------------|---|-------|
| BRIDGE #43 ADT 2015 | = | 7,000 |
| BRIDGE #44 ADT 2015 | = | 7,000 |

PROJECT LENGTH

CAMDEN COUNTY

| | | |
|------------|---|-------------|
| BRIDGE #43 | = | 0.404 MILES |
| BRIDGE #44 | = | 0.404 MILES |

Prepared in the Office of:
**DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

2018 STANDARD SPECIFICATIONS

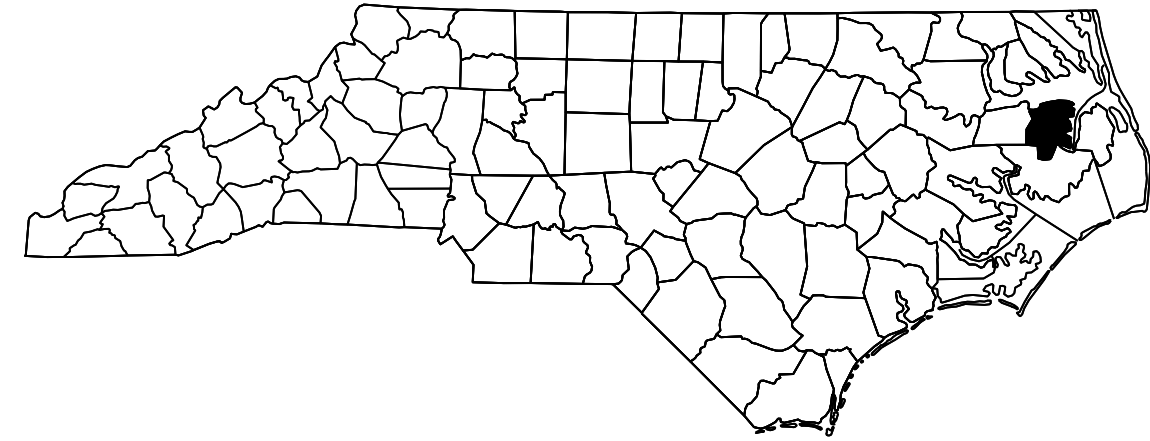
LETTING DATE:
June 19, 2018

GREG DICKEY, P.E.
PROJECT ENGINEER

P. KOREY NEWTON, P.E.
PROJECT DESIGN ENGINEER

PROJECT: 15BPR.11

CONTRACT: C204188



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CAMDEN COUNTY

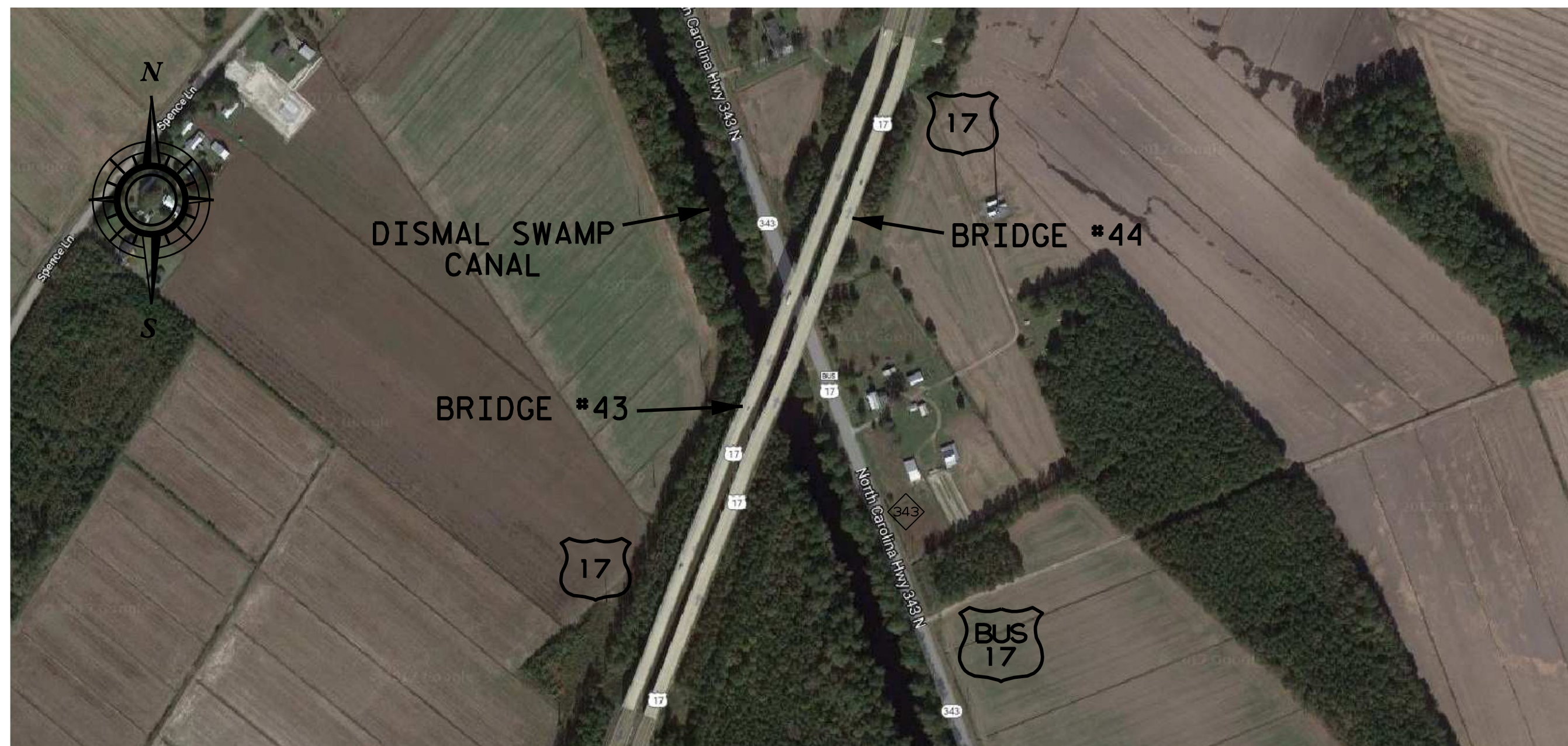
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|-----------------|-----------------------------|-------------|--------------|
| N.C. | 15BPR.11 | 1A | 104 |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 15BPR.11 | | P.E. | |
| 15BPR.11 | | CONST. | |
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**LOCATION: CAMDEN COUNTY: BRIDGE #43 ON US-17 SBL OVER US-17 BUSINESS AND DISMAL SWAMP CANAL
BRIDGE #44 ON US-17 NBL OVER US-17 BUSINESS AND DISMAL SWAMP CANAL**

**TYPE OF WORK: BRIDGE PRESERVATION - POLYESTER POLYMER CONCRETE OVERLAY; JOINT DEMOLITION;
CLEANING AND PAINTING OF WEATHERING STEEL; CLEANING AND PAINTING EXISTING
BEARING WITH HRCSA; SUPERSTRUCTURE REPAIRS; STRUCTURAL STEEL REPAIRS;
SUBSTRUCTURE REPAIRS AND EPOXY COATING CAPS.**

INDEX OF SHEETS

| | |
|-----------------------|--|
| <i>I</i> | <i>TITLE SHEET</i> |
| <i>1A</i> | <i>INDEX OF SHEETS</i> |
| <i>S-1</i> | <i>TOTAL BILL OF MATERIAL</i> |
| <i>S-2 THRU S-9</i> | <i>GENERAL DRAWING BRIDGE #43</i> |
| <i>S-10</i> | <i>TYPICAL SECTION FOR PPC OVERLAY BRIDGE #43</i> |
| <i>S-11 THRU S-17</i> | <i>SURFACE PREPARATION AND PPC OVERLAY BRIDGE #43</i> |
| <i>S-18 THRU S-24</i> | <i>UNDERSIDE DECK, GIRDERS, AND DIAPHRAGM REPAIRS BRIDGE #43</i> |
| <i>S-25 THRU S-49</i> | <i>SUBSTRUCTURE REPAIRS BRIDGE #43</i> |
| <i>S-50 THRU S-57</i> | <i>GENERAL DRAWING BRIDGE #44</i> |
| <i>S-58</i> | <i>TYPICAL SECTION FOR PPC OVERLAY BRIDGE #44</i> |
| <i>S-59 THRU S-65</i> | <i>SURFACE PREPARATION AND PPC OVERLAY BRIDGE #44</i> |
| <i>S-66 THRU S-72</i> | <i>UNDERSIDE DECK, GIRDERS, AND DIAPHRAGM REPAIRS BRIDGE #44</i> |
| <i>S-73 THRU S-97</i> | <i>SUBSTRUCTURE REPAIRS BRIDGE #44</i> |
| <i>S-98 THRU S-99</i> | <i>TYPICAL BRIDGE JOINT DETAILS</i> |
| <i>S-100</i> | <i>TYPICAL SUPERSTRUCTURE, OVERHANG, AND DIAPHRAGM REPAIR DETAILS</i> |
| <i>S-101</i> | <i>TYPICAL SUBSTRUCTURE CAP, CONCRETE PILES, AND RAIL REPAIR DETAILS</i> |
| <i>S-102</i> | <i>TYPICAL STRUCTURAL STEEL REPAIR DETAILS</i> |
| <i>S-103</i> | <i>JACKING DETAILS</i> |
| <i>S-104</i> | <i>TYPICAL APPROACH SLAB SURFACE PREPARATION AND PPC OVERLAY</i> |
| <i>SN</i> | <i>STANDARD NOTES</i> |



LOCATION SKETCH

TOTAL BILL OF MATERIAL

| BRIDGE NO. | GROOVING BRIDGE FLOORS | * CLASS II SURFACE PREPARATION | SCARIFYING BRIDGE DECK | SHOTBLASING BRIDGE DECK | CONCRETE DECK REPAIR FOR PPC OVERLAY | CLEANING & PAINTING EXISTING WEATHERING STEEL FOR BRIDGE # | PPC MATERIALS | PLACING AND FINISHING PPC OVERLAY | POLLUTION CONTROL | PAINTING CONTAINMENT FOR BRIDGE # | SILICONE JOINT SEALANT | BRIDGE JOINT DEMOLITION | EPOXY RESIN INJECTION | EPOXY COATING | SHOTCRETE REPAIRS | STRUCTURAL STEEL REPAIR | CLEANING & PAINTING EXISTING BEARINGS WITH HRCSA | REPAIRS TO PRESTRESSED CONCRETE GIRDERS |
|--------------|------------------------|--------------------------------|------------------------|-------------------------|--------------------------------------|--|---------------|-----------------------------------|-------------------|-----------------------------------|------------------------|-------------------------|-----------------------|-----------------|-------------------|-------------------------|--|---|
| | SO. FT. | SO. YD. | SO. YD. | SO. YD. | SO. YD. | LUMP SUM | CU. YD. | SO. YD. | LUMP SUM | LUMP SUM | LIN. FT. | SO. FT. | LIN. FT. | SO. FT. | CU. FT. | LBS. | EA. | CU. FT. |
| 43 | 74,759.0 | 39.5 | 9,128.0 | 9,128.0 | 39.5 | LUMP SUM | 253.7 | 9,128.0 | LUMP SUM | LUMP SUM | 950.0 | 114.0 | 767.5 | 7,479.0 | 713.7 | 650.0 | 42 | 35.17 |
| 44 | 74,759.0 | 22.5 | 9,128.0 | 9,128.0 | 22.5 | LUMP SUM | 253.7 | 9,128.0 | LUMP SUM | LUMP SUM | 950.0 | 114.0 | 533.7 | 7,479.0 | 690.5 | 325.0 | 42 | 48.25 |
| TOTAL | 149,518.0 | 62.0 | 18,256.0 | 18,256.0 | 62.0 | LUMP SUM | 507.4 | 18,256.0 | LUMP SUM | LUMP SUM | 1,900.0 | 228.0 | 1,301.2 | 15,958.0 | 690.5 | 975.0 | 84 | 83.42 |

GENERAL NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

WORK ON BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE TO THE PROJECT SPECIAL PROVISIONS.

PRIOR TO BEGINNING WORK, CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

CONTRACTOR SHALL DETERMINE EXTENT OF WORKING AREA, STAGING PROCESS, AND INSTALL COVER & ASSEMBLY AS NECESSARY TO MEET THE REQUIREMENTS OF TRAFFIC MANAGEMENT PLANS.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST.

FOR CONCRETE DECK REPAIRS, SEE SPECIAL PROVISIONS.

FOR POLLUTION CONTROL, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE, SEE SPECIAL PROVISIONS.

FOR POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY, SEE SPECIAL PROVISIONS.

FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

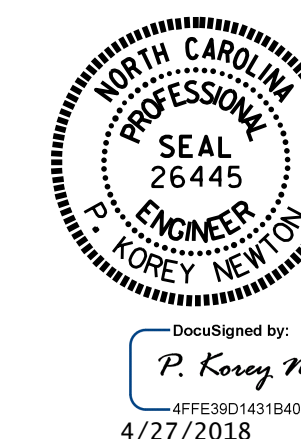
FOR CLEANING & PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR STRUCTURAL STEEL REPAIR, SEE SPECIAL PROVISIONS.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43 & 44

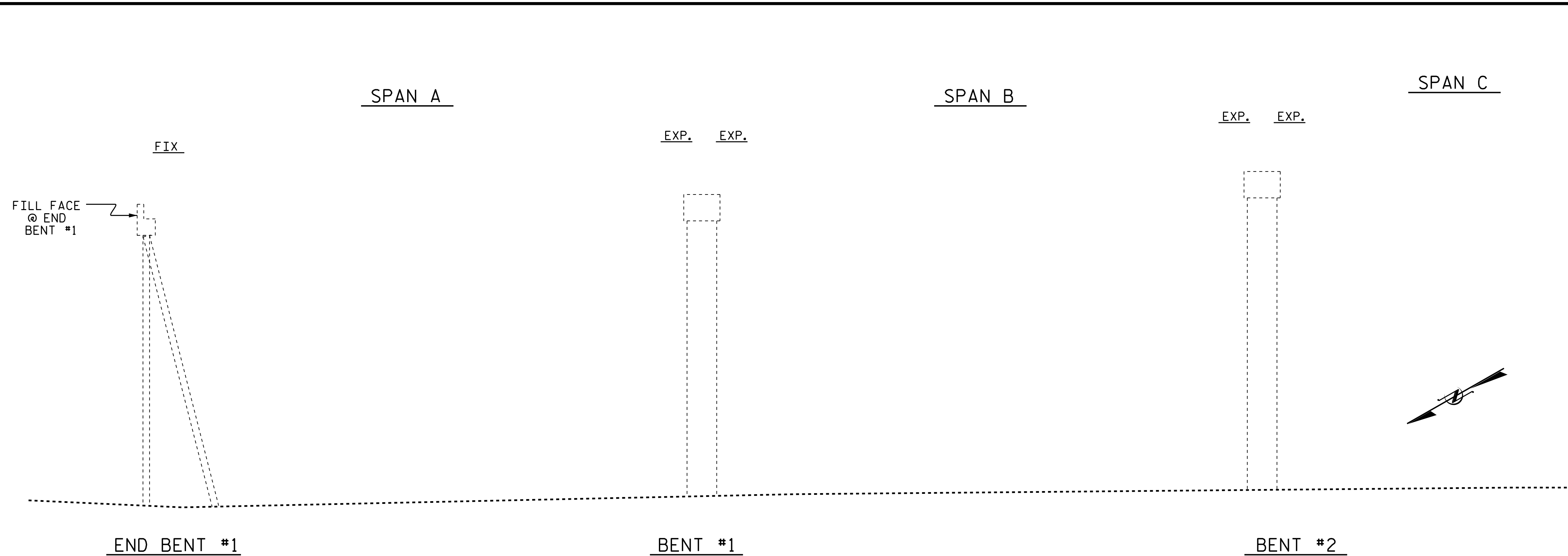


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**GENERAL NOTES
 &
 TOTAL BILL OF MATERIAL**

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
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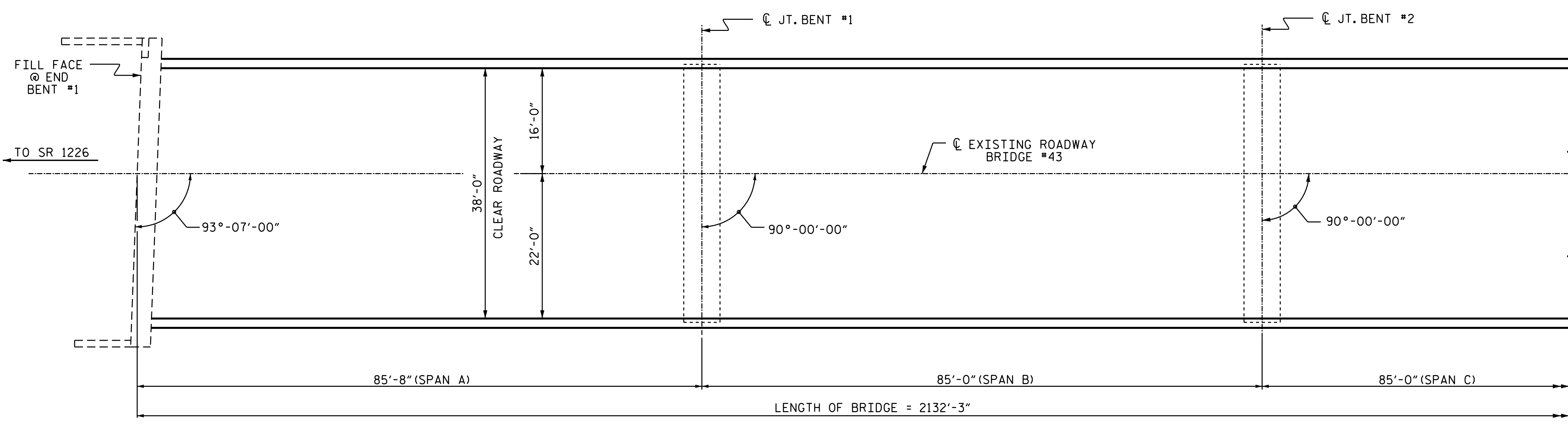


ELEVATION
(SECTION ALONG \bar{C} ROADWAY)

- SCOPE OF WORK**
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
 - DEMOLISH EXISTING BRIDGE DECK JOINTS.
 - PERFORM DECK REPAIRS IN PREPARED AREAS.
 - OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
 - RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
 - GROOVE POLYESTER POLYMER CONCRETE.
 - SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION, SHOTCRETE AND CONCRETE.
 - EPOXY COATING OF TOPS OF CAPS.
 - CLEANING AND PAINTING WEATHERING STEEL GIRDERS.
 - STRUCTURAL STEEL REPAIRS.
 - CLEANING AND PAINTING BEARINGS WITH HRCSA.
 - PRESTRESSED CONCRETE GIRDER AND UNDERSIDE DECK REPAIRS.

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____



PLAN
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 1 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE #43 ON
 US 17 SBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
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SPAN C

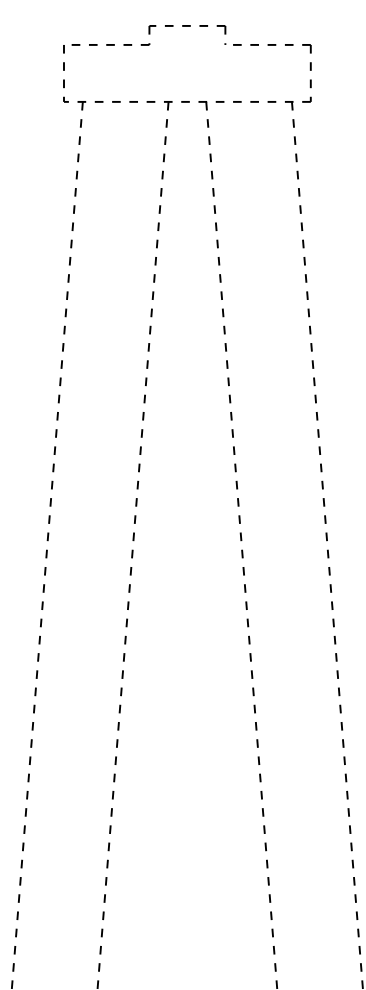
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SPAN E

SPAN F

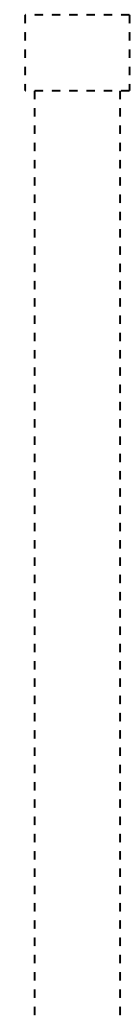
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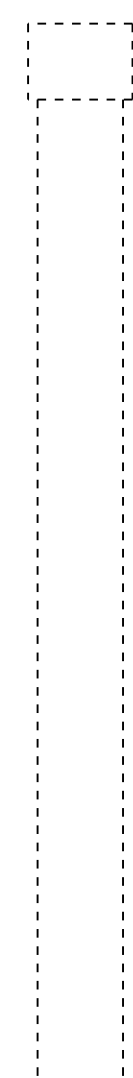
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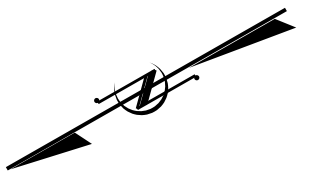


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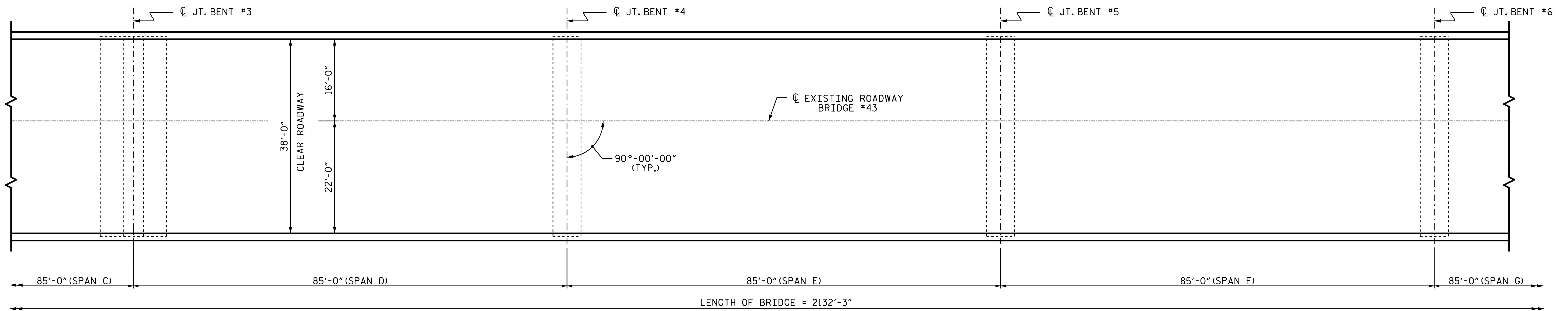


BENT #6



ELEVATION

(SECTION ALONG C ROADWAY)



PLAN

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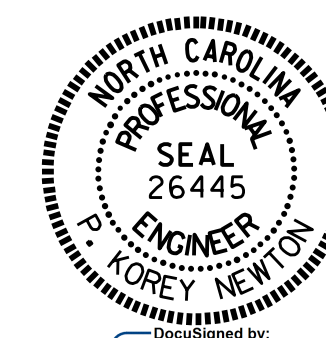
PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43

SHEET 2 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE #43 ON
US 17 SBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
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| REVISIONS | | | | | |
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SHEET NO.
S-3
TOTAL SHEETS
103

SPAN G

EXP. EXP.

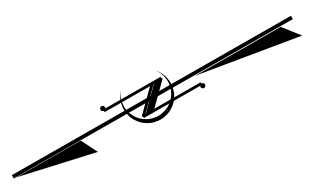
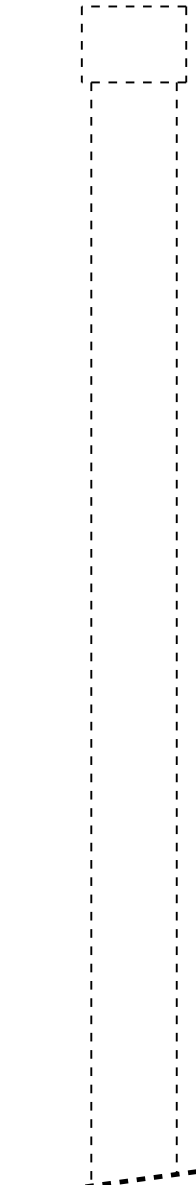
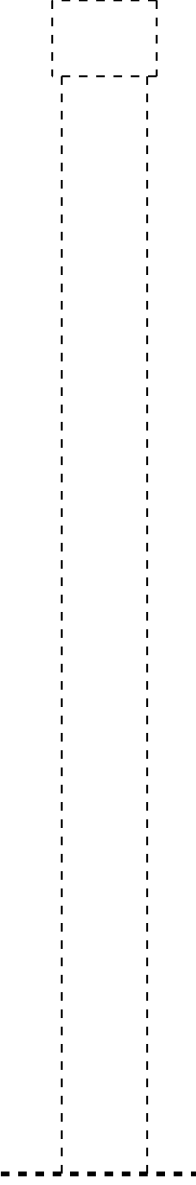
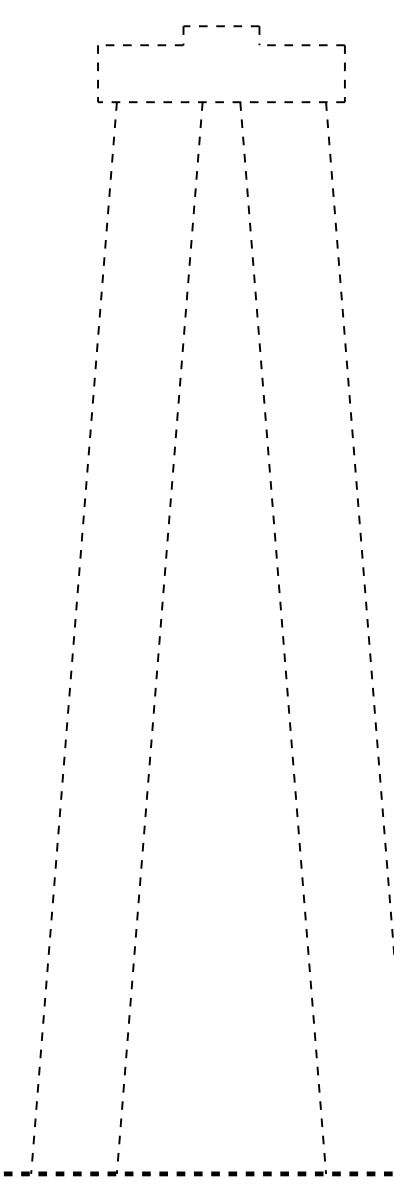
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EXP. FIX

SPAN I

EXP. EXP.

SPAN J

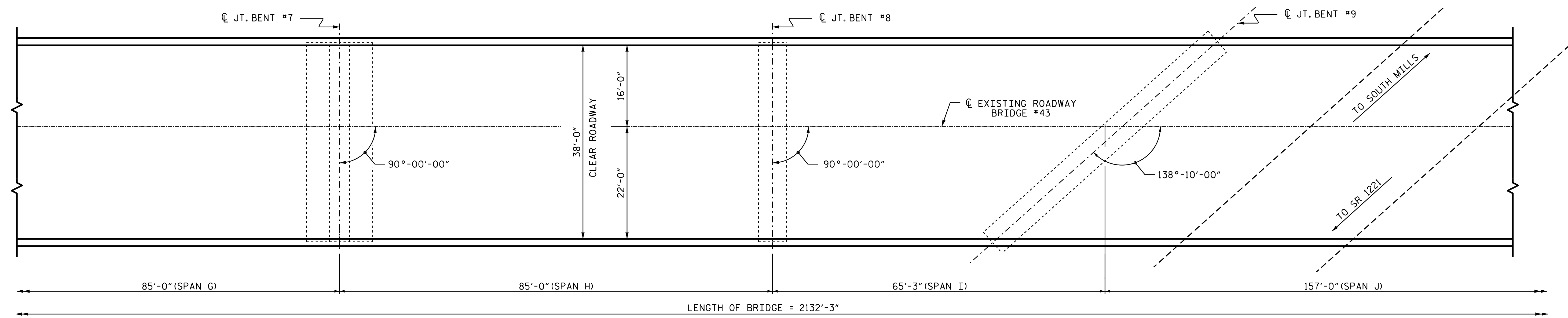


BENT #7

BENT #8

BENT #9

ELEVATION
(SECTION ALONG \bar{C} ROADWAY)

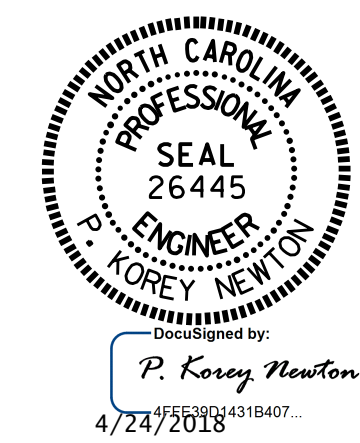


PLAN

(PILES NOT SHOWN IN
PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43

SHEET 3 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE #43 ON
US 17 SBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

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S-4
TOTAL SHEETS
103

SPAN J

FIX

SPAN K

EXP. EXP.

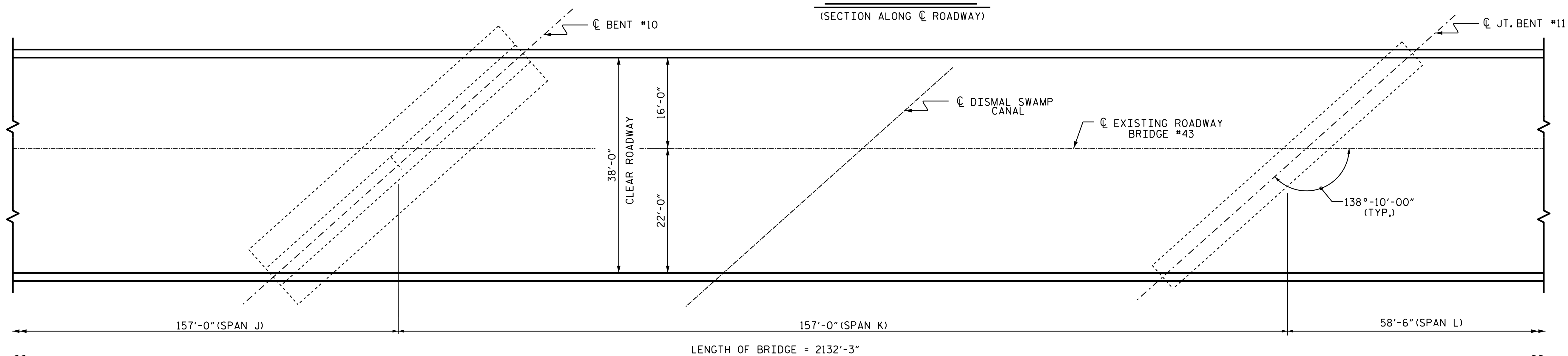
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BENT #10

BENT #11

ELEVATION

(SECTION ALONG CL ROADWAY)



PLAN

(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 4 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE #43 ON
 US 17 SBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL



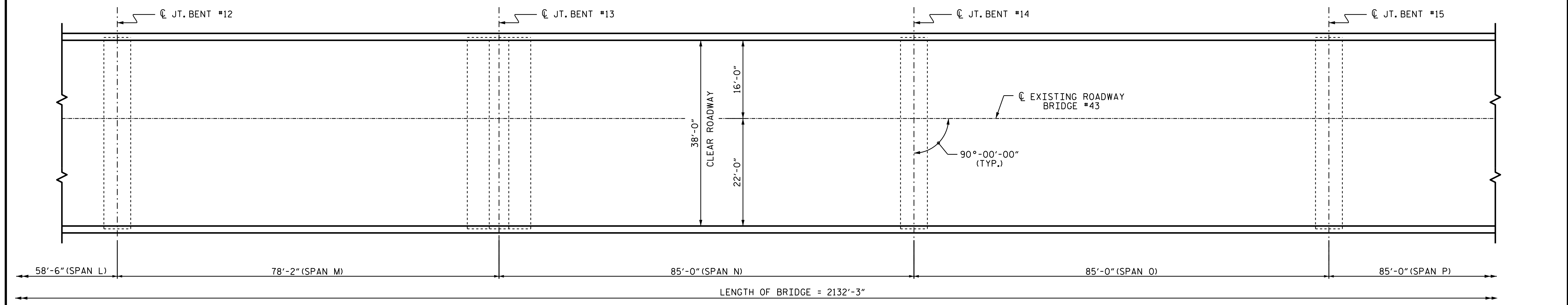
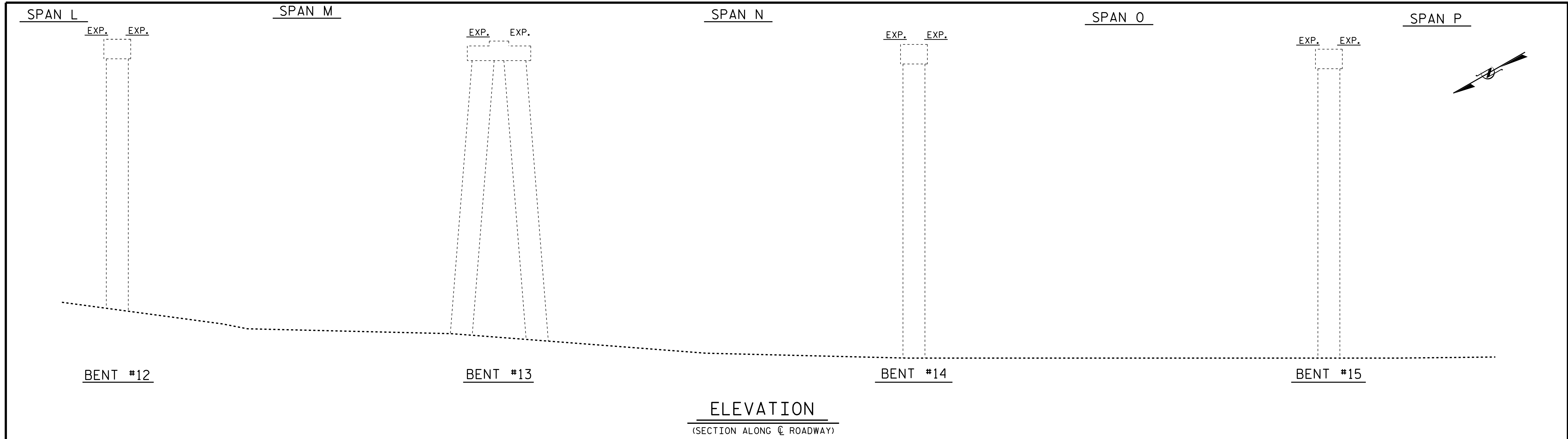
DocuSign by:
 P. Corey Newton
 4/24/2018

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

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SHEET NO.
 S-5
 TOTAL SHEETS
 103



PLAN
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 5 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE #43 ON
 US 17 SBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

| REVISIONS | | | | | | SHEET NO. |
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| 2 | | | 4 | | | 103 |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SPAN P

SPAN Q

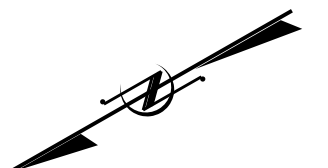
SPAN R

SPAN S

EXP. EXP.

EXP. EXP.

EXP. EXP.



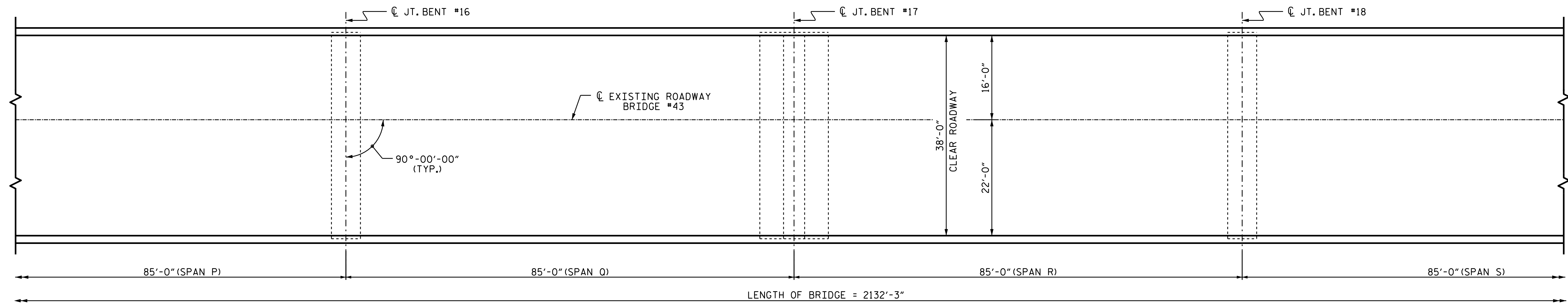
BENT #16

BENT #17

BENT #18

ELEVATION

(SECTION ALONG CL ROADWAY)



PLAN

(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11

CAMDEN COUNTY

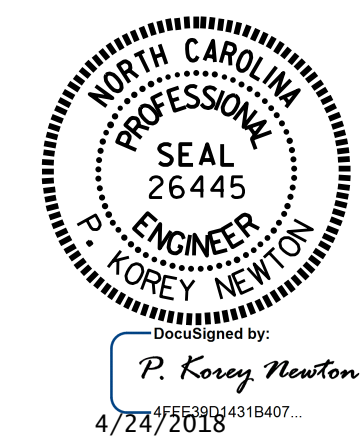
BRIDGE NO. 43

SHEET 6 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE #43 ON
US 17 SBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | |
|-----------|-----|-------|-----|-----|-------|
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |

SHEET NO.
S-7
TOTAL SHEETS
103

SPAN S

EXP. EXP.

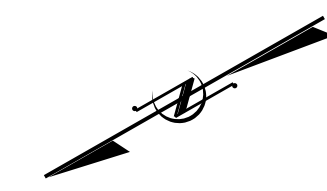
SPAN T

EXP. EXP.

SPAN U

EXP. EXP.

SPAN V

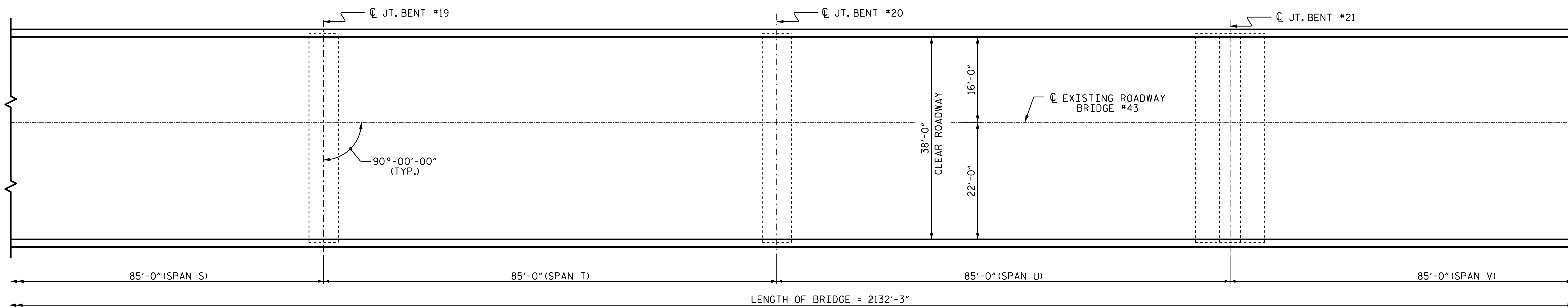


BENT #19

BENT #20

BENT #21

ELEVATION
(SECTION ALONG CL ROADWAY)



PLAN
(PILES NOT SHOWN IN
PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43

SHEET 7 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

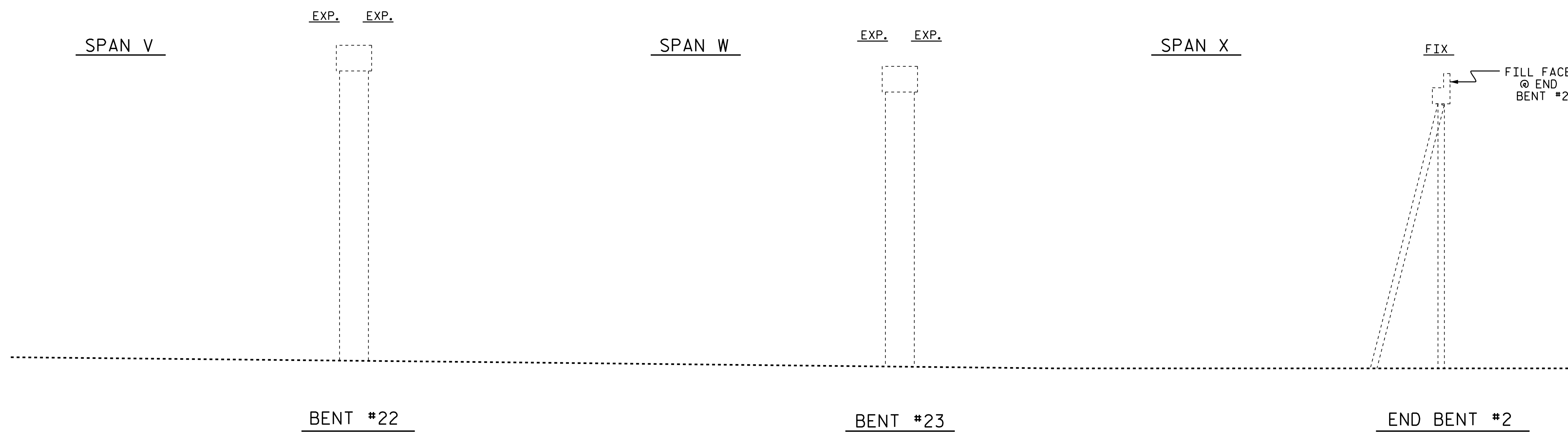
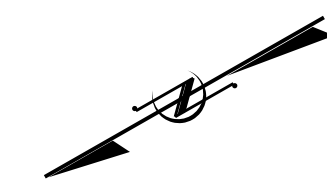
FOR BRIDGE #43 ON
US 17 SBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

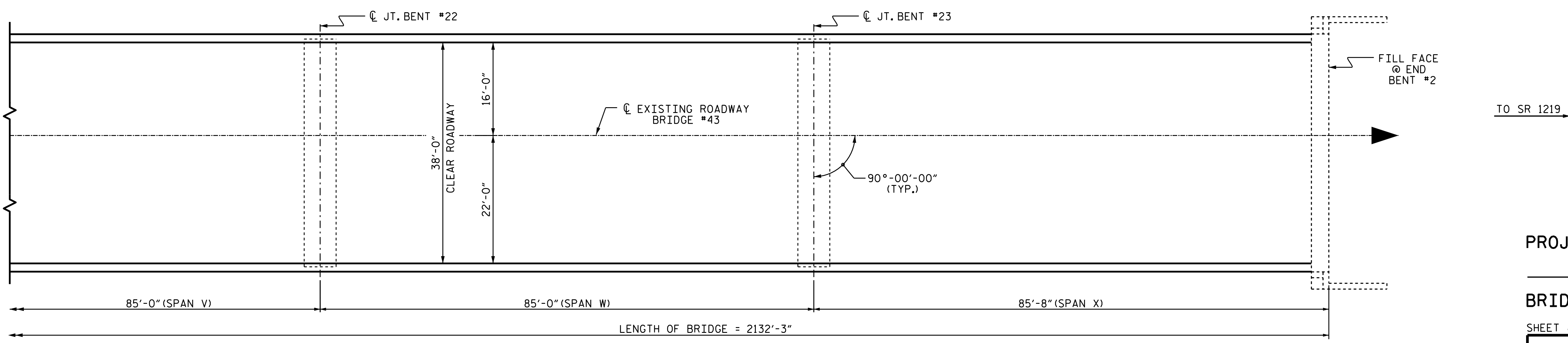
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FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | |
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| SHEET NO. | S-8 |
| TOTAL SHEETS | 103 |



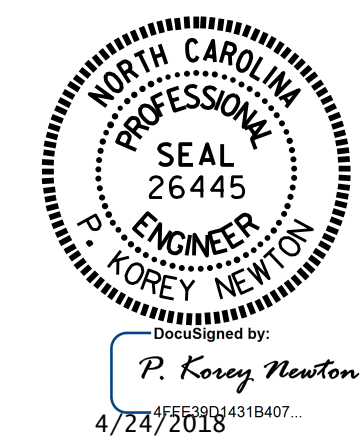
ELEVATION
(SECTION ALONG CL ROADWAY)



PLAN
(PILES NOT SHOWN IN
PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 8 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE #43 ON
 US 17 SBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

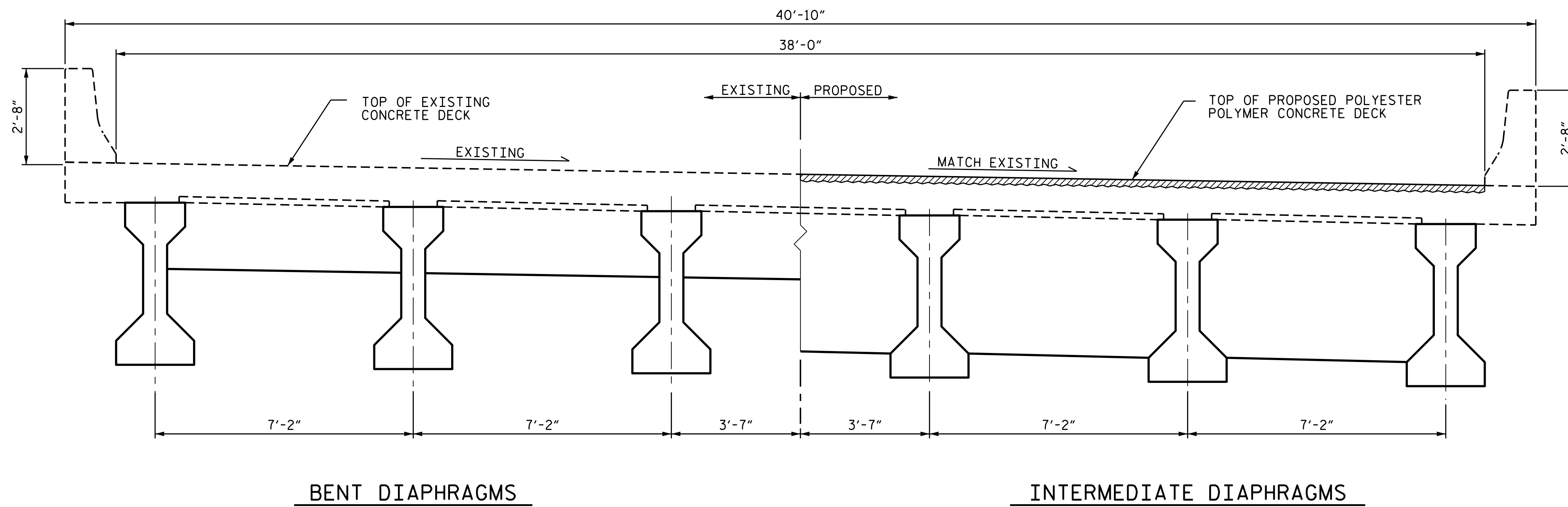
DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
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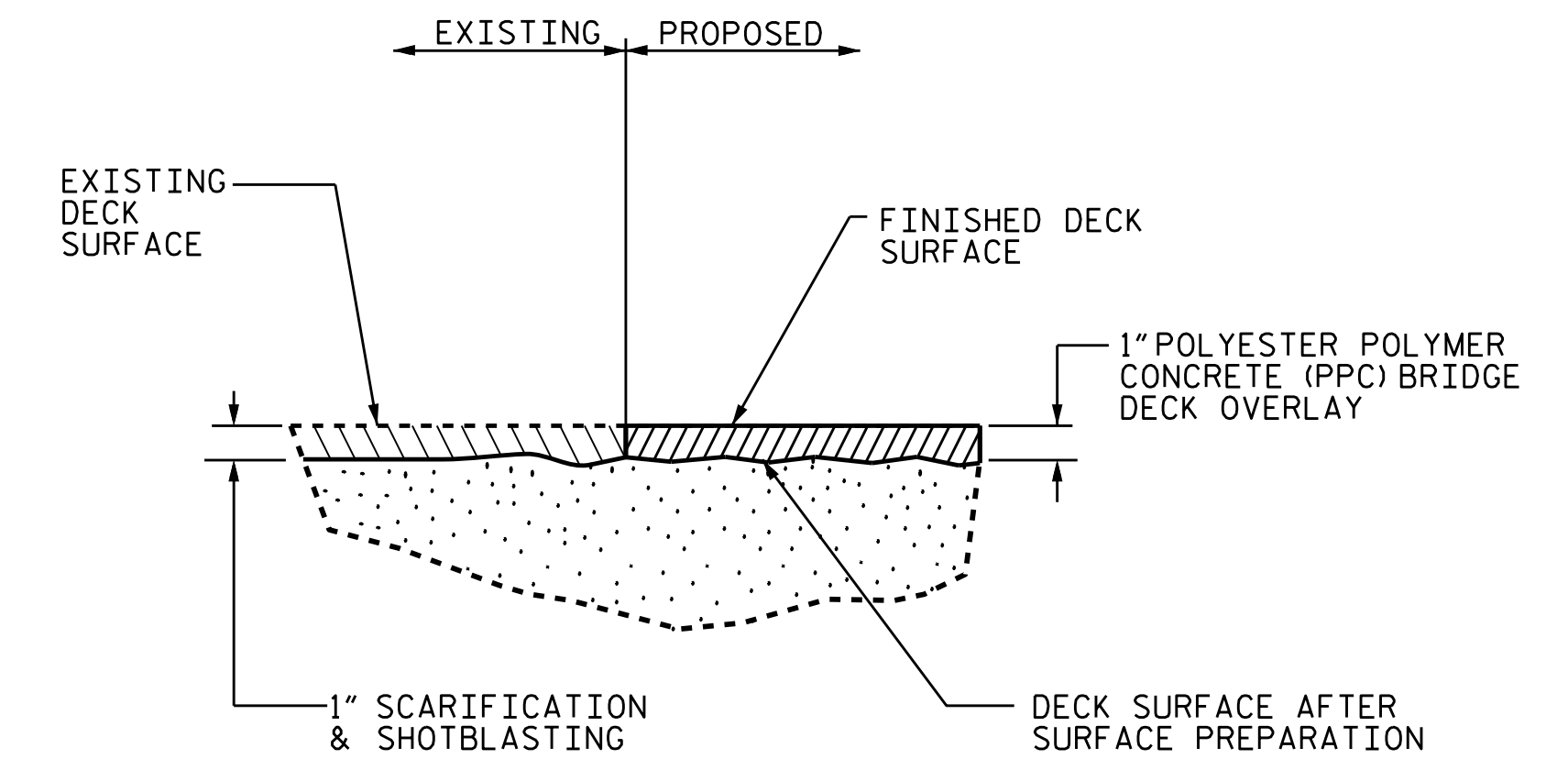
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| 2 | | | 4 | | | 103 |

NOTES

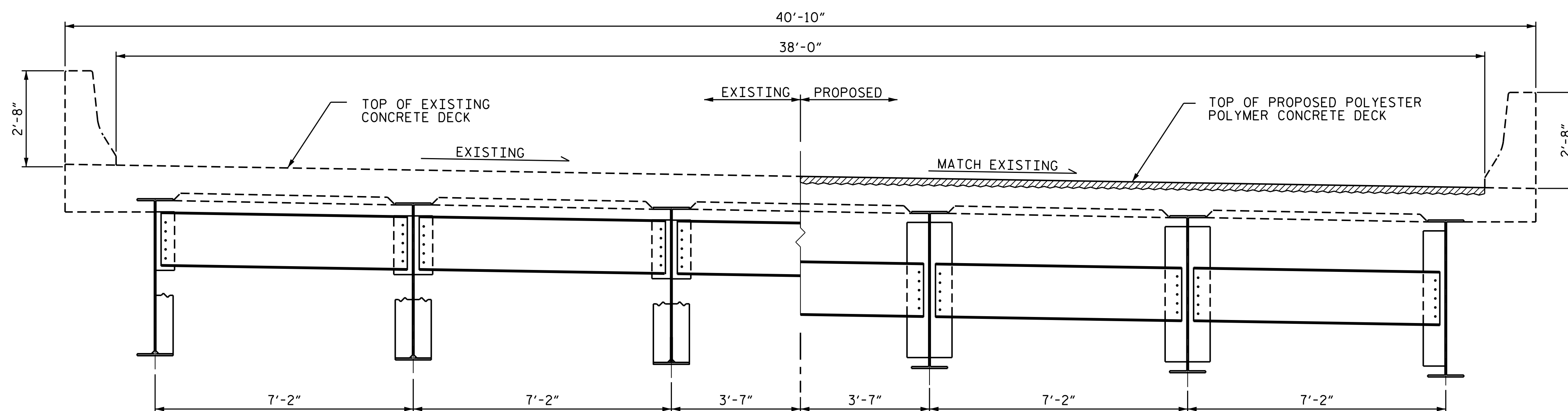
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE (PPC) SYSTEM AND SURFACE PREPARATION.



TYPICAL SECTION



DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY



BENT DIAPHRAGMS
(@ BENTS #9 & #13)

INTERMEDIATE DIAPHRAGMS
(@ SPANS #10 & #13)

TYPICAL SECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43



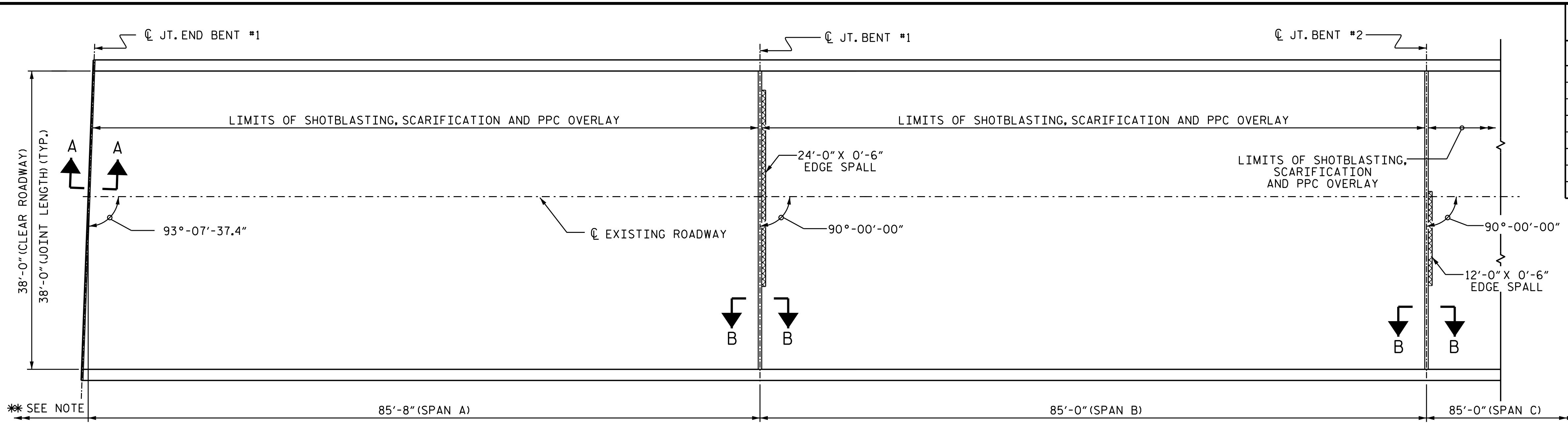
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
TYPICAL SECTION

DRAWN BY : S. T. SANDOR / P. D. BRYANT DATE : 02/2018
CHECKED BY : W. SMITH DATE : 03/2018

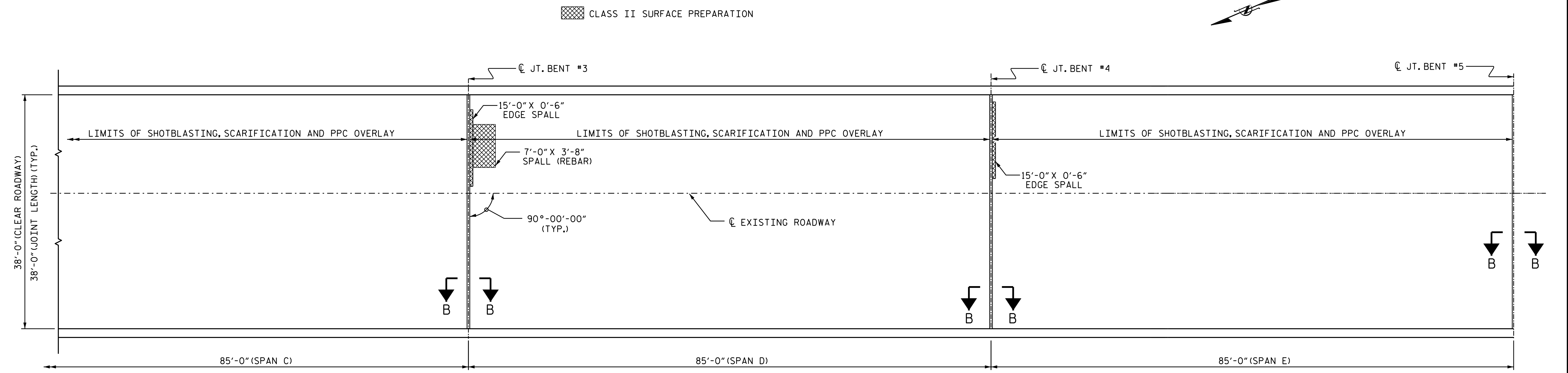
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FINAL UNLESS ALL
SIGNATURES COMPLETED

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| NO. | BY: | DATE: | NO. | BY: | DATE: | S-10 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 103 |



| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS A THRU E | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,797.8 SY | |
| CLASS II SURFACE PREPARATION | * 7.0 SY | |
| SHOTBLASTING BRIDGE DECK | 1,797.8 SY | |
| PPC MATERIALS | 50.0 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,797.8 SY | |
| BRIDGE DECK GROOVING | 14,724.0 SF | |
| CONCRETE FOR DECK REPAIR | * 7.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.
 ** FOR APPROACH SLABS, SEE SHEET S-103.



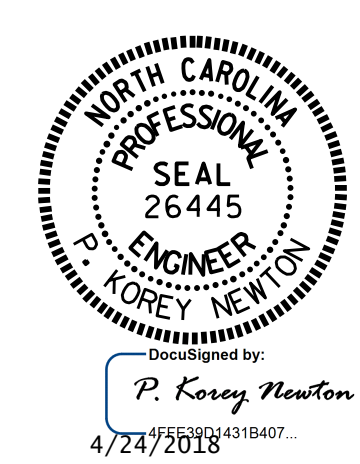
CLASS II SURFACE PREPARATION

PLAN OF SPANS

(FOR SECTIONS A-A & B-B, SEE "JOINT DETAILS" SHEET S-98)

PROJECT No. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 1 OF 7

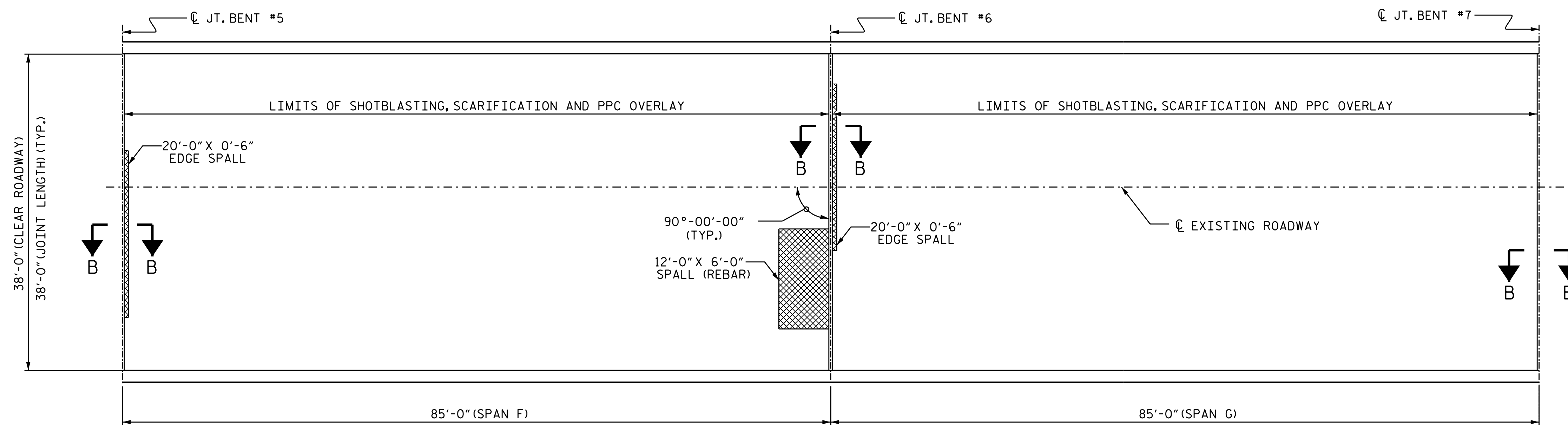


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

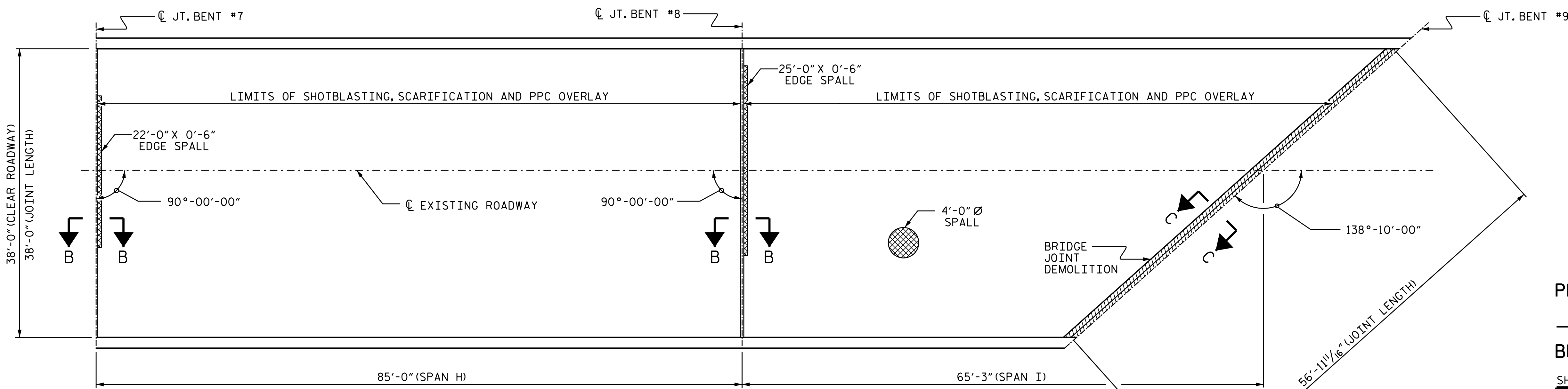
DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-11 |
| 2 | | | 4 | | | 103 |



CLASS II SURFACE PREPARATION



PLAN OF SPANS
 (FOR SECTIONS B-B & C-C,
 SEE "JOINT DETAILS" SHEETS S-98 & S-99)

SUMMARY OF QUANTITIES

SPANS F THRU I

| | ESTIMATE | ACTUAL |
|---------------------------------|-------------|--------|
| SCARIFYING BRIDGE DECK | 1,338.5 SY | |
| CLASS II SURFACE PREPARATION | * 15.5 SY | |
| SHOTBLASTING BRIDGE DECK | 1,338.5 SY | |
| PPC MATERIALS | 37.2 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,338.5 SY | |
| BRIDGE DECK GROOVING | 10,962.0 SF | |
| BRIDGE JOINT DEMOLITION | 28.5 SF | |
| CONCRETE FOR DECK REPAIR | * 15.5 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 2 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

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 SIGNATURES COMPLETED

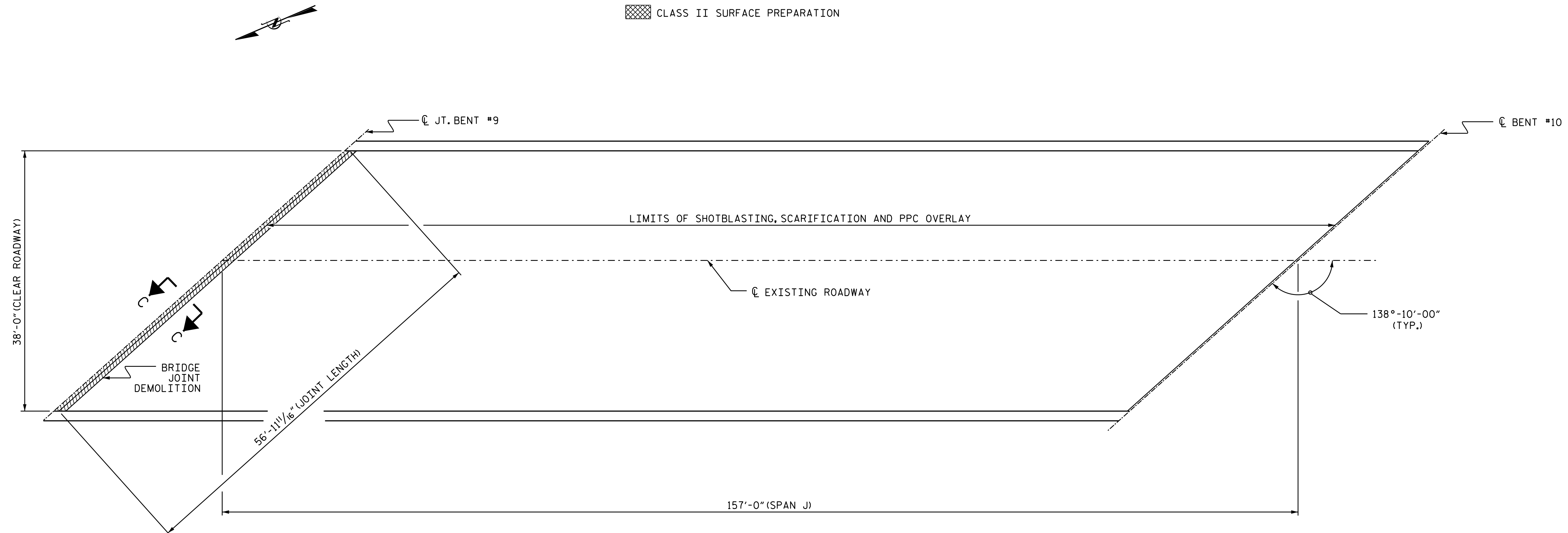
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|-----|-----------|-------|--|-----|-----------|-------|------------------|-----------|
| | BY: | DATE: | | | BY: | DATE: | | |
| 1 | | | | 3 | | | S-12 | |
| 2 | | | | 4 | | | TOTAL SHEETS 103 | |

SUMMARY OF QUANTITIES

| SPAN J | | |
|---------------------------------|------------|--------|
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 687.5 SY | |
| CLASS II SURFACE PREPARATION | * 1.0 SY | |
| SHOTBLASTING BRIDGE DECK | 687.5 SY | |
| PPC MATERIALS | 19.1 CY | |
| PLACING & FINISHING PPC OVERLAY | 687.5 SY | |
| BRIDGE DECK GROOVING | 5,631.0 SF | |
| BRIDGE JOINT DEMOLITION | 28.5 SF | |
| CONCRETE FOR DECK REPAIR | * 1.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

CLASS II SURFACE PREPARATION

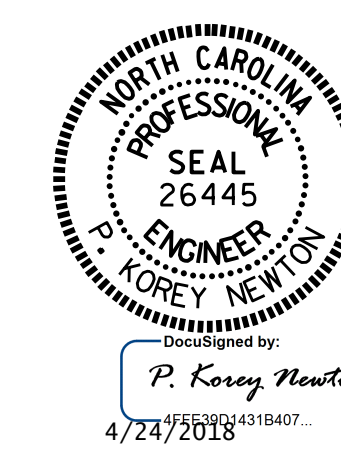


PLAN OF SPAN

(FOR SECTION C-C, SEE "JOINT DETAILS" SHEET S-98)

PROJECT No. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 3 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

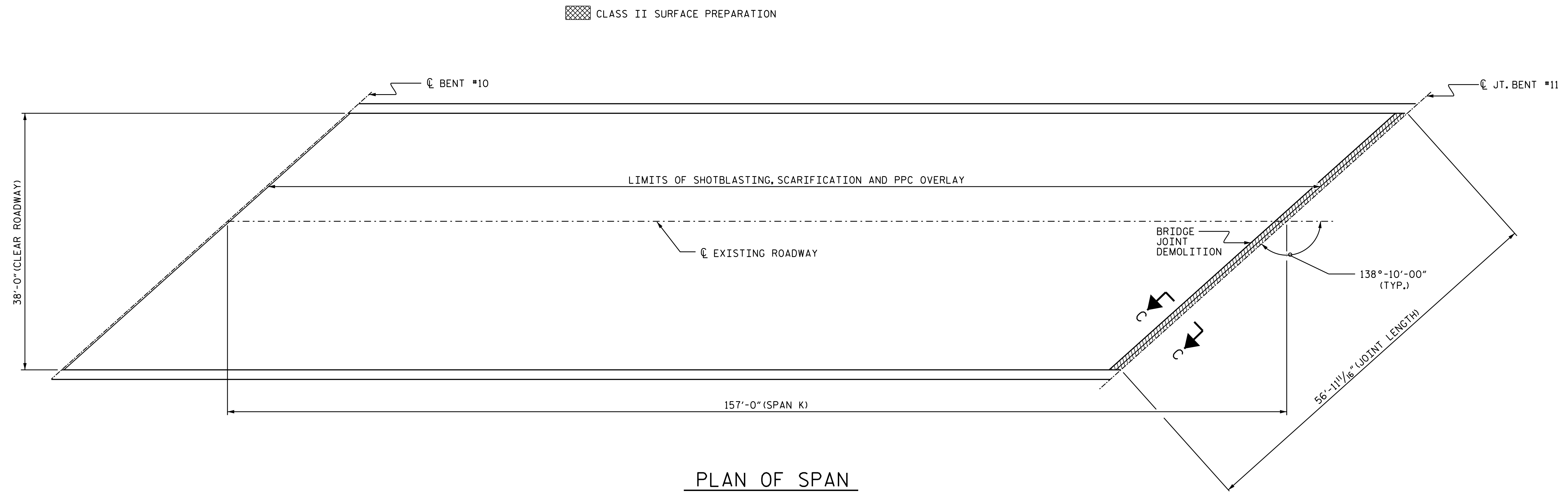
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-13 |
| 2 | | | 4 | | | 103 |

SUMMARY OF QUANTITIES

| SPAN K | | |
|---------------------------------|------------|--------|
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 687.5 SY | |
| CLASS II SURFACE PREPARATION | * 1.0 SY | |
| SHOTBLASTING BRIDGE DECK | 687.5 SY | |
| PPC MATERIALS | 19.1 CY | |
| PLACING & FINISHING PPC OVERLAY | 687.5 SY | |
| BRIDGE DECK GROOVING | 5,631.0 SF | |
| BRIDGE JOINT DEMOLITION | 28.5 SF | |
| CONCRETE FOR DECK REPAIR | * 1.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.



PLAN OF SPAN
 (FOR SECTIONS C-C,
 SEE "JOINT DETAILS" SHEET S-99)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 4 OF 7



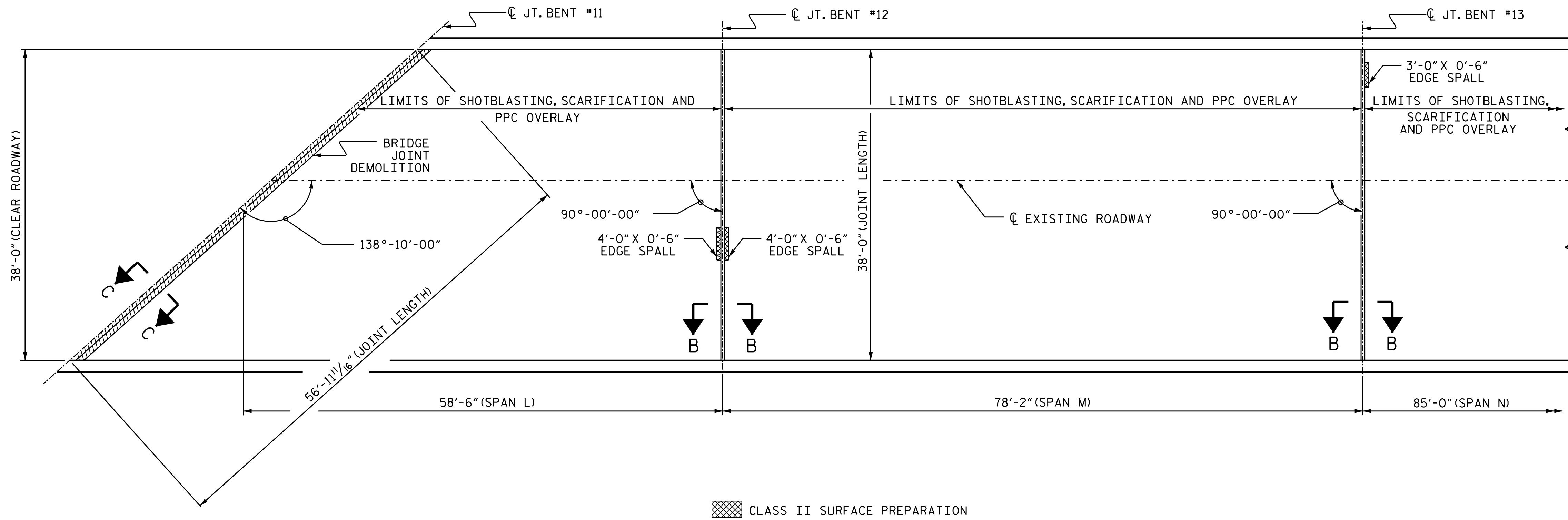
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 SURFACE PREPARATION
 & PPC OVERLAY**

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

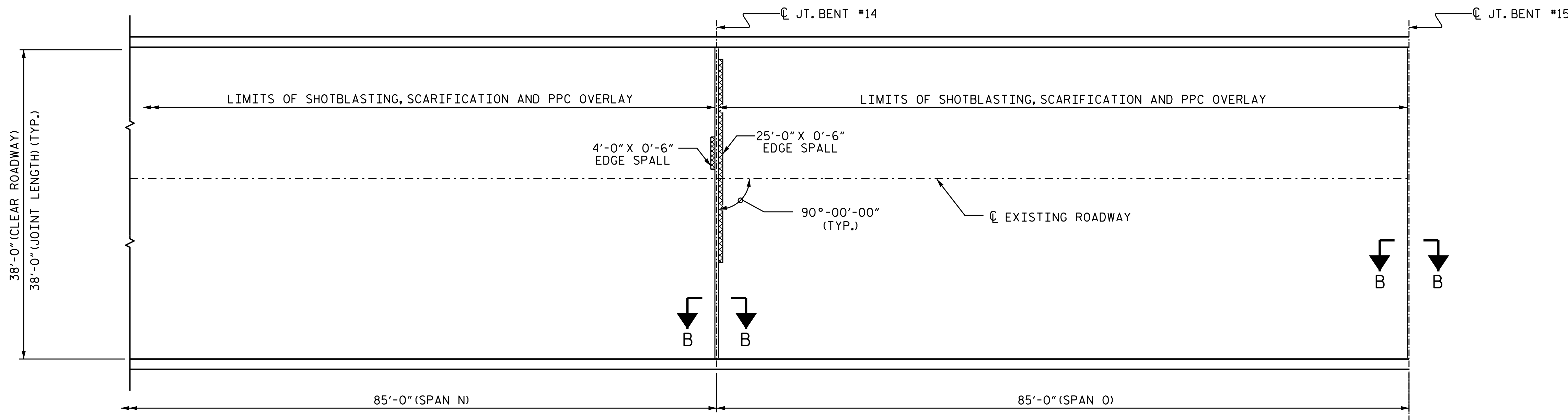
DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-14 |
| 2 | | | 4 | | | 103 |



| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS L THRU O | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,298.0 SY | |
| CLASS II SURFACE PREPARATION | * 4.0 SY | |
| SHOTBLASTING BRIDGE DECK | 1,298.0 SY | |
| PPC MATERIALS | 36.1 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,298.0 SY | |
| BRIDGE DECK GROOVING | 10,631.0 SF | |
| BRIDGE JOINT DEMOLITION | 28.5 SF | |
| CONCRETE FOR DECK REPAIR | * 4.0 SY | |

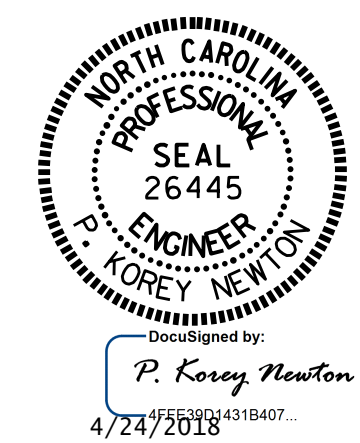
* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.



PLAN OF SPANS
(FOR SECTIONS B-B & C-C,
SEE "JOINT DETAILS" SHEET S-98 & S-99)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 43

SHEET 5 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

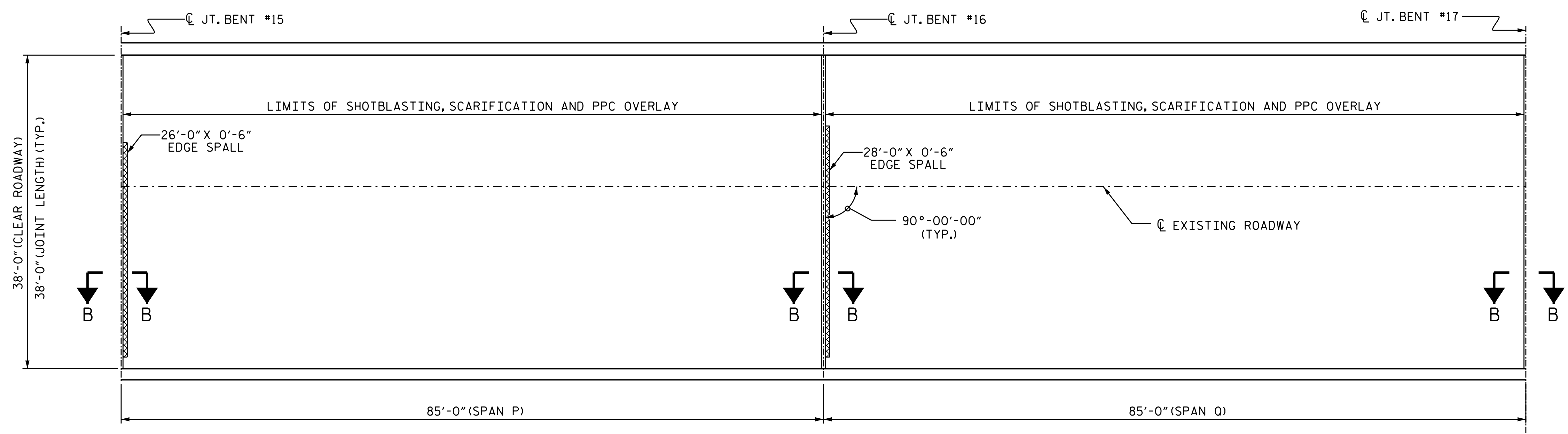
DRAWN BY : S. T. SANDOR DATE : 02/2018
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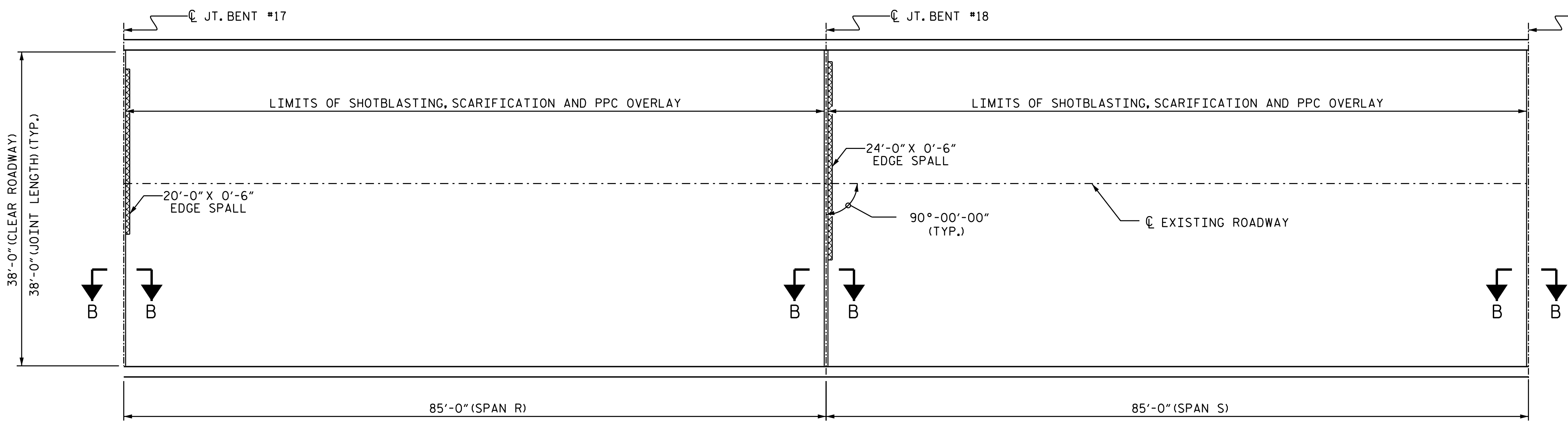
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| 1 | | | 3 | | | S-15 |
| 2 | | | 4 | | | 103 |

| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS P THRU S | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,435.6 SY | |
| CLASS II SURFACE PREPARATION | * 6.5 SY | |
| SHOTBLASTING BRIDGE DECK | 1,435.6 SY | |
| PPC MATERIALS | 39.9 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,435.6 SY | |
| BRIDGE DECK GROOVING | 11,758.0 SF | |
| CONCRETE FOR DECK REPAIR | * 6.5 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.



CLASS II SURFACE PREPARATION



PLAN OF SPANS
(FOR SECTION B-B,
SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 43

SHEET 6 OF 7



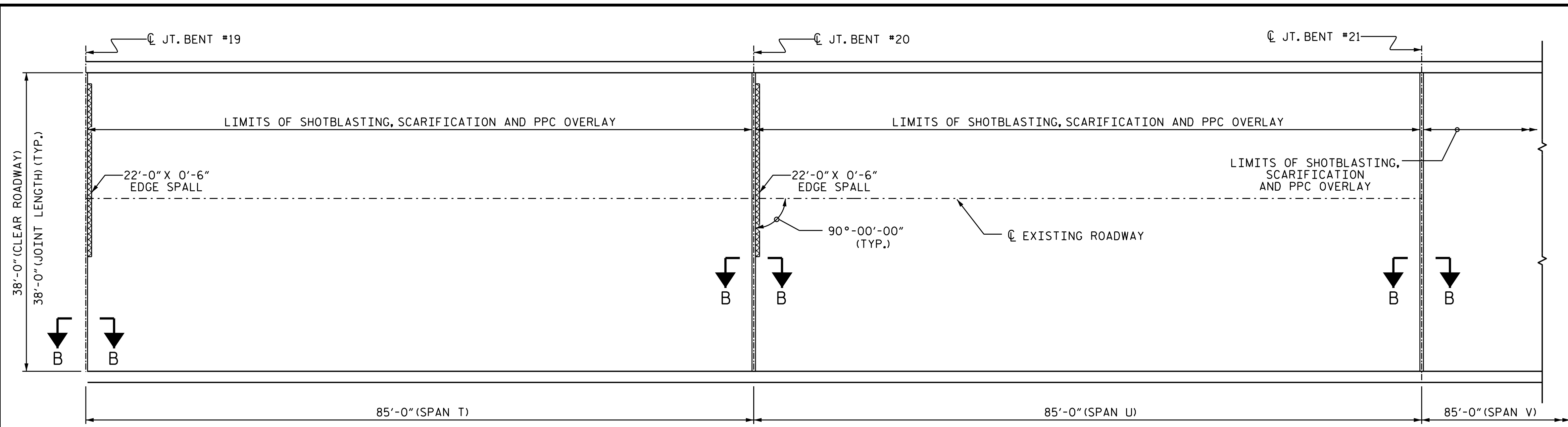
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

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CHECKED BY : W. SMITH DATE : 02/2018

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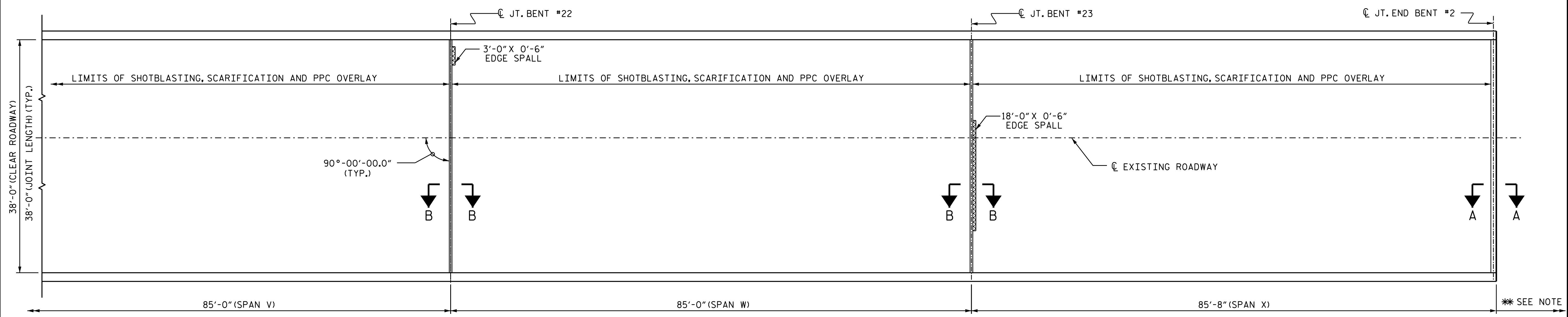
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-16 |
| 2 | | | 4 | | | 103 |



| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS T THRU X | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,794.4 SY | |
| CLASS II SURFACE PREPARATION | * 4.5 SY | |
| SHOTBLASTING BRIDGE DECK | 1,794.4 SY | |
| PPC MATERIALS | 49.8 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,794.4 SY | |
| BRIDGE DECK GROOVING | 14,696.0 SF | |
| CONCRETE FOR DECK REPAIR | * 4.5 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.
 ** FOR APPROACH SLABS, SEE SHEET S-103.

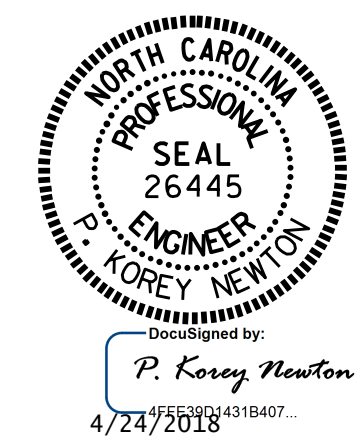
CLASS II SURFACE PREPARATION



PLAN OF SPANS
 (FOR SECTIONS A-A & B-B,
 SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 7 OF 7

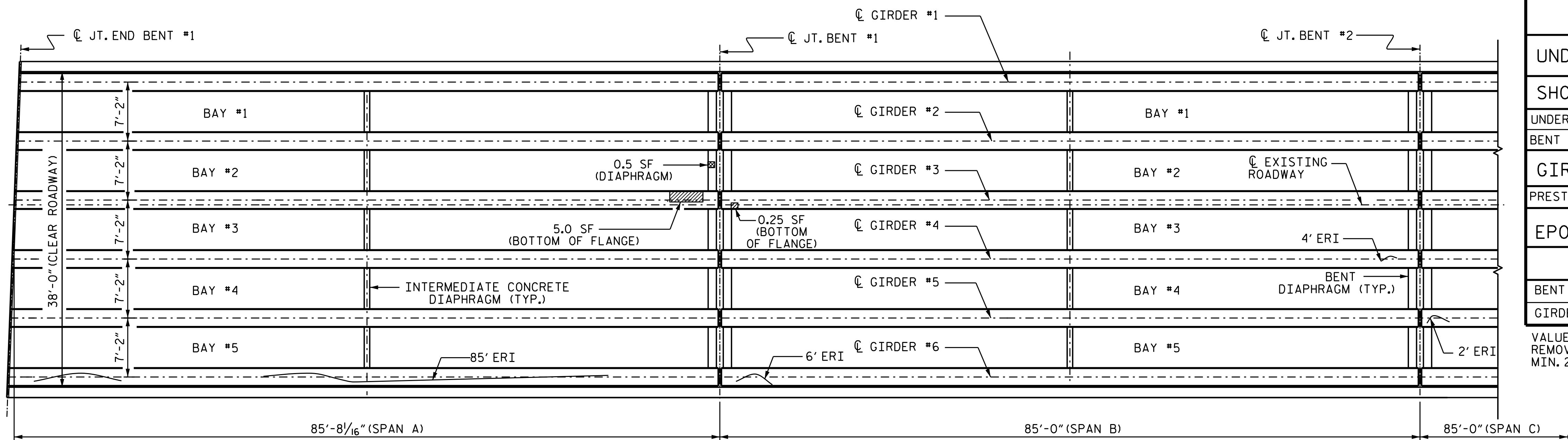


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
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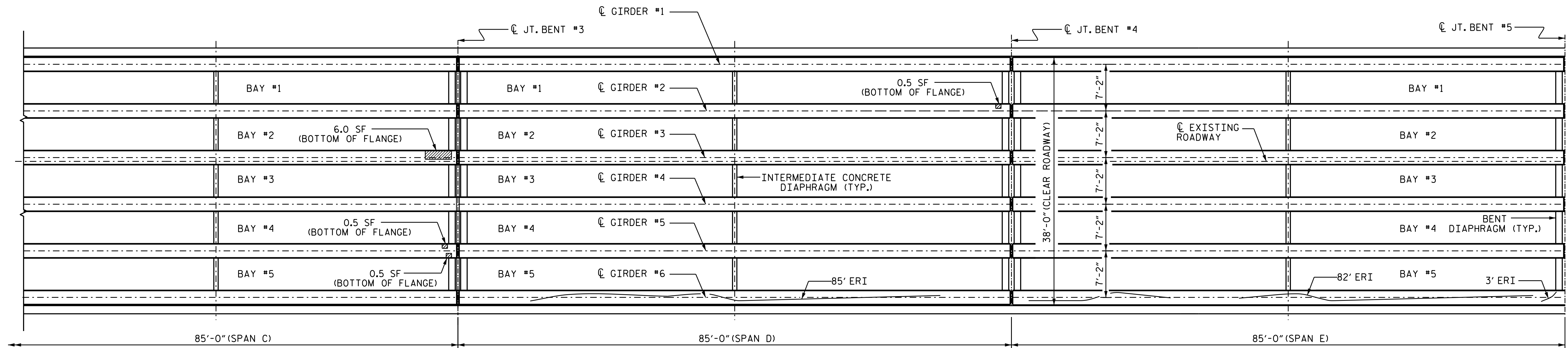
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-17 |
| 2 | | | 4 | | | 103 |



PLAN OF SPANS
(UNDERSIDE)

| REPAIR QUANTITY TABLE | | | | |
|------------------------------|----------------|----------------|----------------|----------------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | | | | |
| BENT DIAPHRAGMS | 0.5 | 0.25 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 12.75 | 6.37 | | |
| EPOXY RESIN INJECTION | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| | LENGTH LN. FT. | LENGTH LN. FT. | LENGTH LN. FT. | LENGTH LN. FT. |
| BENT DIAPHRAGMS | 0.0 | | | |
| GIRDERS | 267.0 | | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

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PROJECT No. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 43

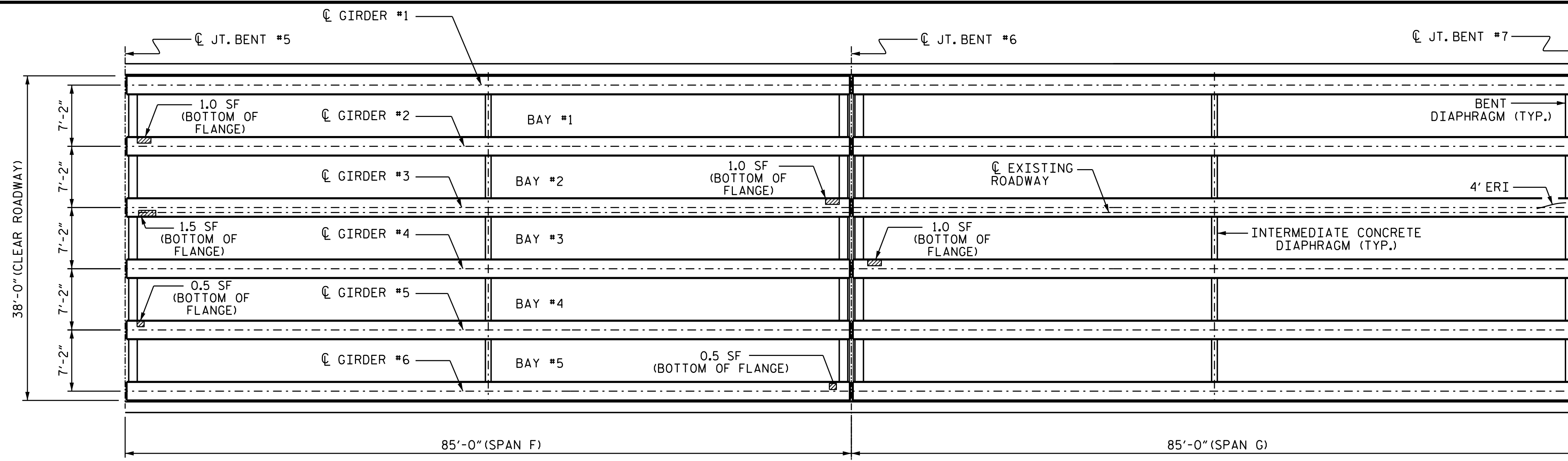
SHEET 1 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER & DIAPHRAGM REPAIR
SPANS A THRU E

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

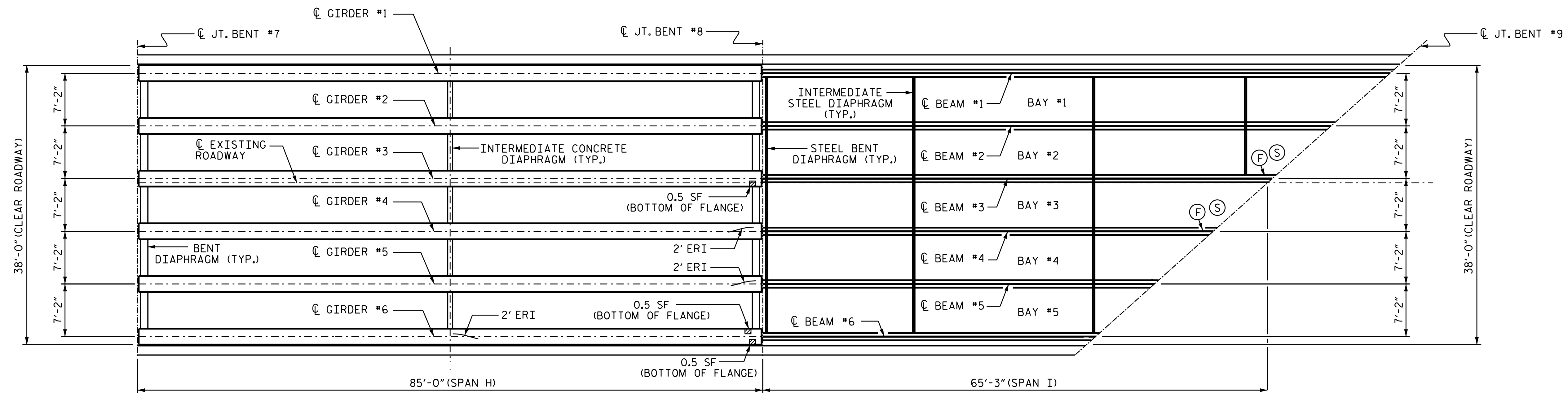
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-18 |
| 2 | | | 4 | | | 103 |



PLAN OF SPANS
(UNDERSIDE)

| REPAIR QUANTITY TABLE | | | | |
|------------------------------|------------|-----------|---------|-----------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 7.0 | 3.5 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 10.0 | | |
| STRUCTURAL STEEL REPAIRS | | | | |
| | SPAN I | | | |
| | ESTIMATE | | ACTUAL | |
| | LBS. | | LBS. | |
| STIFFENER REPAIRS | 50.0 | | | |
| WEB REPAIRS | 0.0 | | | |
| BOTTOM FLANGE REPAIRS | 120.0 | | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

- (W) - WEB REPAIR
- (F) - FLANGE REPAIR
- (S) - STIFFENER REPAIR
- (D) - DIAPHRAGM REPAIR
- (G) - GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS," SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

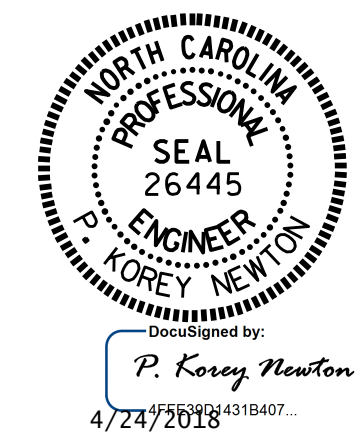
FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.



PROJECT No. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 43

SHEET 2 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER & DIAPHRAGM REPAIR SPANS F THRU I

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

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| NO. | REVISIONS | | NO. | REVISIONS | | SHEET NO. |
|-----|-----------|-------|-----|-----------|-------|------------------|
| | BY: | DATE: | | BY: | DATE: | |
| 1 | | | 3 | | | S-19 |
| 2 | | | 4 | | | TOTAL SHEETS 103 |

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS," SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

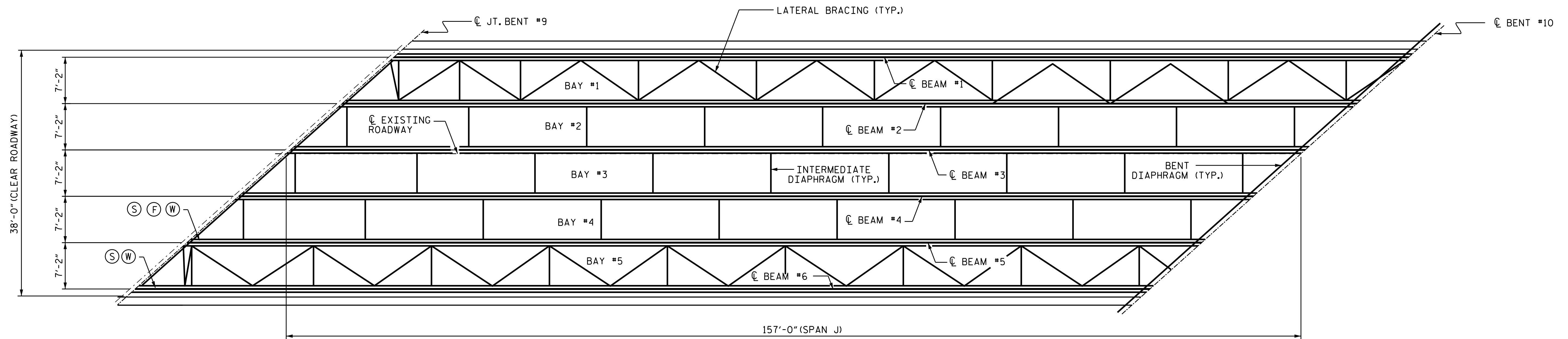
UNDERSIDE OF DECK REPAIRS

| SHOTCRETE REPAIRS | SPAN J | | | |
|---------------------------------|----------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANGS | 0.0 | 0.0 | | |
| EDGE BEAMS | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | ESTIMATE | | ACTUAL | |
| UNDERSIDE EPOXY RESIN INJECTION | 0.0 LF | | | |

STRUCTURAL STEEL REPAIRS

| | SPAN J | |
|-----------------------|----------|--------|
| | ESTIMATE | ACTUAL |
| | LBS. | LBS. |
| STIFFENER REPAIRS | 50.0 | |
| WEB REPAIRS | 120.0 | |
| BOTTOM FLANGE REPAIRS | 60.0 | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



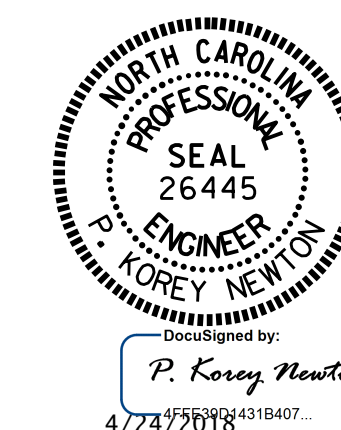
PLAN OF SPANS

(UNDERSIDE)

- (G) STEEL PLATING REPAIR
- (F) WEB REPAIR
- (S) - STIFFENER REPAIR
- [Hatched Box] - SHOTCRETE REPAIR
- ERI - EPOXY RESIN INJECTION

PROJECT No. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 3 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 GIRDER & DIAPHRAGM REPAIR
 SPAN J

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-20 |
| 2 | | | 4 | | | 103 |

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS." SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

REPAIR QUANTITY TABLE

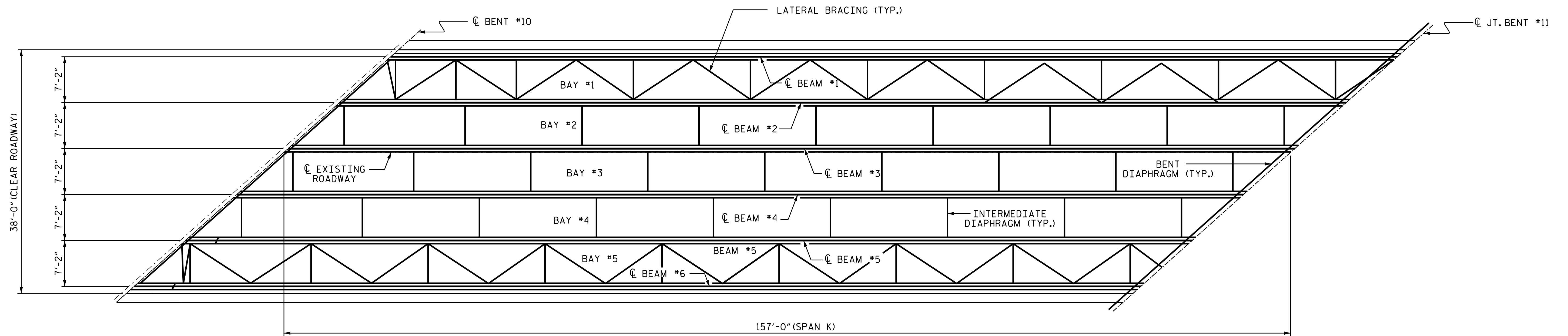
UNDERSIDE OF DECK REPAIRS

| SHOTCRETE REPAIRS | SPAN K | | | |
|---------------------------------|----------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANGS | 0.0 | 0.0 | | |
| EDGE BEAMS | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | ESTIMATE | | ACTUAL | |
| UNDERSIDE EPOXY RESIN INJECTION | 0.0 LF | | | |

STRUCTURAL STEEL REPAIRS

| | SPAN K | |
|-----------------------|----------|--------|
| | ESTIMATE | ACTUAL |
| | LBS. | LBS. |
| STIFFENER REPAIRS | 0.0 | |
| WEB REPAIRS | 0.0 | |
| BOTTOM FLANGE REPAIRS | 0.0 | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS

(UNDERSIDE)

- (W) - WEB REPAIR
- (F) - FLANGE REPAIR
- (S) - STIFFENER REPAIR
- [Hatched Box] - SHOTCRETE REPAIR
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE No. 43

SHEET 4 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
GIRDER & DIAPHRAGM REPAIR
SPAN K

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

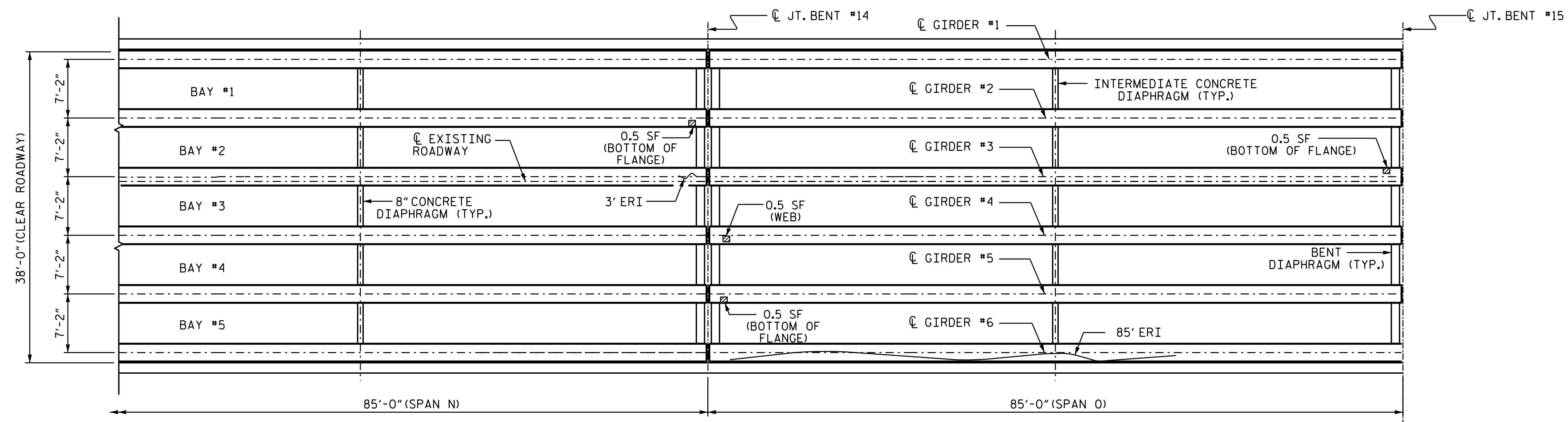
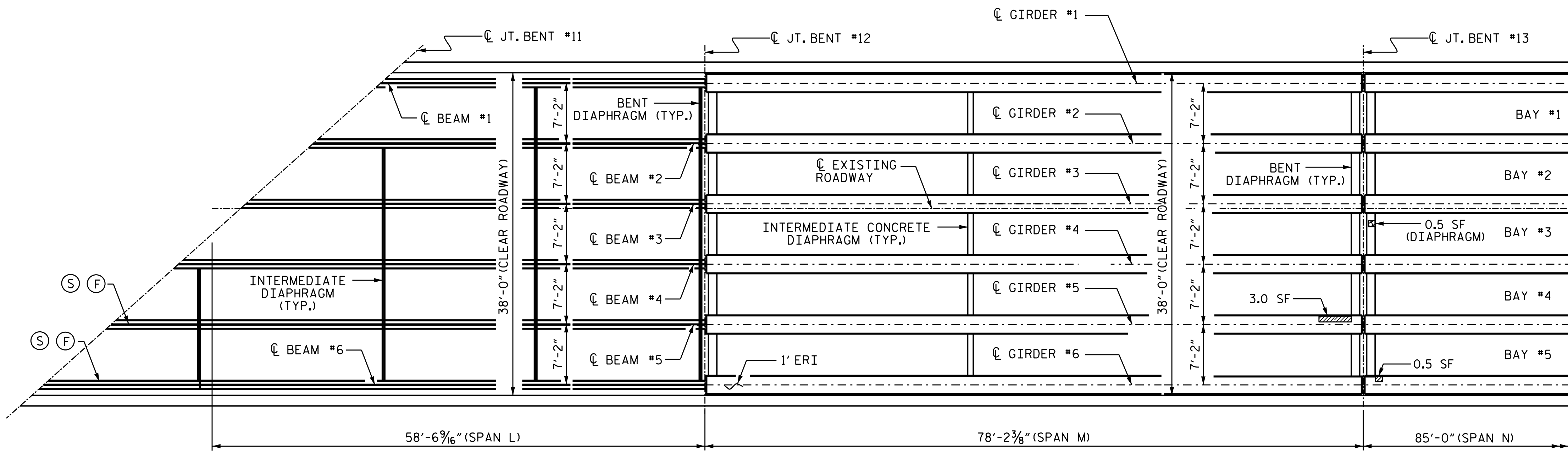
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| REVISIONS | | | | | | SHEET NO. |
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-21 |
| 2 | | | 4 | | | 103 |

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK | QUANTITIES | | | |
|------------------------------|------------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.5 | 0.25 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 5.5 | 2.75 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 89.0 | | |
| STRUCTURAL STEEL REPAIRS | | | | |
| | | SPAN L | | |
| | | ESTIMATE | ACTUAL | |
| | | LBS. | LBS. | |
| STIFFENER REPAIRS | | 50.0 | | |
| WEB REPAIRS | | 0.0 | | |
| BOTTOM FLANGE REPAIRS | | 200.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



- Ⓜ - WEB REPAIR
- ⓕ - FLANGE REPAIR
- Ⓢ - STIFFENER REPAIR
- ▨ - DIAPHRAGM REPAIR
- ▩ - GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

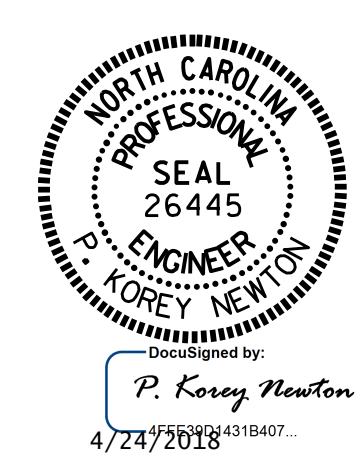
PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 43

SHEET 5 OF 7

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE

GIRDER & DIAPHRAGM REPAIR
 SPANS L THRU O



NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS." SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

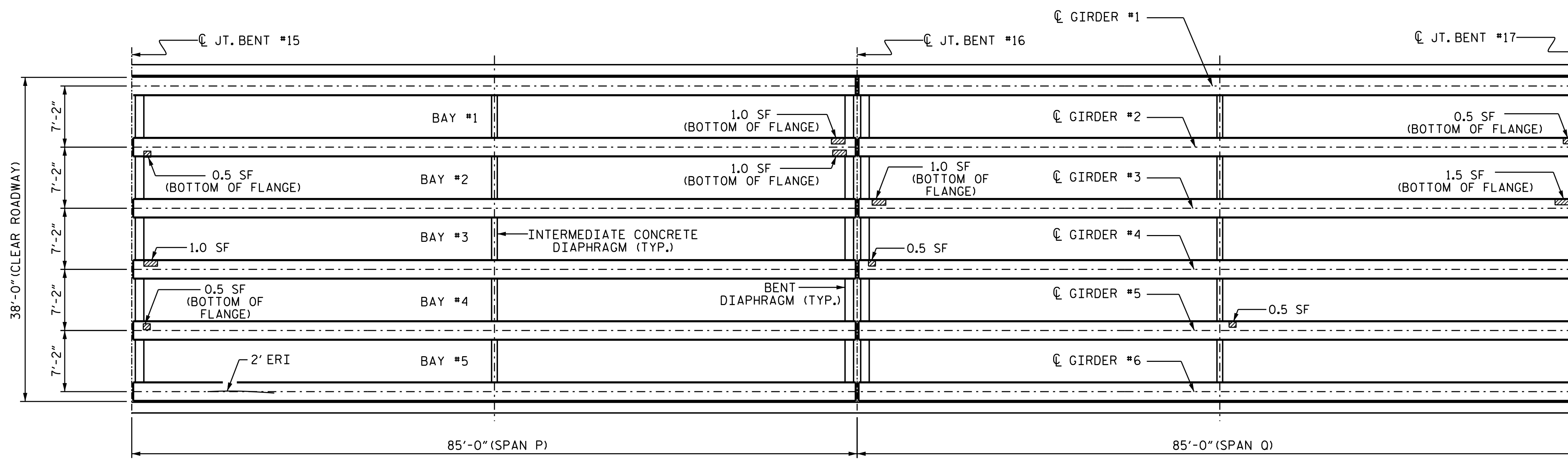
FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.

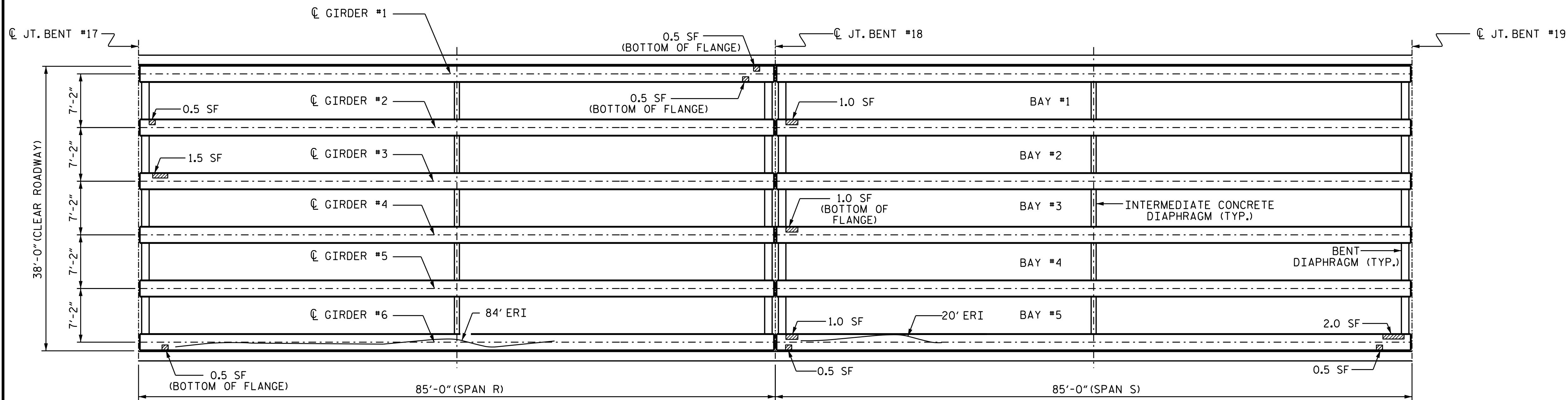
DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
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| 1 | | | 3 | | | S-22 |
| 2 | | | 4 | | | 103 |



PLAN OF SPANS
(UNDERSIDE)



PLAN OF SPANS
(UNDERSIDE)

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK | QUANTITIES | | | |
|------------------------------|------------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 17.5 | 8.8 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 106.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

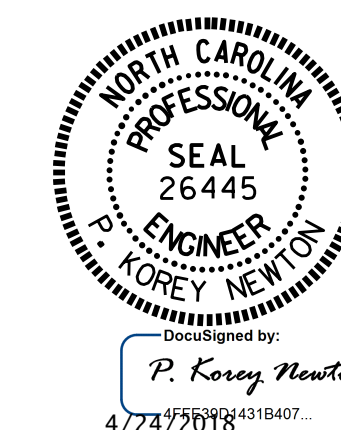
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

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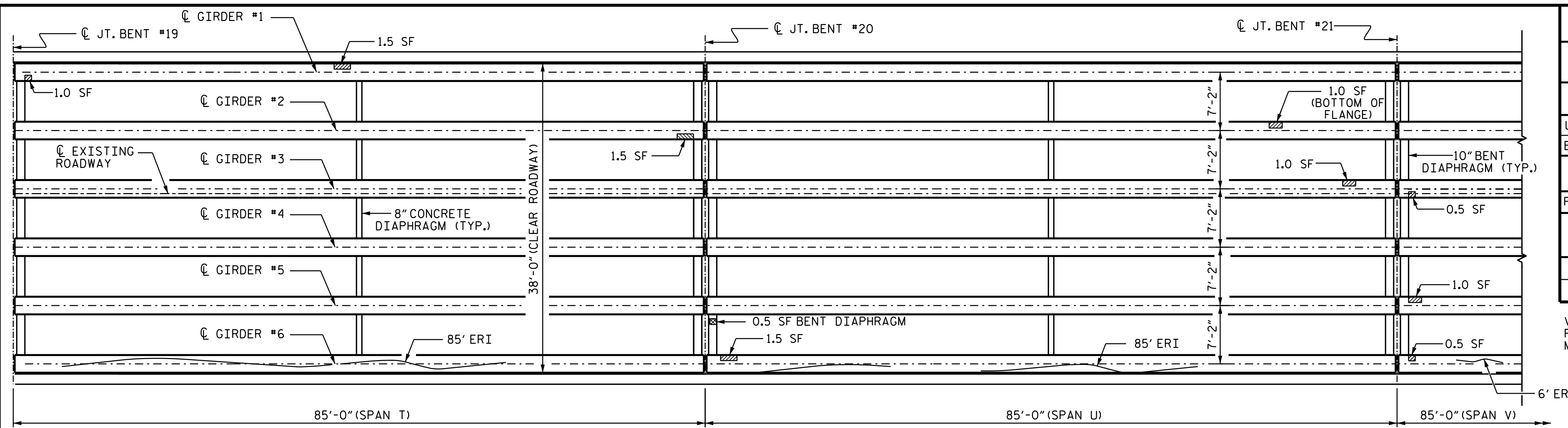


PROJECT NO. I-5850A
CAMDEN COUNTY
BRIDGE No. 43

SHEET 6 OF 7

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| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | | SHEET NO. |
| SUPERSTRUCTURE | | | | | | S-23 |
| GIRDER & DIAPHRAGM REPAIR SPANS P THRU S | | | | | | |
| REVISIONS | | | | | | TOTAL SHEETS 103 |
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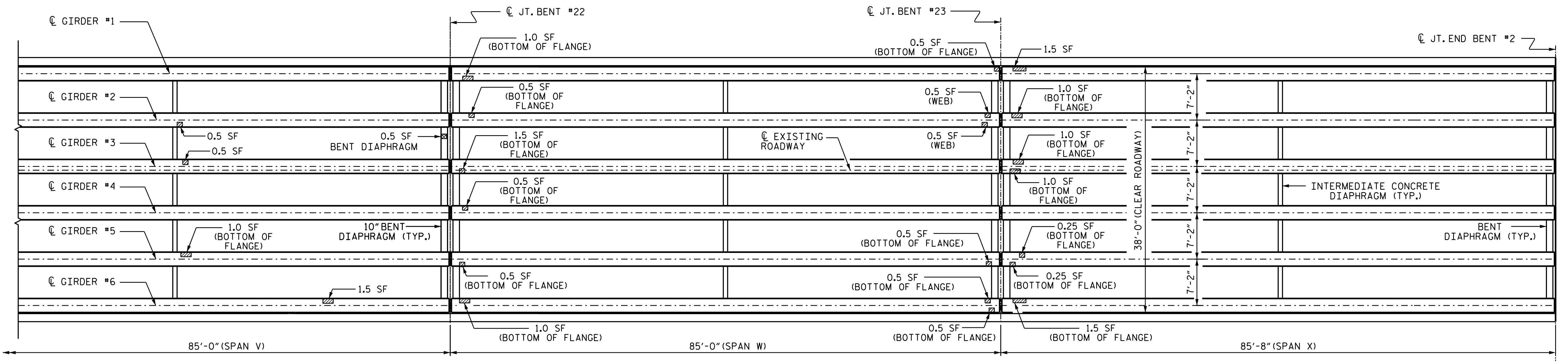
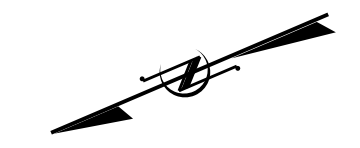
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PLAN OF SPANS
(UNDERSIDE)

| REPAIR QUANTITY TABLE | | | | |
|------------------------------|------------|-----------|---------|-----------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 1.0 | 0.5 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 27.5 | 13.75 | | |
| EPOXY RESIN INJECTION | | LN. FT | LN. FT | |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 176.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

PROJECT NO. _____
CAMDEN COUNTY
BRIDGE No. 43

SHEET 7 OF 7

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

NOTES:

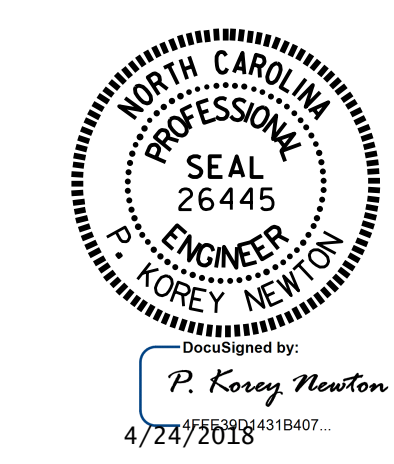
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FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER & DIAPHRAGM REPAIR
SPANS T THRU X

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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| NO. | BY: | DATE: | NO. | BY: | DATE: | S-24 |
| 1 | | | 3 | | | TOTAL SHEETS 103 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| END BENT 1 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 141.0 | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

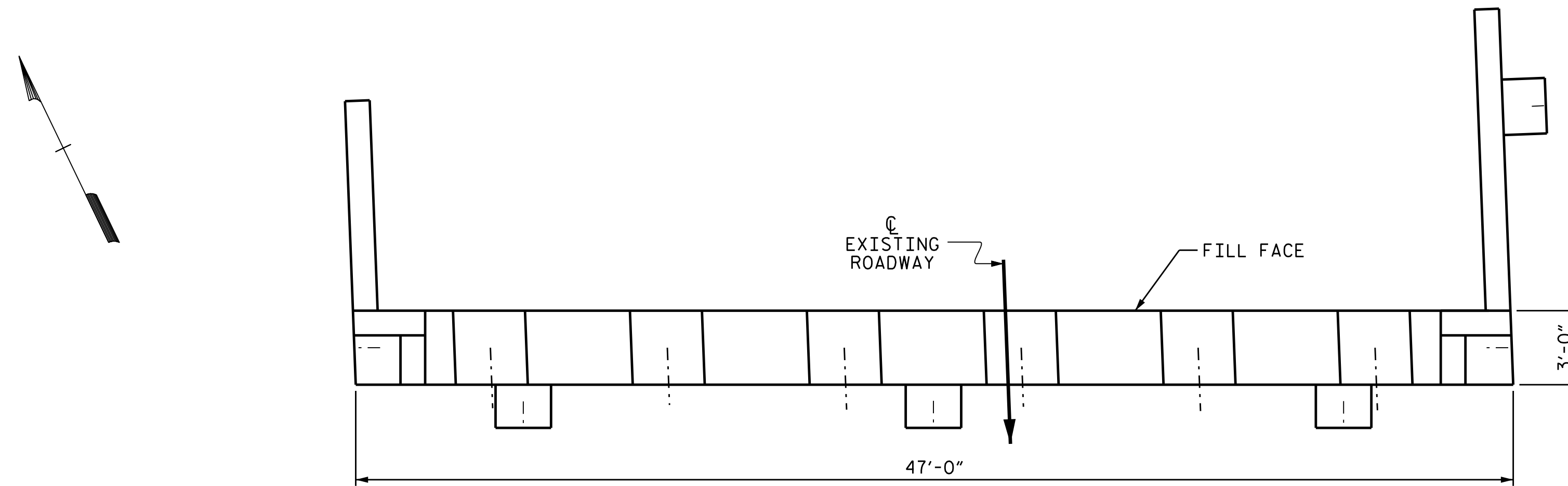
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

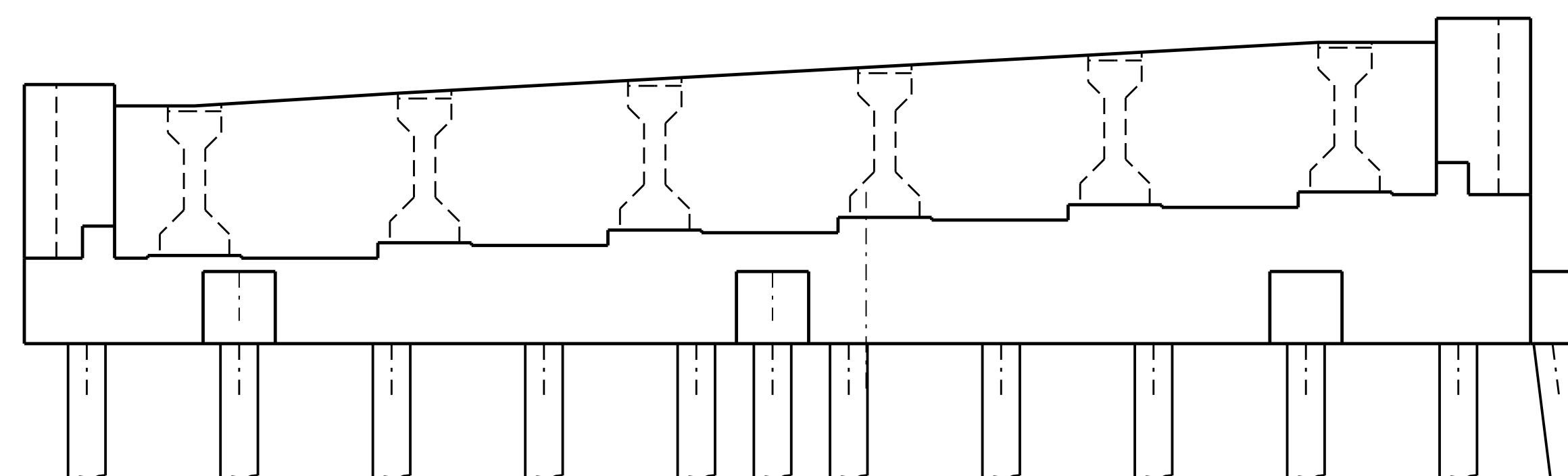
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



PLAN OF CAP
TOP OF CAP



ELEVATION
SOUTH SIDE

SHOTCRETE REPAIRS

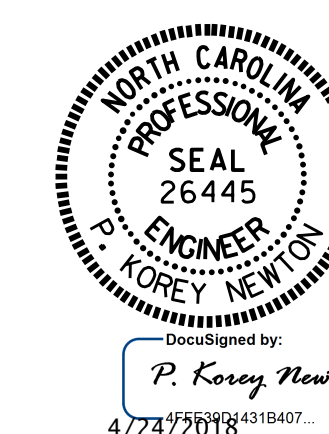
ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE NO. 43

SHEET 1 OF 25



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P. Corey Newton
4/24/2018 4:18:40 PM

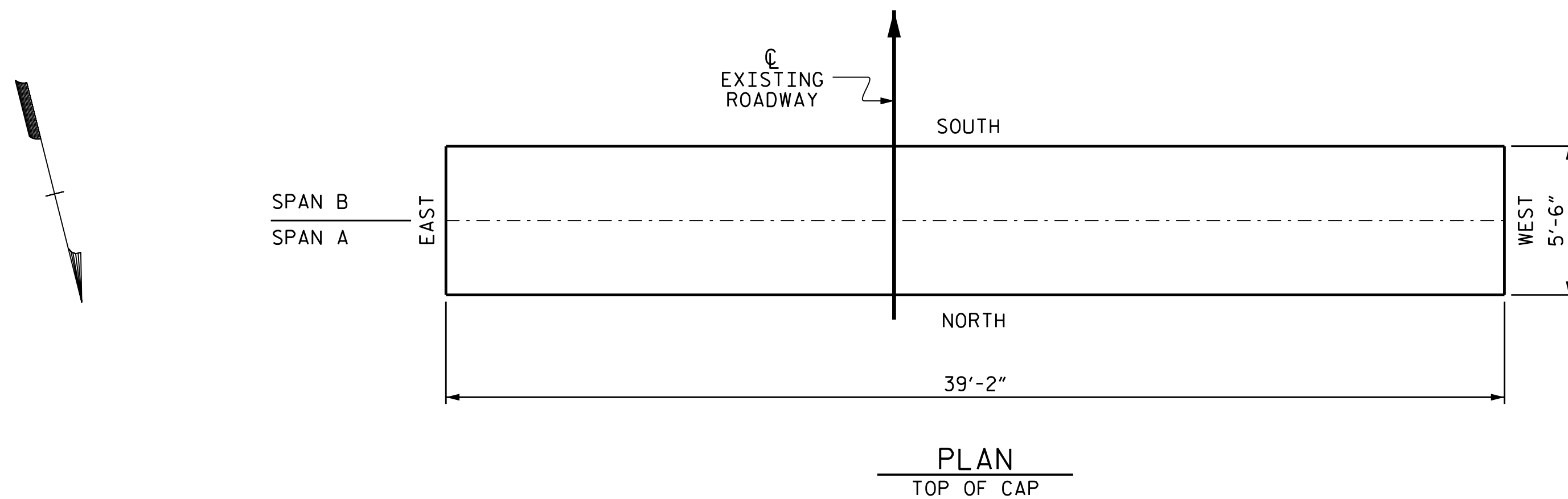
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1

DRAWN BY : P.D. BRYANT DATE : 03/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-25 |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

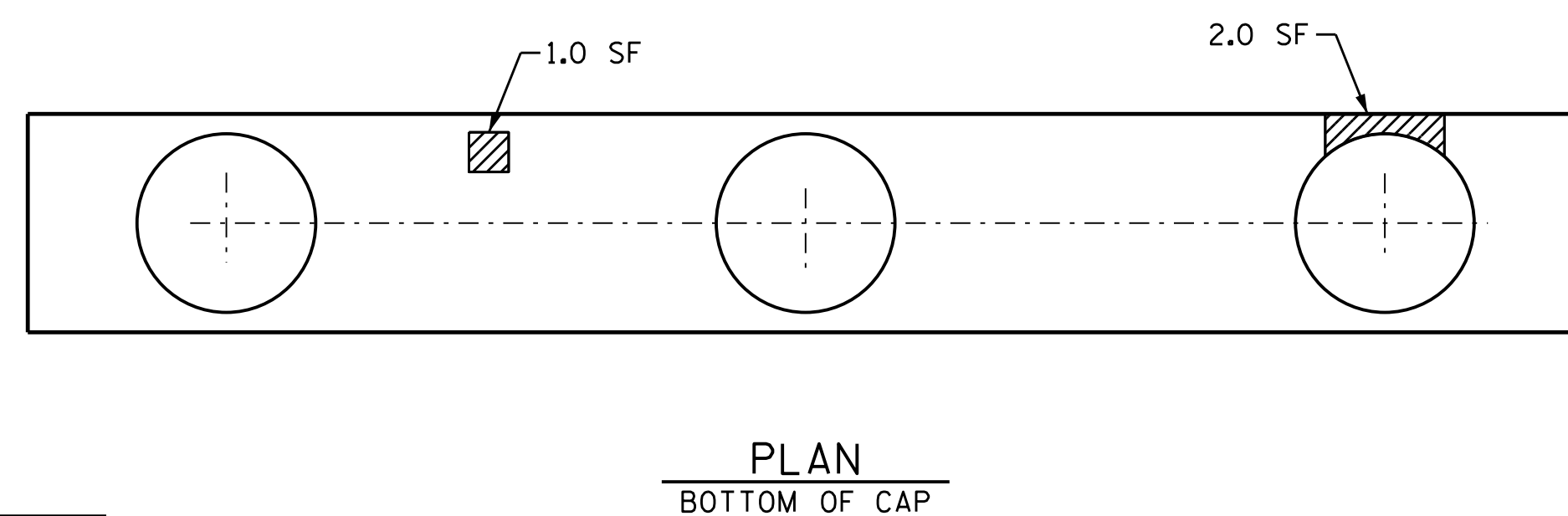
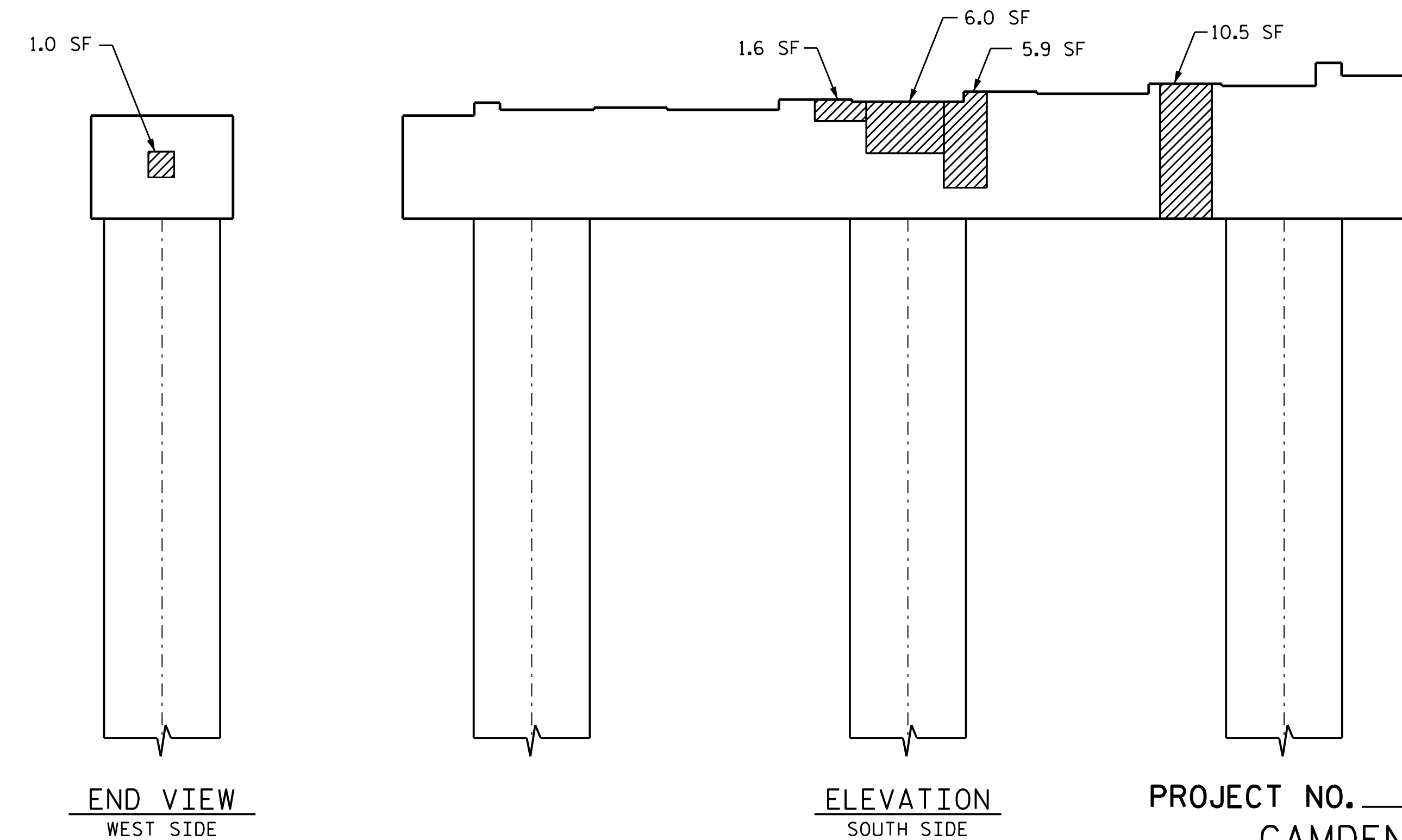
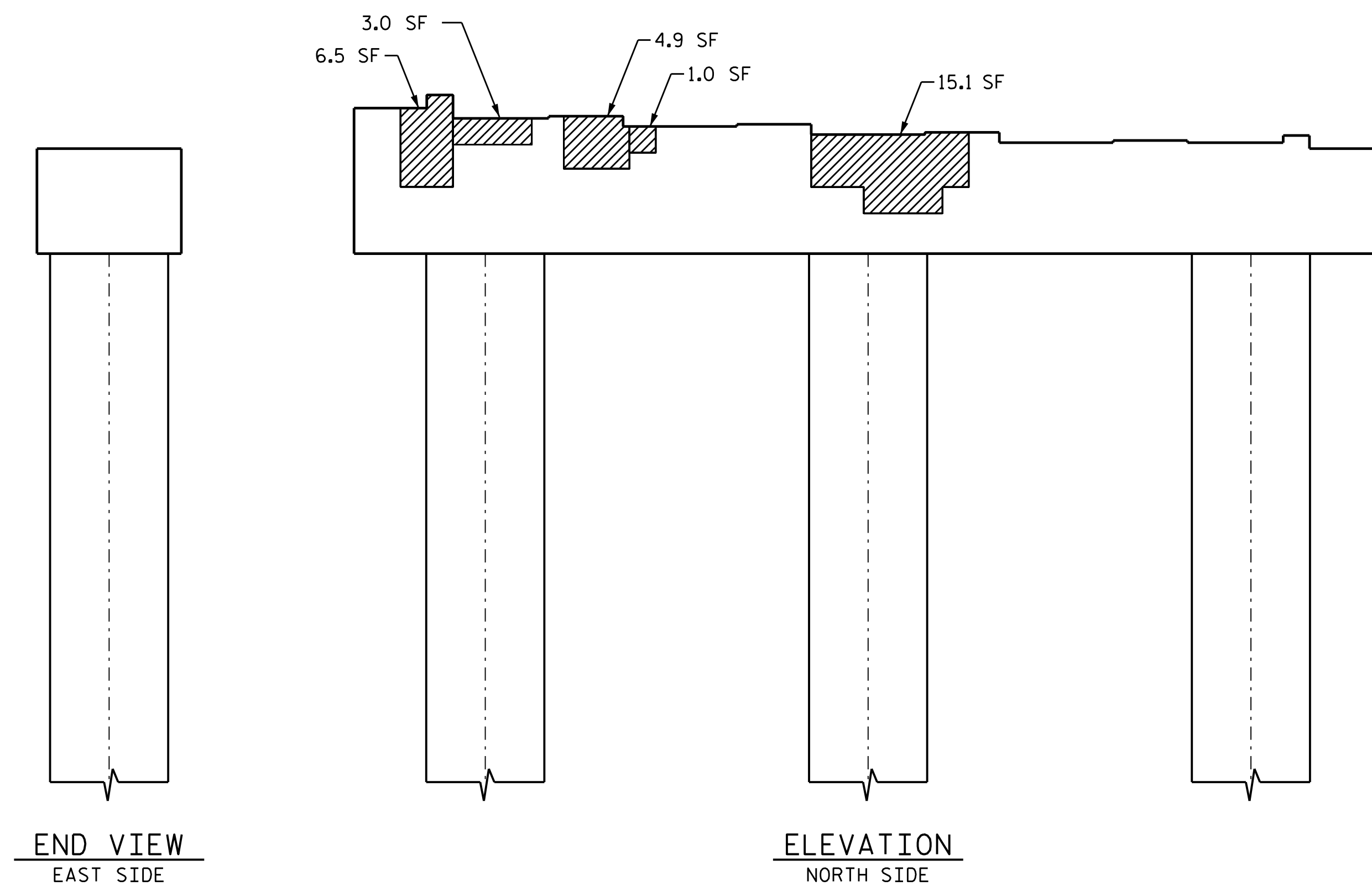
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 1 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 55.5 | 27.8 | | |
| CAP (HORIZONTAL FACE) | 3.0 | 1.5 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS

ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 2 OF 25

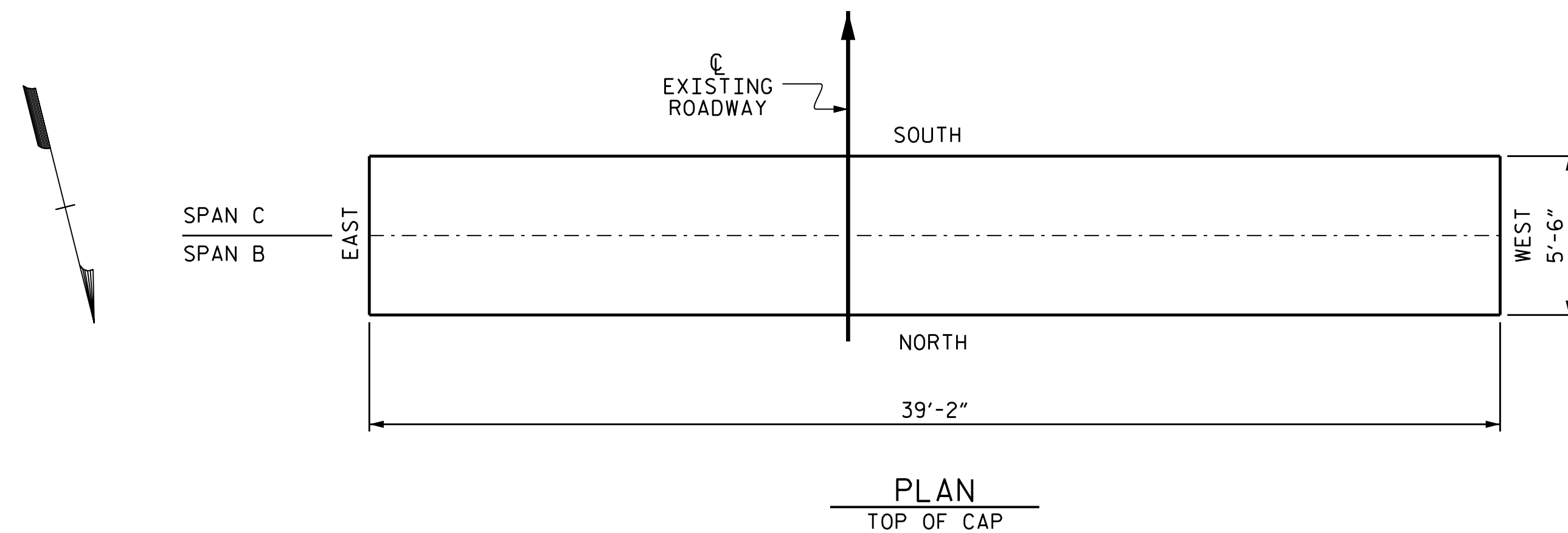
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
BENT 1**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-26 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

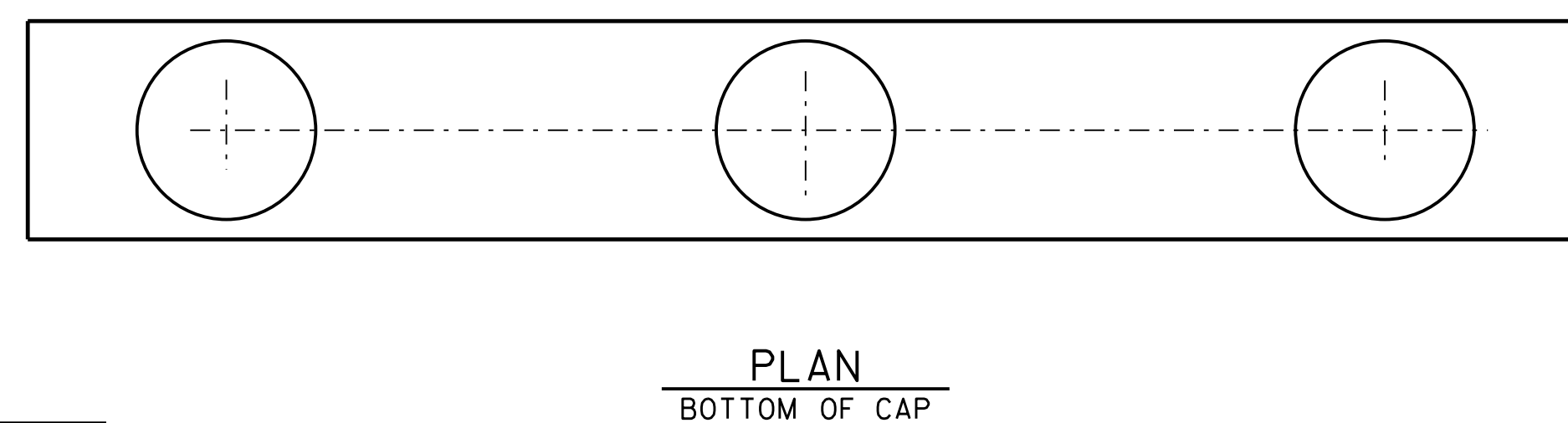
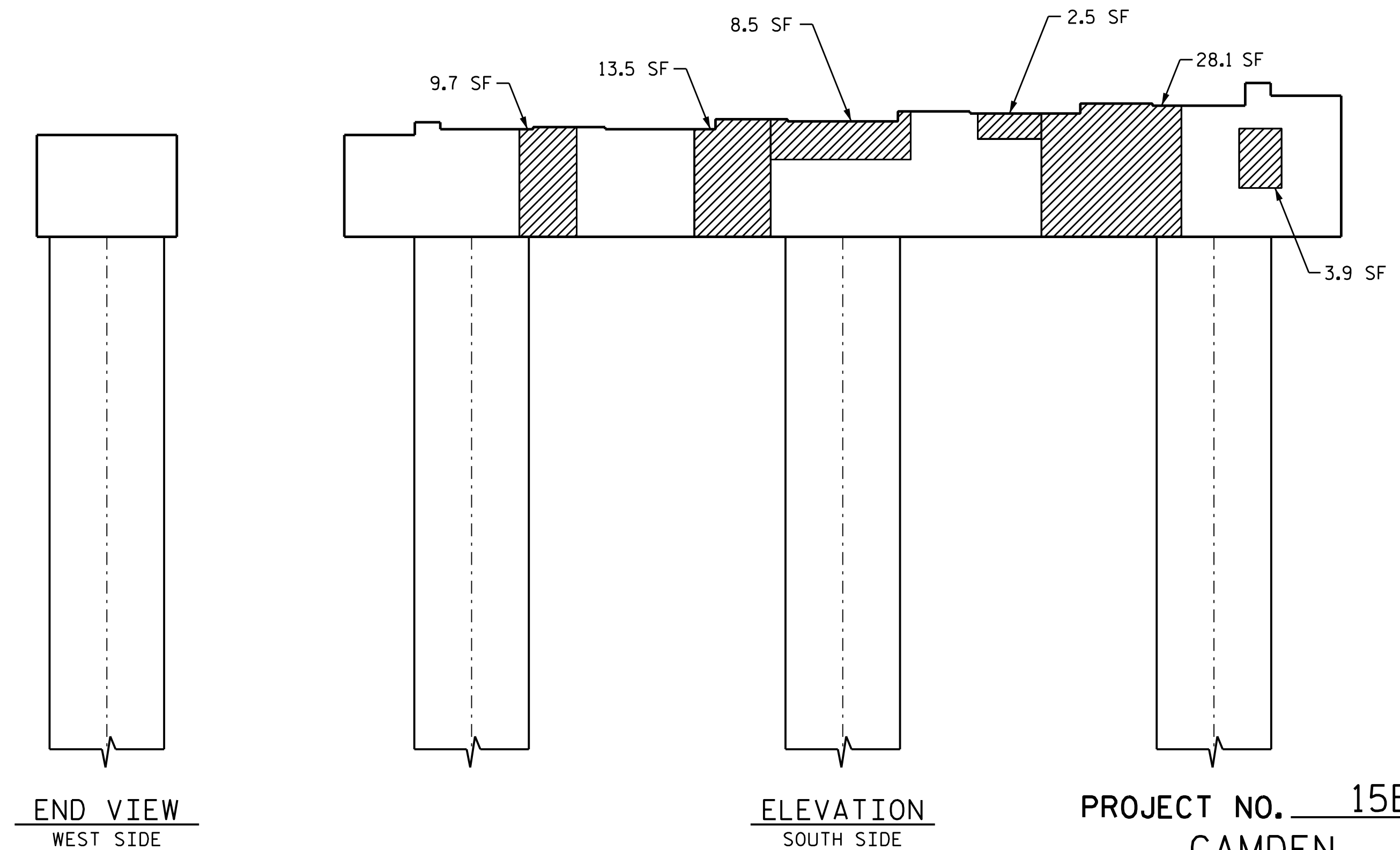
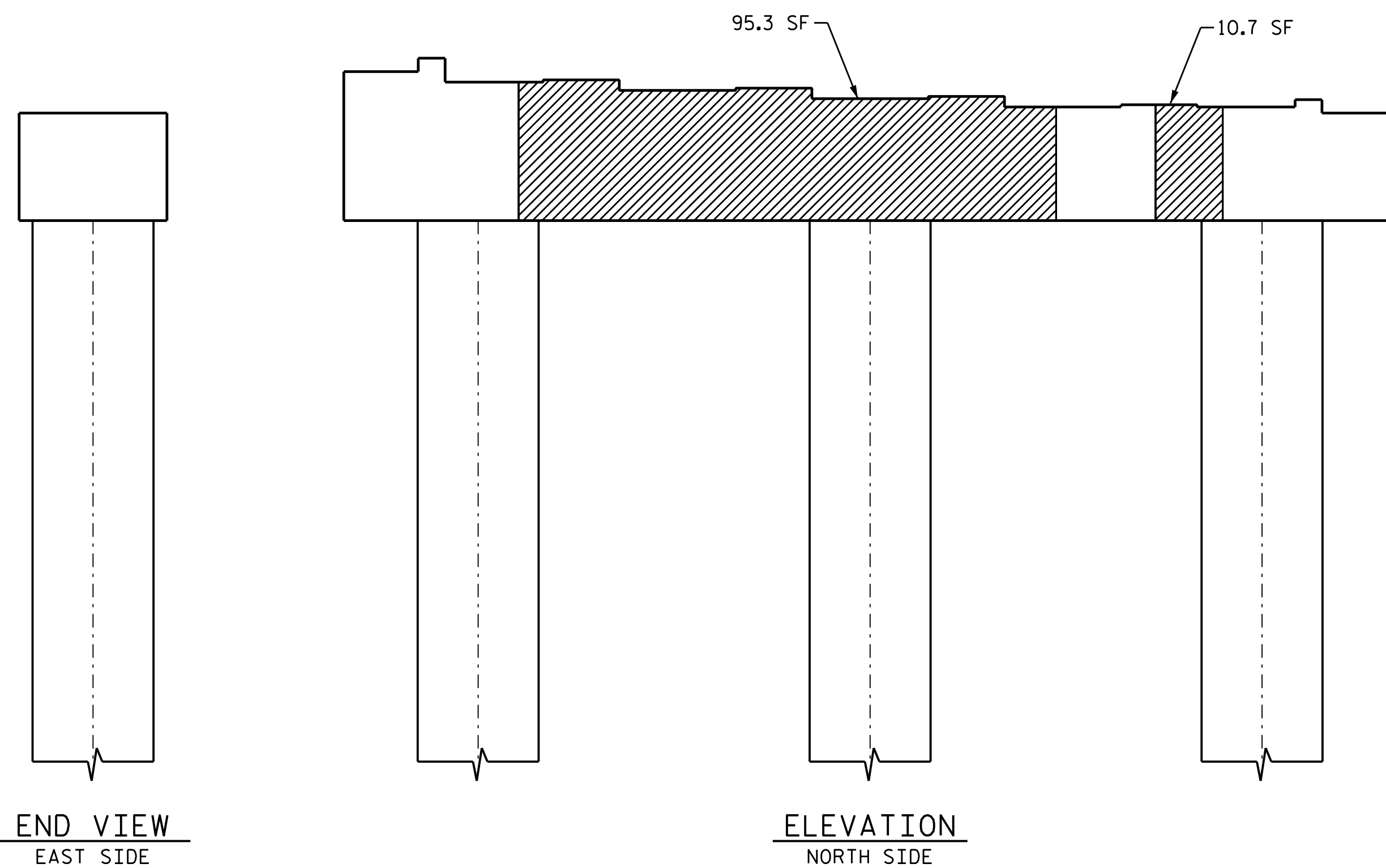
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LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 2 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 172.2 | 86.2 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 215.4 | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 3 OF 25



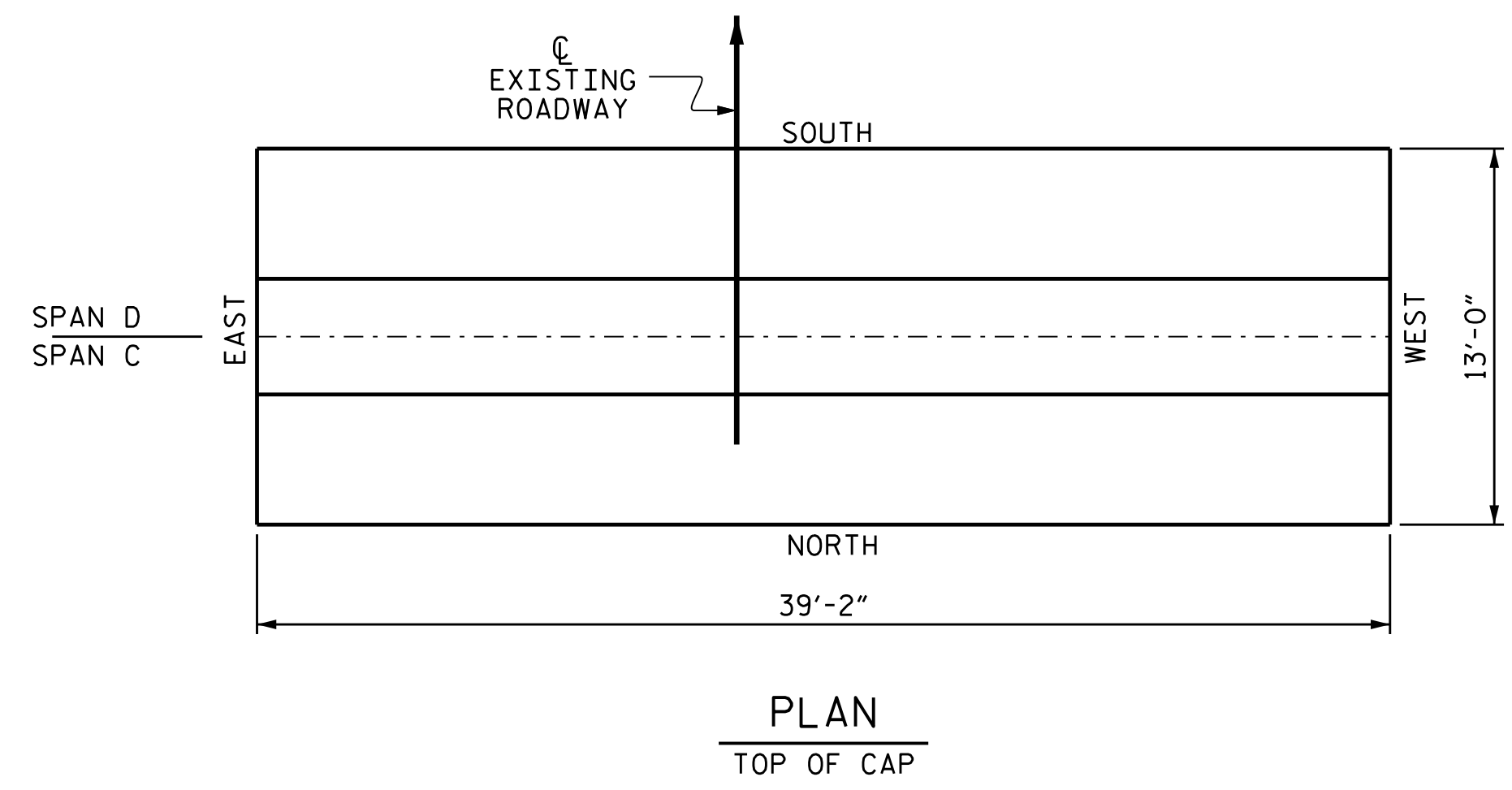
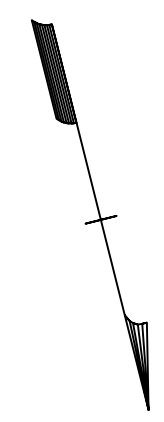
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 2**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-27 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

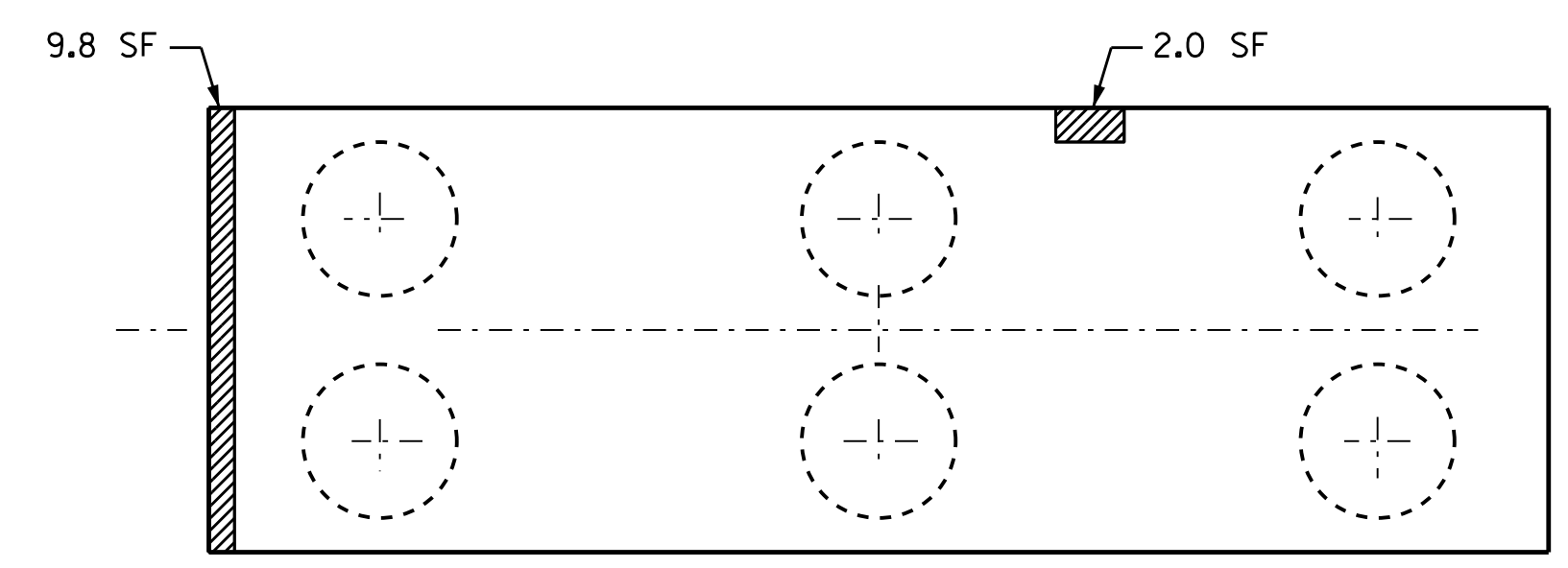
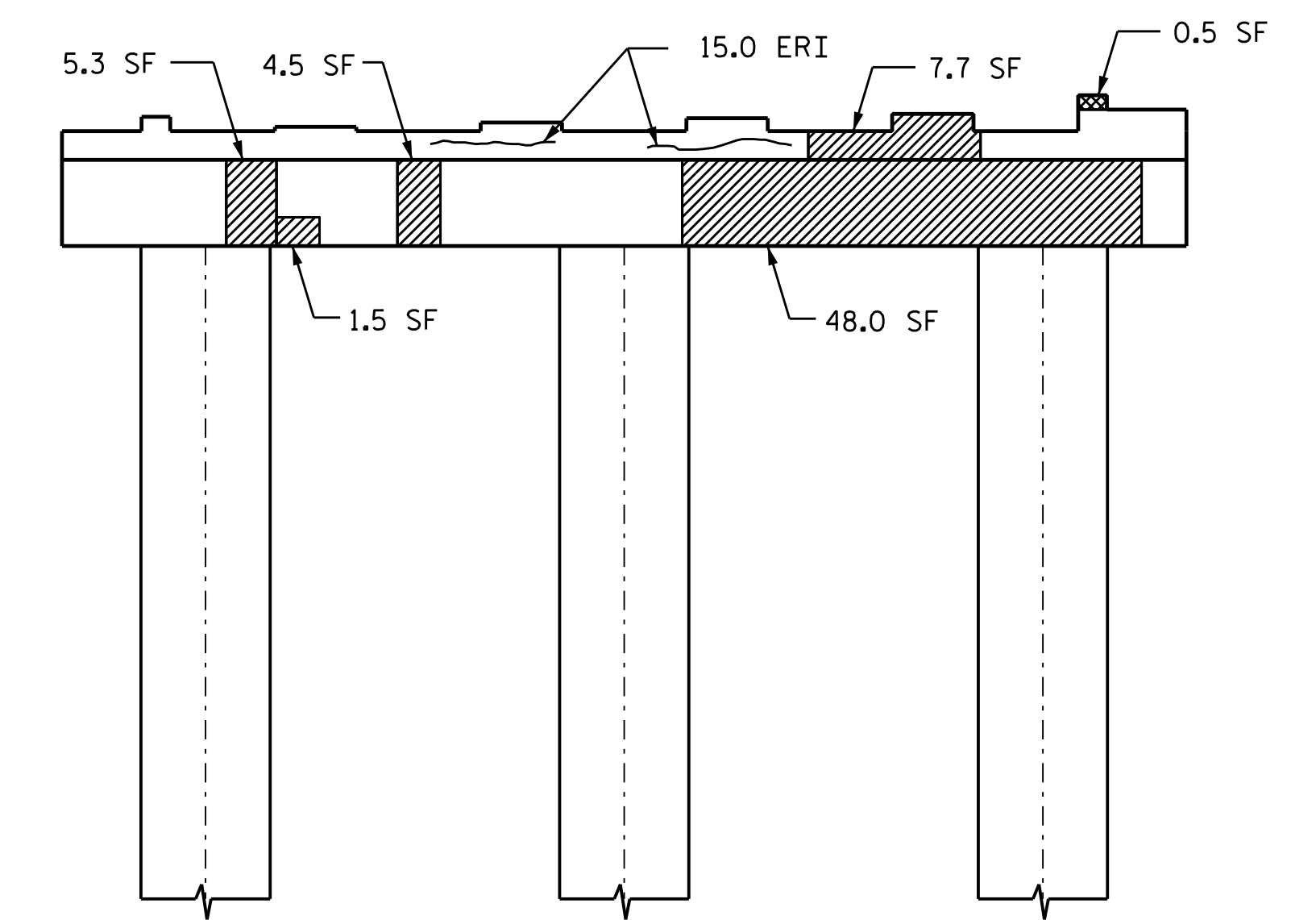
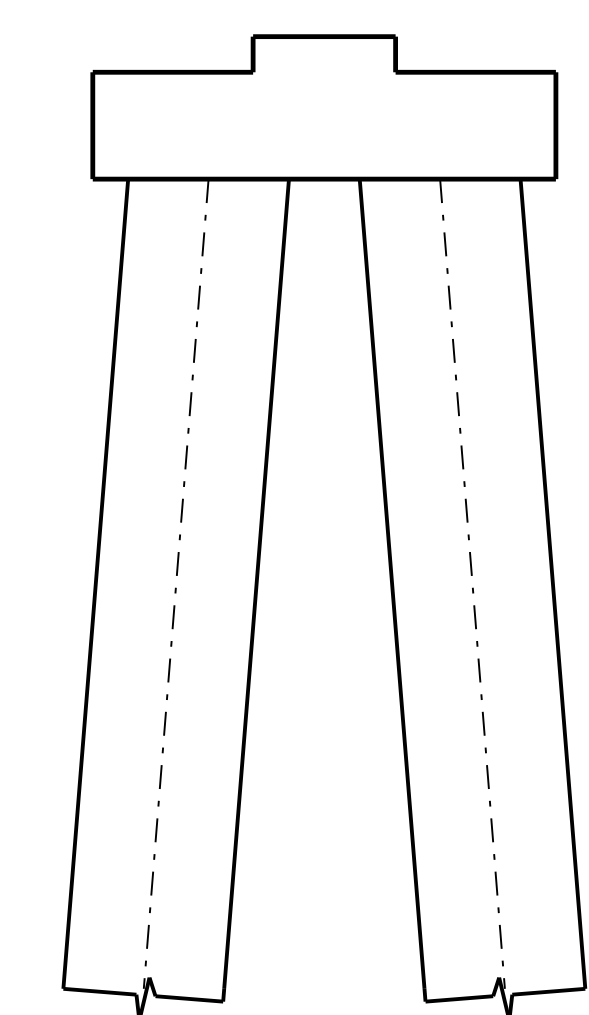
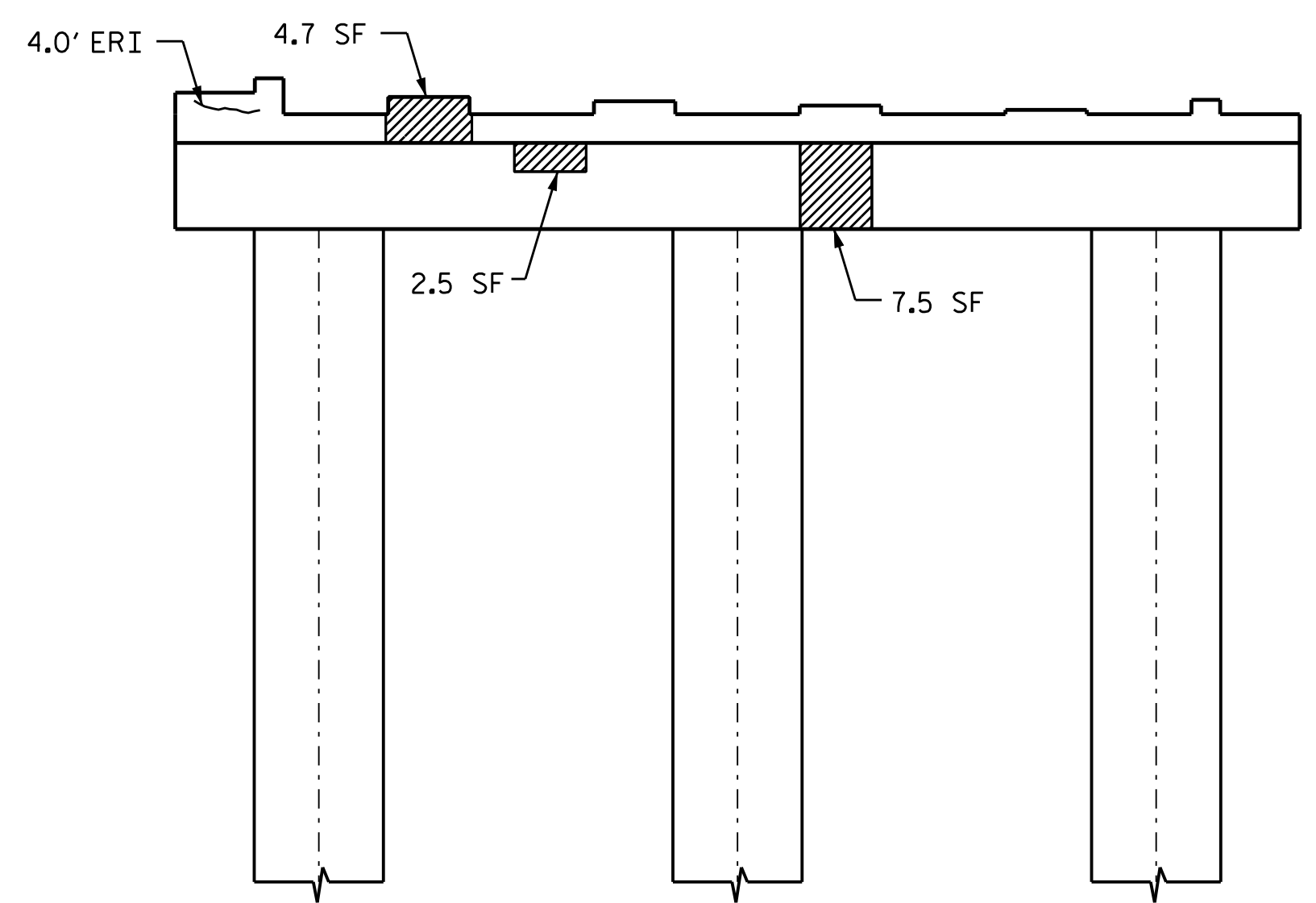
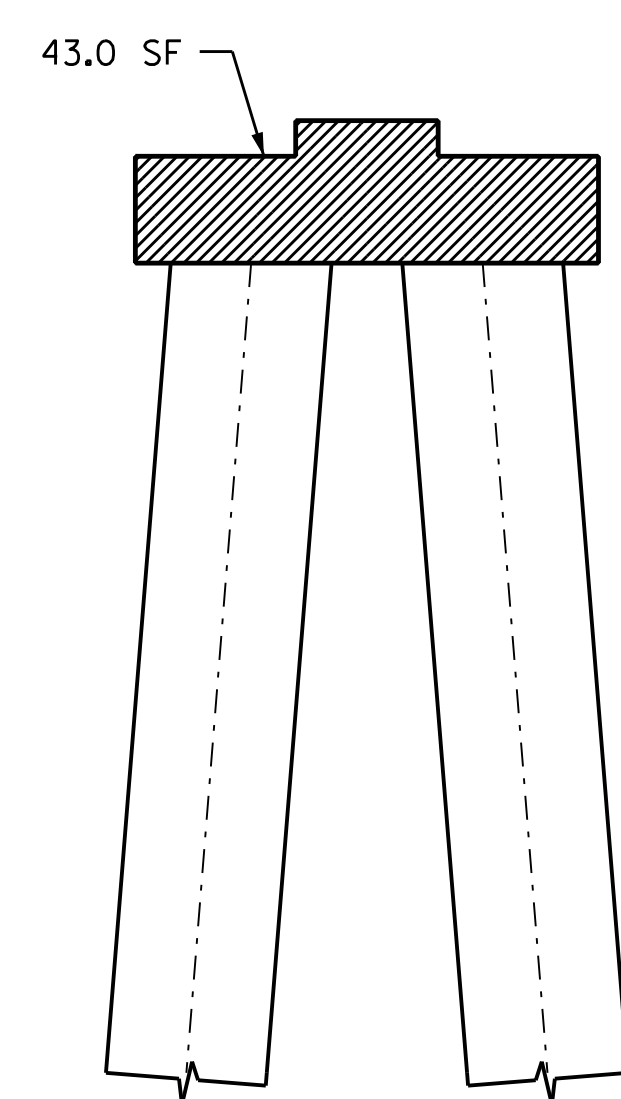
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

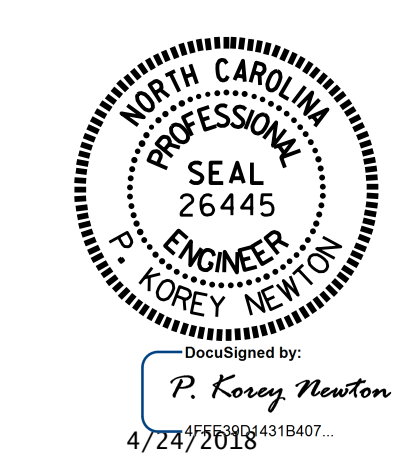
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 3 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 125.2 | 62.7 | | |
| CAP (HORIZONTAL FACE) | 11.8 | 5.9 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 19.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43

SHEET 4 OF 25

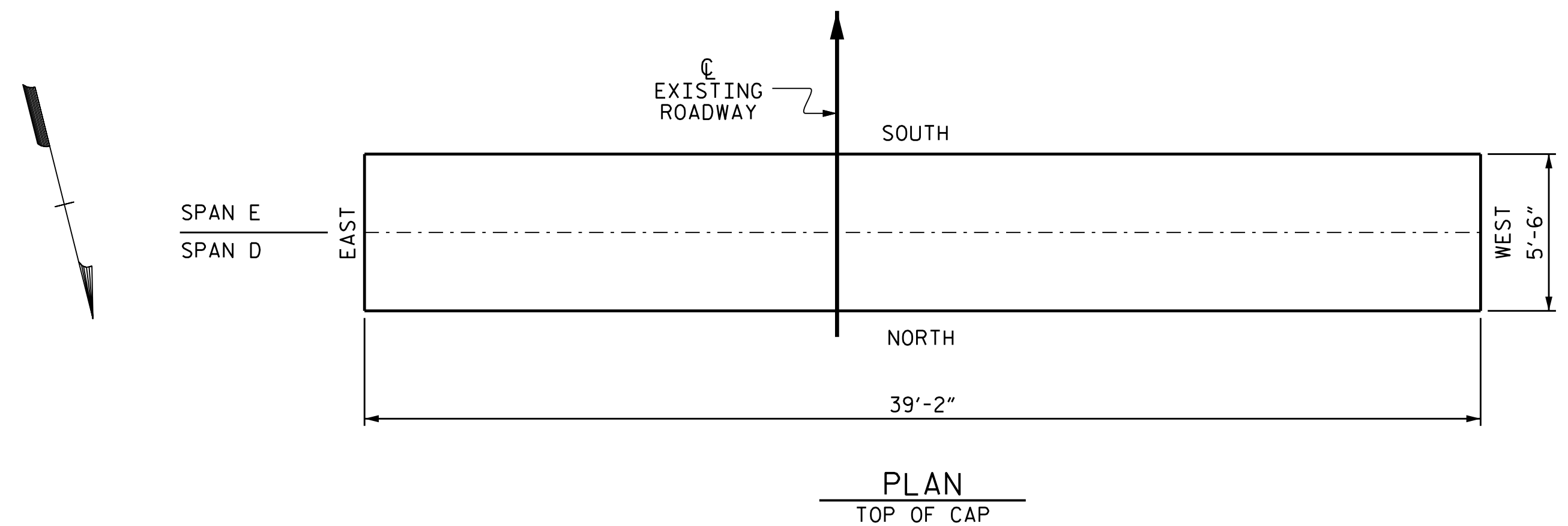
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 3**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-28 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |



NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

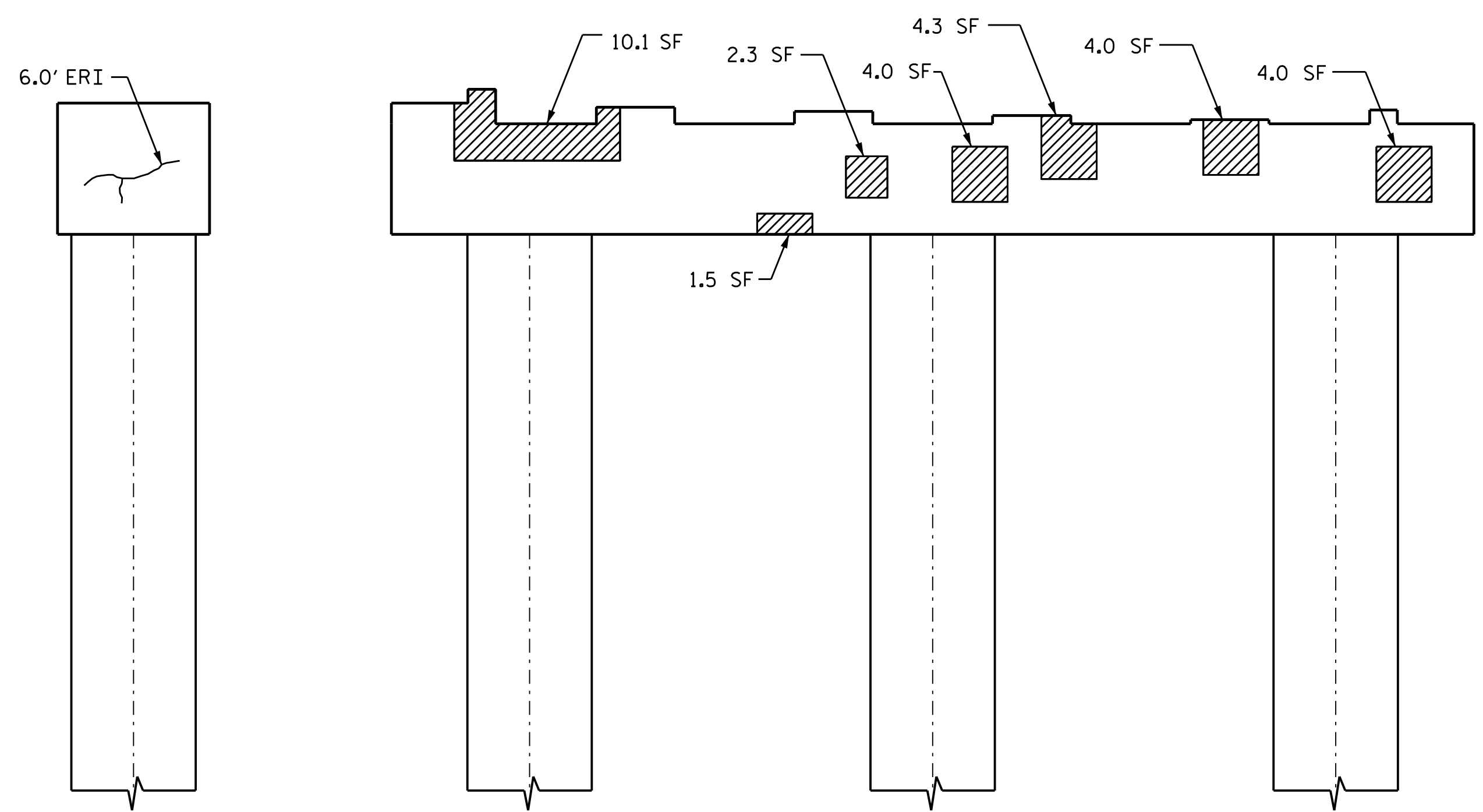
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

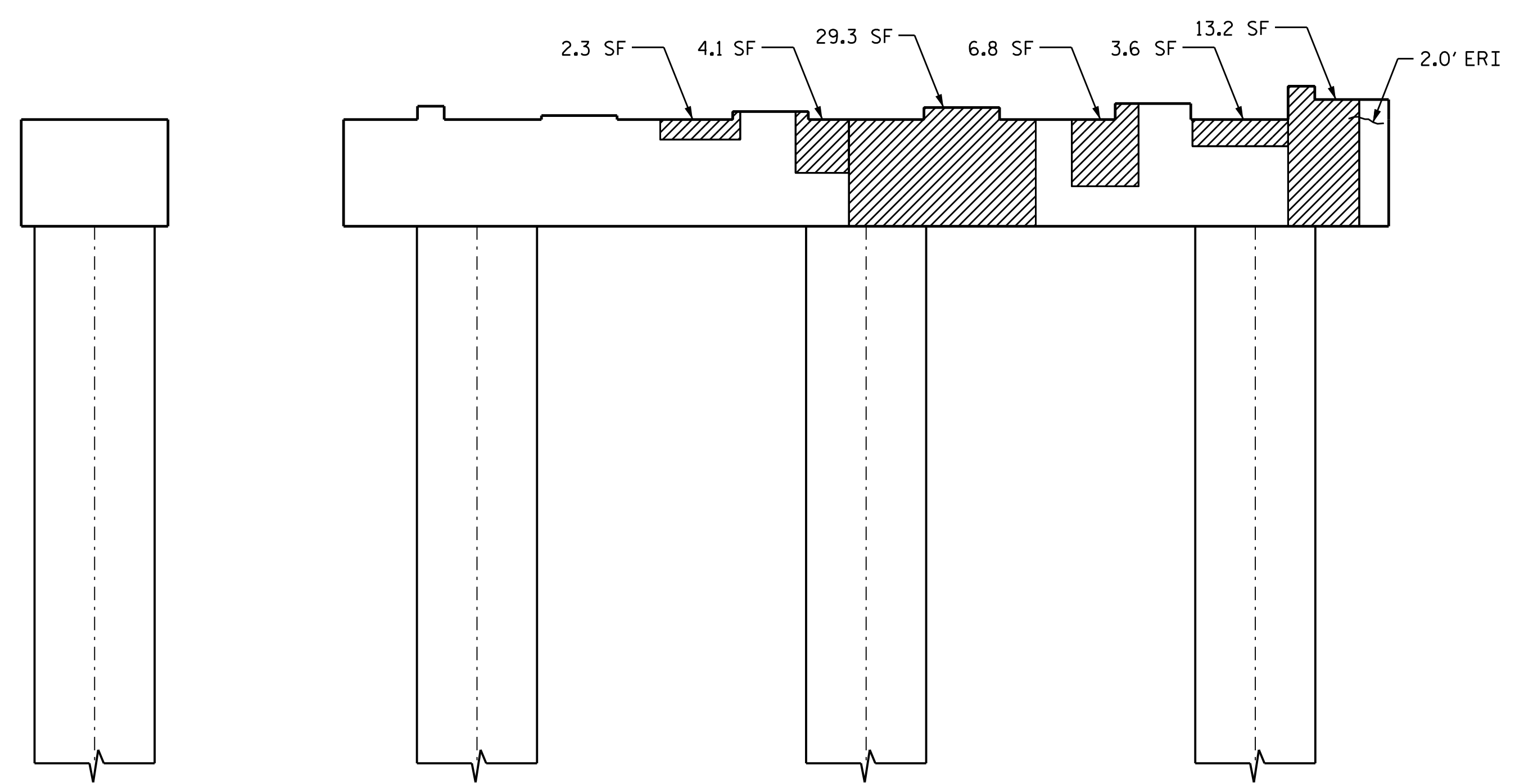
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 4 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 89.5 | 44.8 | | |
| CAP (HORIZONTAL FACE) | 2.0 | 1.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 8.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



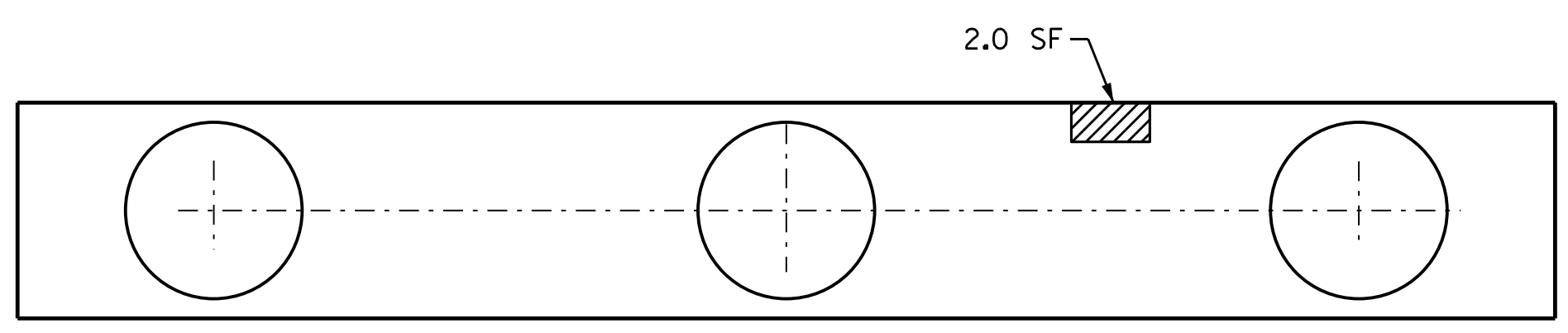
ELEVATION
NORTH SIDE



ELEVATION
SOUTH SIDE

END VIEW
EAST SIDE

END VIEW
WEST SIDE

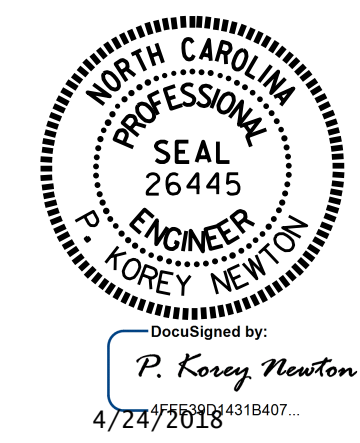


PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 5 OF 25



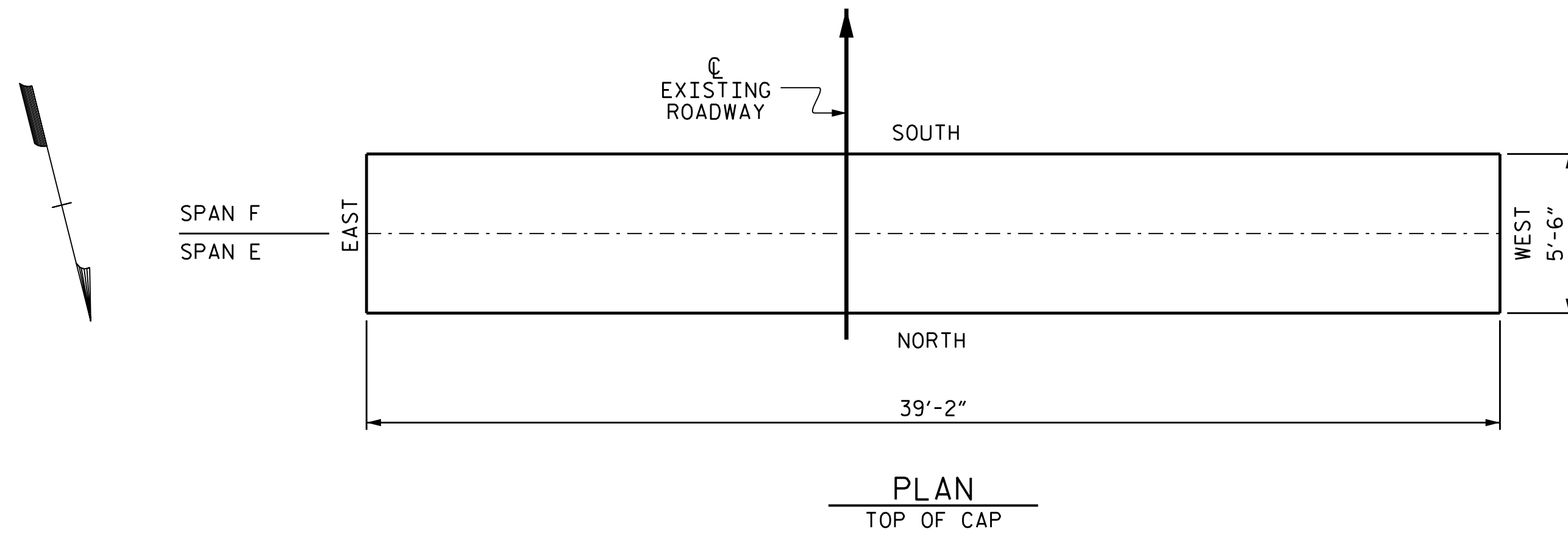
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 4**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-29 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

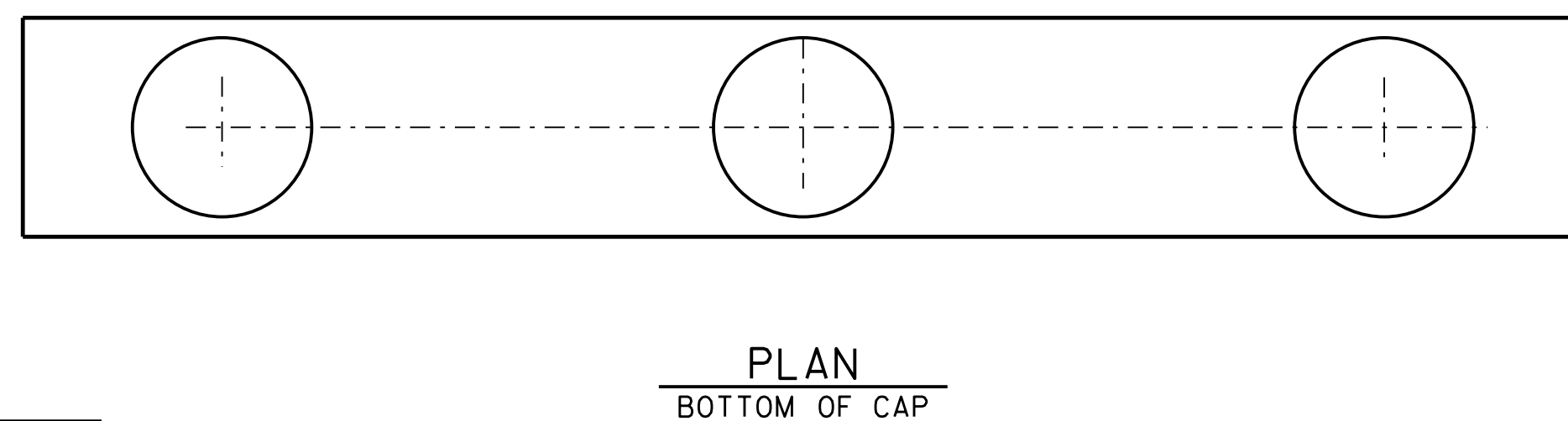
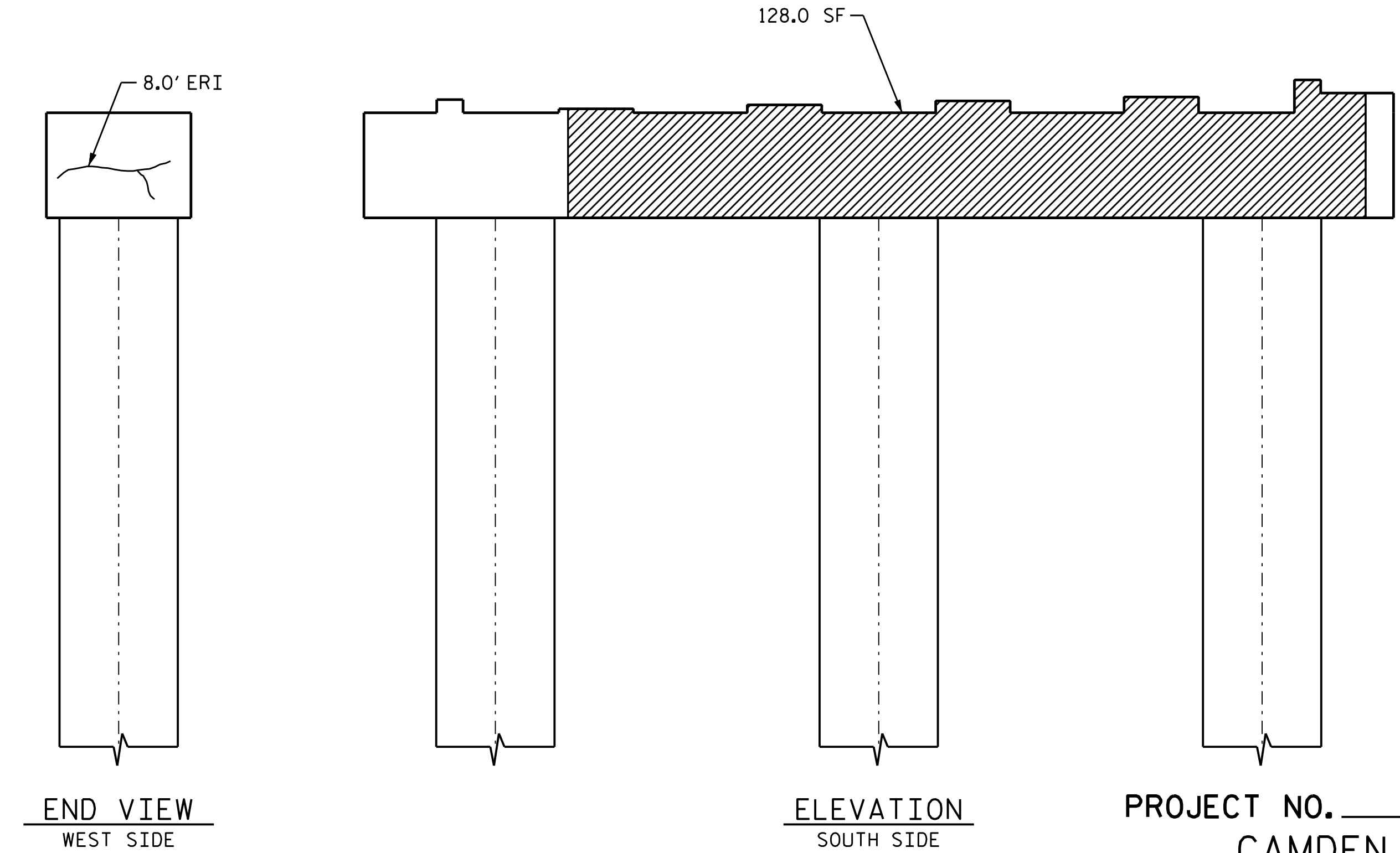
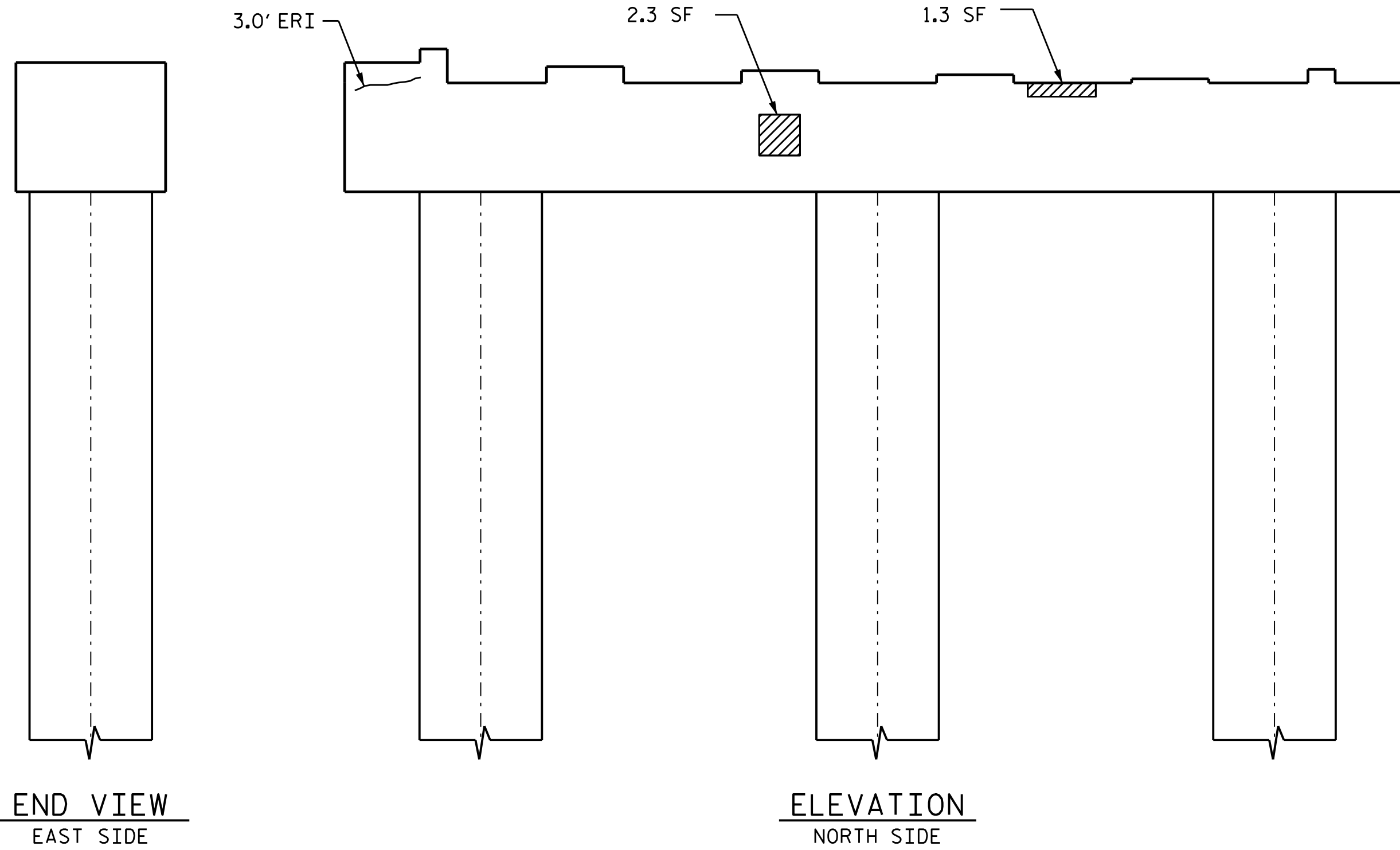
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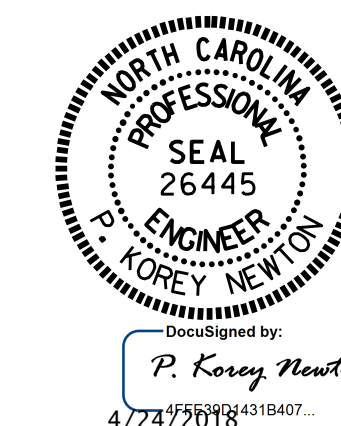
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 5 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 131.6 | 65.9 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 11.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 6 OF 25

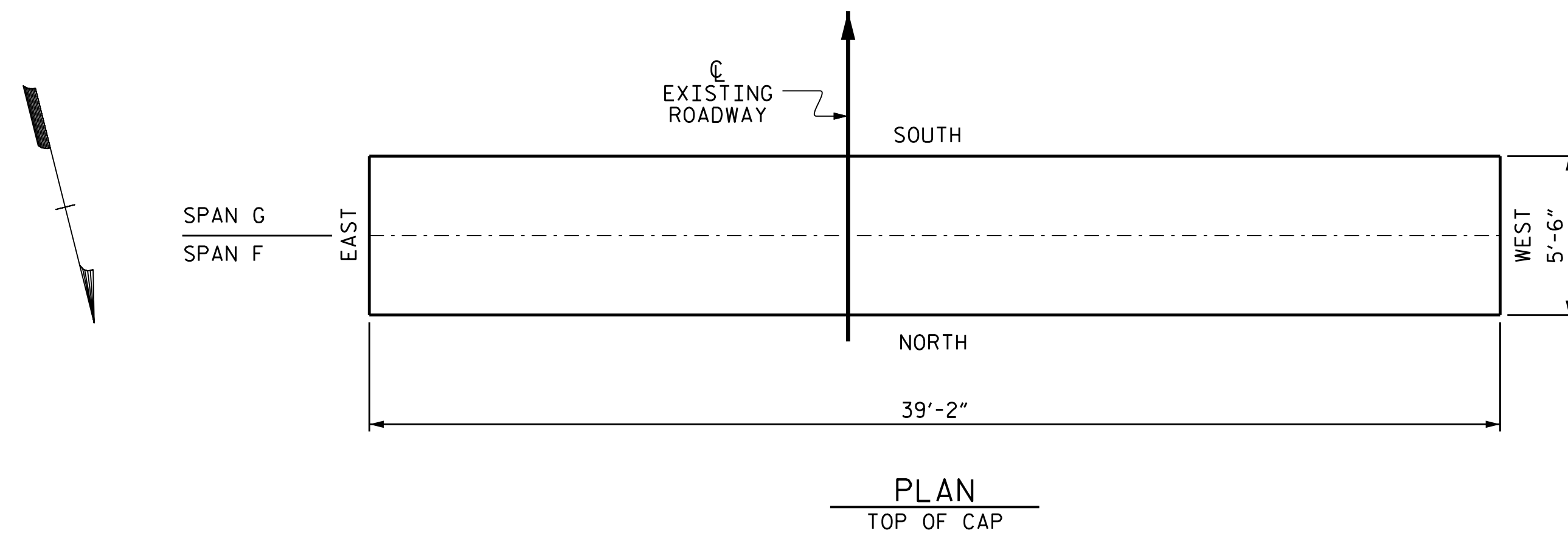
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 5**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-30 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

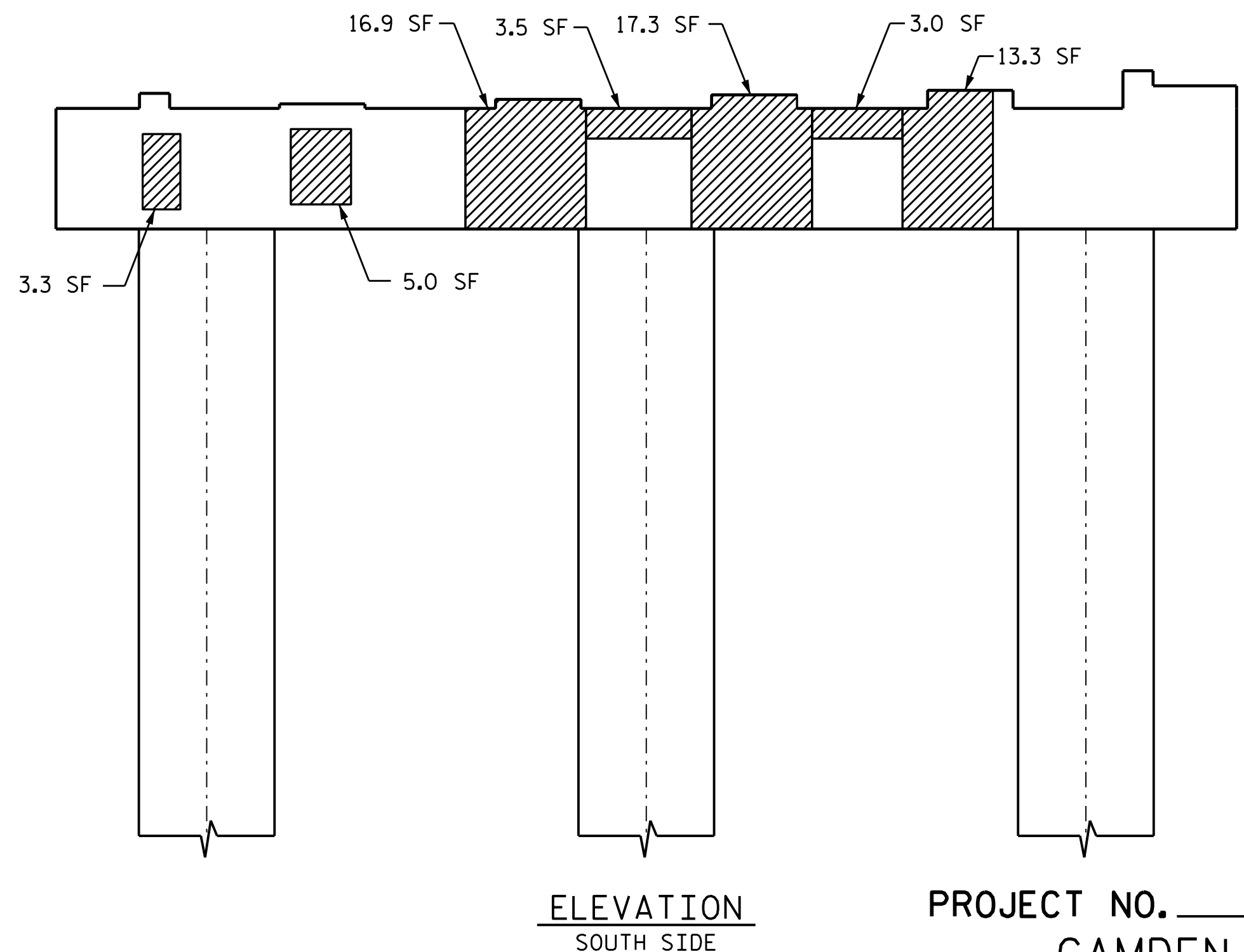
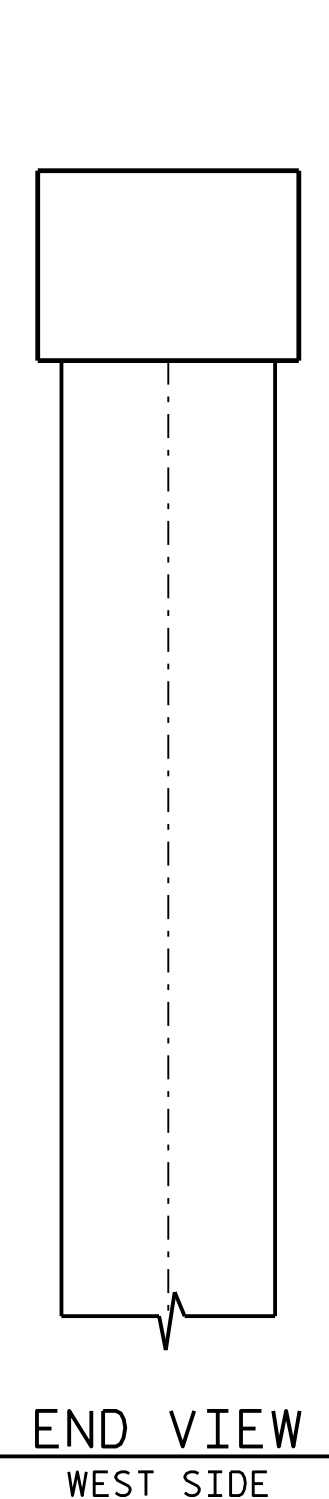
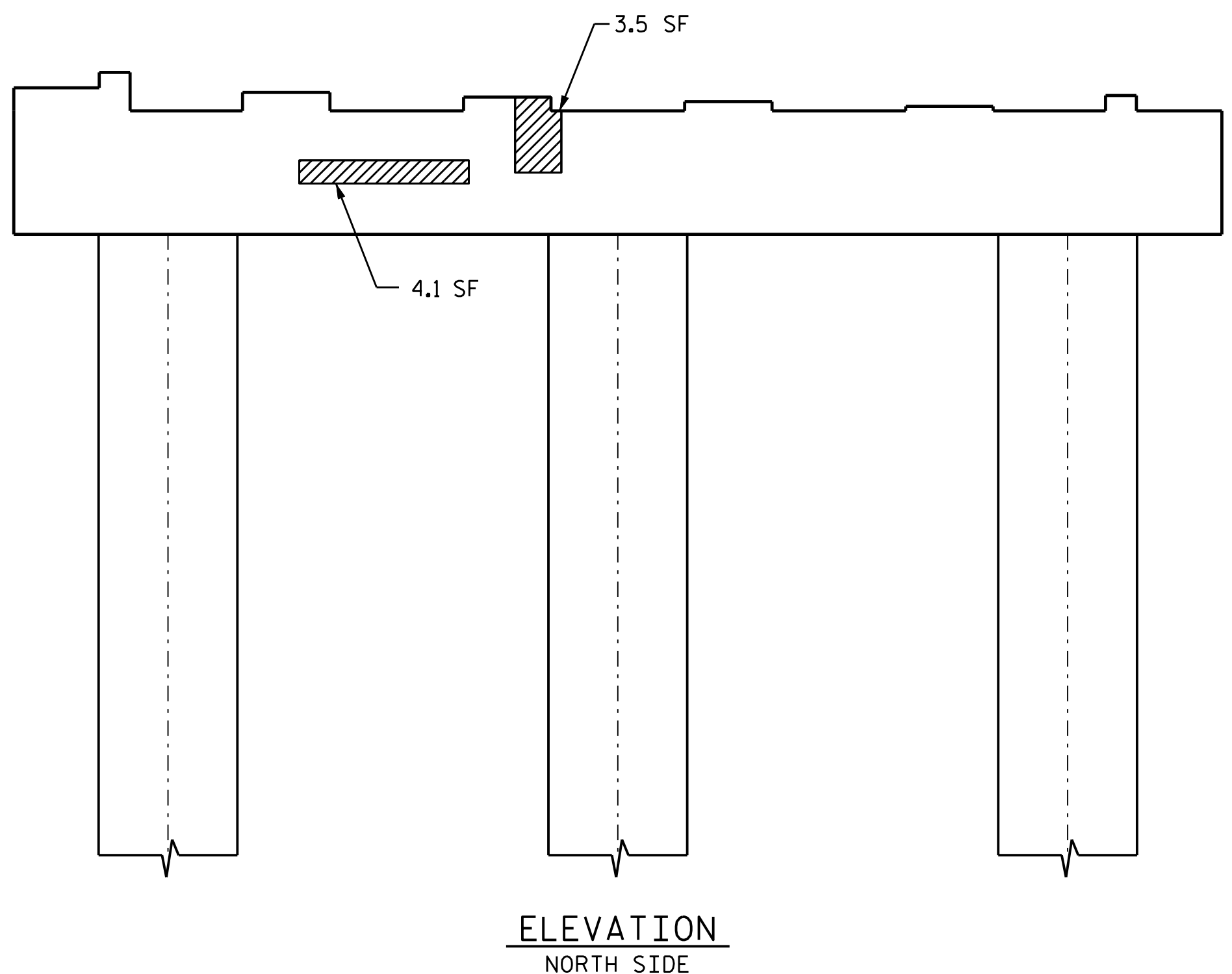
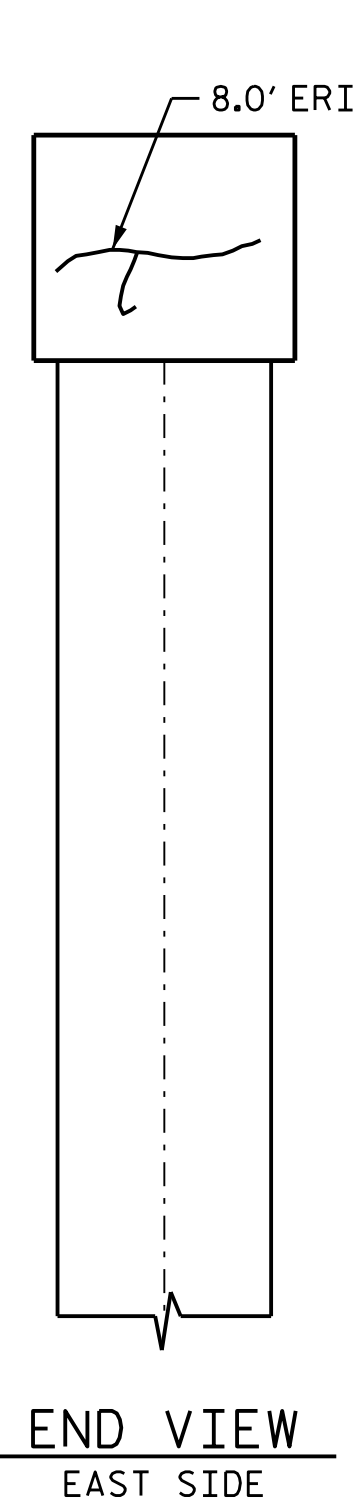
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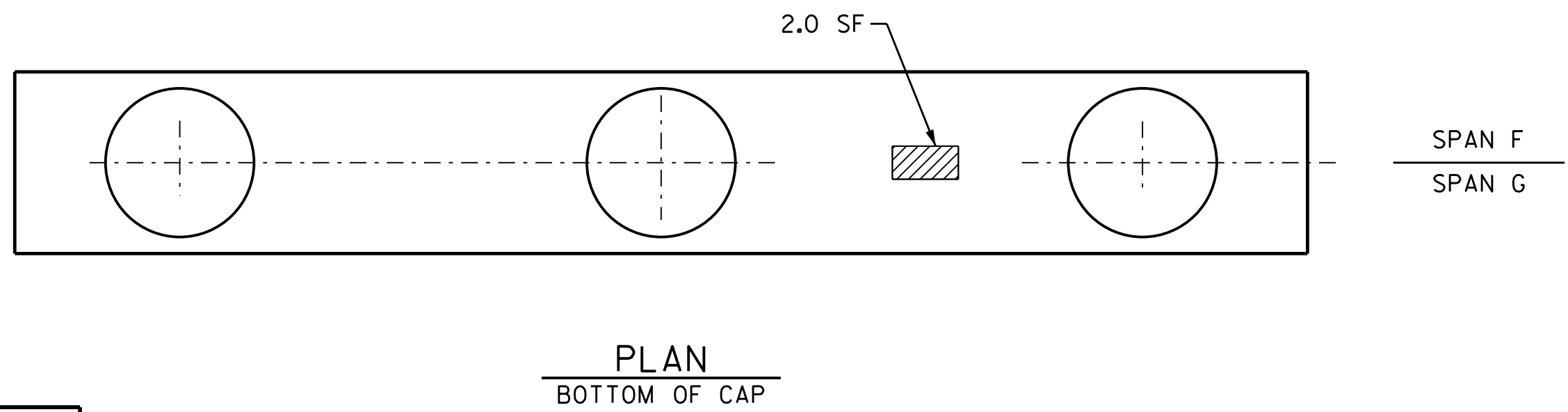
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

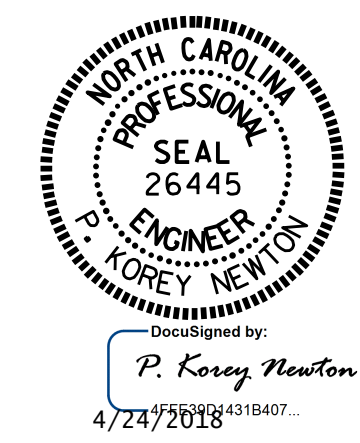
| BENT 6 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 69.9 | 35.0 | | |
| CAP (HORIZONTAL FACE) | 2.0 | 1.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 8.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 7 OF 25



▨ SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



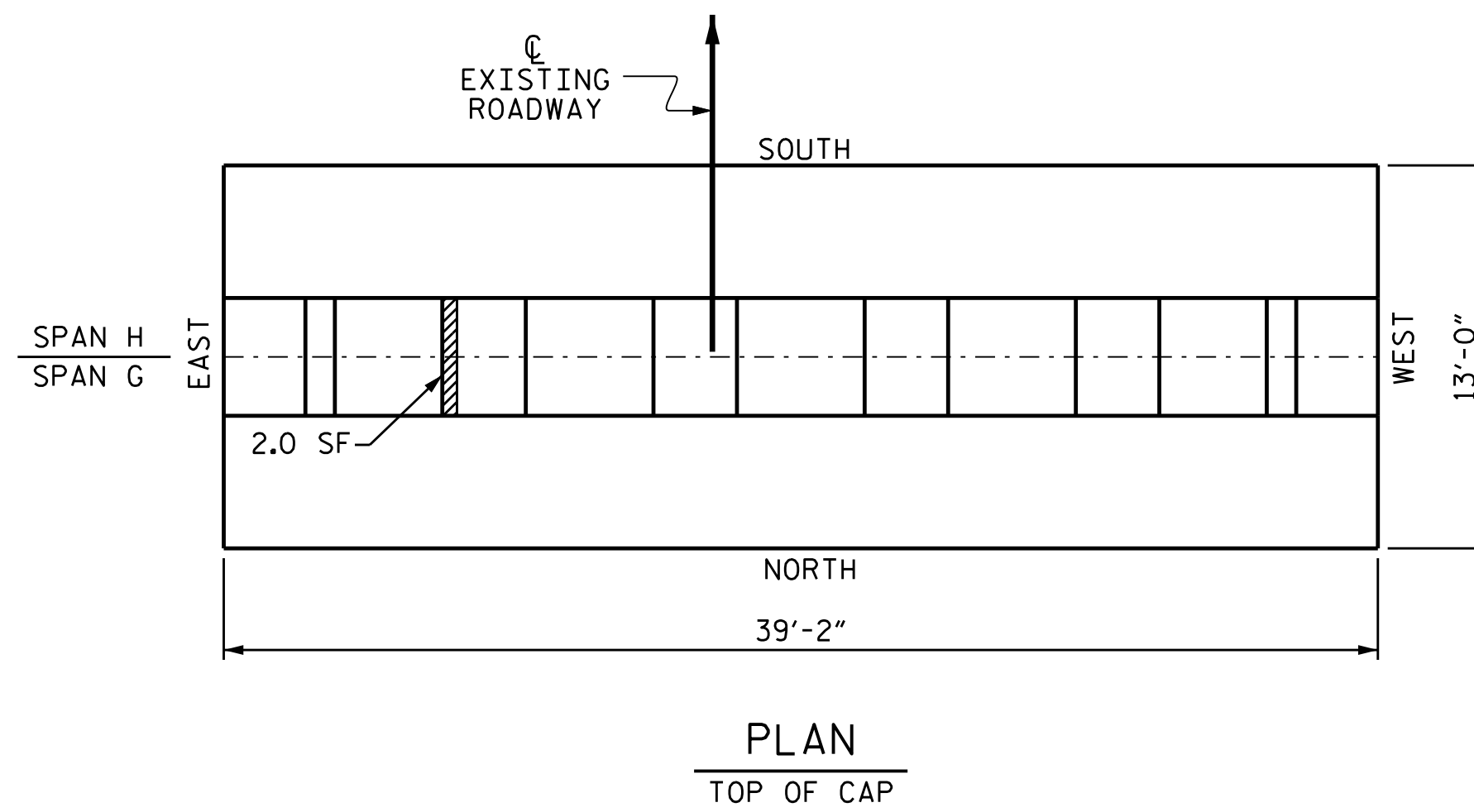
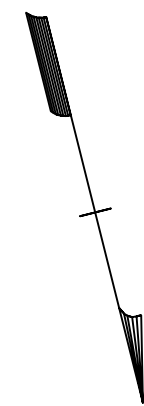
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 6**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-31 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

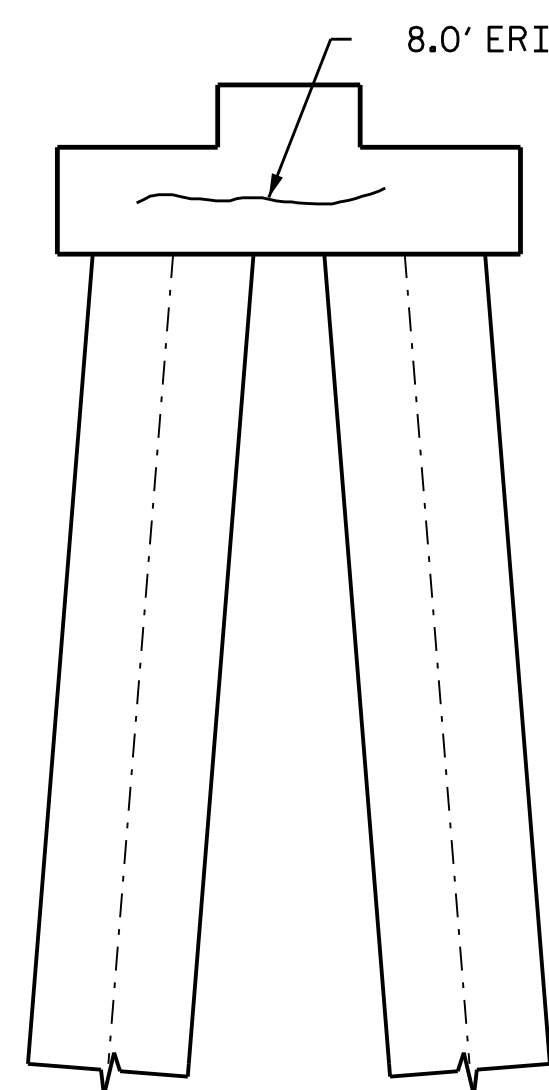
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

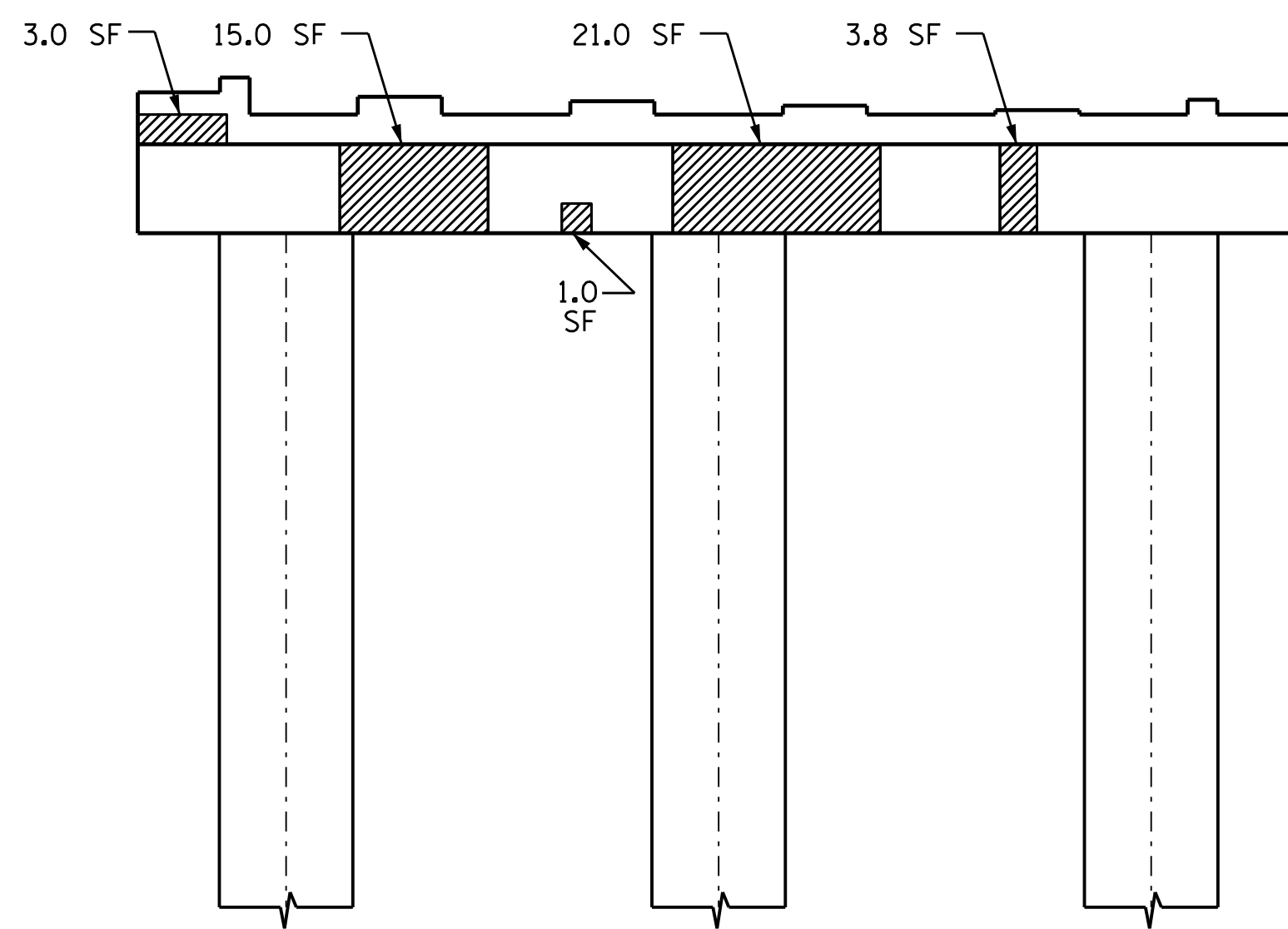
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

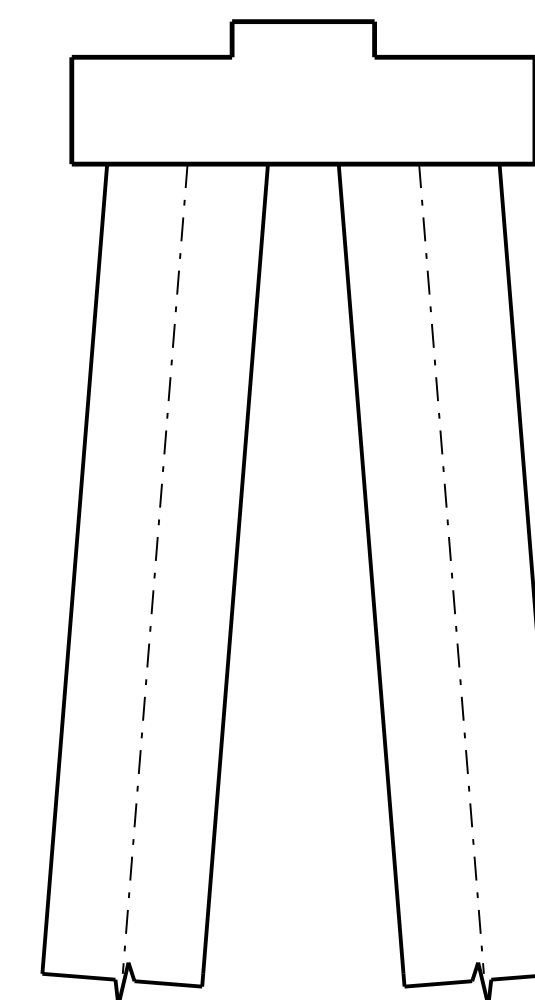
| BENT 7 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 108.6 | 54.3 | | |
| CAP (HORIZONTAL FACE) | 2.0 | 1.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 8.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



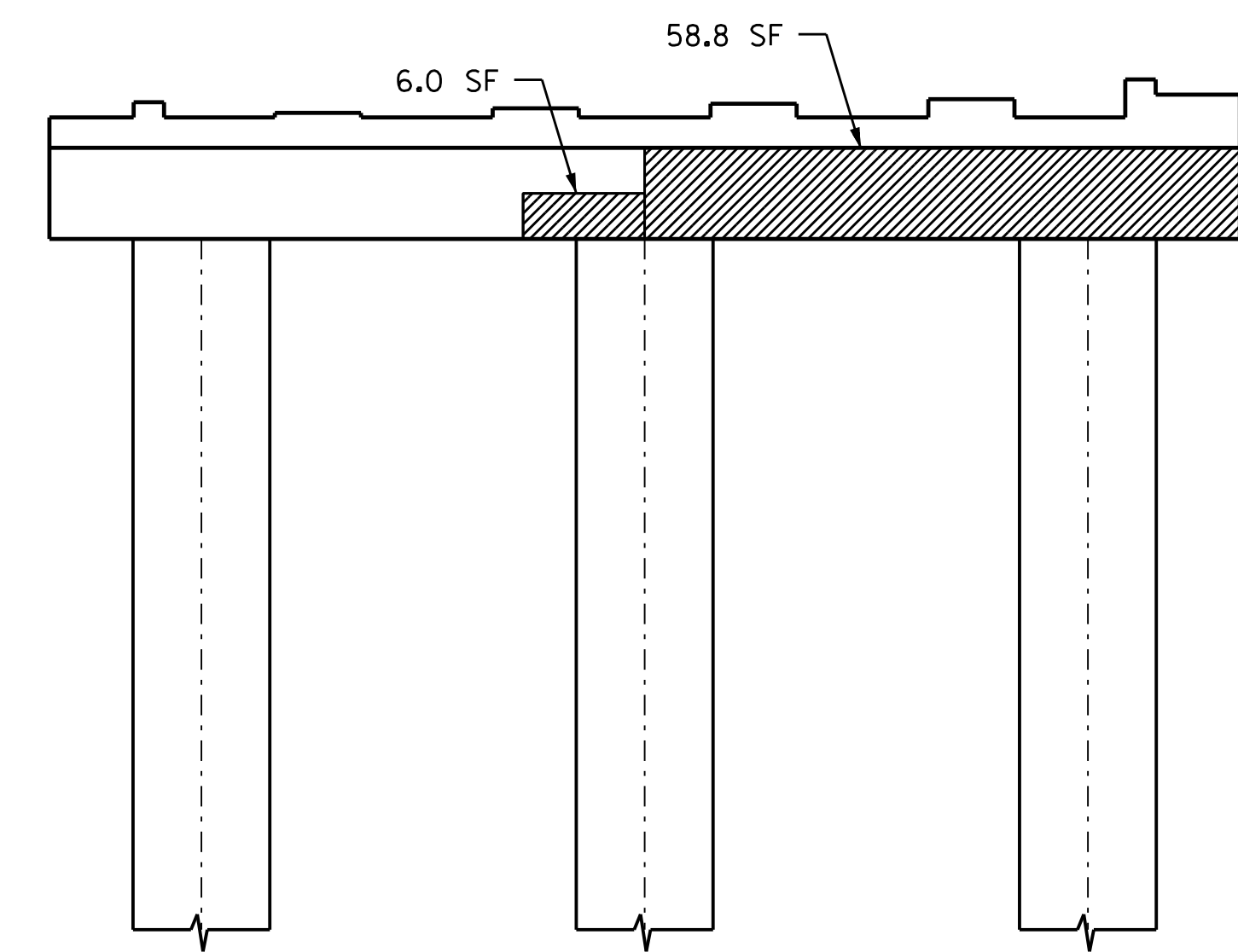
END VIEW
EAST SIDE



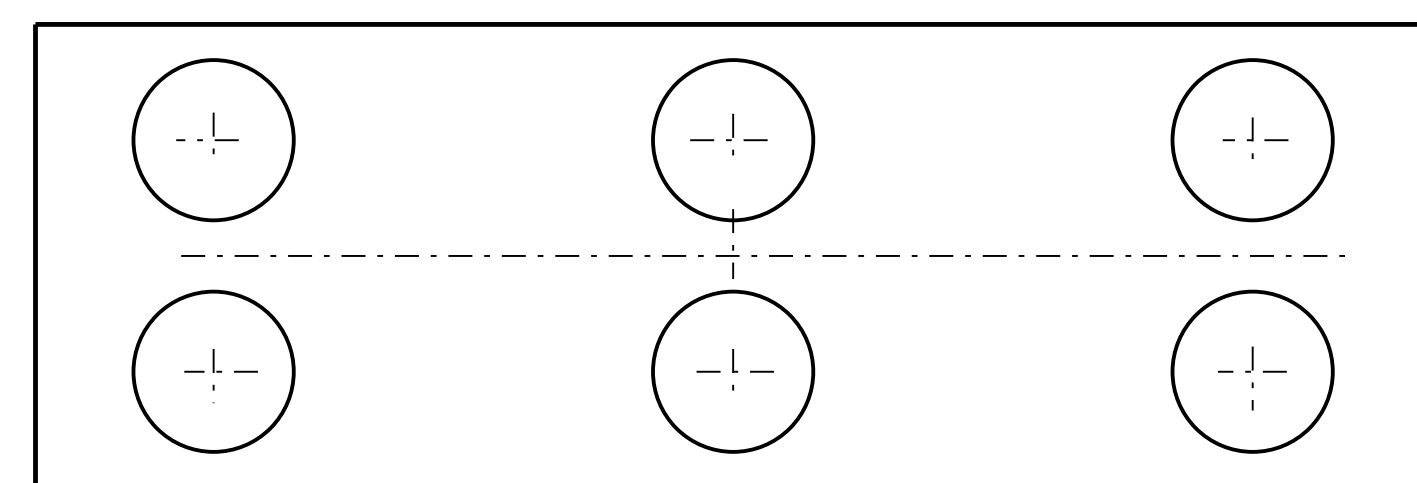
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



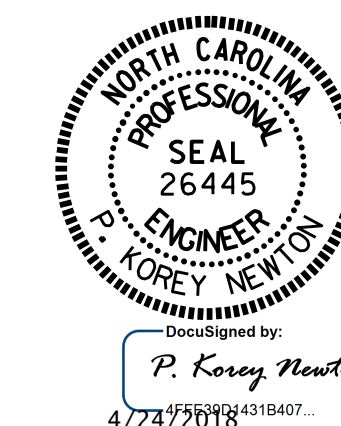
ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SPAN G
SPAN H

SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



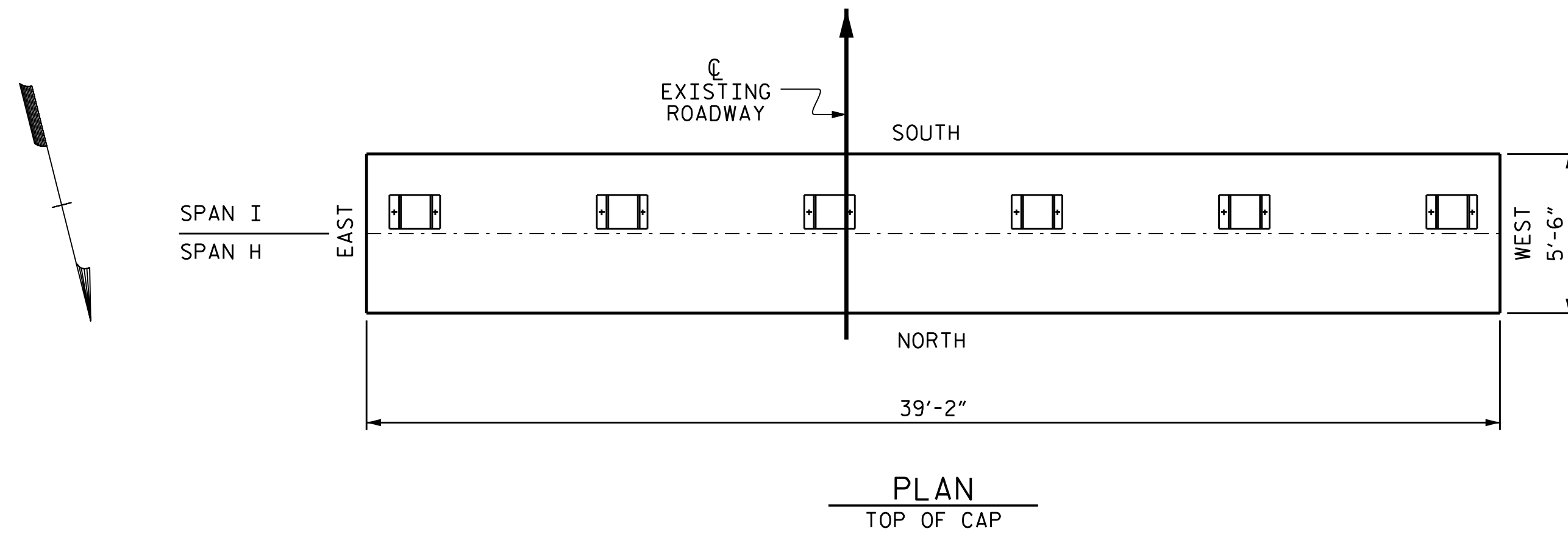
PROJECT NO. 15BPR.11
CAMDEN COUNTY
STATION: 43
SHEET 8 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE BENT 7

DRAWN BY : P.D. BRYANT DATE : 03/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-32 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |



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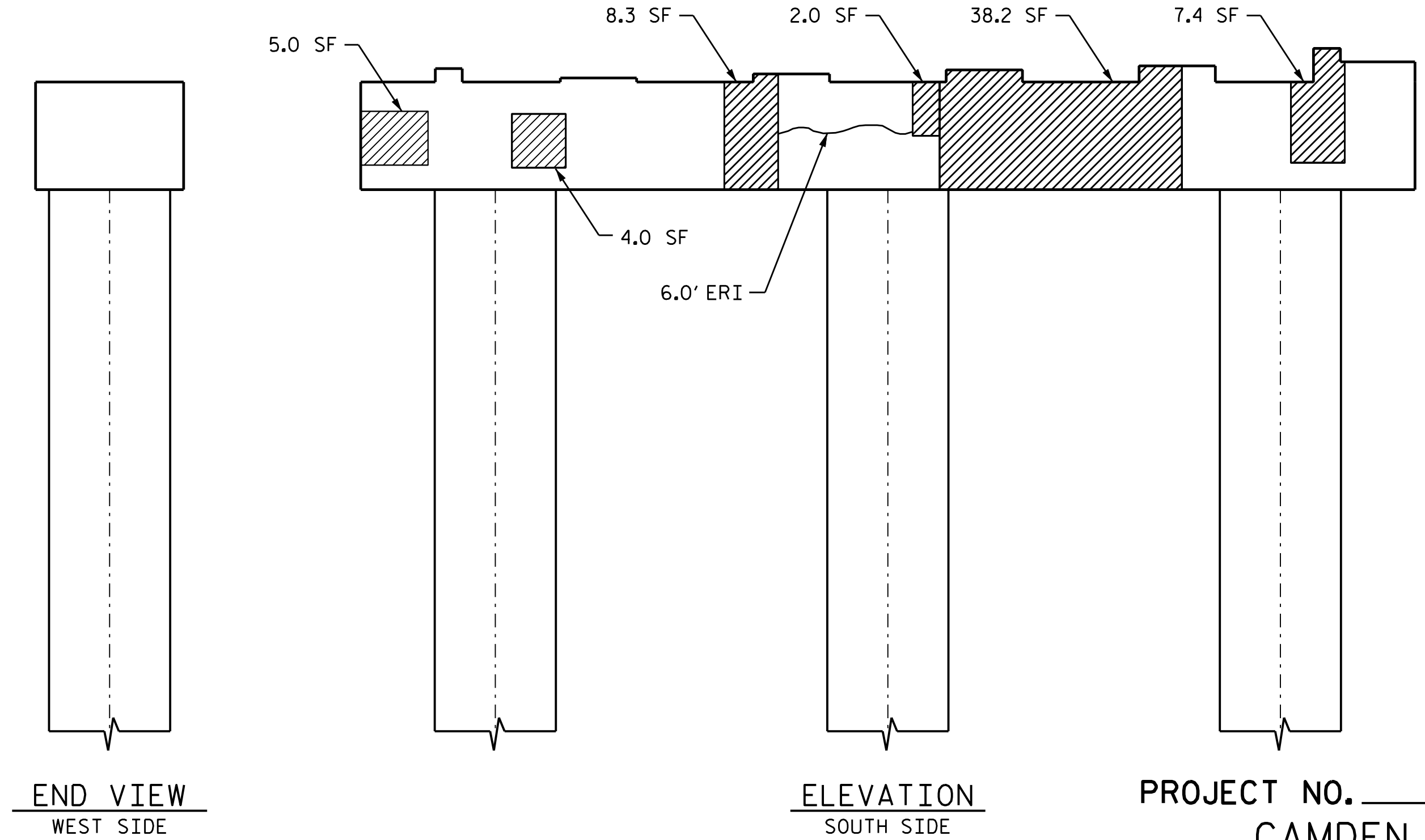
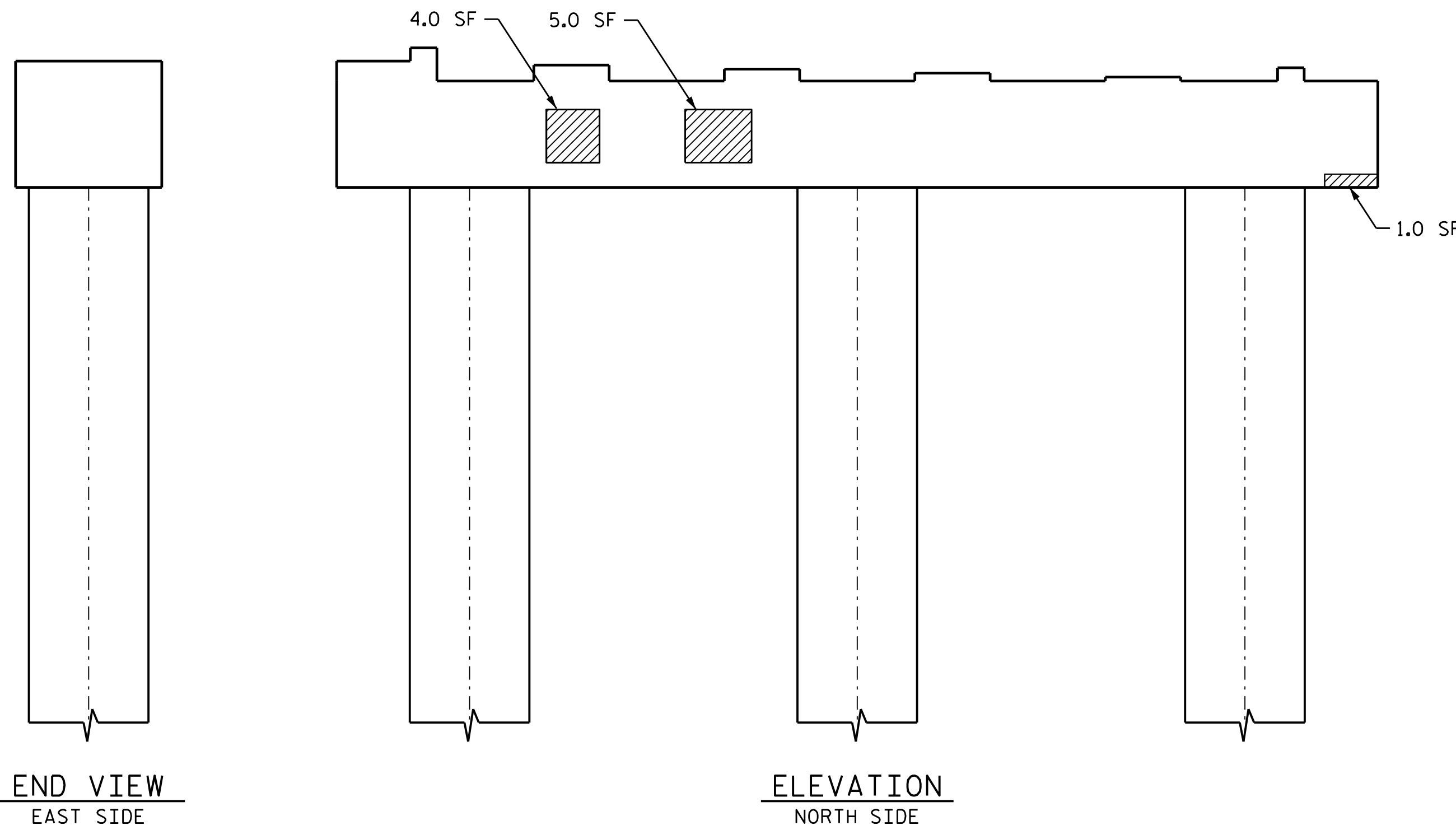
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 8 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 74.9 | 37.5 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 6.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

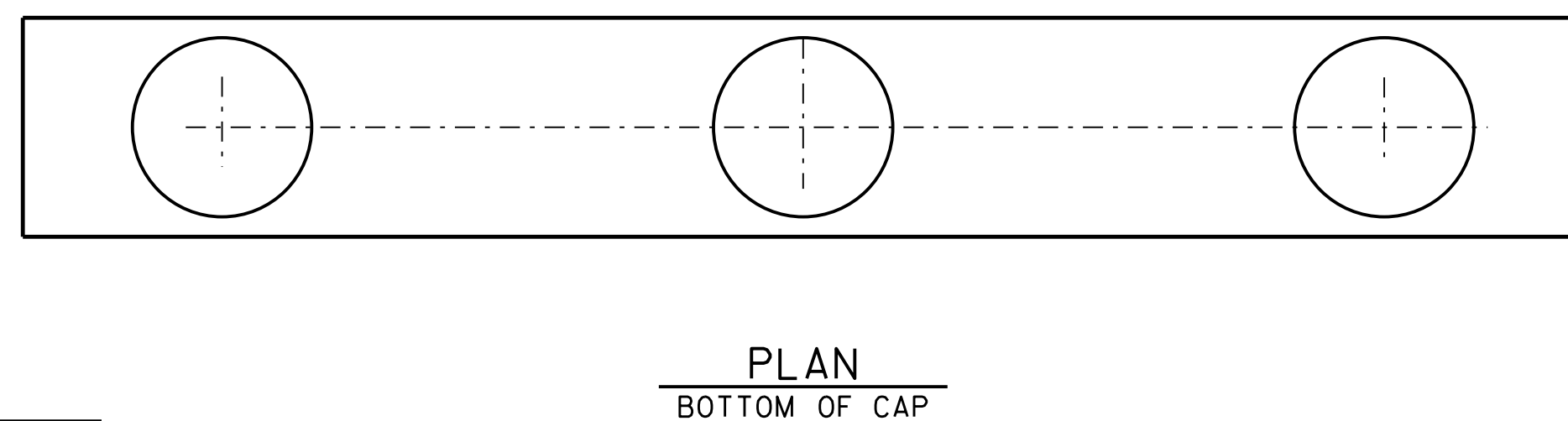


END VIEW
EAST SIDE

END VIEW
WEST SIDE

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43

SHEET 9 OF 25



SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 8**

DRAWN BY : P.D. BRYANT DATE : 03/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-33 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| BENT 9 | QUANTITIES | | | |
|-----------------------|--------------|--------------|--------------|--------------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 23.9 | 12.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 22.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 325.4 | | |

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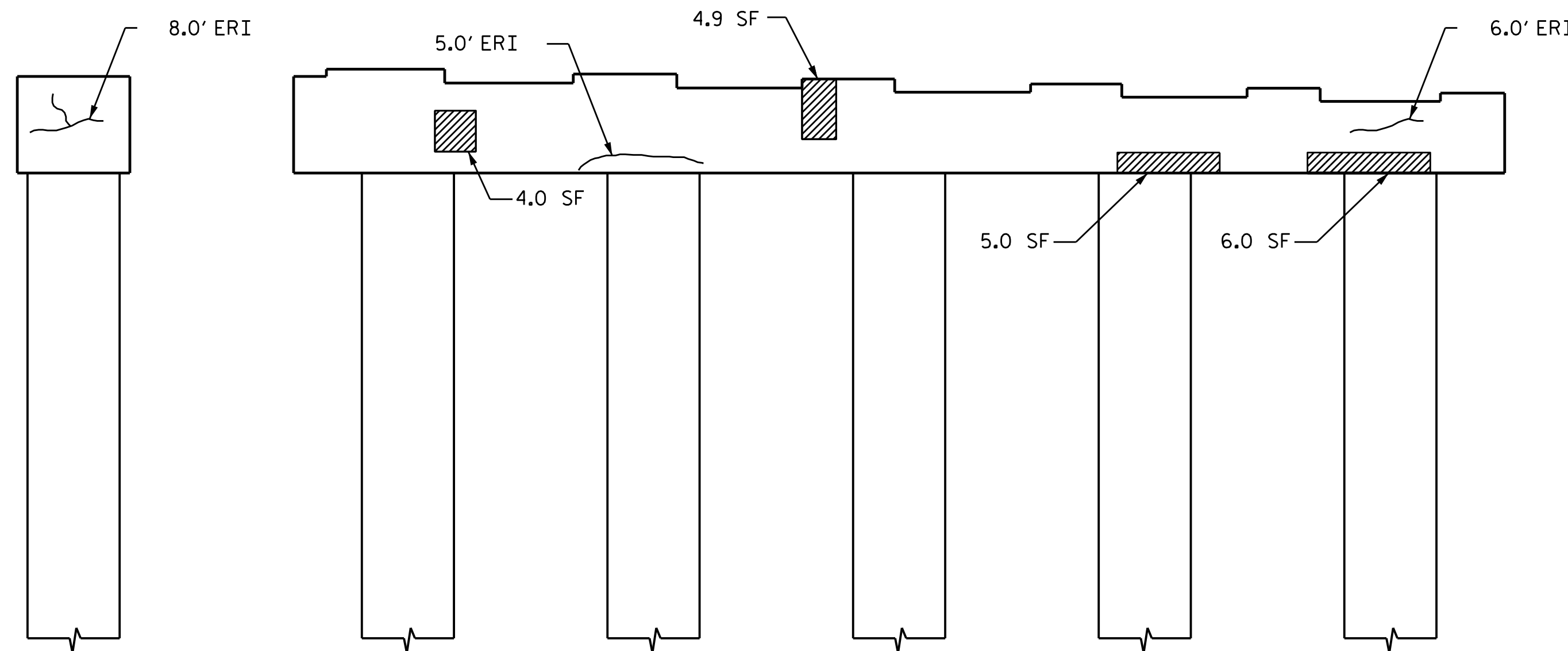
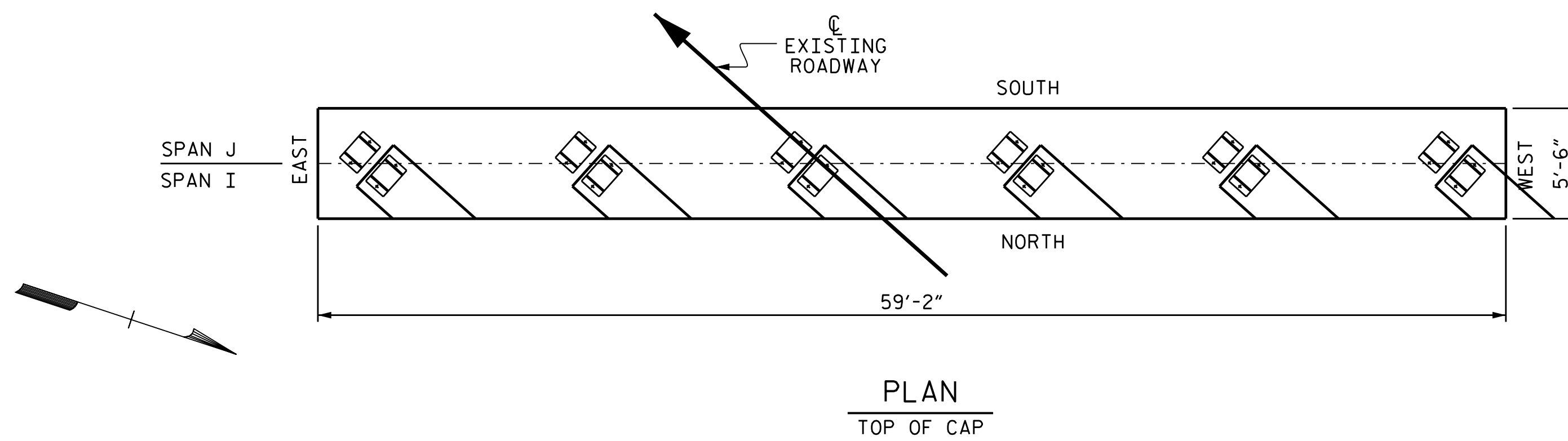
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

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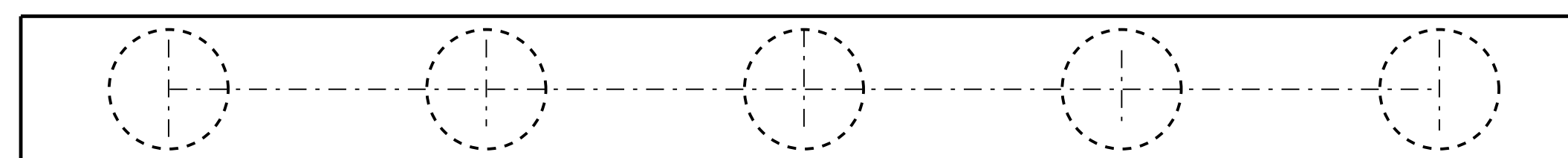


END VIEW
EAST SIDE

ELEVATION
NORTH SIDE

END VIEW
EAST SIDE

ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43
 SHEET 10 OF 25

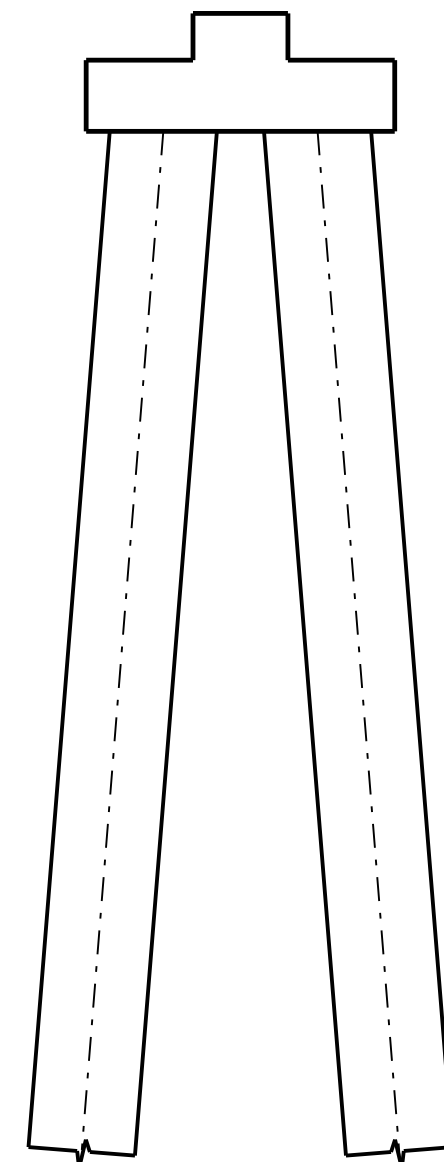
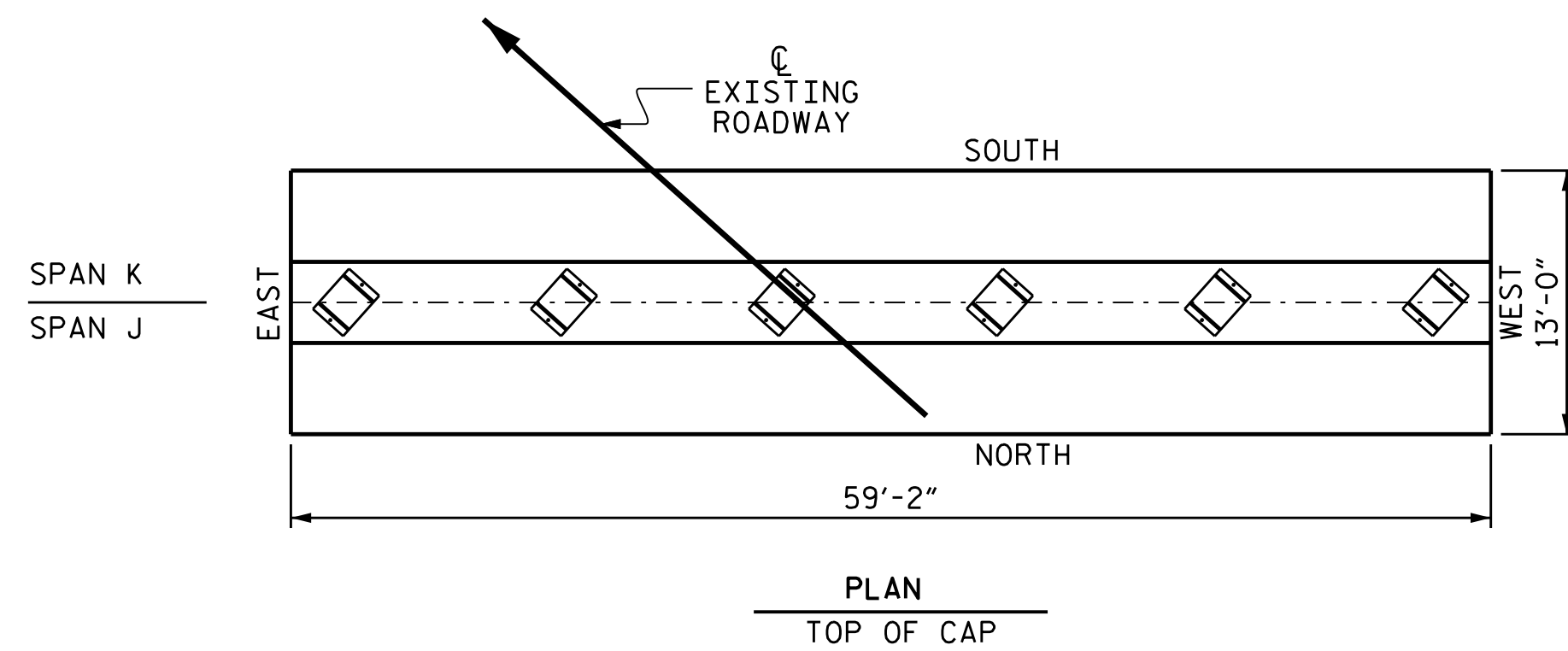
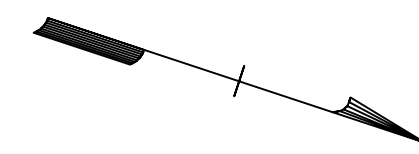
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT 9

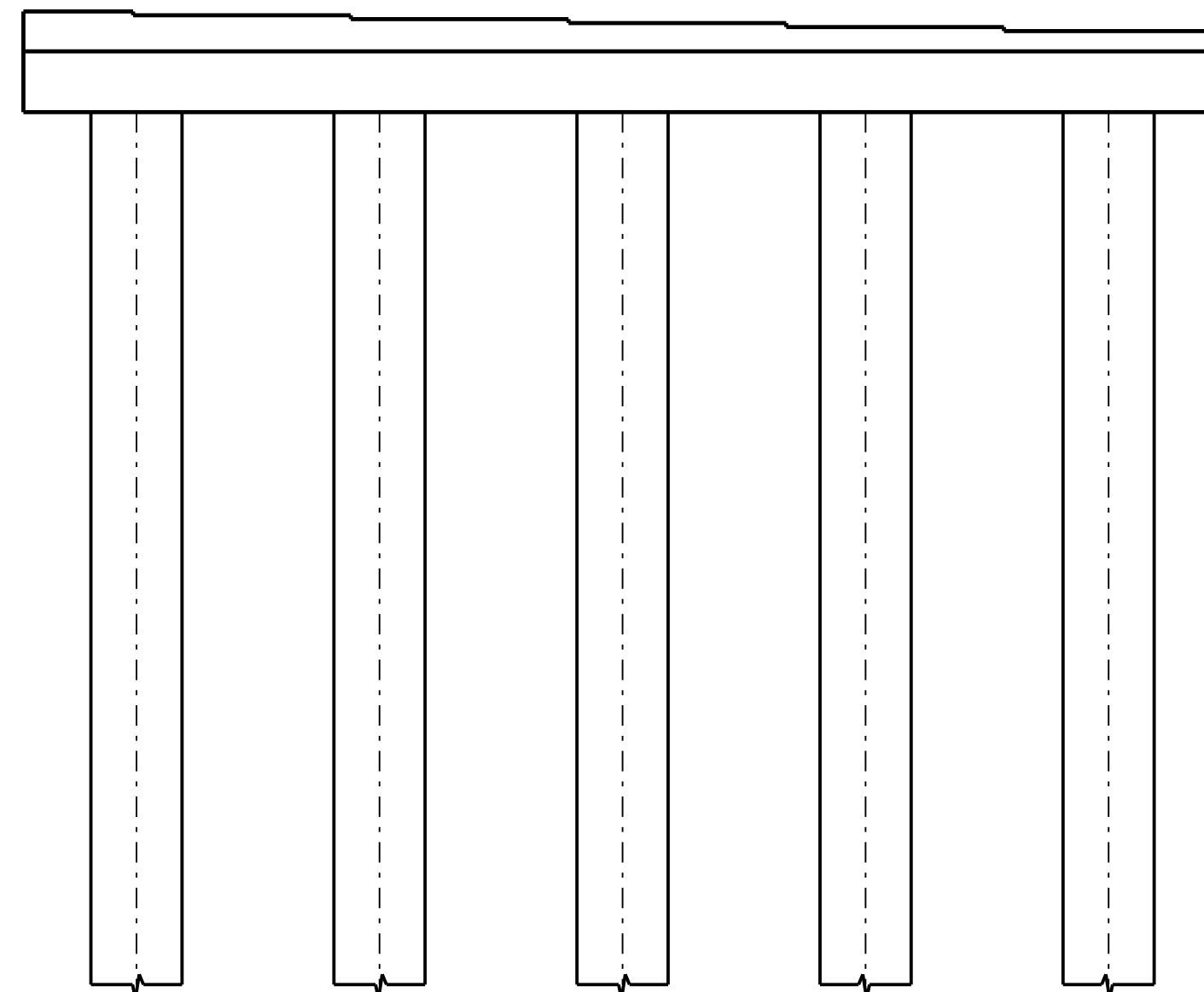
DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
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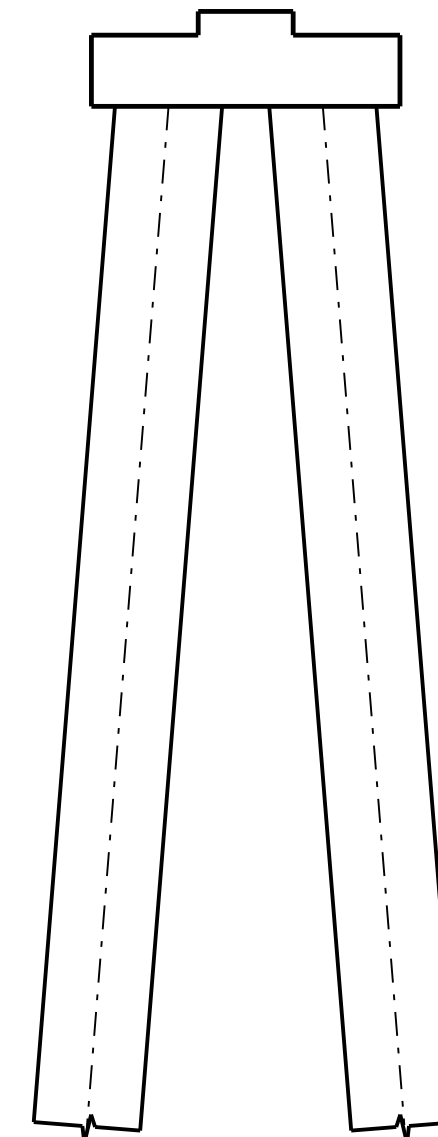
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|-----------|-----|-------|-----|-----|-------|--------------|
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| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



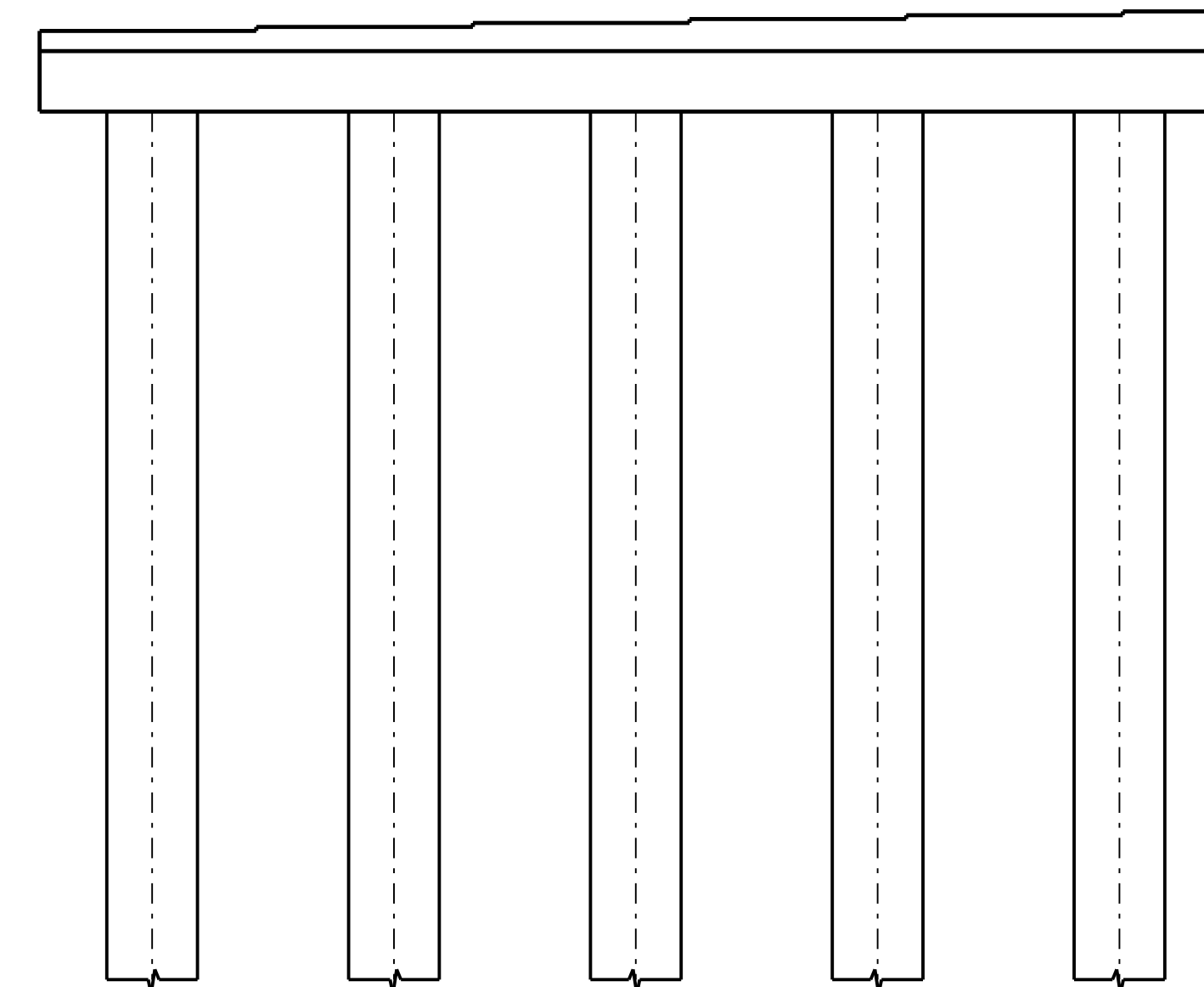
END VIEW
EAST SIDE



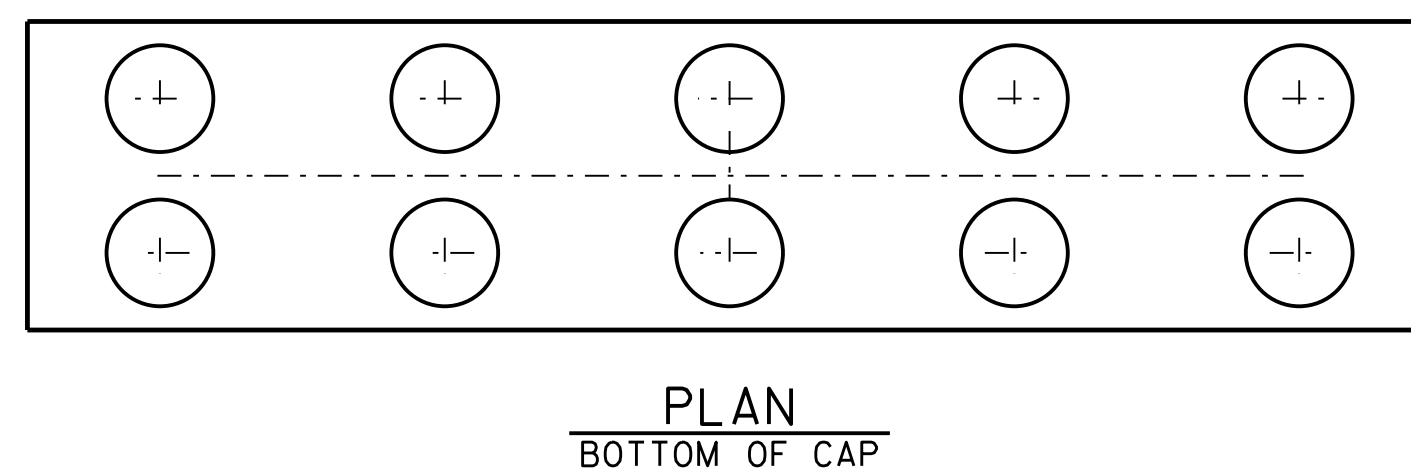
ELEVATION
NORTH SIDE



END VIEW
EAST SIDE



ELEVATION
NORTH SIDE



SHOTCRETE REPAIRS
 EPOXY RESIN INJECTION

NOTES:

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REPAIR QUANTITY TABLE

| BENT 10 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 769.2 | | | |

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43

SHEET 11 OF 25

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT 10

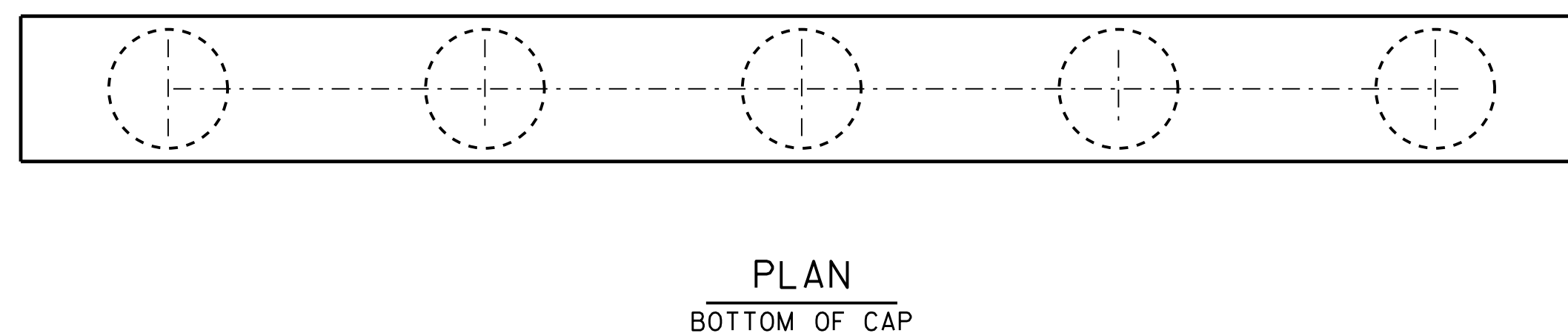
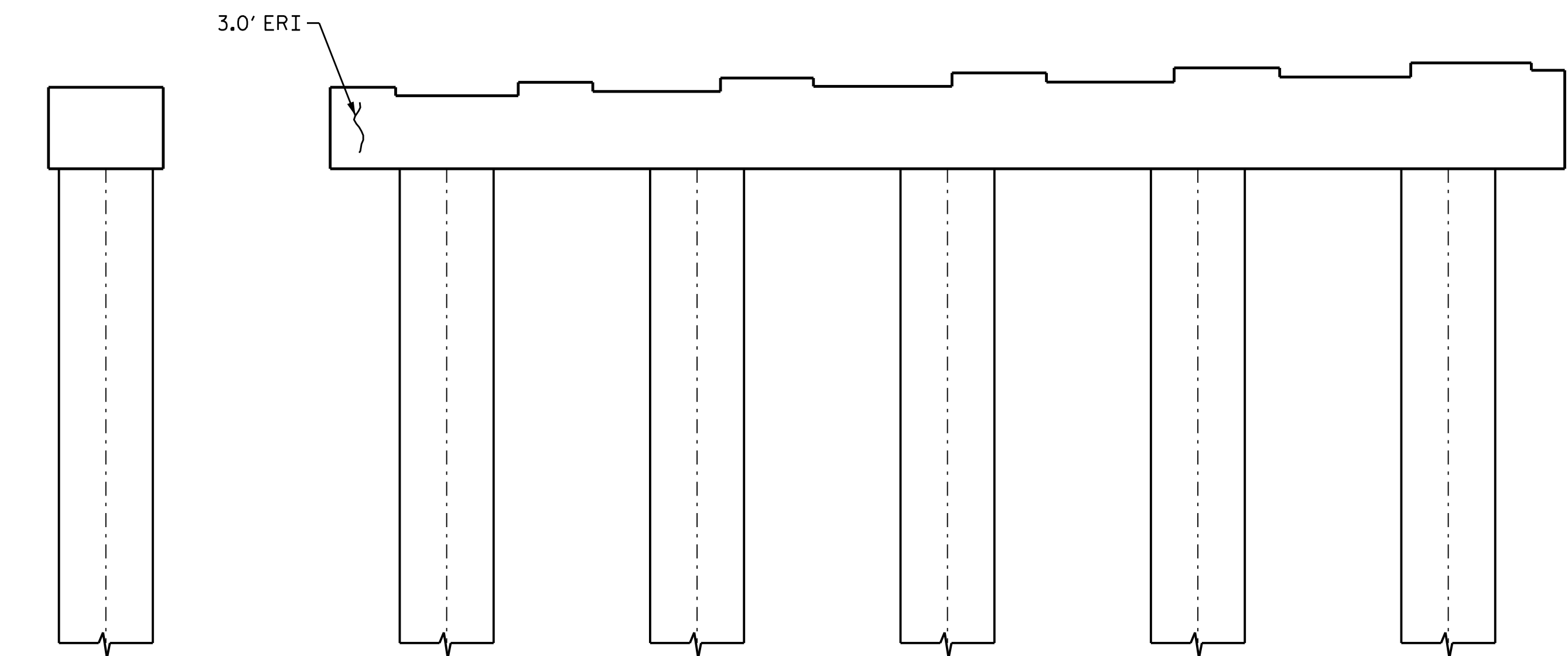
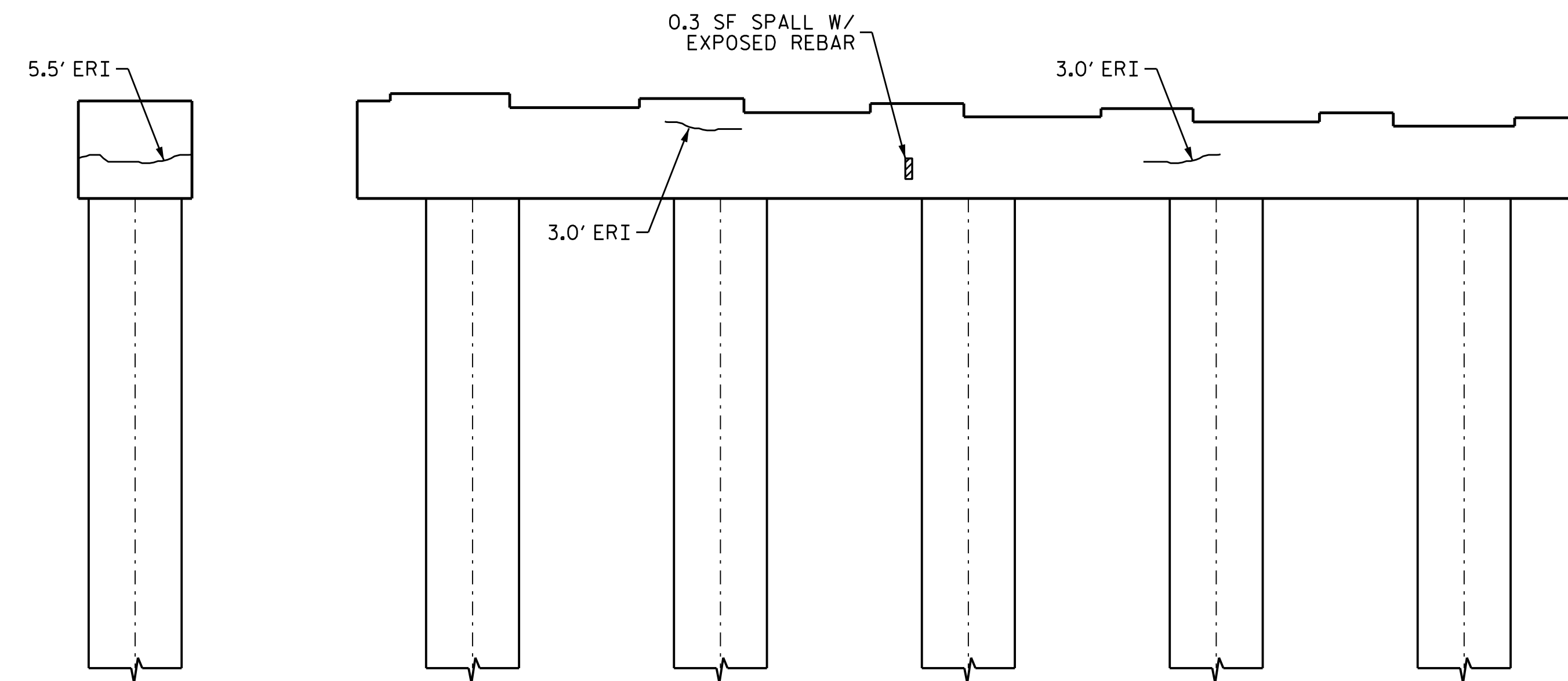
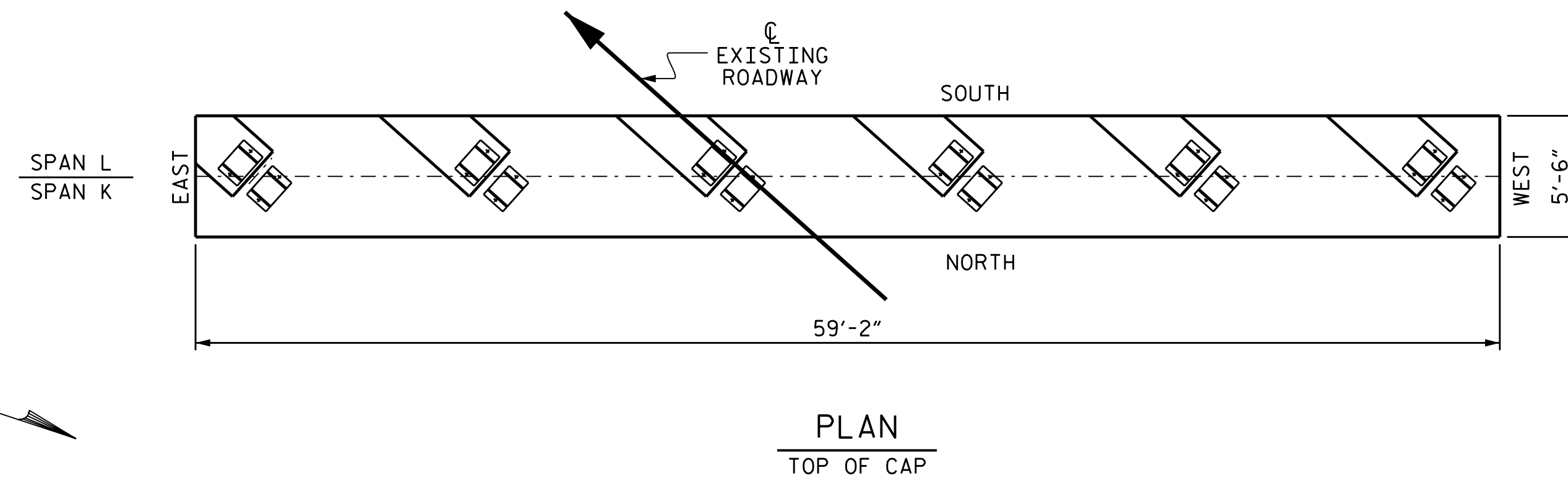


DocuSigned by:
 P. Corey Newton
 4/24/2018

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

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 SIGNATURES COMPLETED

| NO. | REVISIONS | | | NO. | REVISIONS | | | SHEET NO. |
|-----|-----------|-------|--|-----|-----------|-------|------------------|-----------|
| | BY: | DATE: | | | BY: | DATE: | | |
| 1 | | | | 3 | | | S-35 | |
| 2 | | | | 4 | | | TOTAL SHEETS 104 | |



NOTES:

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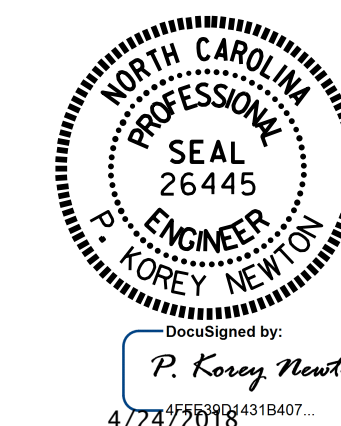
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 11 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.3 | 0.2 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 14.5 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 325.4 | | | |

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



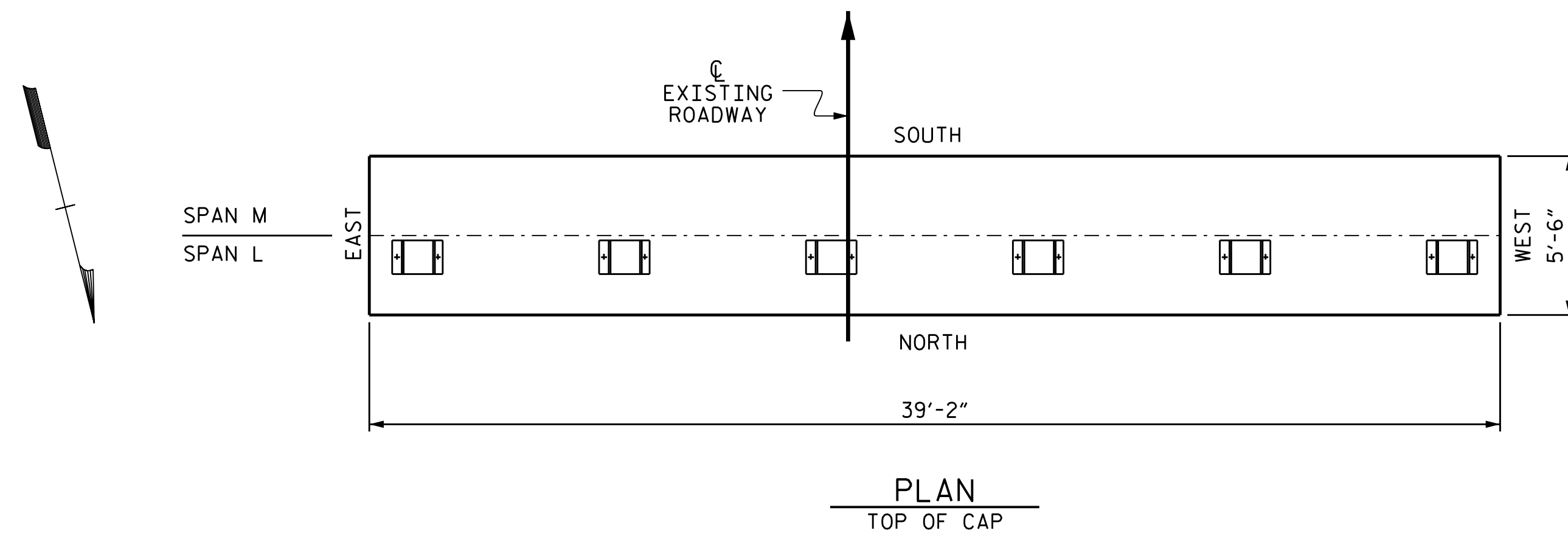
PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43
 SHEET 12 OF 25

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SUBSTRUCTURE
 BENT 11**

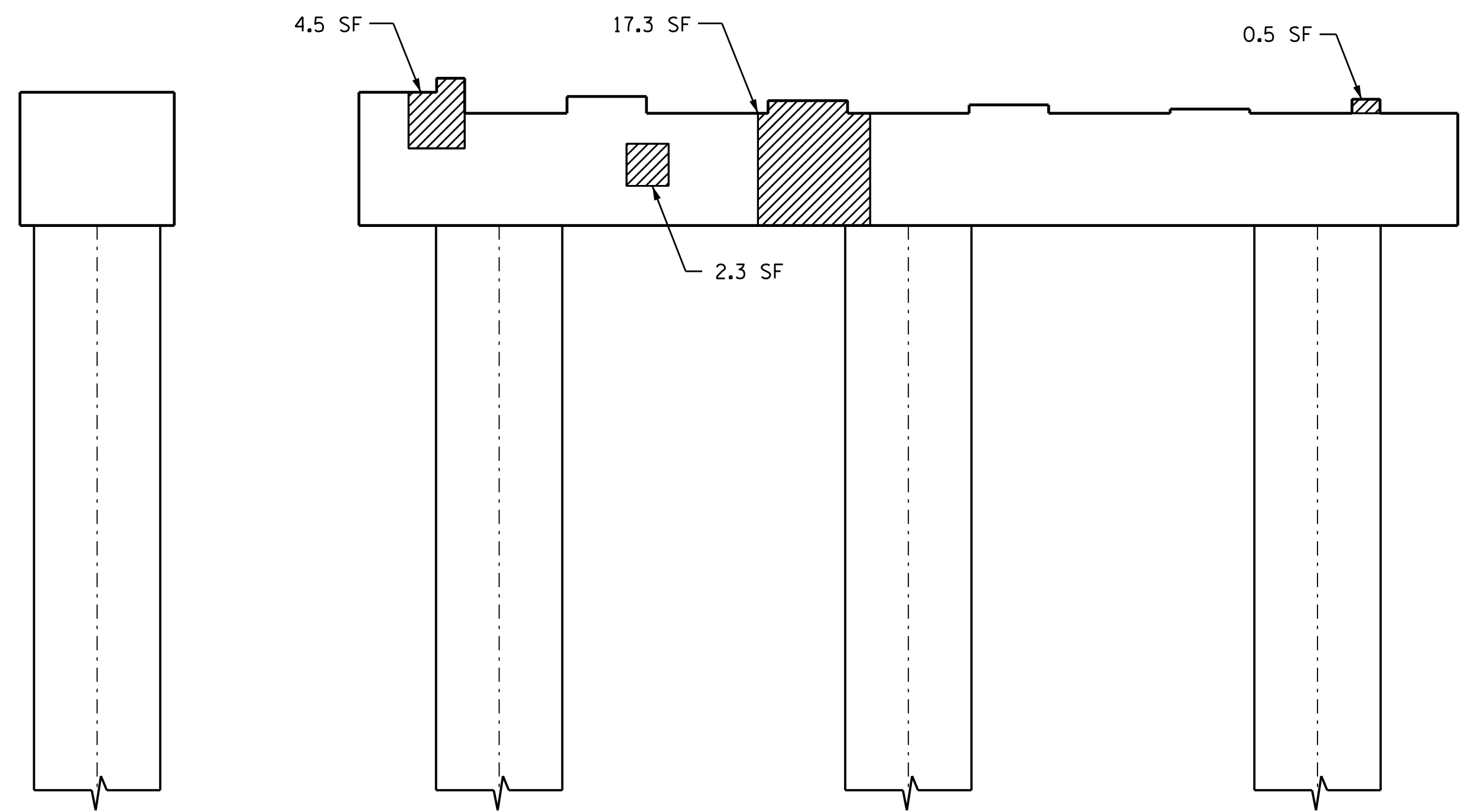
DRAWN BY : P.D. BRYANT DATE : 03/2018
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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | S-36 |
| 2 | | | 4 | | | TOTAL SHEETS 104 |

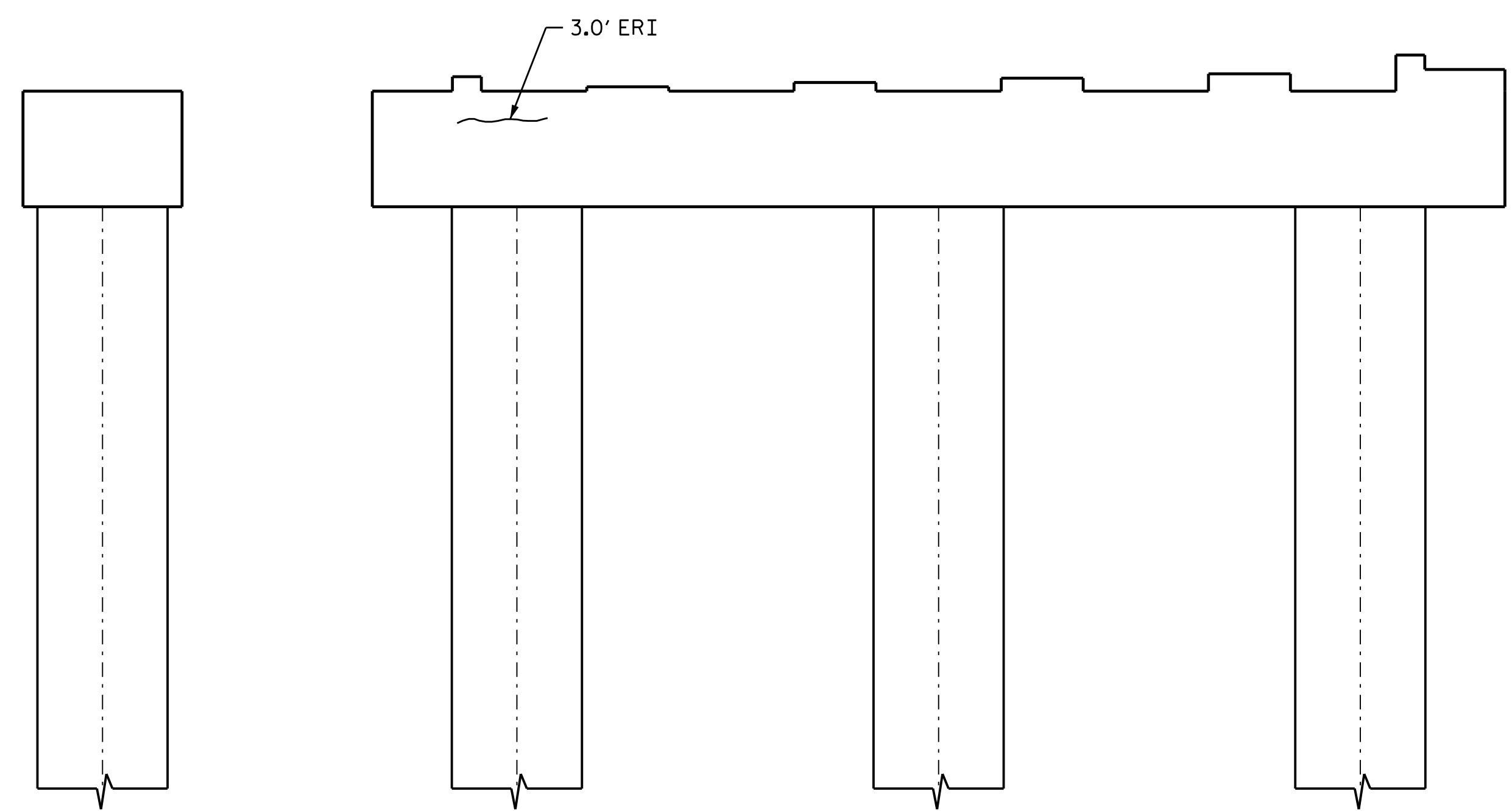


PLAN
TOP OF CAP



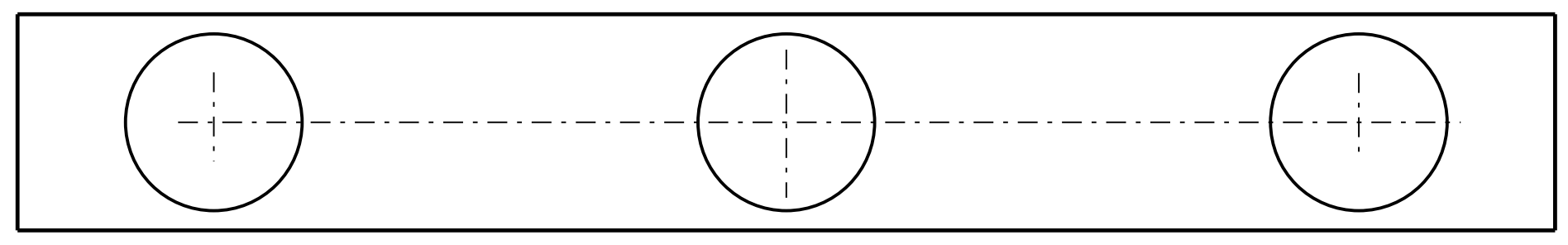
END VIEW
EAST SIDE

ELEVATION
NORTH SIDE



END VIEW
WEST SIDE

ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

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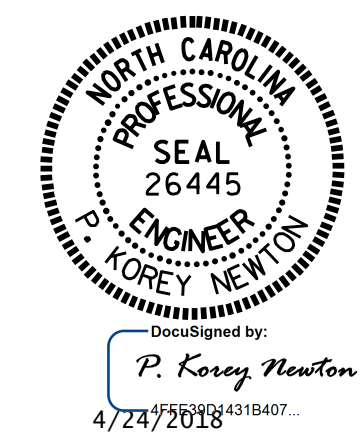
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 12 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 24.6 | 12.4 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 3.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

SHOTCRETE REPAIRS
 EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43

SHEET 13 OF 25

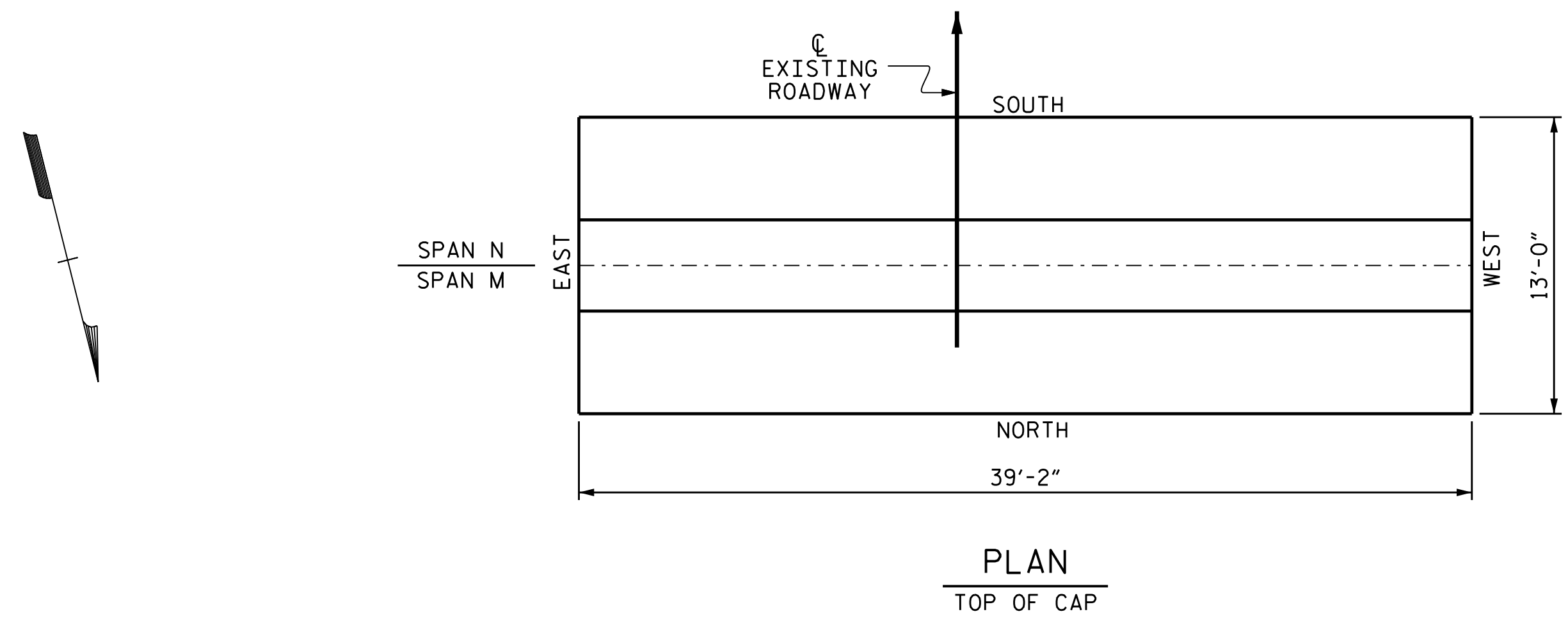
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 12**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-37 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

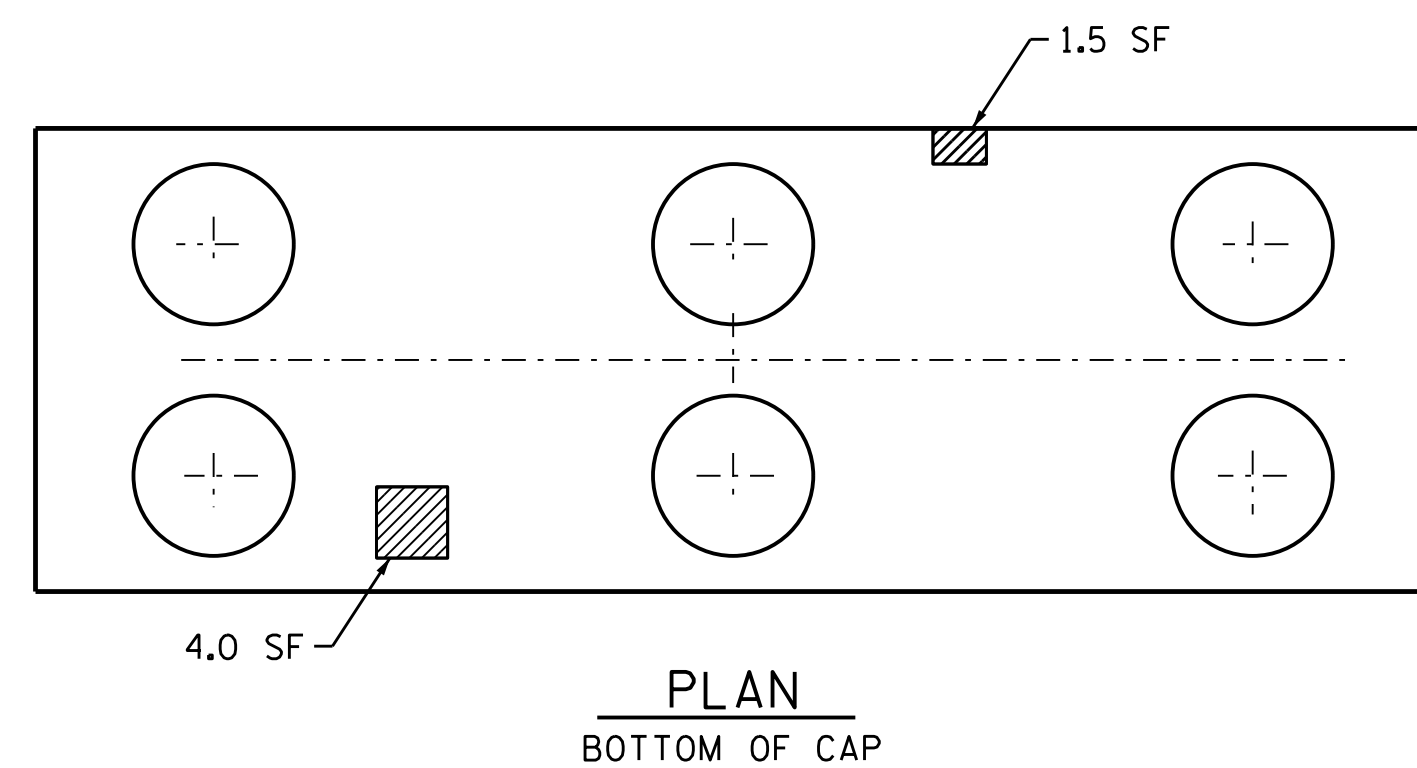
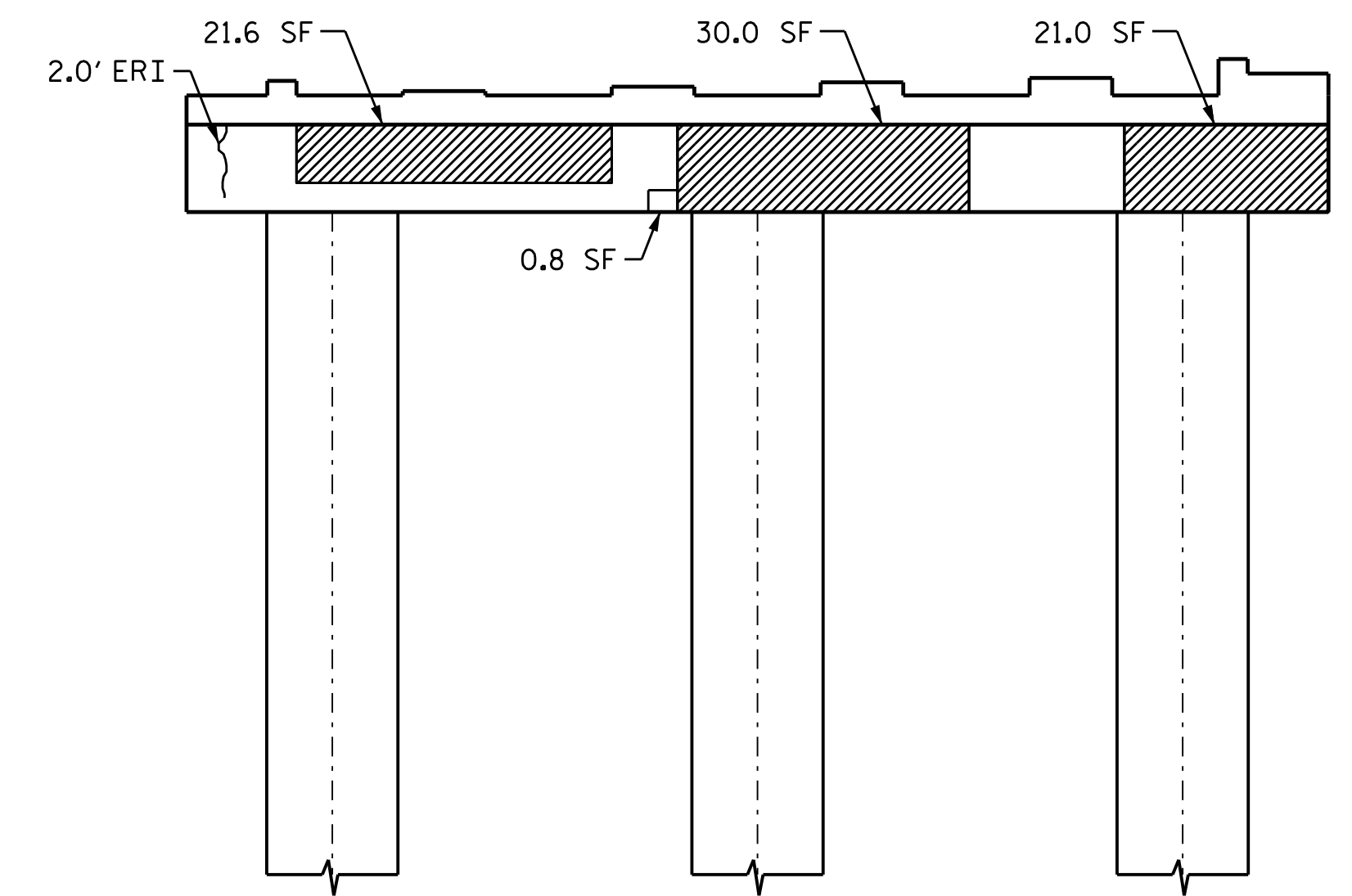
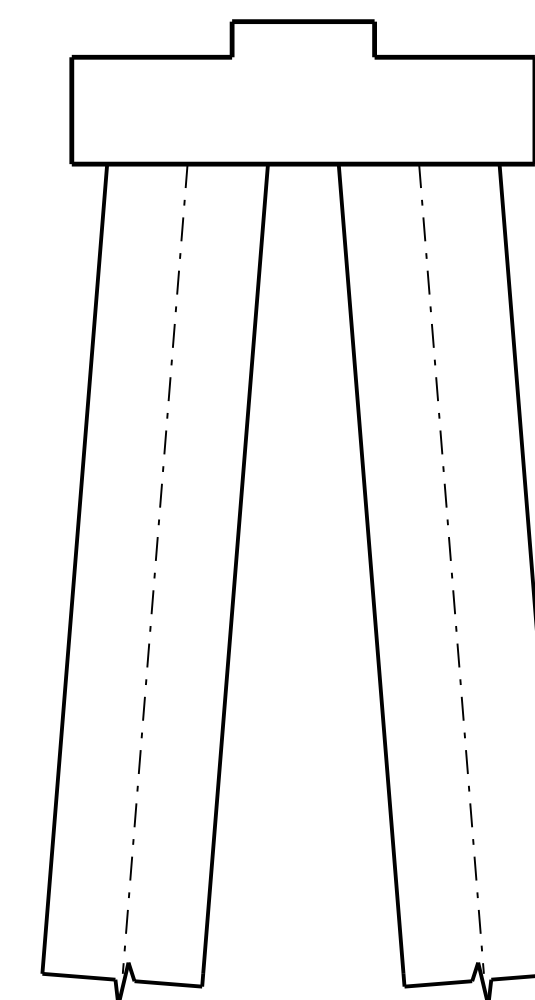
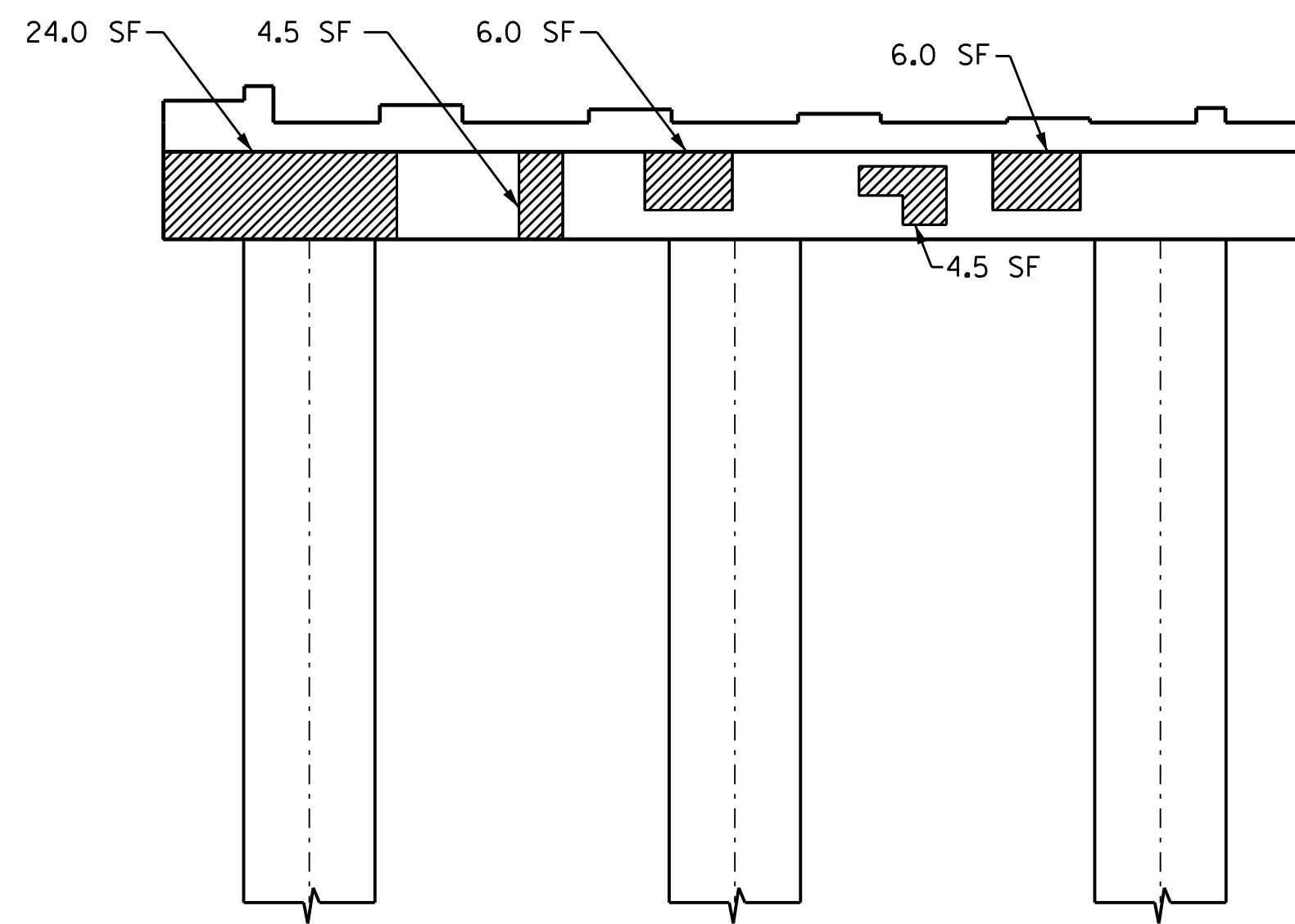
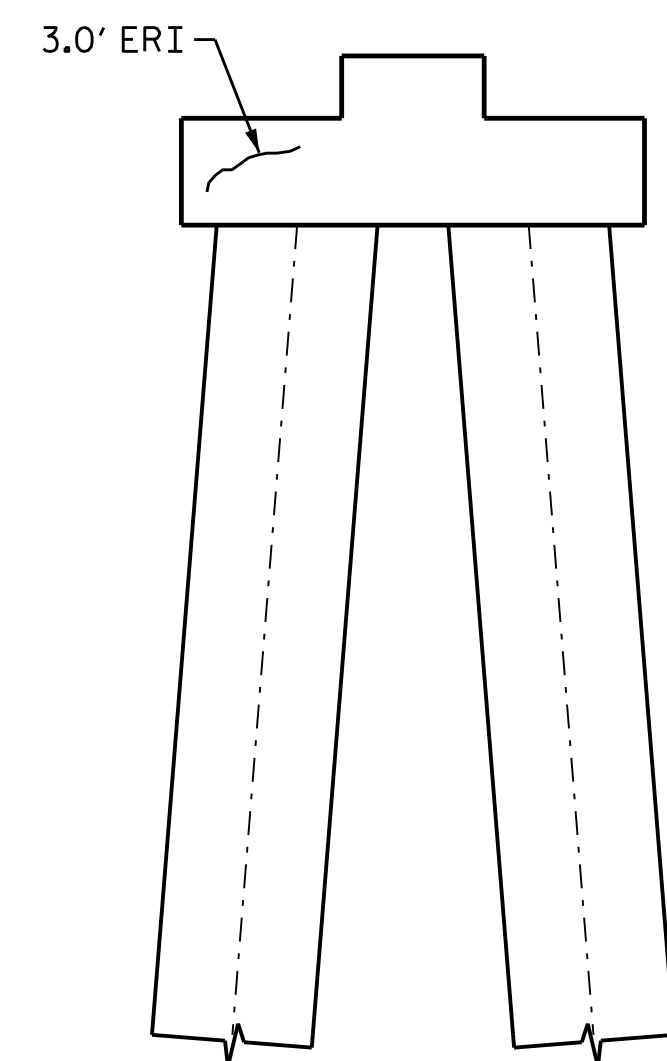
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 13 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 118.4 | 59.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 5.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
 CAMDEN COUNTY
 STATION: 43

SHEET 14 OF 25



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 13**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-38 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| BENT 14 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 72.9 | 36.5 | | |
| CAP (HORIZONTAL FACE) | 3.0 | 1.5 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

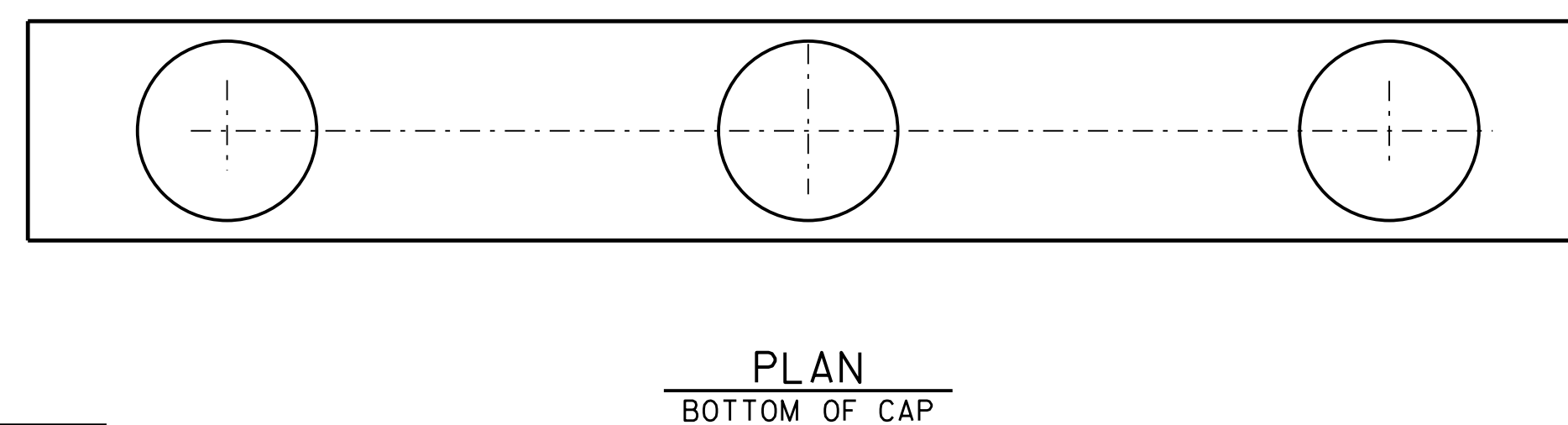
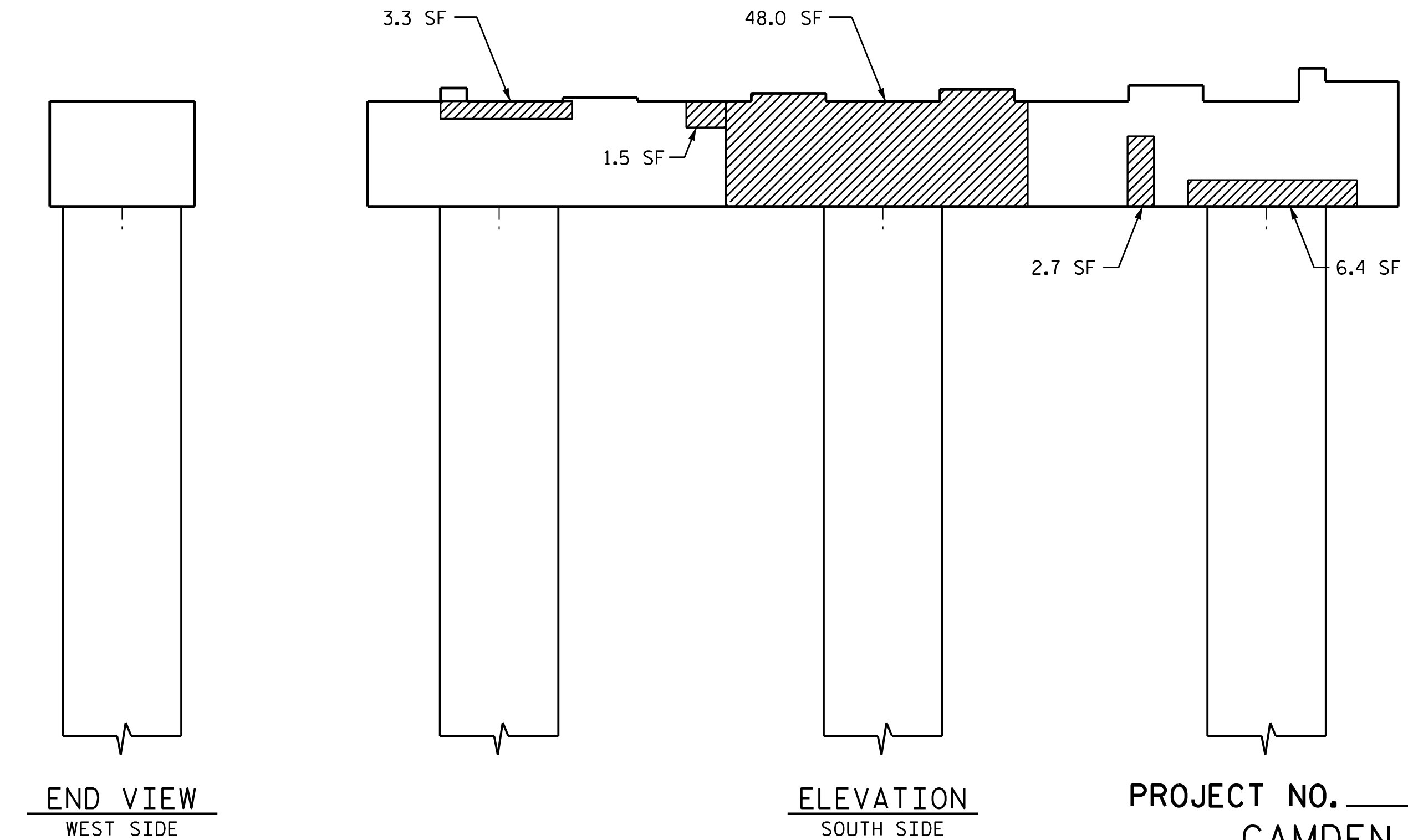
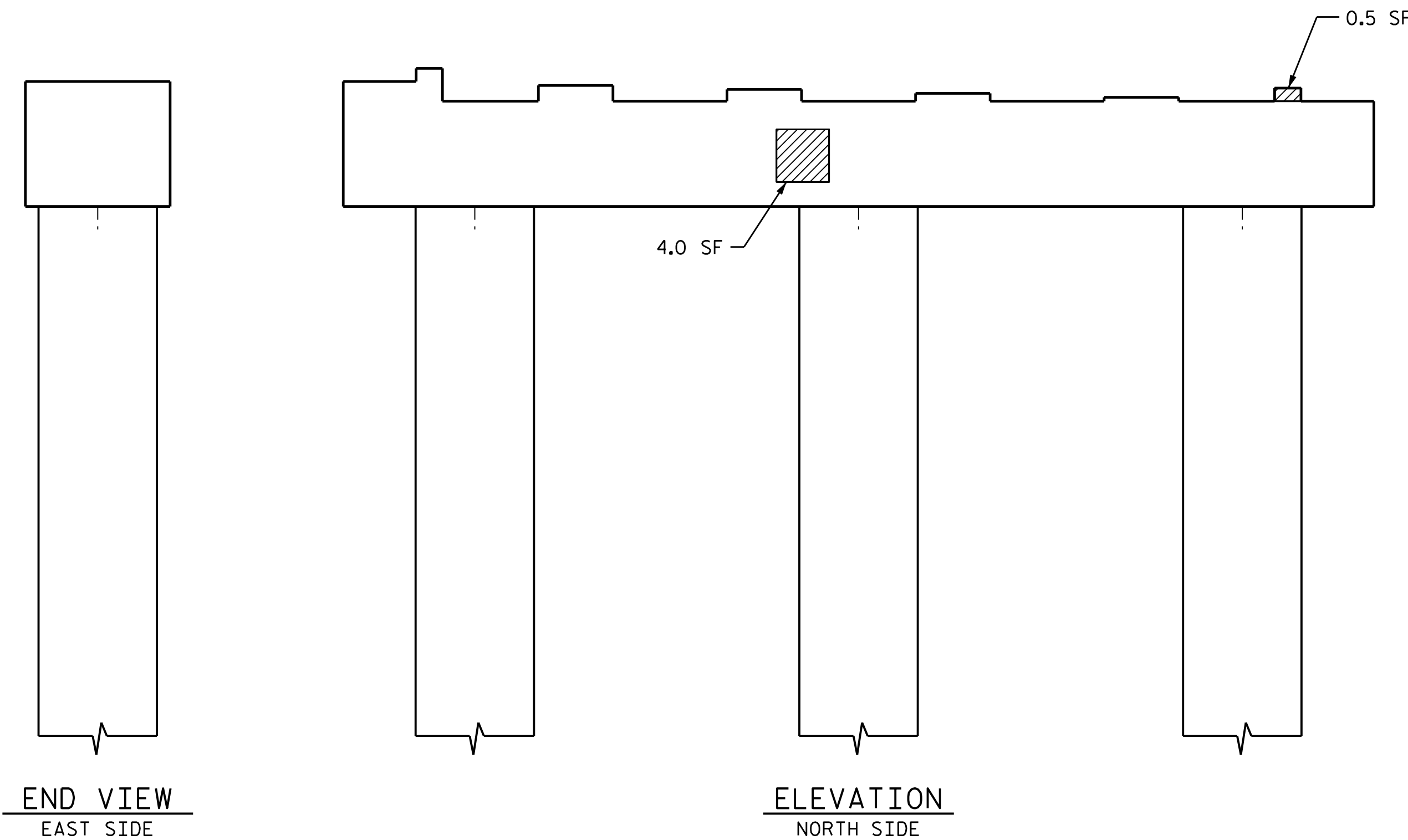
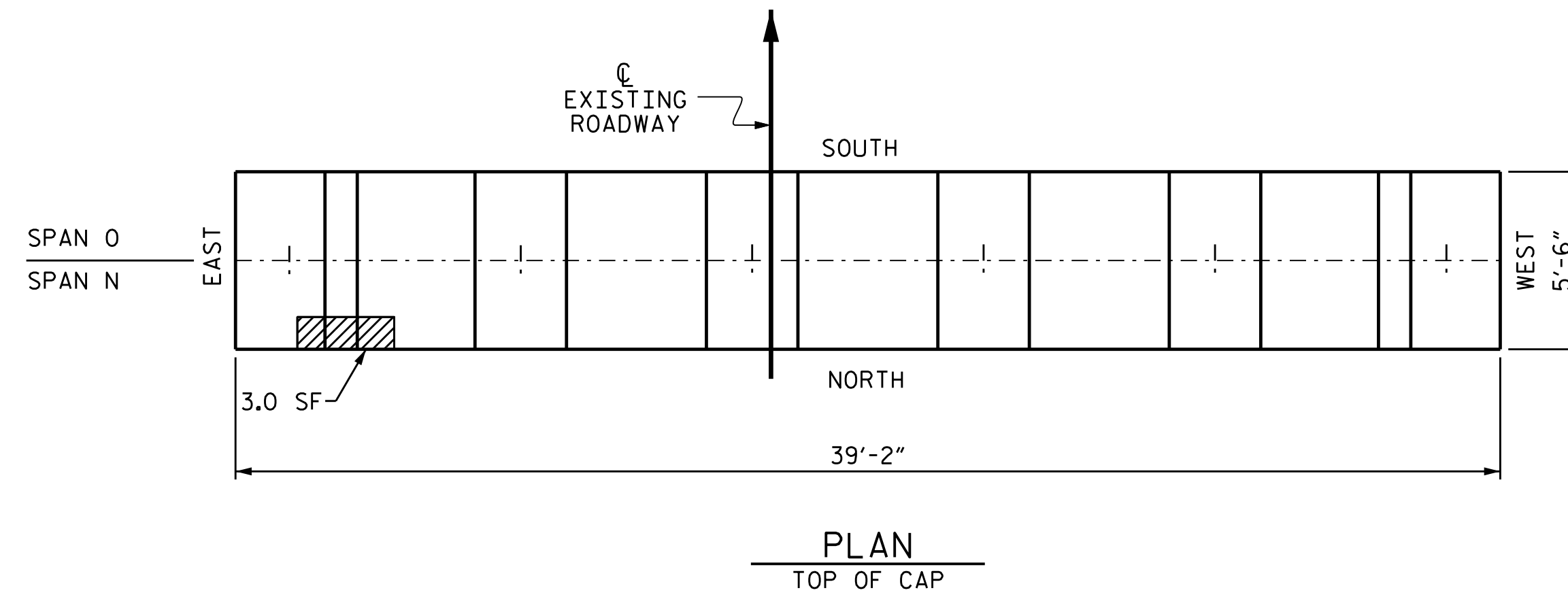
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

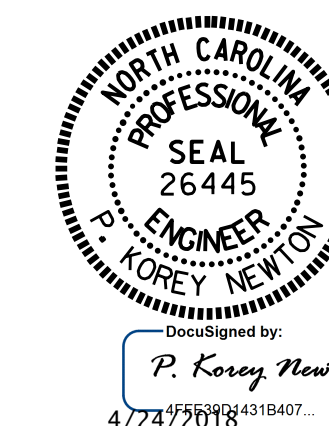
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43
SHEET 15 OF 25

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|-----------------|--------------|-------|-----------------|-----------------------------|
| SUBSTRUCTURE BENT 14 | | | | | |
| REVISIONS | | | | | SHEET NO. |
| NO. 1 | BY: [Signature] | DATE: [Date] | NO. 3 | BY: [Signature] | DATE: [Date] |
| 2 | | | 4 | | |
| | | | | | S-39 TOTAL SHEETS 104 |

DRAWN BY : P.D. BRYANT DATE : 03/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REPAIR QUANTITY TABLE

| BENT 15 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 72.2 | 36.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 8.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

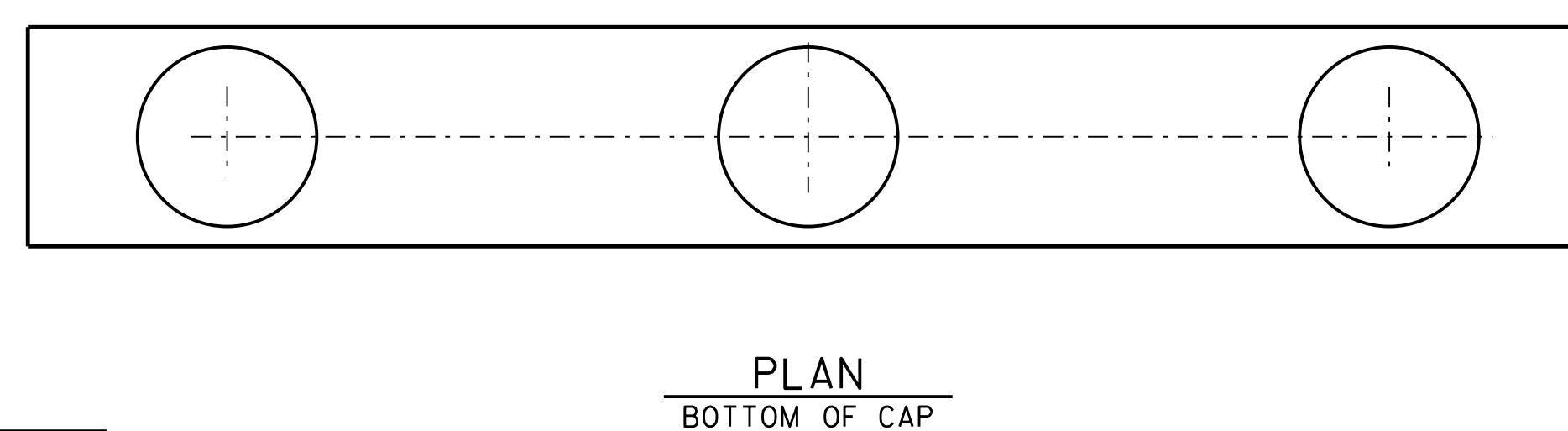
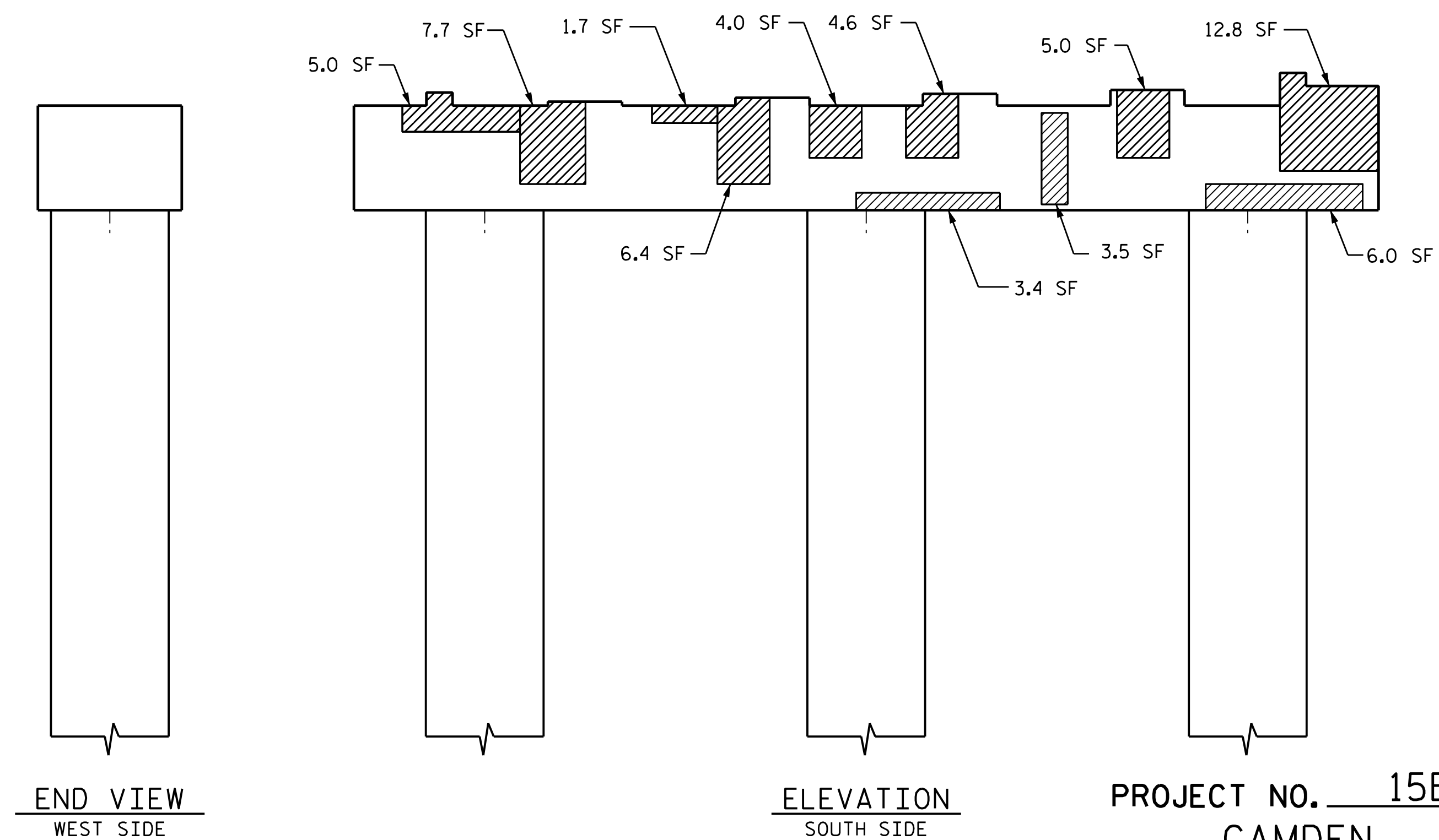
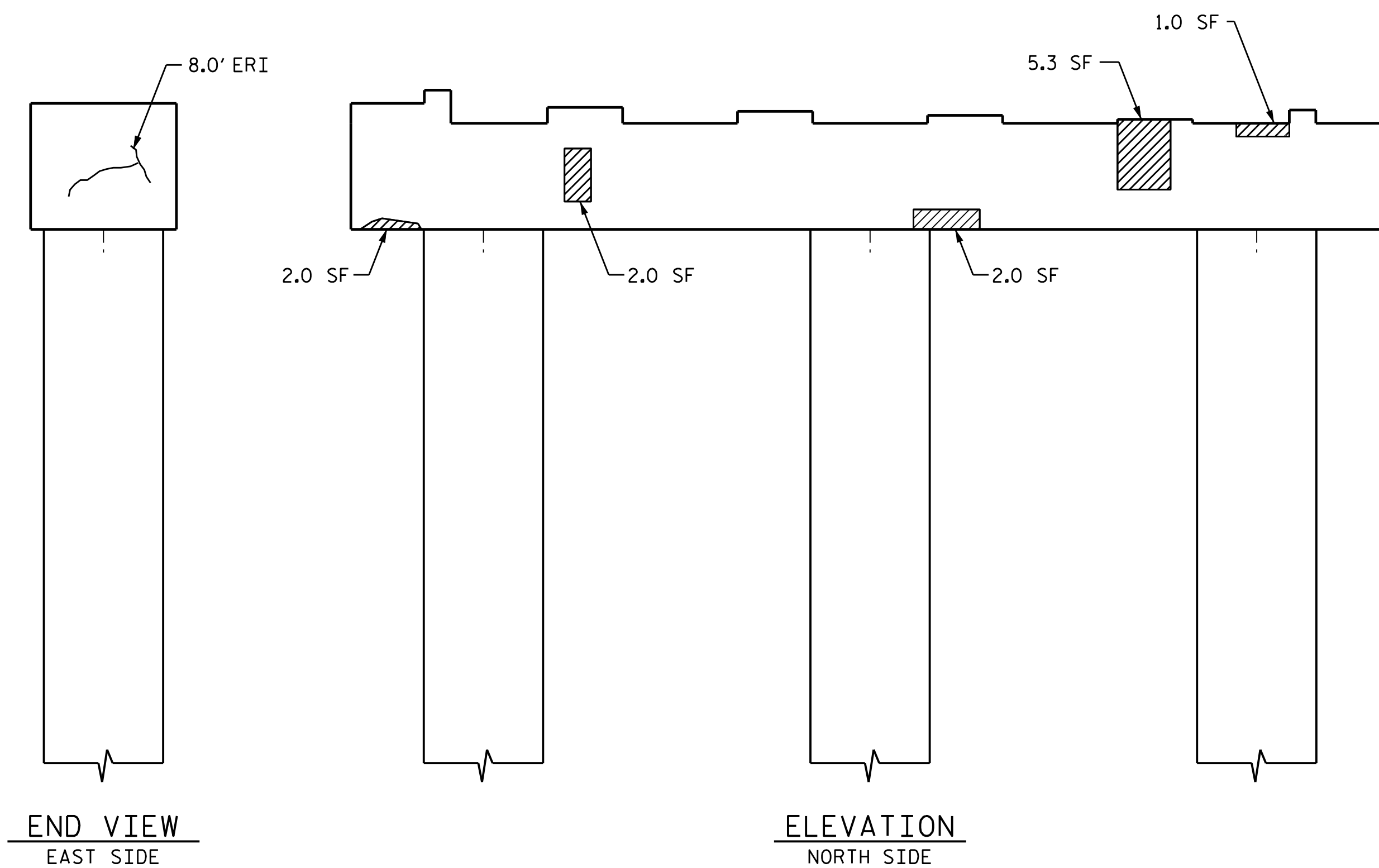
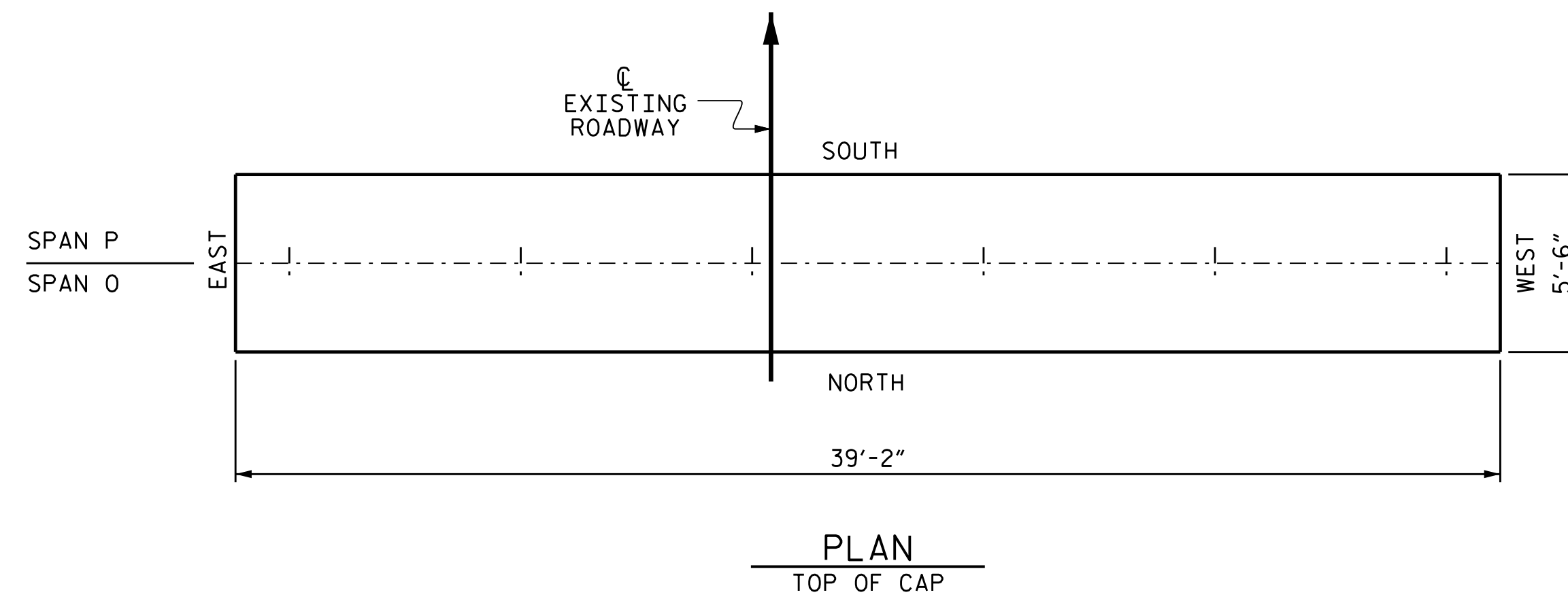
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 16 OF 25

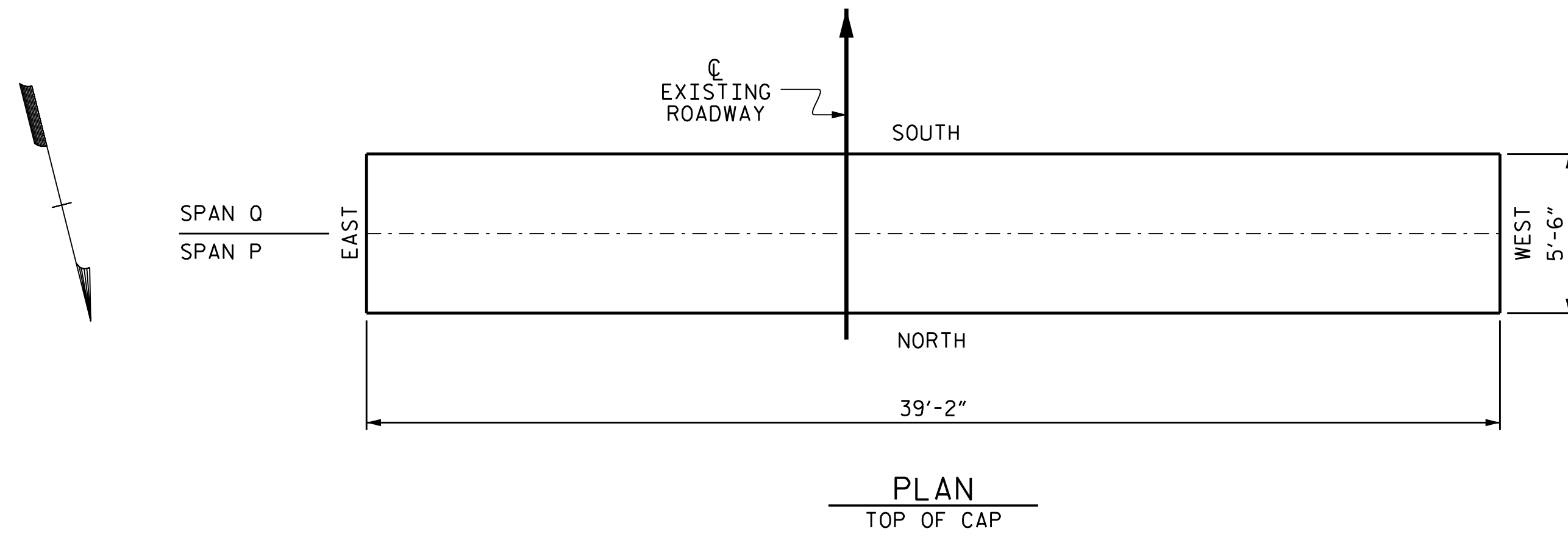
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE BENT 15

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-40 |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

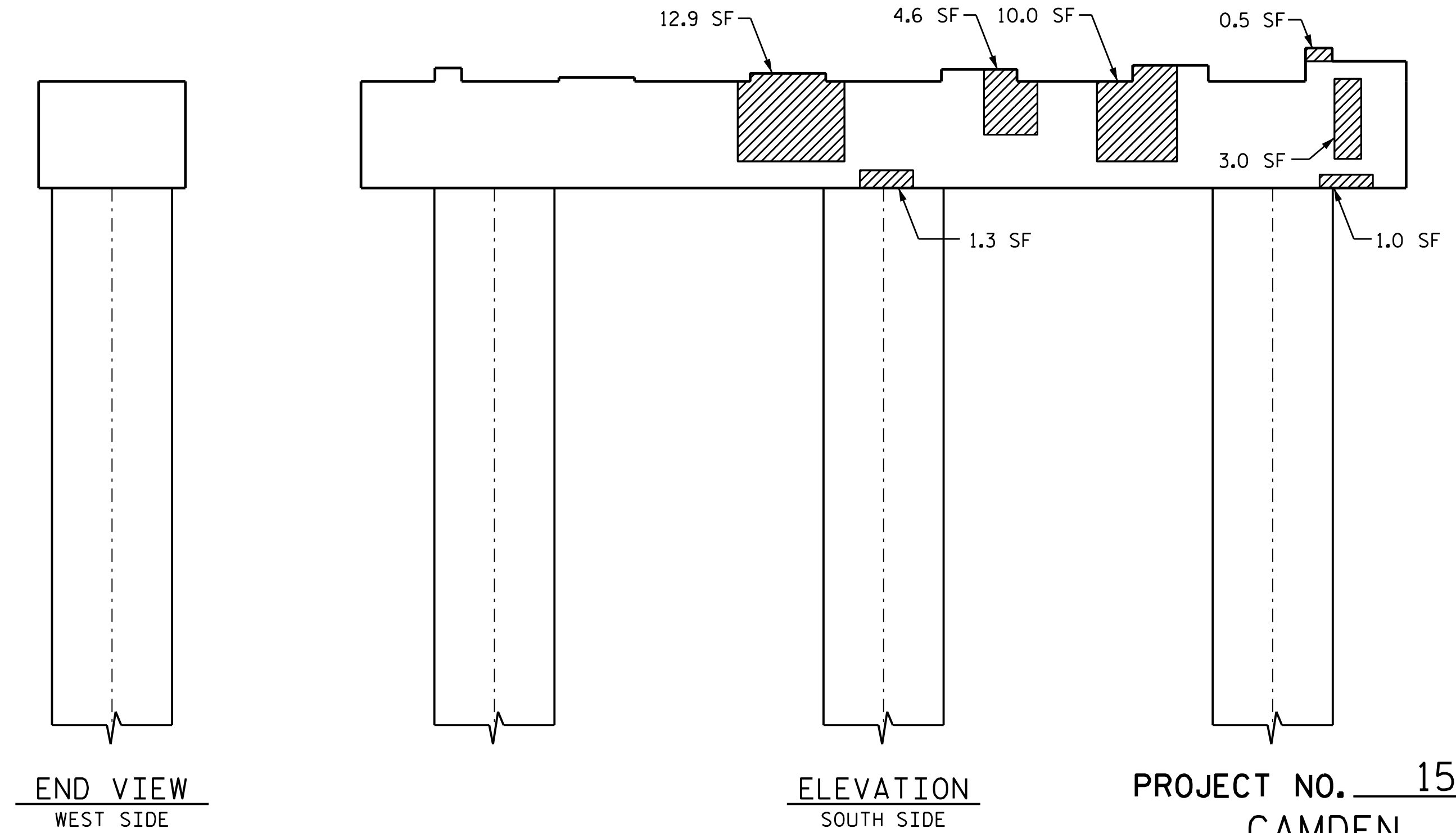
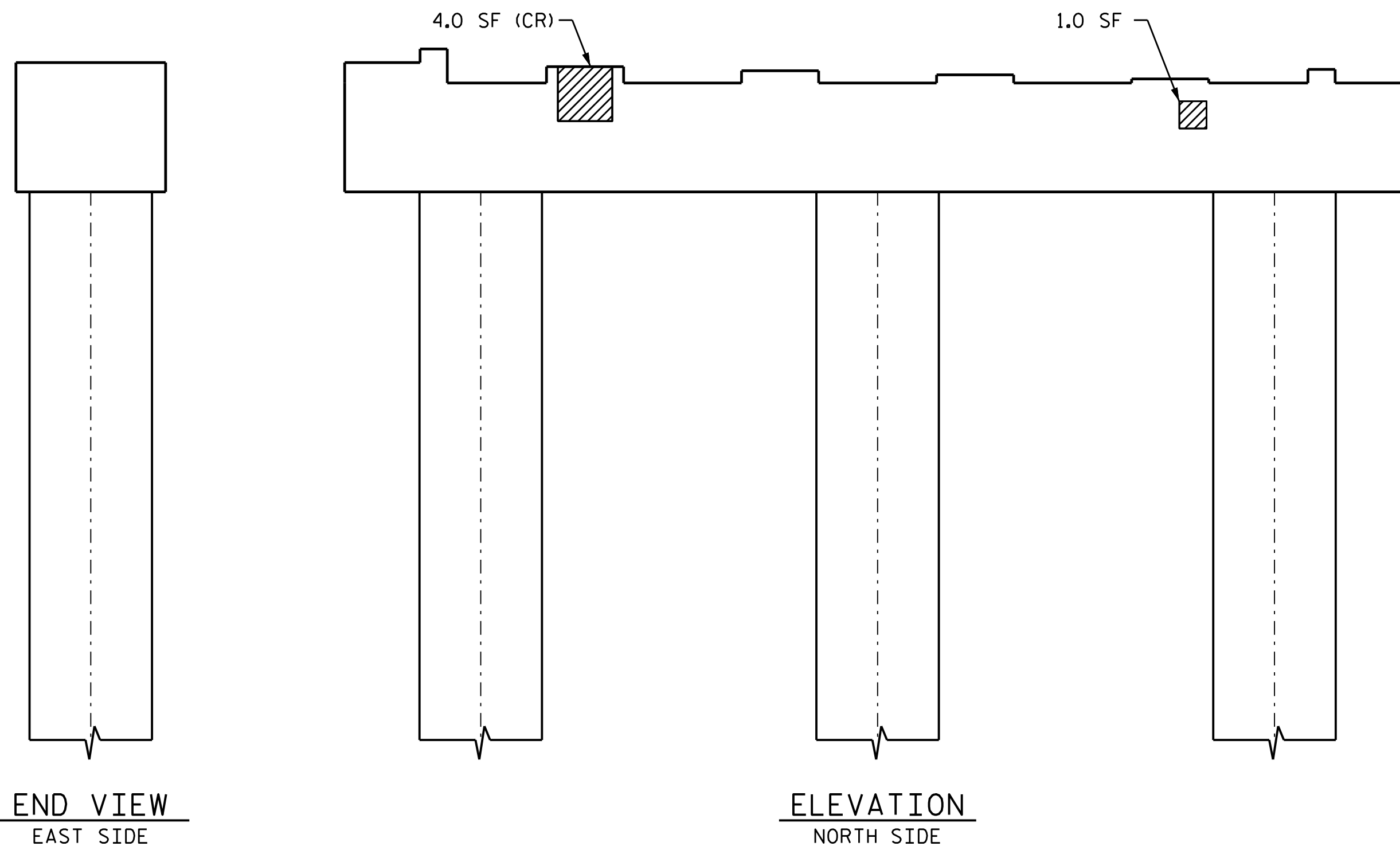
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

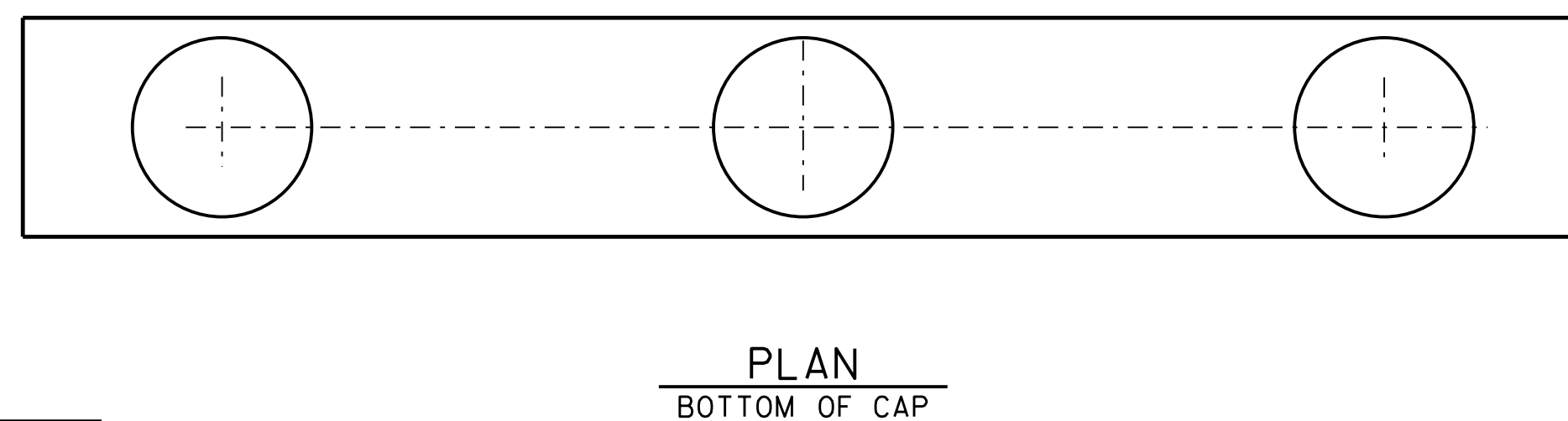
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

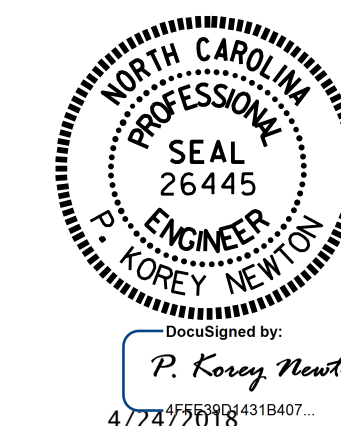
| BENT 16 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 38.3 | 19.2 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 17 OF 25



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



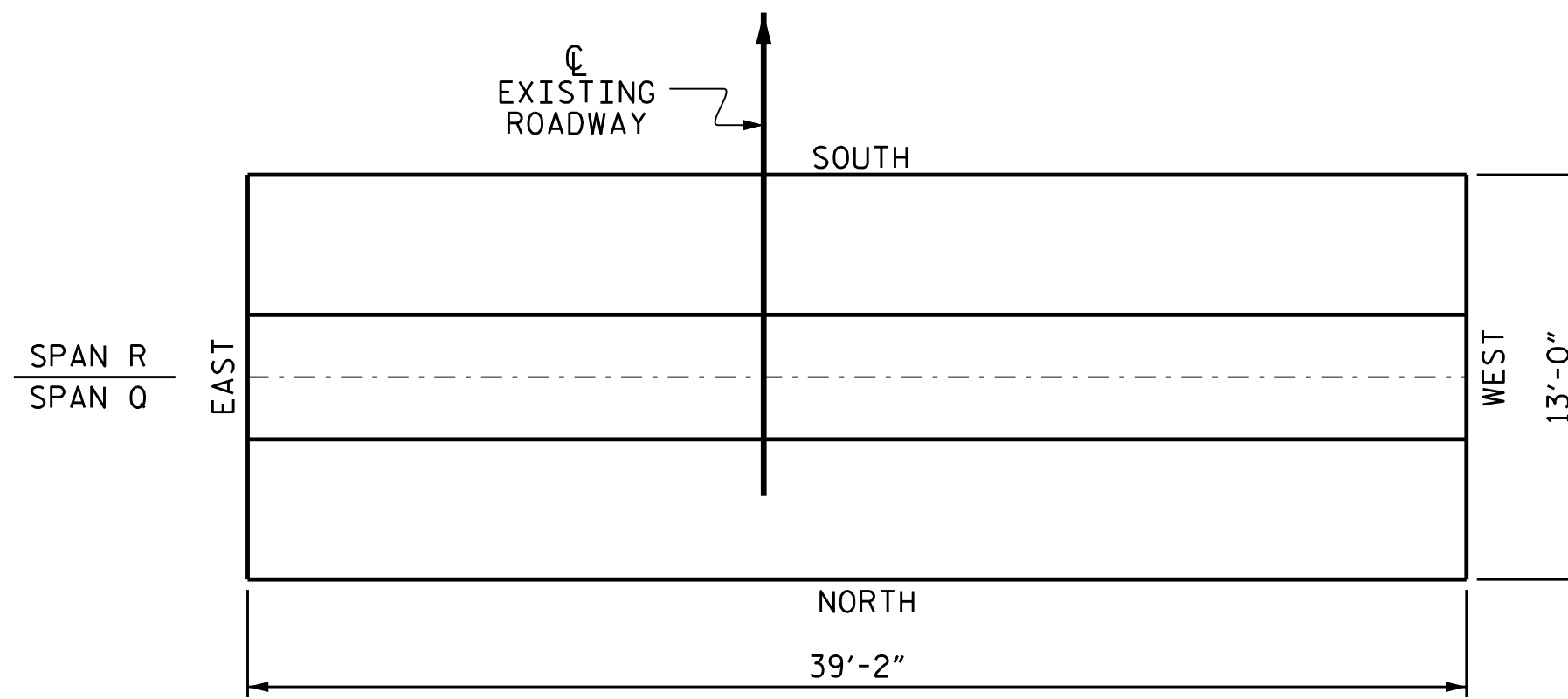
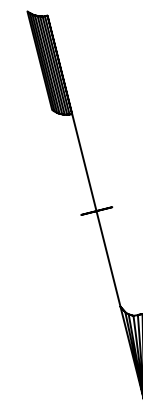
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 16**

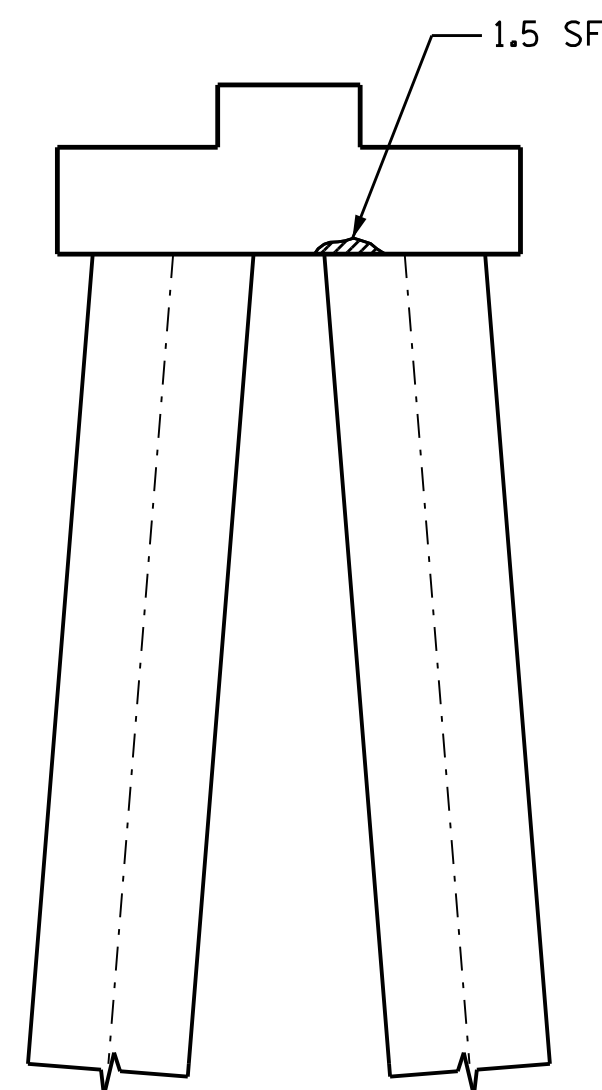
DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

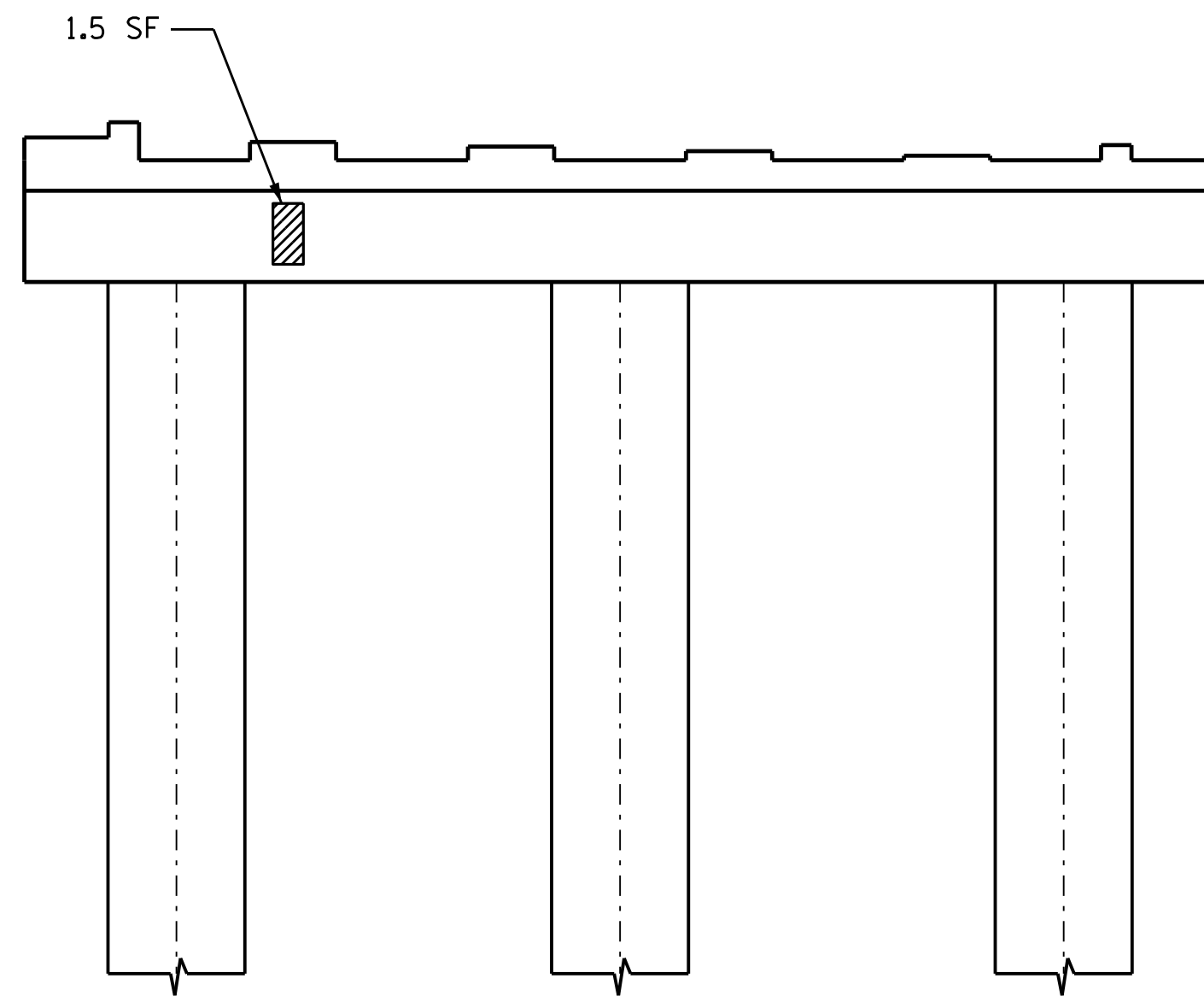
| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-41 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



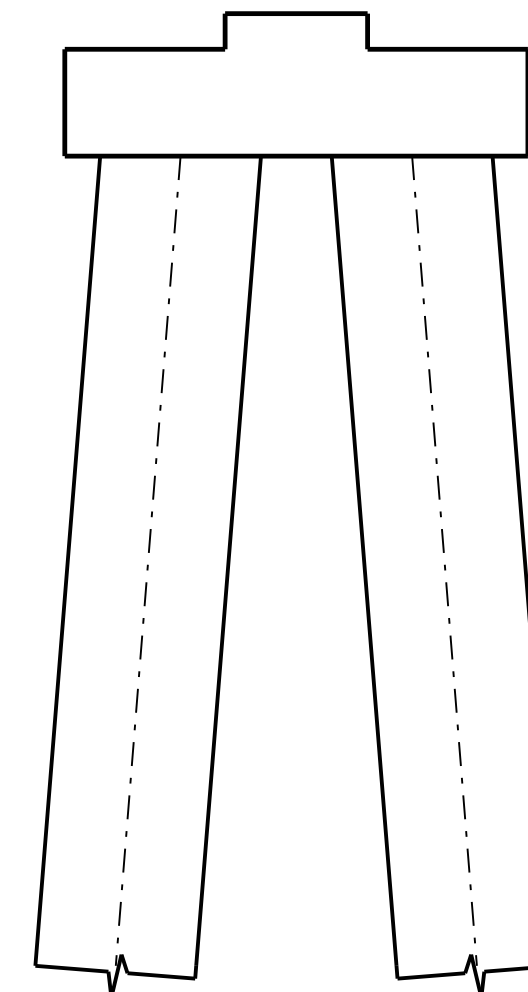
PLAN
TOP OF CAP



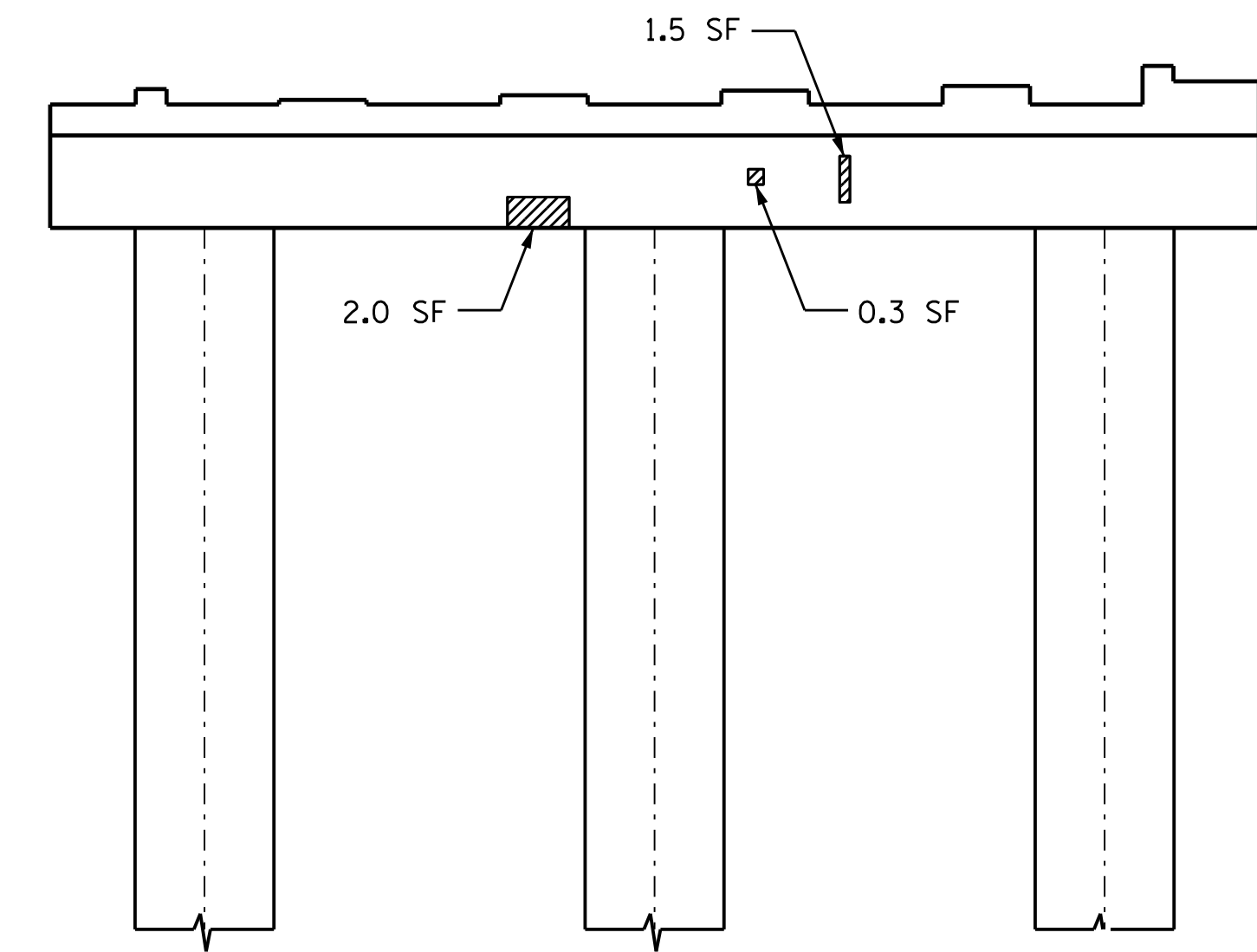
END VIEW
EAST SIDE



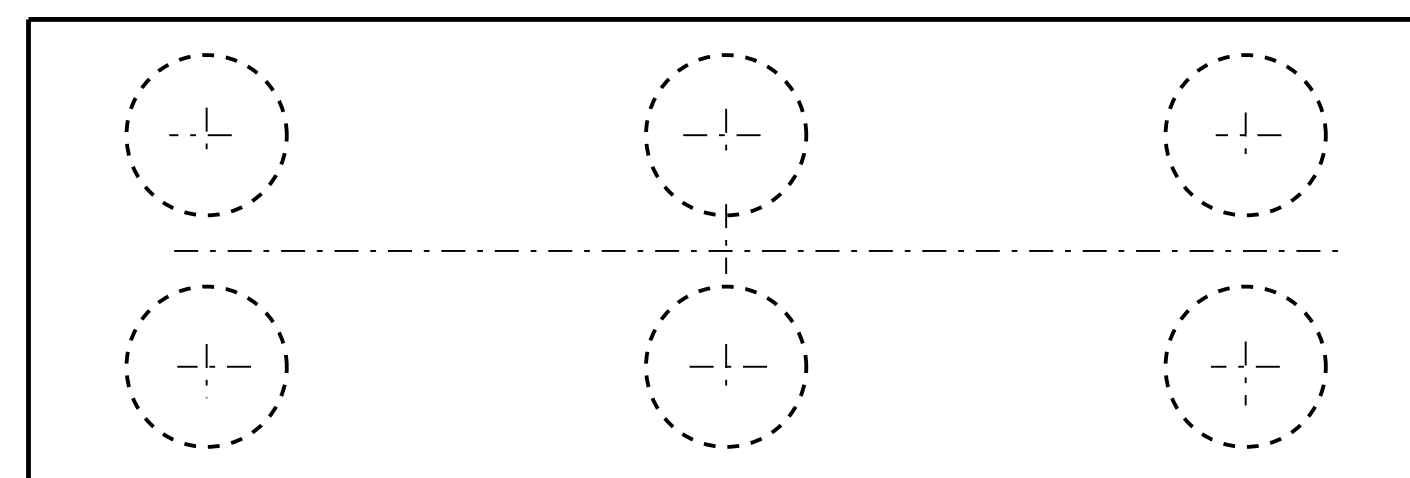
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



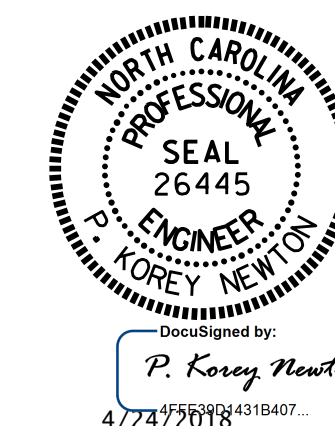
ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SPAN Q
SPAN R

▨ SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43
 SHEET 17 OF 25

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT 17

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-42 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

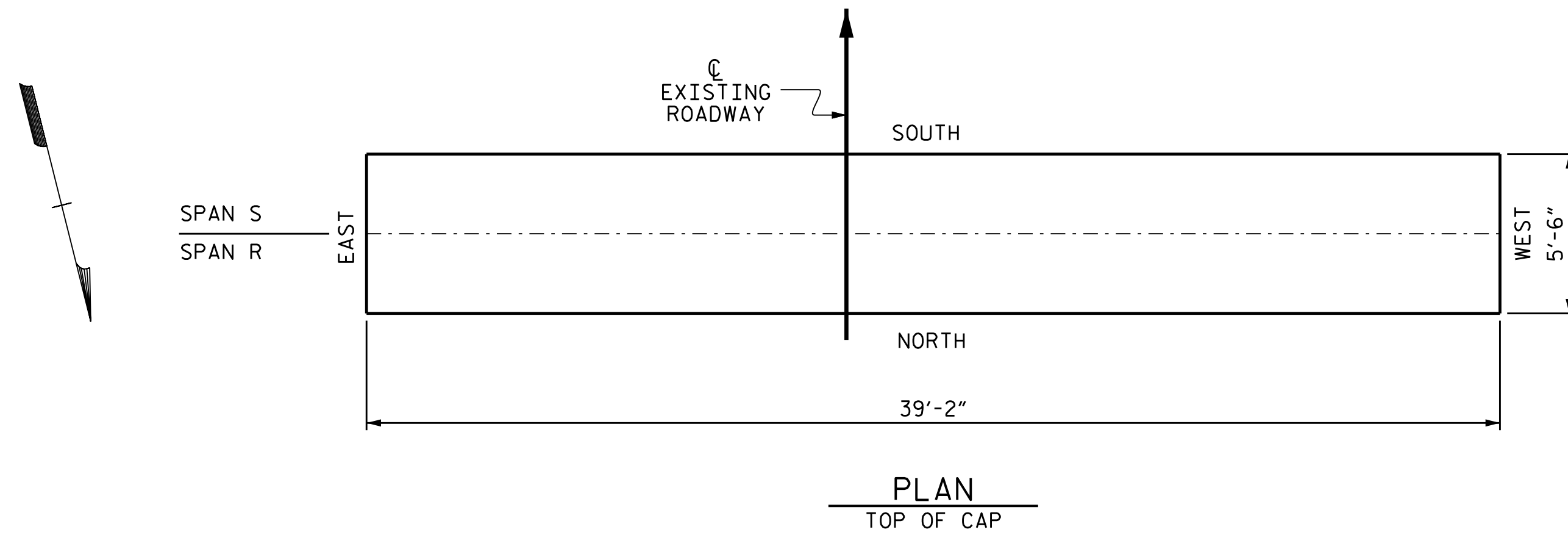
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 17 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 6.8 | 3.4 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 509.2 | | |

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018



NOTES:

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

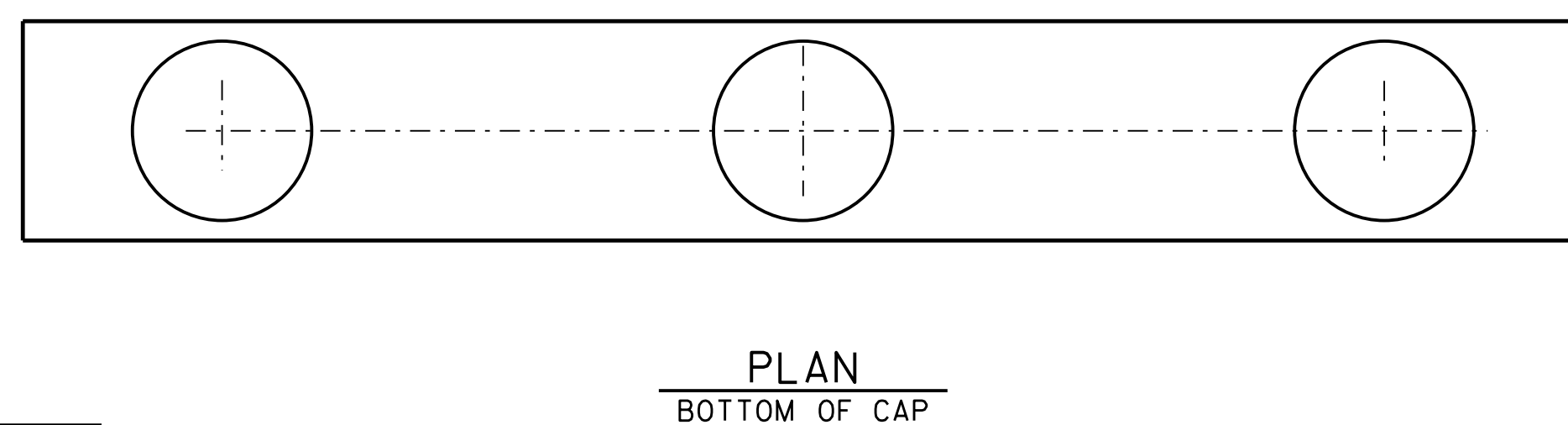
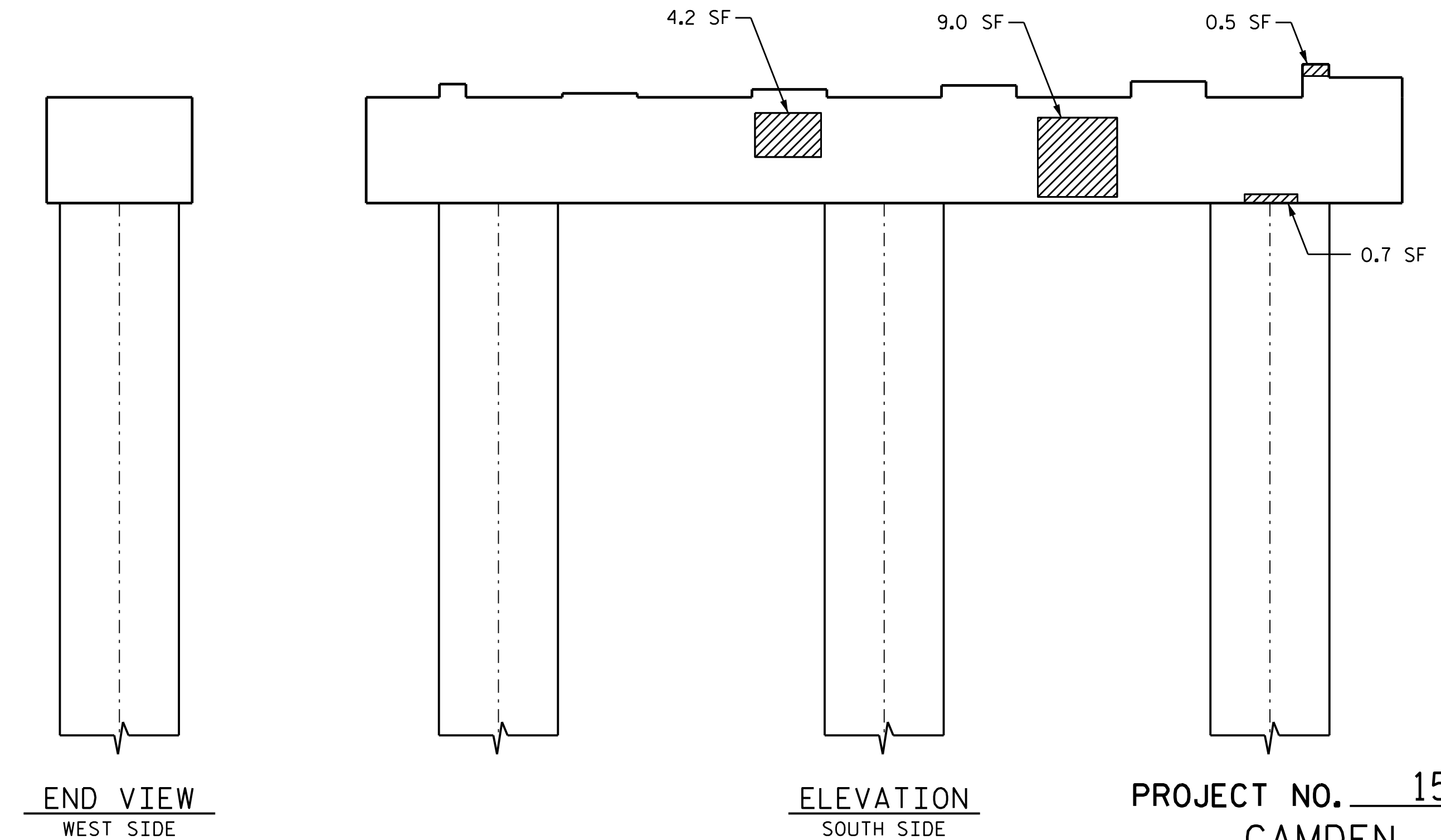
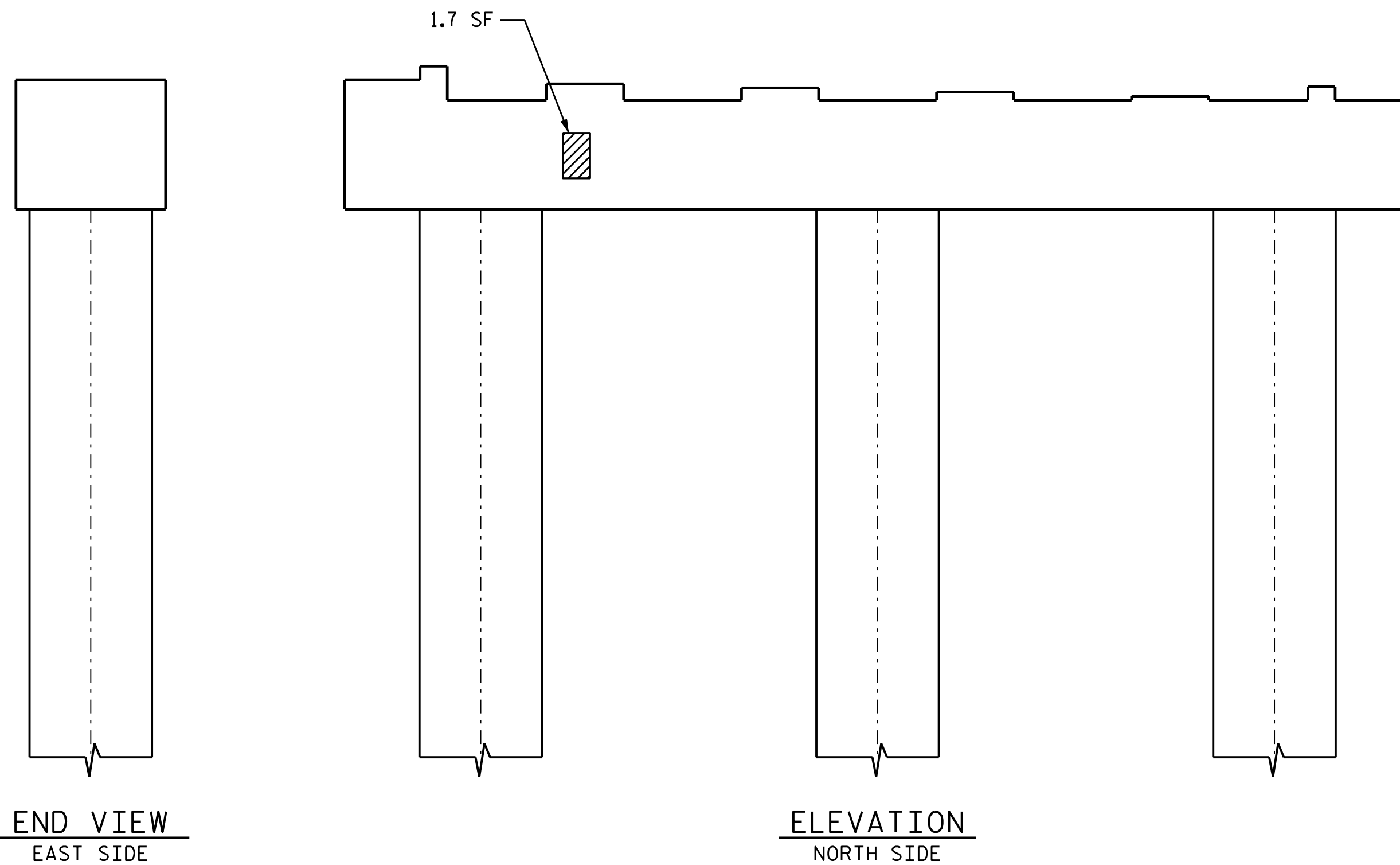
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 18 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 15.6 | 7.8 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 215.4 | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

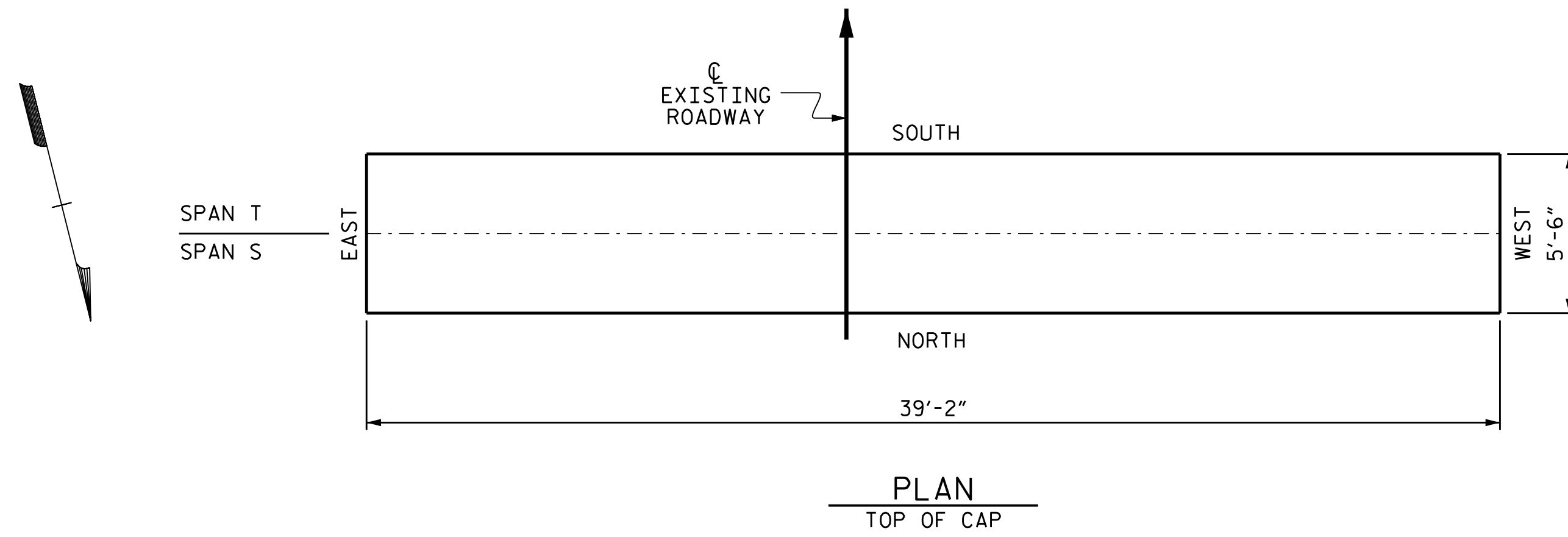


PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 19 OF 25

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|-----|-------|-----|-----|------------------|
| SUBSTRUCTURE BENT 18 | | | | | |
| REVISIONS | | | | | SHEET NO. |
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |
| | | | | | S-43 |
| | | | | | TOTAL SHEETS 104 |

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

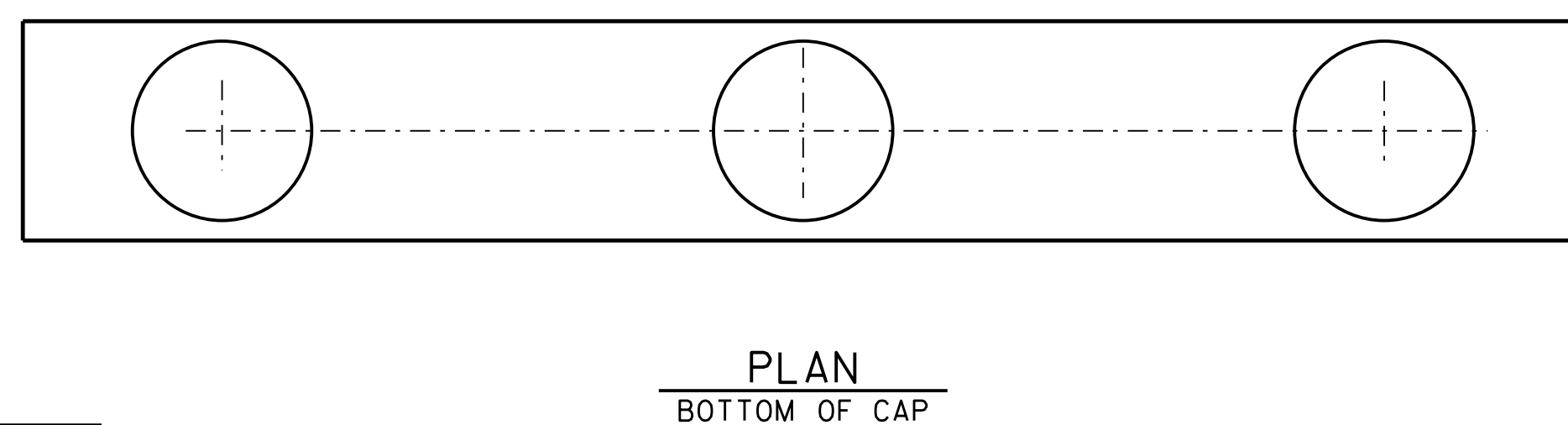
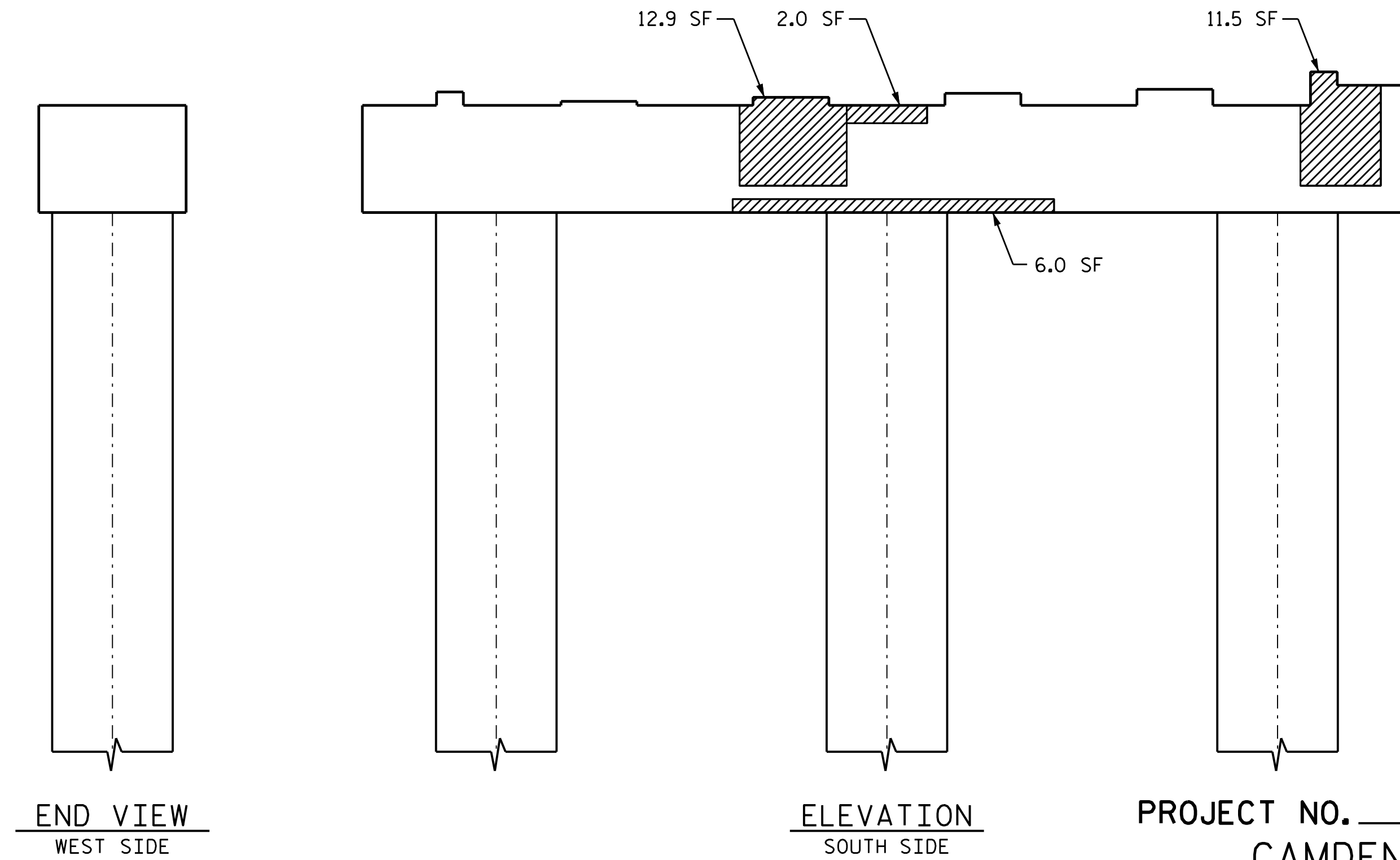
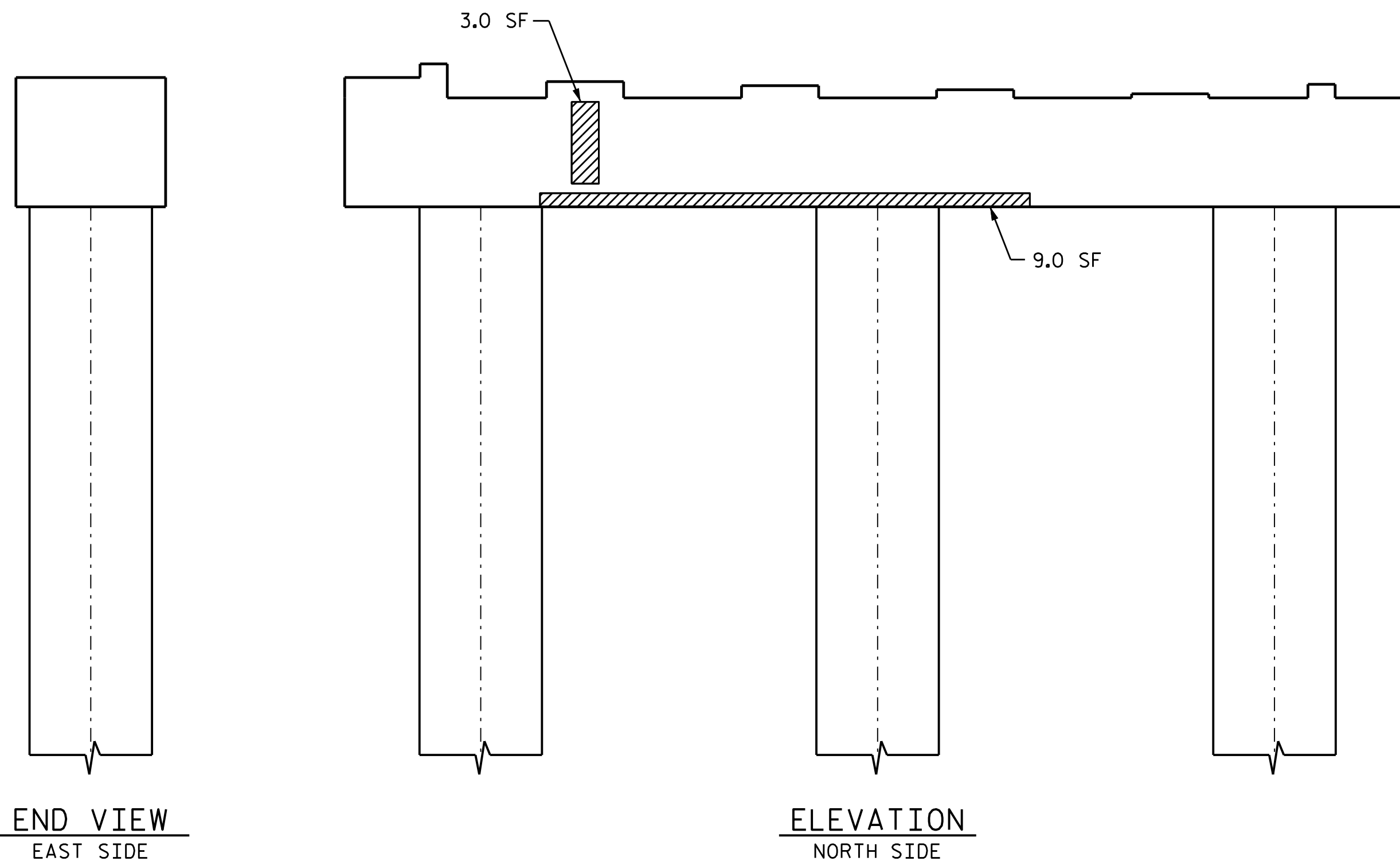
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LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 19 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 44.4 | 22.2 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 20 OF 25

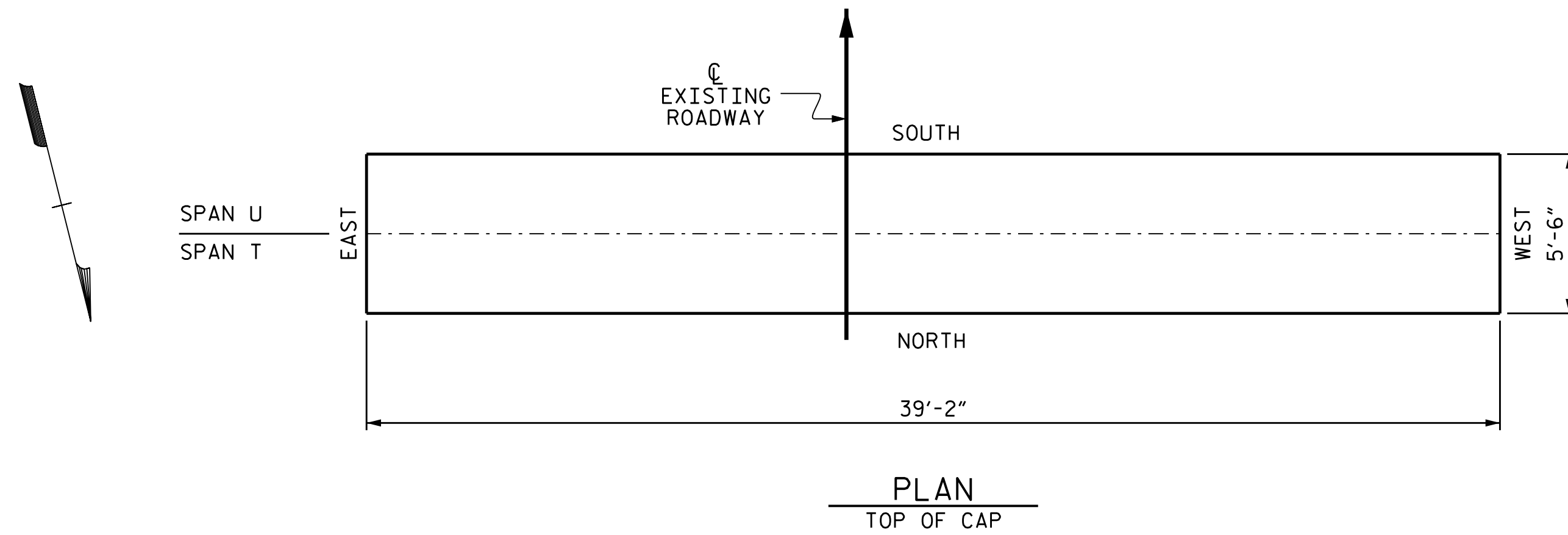
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 19**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-44 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

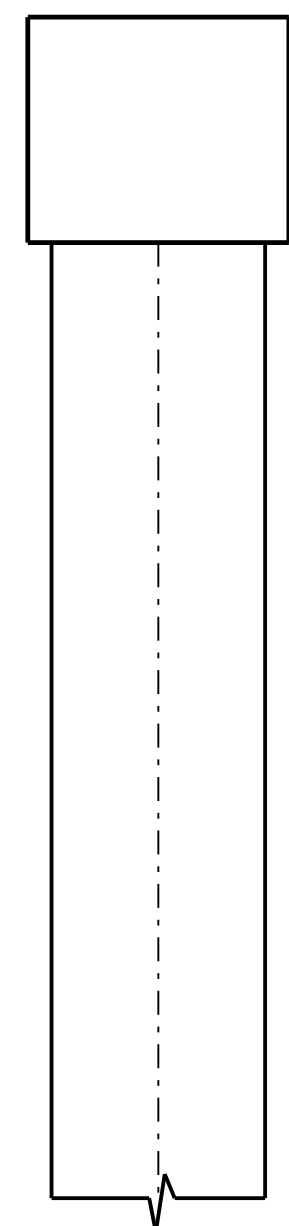
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LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

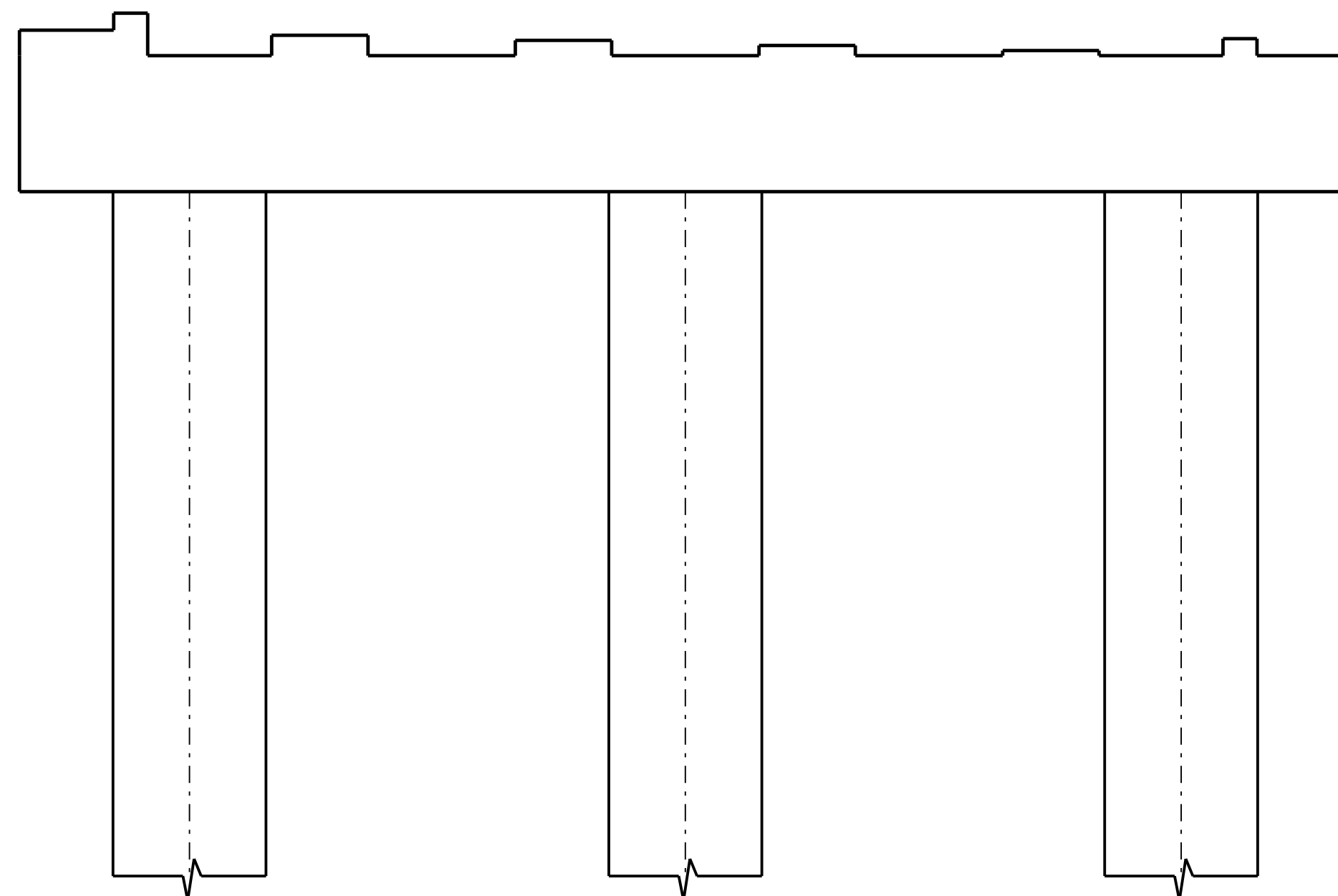
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

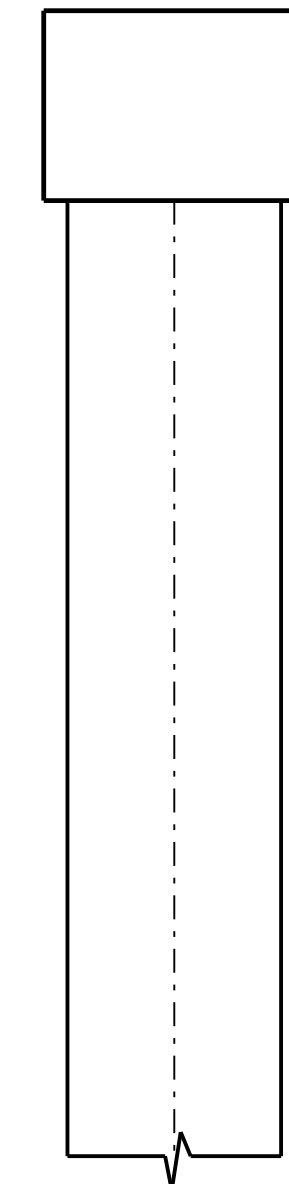
| BENT 20 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | | 215.4 | | |



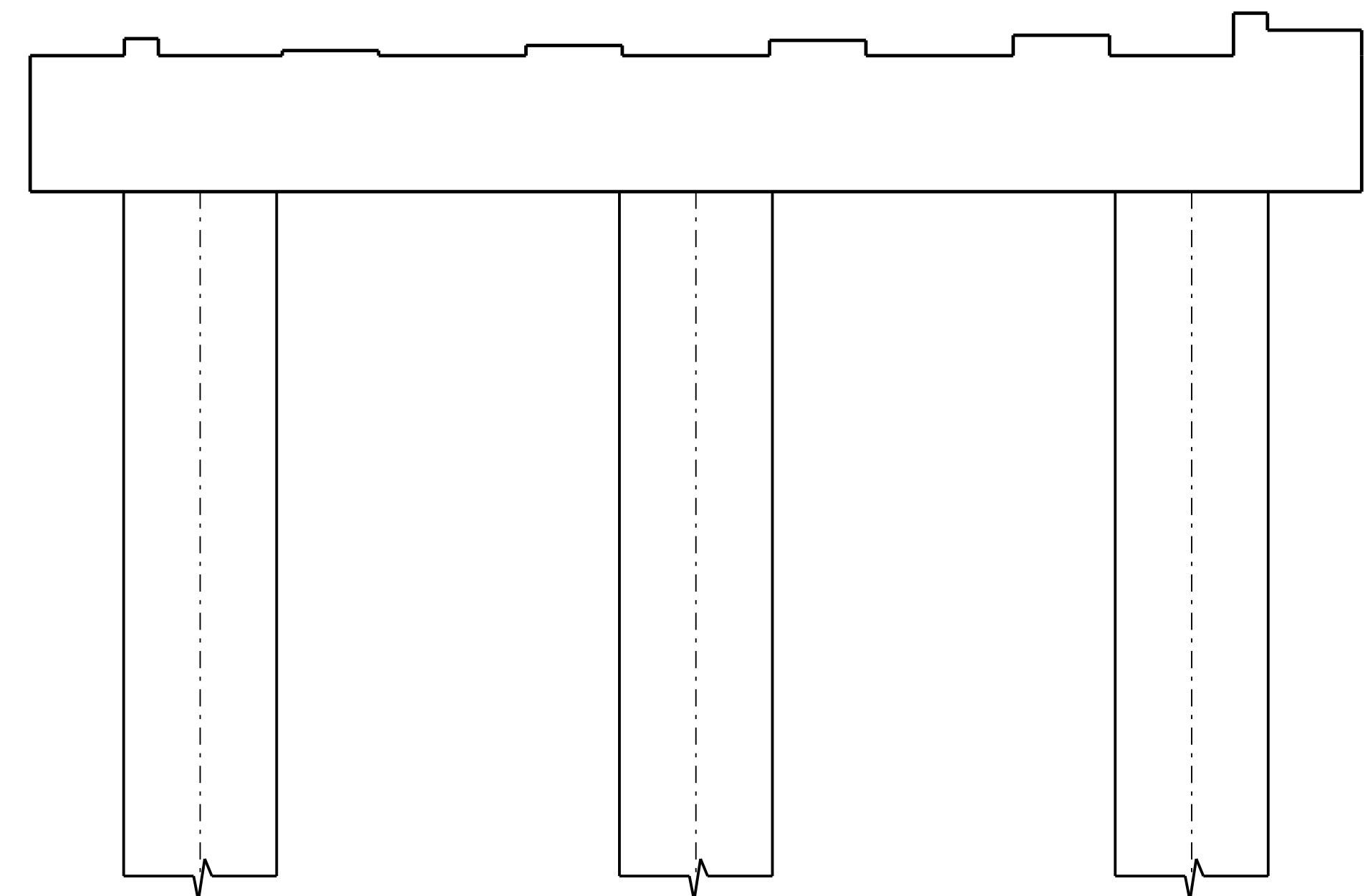
END VIEW
EAST SIDE



ELEVATION
NORTH SIDE



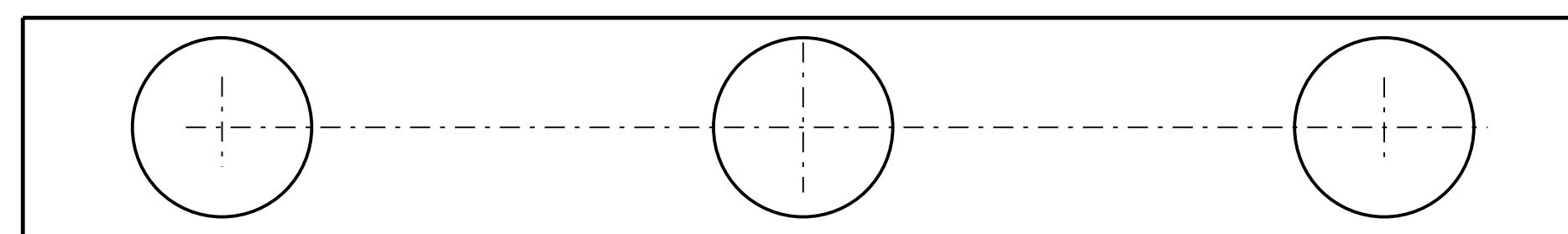
END VIEW
WEST SIDE



ELEVATION
SOUTH SIDE

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43

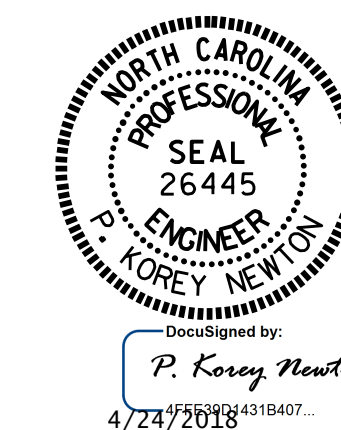
SHEET 21 OF 25



PLAN
BOTTOM OF CAP

SPAN T
SPAN U

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



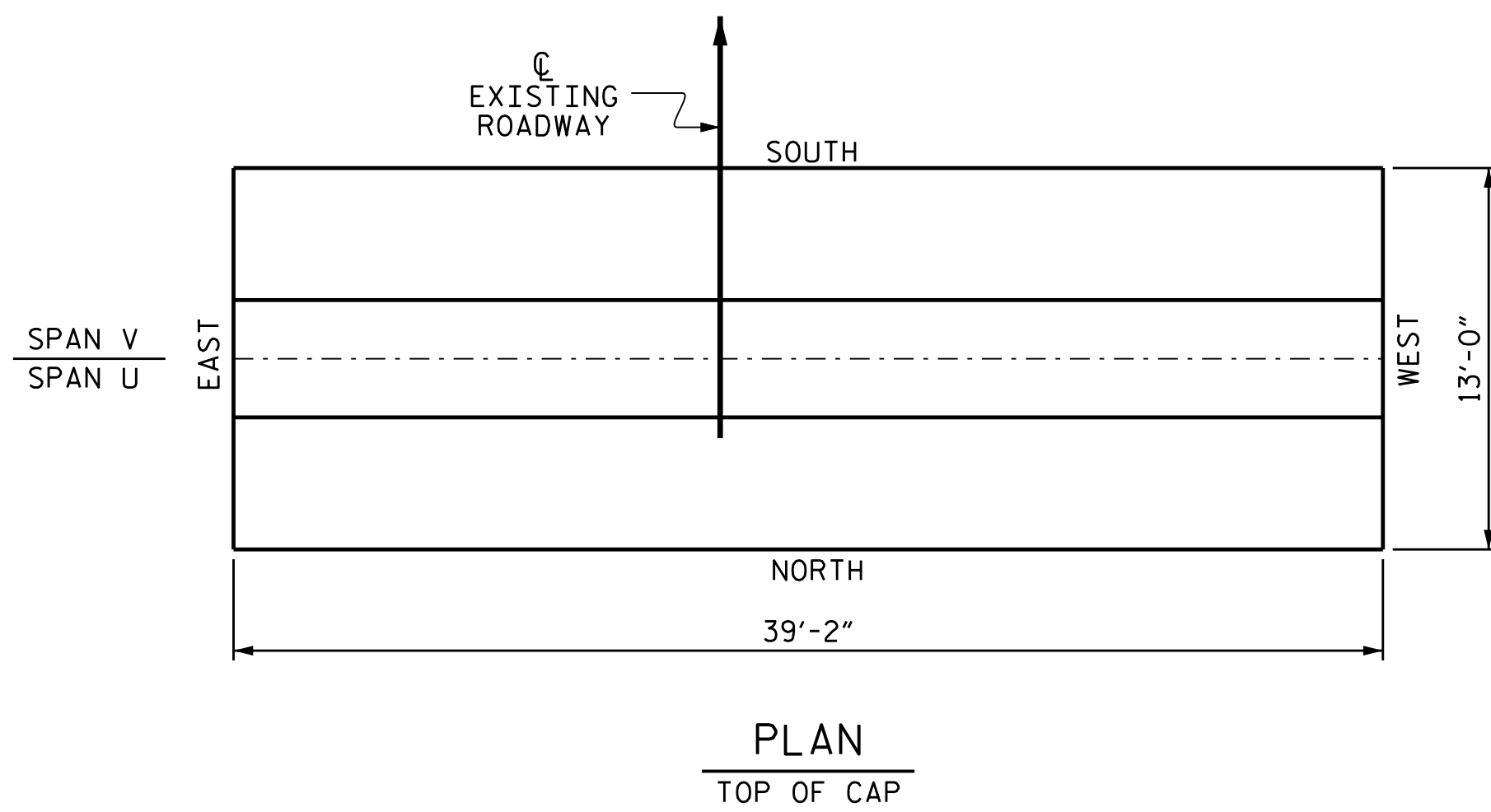
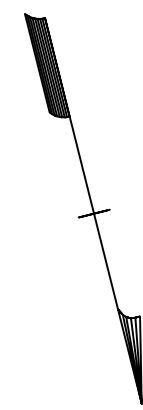
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 20**

DRAWN BY : P.D. BRYANT DATE : 03/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

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SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-45 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

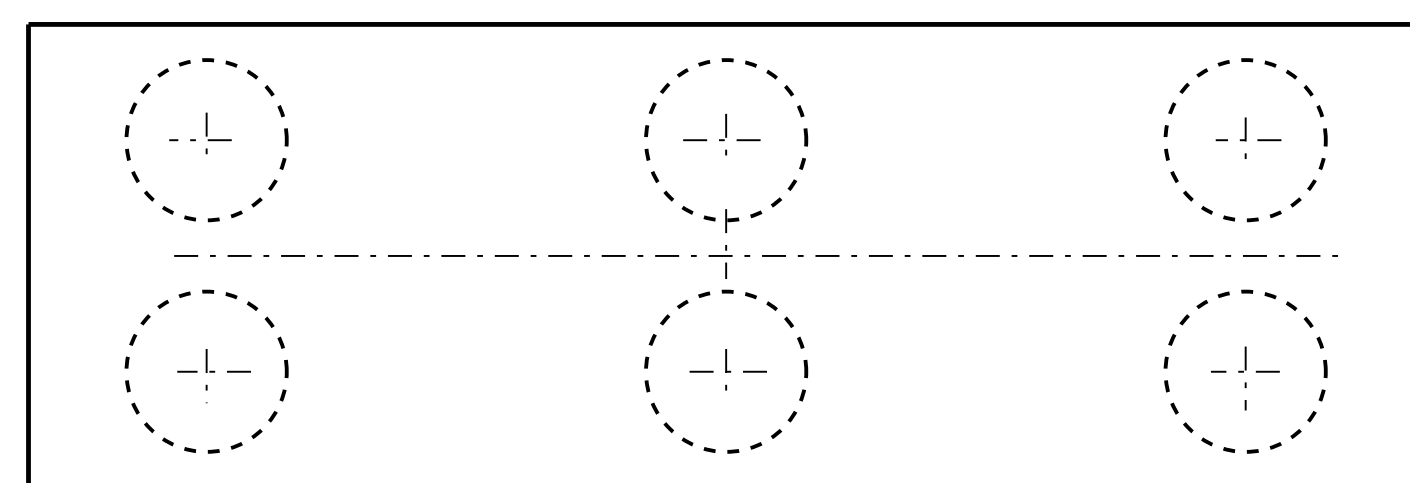
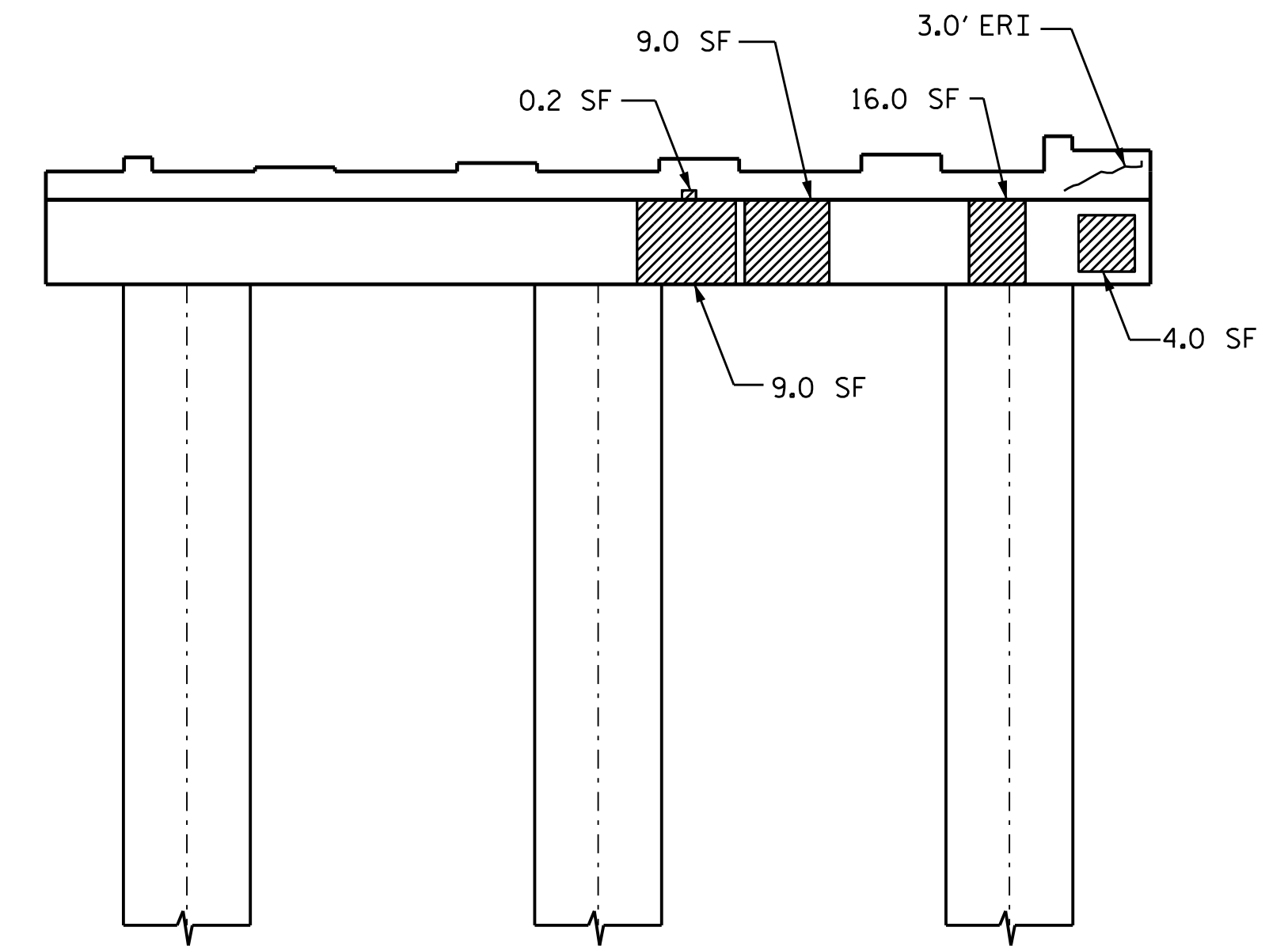
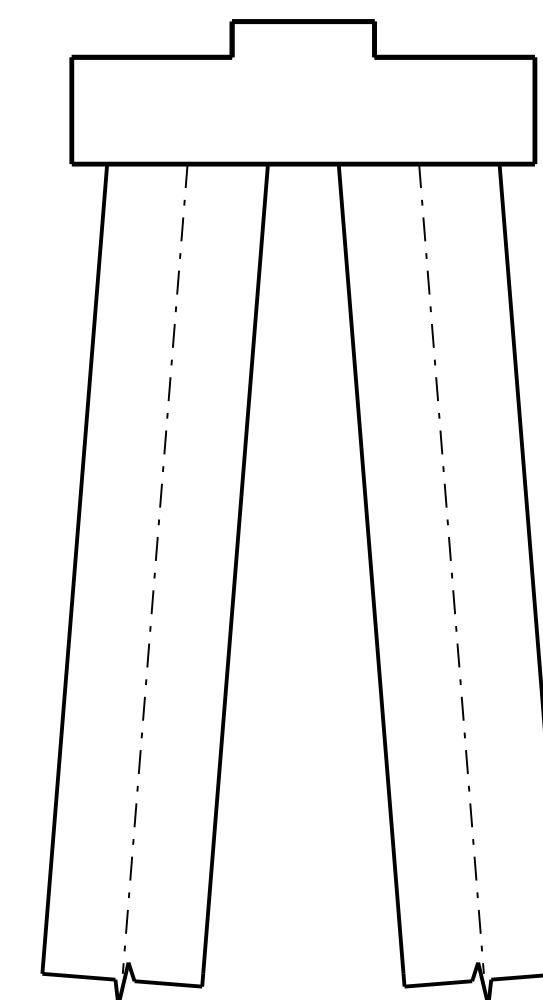
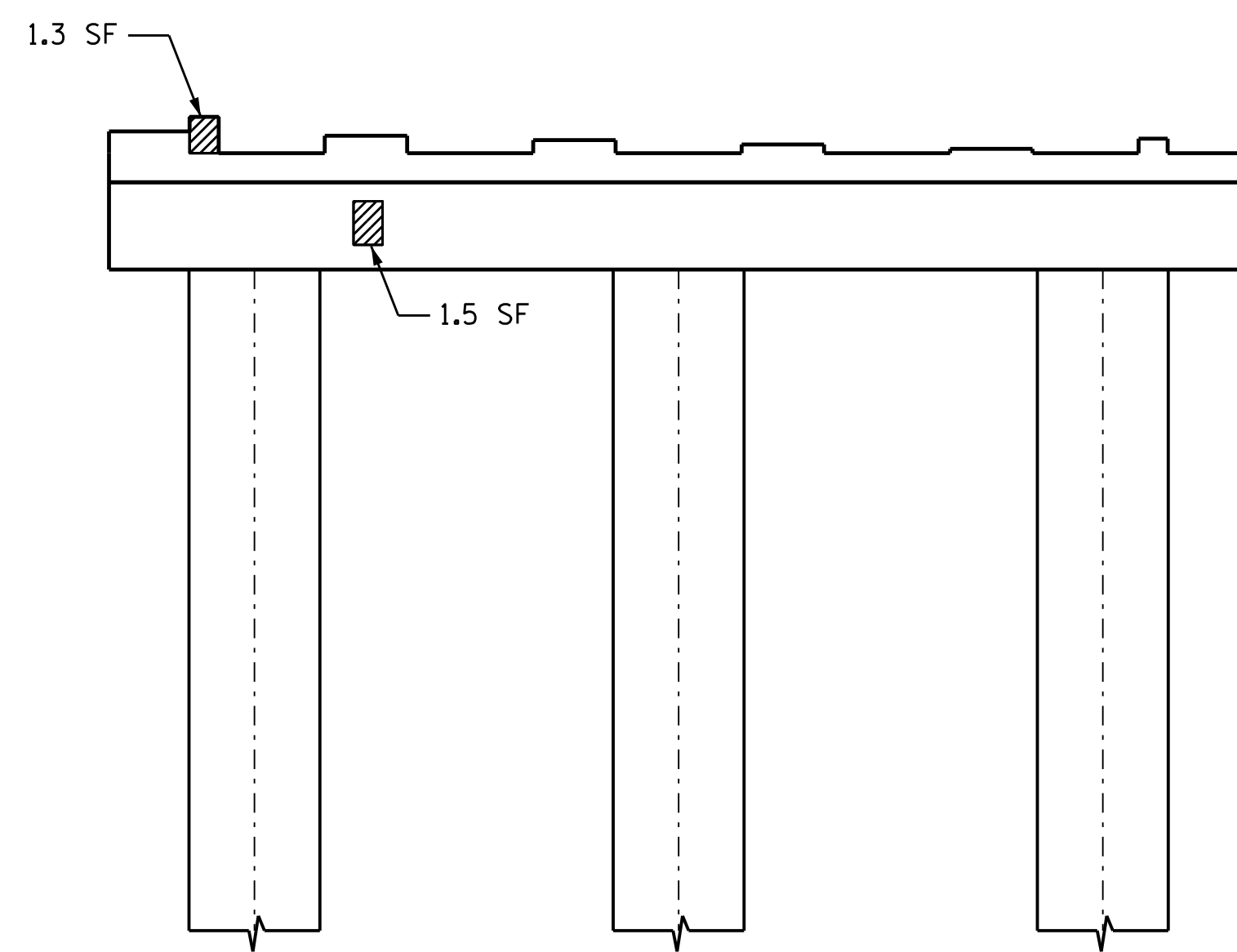
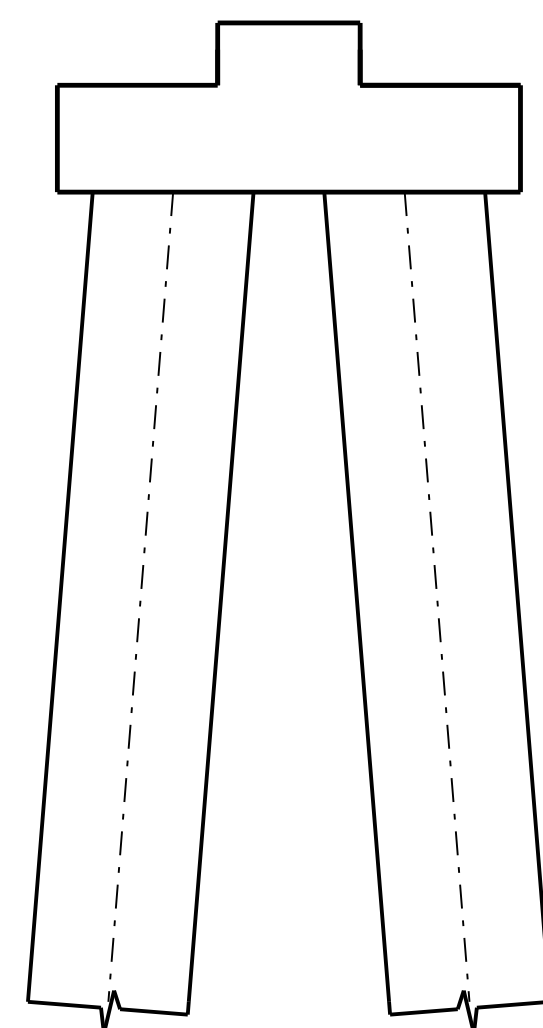
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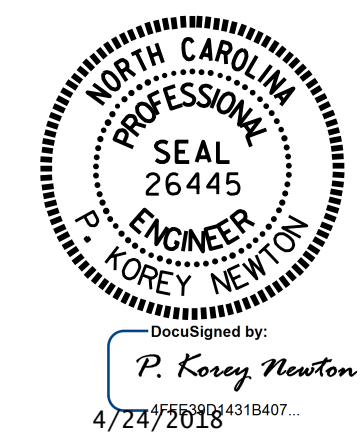
REPAIR QUANTITY TABLE

| BENT 21 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 41.0 | 20.6 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 0.0 | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 43
 SHEET 22 OF 25



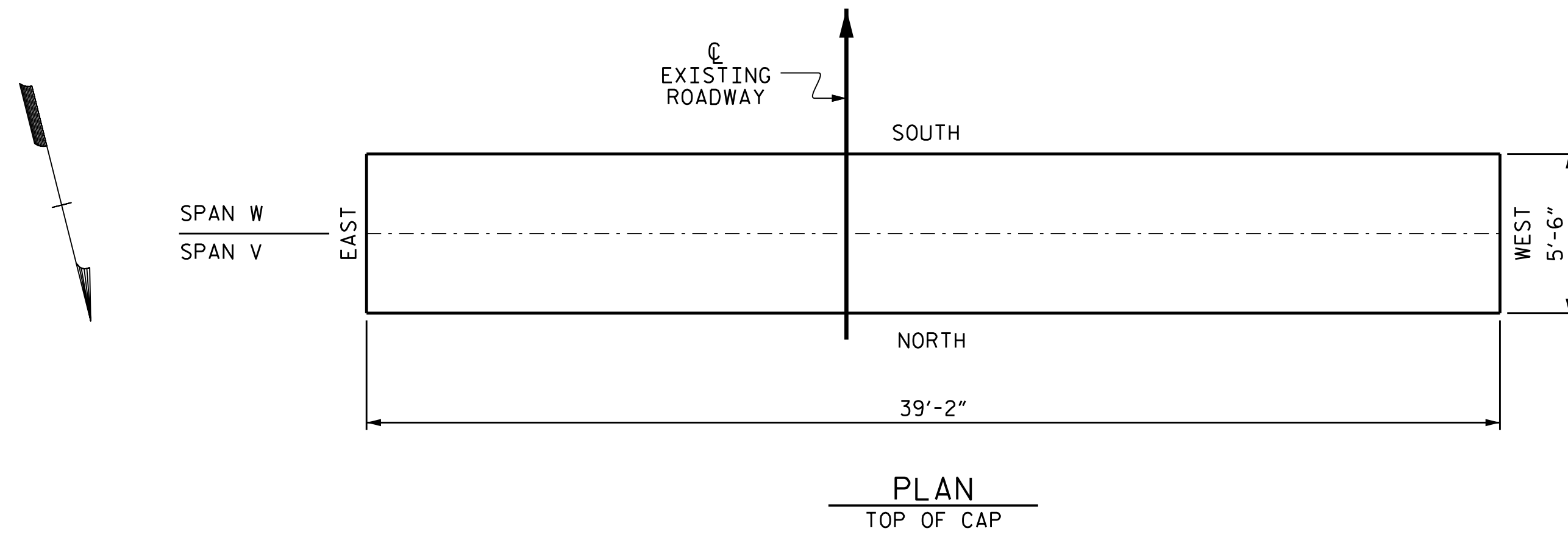
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 21**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-46 |
| 2 | | | 4 | | | 104 |



NOTES:

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FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

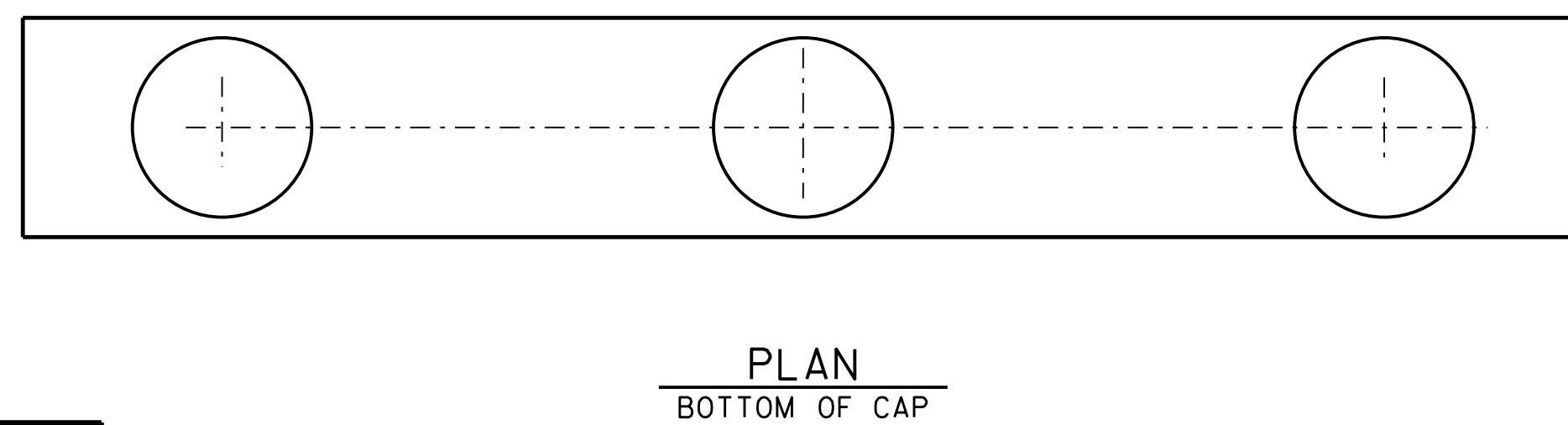
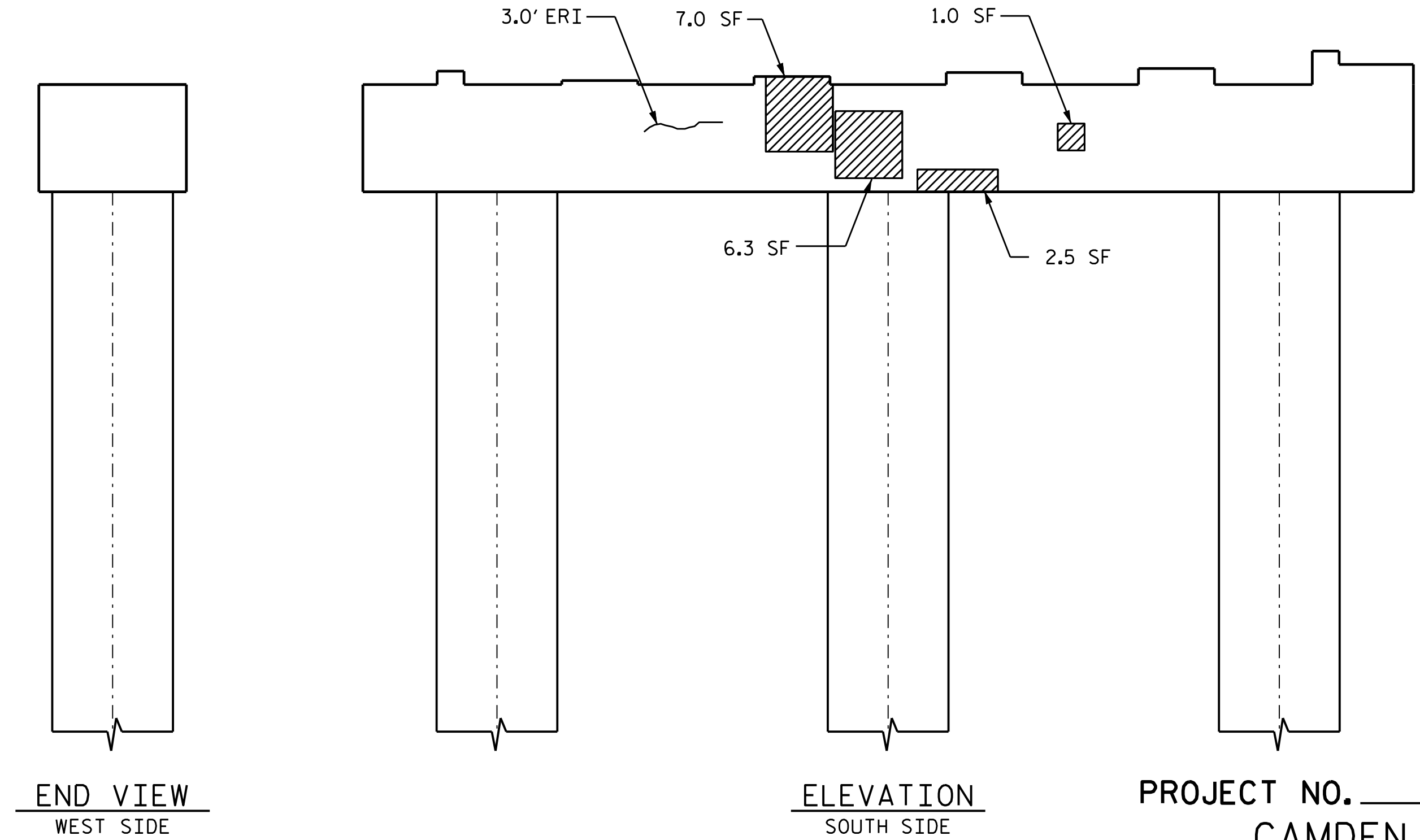
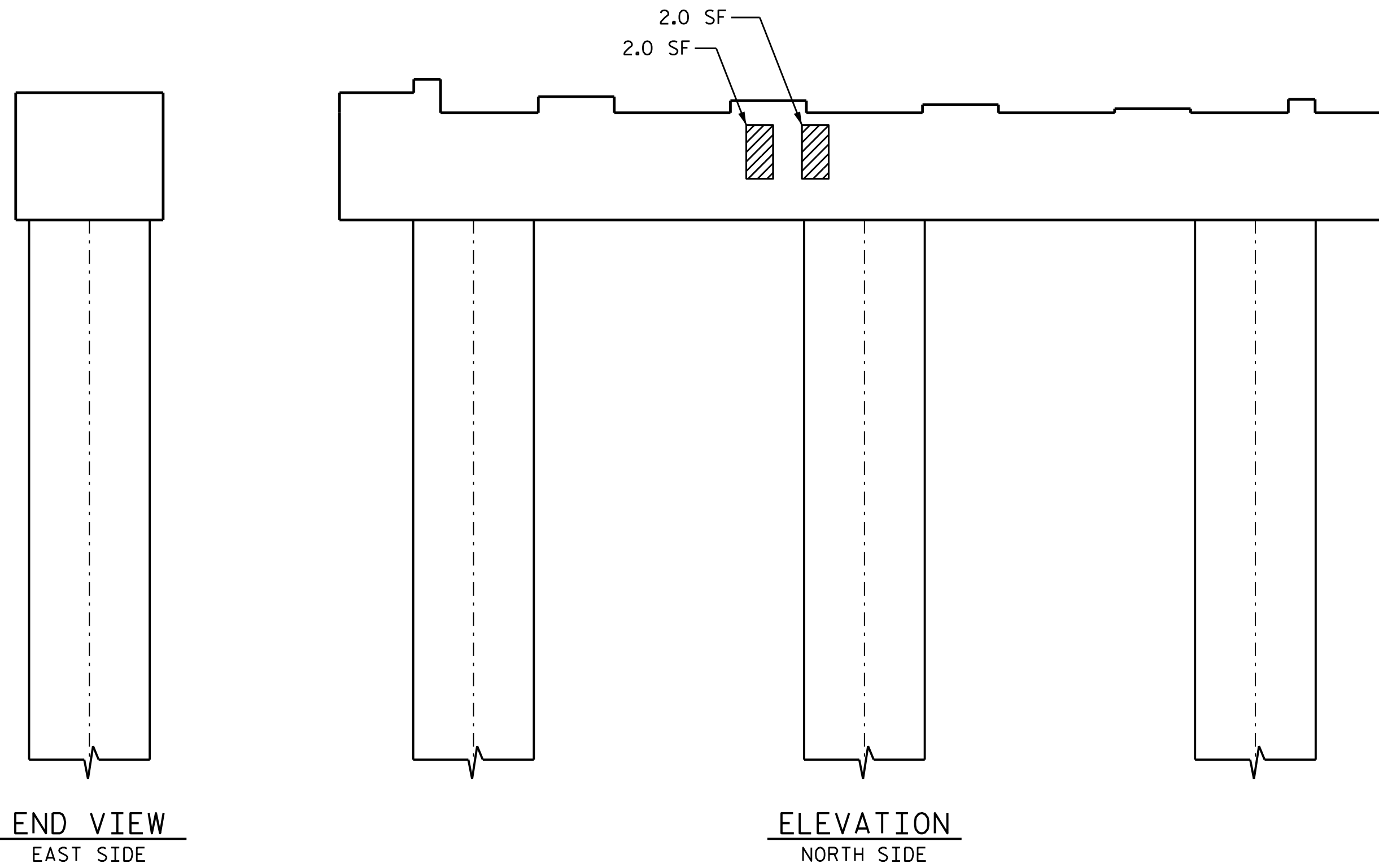
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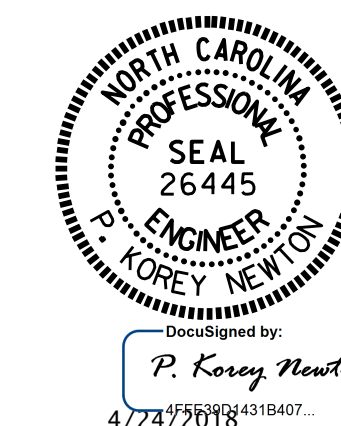
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 22 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 20.8 | 10.4 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 3.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 23 OF 25

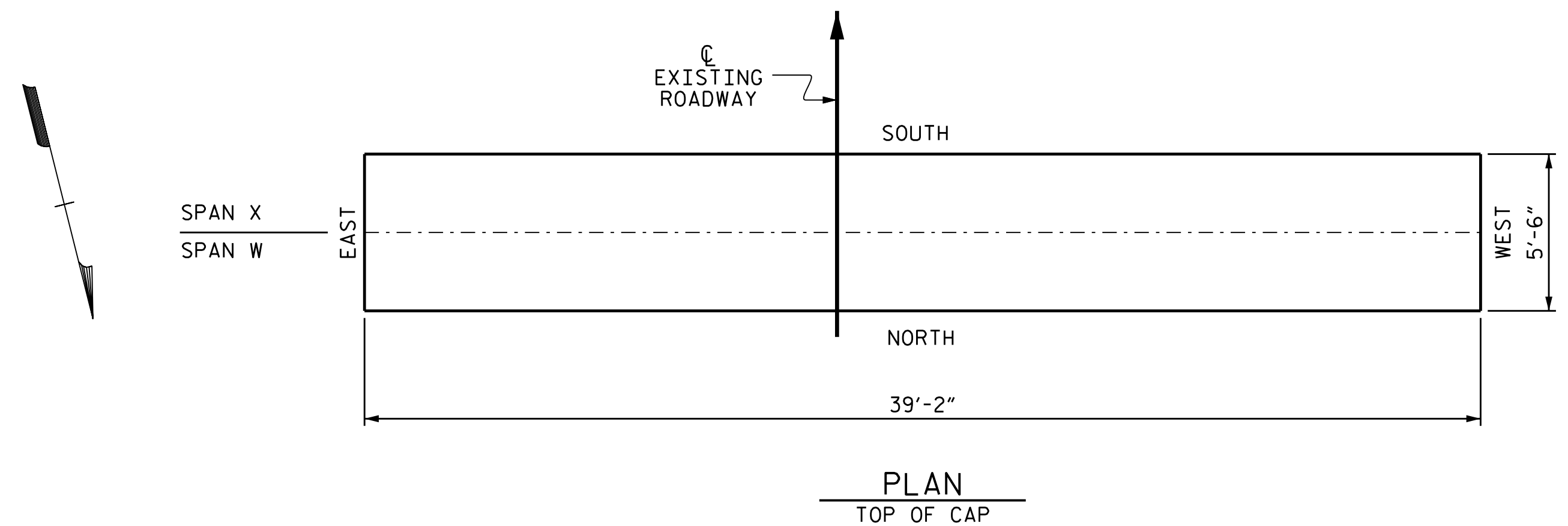
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 22**

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-47 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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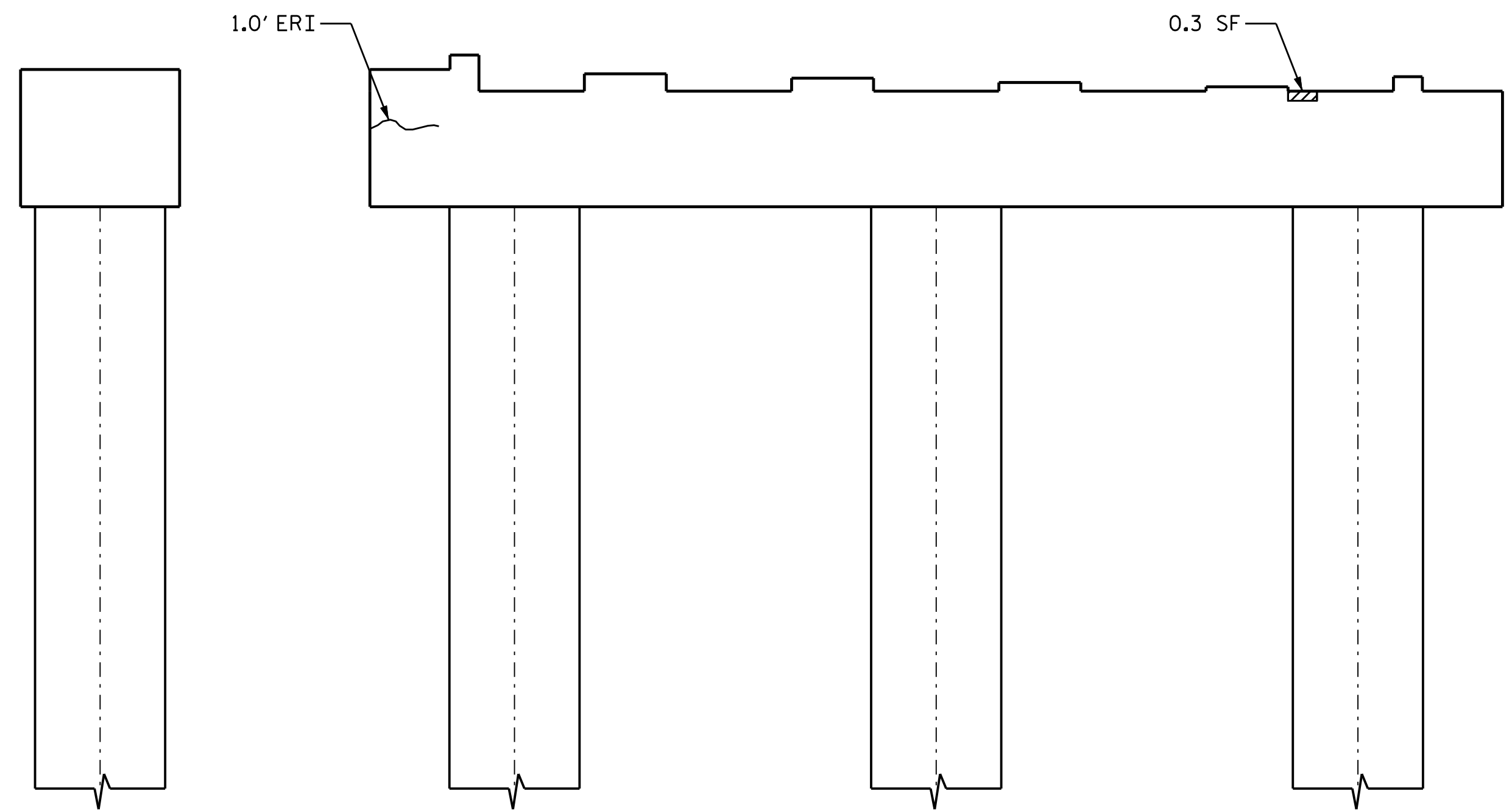
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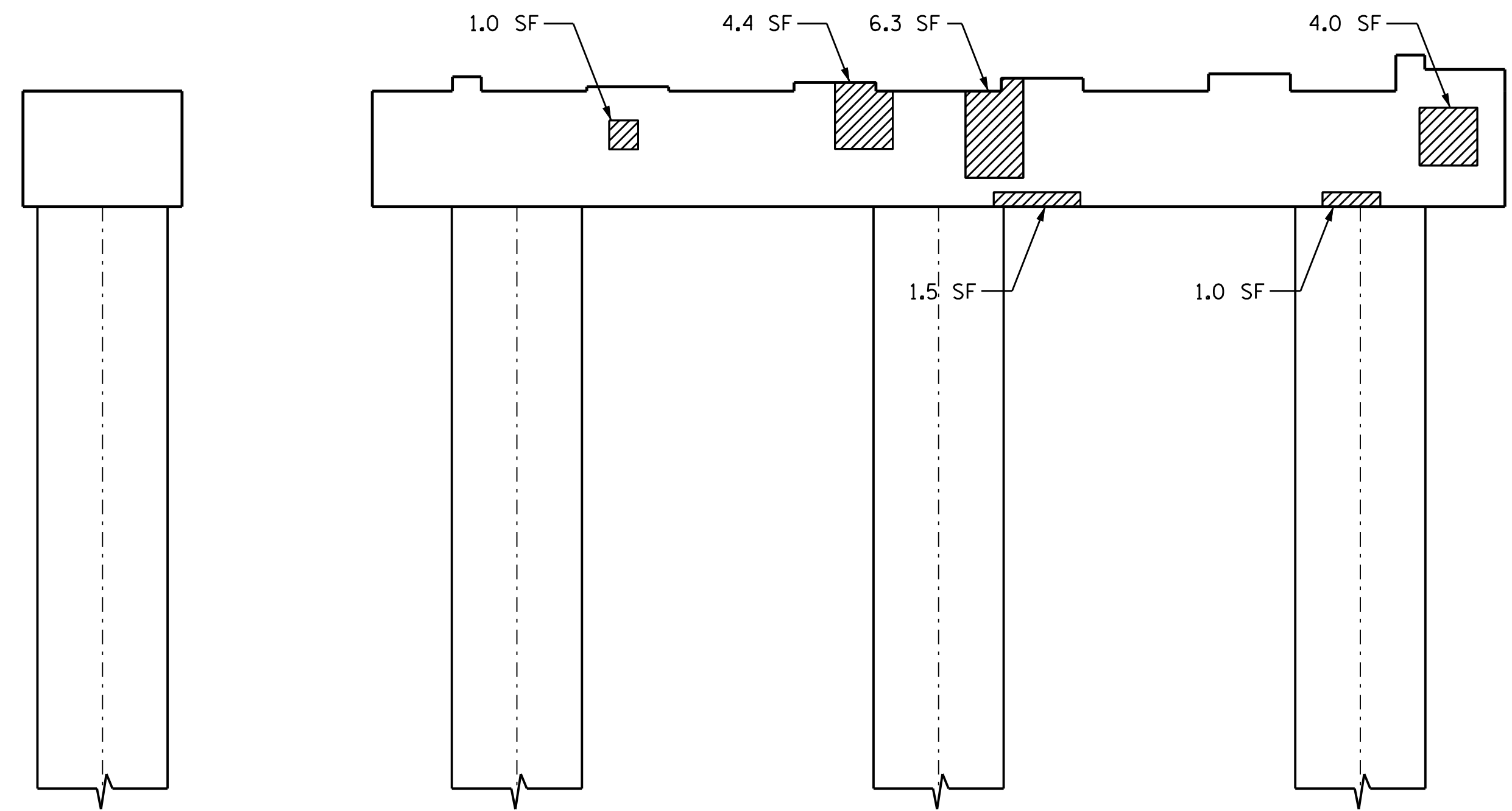
REPAIR QUANTITY TABLE

| BENT 23 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 18.5 | 9.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 1.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



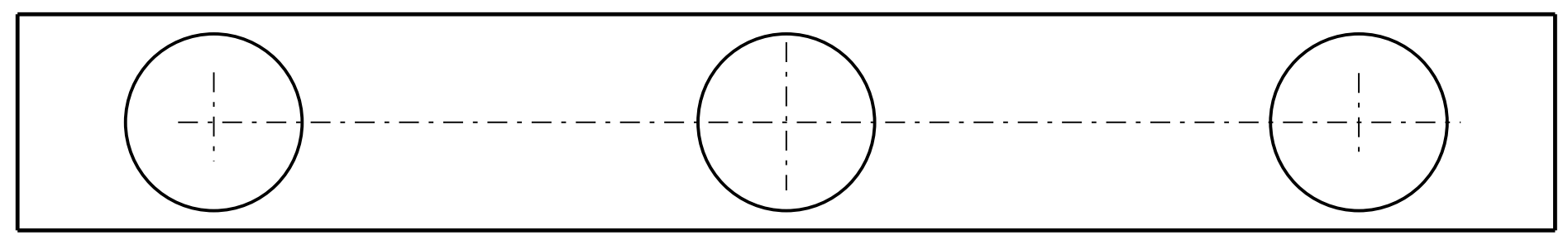
END VIEW EAST SIDE

ELEVATION NORTH SIDE



END VIEW WEST SIDE

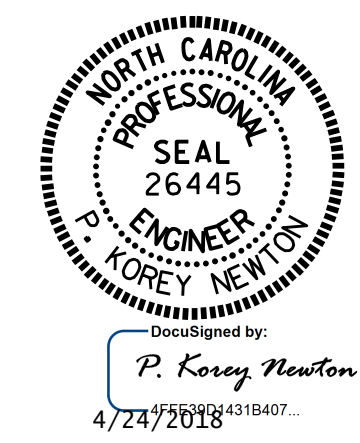
ELEVATION SOUTH SIDE



PLAN BOTTOM OF CAP

SHOTCRETE REPAIRS

ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 24 OF 25

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUBSTRUCTURE BENT 23

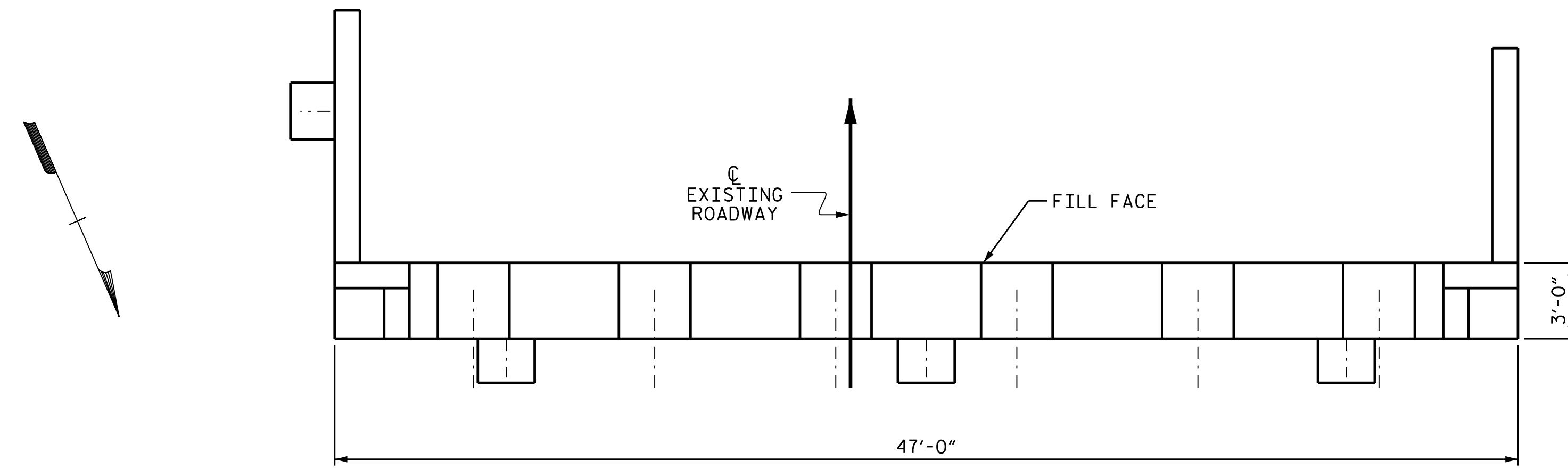
DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

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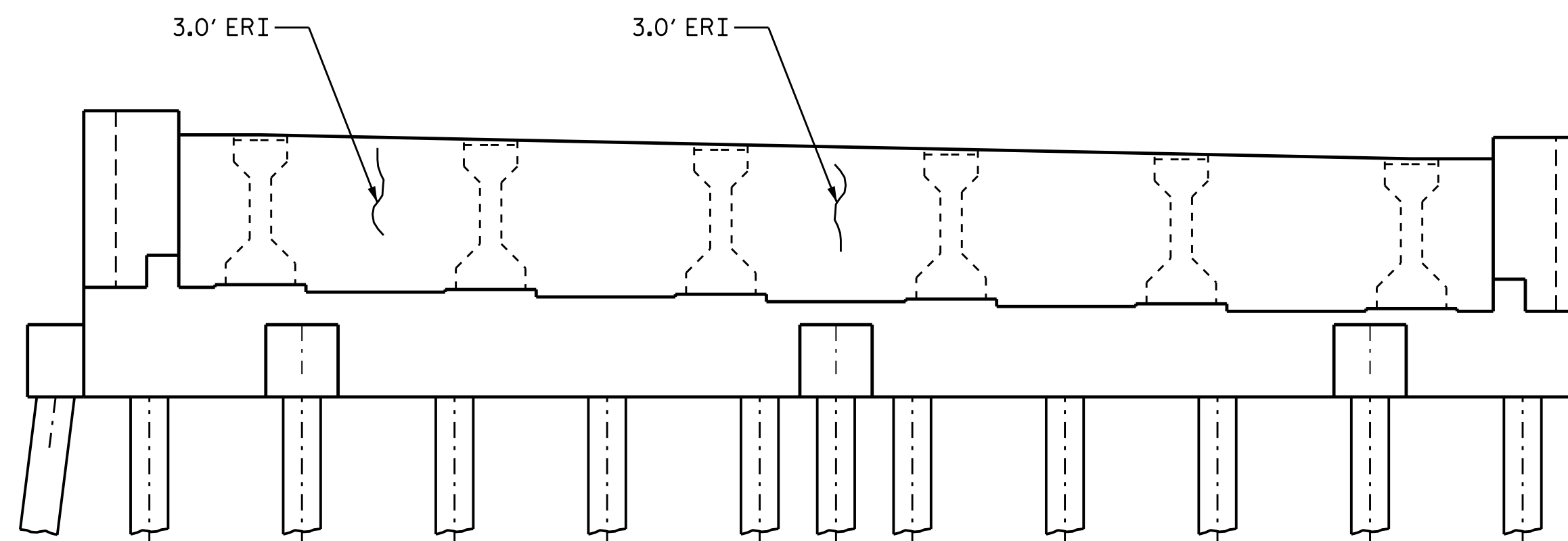
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| NO. | BY: | DATE: | NO. | BY: | DATE: | S-48 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

REPAIR QUANTITY TABLE

| END BENT 2 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 6.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 141.0 | | | |



PLAN OF CAP
TOP OF CAP



ELEVATION
NORTH SIDE

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43
 SHEET 25 OF 25

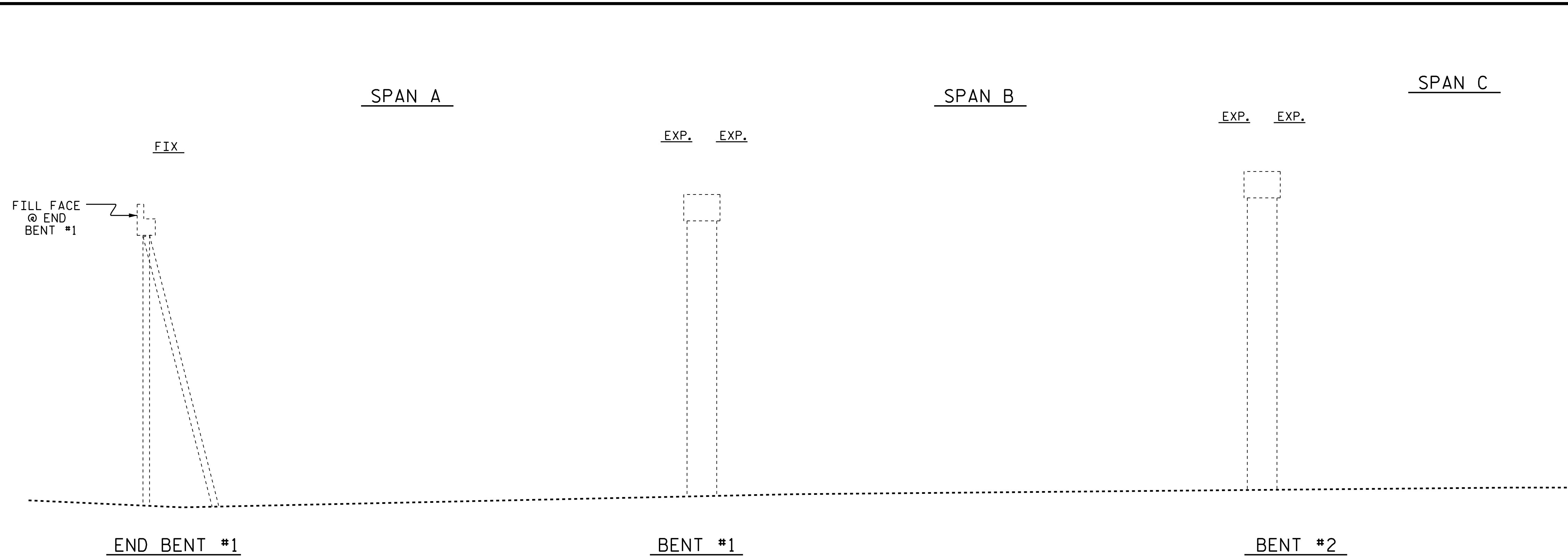
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 2

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-49 |
| 2 | | | 4 | | | 104 |

DRAWN BY : P.D. BRYANT DATE : 03/2018
 CHECKED BY : W.C. SMITH DATE : 03/2018

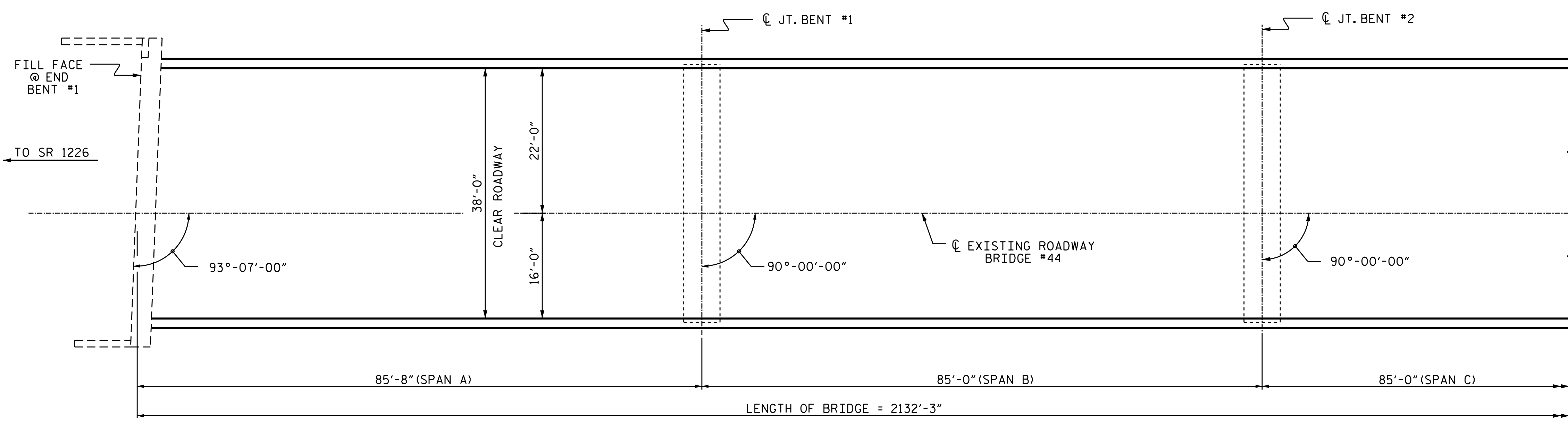


ELEVATION
(SECTION ALONG CL ROADWAY)

- SCOPE OF WORK**
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
 - DEMOLISH EXISTING BRIDGE DECK JOINTS.
 - PERFORM DECK REPAIRS IN PREPARED AREAS.
 - OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
 - RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
 - GROOVE POLYESTER POLYMER CONCRETE.
 - SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE.
 - EPOXY COATING OF TOP OF CAPS.
 - CLEANING AND PAINTING WEATHERING STEEL GIRDER.
 - STRUCTURAL STEEL REPAIRS.
 - CLEANING AND PAINTING BEARING WITH HRCSA.
 - PRESTRESSED CONCRETE GIRDER AND UNDERSIDE DECK REPAIRS.

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____



PLAN
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44

SHEET 1 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE #44 ON
 US 17 NBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

| NO. | REVISIONS | | | NO. | REVISIONS | | | SHEET NO. |
|-----|-----------|-------|-------------|-----|-----------|-------|------------------|-----------|
| | BY: | DATE: | DESCRIPTION | | BY: | DATE: | DESCRIPTION | |
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| 2 | | | | 4 | | | TOTAL SHEETS 103 | |

SPAN C

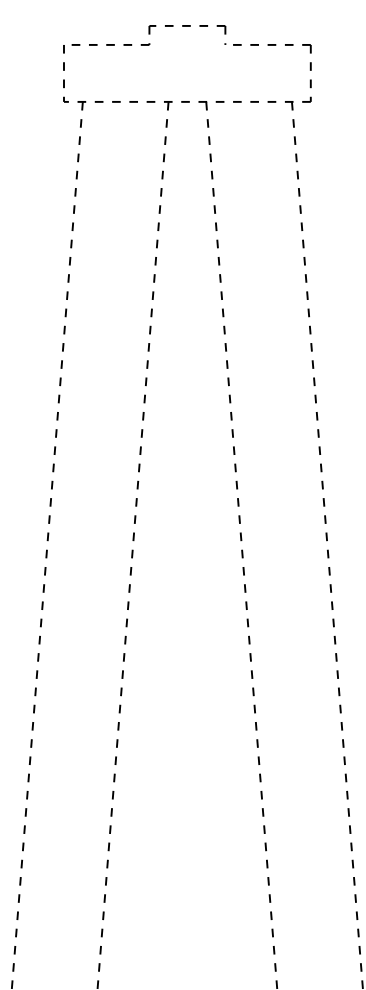
SPAN D

SPAN E

SPAN F

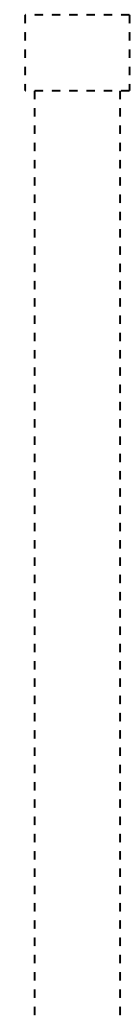
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EXP. EXP.



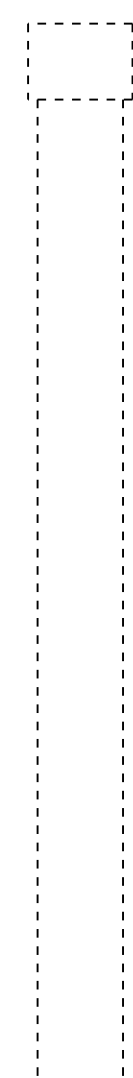
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EXP. EXP.



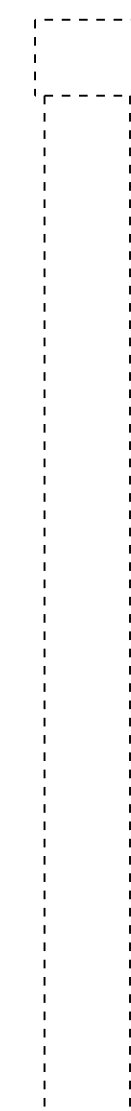
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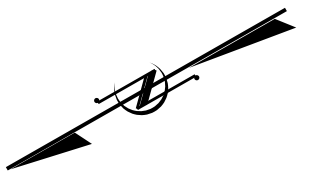


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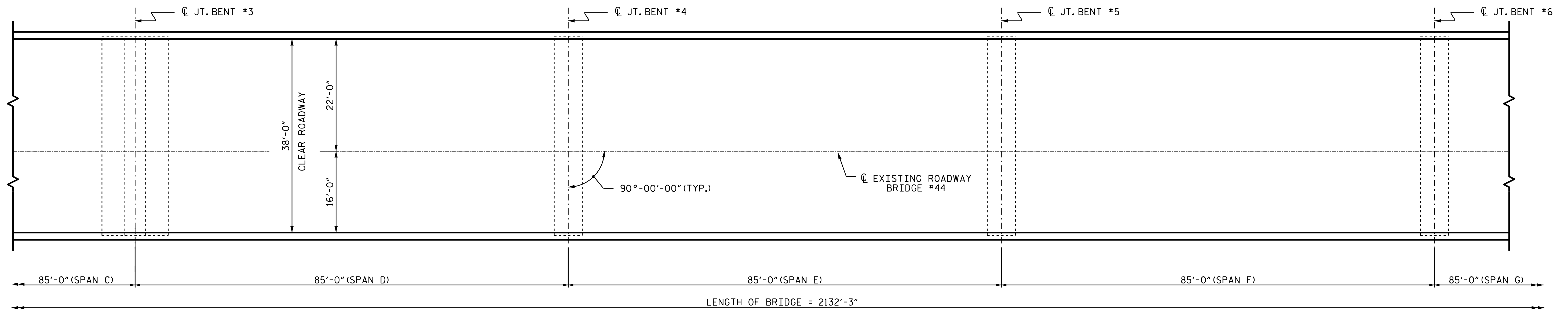


BENT #6



ELEVATION

(SECTION ALONG C ROADWAY)



PLAN

(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11

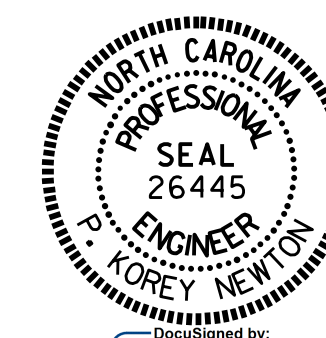
CAMDEN COUNTY

BRIDGE NO. 44

SHEET 2 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE #44 ON
US 17 NBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



DocuSign by:
P. Corey Newton
4/24/2018

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | |
|-----------|-----|-------|-----|-----|-------|
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |

| | |
|--------------|------|
| SHEET NO. | S-51 |
| TOTAL SHEETS | 103 |

SPAN G

EXP. EXP.

SPAN H

EXP. EXP.

SPAN I

EXP. FIX.

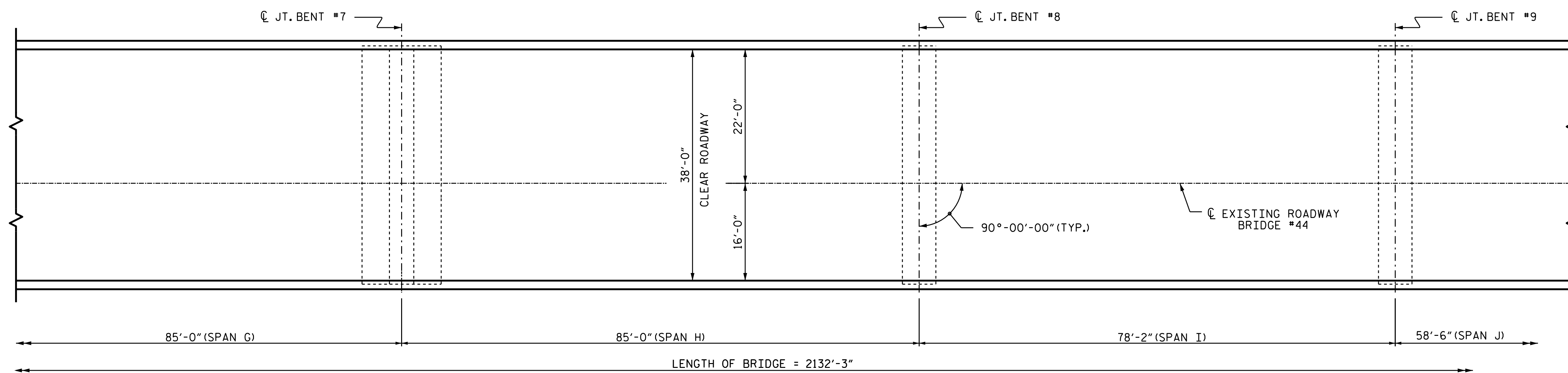
SPAN J

BENT #7

BENT #8

BENT #9

ELEVATION
(SECTION ALONG CL ROADWAY)



PLAN
(PILES NOT SHOWN IN
PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44

SHEET 3 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE #44 ON
US 17 NBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
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| 2 | | | 4 | | | 103 |

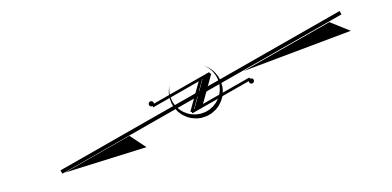
SPAN J

EXP. EXP.

SPAN K

FIX.

SPAN L

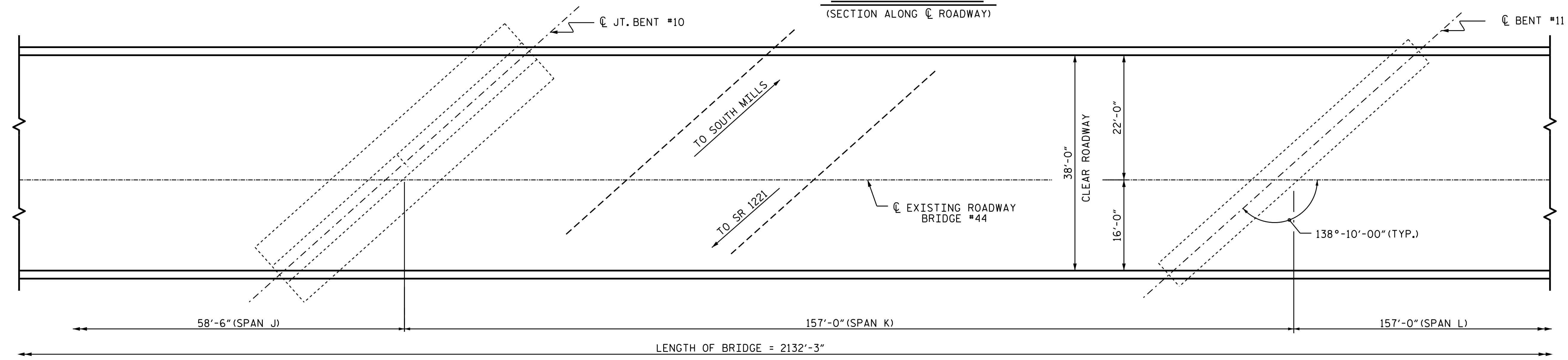


DISMAL SWAMP CANAL

BENT #10

BENT #11

ELEVATION
(SECTION ALONG CL ROADWAY)



LENGTH OF BRIDGE = 2132'-3"

PLAN

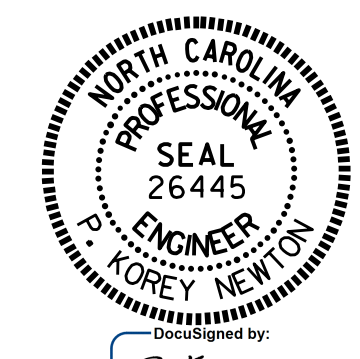
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44

SHEET 4 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE #44 ON
US 17 NBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



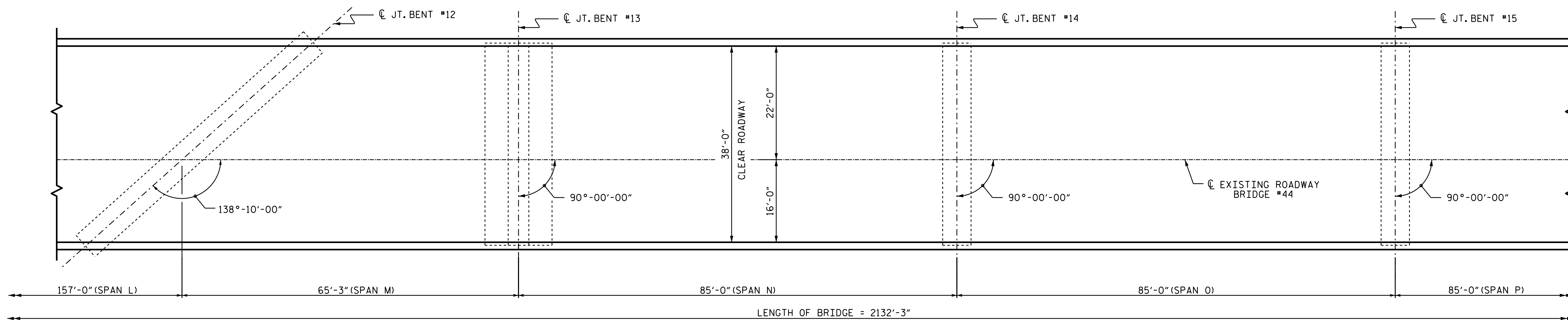
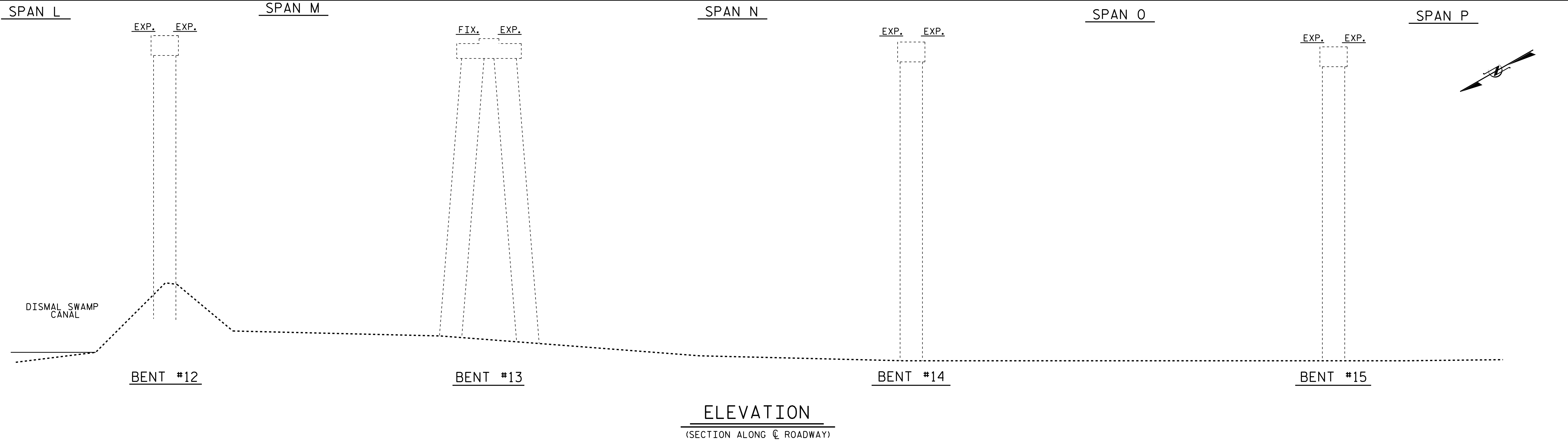
DocuSign by:
P. Corey Newton
4/24/2018

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

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FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | |
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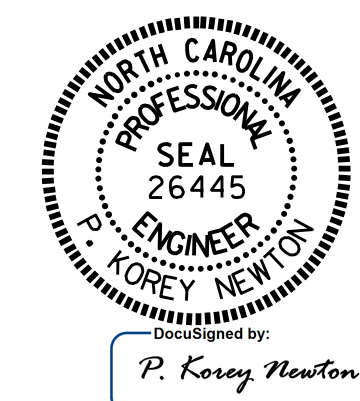
SHEET NO.
S-53
TOTAL SHEETS
103



PLAN
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44

SHEET 5 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE #44 ON
 US 17 NBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
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| 2 | | | 4 | | | 103 |

SPAN P

SPAN Q

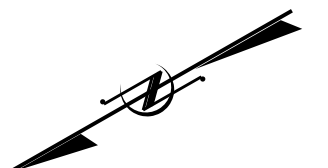
SPAN R

SPAN S

EXP. EXP.

EXP. EXP.

EXP. EXP.



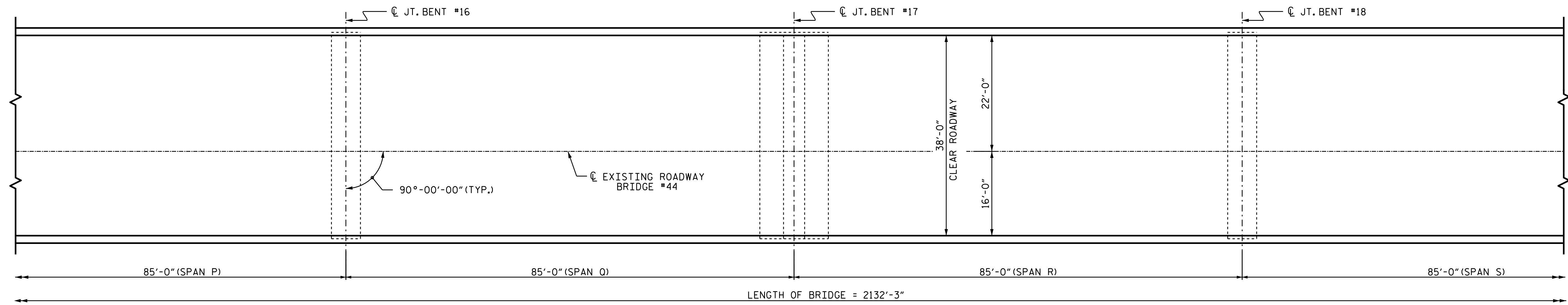
BENT #16

BENT #17

BENT #18

ELEVATION

(SECTION ALONG CL ROADWAY)

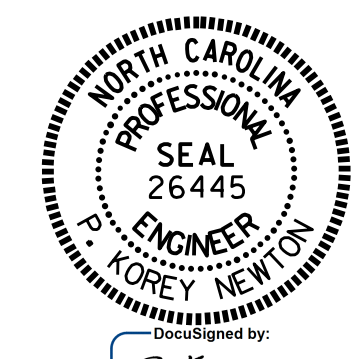


PLAN

(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44

SHEET 6 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE #44 ON
 US 17 NBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-55 |
| 2 | | | 4 | | | 103 |

SPAN S

EXP. EXP.

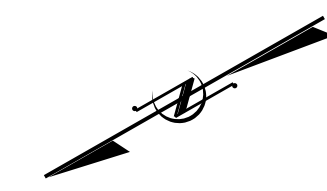
SPAN T

EXP. EXP.

SPAN U

EXP. EXP.

SPAN V



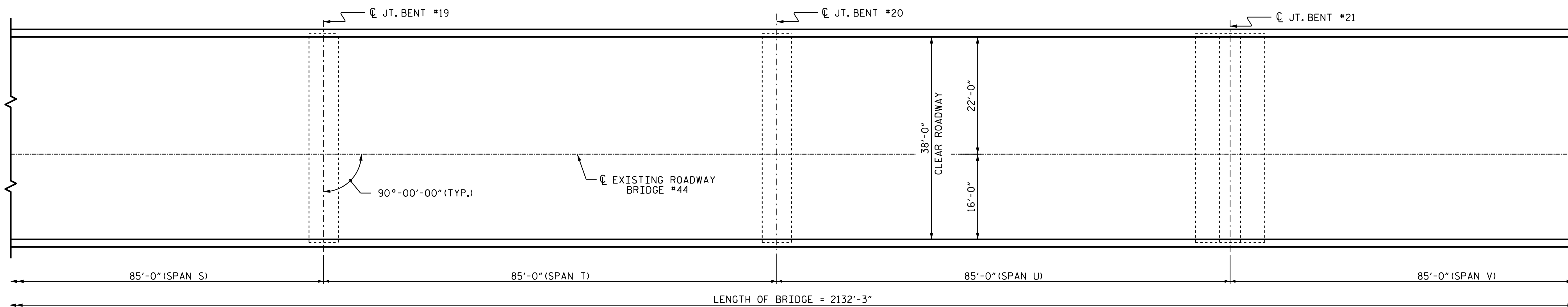
BENT #19

BENT #20

BENT #21

ELEVATION

(SECTION ALONG CL ROADWAY)



PLAN

(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE NO. 44

SHEET 7 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE #44 ON
US 17 NBL.
OVER US 17 BUS.
AND DISMAL SWAMP CANAL



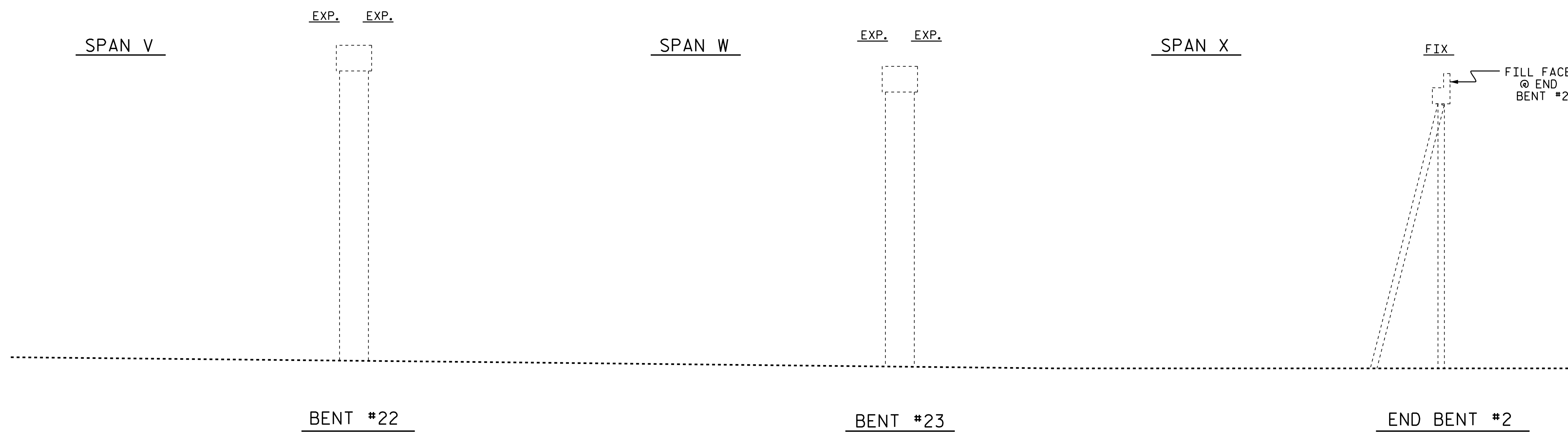
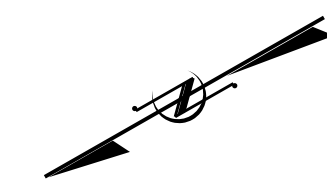
P. Corey Newton
4/24/2018

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

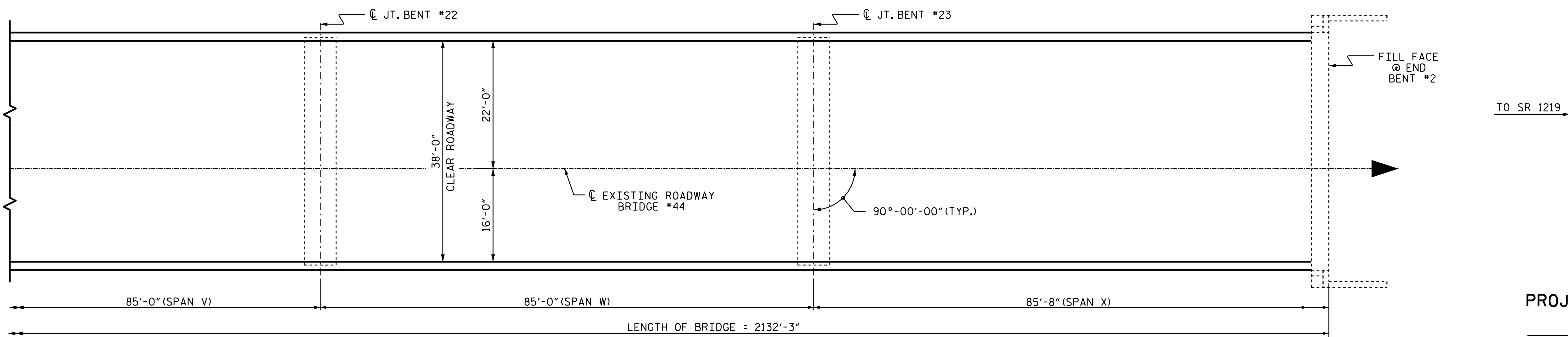
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

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| SHEET NO. | S-56 |
| TOTAL SHEETS | 103 |



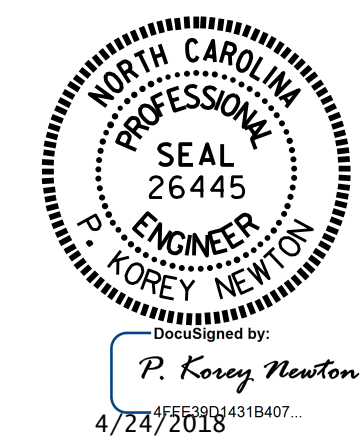
ELEVATION
(SECTION ALONG CL ROADWAY)



PLAN
(PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44

SHEET 8 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE #44 ON
 US 17 NBL.
 OVER US 17 BUS.
 AND DISMAL SWAMP CANAL

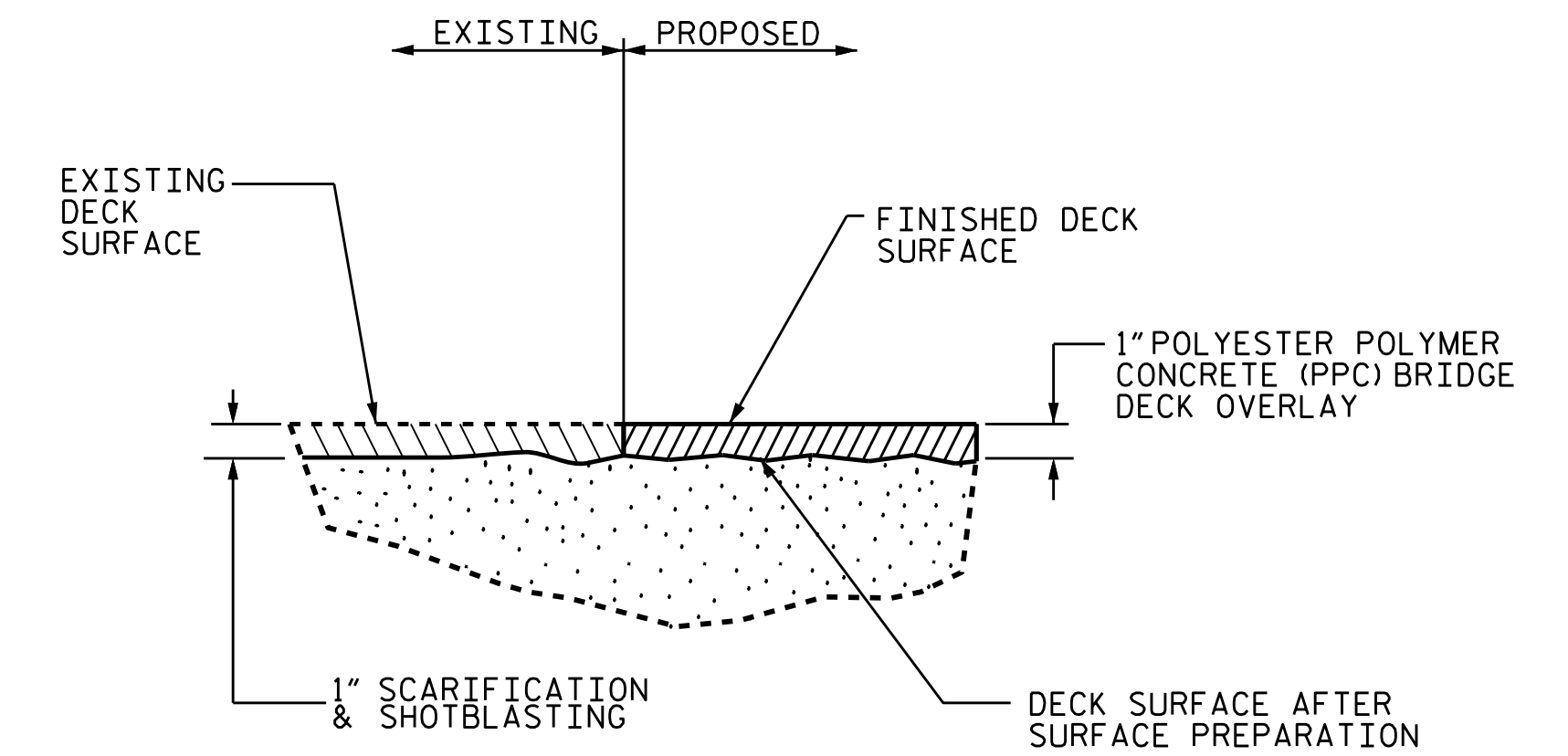
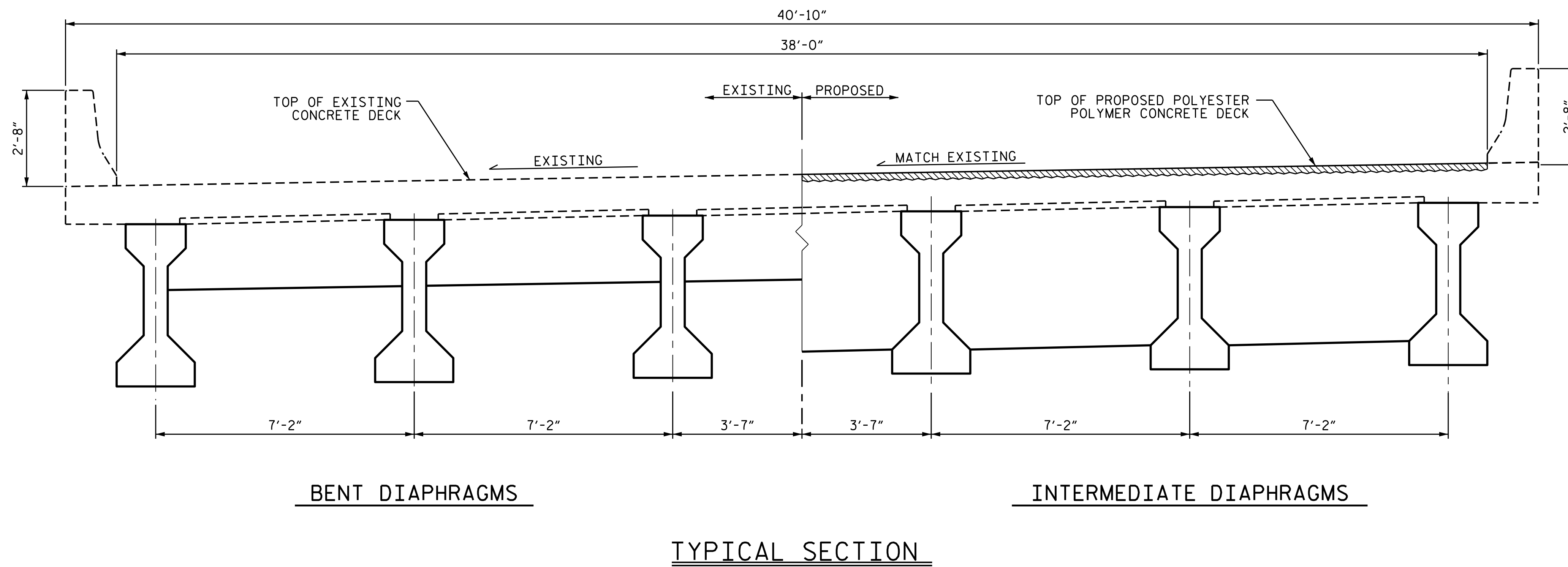
DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

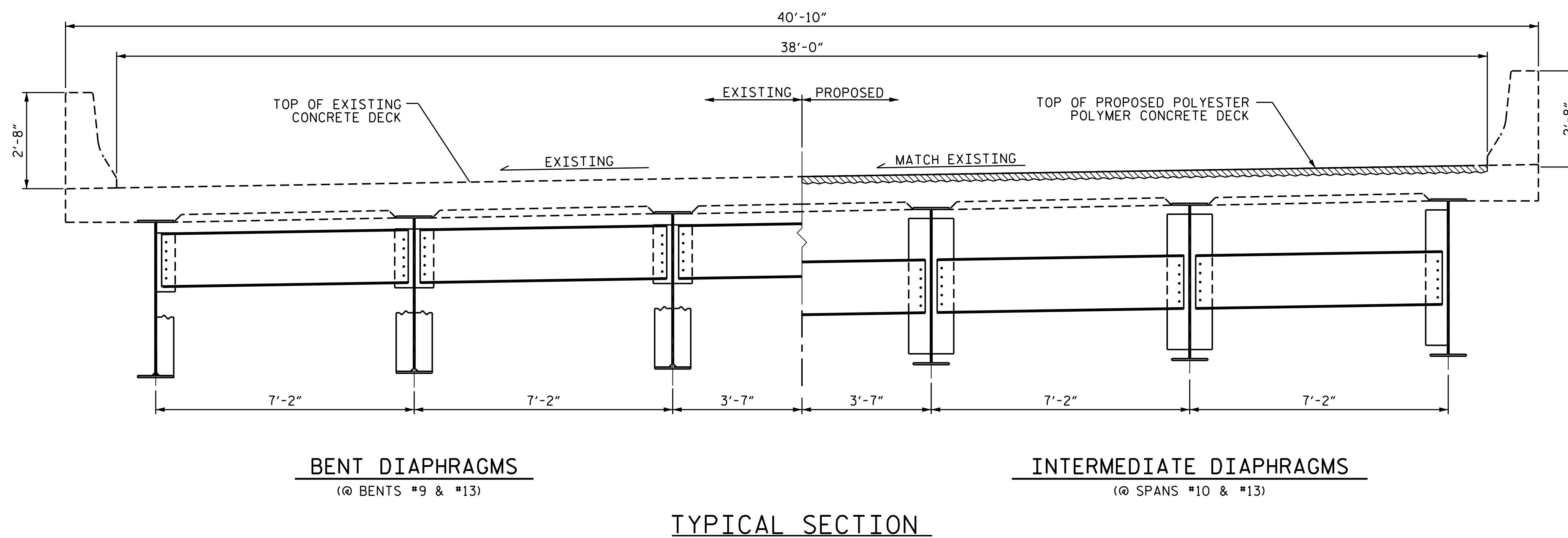
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | 103 |
| 2 | | | 4 | | | 103 |

NOTES

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE (PPC) SYSTEM AND SURFACE PREPARATION.



DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY



PROJECT NO. 15BPR11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 1 OF 1

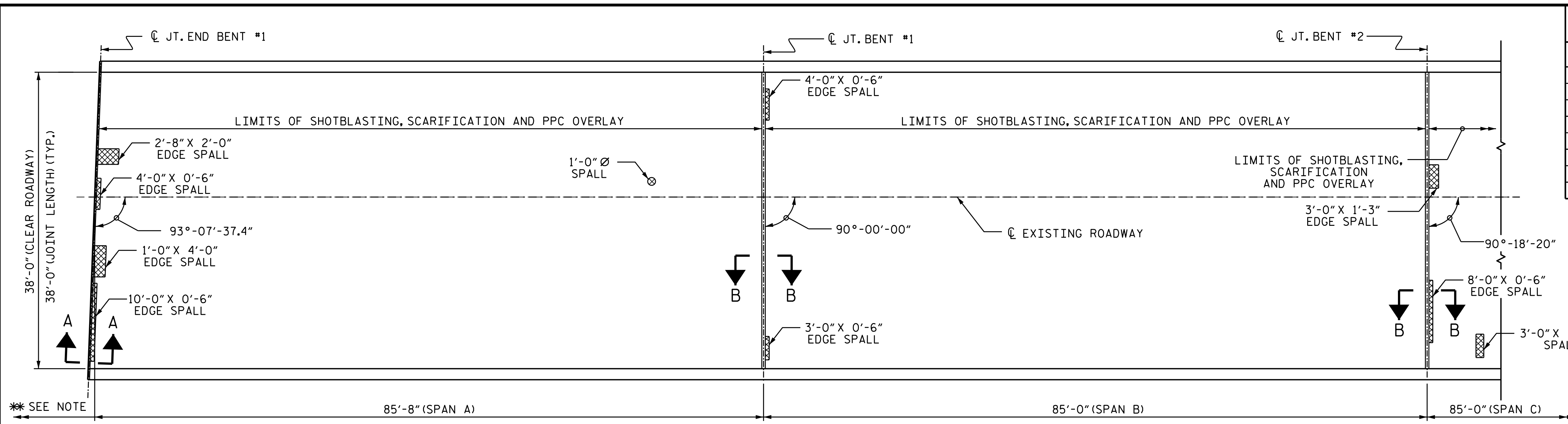


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTION

DRAWN BY : S. T. SANDOR / P. D. BRYANT DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 03/2018

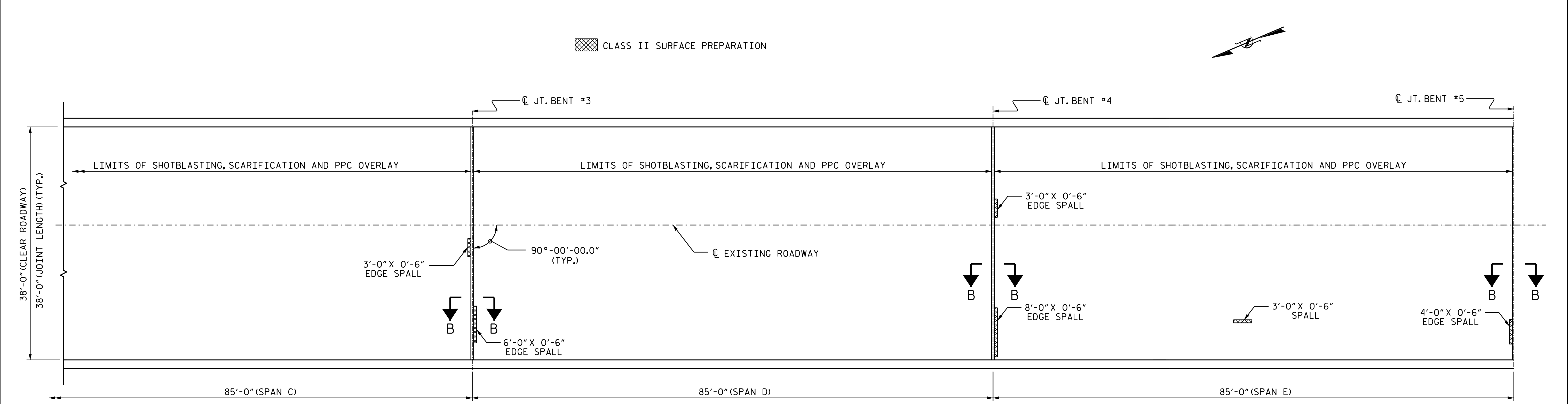
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 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. | |
|-----------|-----|-------|-----|-----|-------|--------------|-----|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-58 | |
| 1 | | | 3 | | | TOTAL SHEETS | 103 |
| 2 | | | 4 | | | | |



| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS A THRU E | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,797.8 SY | |
| CLASS II SURFACE PREPARATION | * 6.0 SY | |
| SHOTBLASTING BRIDGE DECK | 1,797.8 SY | |
| PPC MATERIALS | 50.0 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,797.8 SY | |
| BRIDGE DECK GROOVING | 14,724.0 SF | |
| CONCRETE FOR DECK REPAIR | * 6.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.
 ** FOR APPROACH SLABS, SEE SHEET S-103.

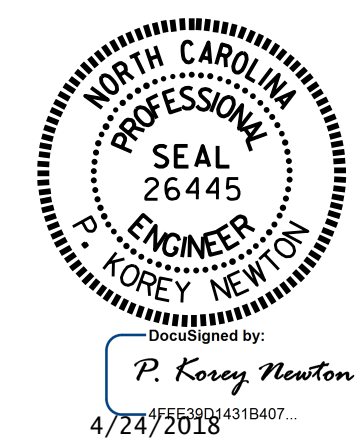


CLASS II SURFACE PREPARATION

PLAN OF SPANS
 (FOR SECTIONS A-A & B-B,
 SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44

SHEET 1 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
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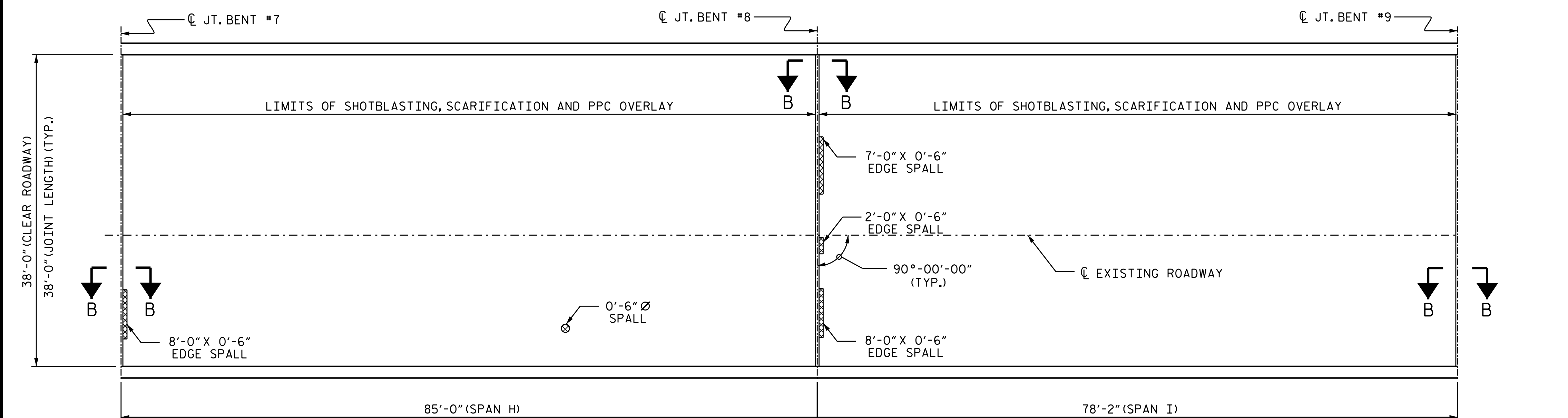
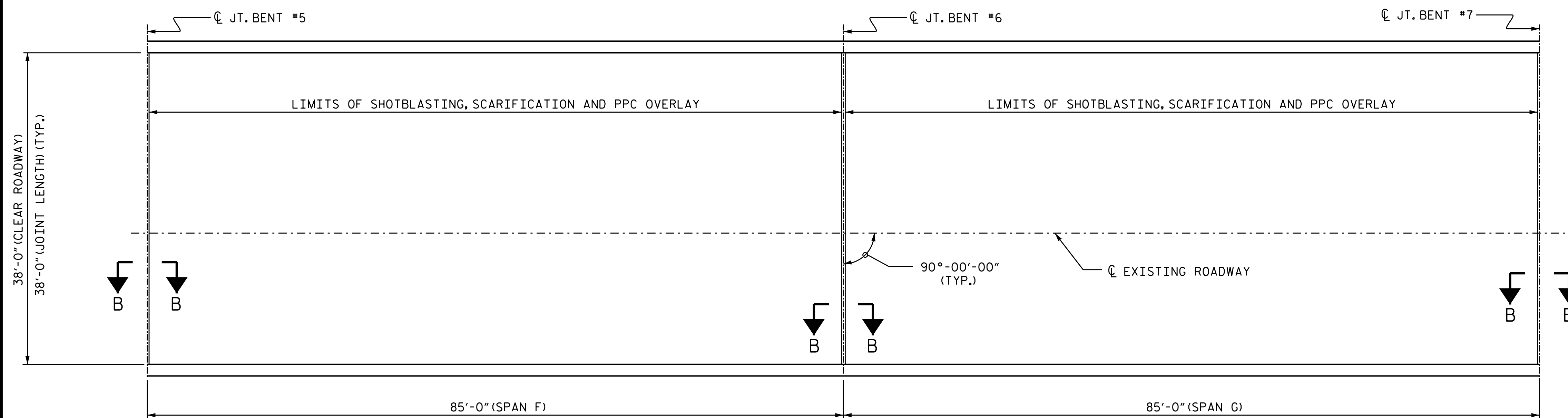
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-59 |
| 2 | | | 4 | | | 103 |

SUMMARY OF QUANTITIES

SPANS F THRU I

| | ESTIMATE | ACTUAL |
|---------------------------------|-------------|--------|
| SCARIFYING BRIDGE DECK | 1,406.7 SY | |
| CLASS II SURFACE PREPARATION | * 2.0 SY | |
| SHOTBLASTING BRIDGE DECK | 1,406.7 SY | |
| PPC MATERIALS | 39.1 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,406.7 SY | |
| BRIDGE DECK GROOVING | 11,521.0 SF | |
| CONCRETE FOR DECK REPAIR | * 2.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.



CLASS II SURFACE PREPARATION

PLAN OF SPANS
(FOR SECTION B-B,
SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 44

SHEET 2 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
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| 1 | | | 3 | | | S-60 |
| 2 | | | 4 | | | 103 |

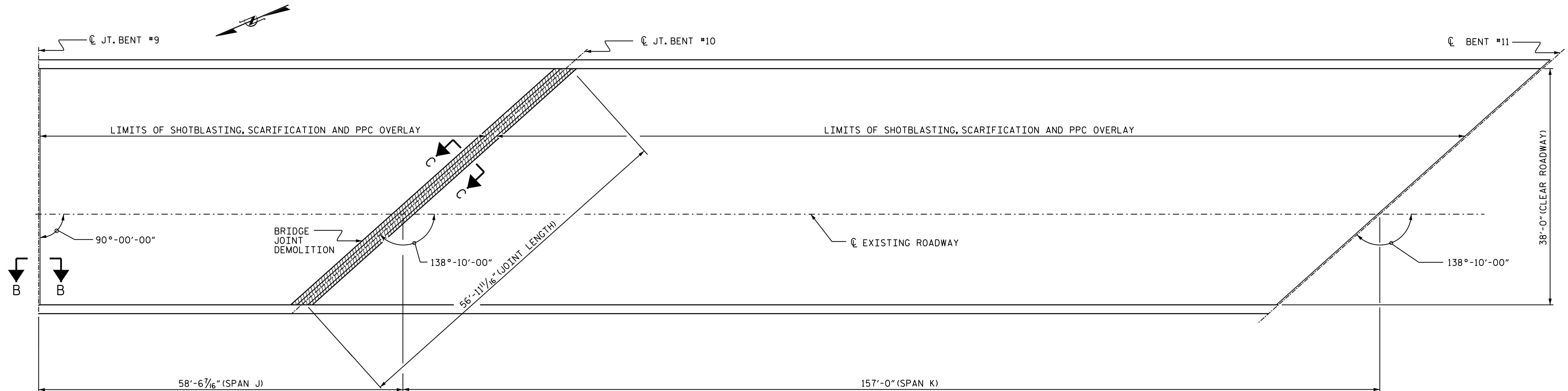
SUMMARY OF QUANTITIES

SPANS J & K

| | ESTIMATE | ACTUAL |
|---------------------------------|------------|--------|
| SCARIFYING BRIDGE DECK | 934.8 SY | |
| CLASS II SURFACE PREPARATION | * 1.0 SY | |
| SHOTBLASTING BRIDGE DECK | 934.8 SY | |
| PPC MATERIALS | 26.0 CY | |
| PLACING & FINISHING PPC OVERLAY | 934.8 SY | |
| BRIDGE DECK GROOVING | 7,656.0 SF | |
| BRIDGE JOINT DEMOLITION | 57.0 SF | |
| CONCRETE FOR DECK REPAIR | * 1.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

CLASS II SURFACE PREPARATION



PLAN OF SPANS

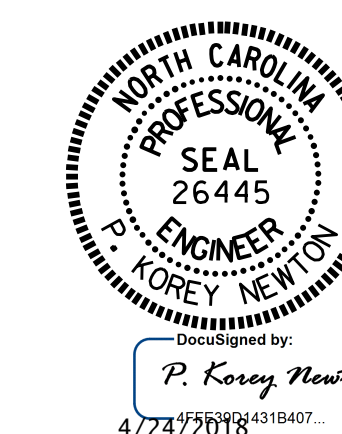
(FOR SECTIONS B-B, C-C & D-D,
SEE "JOINT DETAILS" SHEETS S-98 & S-99)

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE No. 44

SHEET 3 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. SMITH DATE : 02/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | S-61 |
| 2 | | | 4 | | | TOTAL SHEETS 103 |

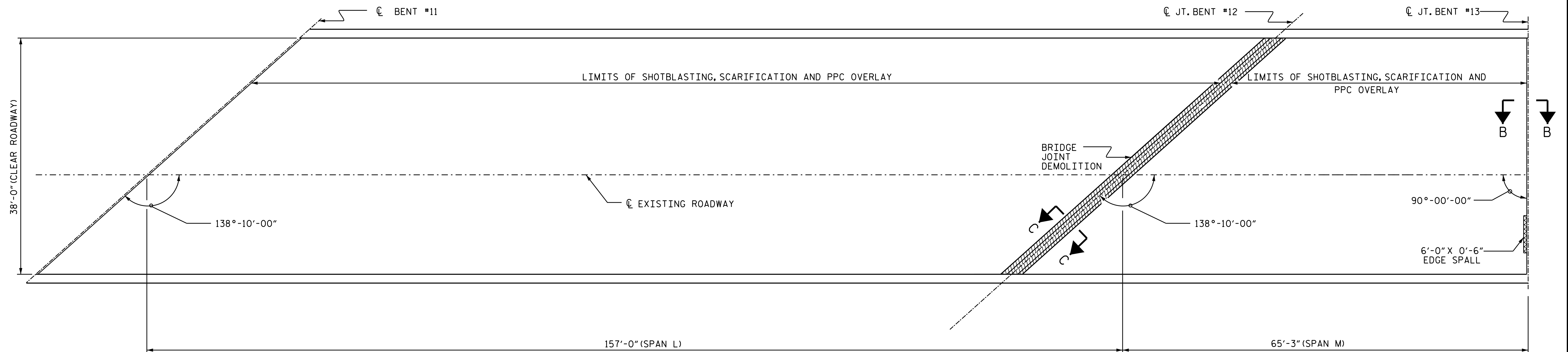
SUMMARY OF QUANTITIES

SPAN L & M

| | ESTIMATE | ACTUAL |
|---------------------------------|------------|--------|
| SCARIFYING BRIDGE DECK | 949.3 SY | |
| CLASS II SURFACE PREPARATION | * 1.0 SY | |
| SHOTBLASTING BRIDGE DECK | 949.3 SY | |
| PPC MATERIALS | 26.4 CY | |
| PLACING & FINISHING PPC OVERLAY | 949.3 SY | |
| BRIDGE DECK GROOVING | 7,775.0 SF | |
| BRIDGE JOINT DEMOLITION | 57.0 SF | |
| CONCRETE FOR DECK REPAIR | * 1.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

CLASS II SURFACE PREPARATION



PLAN OF SPANS

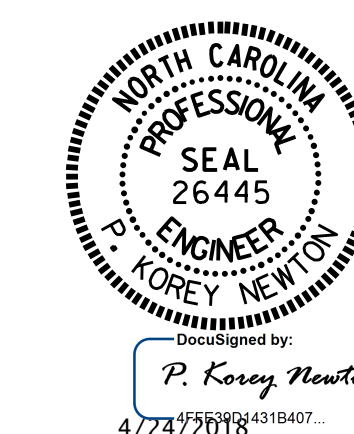
(FOR SECTIONS B-B, C-C & D-D, SEE "JOINT DETAILS" SHEETS S-98 & S-99)

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE No. 44

SHEET 4 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

DRAWN BY : S. T. SANDOR DATE : 02/2018
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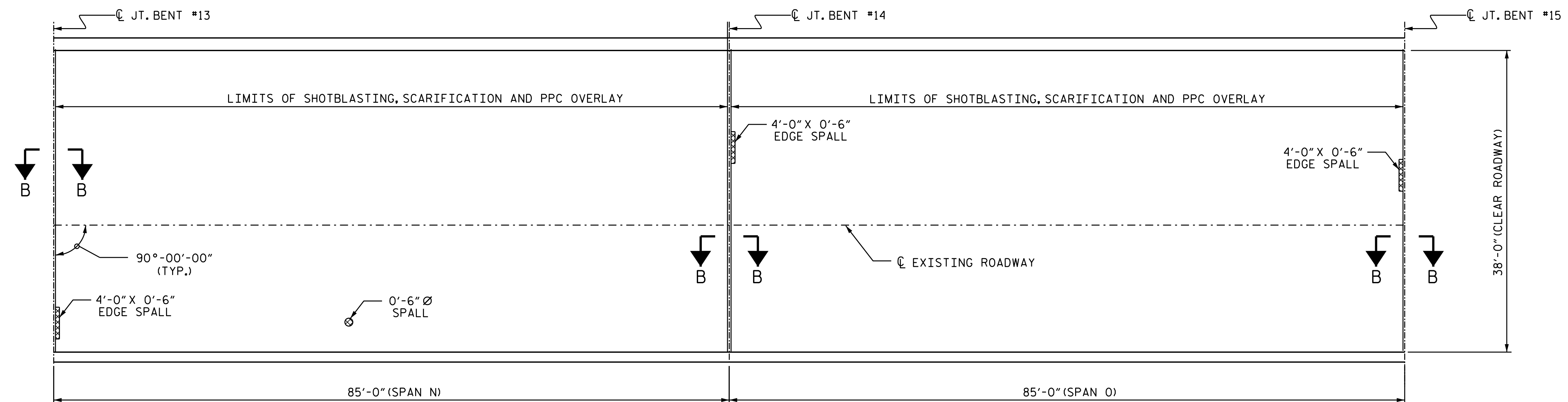
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-62 |
| 2 | | | 4 | | | 103 |

SUMMARY OF QUANTITIES

| SPANS N & O | | |
|---------------------------------|------------|--------|
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 717.8 SY | |
| CLASS II SURFACE PREPARATION | * 2.0 SY | |
| SHOTBLASTING BRIDGE DECK | 717.8 SY | |
| PPC MATERIALS | 19.9 CY | |
| PLACING & FINISHING PPC OVERLAY | 717.8 SY | |
| BRIDGE DECK GROOVING | 5,879.0 SF | |
| CONCRETE FOR DECK REPAIR | * 2.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.

CLASS II SURFACE PREPARATION



PLAN OF SPANS

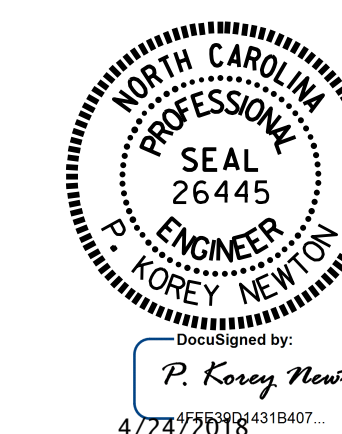
(FOR SECTION B-B, SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11

CAMDEN COUNTY

BRIDGE No. 44

SHEET 5 OF 7



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

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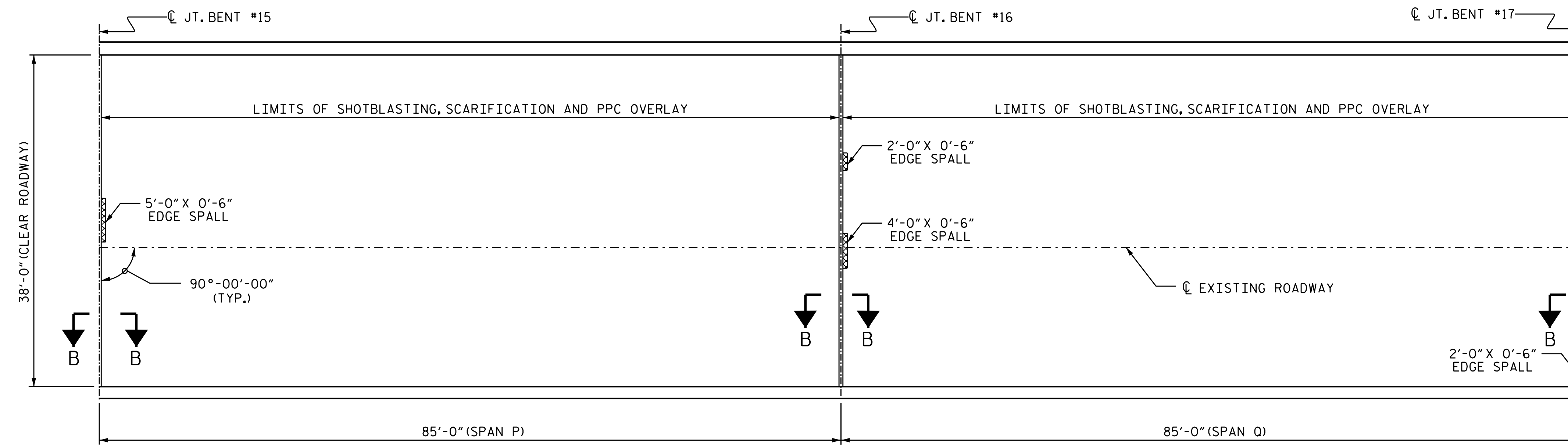
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| NO. | BY: | DATE: | NO. | BY: | DATE: | S-63 |
| 1 | | | 3 | | | TOTAL SHEETS 103 |
| 2 | | | 4 | | | |

SUMMARY OF QUANTITIES

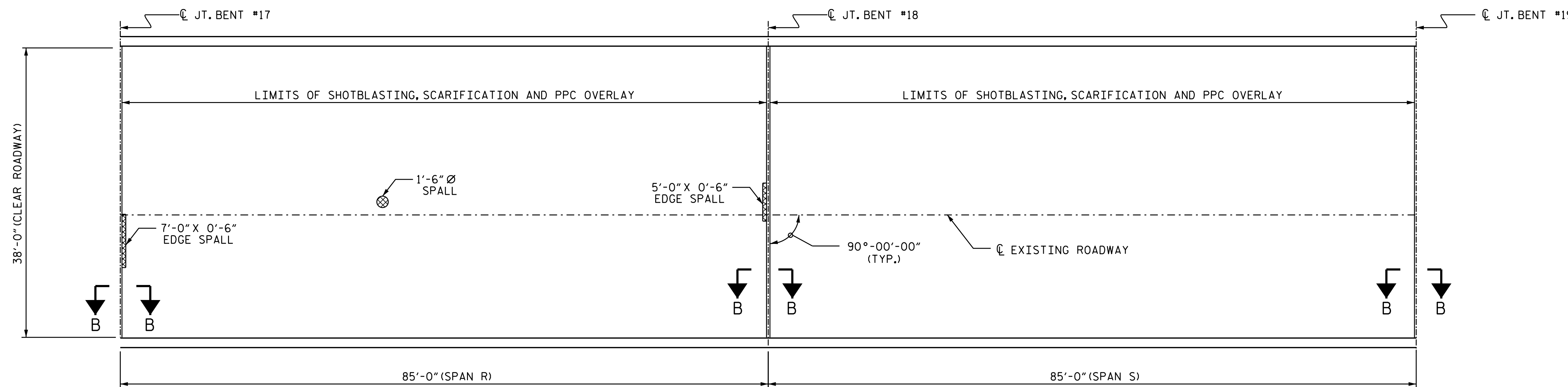
SPANS P THRU S

| | ESTIMATE | ACTUAL |
|---------------------------------|-------------|--------|
| SCARIFYING BRIDGE DECK | 1,435.6 SY | |
| CLASS II SURFACE PREPARATION | * 3.5 SY | |
| SHOTBLASTING BRIDGE DECK | 1,435.6 SY | |
| PPC MATERIALS | 39.9 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,435.6 SY | |
| BRIDGE DECK GROOVING | 11,758.0 SF | |
| CONCRETE FOR DECK REPAIR | * 3.5 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.



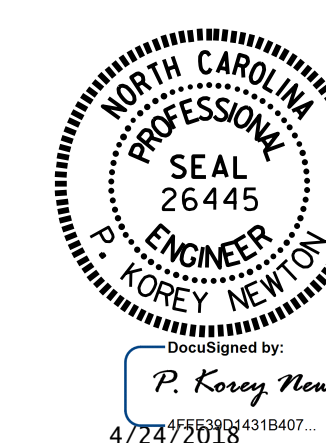
CLASS II SURFACE PREPARATION



PLAN OF SPANS
(FOR SECTION B-B,
SEE "JOINT DETAILS" SHEET S-98)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE No. 44

SHEET 6 OF 7



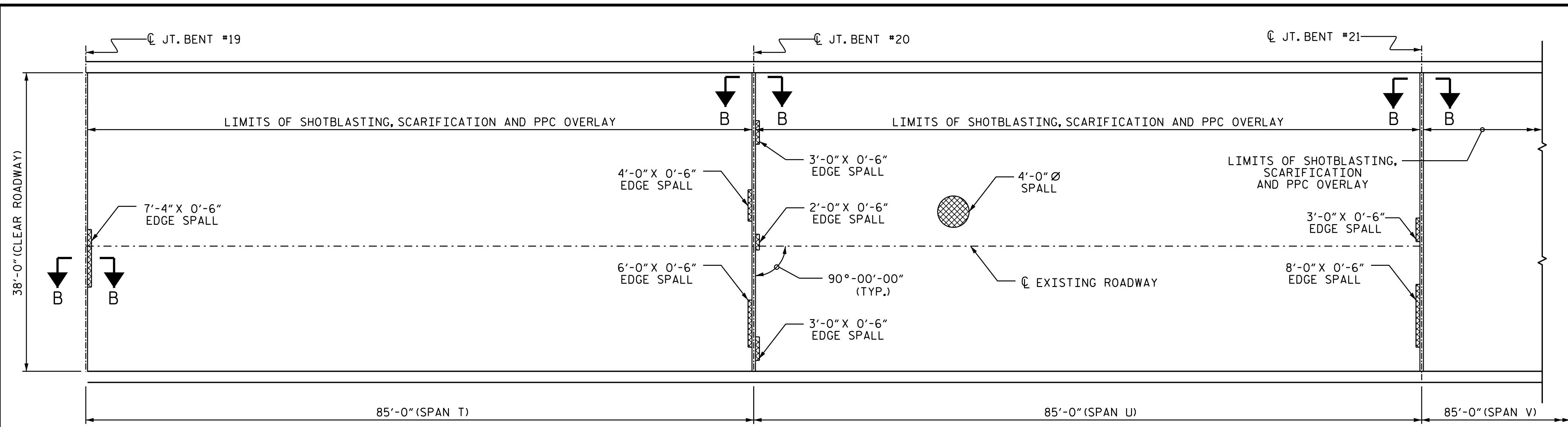
STATE OF NORTH CAROLINA
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RALEIGH

SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

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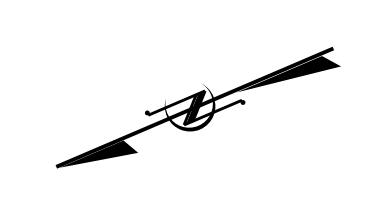
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| REVISIONS | | | | | | SHEET NO. |
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| 2 | | | 4 | | | 103 |

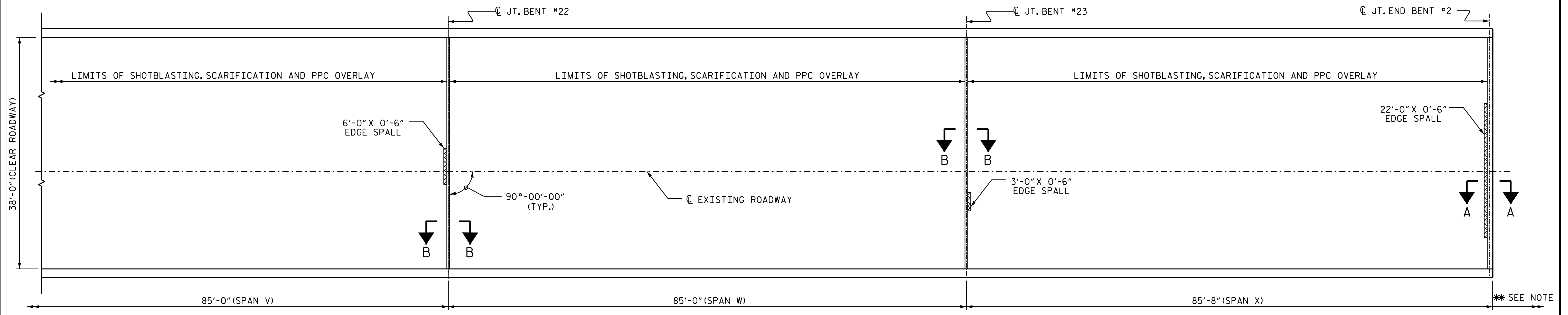


| SUMMARY OF QUANTITIES | | |
|---------------------------------|-------------|--------|
| SPANS T THRU X | | |
| | ESTIMATE | ACTUAL |
| SCARIFYING BRIDGE DECK | 1,797.3 SY | |
| CLASS II SURFACE PREPARATION | * 7.0 SY | |
| SHOTBLASTING BRIDGE DECK | 1,797.3 SY | |
| PPC MATERIALS | 49.9 CY | |
| PLACING & FINISHING PPC OVERLAY | 1,797.3 SY | |
| BRIDGE DECK GROOVING | 14,720.0 SF | |
| CONCRETE FOR DECK REPAIR | * 7.0 SY | |

* PAY ITEMS HAVE BEEN INCREASED TO INCLUDE A TOKEN AMOUNT FOR UNIDENTIFIED REPAIRS.
 ** FOR APPROACH SLABS, SEE SHEET S-103.

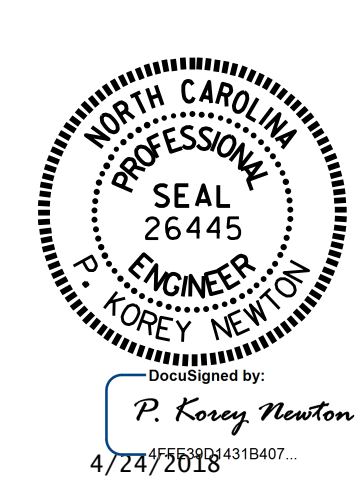


CLASS II SURFACE PREPARATION



PLAN OF SPANS
 (FOR SECTIONS A-A & B-B,
 SEE "JOINT DETAILS" SHEET S-98)

PROJECT No. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44
 SHEET 7 OF 7

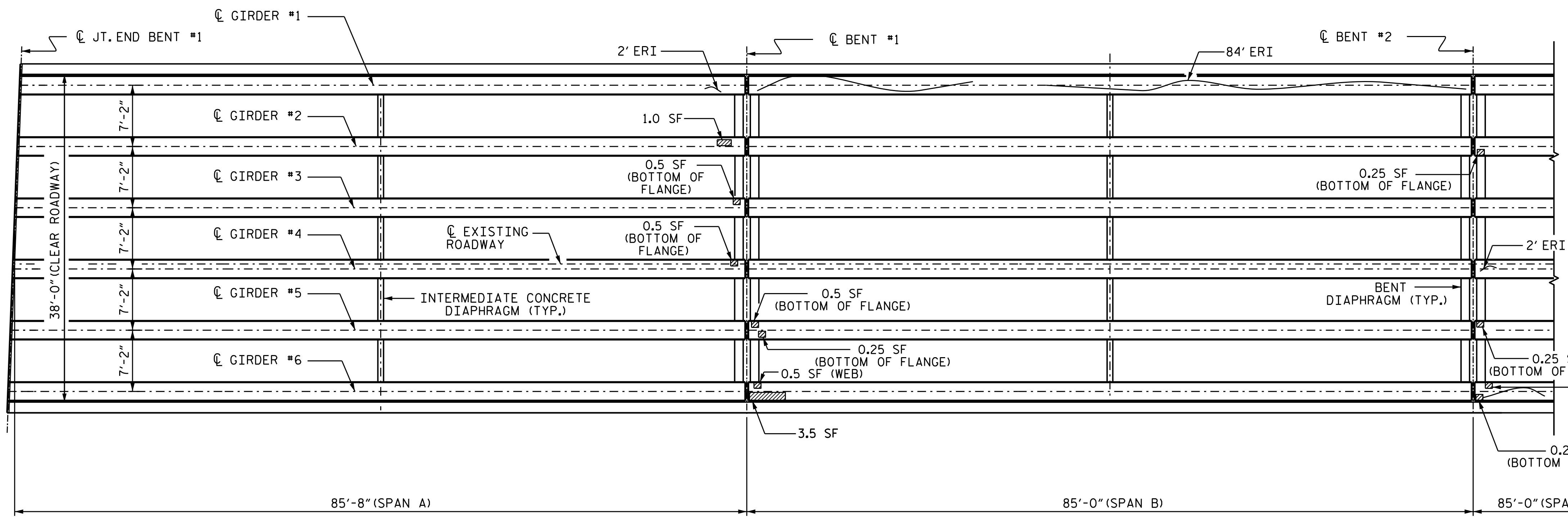


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY

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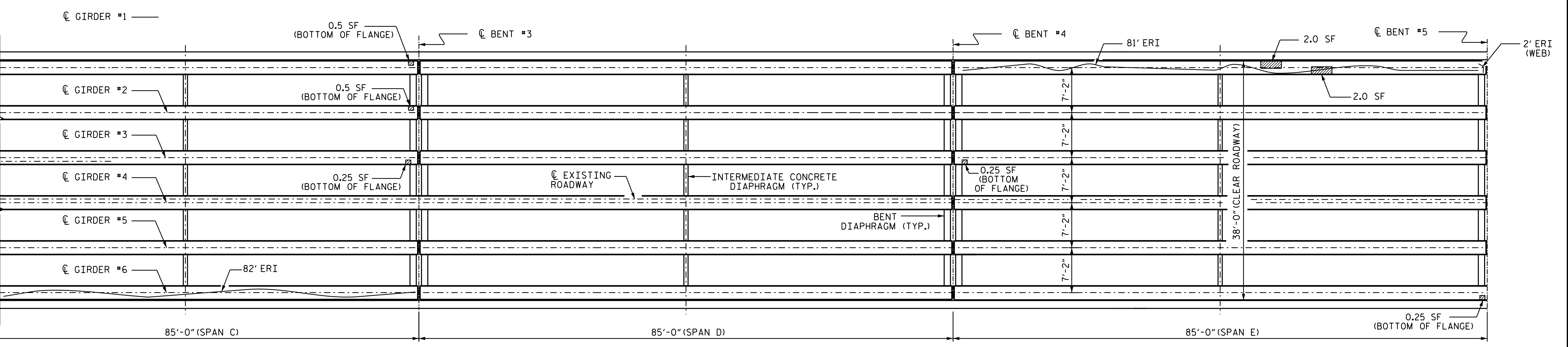
DOCUMENT NOT CONSIDERED
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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
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| 2 | | | 4 | | | 103 |



| REPAIR QUANTITY TABLE | | | | |
|------------------------------|------------|-----------|---------|-----------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 13.5 | 6.75 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 253.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

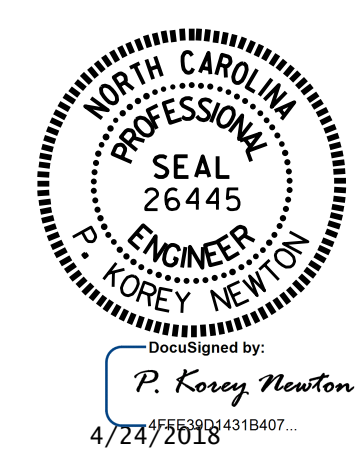
- ▨ - DIAPHRAGM REPAIR
- ▨ - GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

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PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44

SHEET 1 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 GIRDER & DIAPHRAGM REPAIR
 SPANS A THRU E

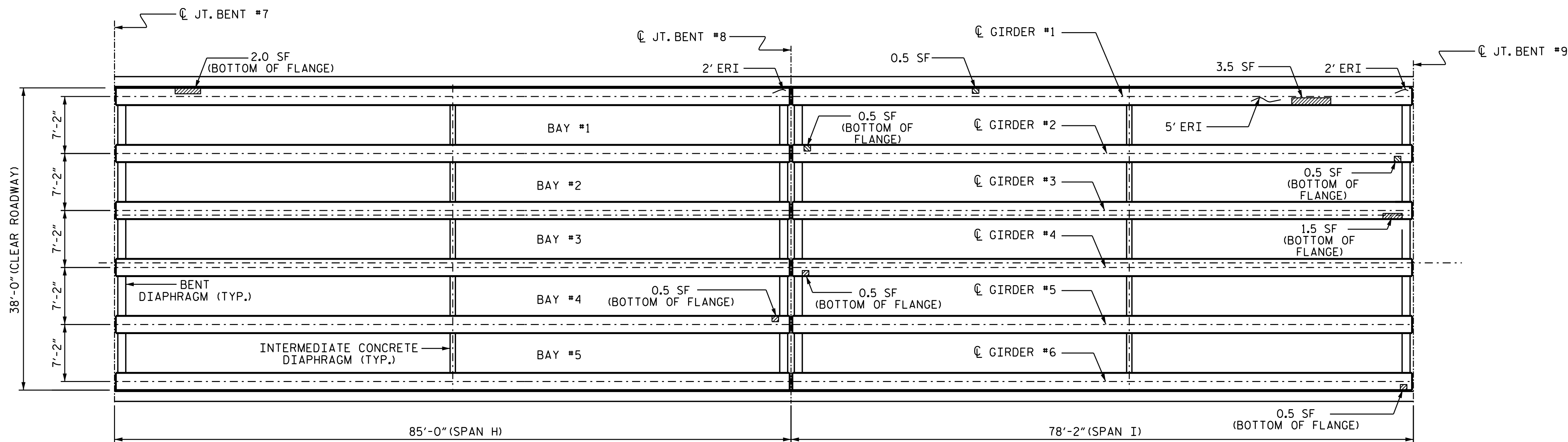
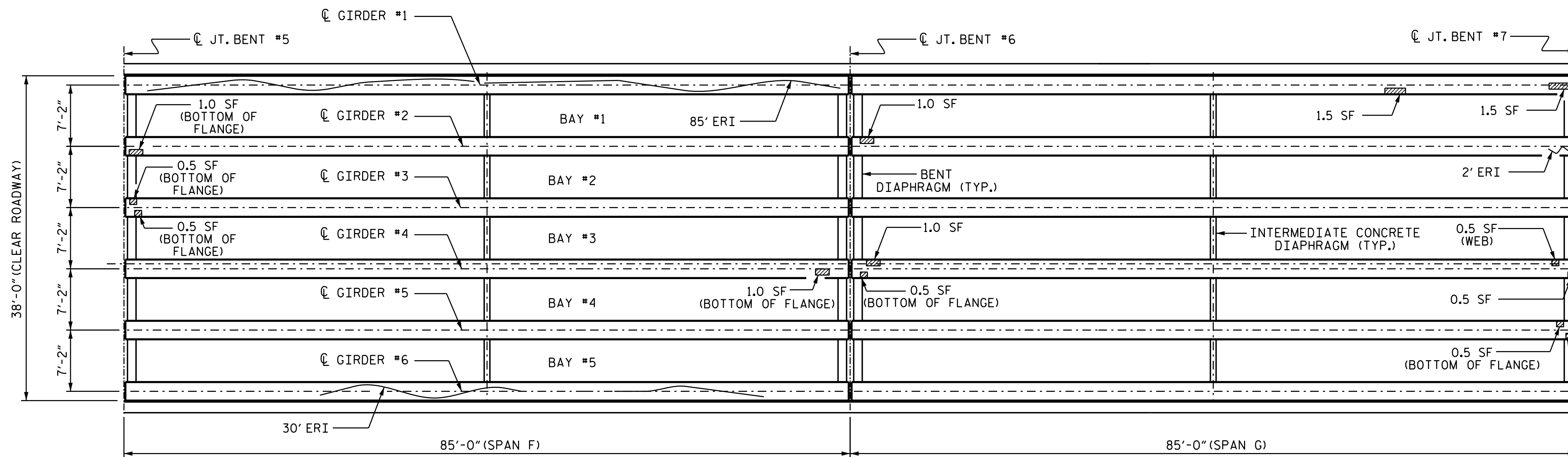
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| REVISIONS | | | | | | SHEET NO. |
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| NO. | BY: | DATE: | NO. | BY: | DATE: | S-66 |
| 1 | | | 3 | | | TOTAL SHEETS 103 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK | QUANTITIES | | | |
|------------------------------|------------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 20.5 | 10.25 | | |
| EPOXY RESIN INJECTION | | LN. FT | LN. FT | |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 126.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS (UNDERSIDE)

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

NOTES:

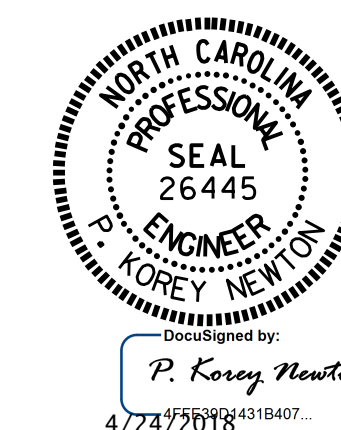
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44

SHEET 2 OF 7

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
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| SUPERSTRUCTURE | | | | | |
| GIRDER & DIAPHRAGM REPAIR SPANS F THRU I | | | | | |
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| 1 | | | 3 | | |
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| | | | | | S-67 |
| | | | | | TOTAL SHEETS 103 |

DRAWN BY : S. T. SANDOR DATE : 02/2018
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NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS," SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

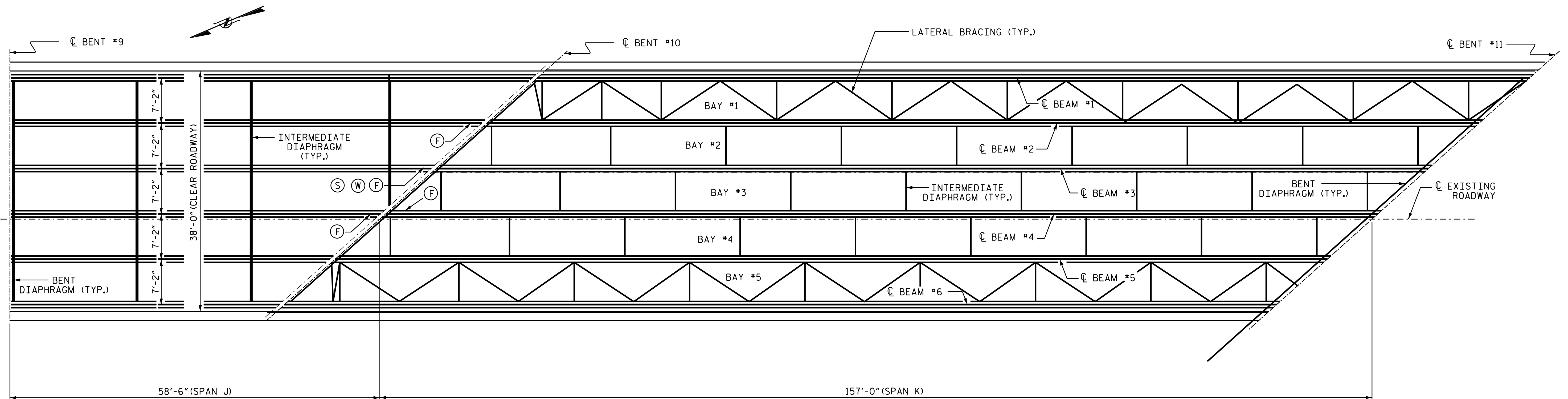
REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK REPAIRS | | | | | | | | |
|---------------------------------|----------|-----------|---------|-----------|----------|-----------|---------|-----------|
| SHOTCRETE REPAIRS | SPAN J | | | | SPAN K | | | |
| | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| | AREA SF | VOLUME CF | AREA SF | VOLUME CF | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANGS | 0.0 | 0.0 | | | 0.0 | 0.0 | | |
| EDGE BEAMS | | | | | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| UNDERSIDE EPOXY RESIN INJECTION | 0.0 LF | | | | 0.0 | | | |
| STRUCTURAL STEEL REPAIRS | | | | | | | | |
| | SPAN J | | | | SPAN K | | | |
| | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. |
| STIFFENER REPAIRS | 25.0 | | | | 0.0 | | | |
| WEB REPAIRS | 60.0 | | | | 0.0 | | | |
| BOTTOM FLANGE REPAIRS | 240.0 | | | | 0.0 | | | |

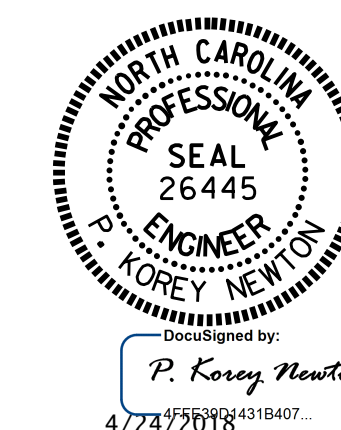
VALUES IN CHARTS REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CLEAR TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

- (W) - WEB REPAIR
- (F) - FLANGE REPAIR
- (S) - STIFFENER REPAIR
- [Shaded] - SHOTCRETE REPAIR
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44
 SHEET 3 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 GIRDER & DIAPHRAGM REPAIR
 SPANS J & K

DRAWN BY : S. T. SANDOR DATE : 02/2018
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| 2 | | | 4 | | | 103 |

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR STRUCTURAL STEEL FOR BEAM REPAIR DETAILS, SEE "STRUCTURAL STEEL REPAIR DETAILS," SHEET ON S-102.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR STEEL GIRDER REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENTS OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

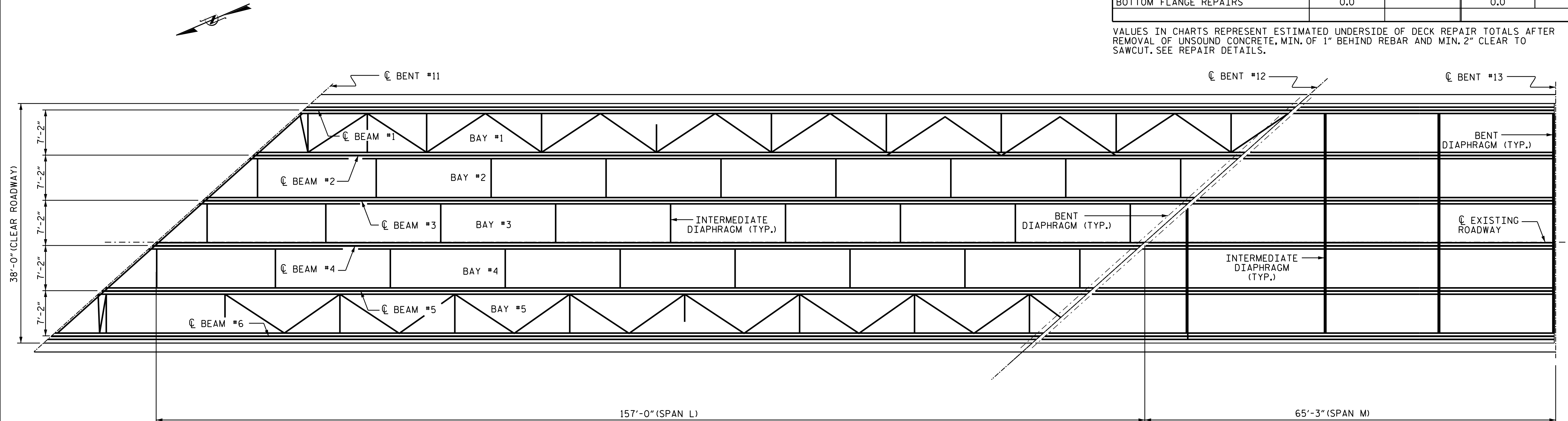
REPAIR CONCRETE EDGE BEAM AS DIRECTED BY THE ENGINEER.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK REPAIRS | | | | | | | | |
|---------------------------------|----------|-----------|---------|-----------|----------|-----------|---------|-----------|
| SHOTCRETE REPAIRS | SPAN L | | | | SPAN M | | | |
| | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| | AREA SF | VOLUME CF | AREA SF | VOLUME CF | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANGS | 0.0 | 0.0 | | | 0.0 | 0.0 | | |
| EDGE BEAMS | 0.0 | 0.0 | | | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | | | | | | | |
| UNDERSIDE EPOXY RESIN INJECTION | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| | 0.0 LF | | | | 0.0 LF | | | |
| STRUCTURAL STEEL REPAIRS | | | | | | | | |
| | SPAN L | | | | SPAN M | | | |
| | ESTIMATE | | ACTUAL | | ESTIMATE | | ACTUAL | |
| | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. | LBS. |
| STIFFENER REPAIRS | 0.0 | | | | 0.0 | | | |
| WEB REPAIRS | 0.0 | | | | 0.0 | | | |
| BOTTOM FLANGE REPAIRS | 0.0 | | | | 0.0 | | | |

VALUES IN CHARTS REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CLEAR TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS

(UNDERSIDE)

- (W) - WEB REPAIR
- (F) - FLANGE REPAIR
- (S) - STIFFNER REPAIR
- [Hatched Box] - SHOTCRETE REPAIR
- ERI - EPOXY RESIN INJECTION

PROJECT No. 15BPR.11

CAMDEN COUNTY

BRIDGE No. 44

SHEET 4 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 GIRDER & DIAPHRAGM REPAIR
 SPANS L & M

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. SMITH DATE : 02/2018

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| REVISIONS | | | | | | SHEET NO. |
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| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-69 |
| 2 | | | 4 | | | 103 |

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

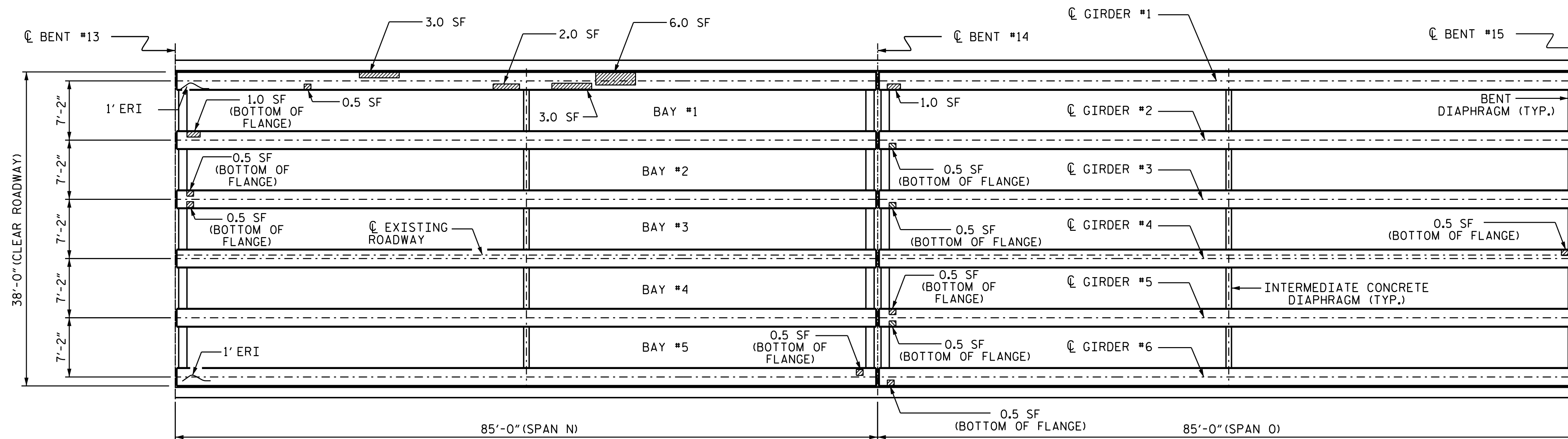
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| UNDERSIDE OF DECK | QUANTITIES | | | |
|------------------------------|------------|-----------|---------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 21.5 | 10.75 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 2.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44
 SHEET 5 OF 7



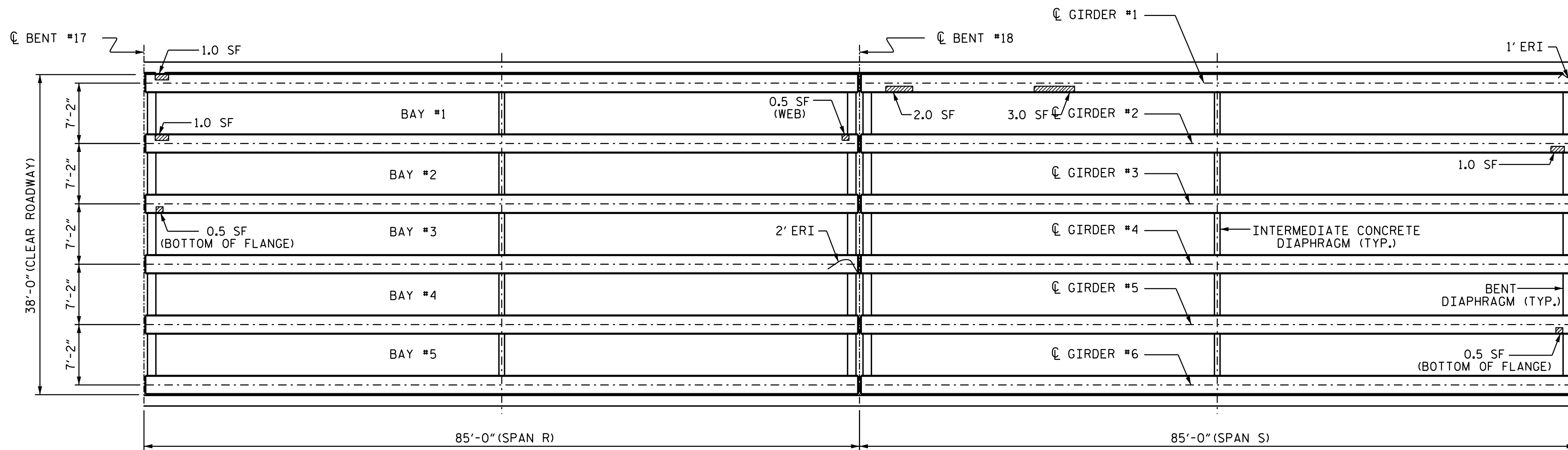
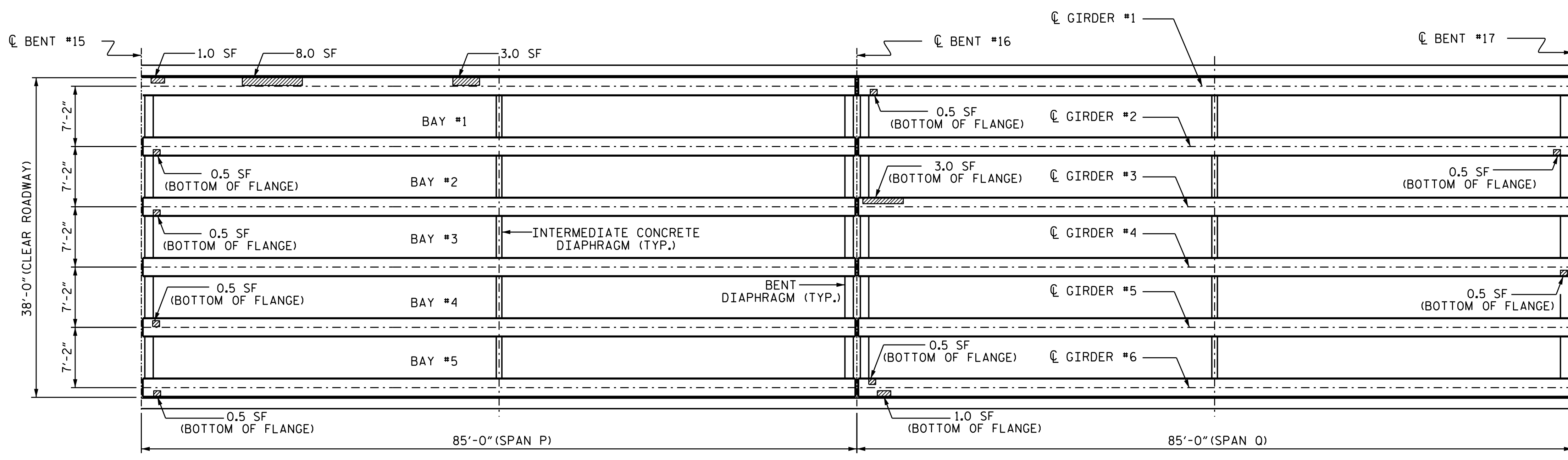
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 GIRDER & DIAPHRAGM REPAIR
 SPANS N & O

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-70 |
| 2 | | | 4 | | | 103 |



PLAN OF SPANS
(UNDERSIDE)

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

24-APR-2018 15:58
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NOTES:

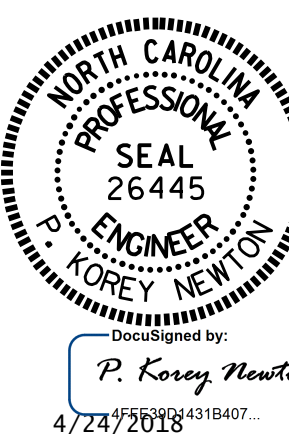
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.



DocuSigned by:
 P. Corey Newton
 4/24/2018

DOCUMENT NOT CONSIDERED
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 SIGNATURES COMPLETED

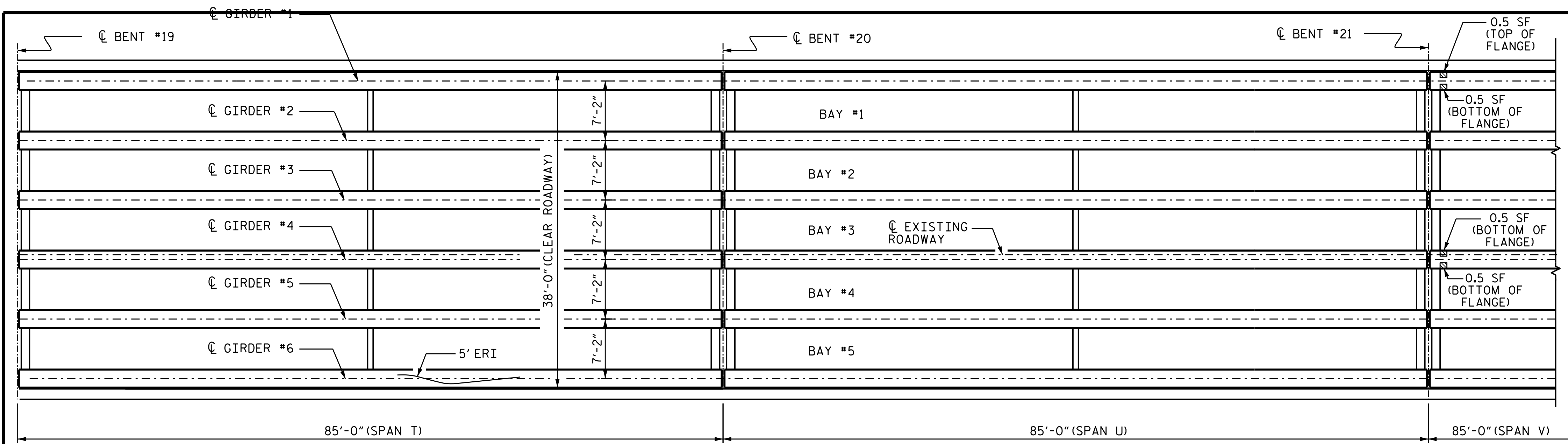
| REPAIR QUANTITY TABLE | | | | |
|------------------------------|------------|-----------|---------|-----------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 28.0 | 14.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 4.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE No. 44

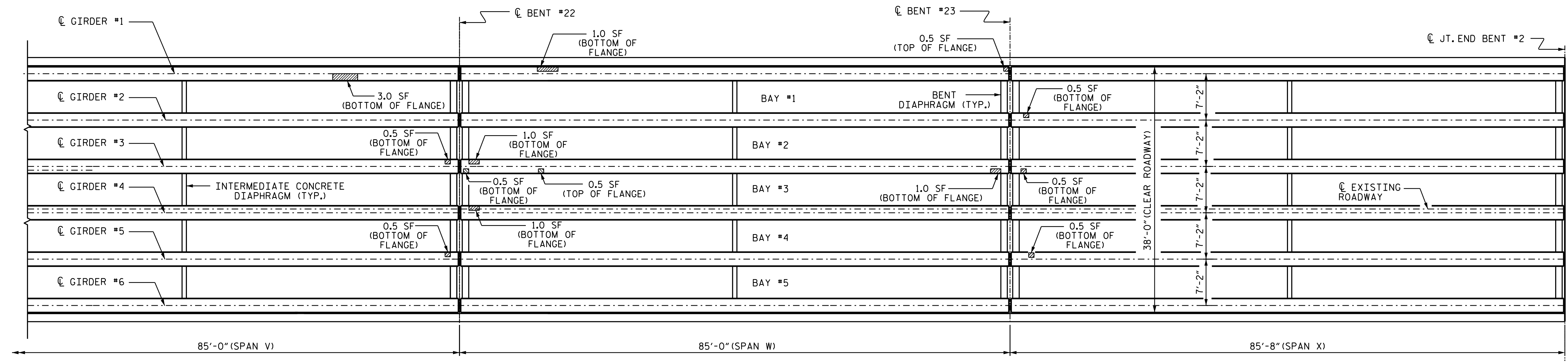
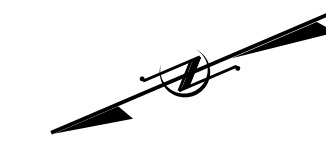
SHEET 6 OF 7

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|-----|-------|-----|-----|------------------|
| SUPERSTRUCTURE | | | | | |
| GIRDER & DIAPHRAGM REPAIR SPANS P THRU S | | | | | |
| REVISIONS | | | | | SHEET NO. |
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |
| | | | | | S-71 |
| | | | | | TOTAL SHEETS 103 |



| REPAIR QUANTITY TABLE | | | | |
|------------------------------|------------|-----------|---------|-----------|
| UNDERSIDE OF DECK | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA SF | VOLUME CF | AREA SF | VOLUME CF |
| UNDERSIDE OF DECK & OVERHANG | 0.0 | 0.0 | | |
| BENT DIAPHRAGMS | 0.0 | 0.0 | | |
| GIRDER REPAIRS | | | | |
| PRESTRESSED GIRDERS | 13.0 | 6.5 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| BENT DIAPHRAGMS | | 0.0 | | |
| GIRDERS | | 5.0 | | |

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.



PLAN OF SPANS
(UNDERSIDE)

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

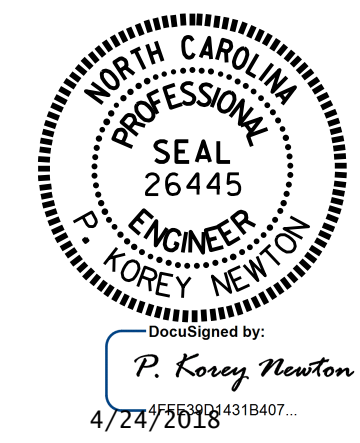
FOR BENT DIAPHRAGM AND PRESTRESSED GIRDER REPAIR DETAILS, SEE "TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS" SHEET ON S-100.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR GIRDER REPAIRS, SEE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS", SPECIAL PROVISIONS.

- DIAPHRAGM REPAIR
- GIRDER REPAIR
- ERI - EPOXY RESIN INJECTION



PROJECT NO. _____
CAMDEN COUNTY
BRIDGE No. 44

SHEET 7 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
GIRDER & DIAPHRAGM REPAIR
SPANS T THRU X

DRAWN BY : S. T. SANDOR DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-72 |
| 2 | | | 4 | | | 103 |

REPAIR QUANTITY TABLE

| END BENT 1 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 141.0 | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

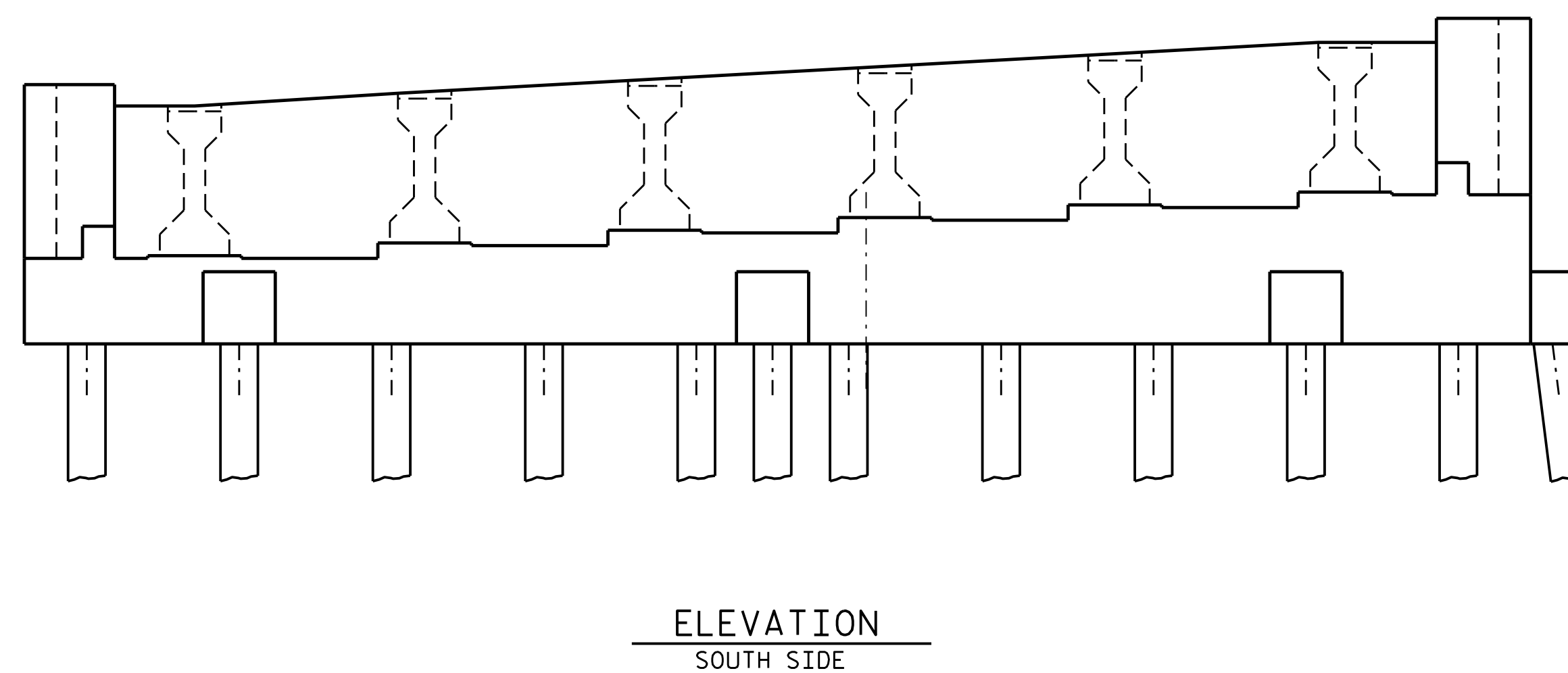
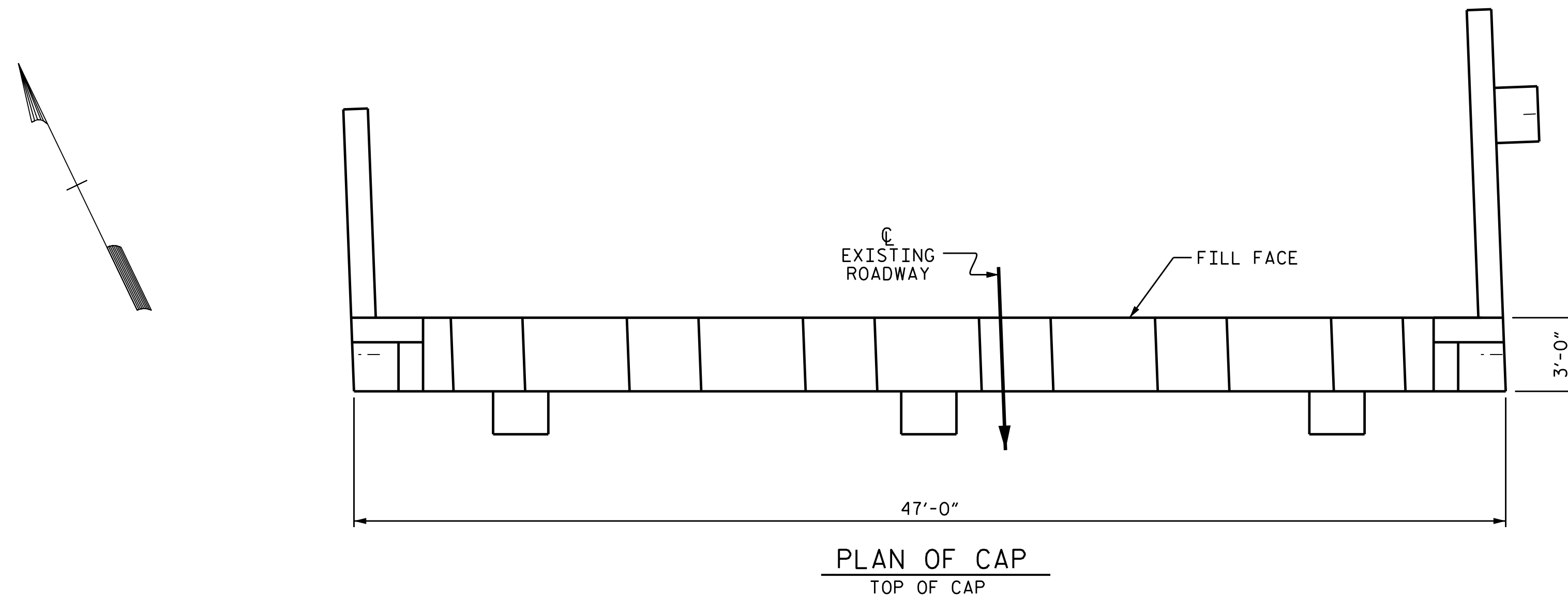
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



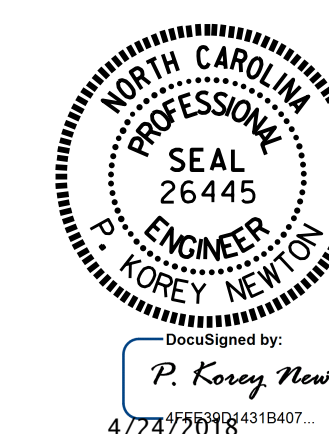
SHOTCRETE REPAIRS

ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY

BRIDGE NO. 44

SHEET 1 OF 25



DocuSigned by:
P. Corey Newton
4/24/2018 4:18:40 PM

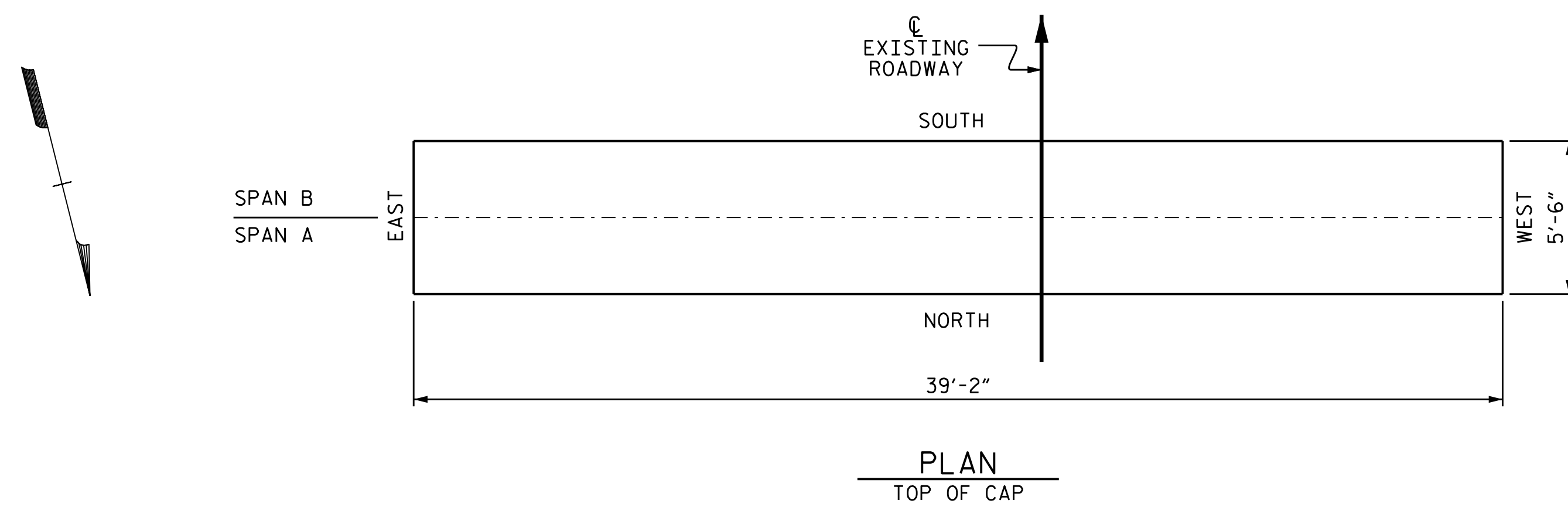
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1

DRAWN BY : P.D. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-73 |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

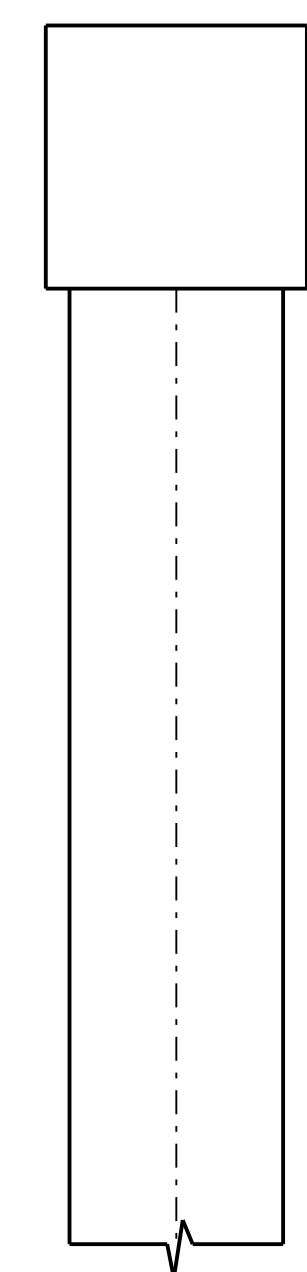
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

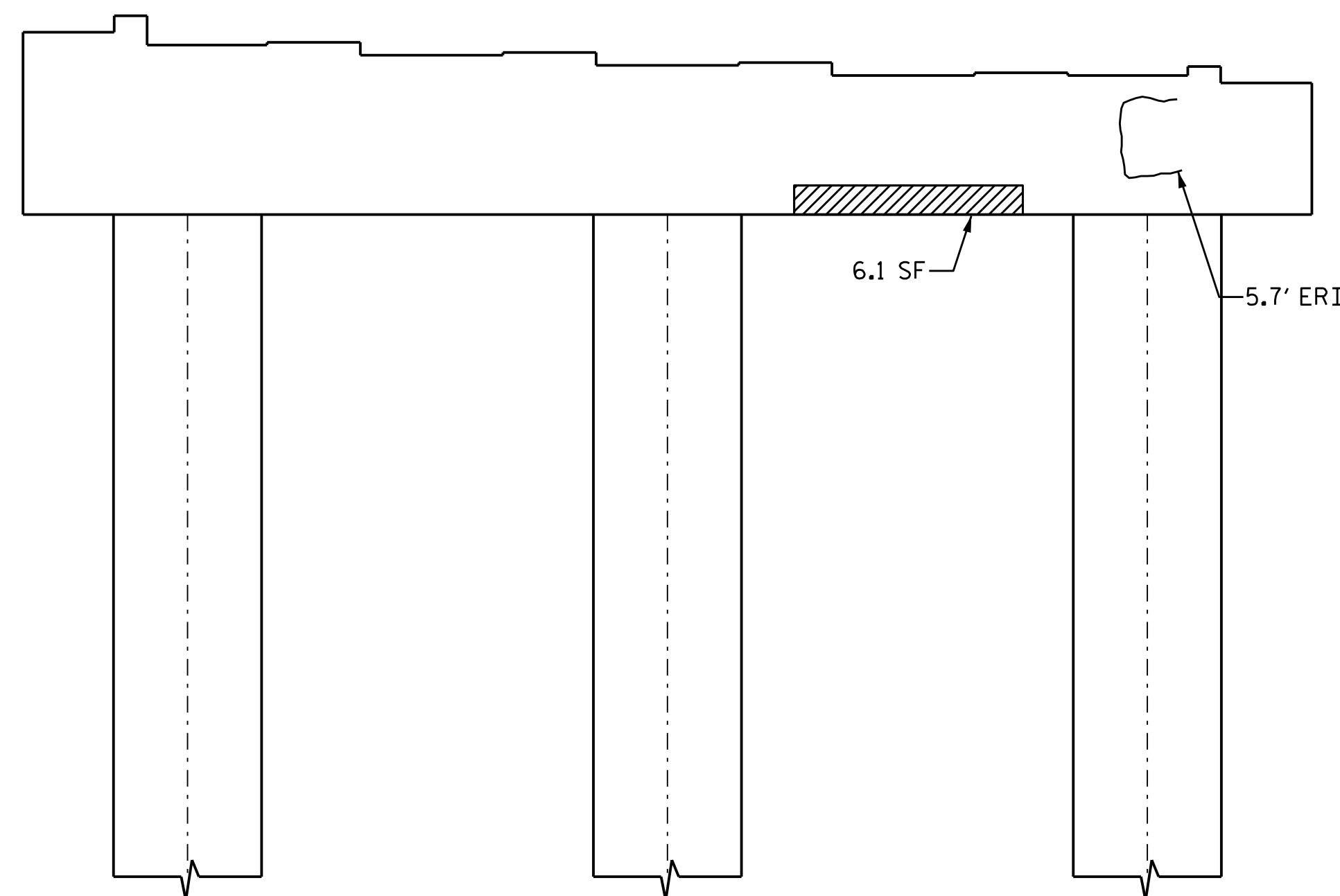
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

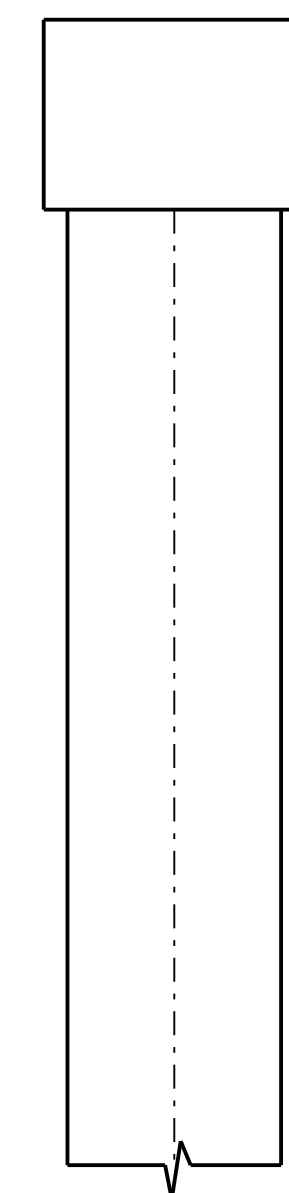
| BENT 1 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 35.5 | 17.8 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 5.7 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



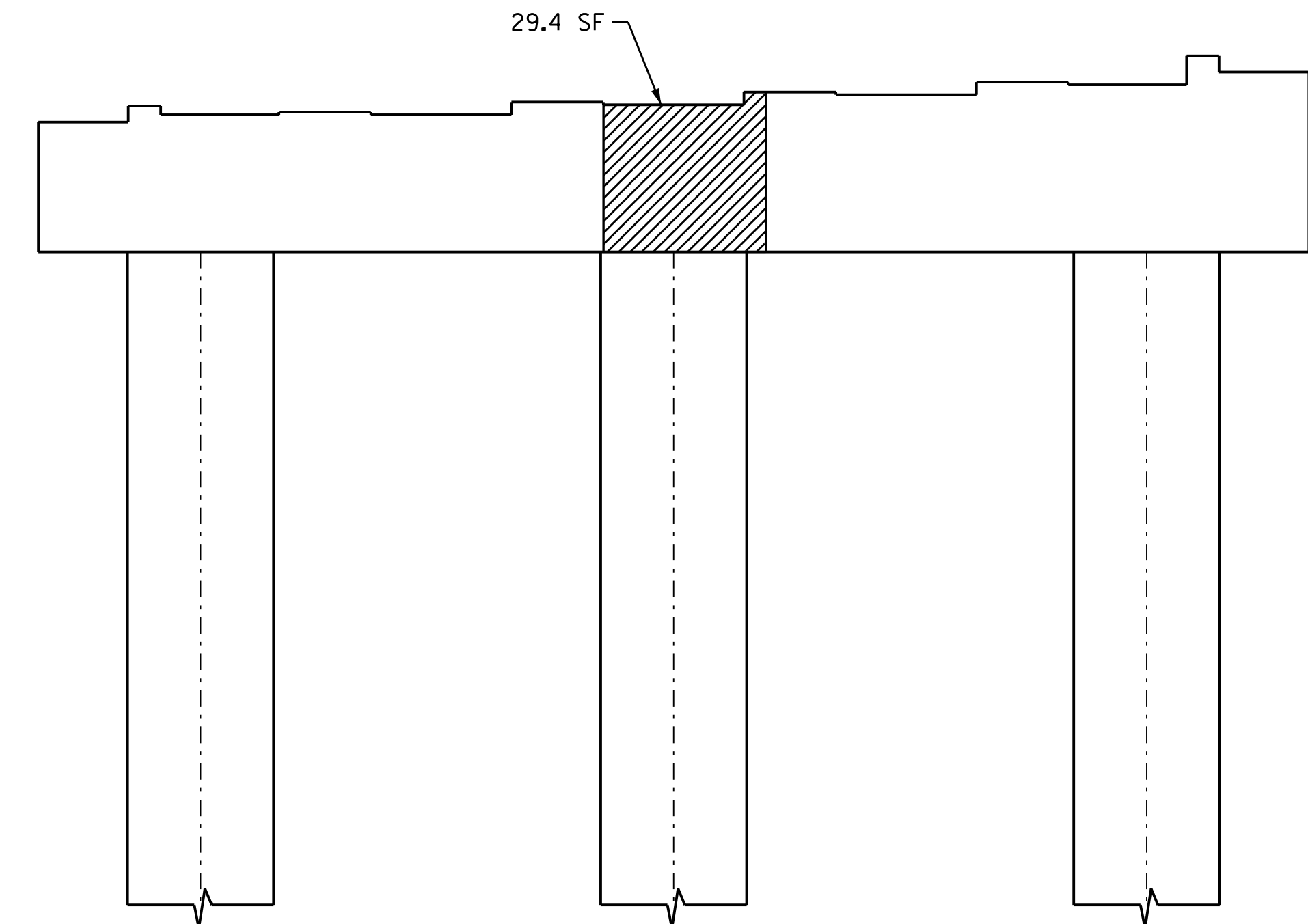
END VIEW
EAST SIDE



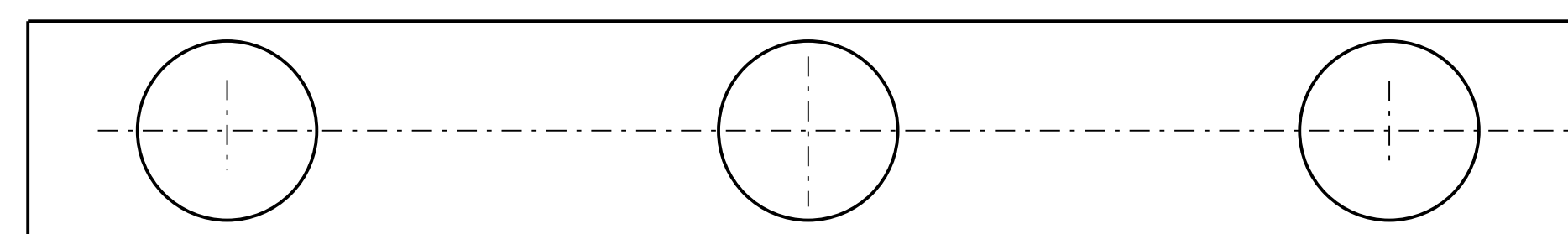
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SPAN A
SPAN B

SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44
SHEET 2 OF 25

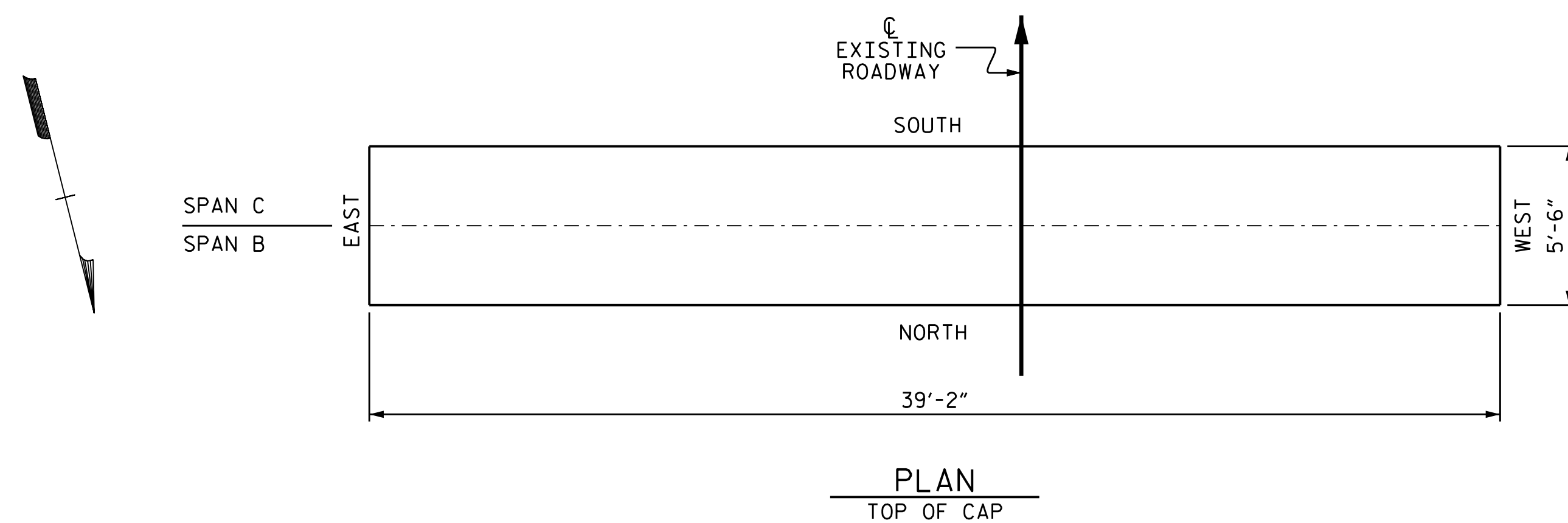
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 1**

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-74 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

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DRAWN BY : P. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

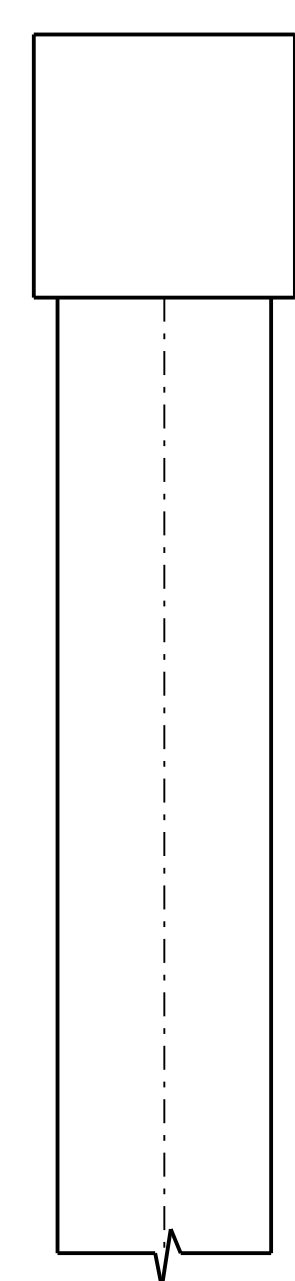
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

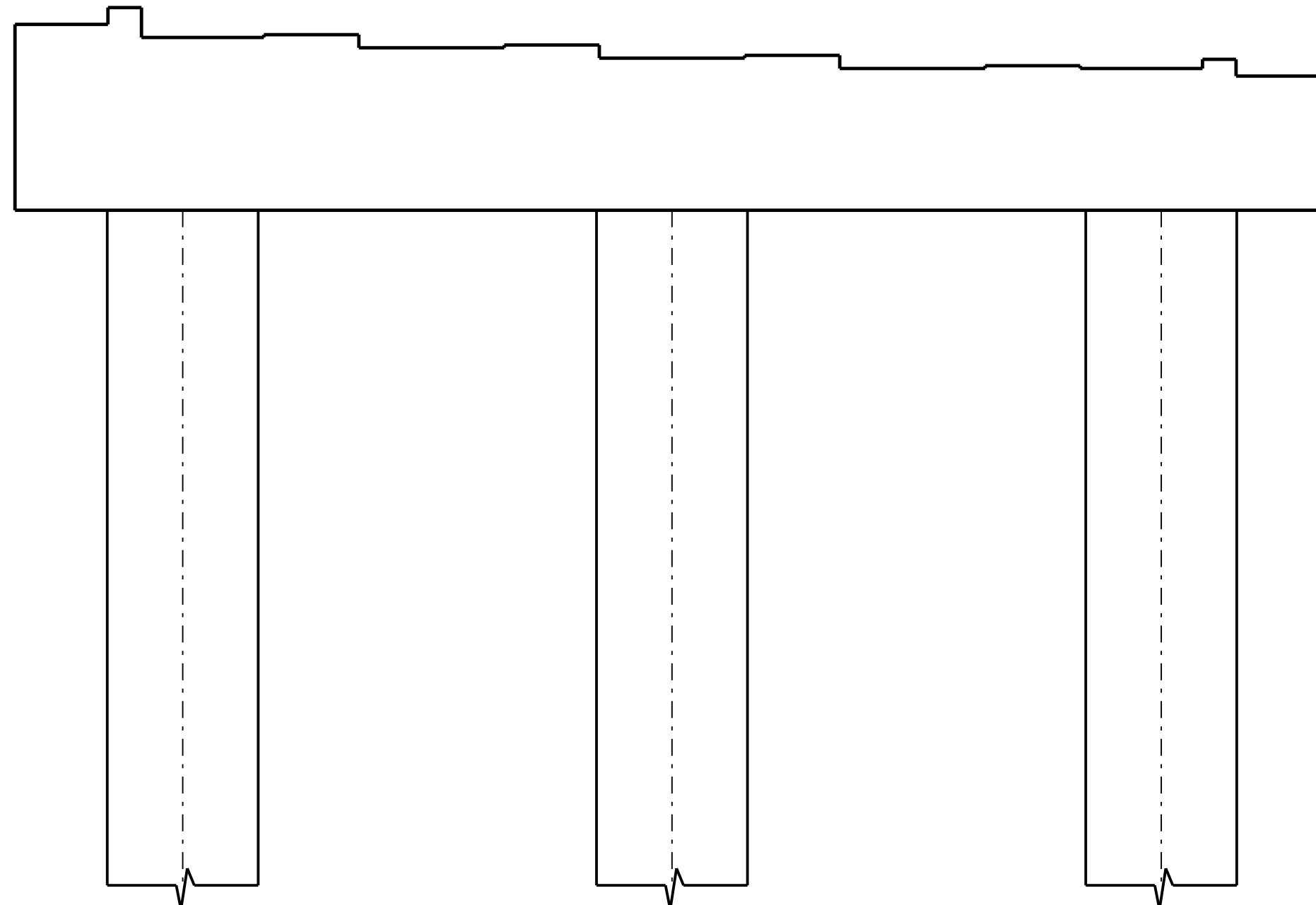
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

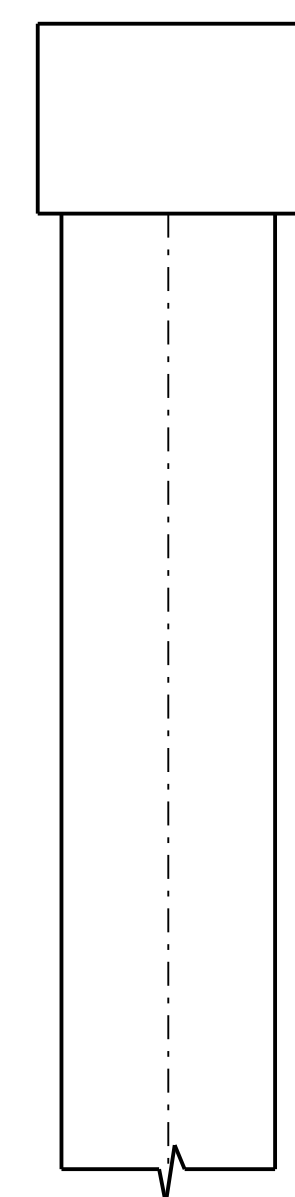
| BENT 2 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 11.0 | 5.5 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | | 215.4 | | |



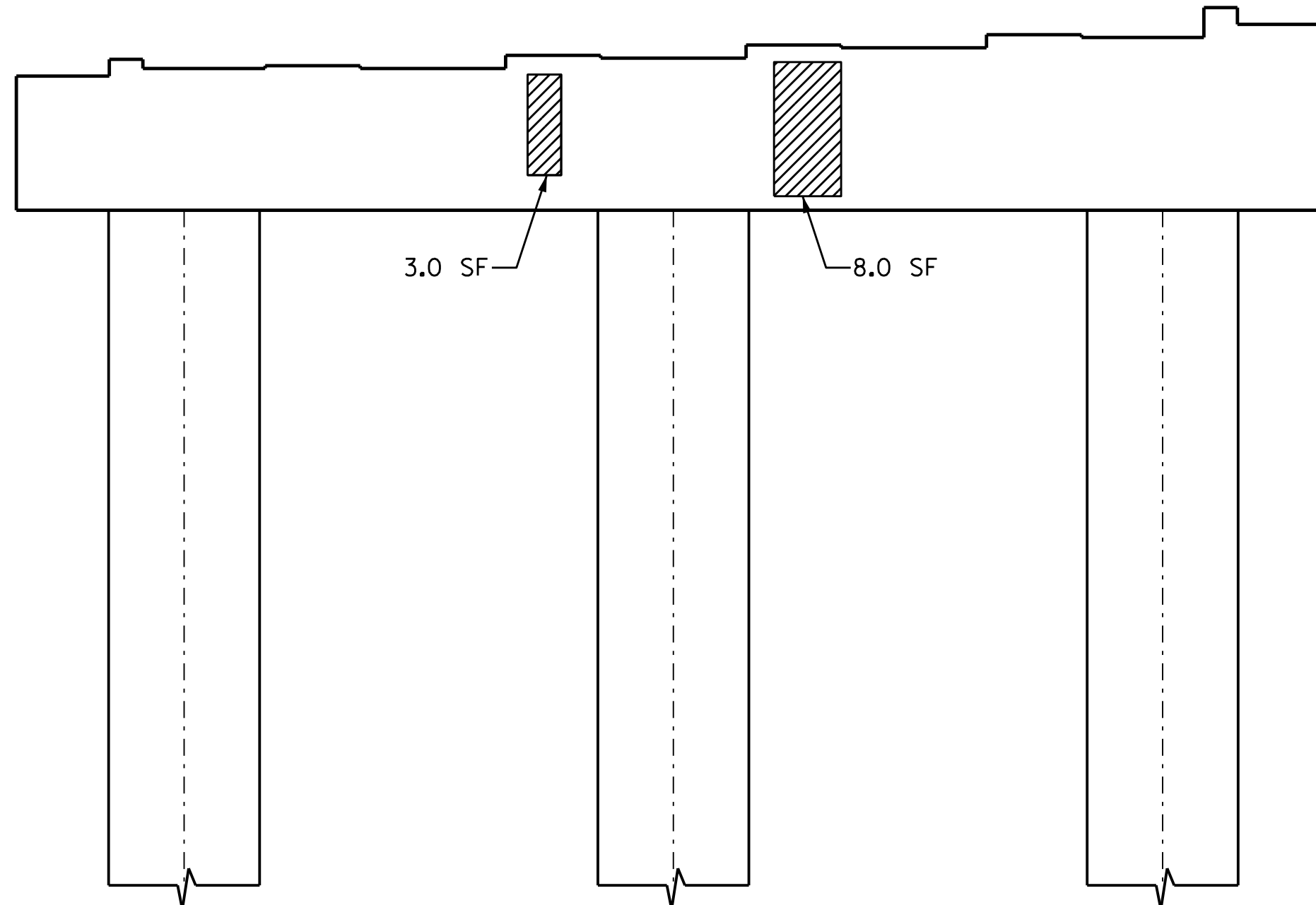
END VIEW
EAST SIDE



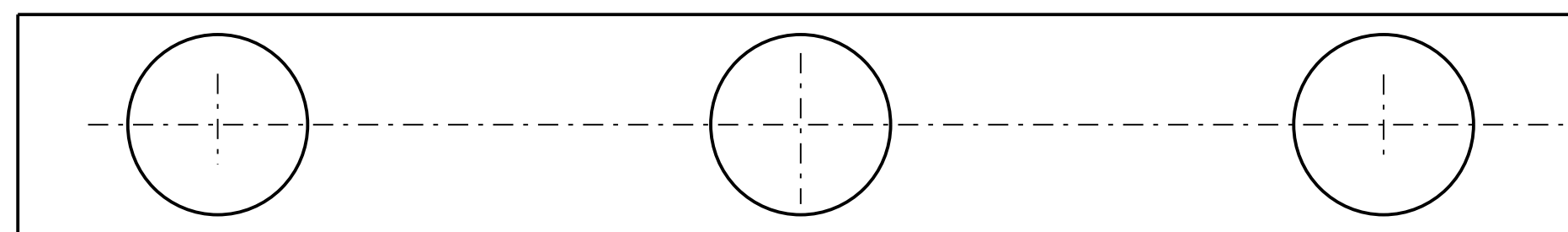
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



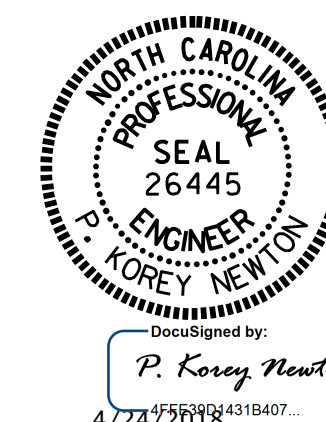
ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 3 OF 25



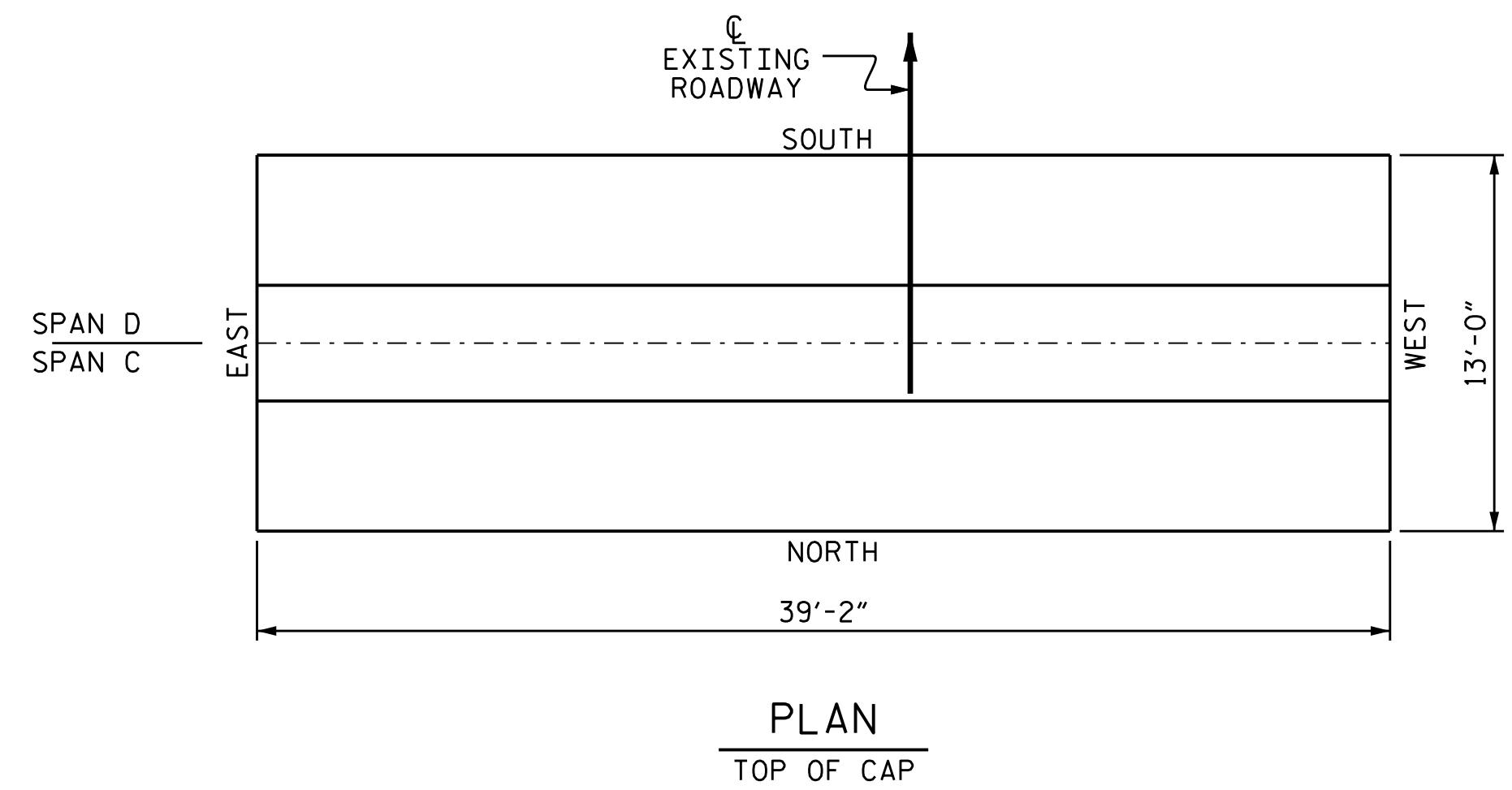
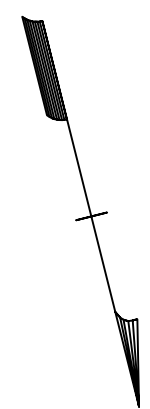
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 2**

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-75 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

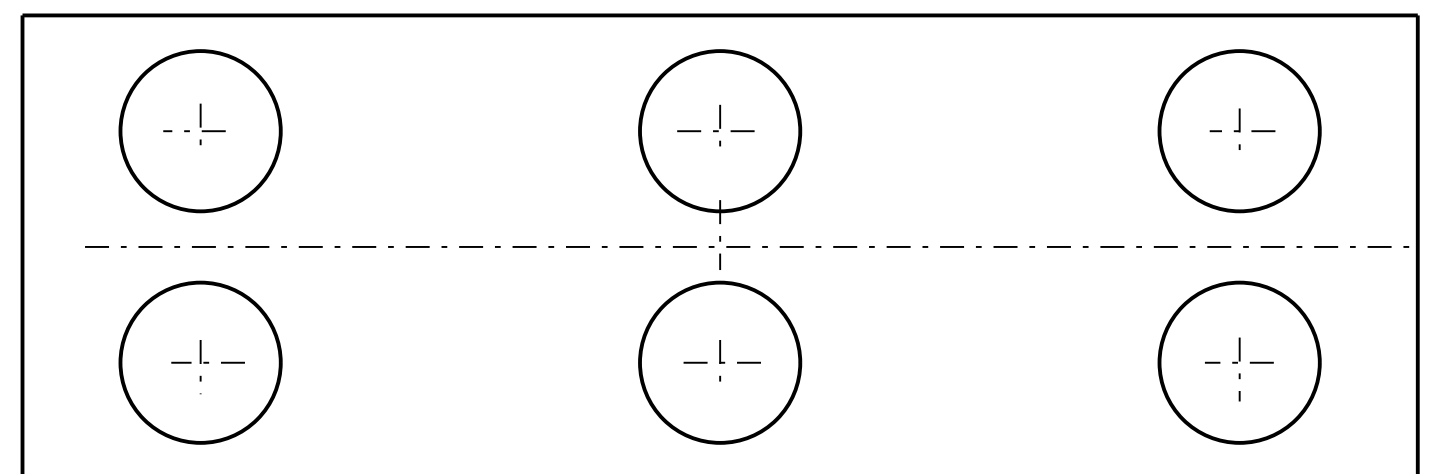
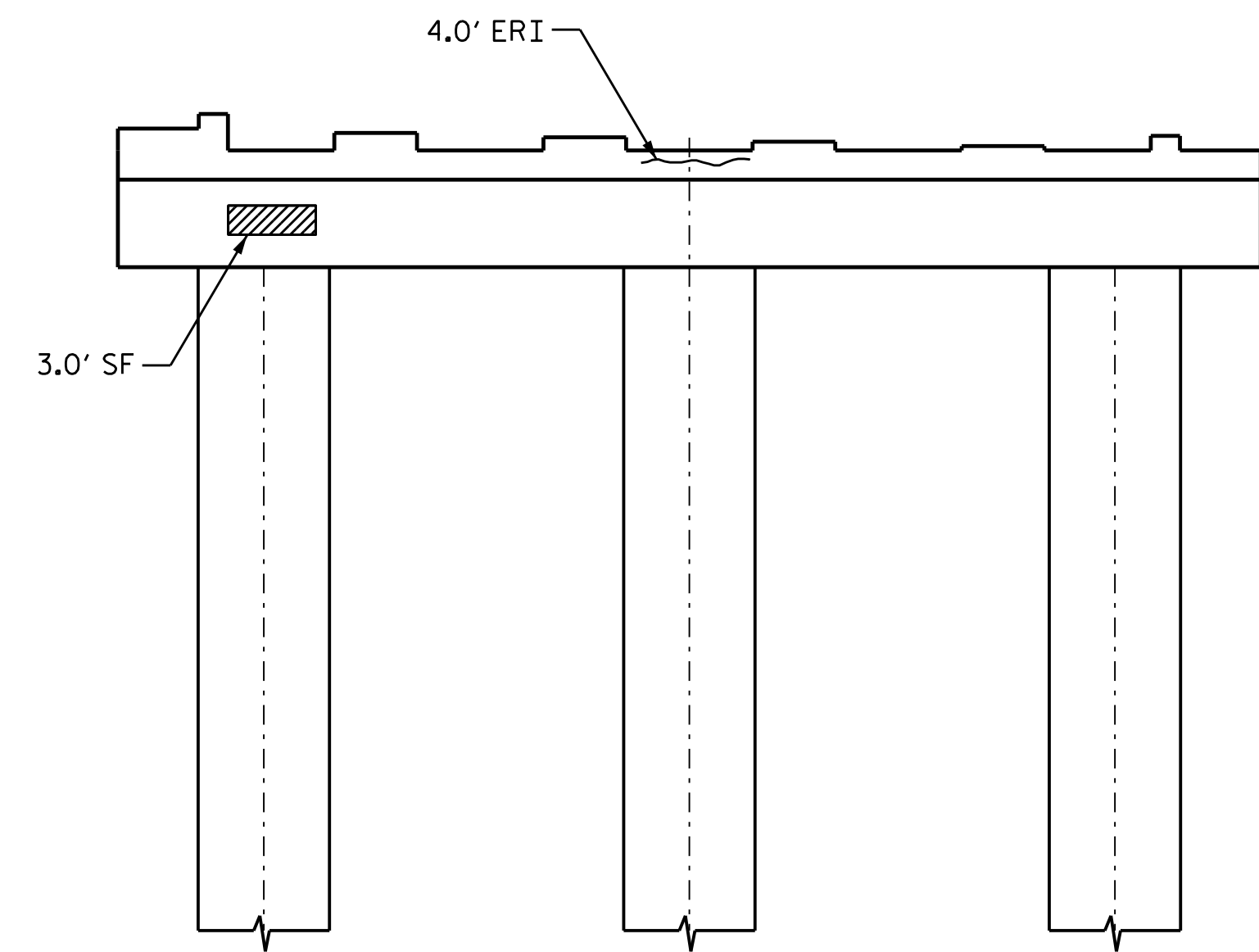
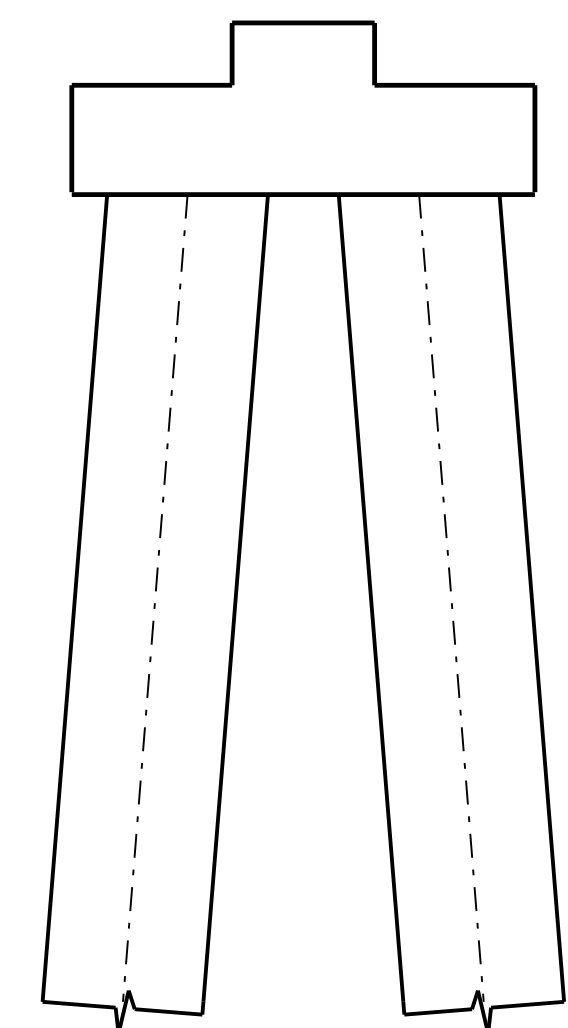
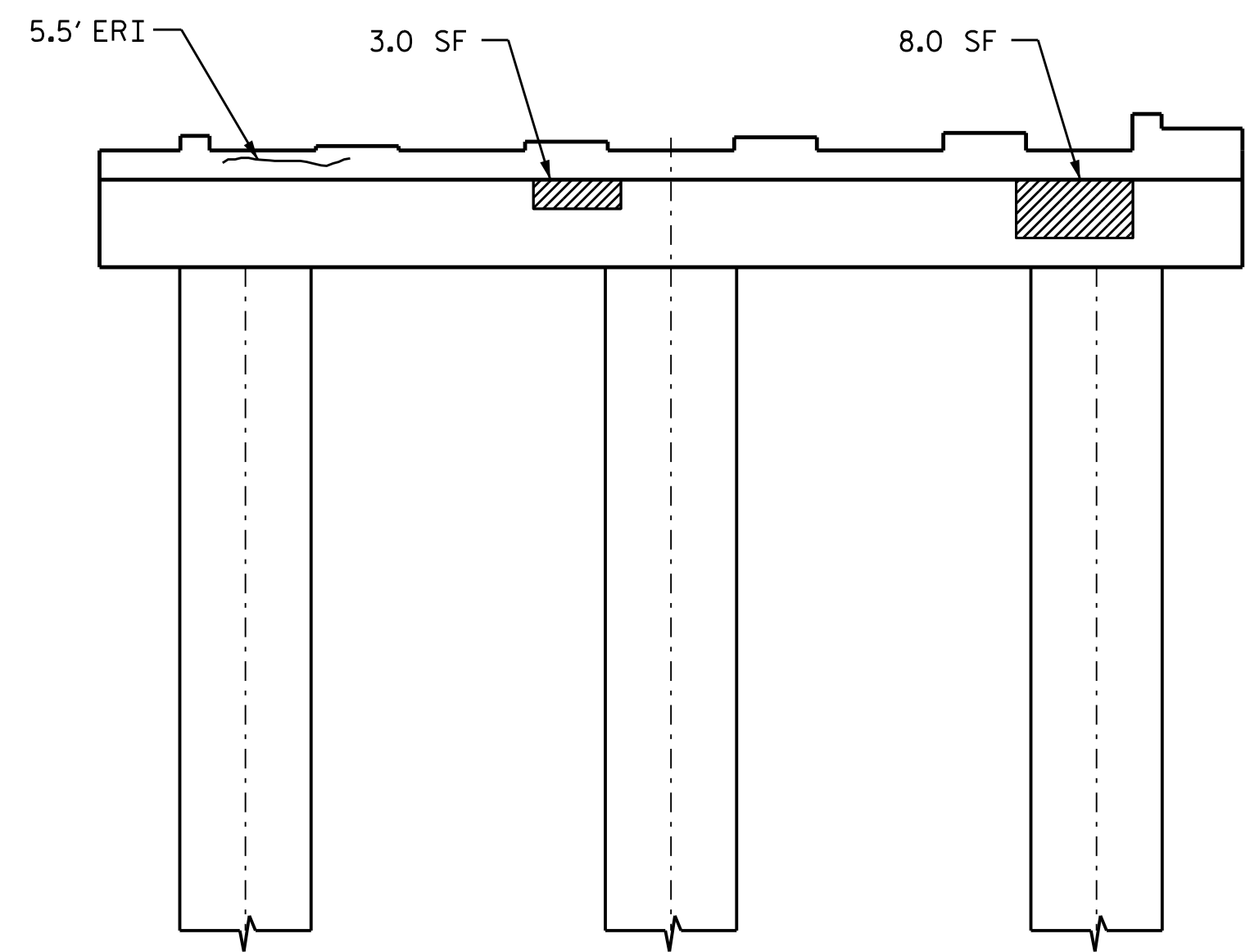
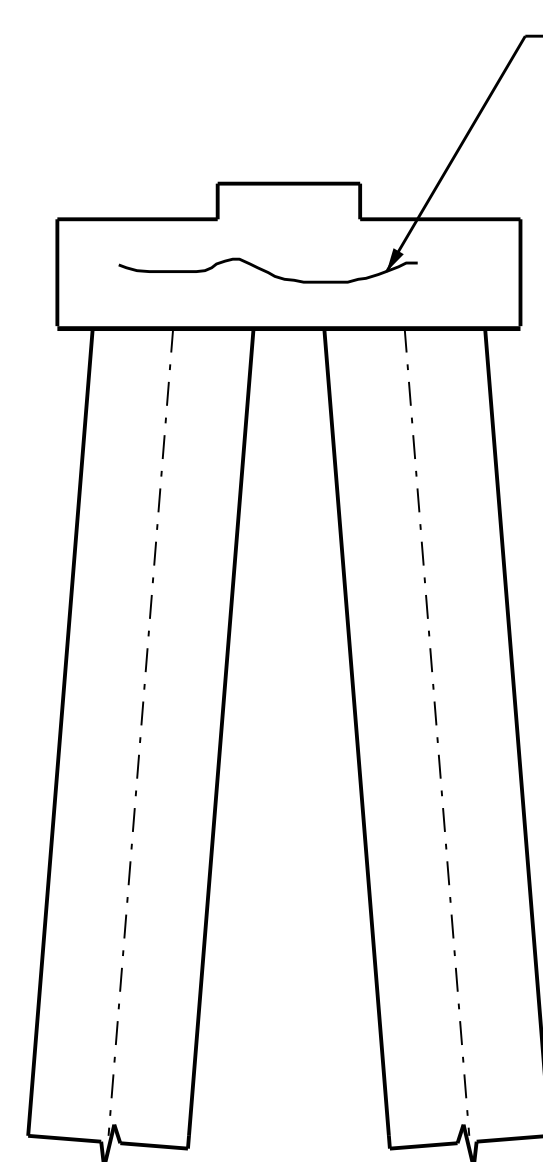
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

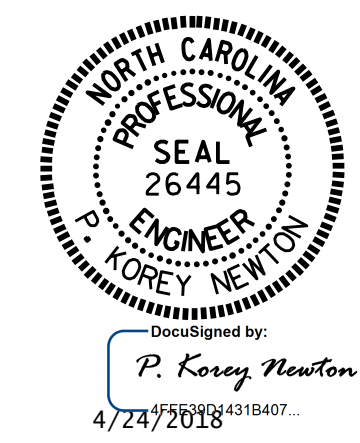
REPAIR QUANTITY TABLE

| BENT 3 | QUANTITIES | | | |
|------------------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 14.0 | 7.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 17.5 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



SPAN C
SPAN D

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 44
 SHEET 4 OF 25

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 3**

DRAWN BY : P.D. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-76 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

REPAIR QUANTITY TABLE

| BENT 4 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 29.4 | 14.7 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | LN. FT | LN. FT | AREA S.F. | AREA S.F. |
| EPOXY RESIN INJECTION | 16.0 | | | |
| CAP | 0.0 | | | |
| COLUMN | 215.4 | | | |
| EPOXY COATING | LN. FT | LN. FT | AREA S.F. | AREA S.F. |
| TOP OF CAP | | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

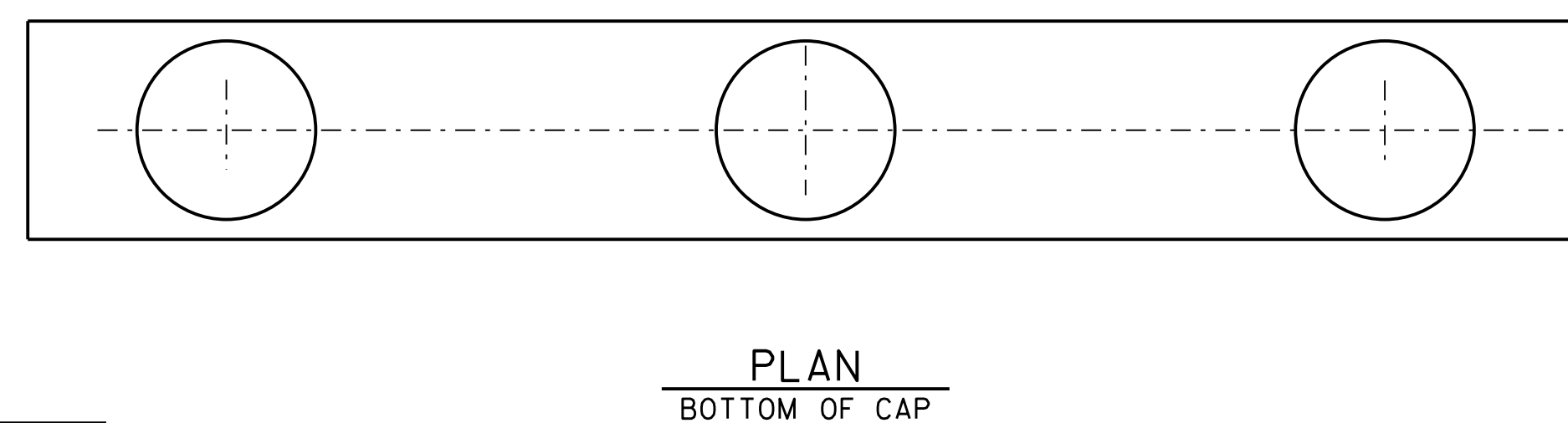
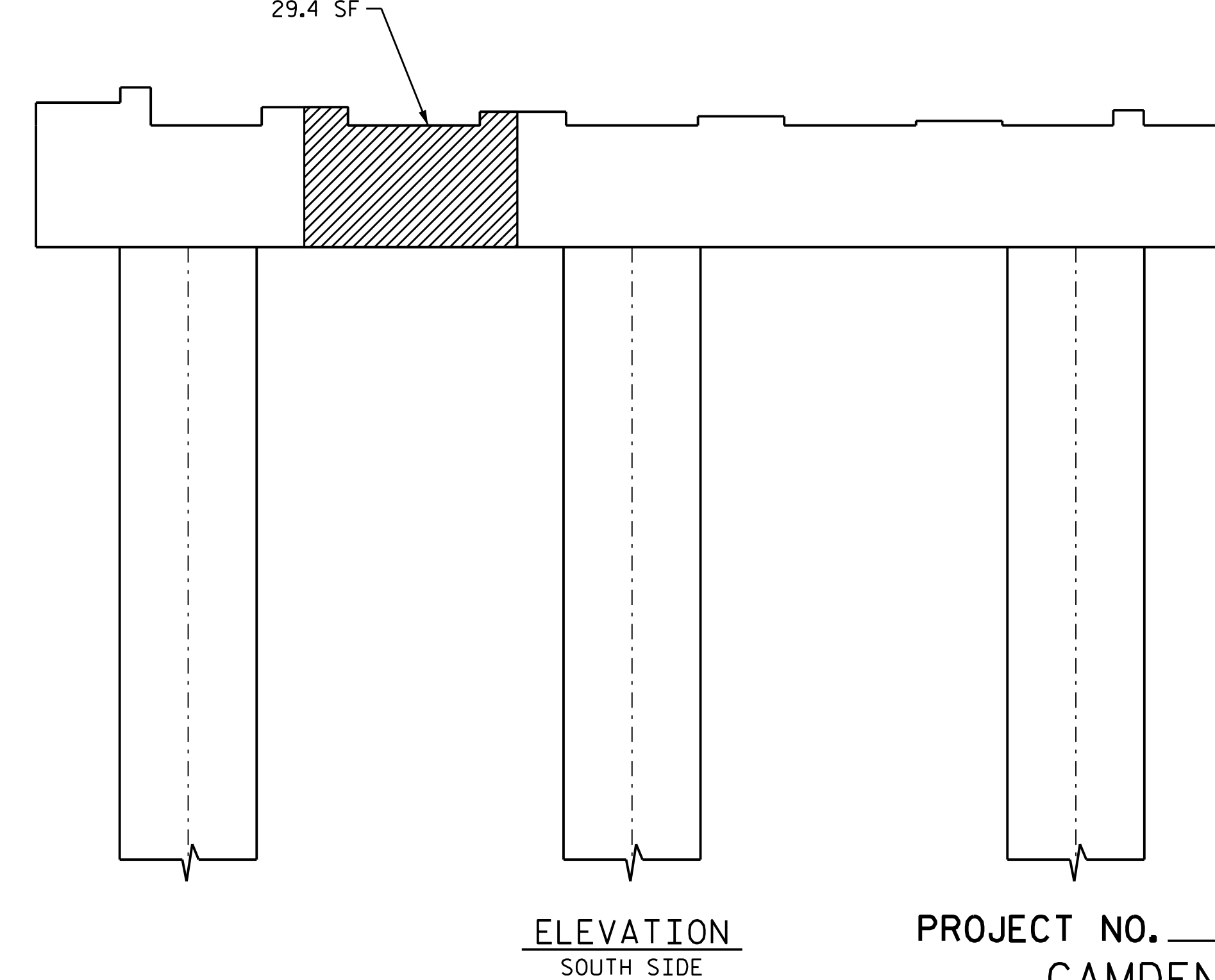
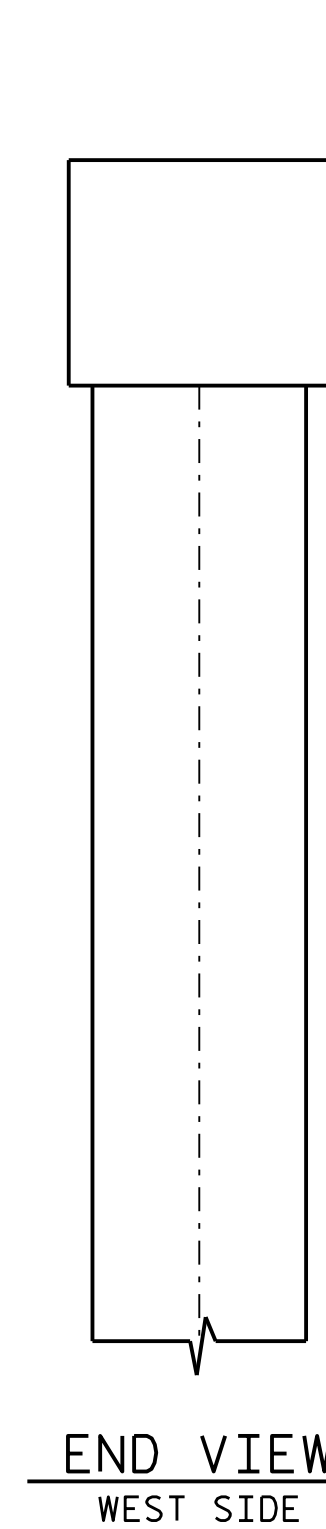
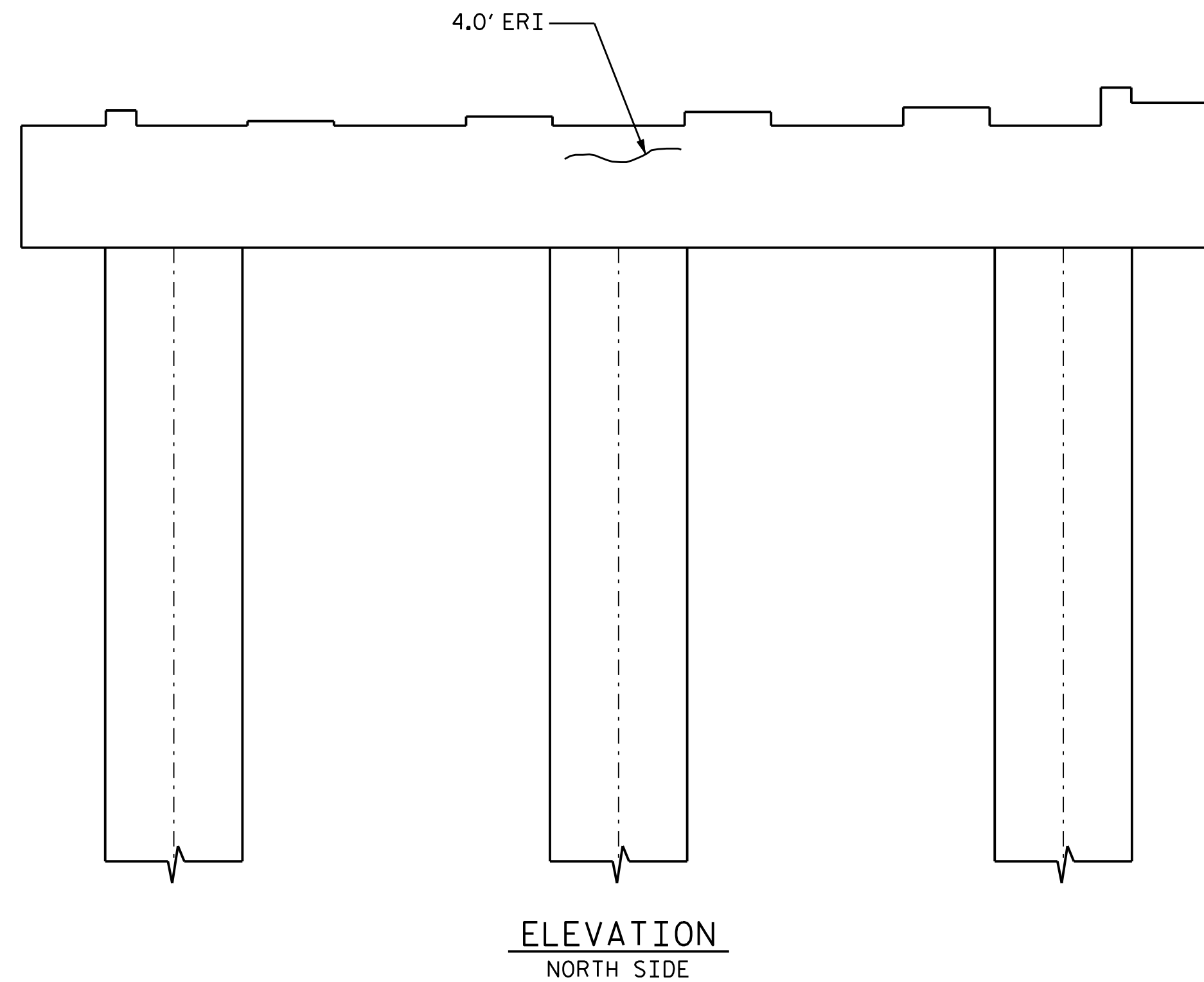
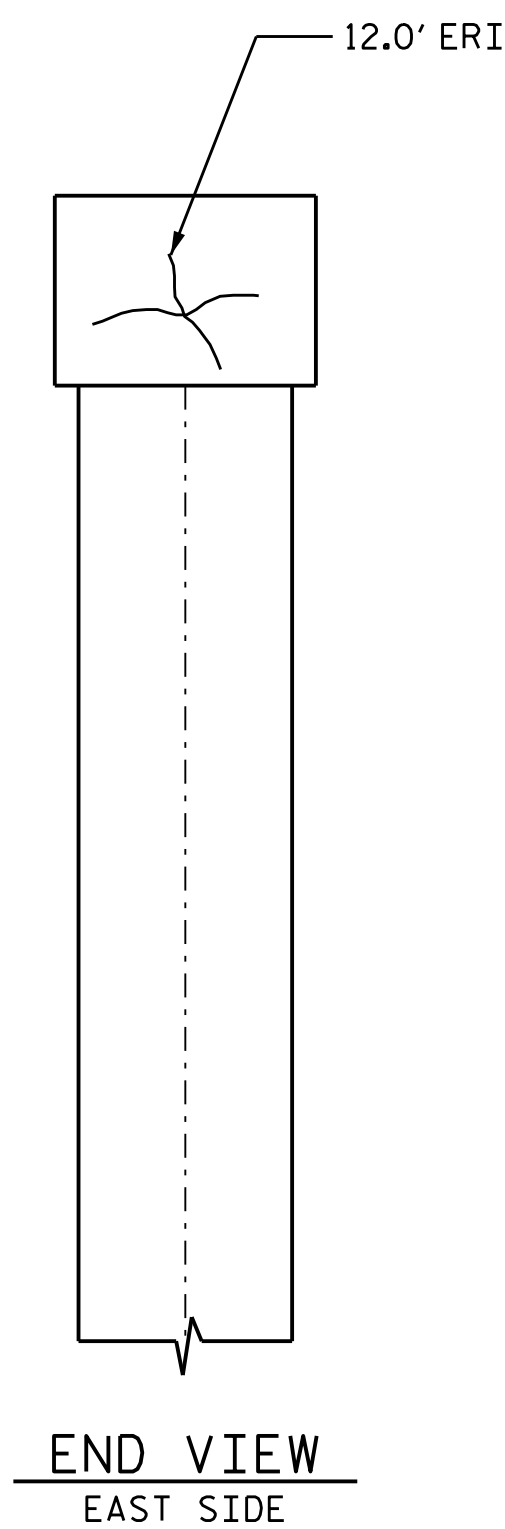
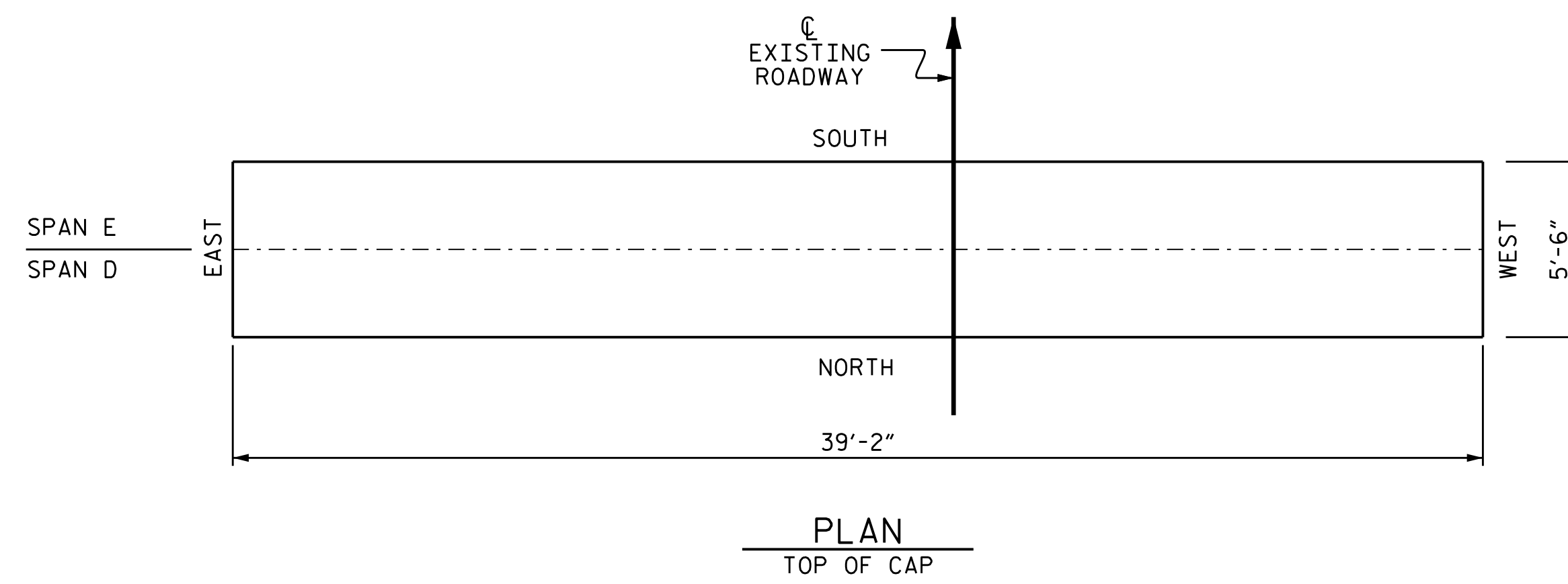
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

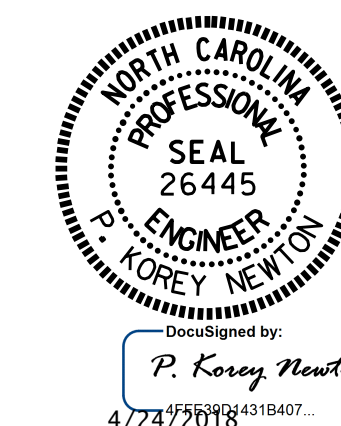
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 5 OF 25

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|---------|-----------|---------|---------|-----------------------------|
| SUBSTRUCTURE BENT 4 | | | | | |
| REVISIONS | | | | | SHEET NO. |
| 1 | BY: [] | DATE: [] | NO. [] | BY: [] | DATE: [] |
| 2 | | | 3 | | |
| | | | 4 | | |
| | | | | | S-77 TOTAL SHEETS 104 |

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REPAIR QUANTITY TABLE

| BENT 5 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 34.5 | 17.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 16.6 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

NOTES:

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CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

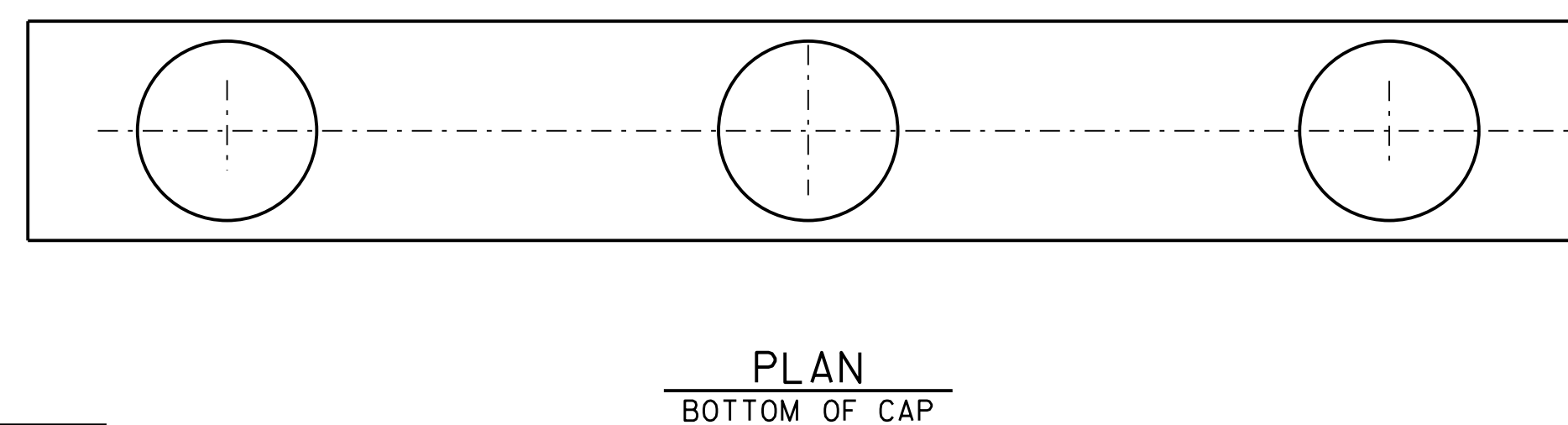
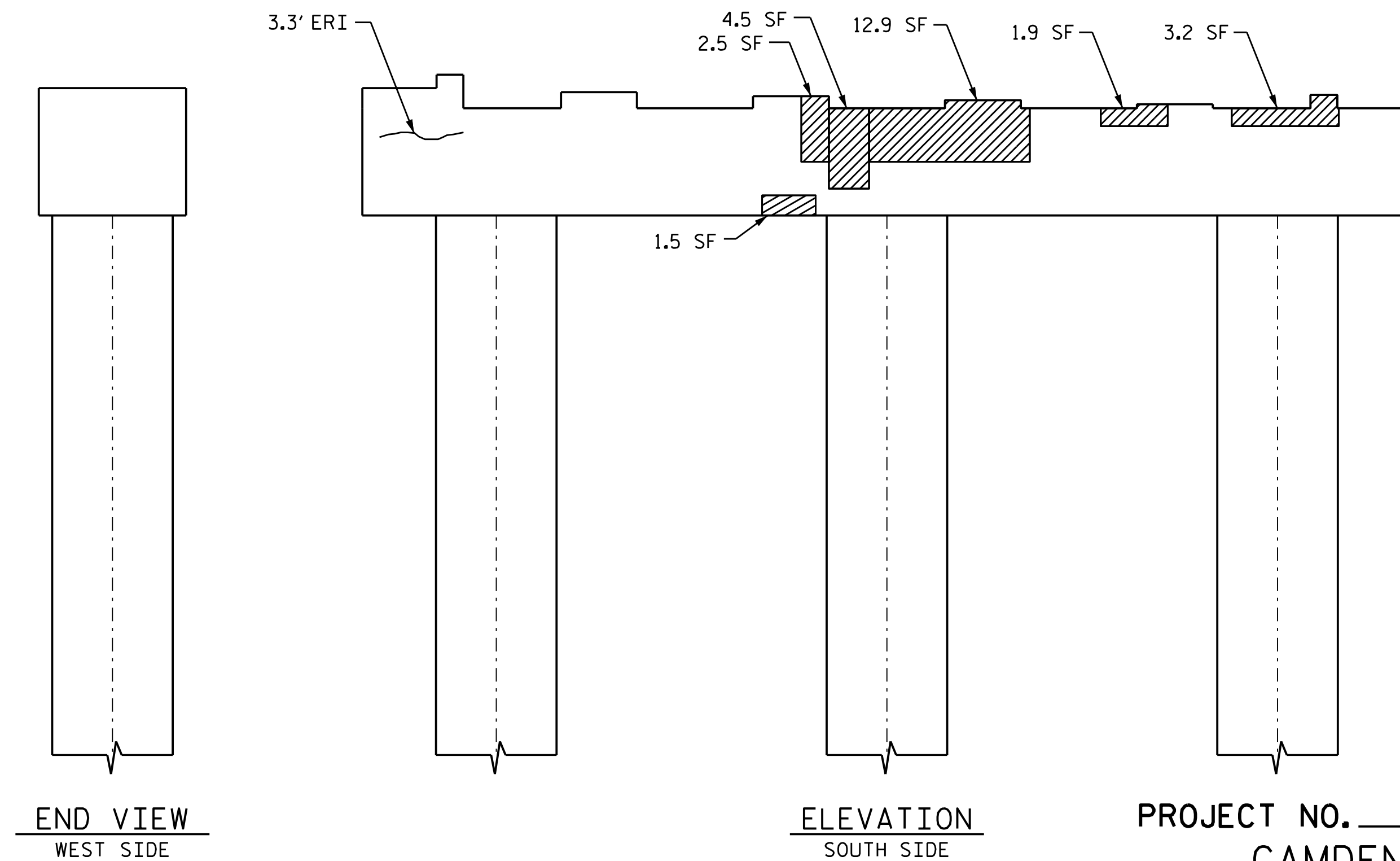
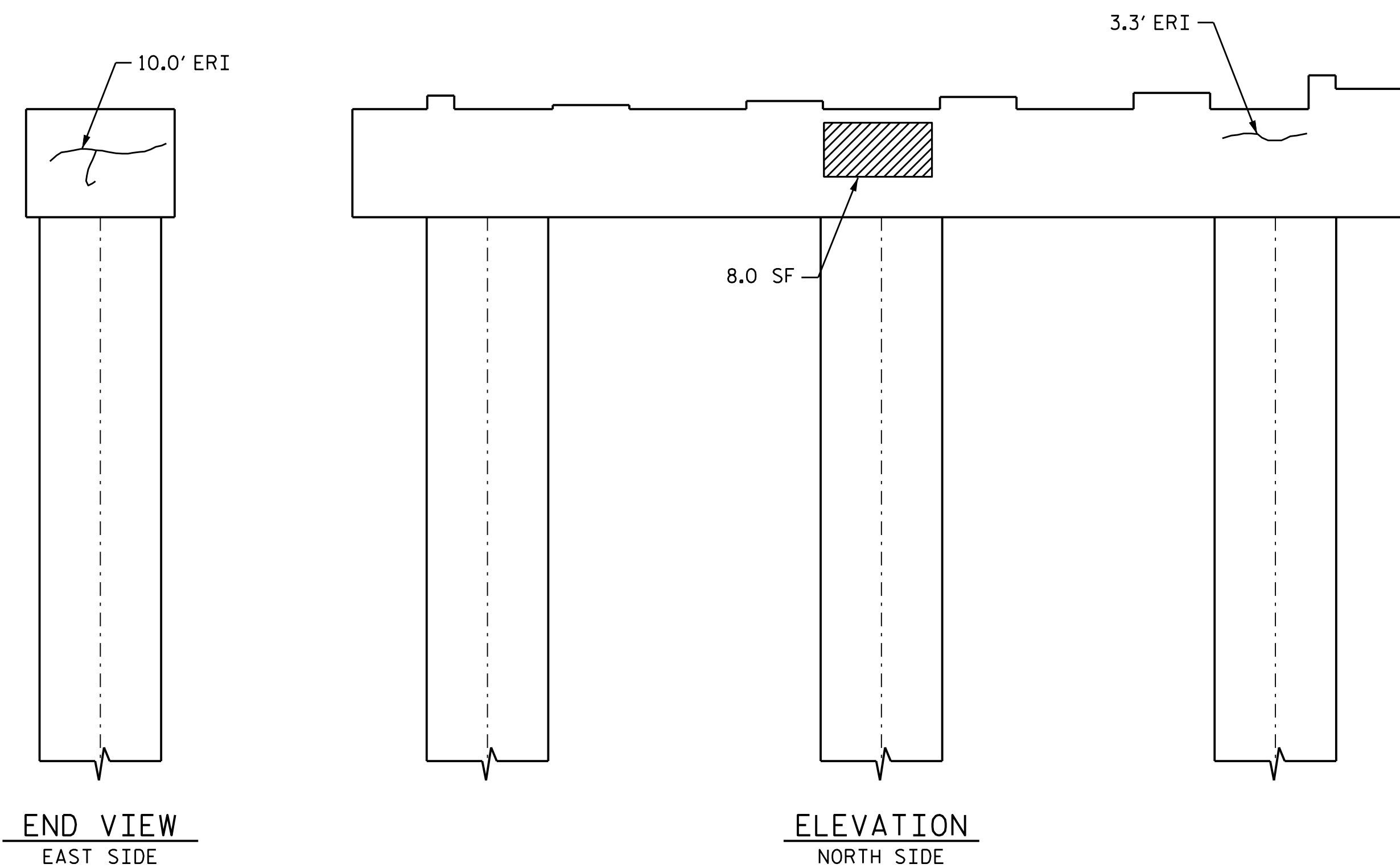
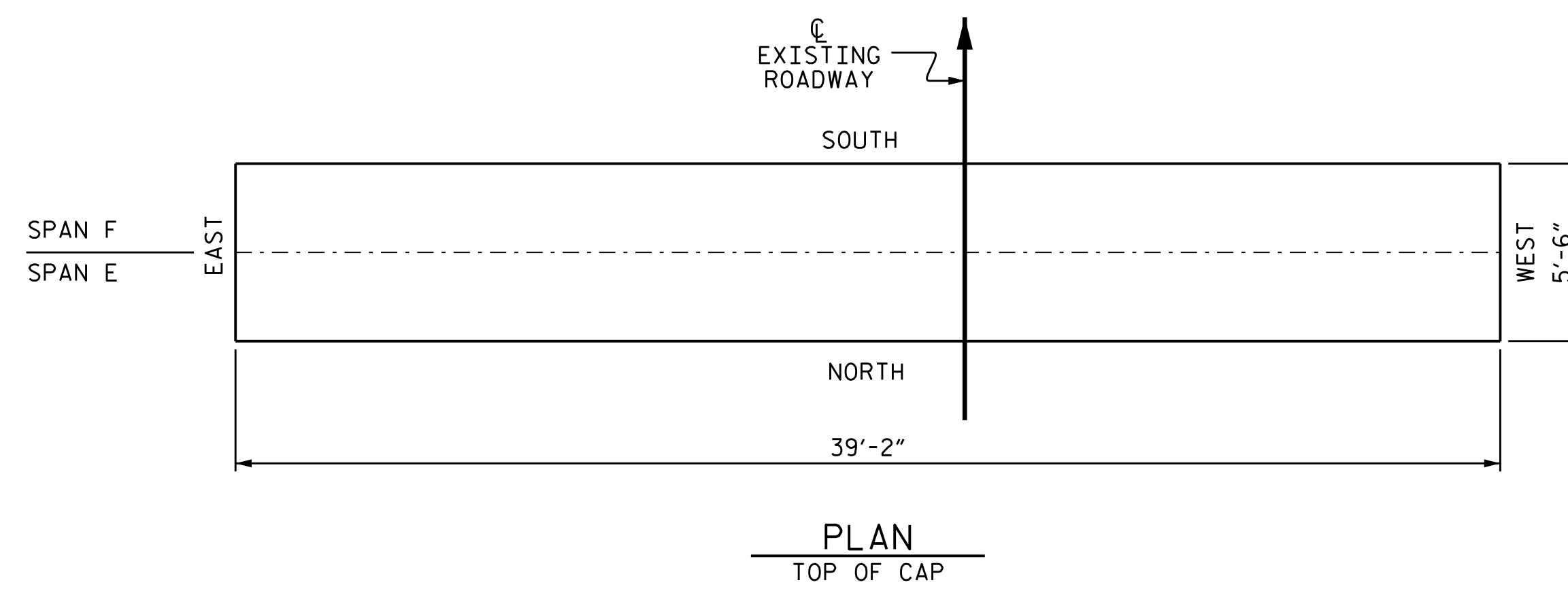
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 6 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 5



Documented by:
P. Corey Newton
 4/24/2018

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-78 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

REPAIR QUANTITY TABLE

| BENT 6 | QUANTITIES | | | |
|-----------------------|--------------|--------------|--------------|--------------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 21.9 | 11.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 10.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

NOTES:

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

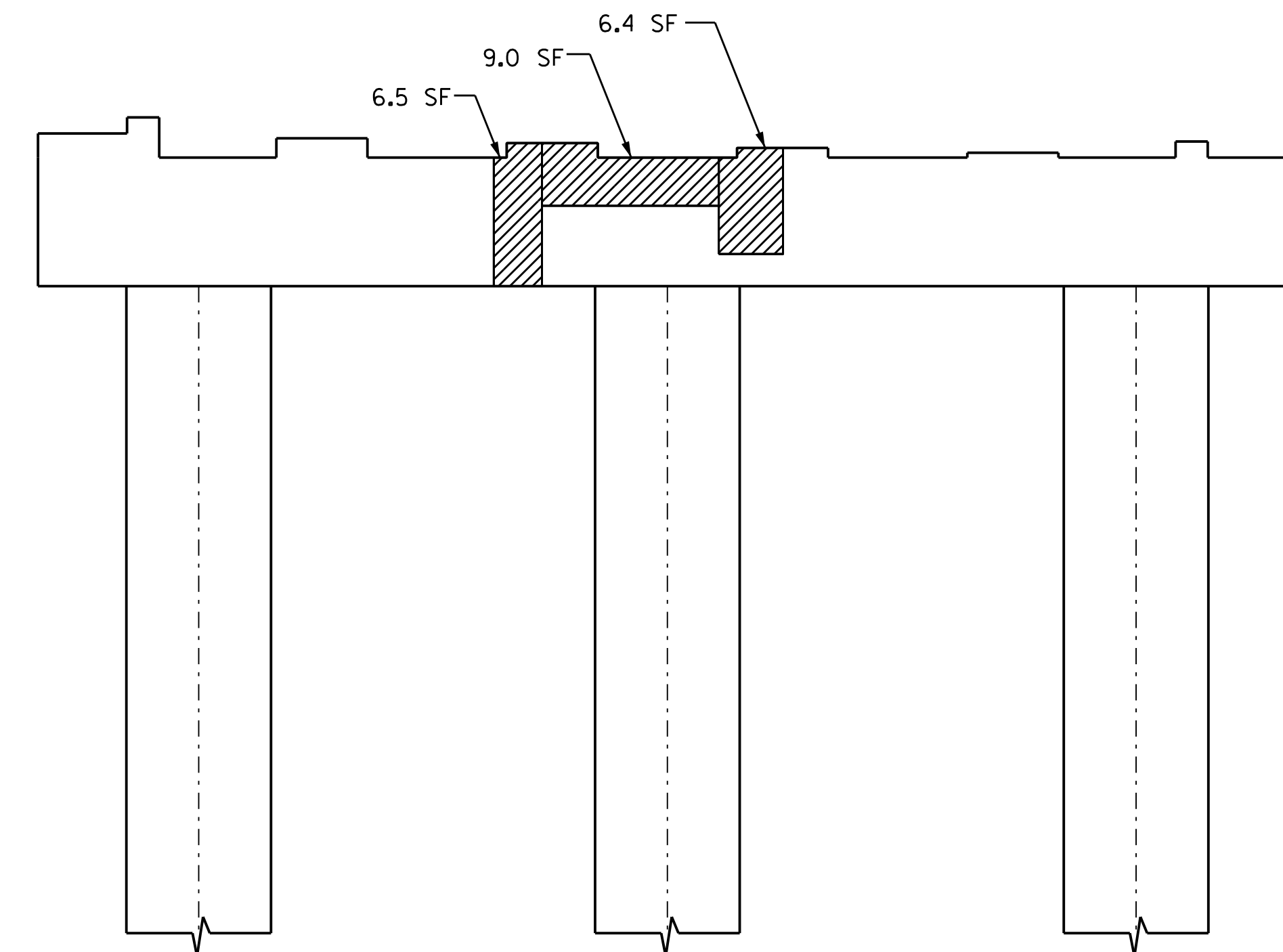
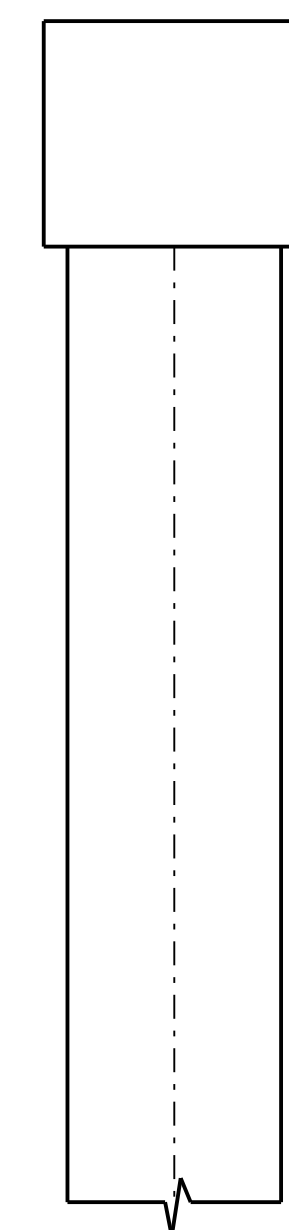
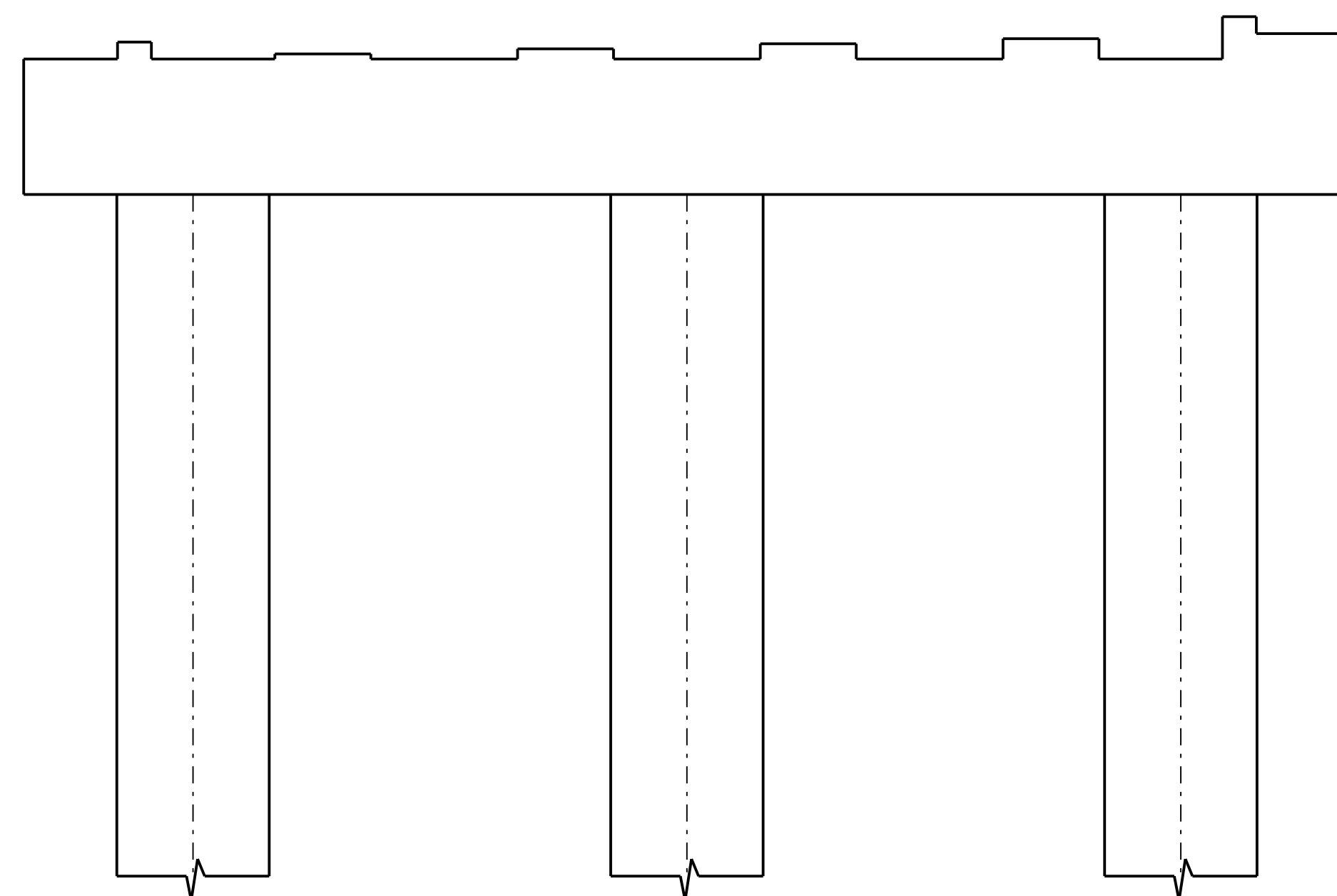
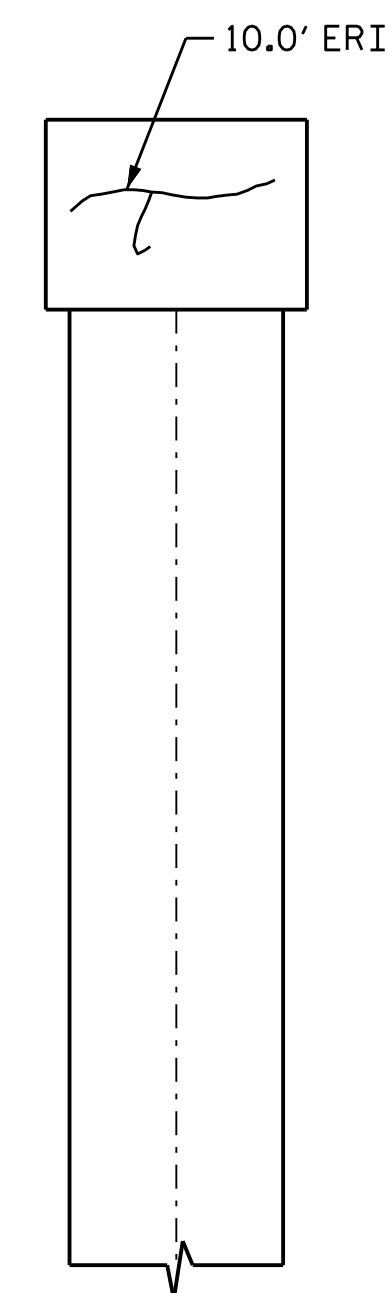
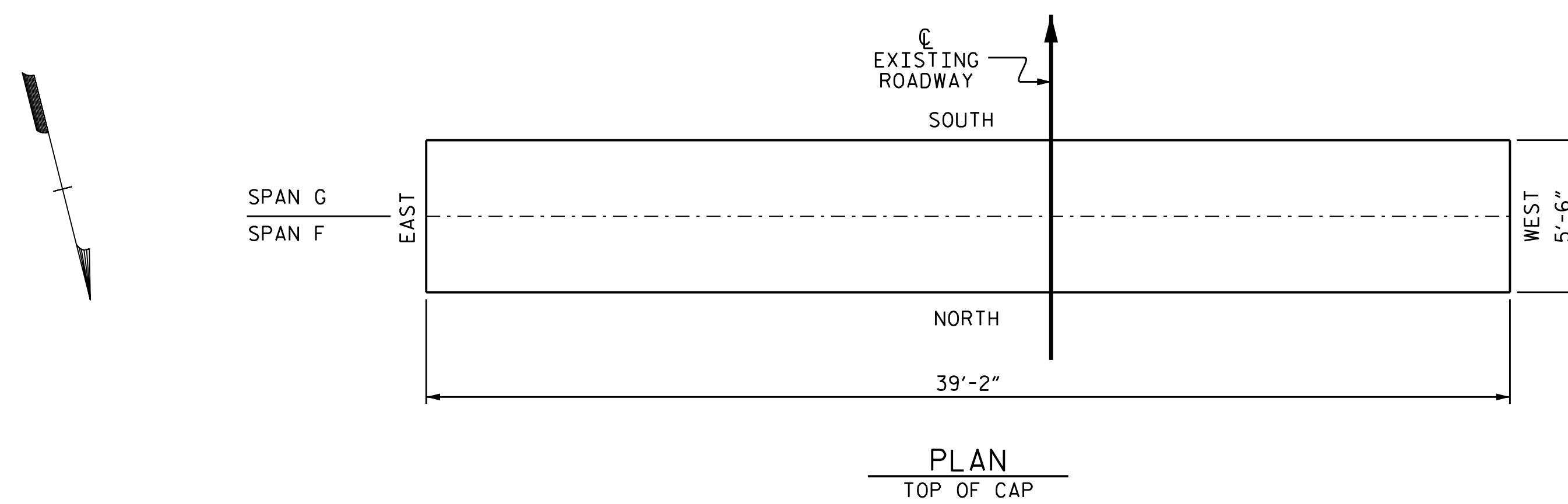
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

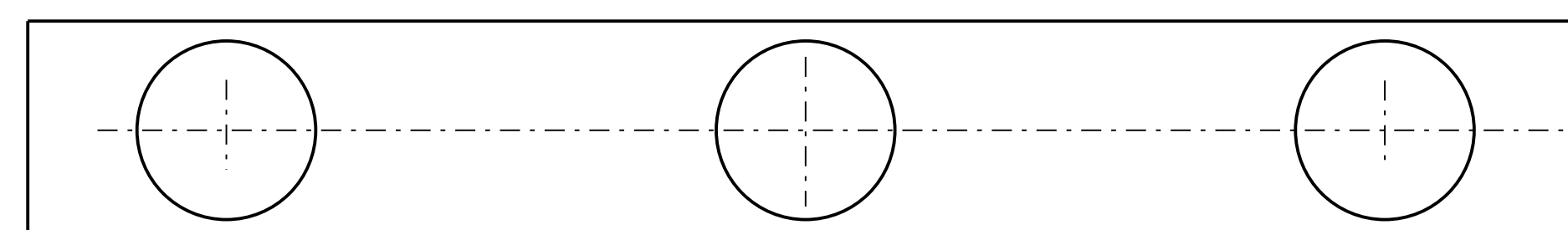
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



PROJECT NO. 15BPR.11
CAMDEN COUNTY

BRIDGE NO. 44

SHEET 7 OF 25



SPAN F
SPAN G

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



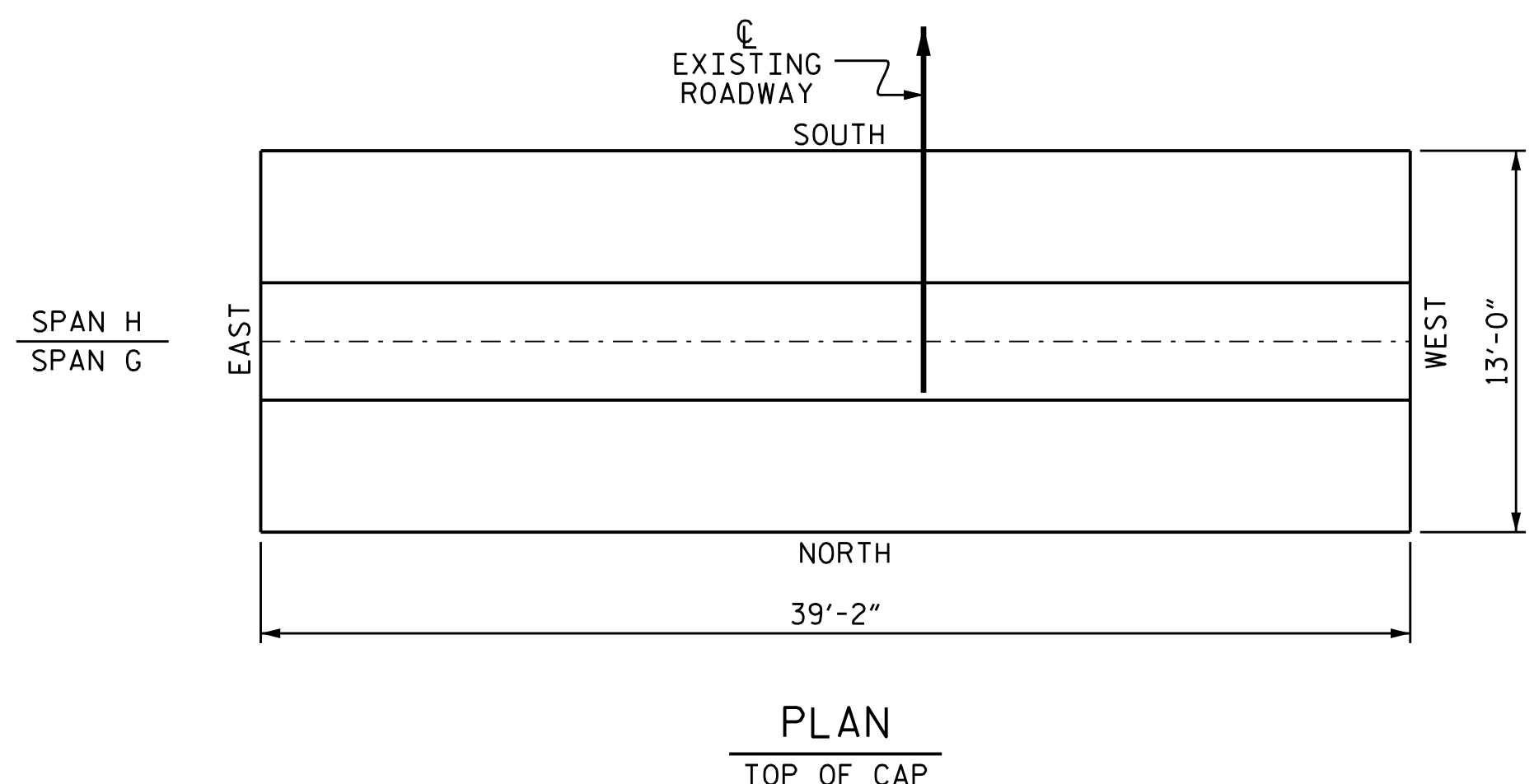
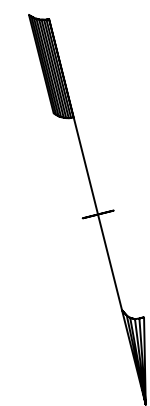
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 6**

DRAWN BY : P. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-79 |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

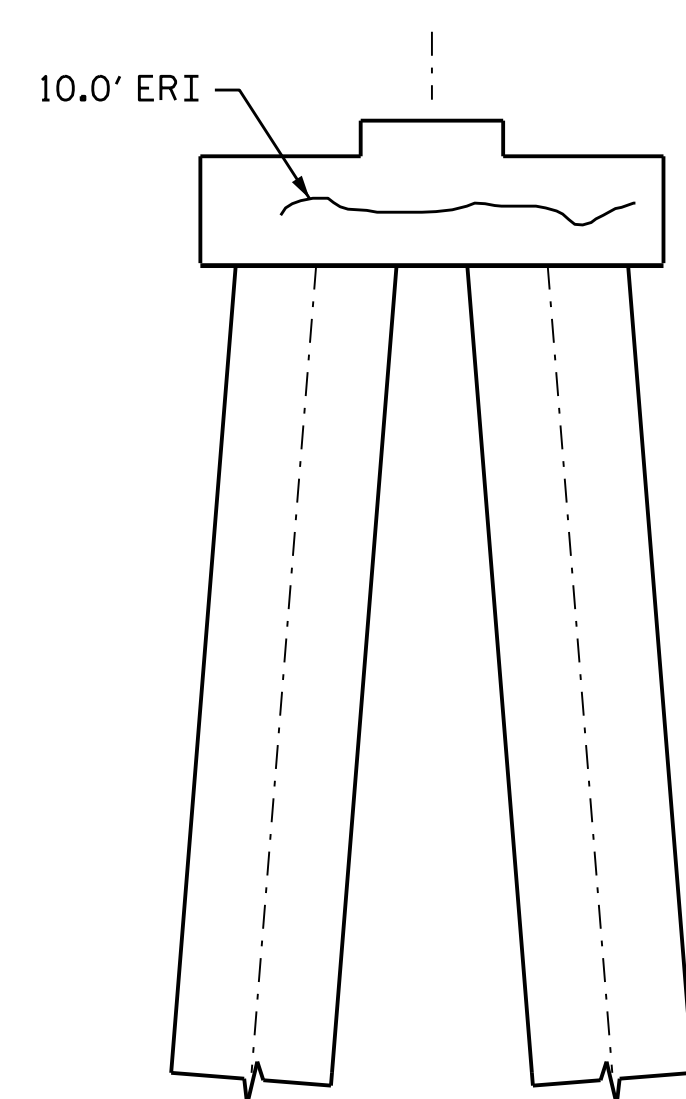
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

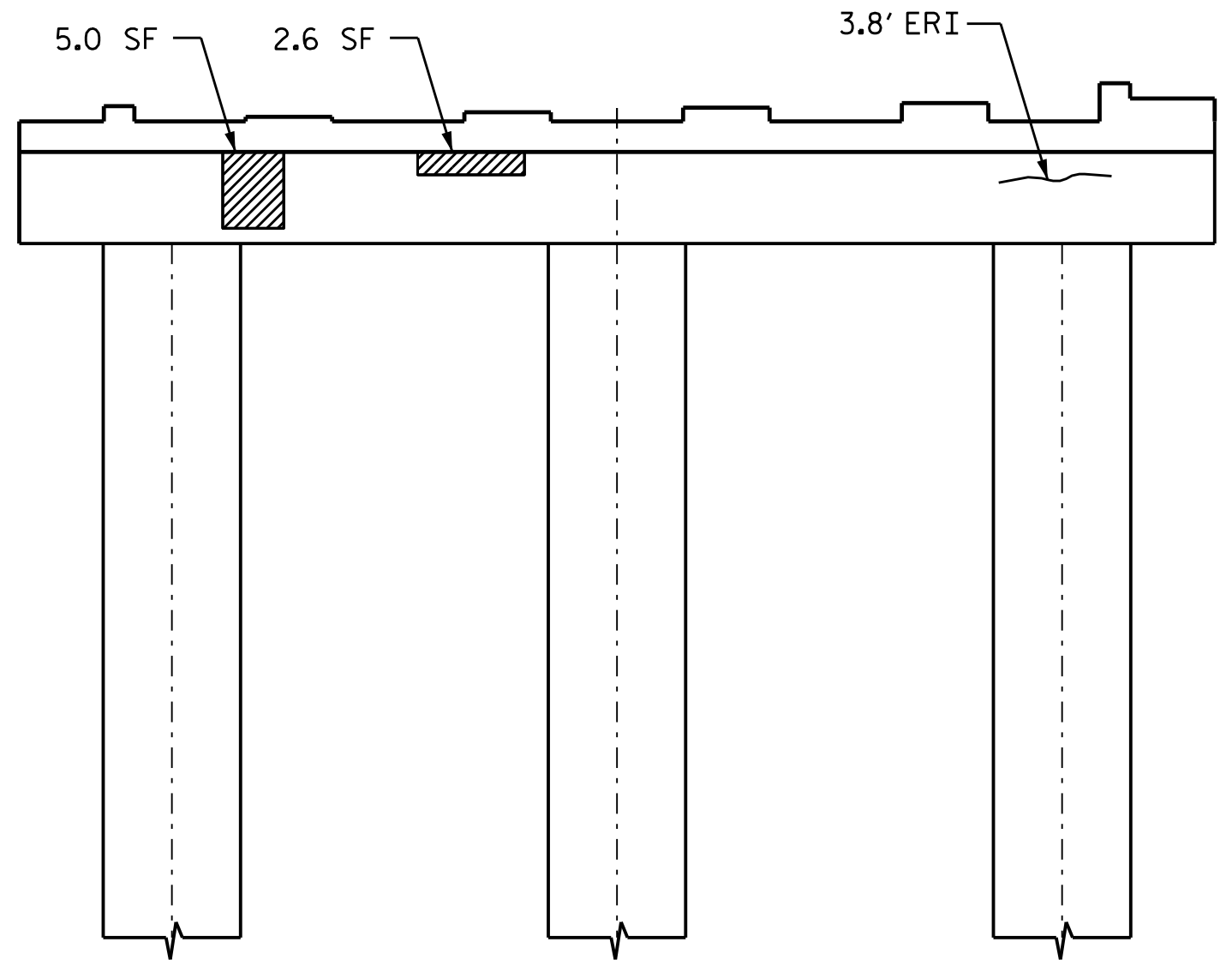
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

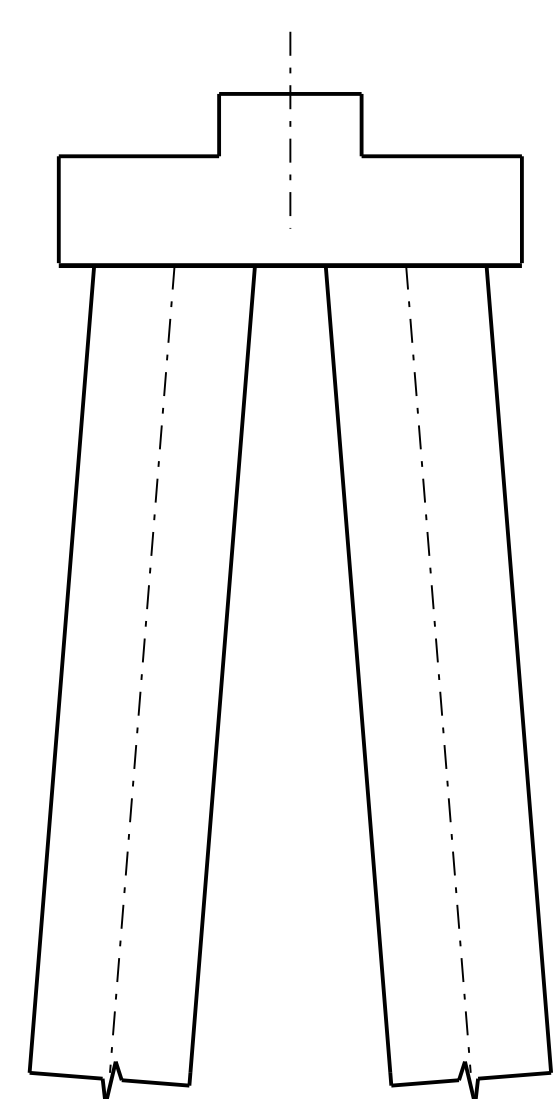
| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 7 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 52.6 | 26.3 | | |
| CAP (HORIZONTAL FACE) | 16.0 | 8.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 16.9 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



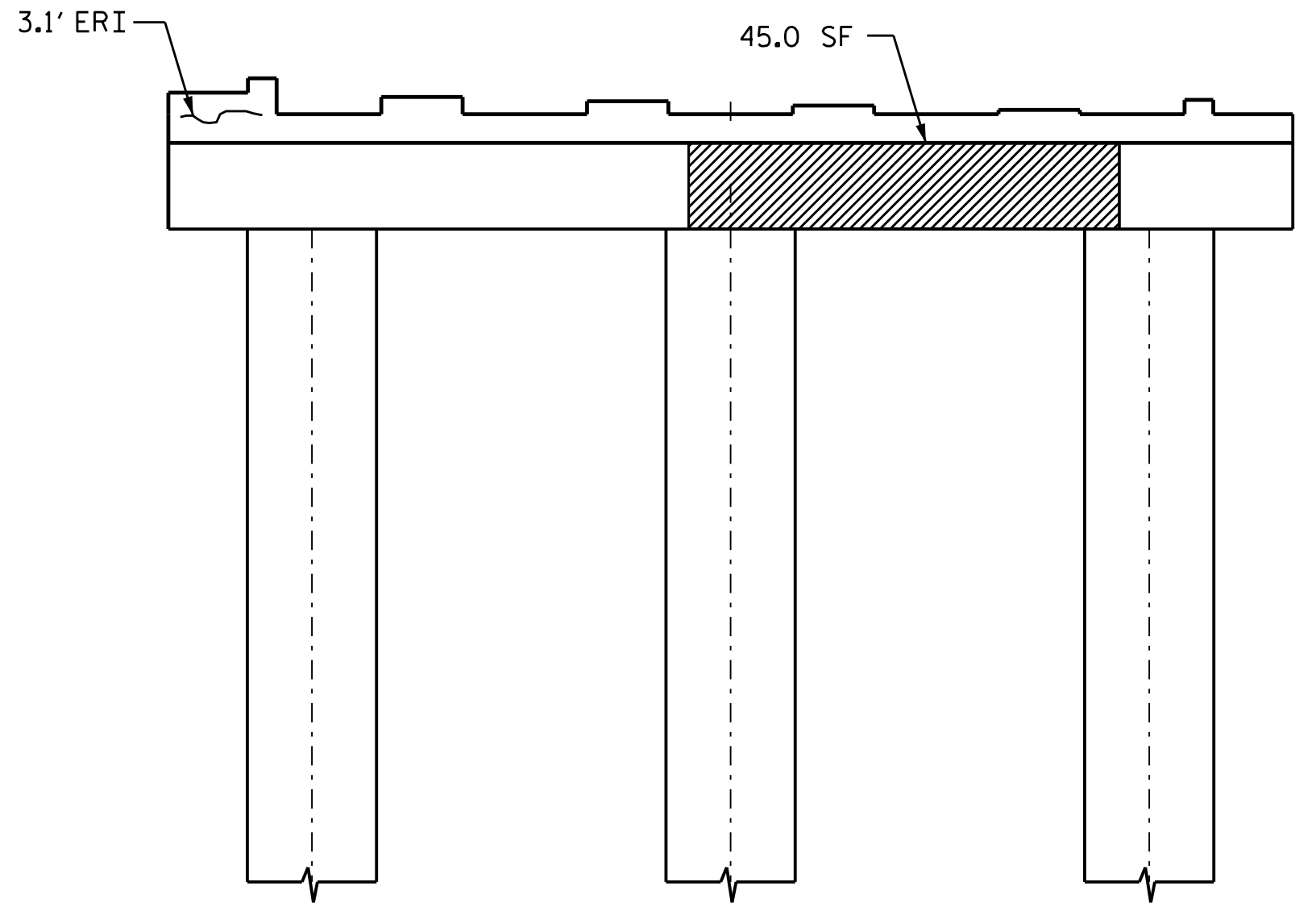
END VIEW
EAST SIDE



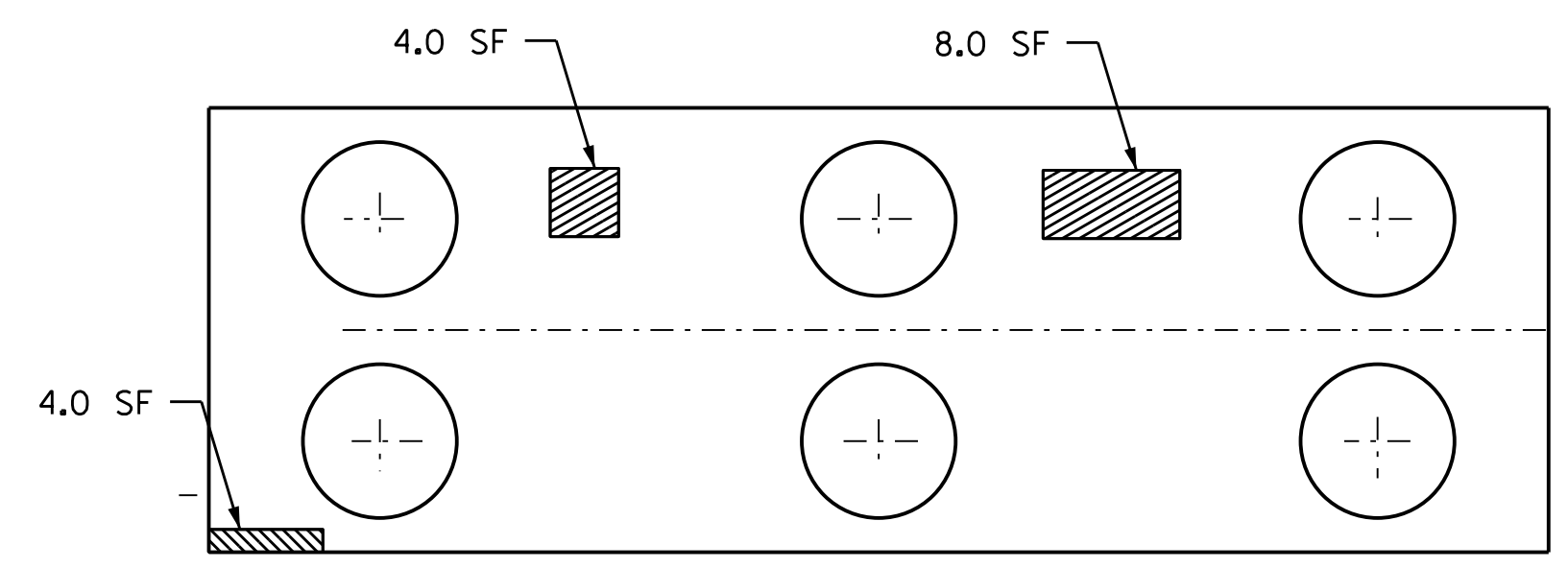
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



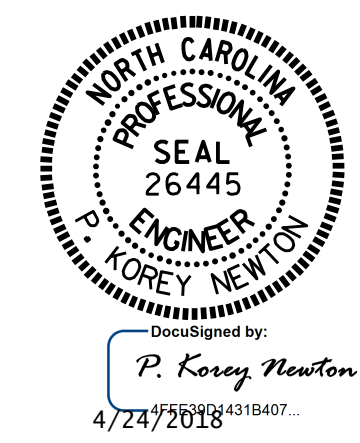
ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SPAN G
SPAN H

SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
STATION: 44

SHEET 8 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 7**

DRAWN BY : P.D. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-80 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| BENT 8 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 44.4 | 22.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 8.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | AREA S.F. | | |
| TOP OF CAP | 215.4 | | | |

NOTES:

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

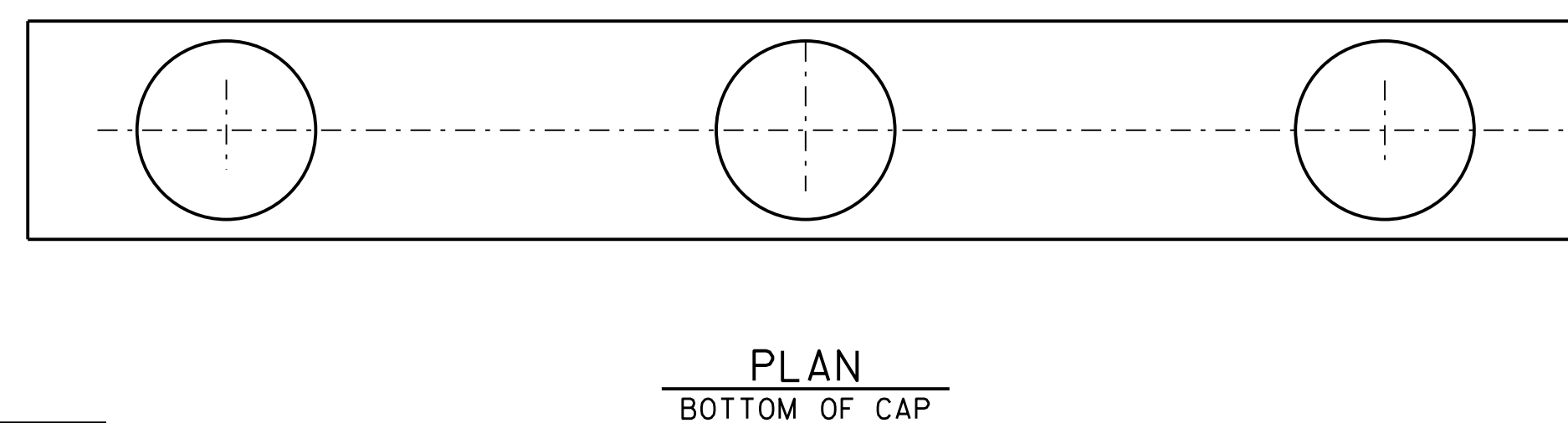
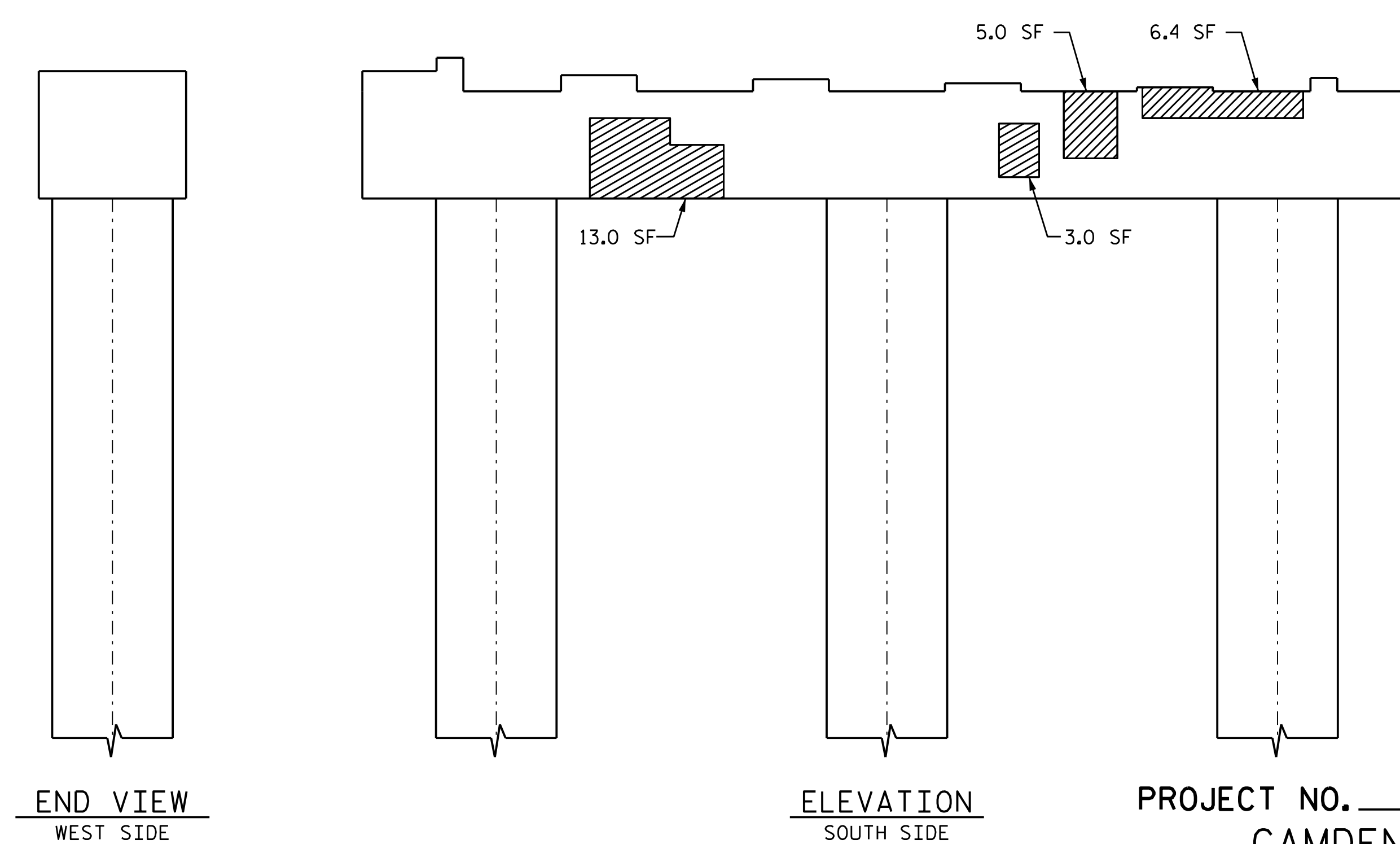
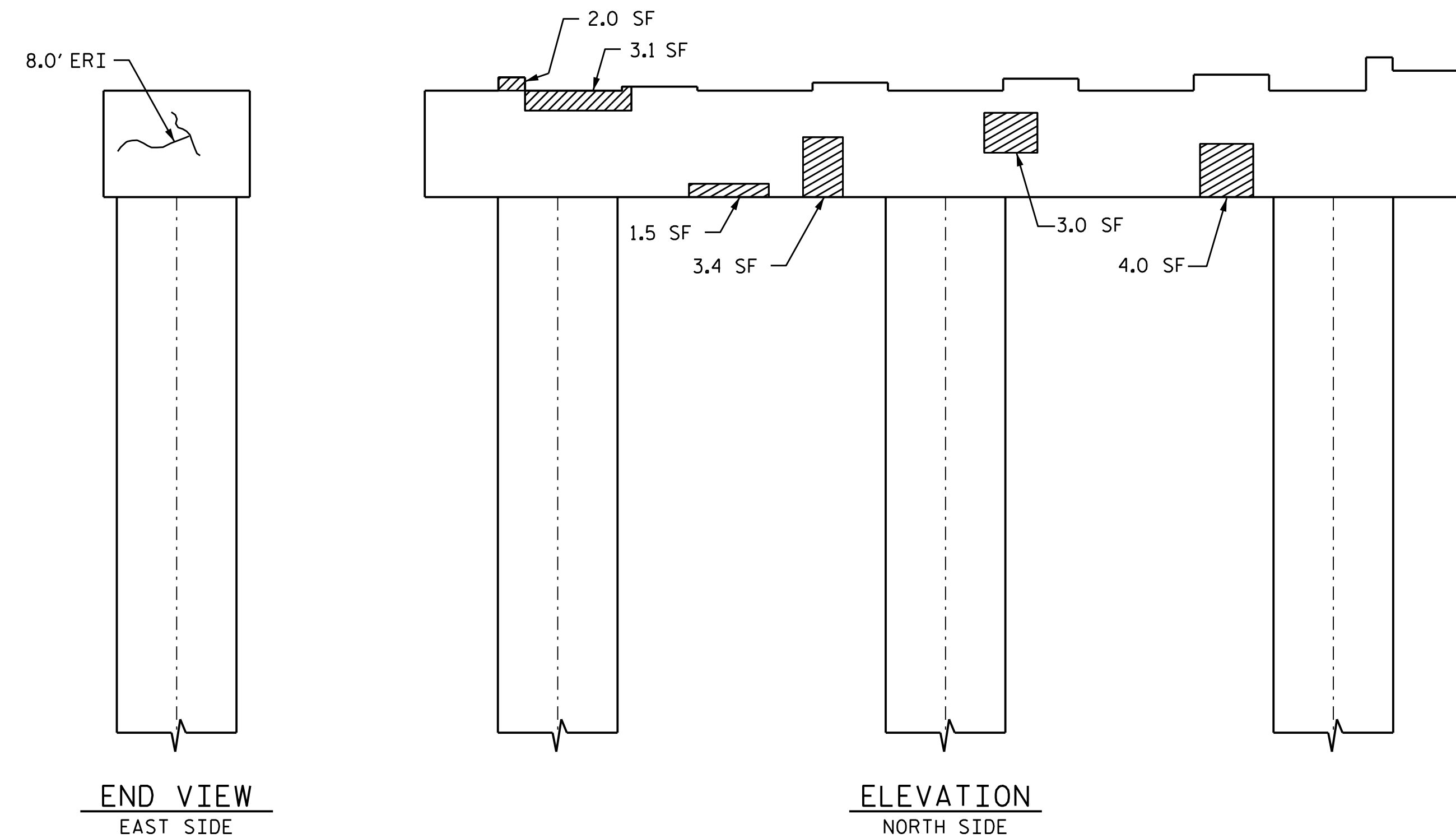
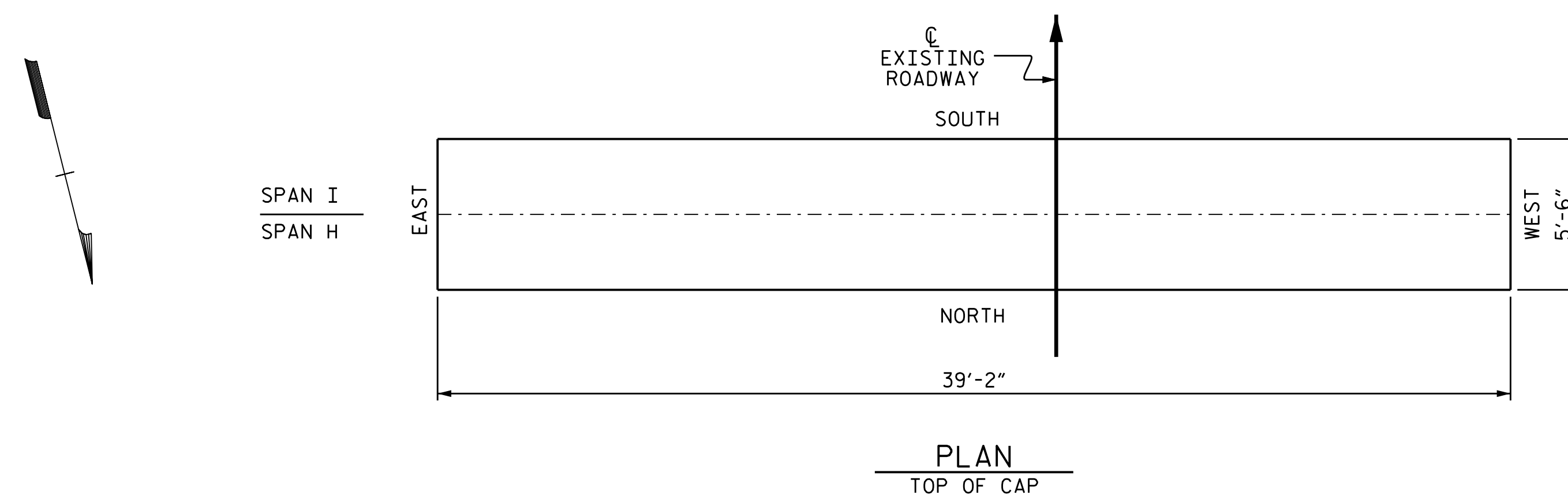
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

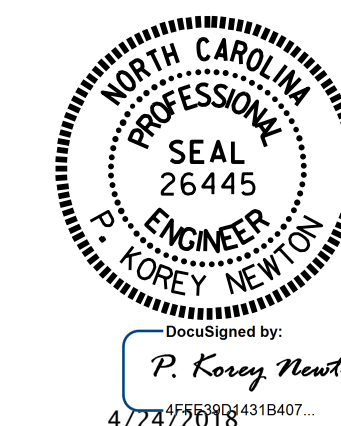
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FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 9 OF 25

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|-----|-------|-----|-----|---------------------|
| SUBSTRUCTURE BENT 8 | | | | | |
| REVISIONS | | | | | SHEET NO. |
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |
| | | | | | S-81 |
| | | | | | TOTAL SHEETS 104 |

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REPAIR QUANTITY TABLE

| BENT 9 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 37.1 | 18.5 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 2.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |

NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

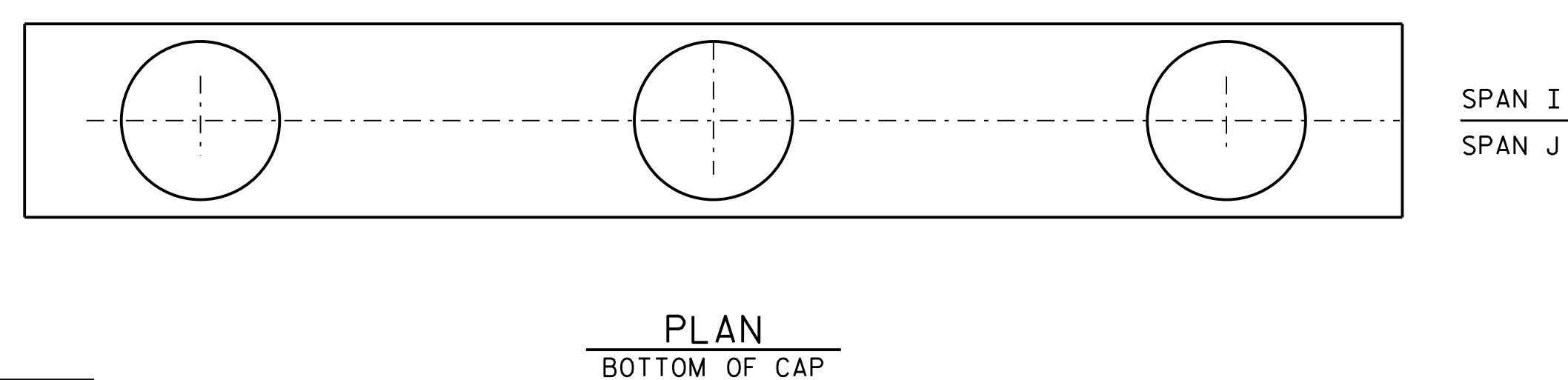
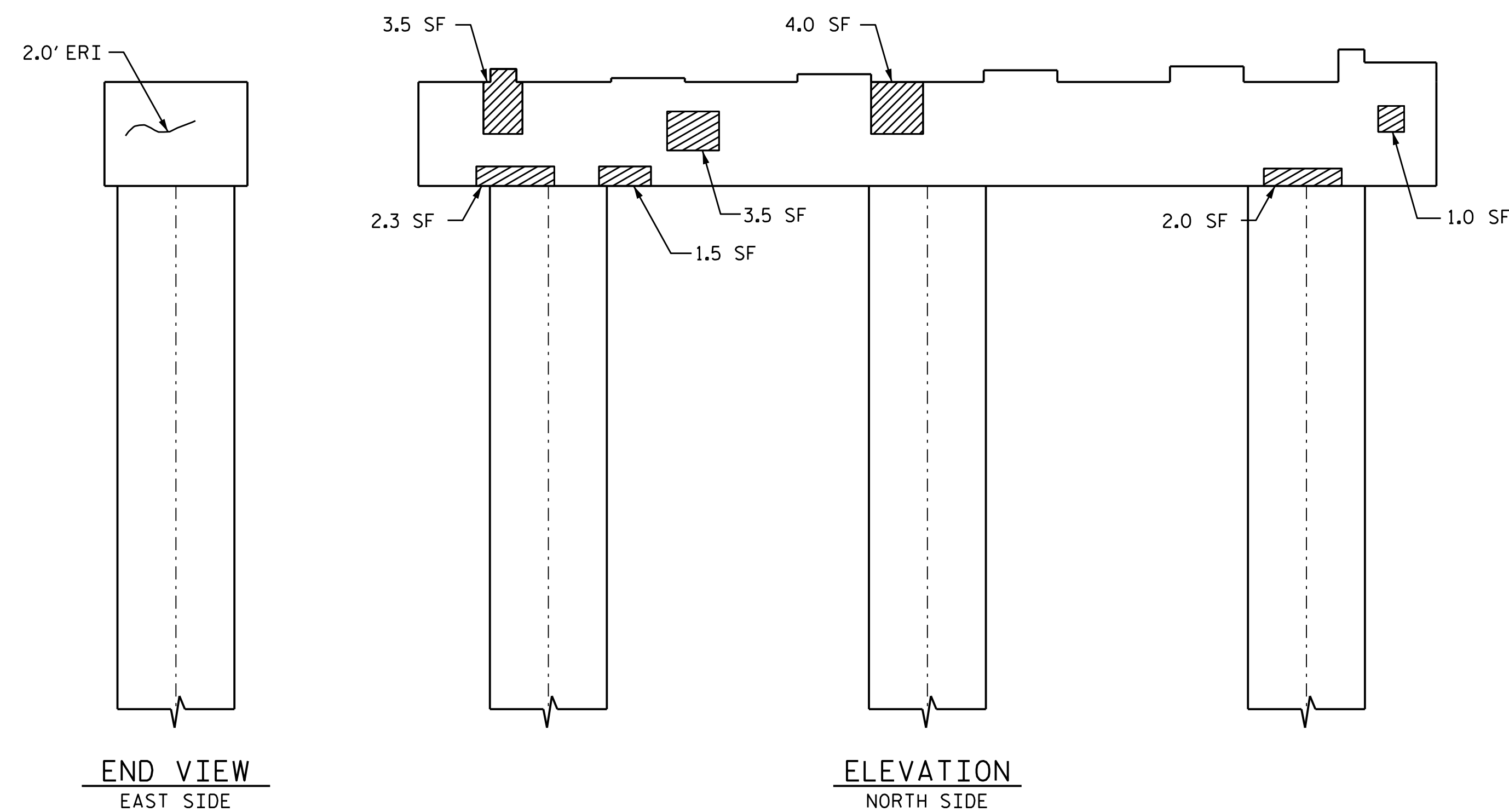
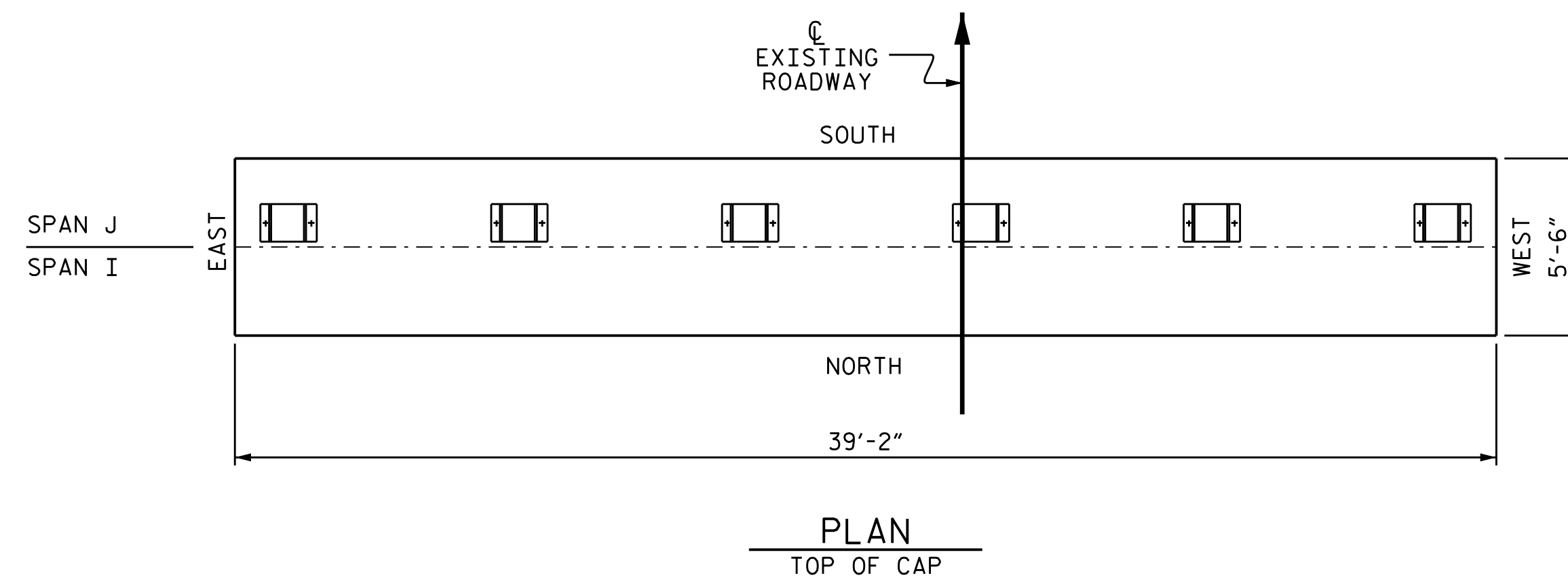
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 10 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 9**

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-82 |
| 2 | | | 4 | | | 104 |

REPAIR QUANTITY TABLE

| BENT 10 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 19.5 | 9.8 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 325.4 | | | |

NOTES:

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

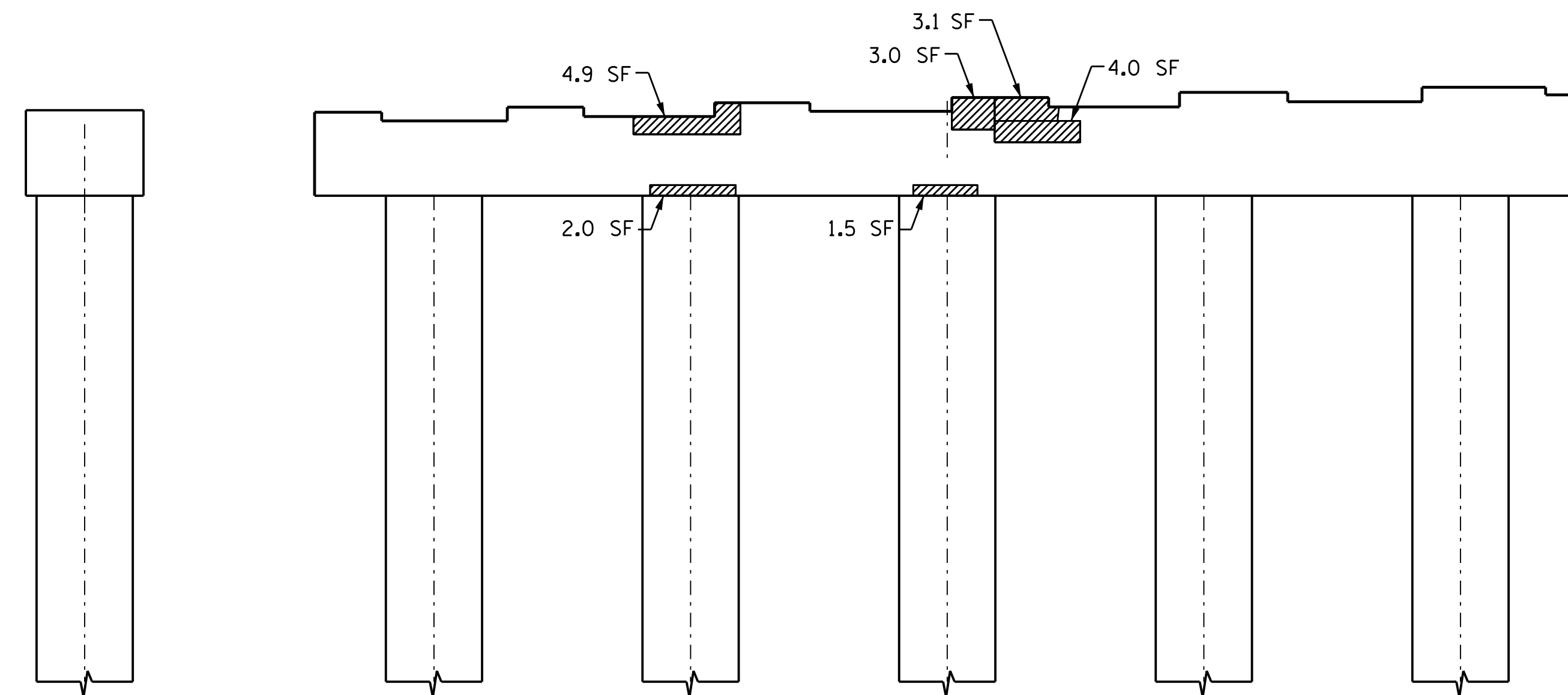
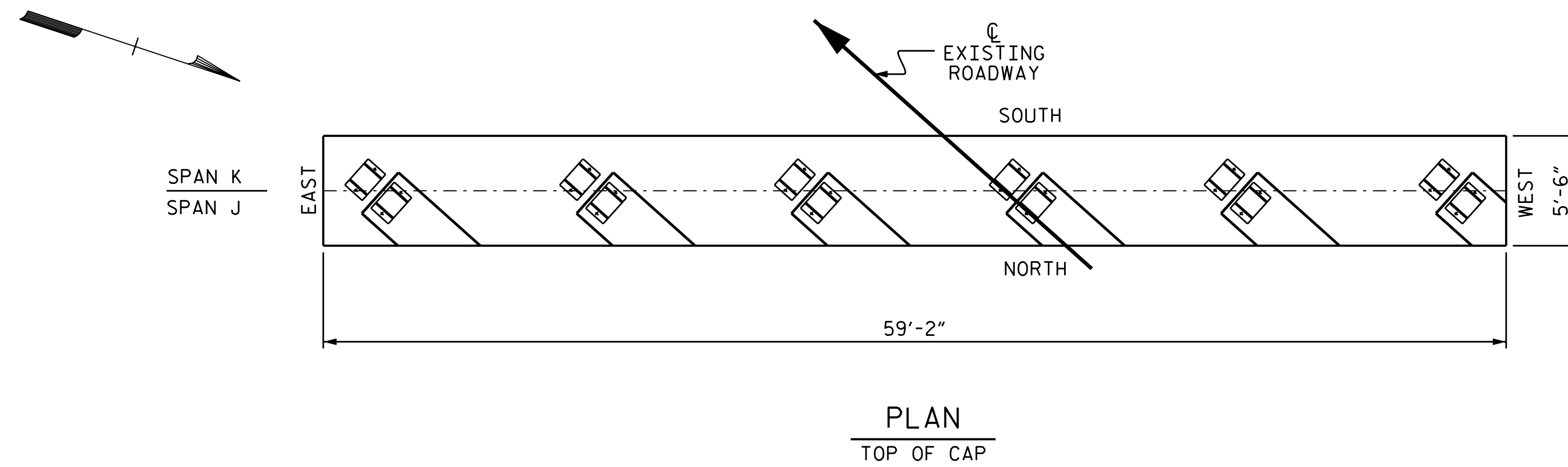
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

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LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

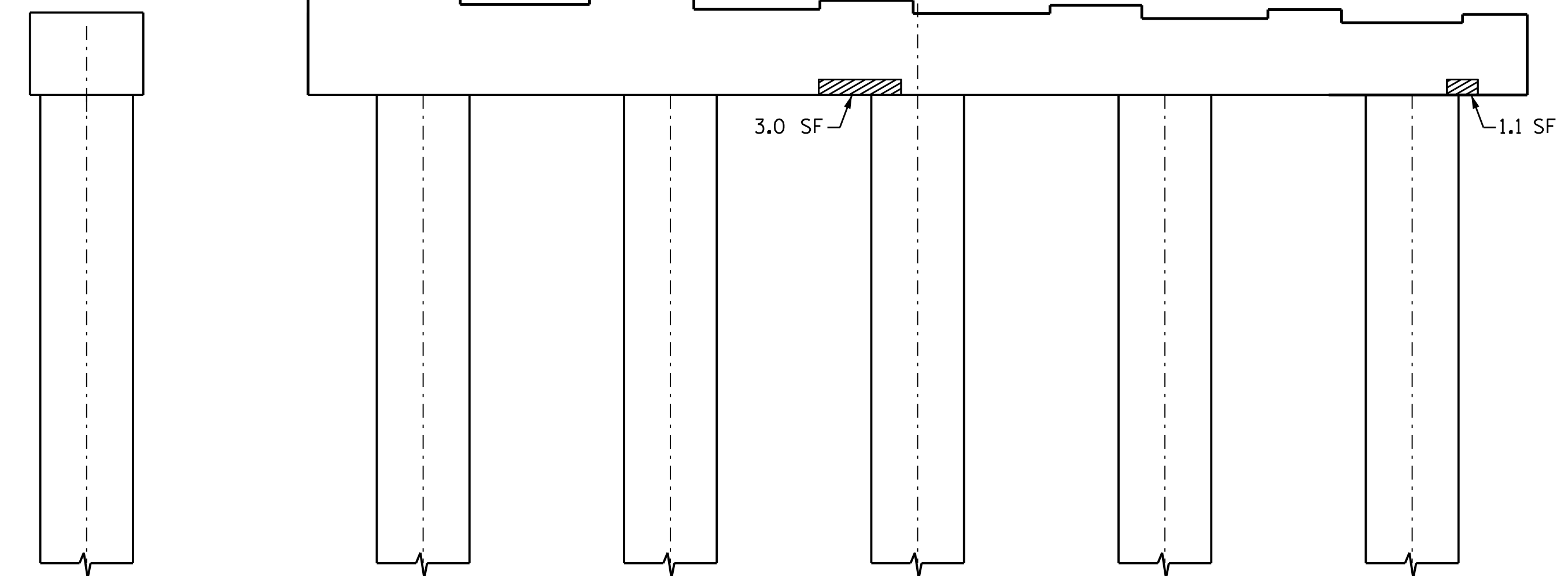
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.



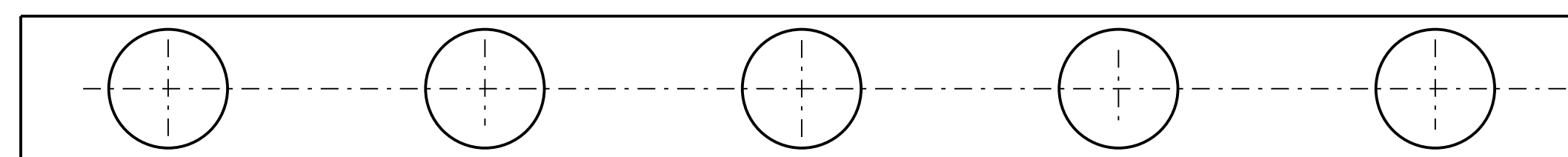
END VIEW
EAST SIDE

ELEVATION
NORTH SIDE



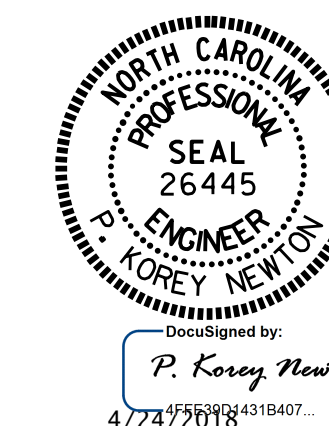
END VIEW
EAST SIDE

ELEVATION
SOUTH SIDE



SPAN J
SPAN K

SHOTCRETE REPAIRS
 EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 44
 SHEET 11 OF 25

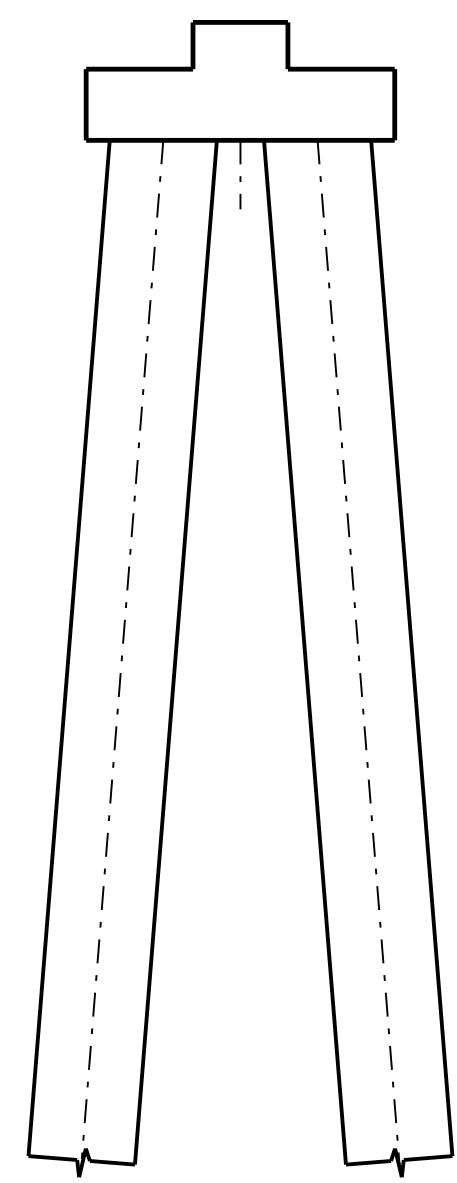
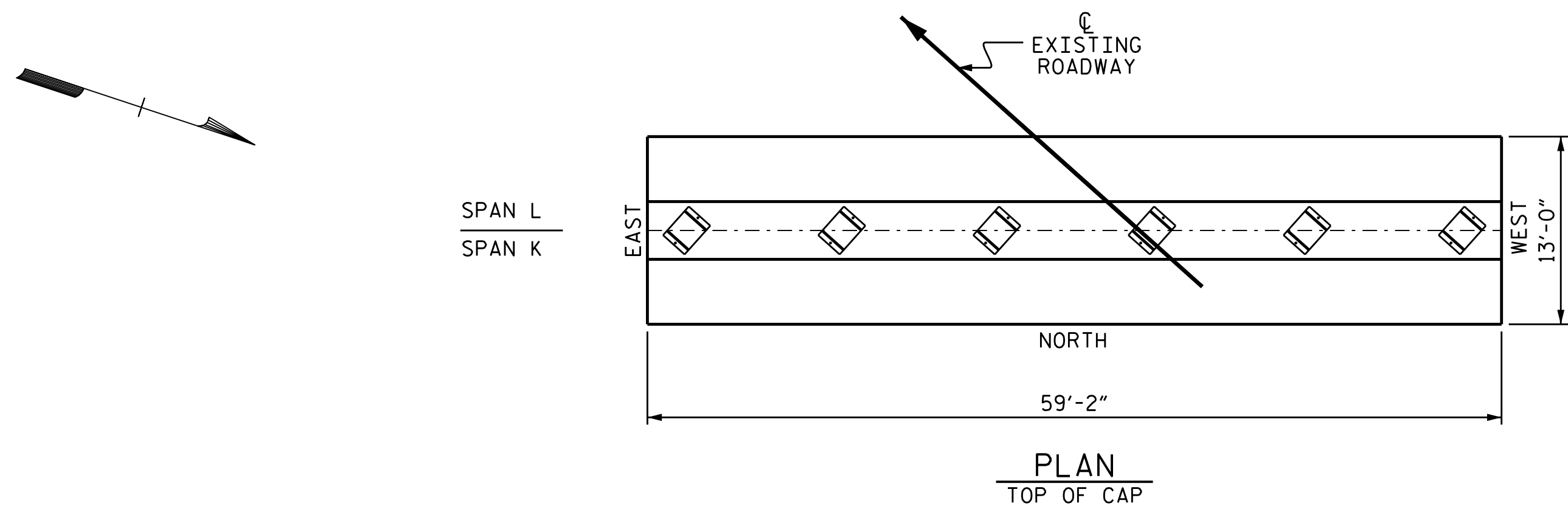
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE BENT 10

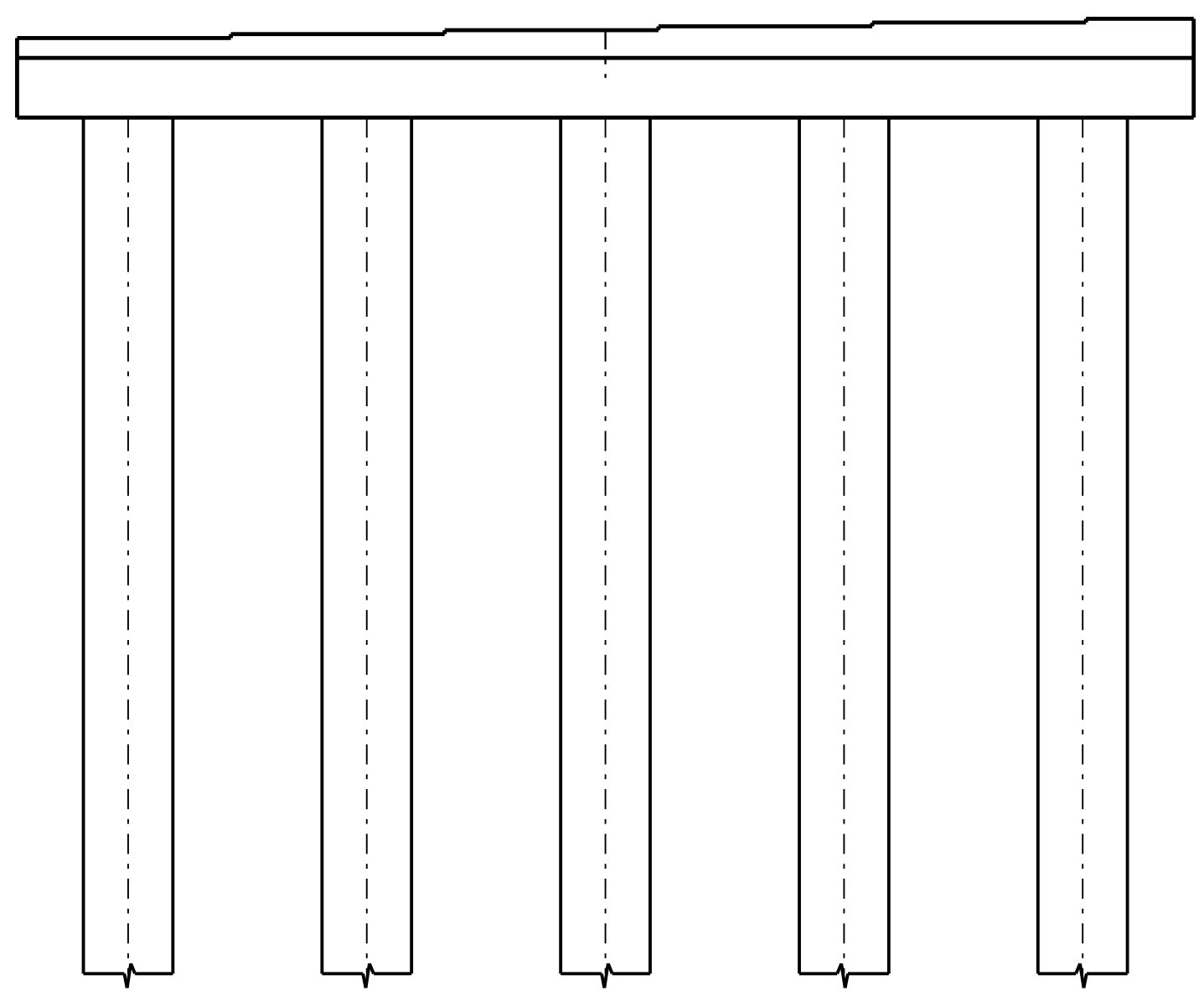
| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-83 |
| 2 | | | 4 | | | 104 |

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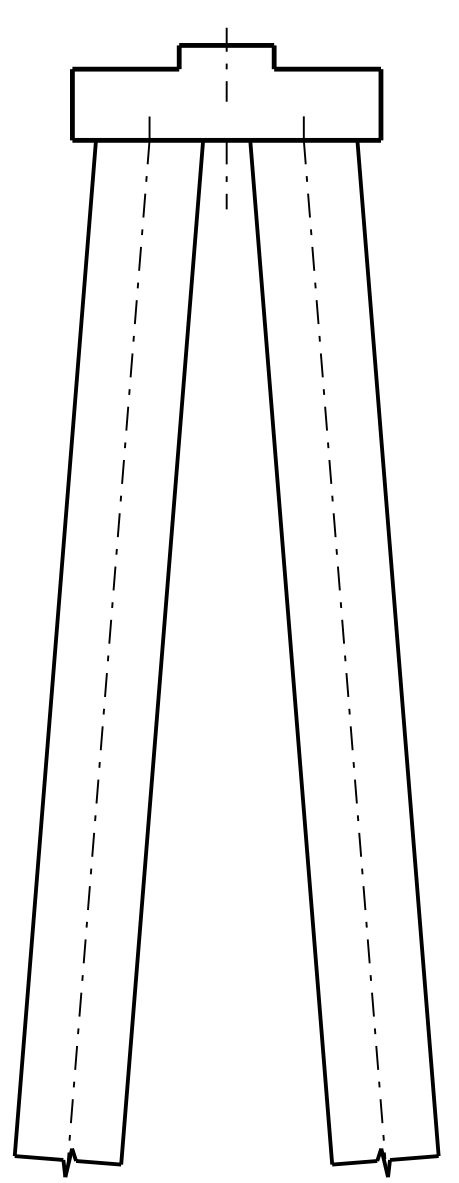
DRAWN BY : P.D. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018



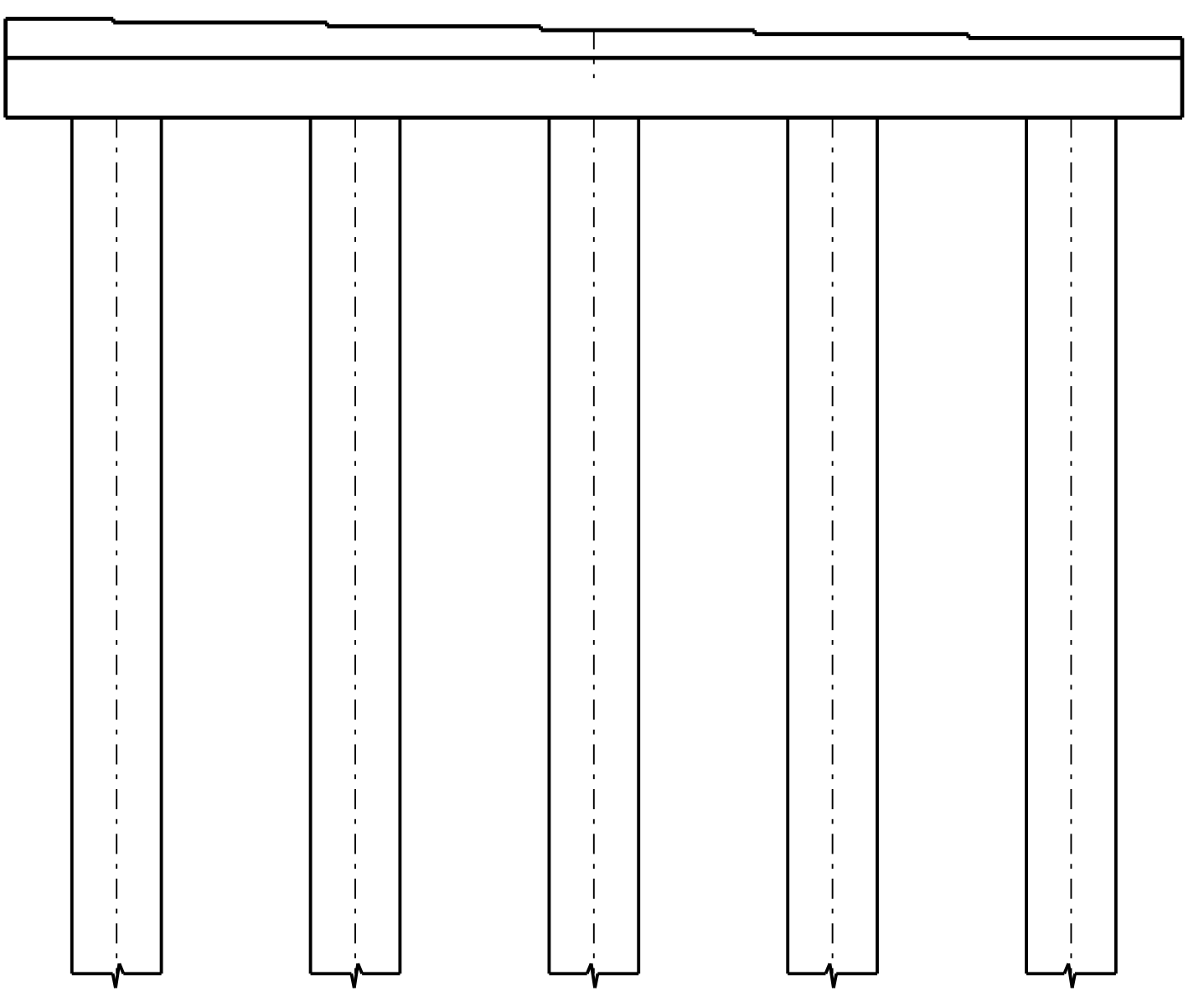
END VIEW
EAST SIDE



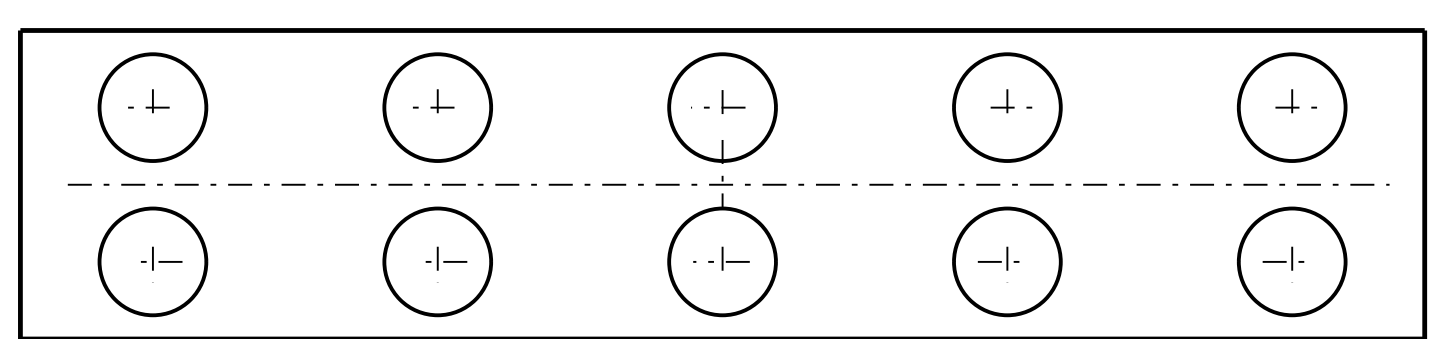
ELEVATION
NORTH SIDE



END VIEW
EAST SIDE



ELEVATION
NORTH SIDE



PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

NOTES:

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

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REPAIR QUANTITY TABLE

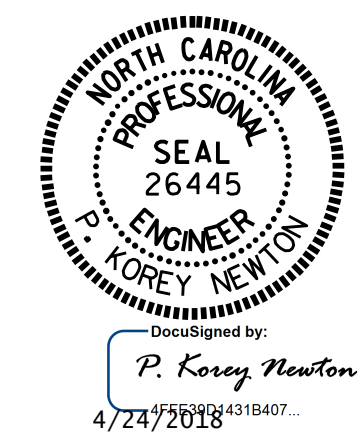
| BENT 11 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 769.2 | | | |

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 44

SHEET 12 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 11**

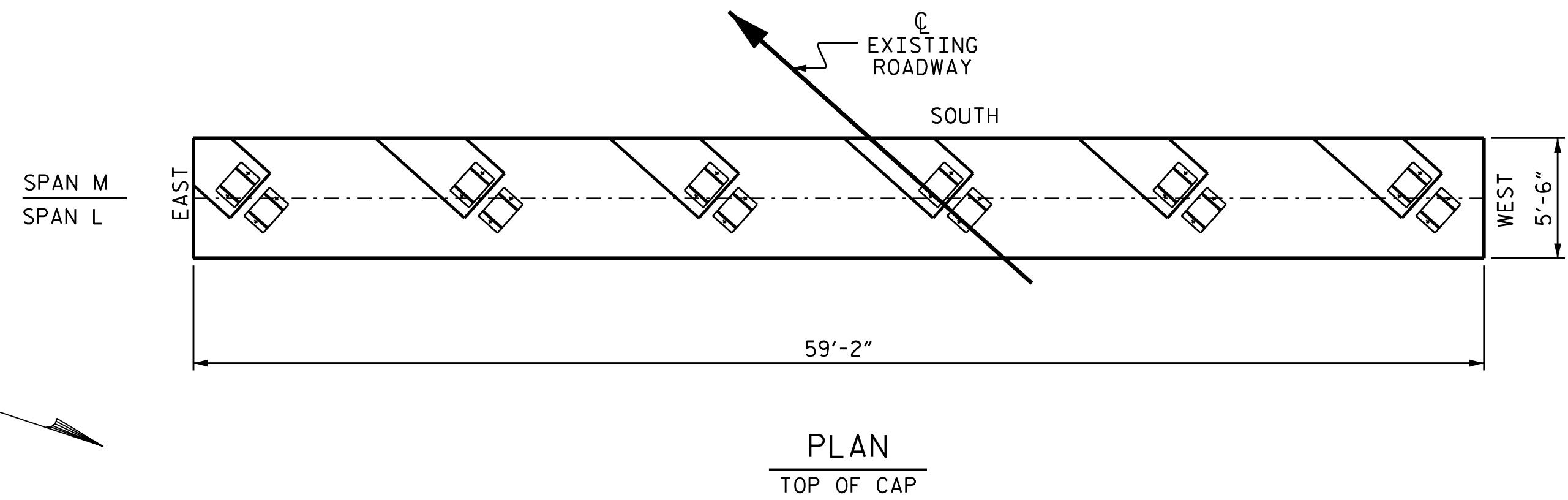


Documented by:
 P. Corey Newton
 4/24/2018

DRAWN BY : P.D. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| NO. | REVISIONS | | | NO. | REVISIONS | | | SHEET NO. |
|-----|-----------|-------|--|-----|-----------|-------|------------------|-----------|
| | BY: | DATE: | | | BY: | DATE: | | |
| 1 | | | | 3 | | | S-84 | |
| 2 | | | | 4 | | | TOTAL SHEETS 104 | |



NOTES:

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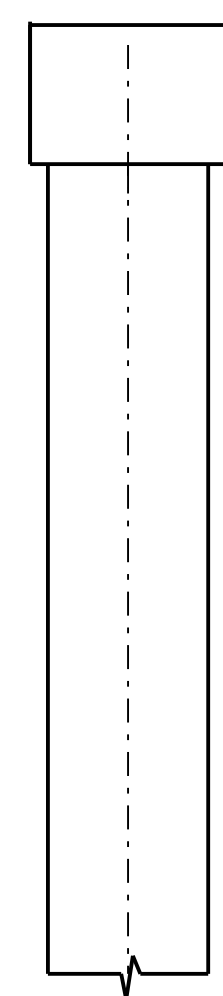
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

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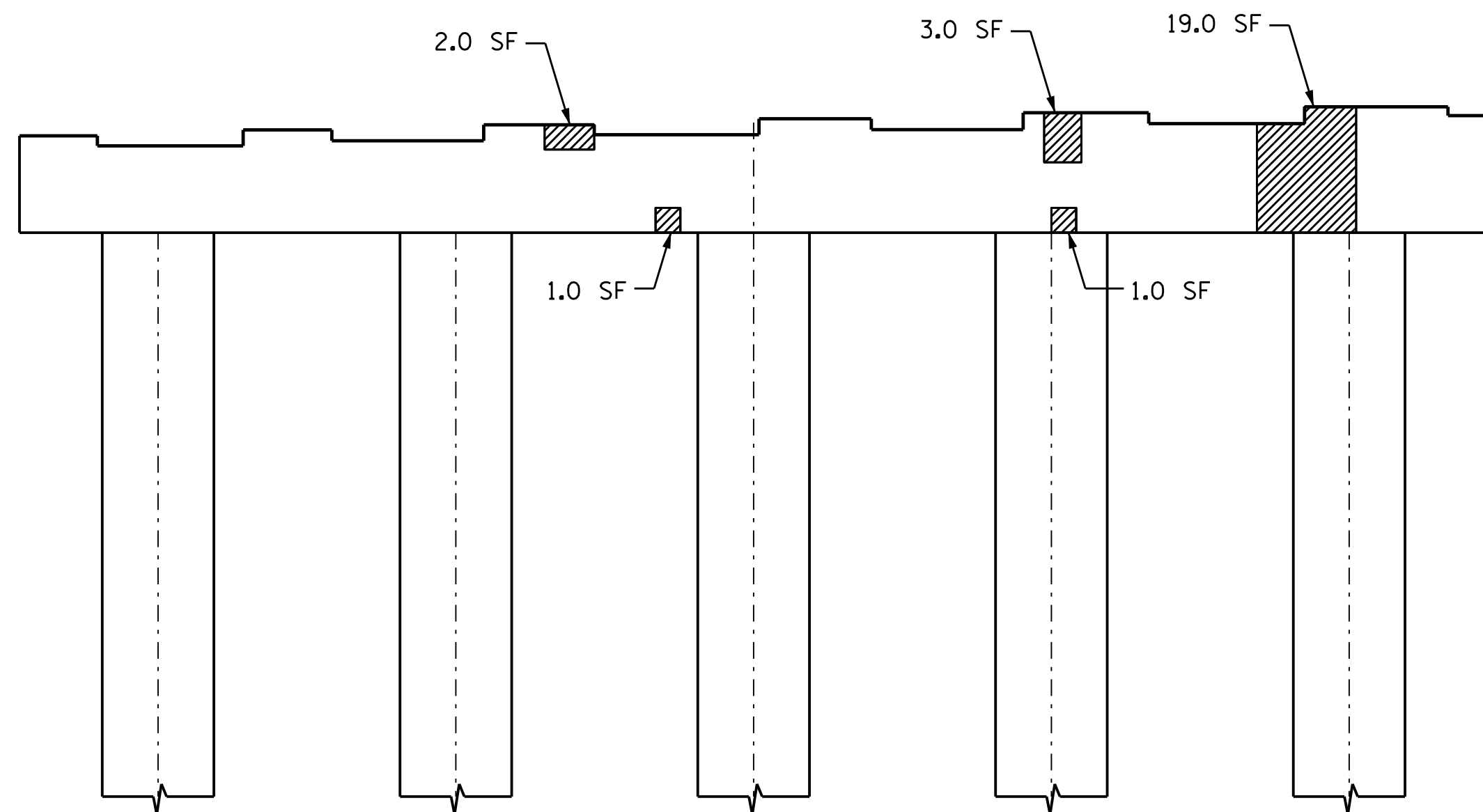
FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

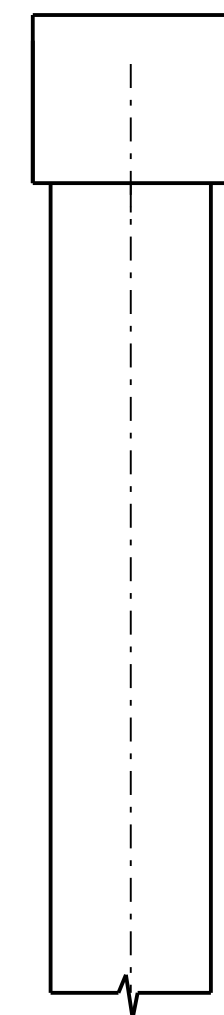
| BENT 12 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 30.0 | 15.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 3.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 325.4 | | | |



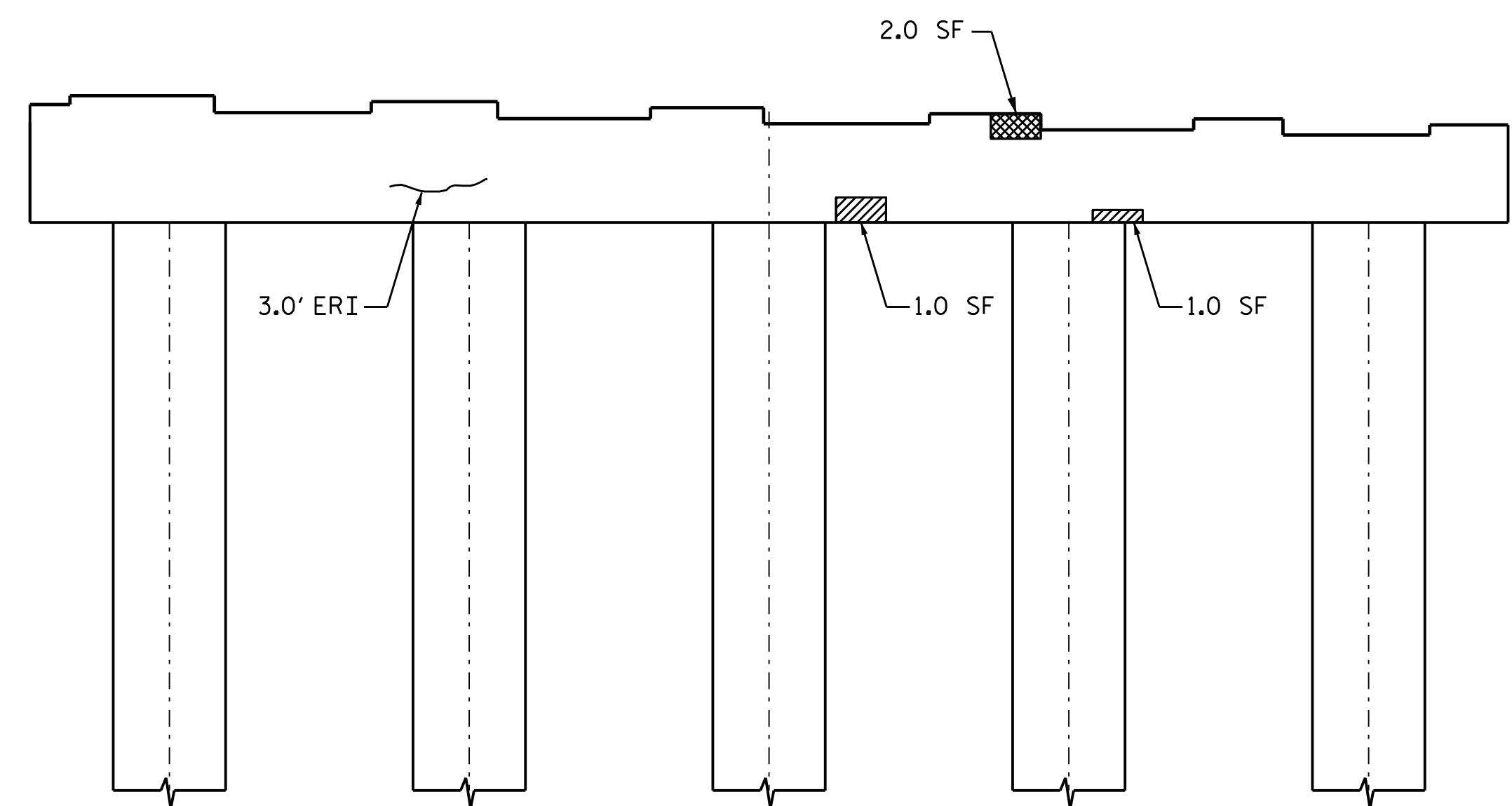
END VIEW
EAST SIDE



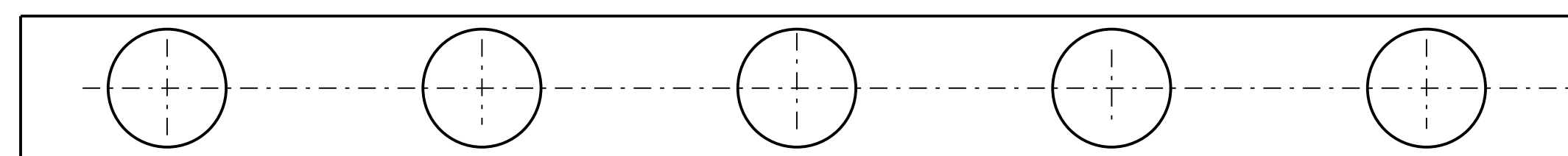
ELEVATION
NORTH SIDE



END VIEW
EAST SIDE



ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

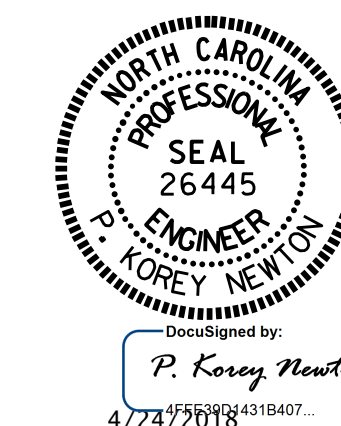
PROJECT NO. 15BPR.11
CAMDEN COUNTY
STATION: 44

SHEET 13 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 12

▨ SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION

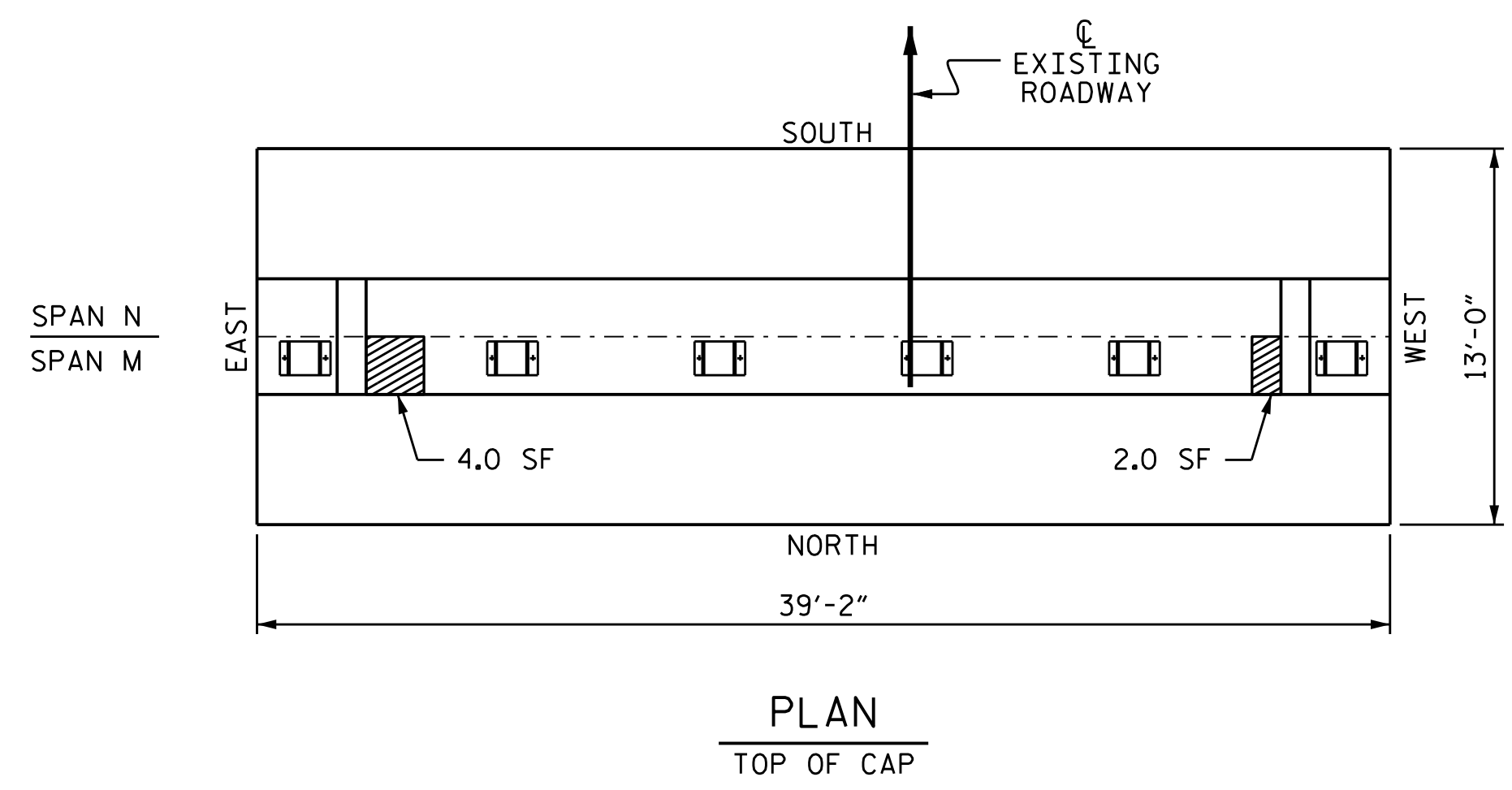
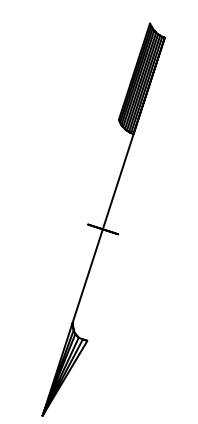


DocuSigned by:
P. Corey Newton
4/24/2018 10:43:18 AM

DRAWN BY : P.D. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

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SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-85 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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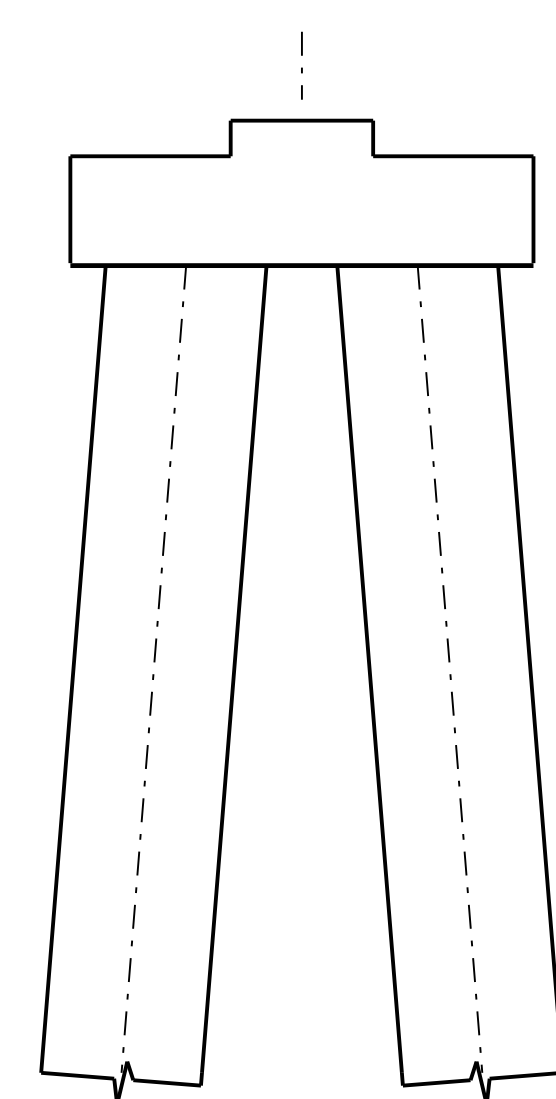
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

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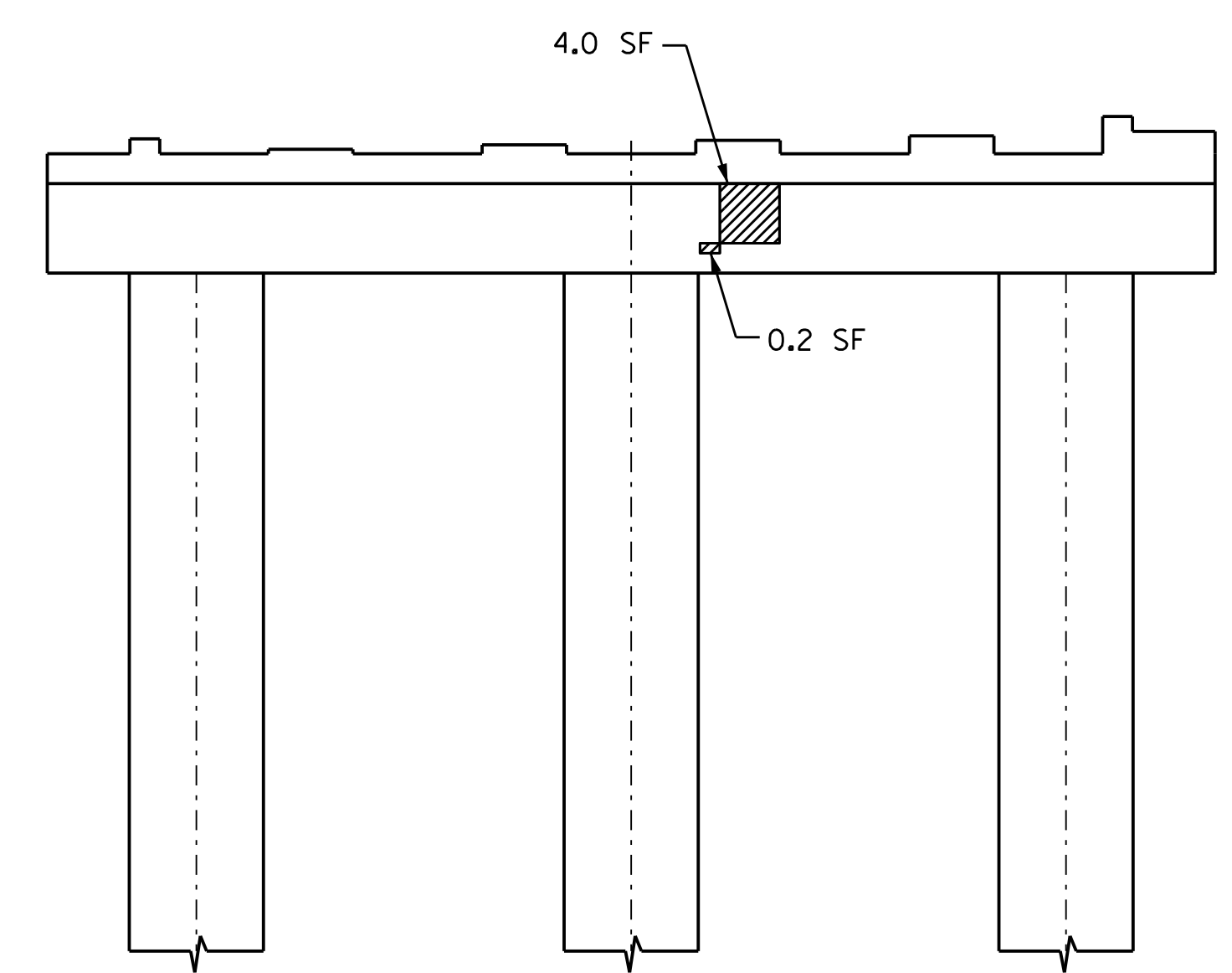
FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

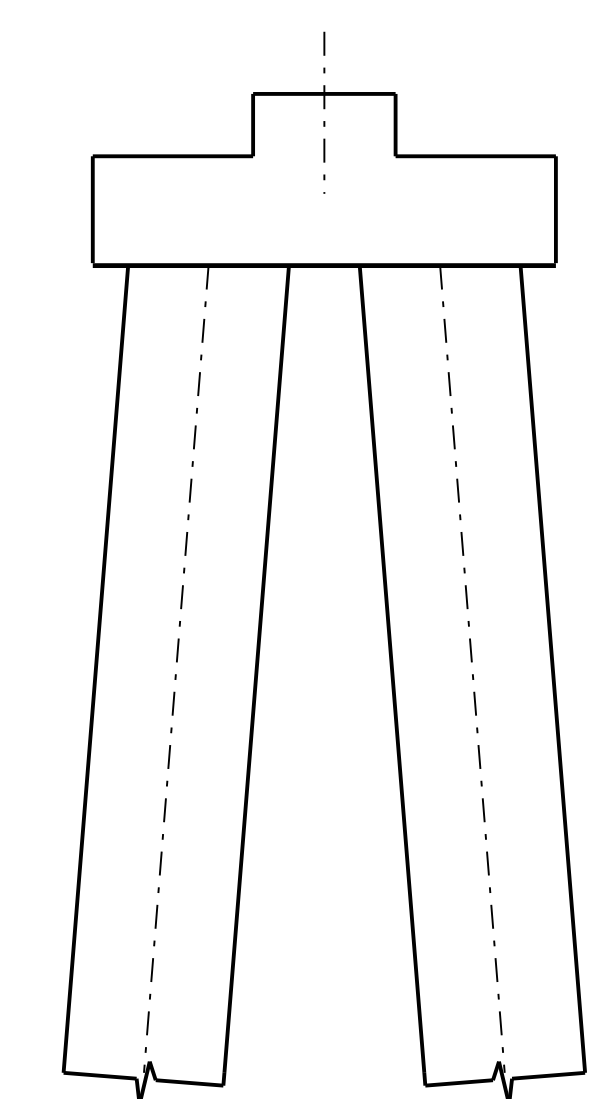
| BENT 13 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 45.7 | 22.9 | | |
| CAP (HORIZONTAL FACE) | 8.0 | 4.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 2.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



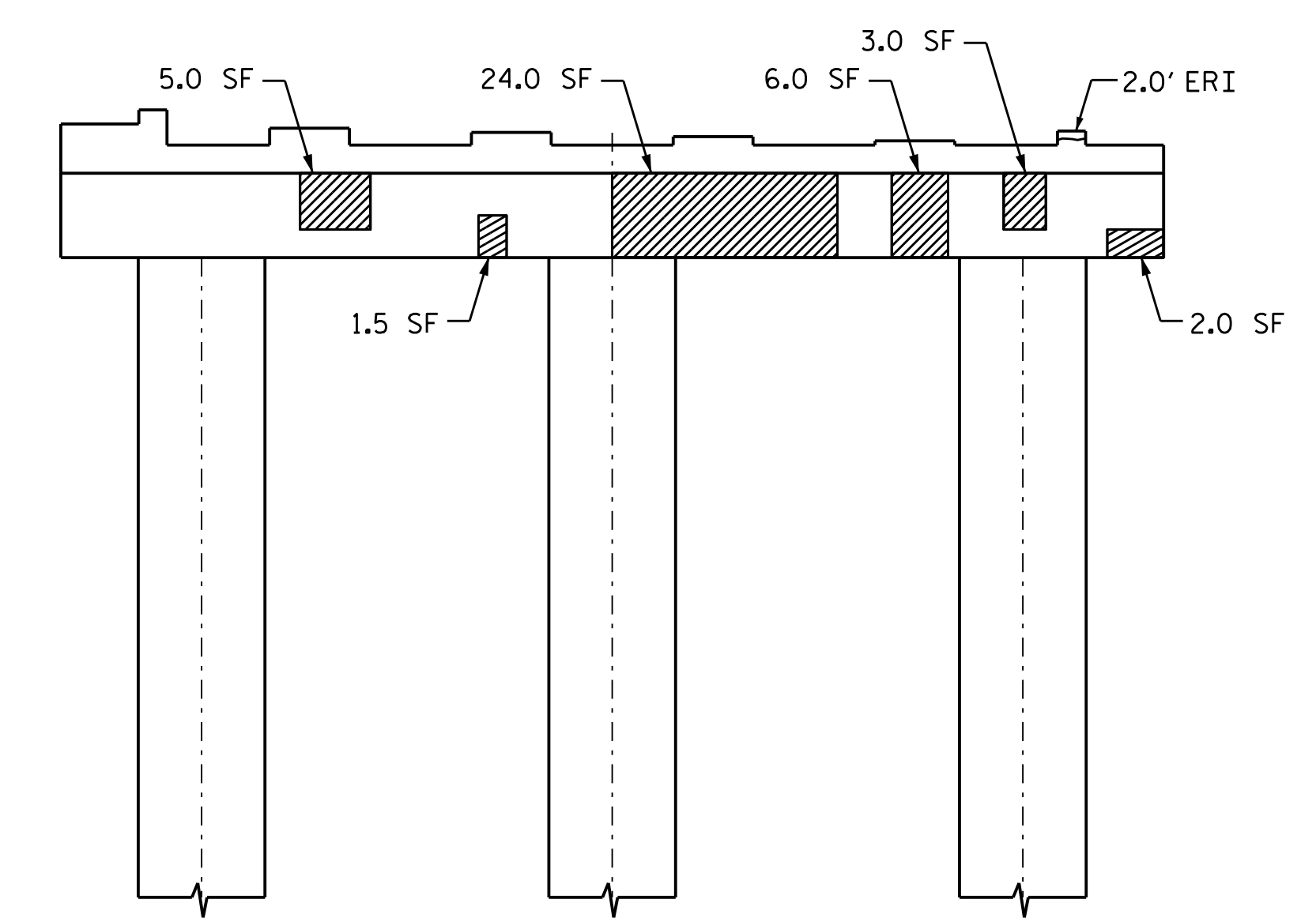
END VIEW
EAST SIDE



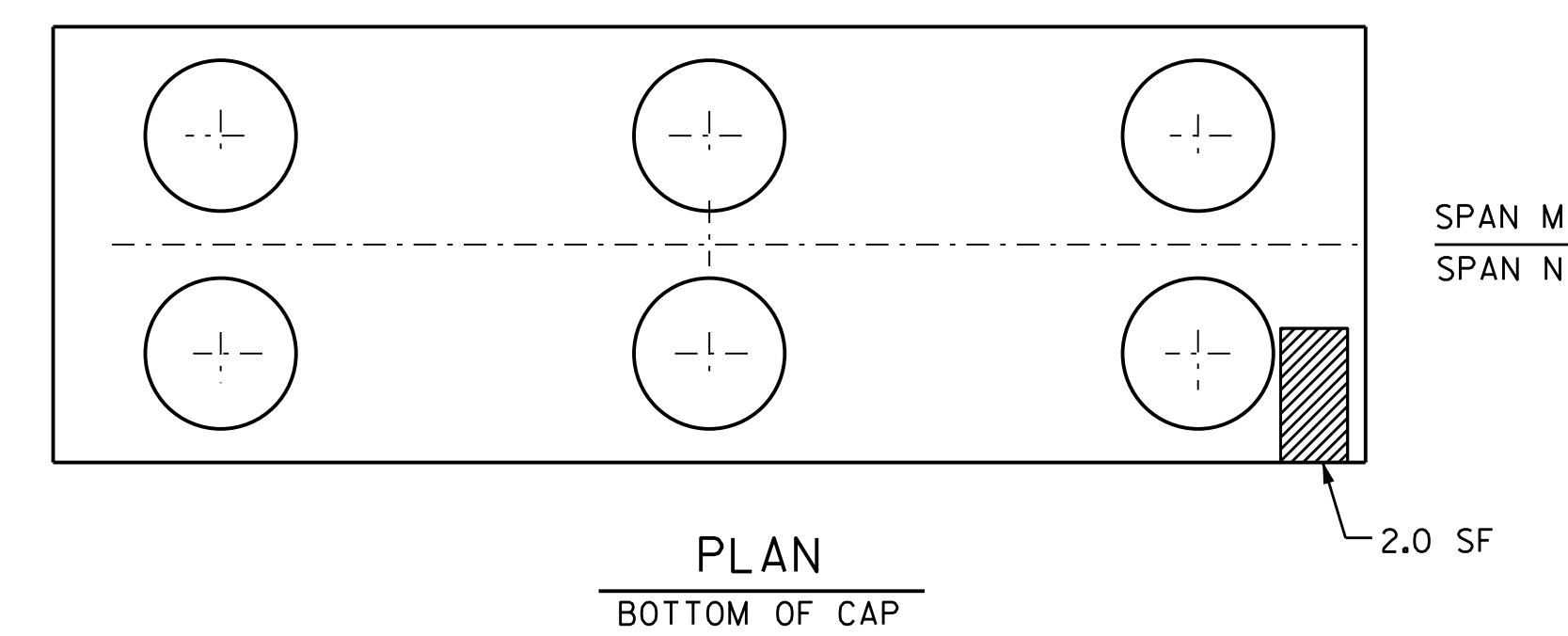
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE

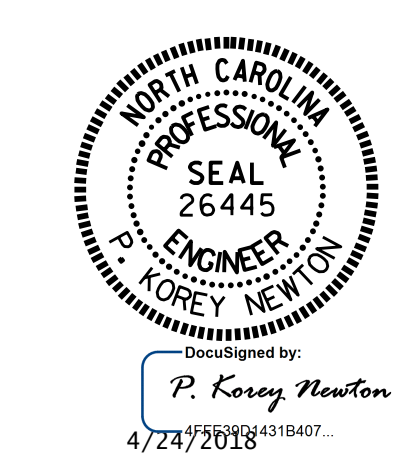


ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 44

SHEET 14 OF 25

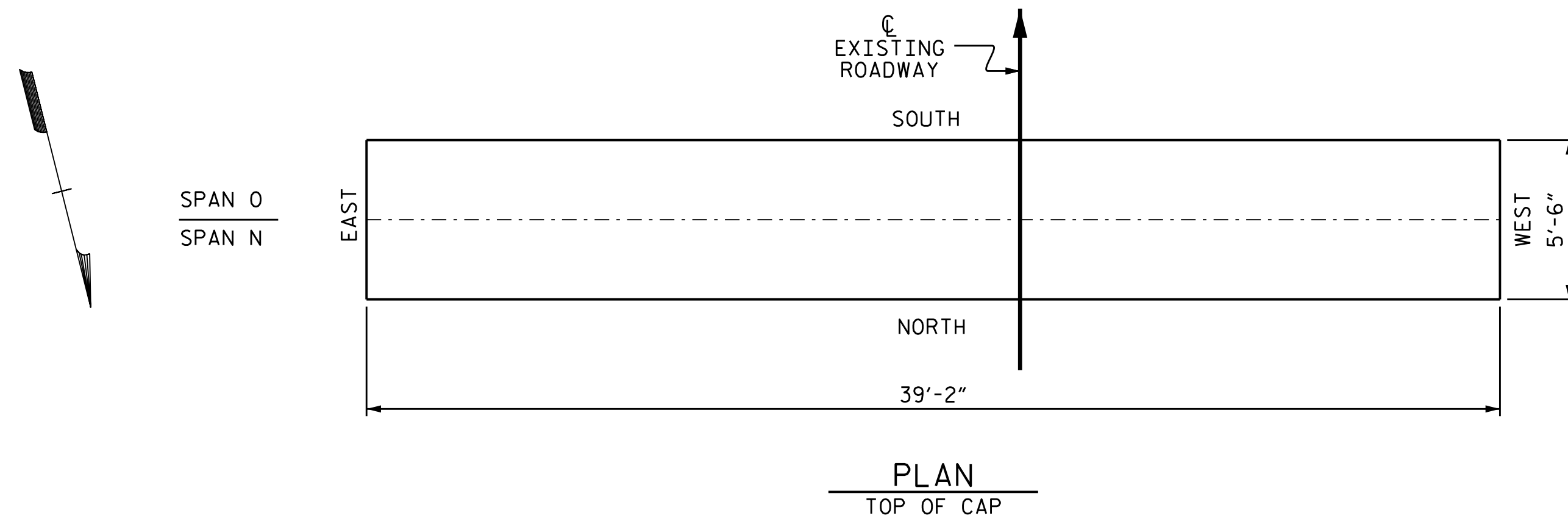
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT 13**

DRAWN BY : P.D. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-86 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

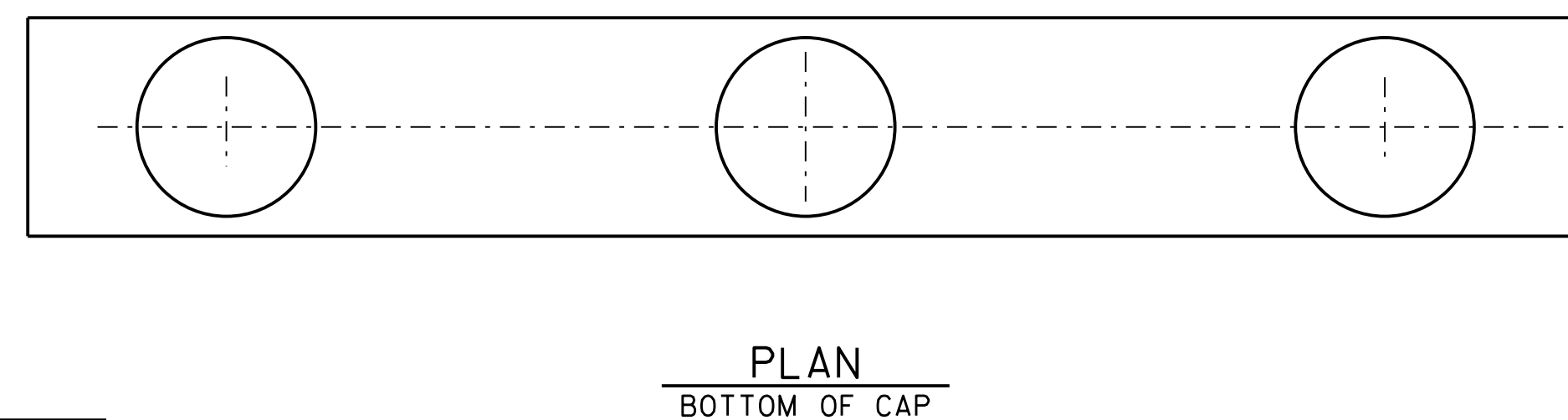
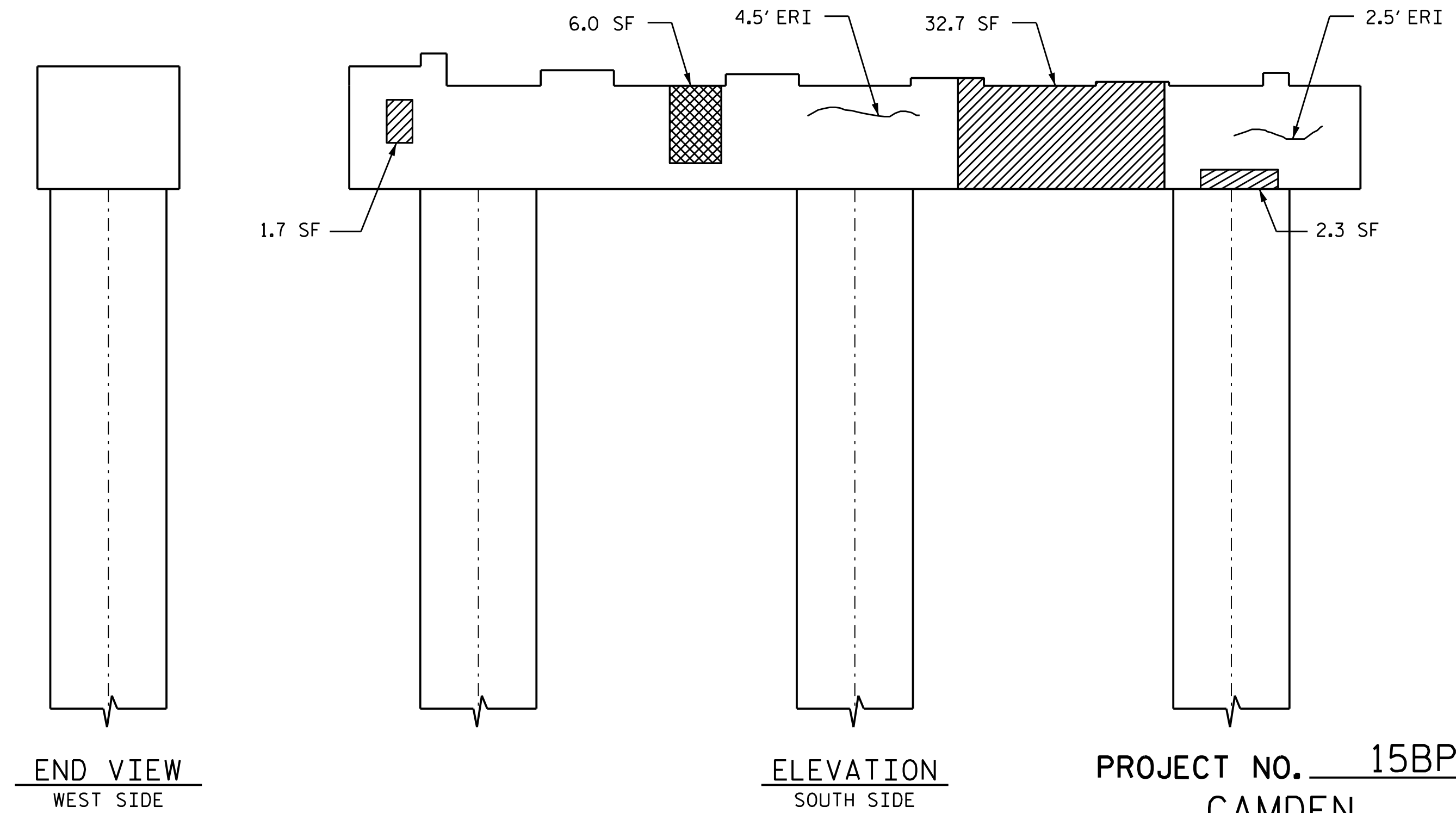
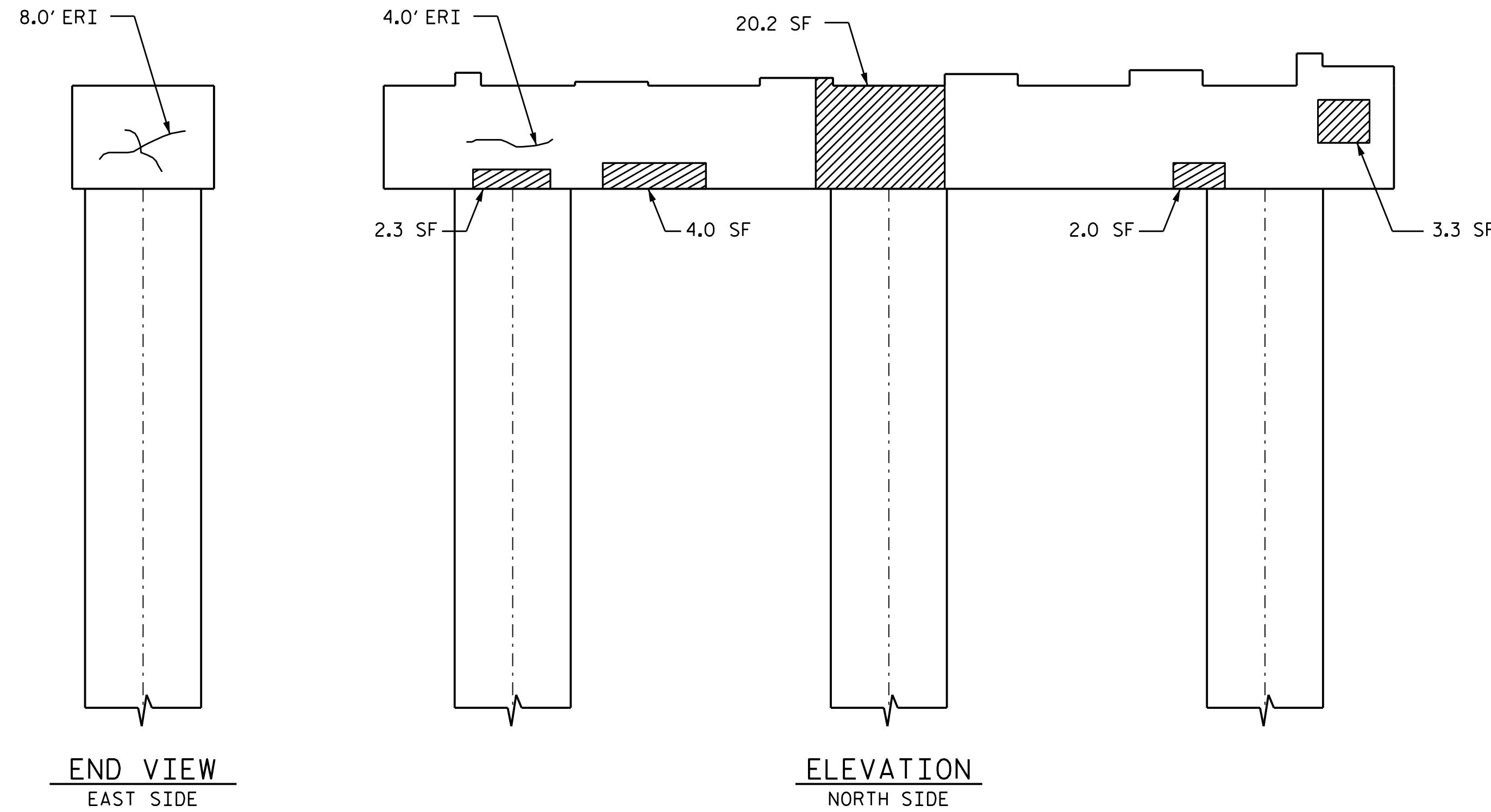
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 14 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 74.5 | 37.3 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 19.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 15 OF 25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE BENT 14

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-87 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |

REPAIR QUANTITY TABLE

| BENT 15 | QUANTITIES | | | |
|-----------------------|--------------|--------------|--------------|--------------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 113.1 | 58.1 | | |
| CAP (HORIZONTAL FACE) | 22.3 | 11.2 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 6.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | | AREA S.F. | | AREA S.F. |
| TOP OF CAP | | 215.4 | | |

NOTES:

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CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

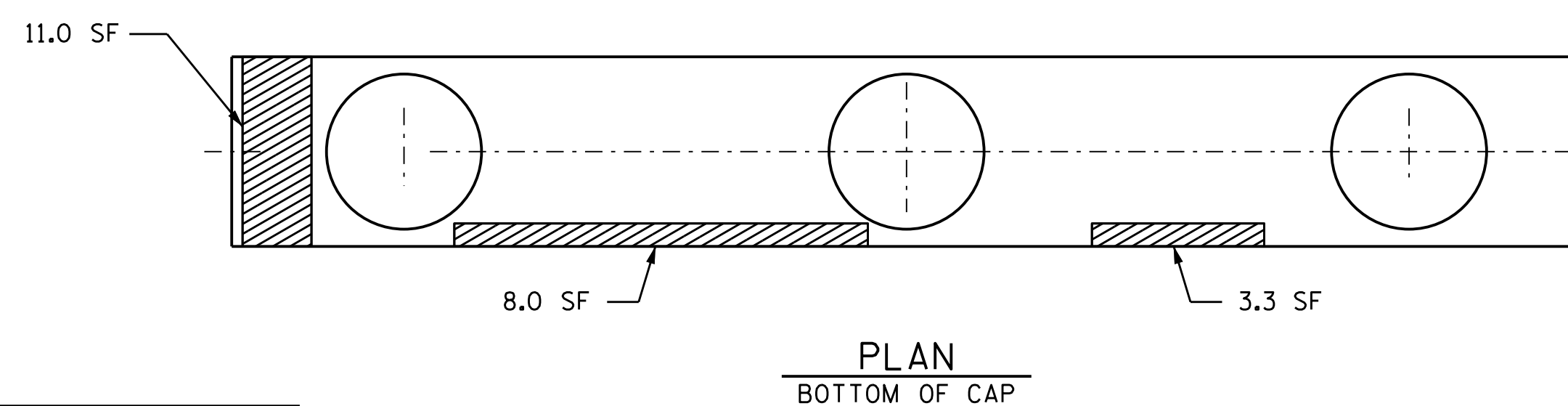
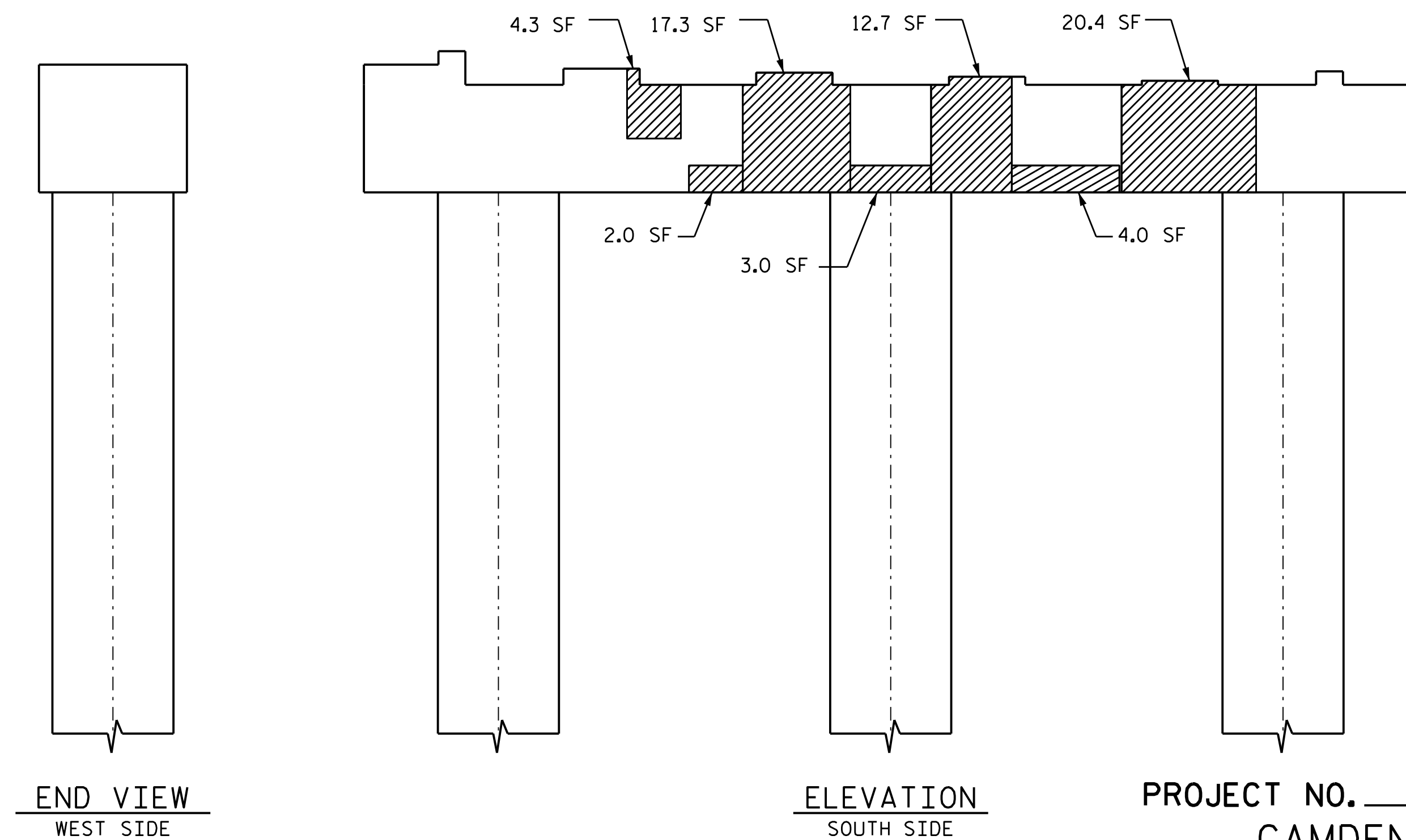
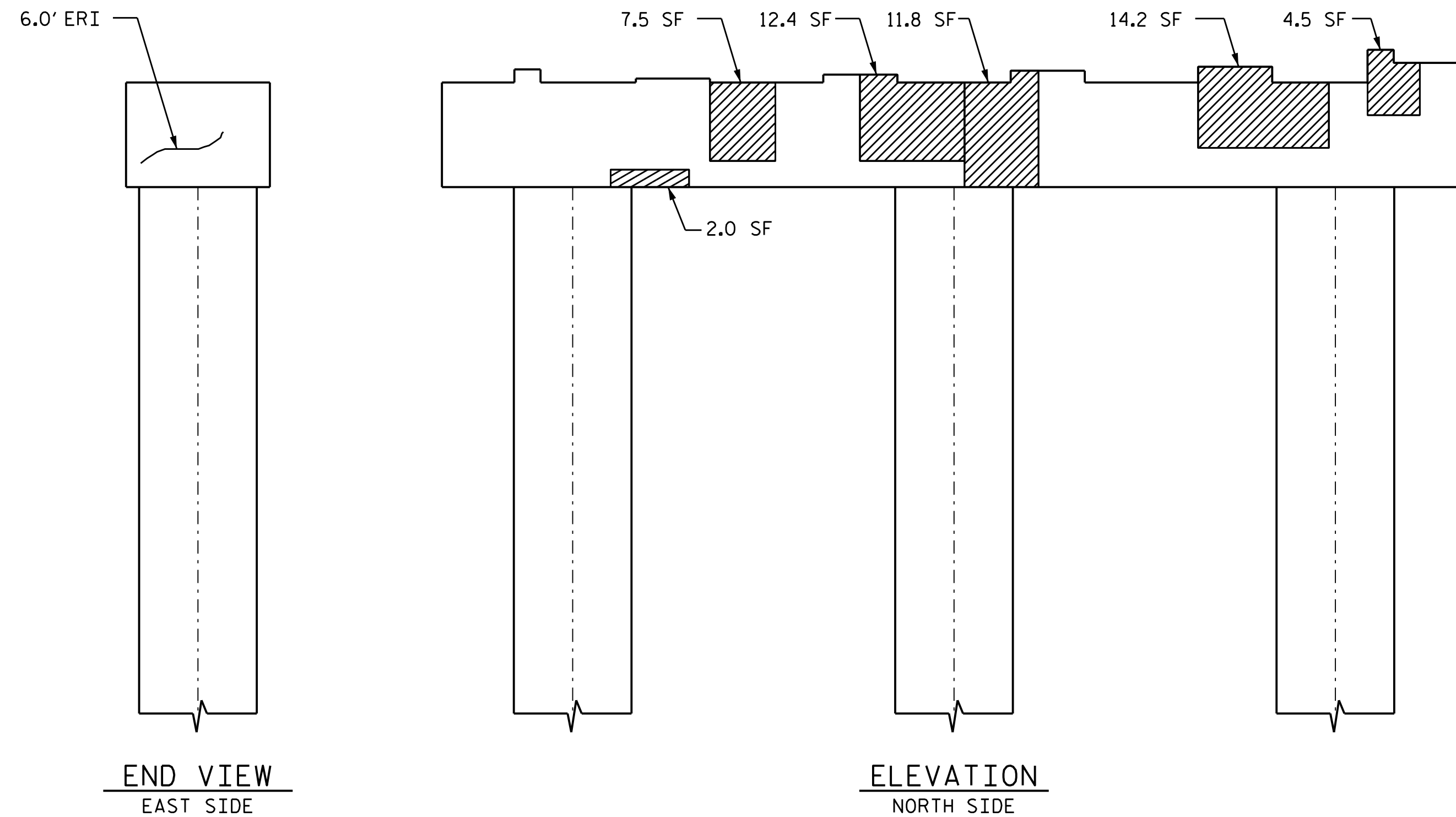
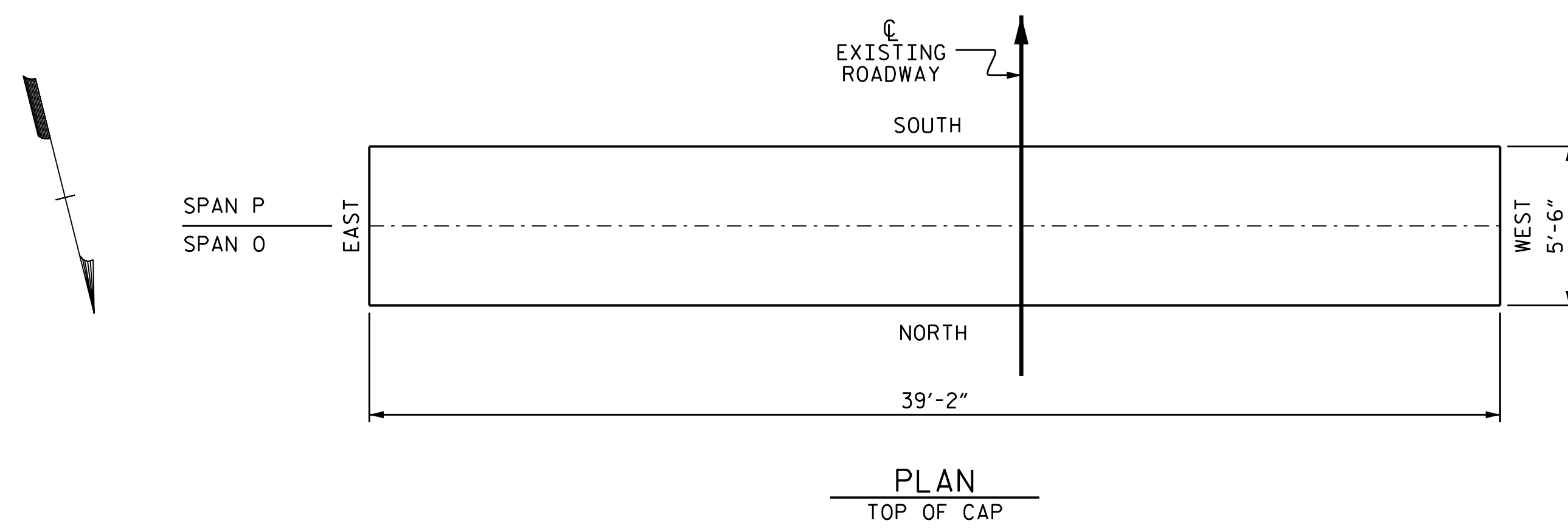
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 16 OF 25

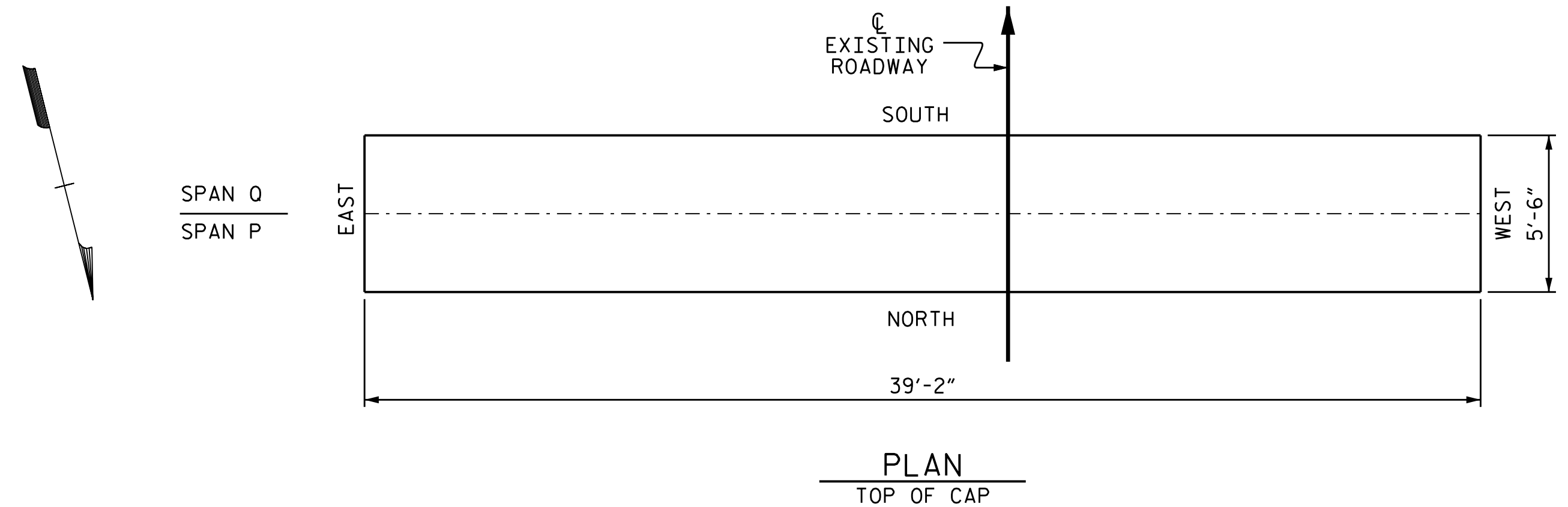
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE BENT 15

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-88 |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

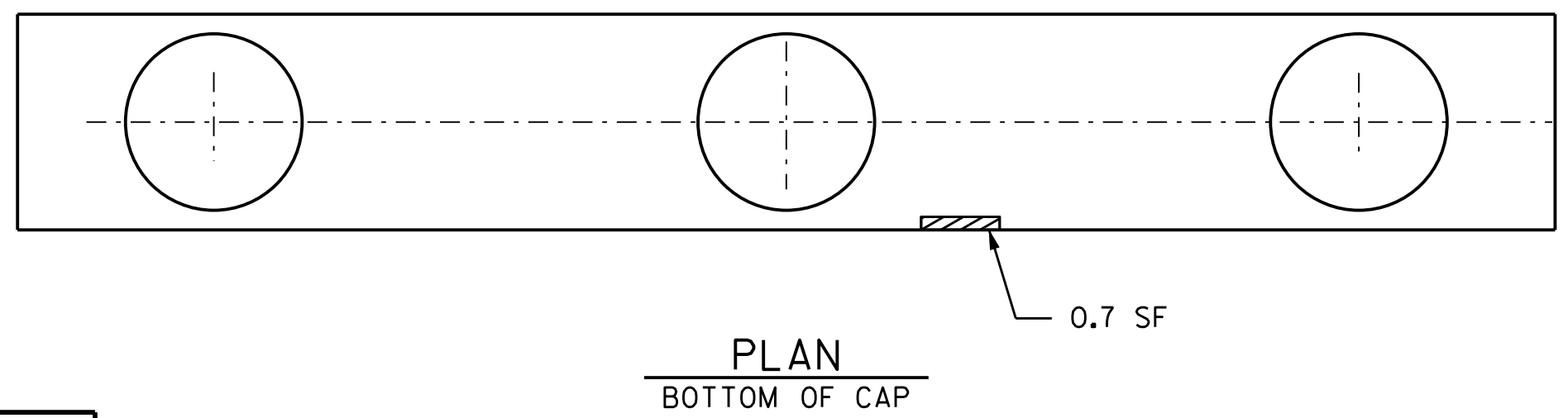
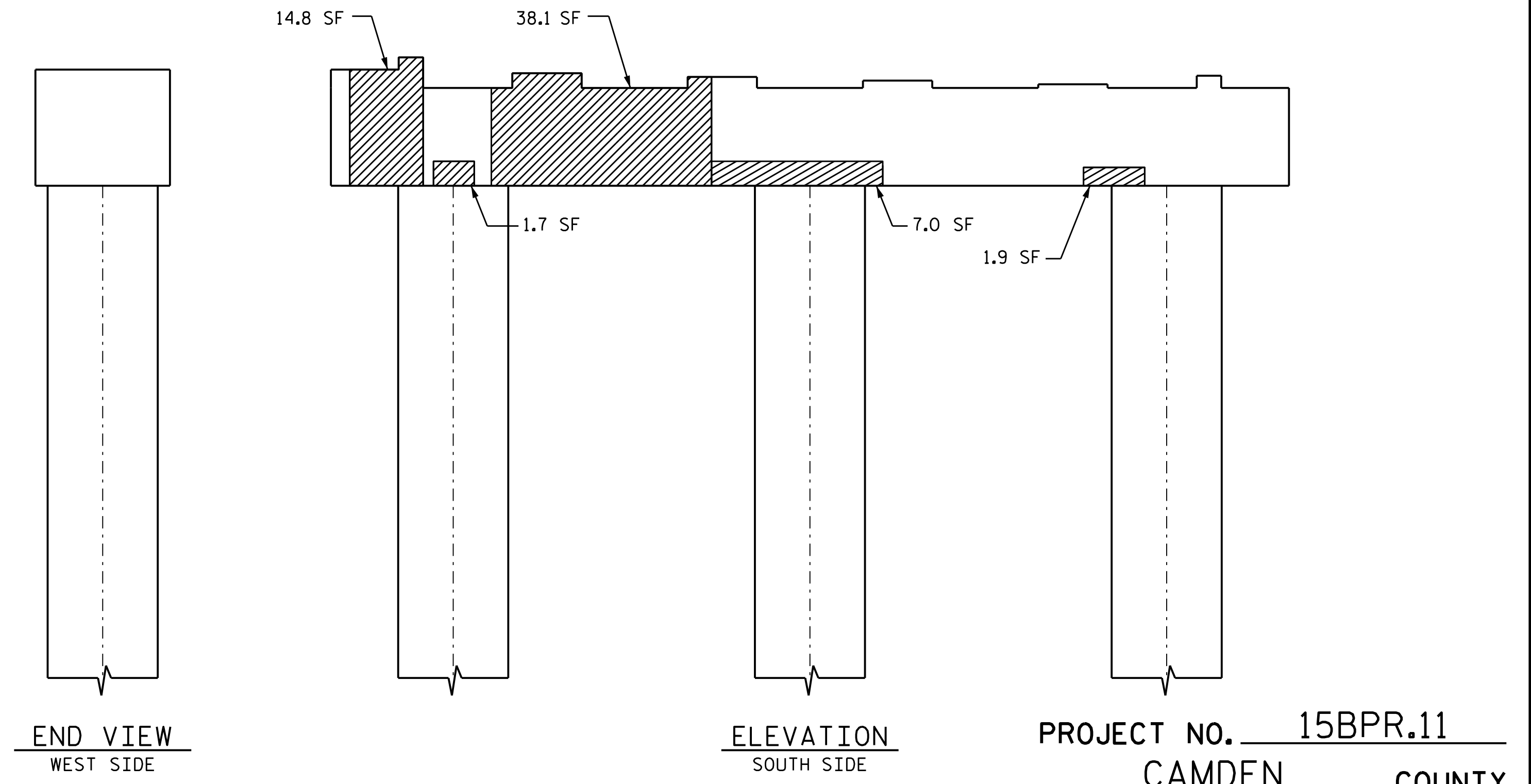
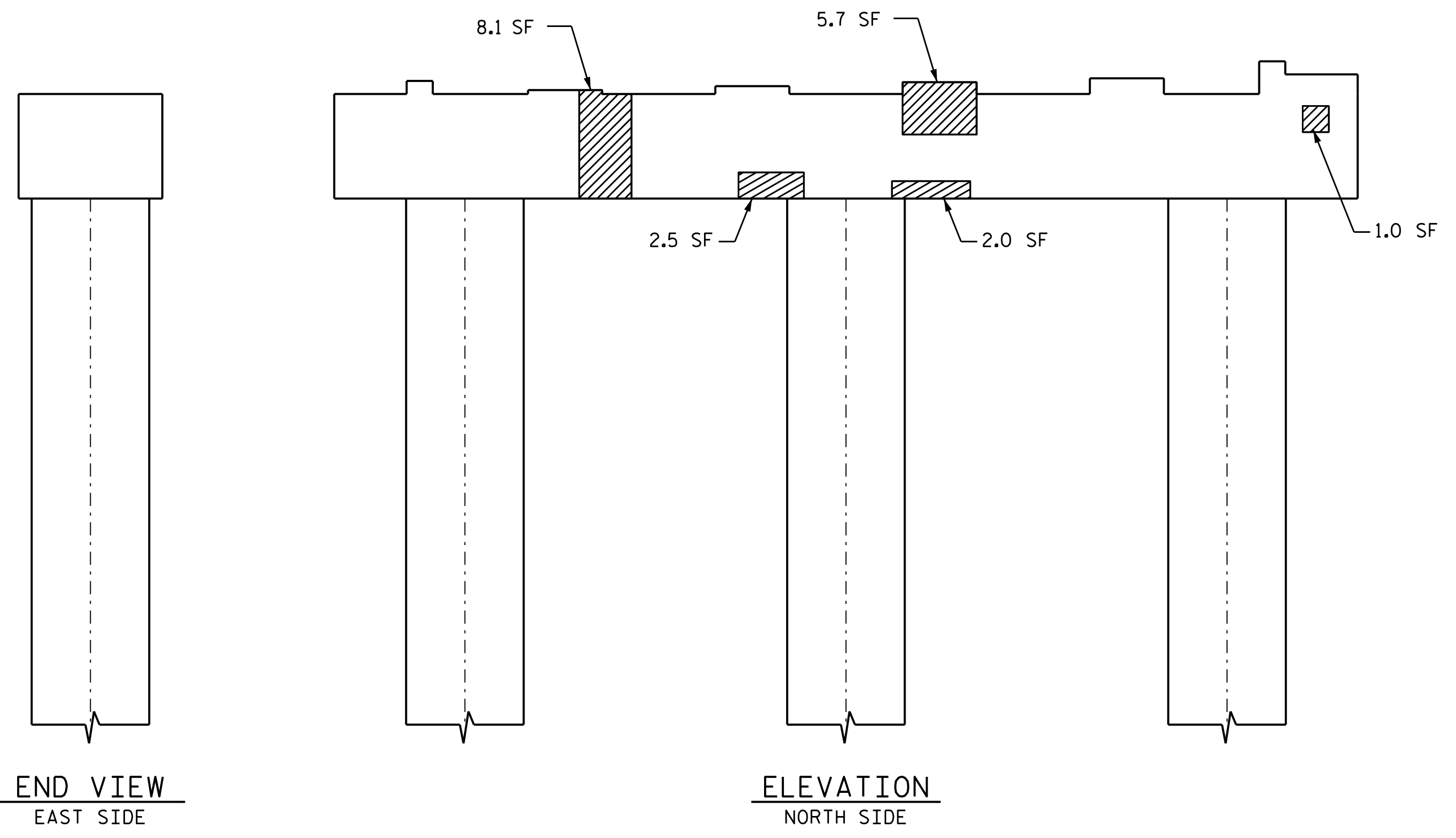
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

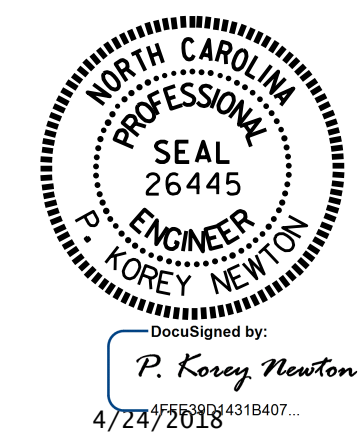
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 16 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 82.8 | 41.4 | | |
| CAP (HORIZONTAL FACE) | 0.7 | 0.4 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 17 OF 25

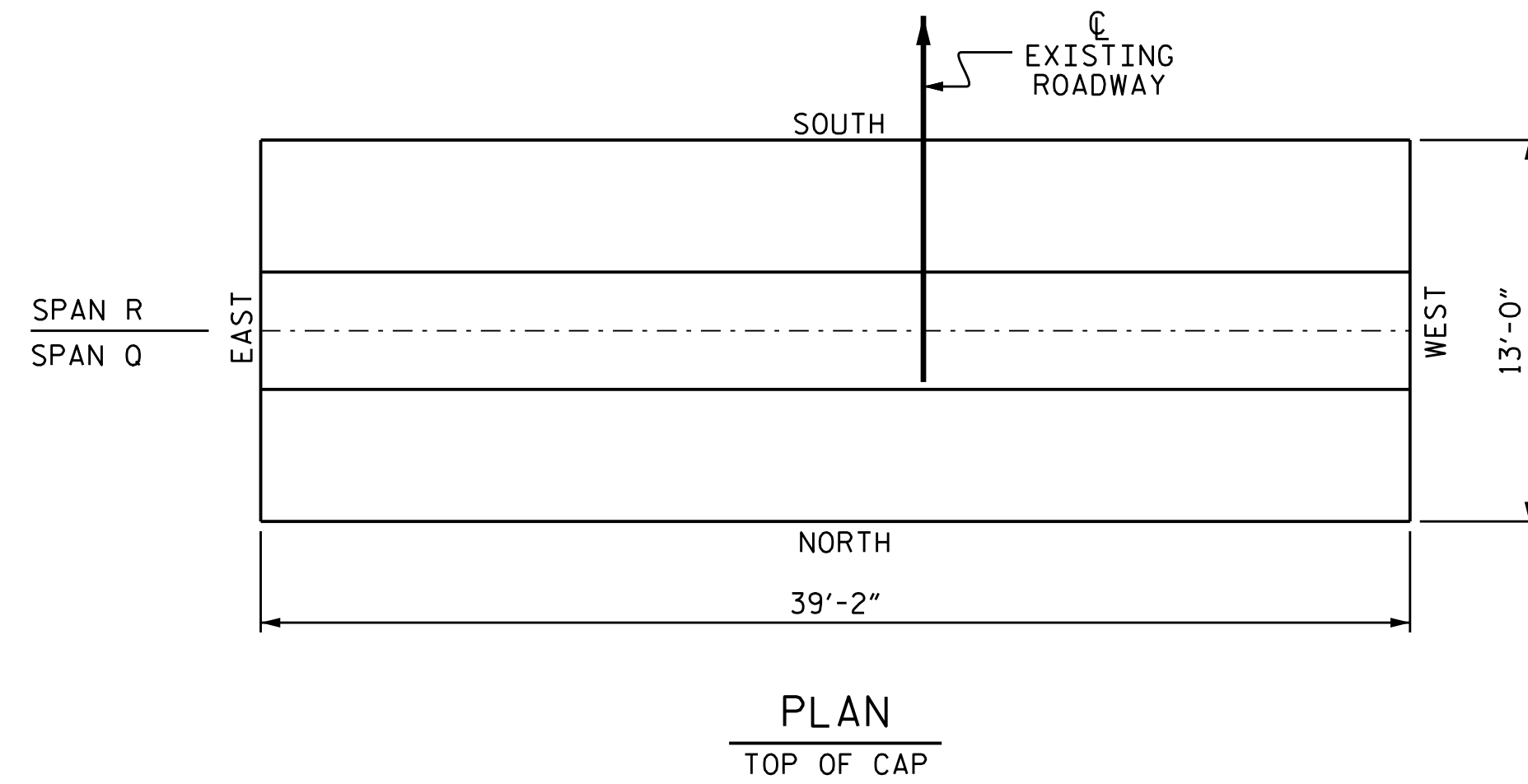
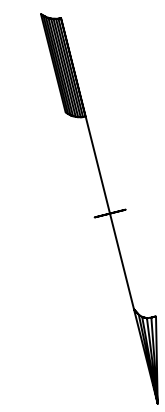
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 16**

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-89 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

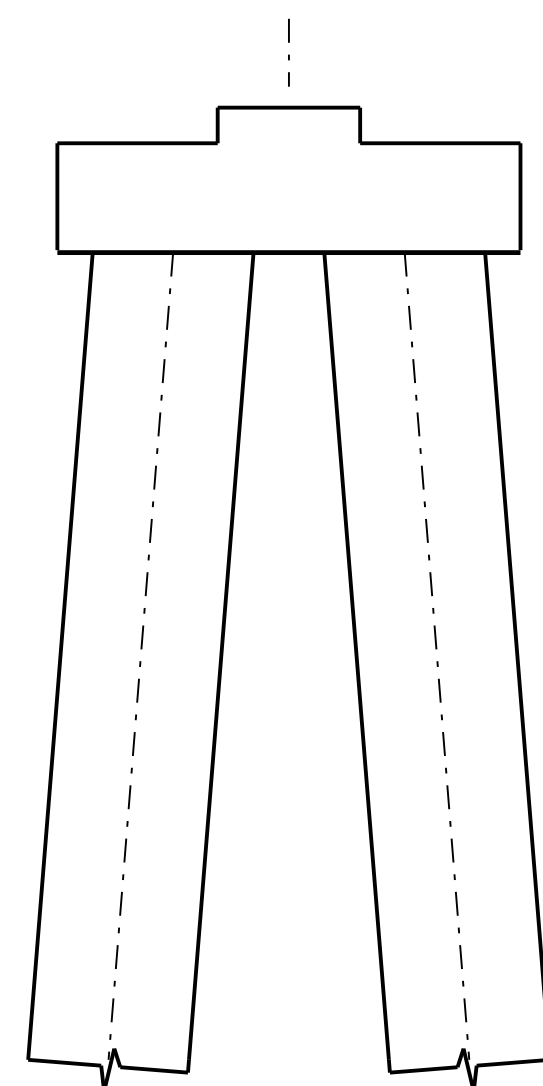
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

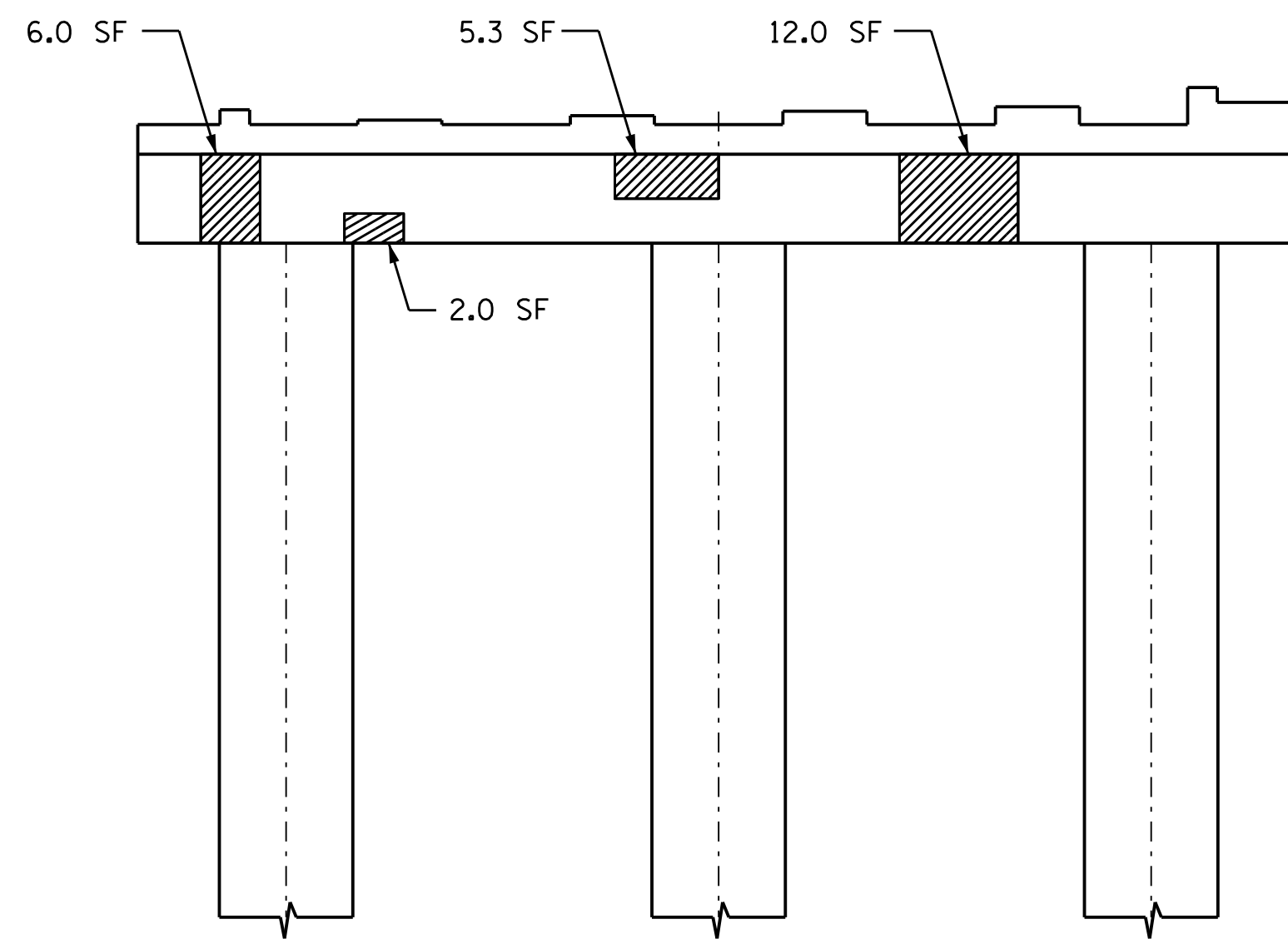
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

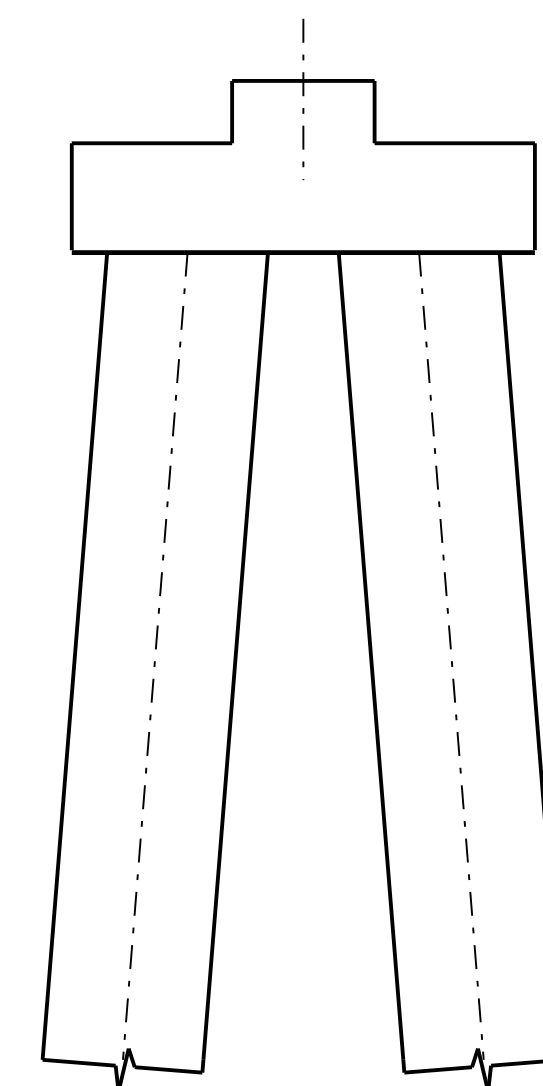
| BENT 17 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 91.3 | 45.7 | | |
| CAP (HORIZONTAL FACE) | 12.0 | 6.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



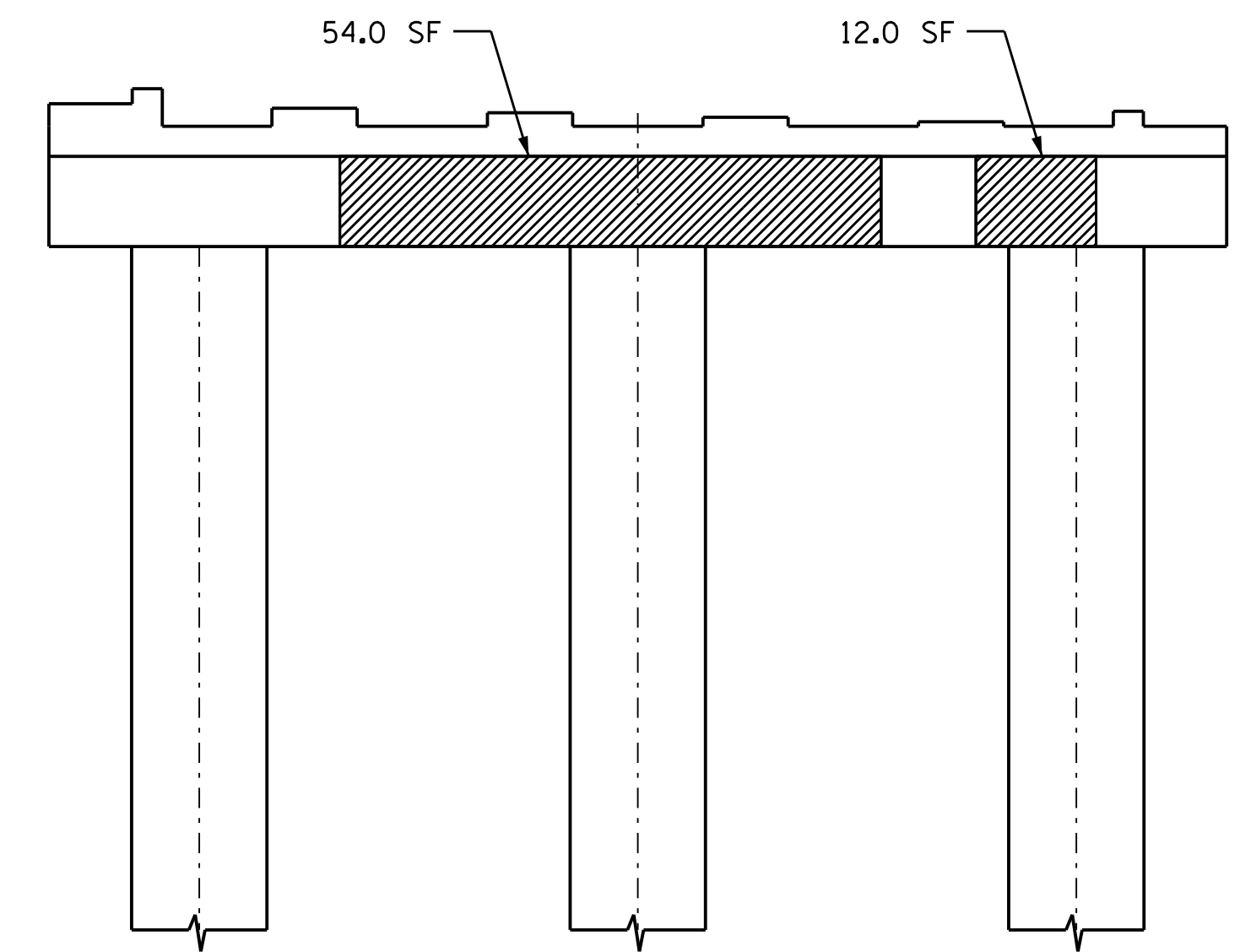
END VIEW
EAST SIDE



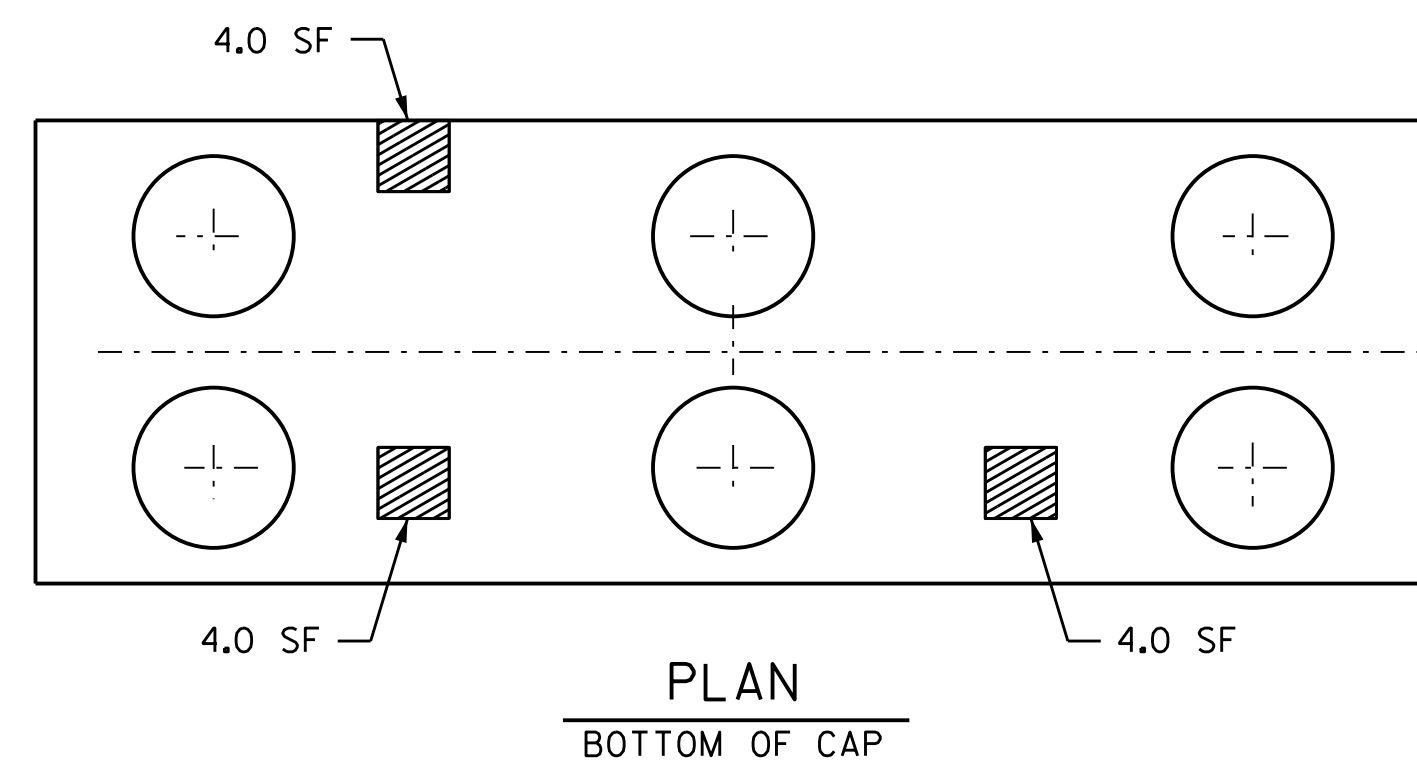
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



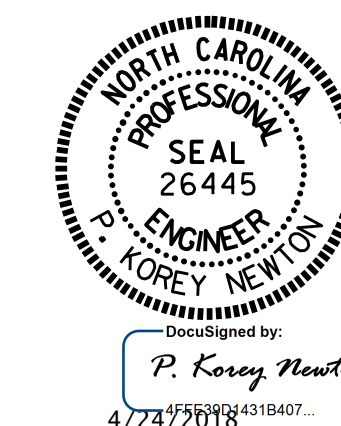
ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SPAN Q
SPAN R

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 STATION: 44
 SHEET 18 OF 25

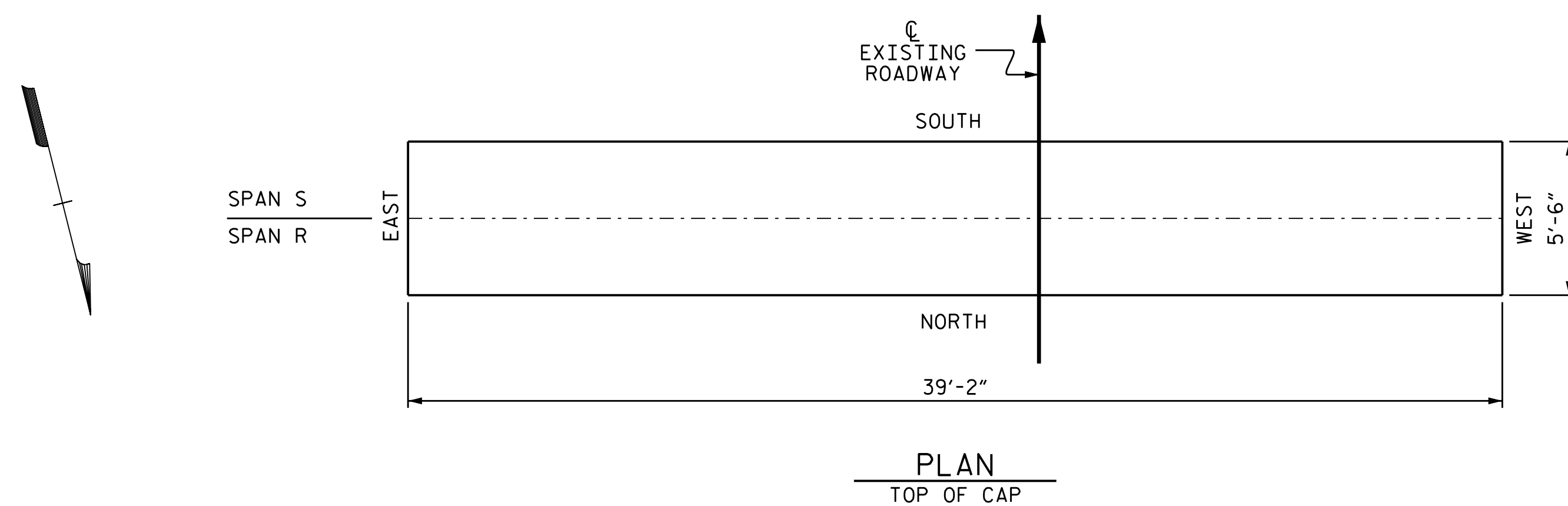
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
BENT 17**

DRAWN BY : P.D. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-90 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

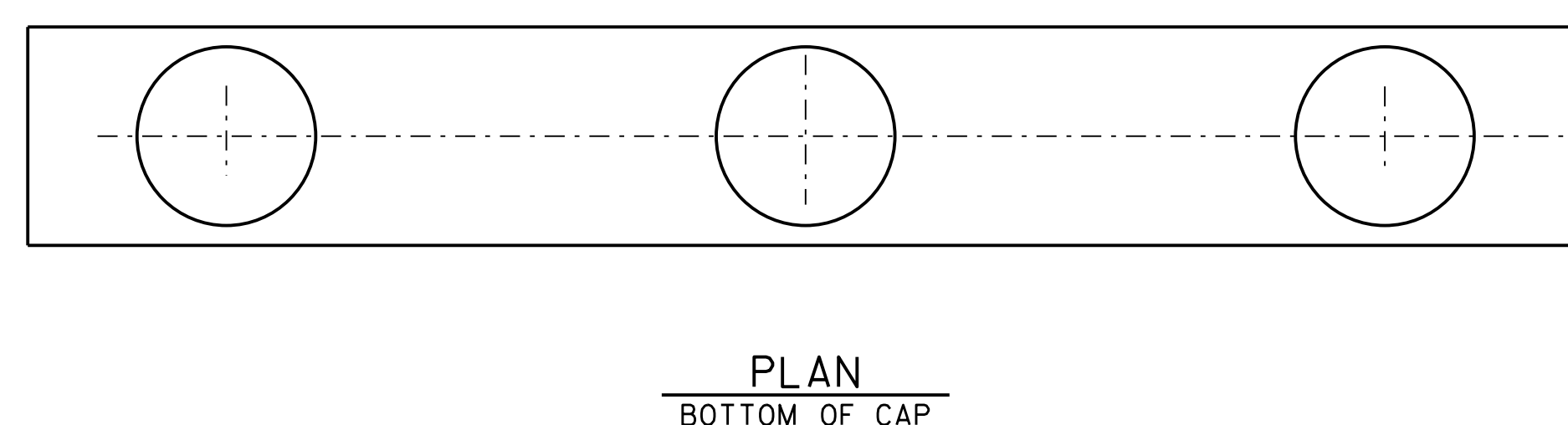
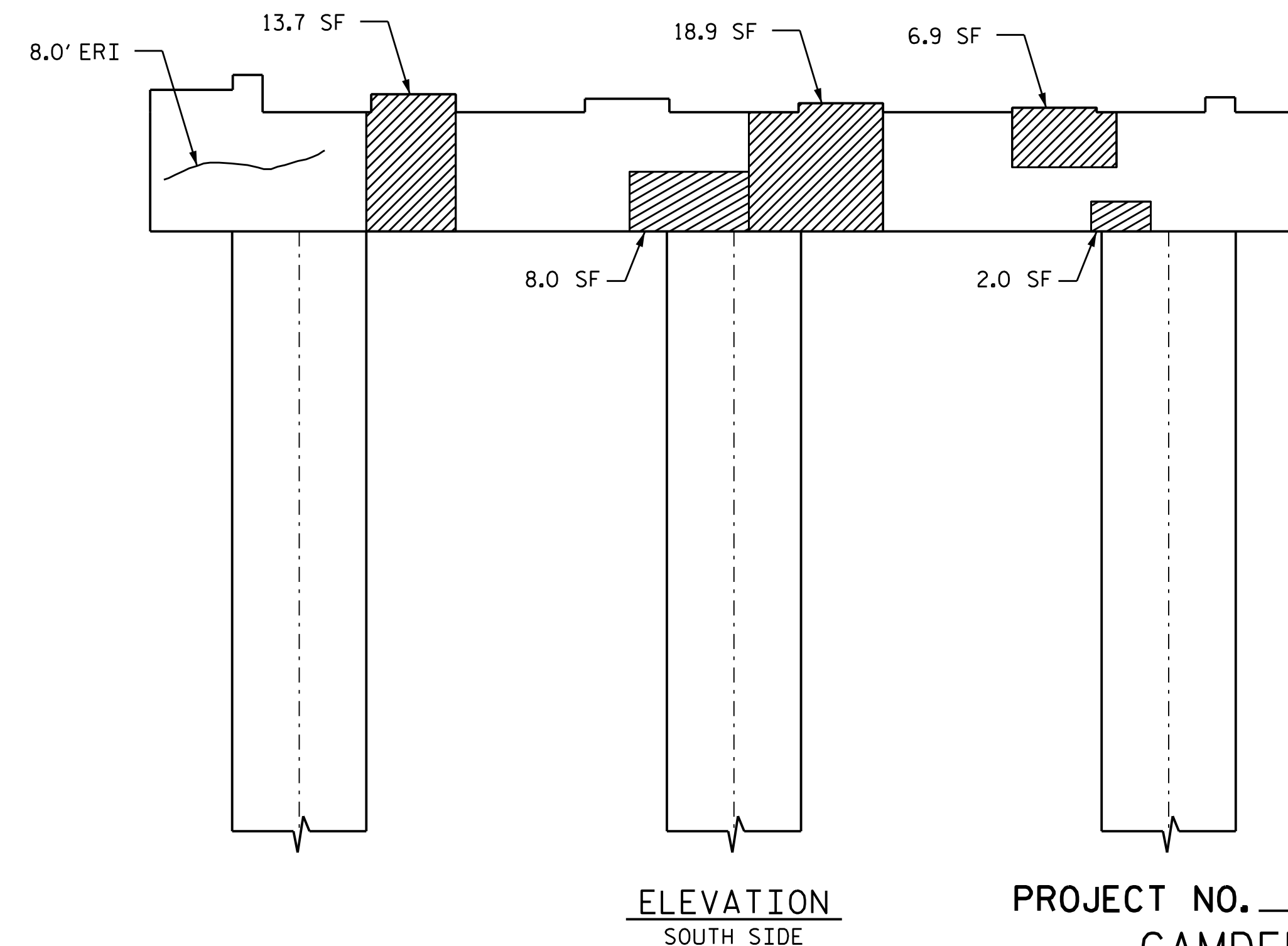
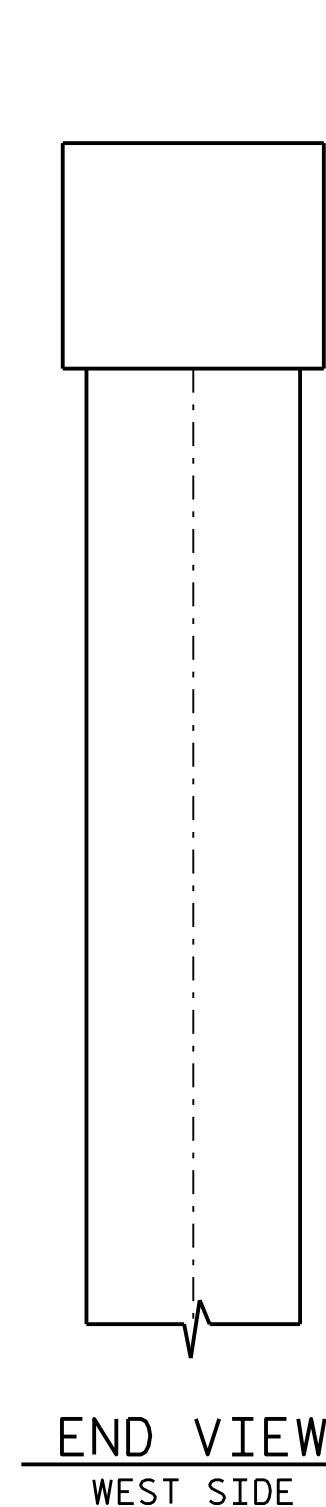
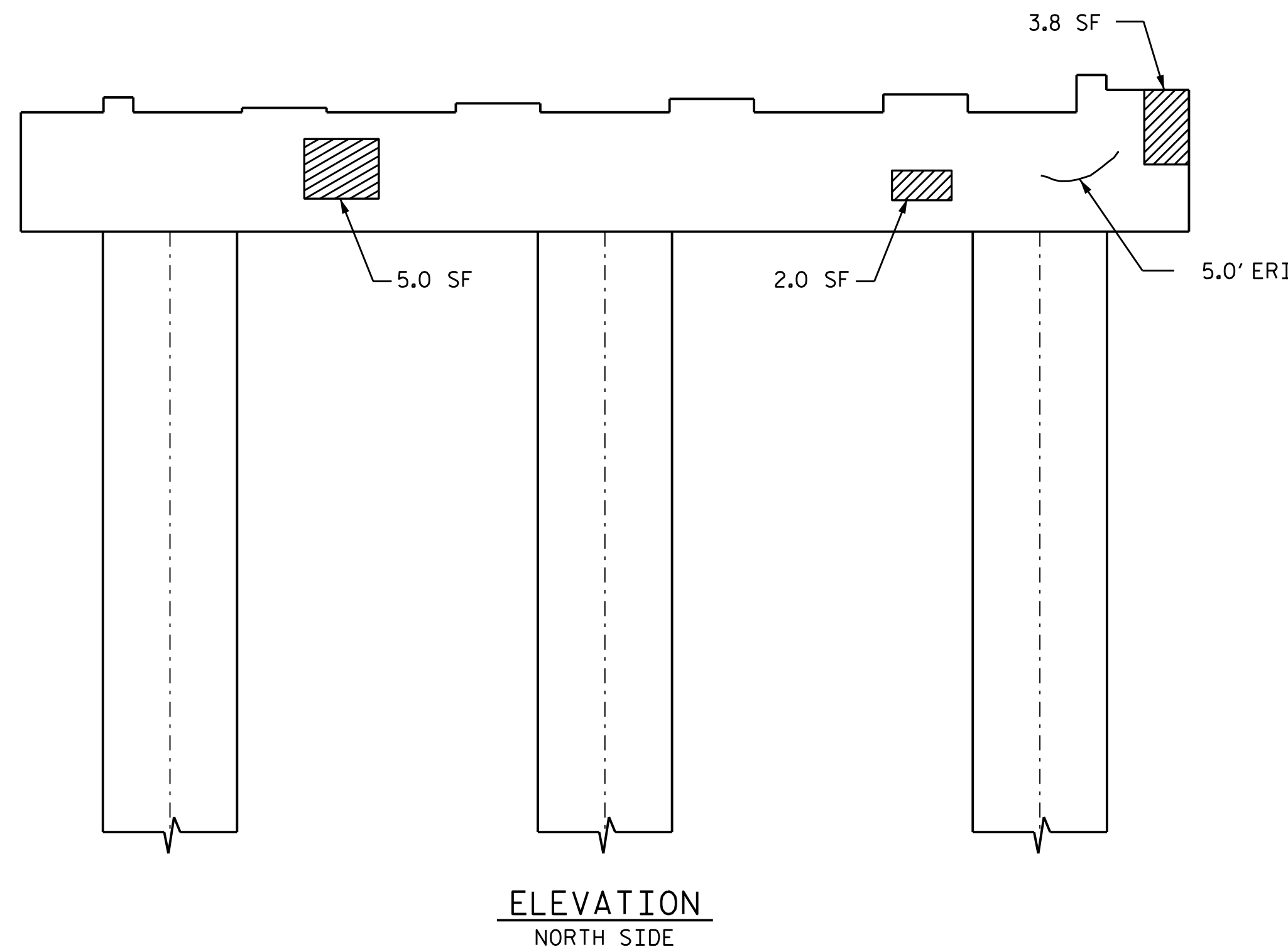
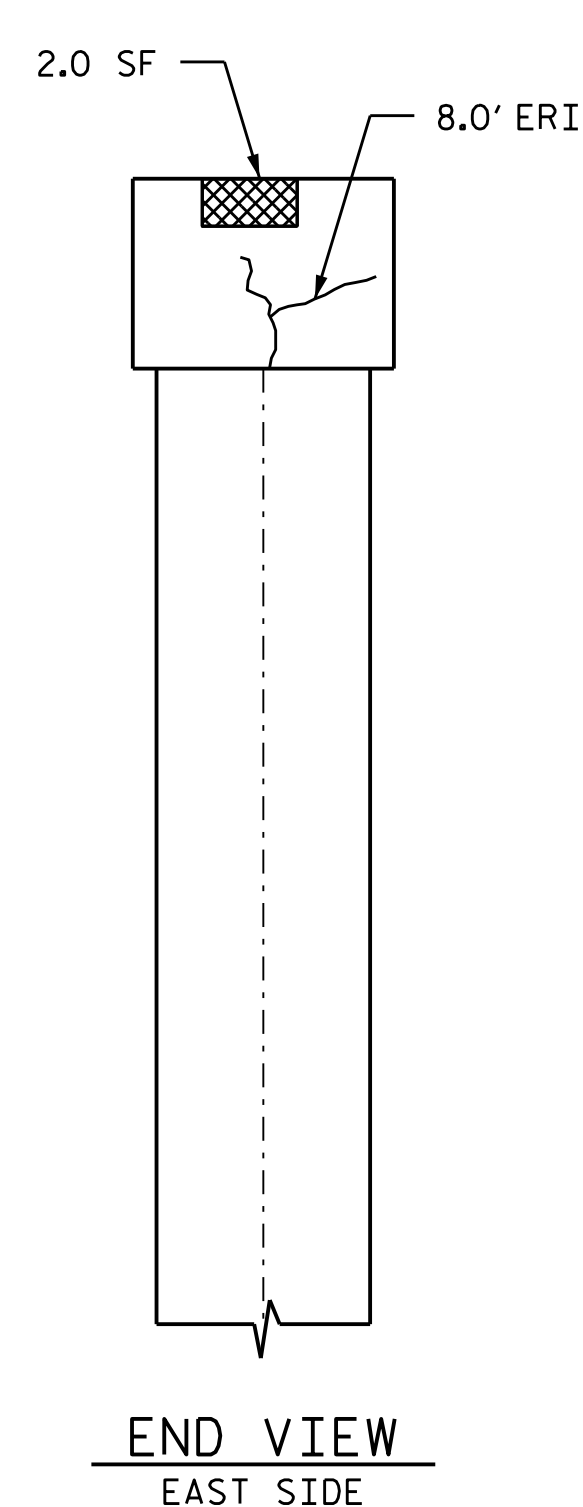
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

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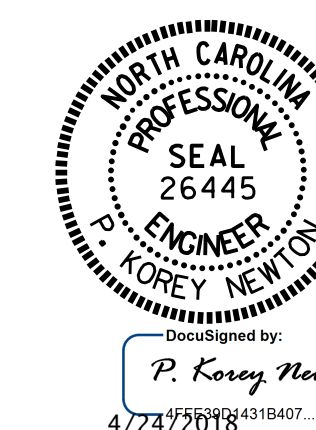
FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 18 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 62.3 | 31.2 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 21.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION

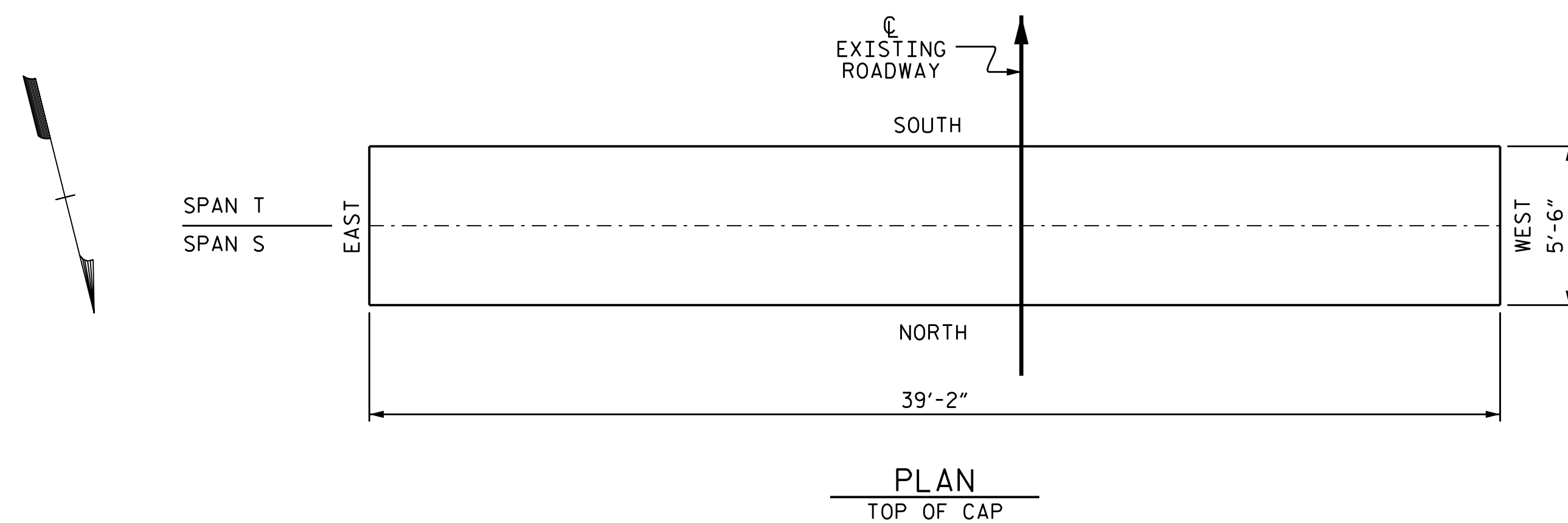


PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44
SHEET 19 OF 25

| STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH | | | | | |
|--|-----|-------|-----|-----|------------------|
| SUBSTRUCTURE BENT 18 | | | | | |
| REVISIONS | | | | | SHEET NO. |
| NO. | BY: | DATE: | NO. | BY: | DATE: |
| 1 | | | 3 | | |
| 2 | | | 4 | | |
| | | | | | S-91 |
| | | | | | TOTAL SHEETS 104 |

DRAWN BY : P. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

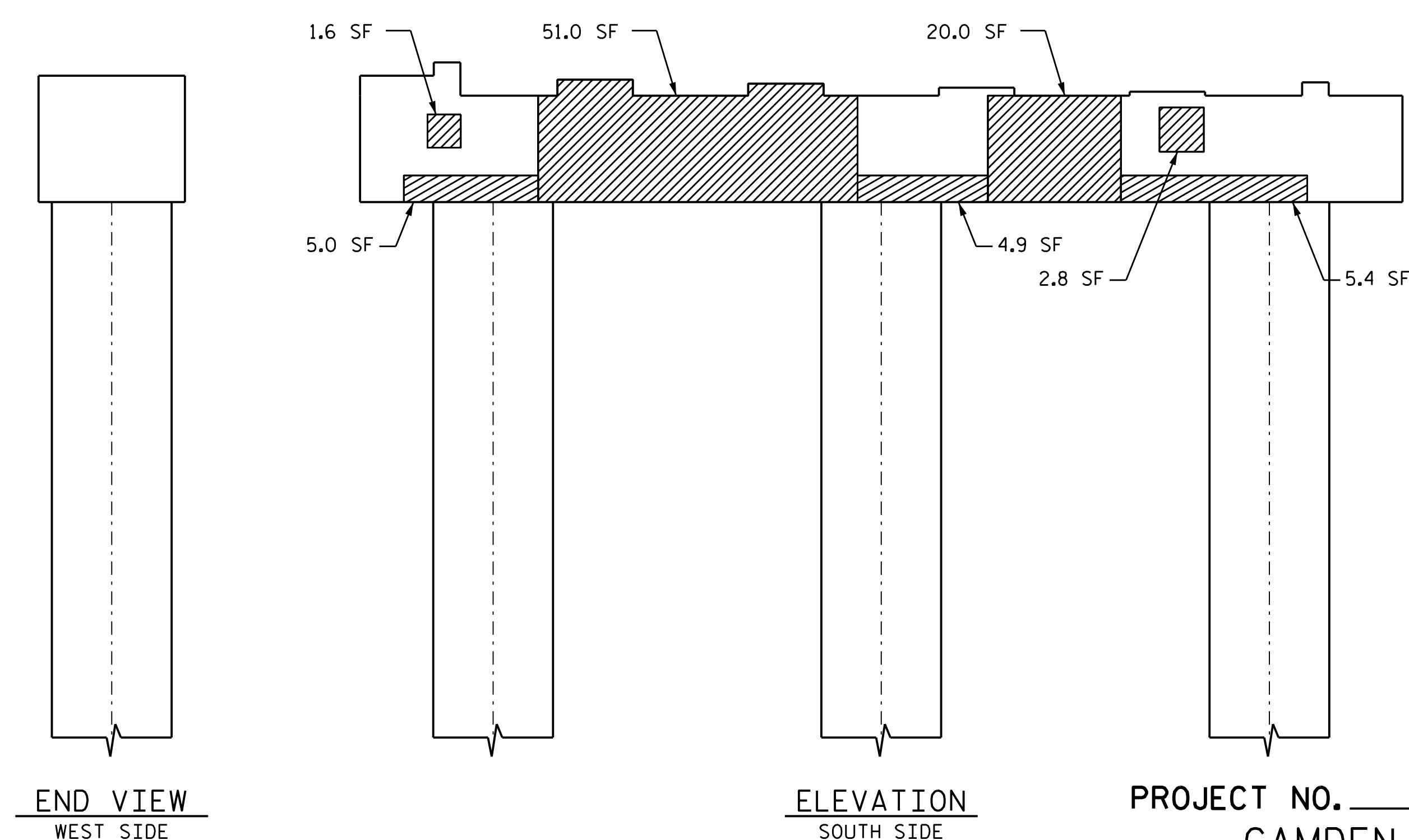
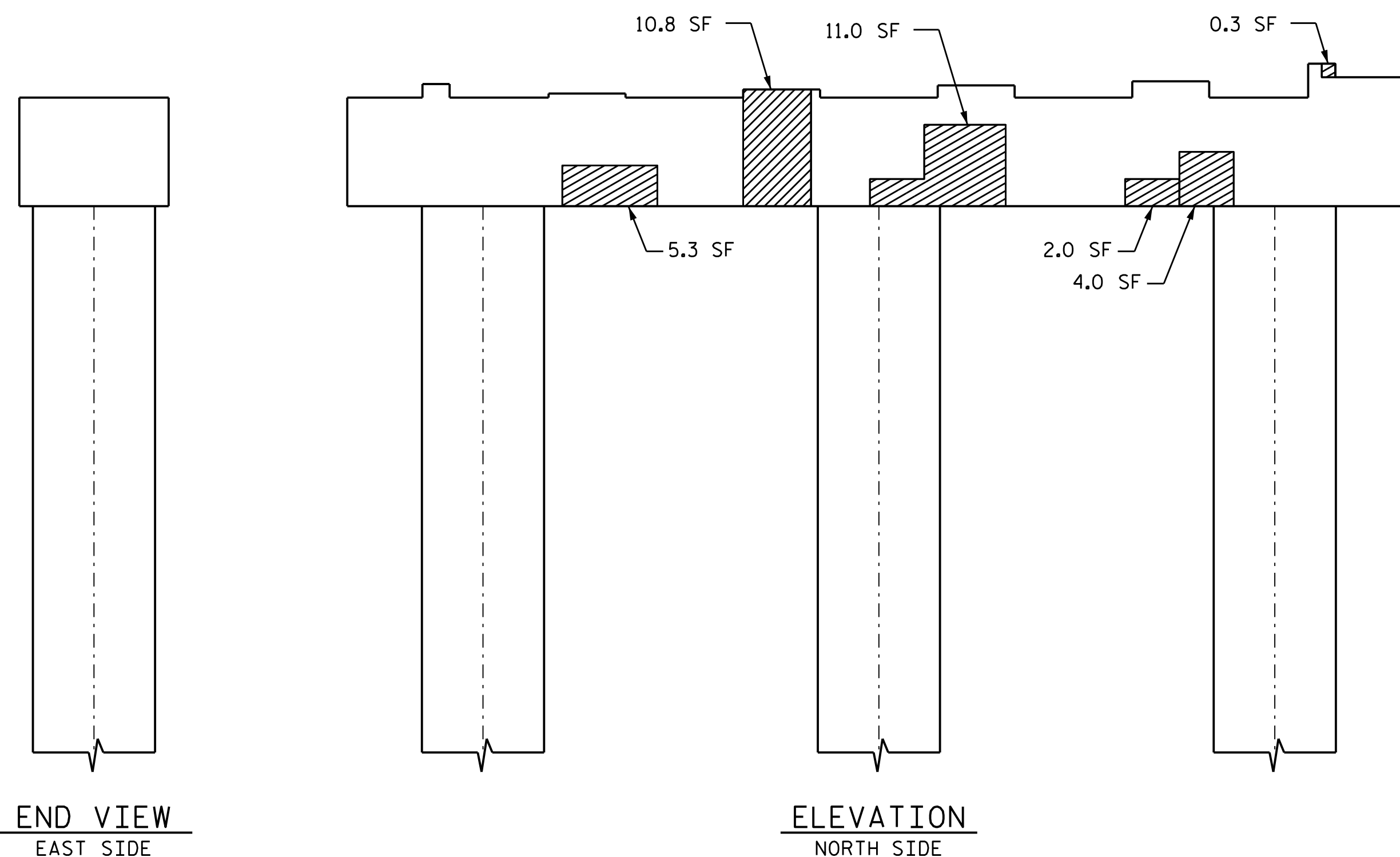
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

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FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 19 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 124.1 | 62.1 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 215.4 | | | |



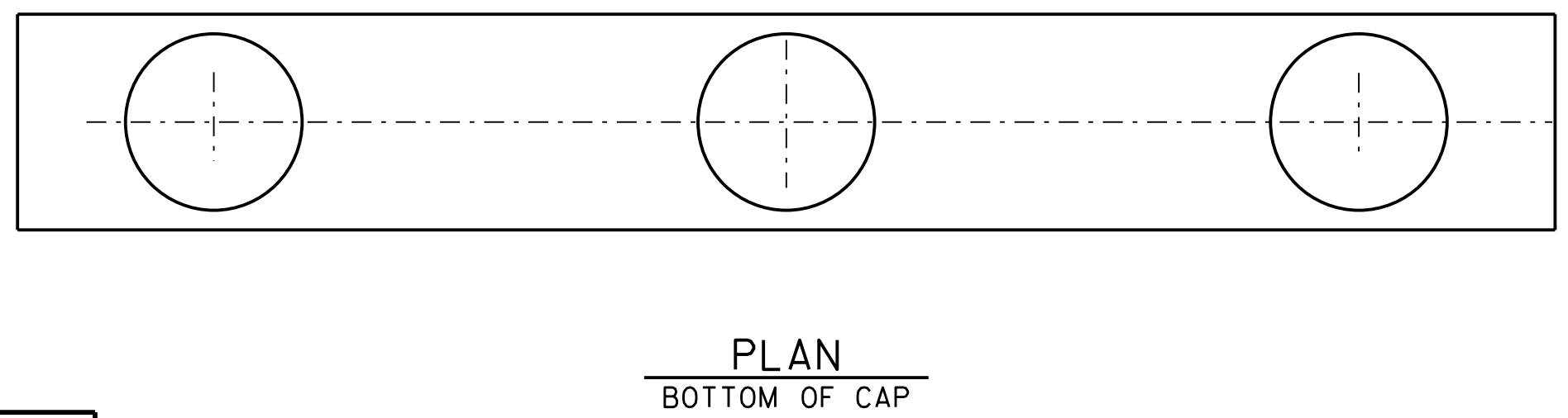
END VIEW EAST SIDE

ELEVATION NORTH SIDE

END VIEW WEST SIDE

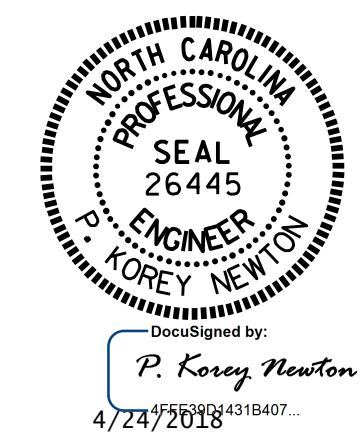
ELEVATION SOUTH SIDE

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44



PLAN BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



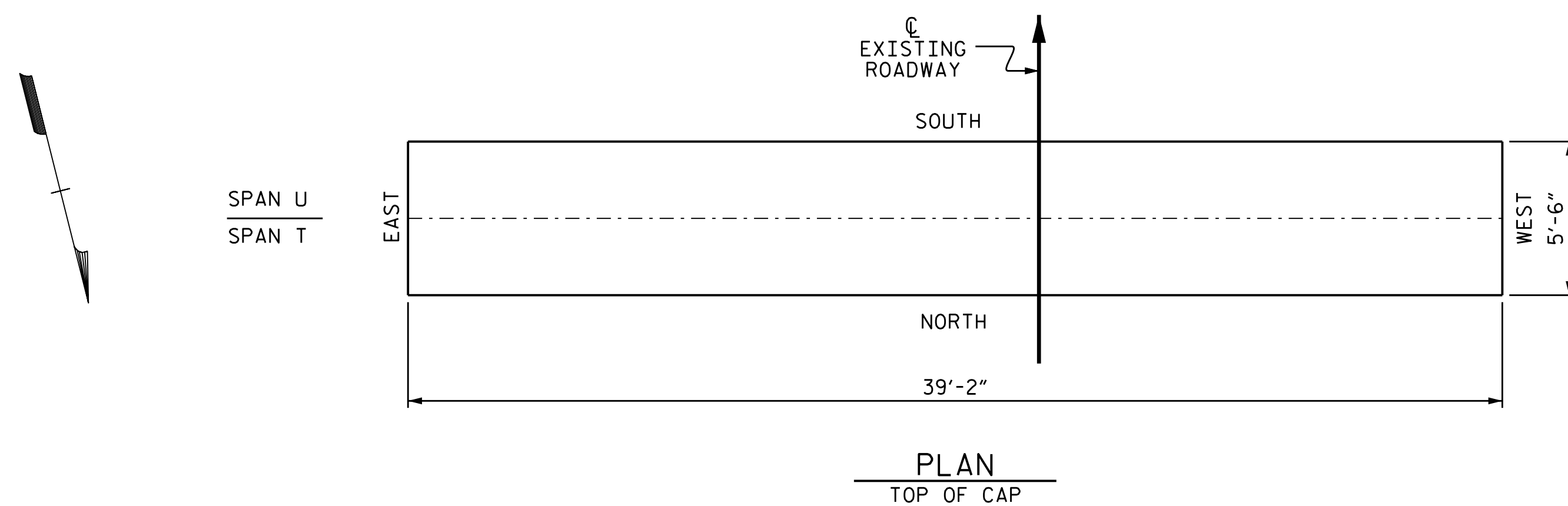
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE BENT 19

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-92 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS, WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

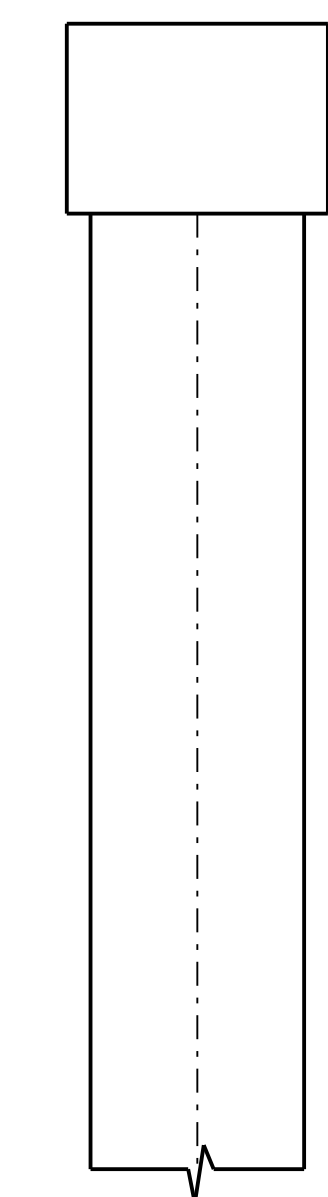
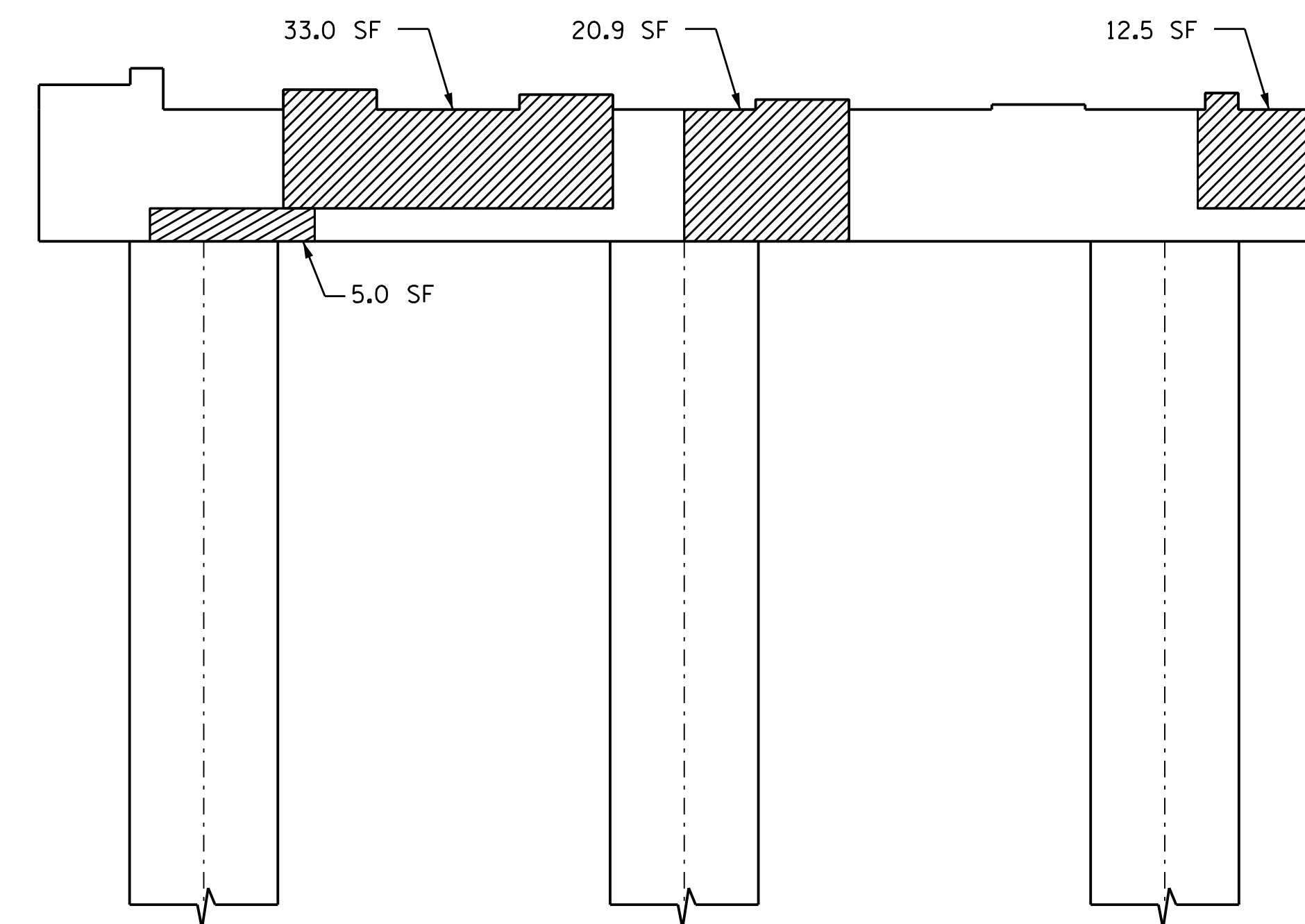
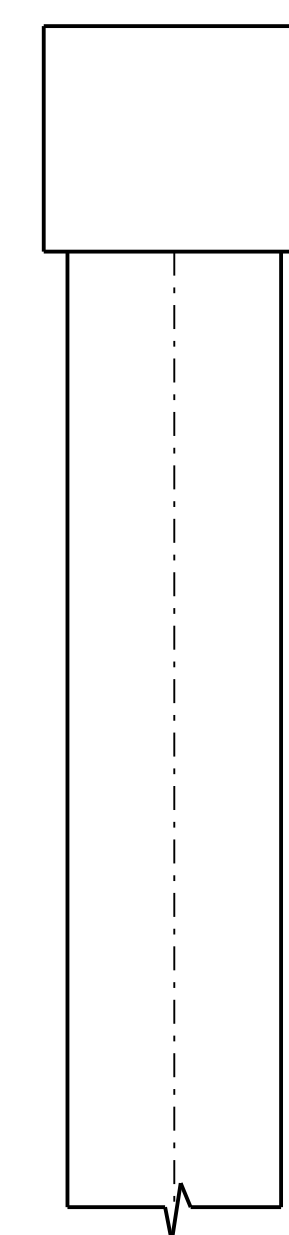
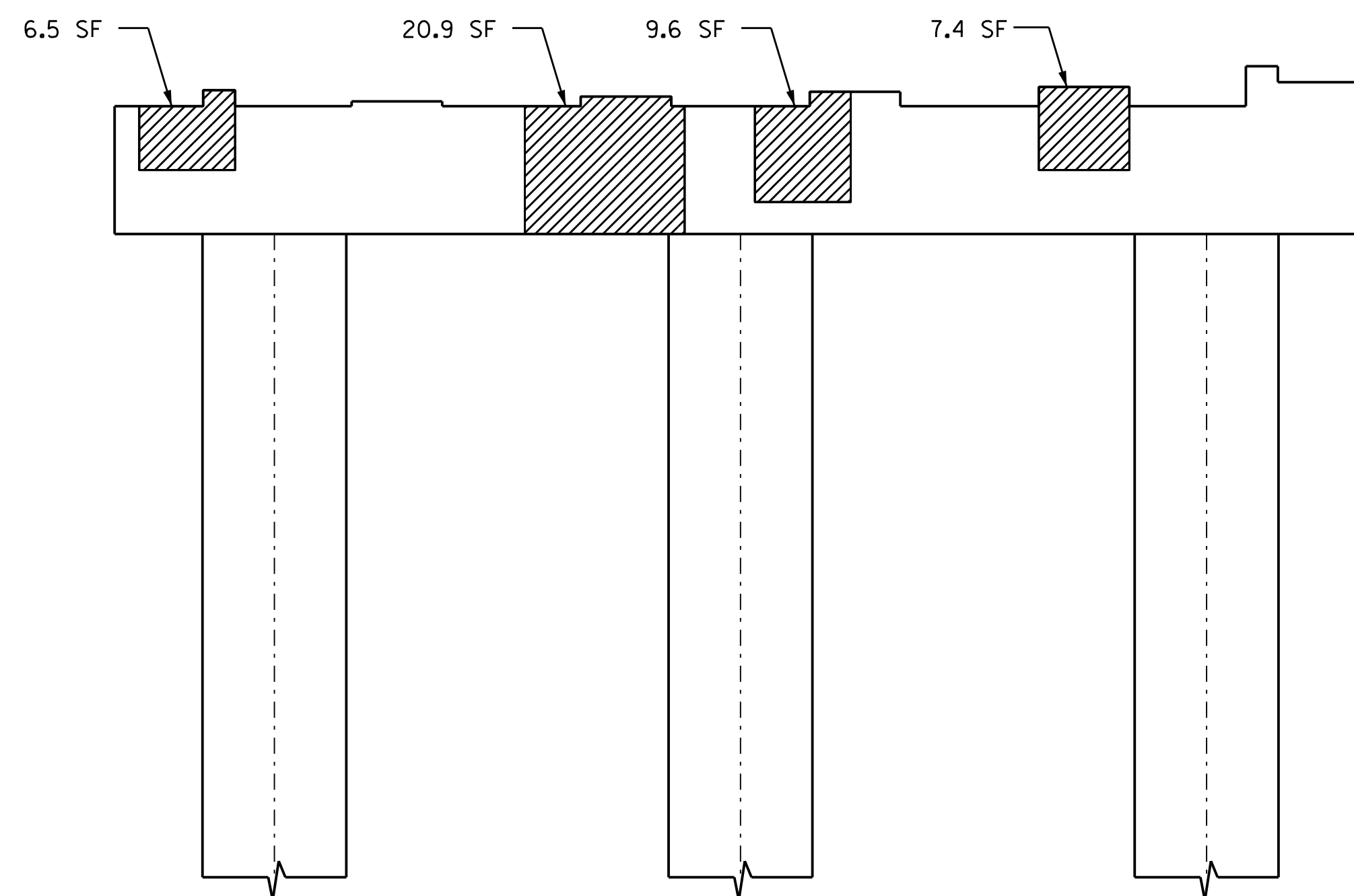
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

| BENT 20 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 115.8 | 57.9 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | | 215.4 | | |



END VIEW
EAST SIDE

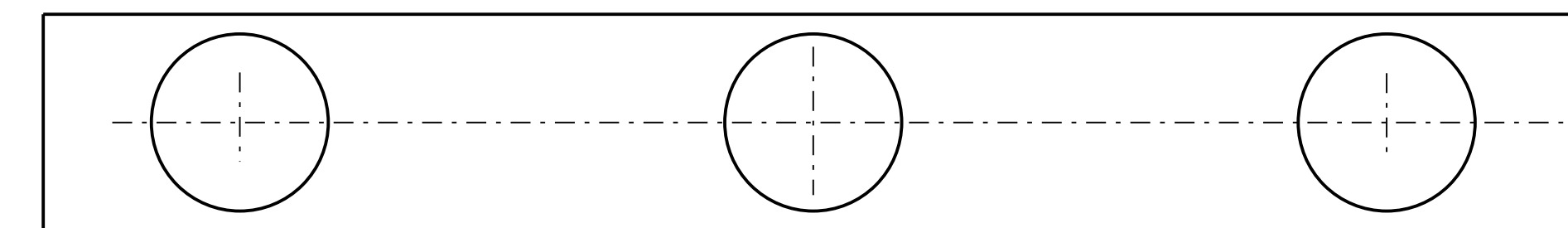
ELEVATION
NORTH SIDE

END VIEW
WEST SIDE

ELEVATION
SOUTH SIDE

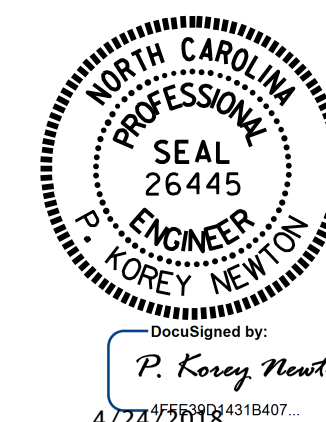
PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44

SHEET 21 OF 25



SPAN T
SPAN U

SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

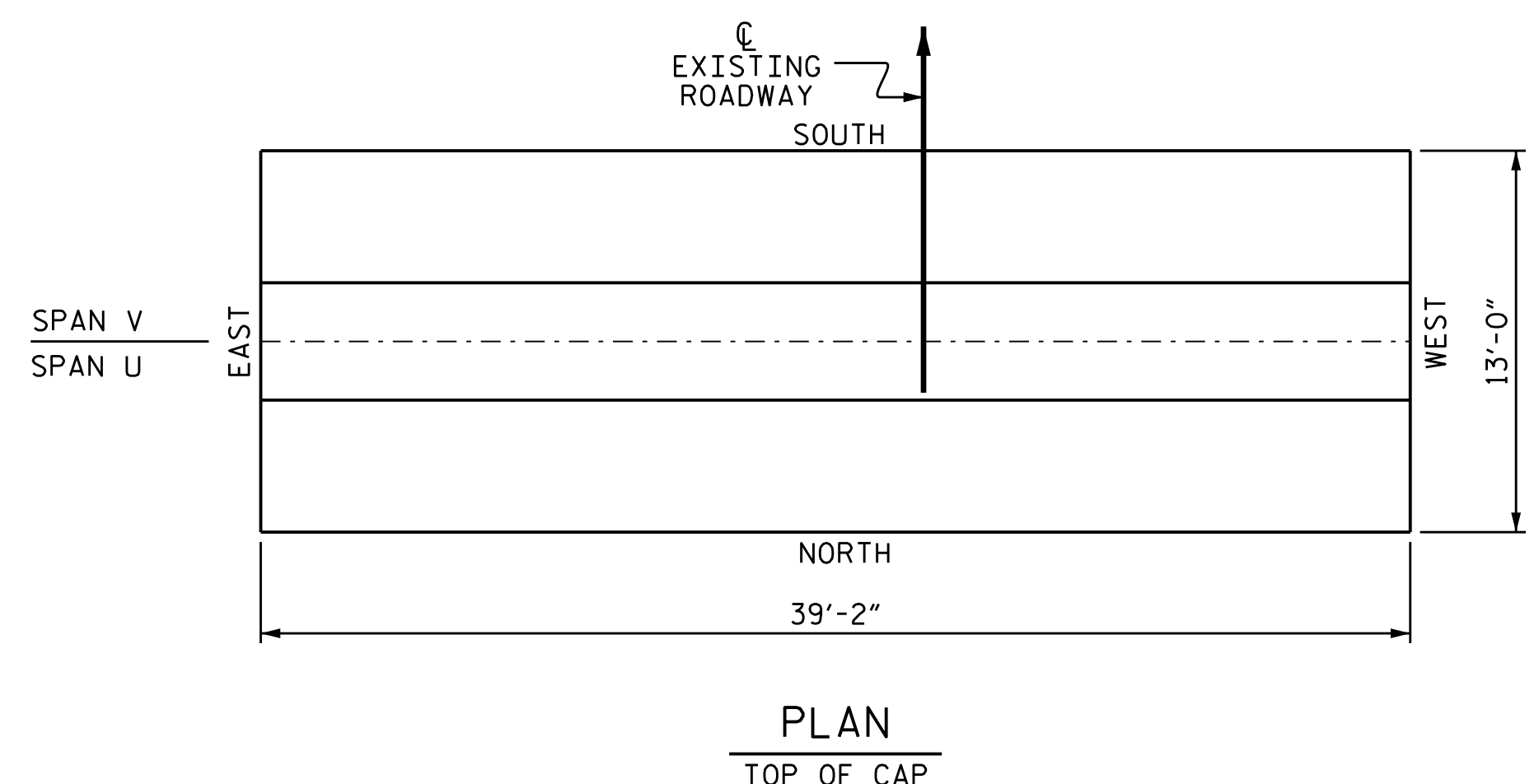
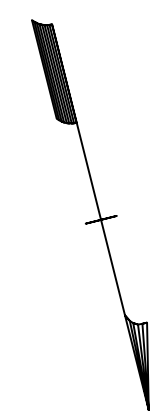
**SUBSTRUCTURE
BENT 20**

PLAN
BOTTOM OF CAP

DRAWN BY : P. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-93 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

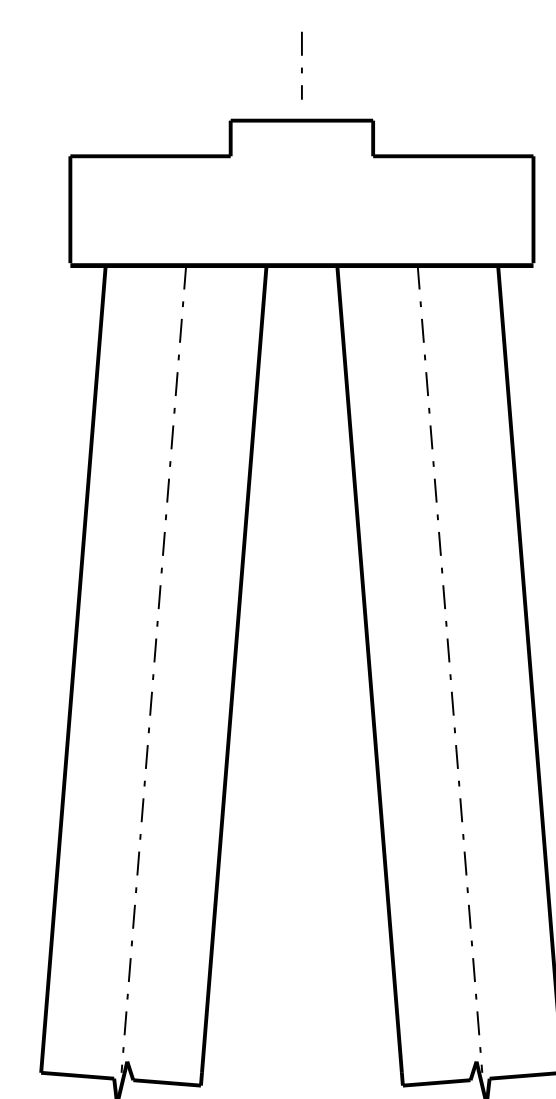
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

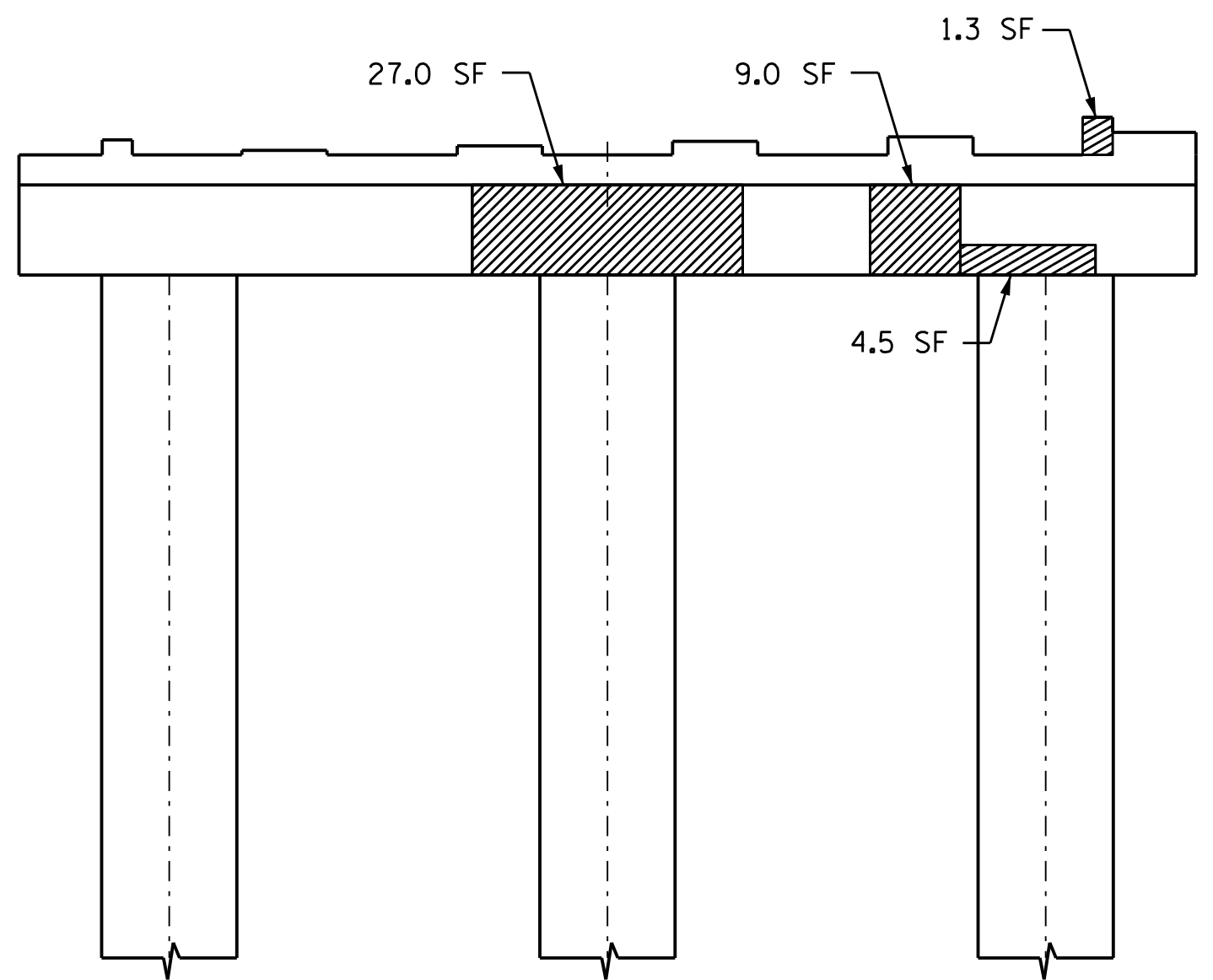
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

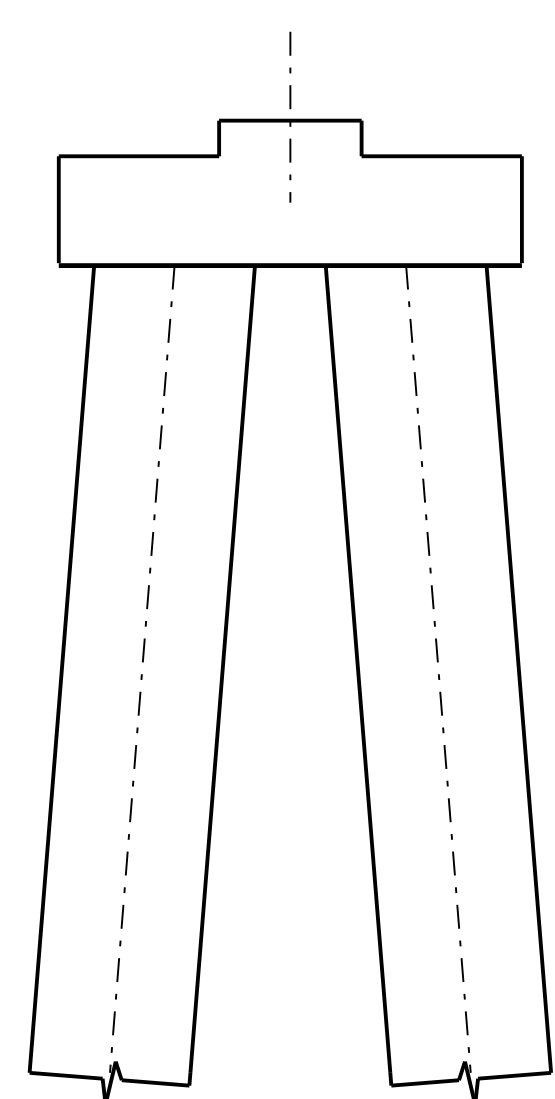
| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 21 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 92.9 | 46.5 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 509.2 | | | |



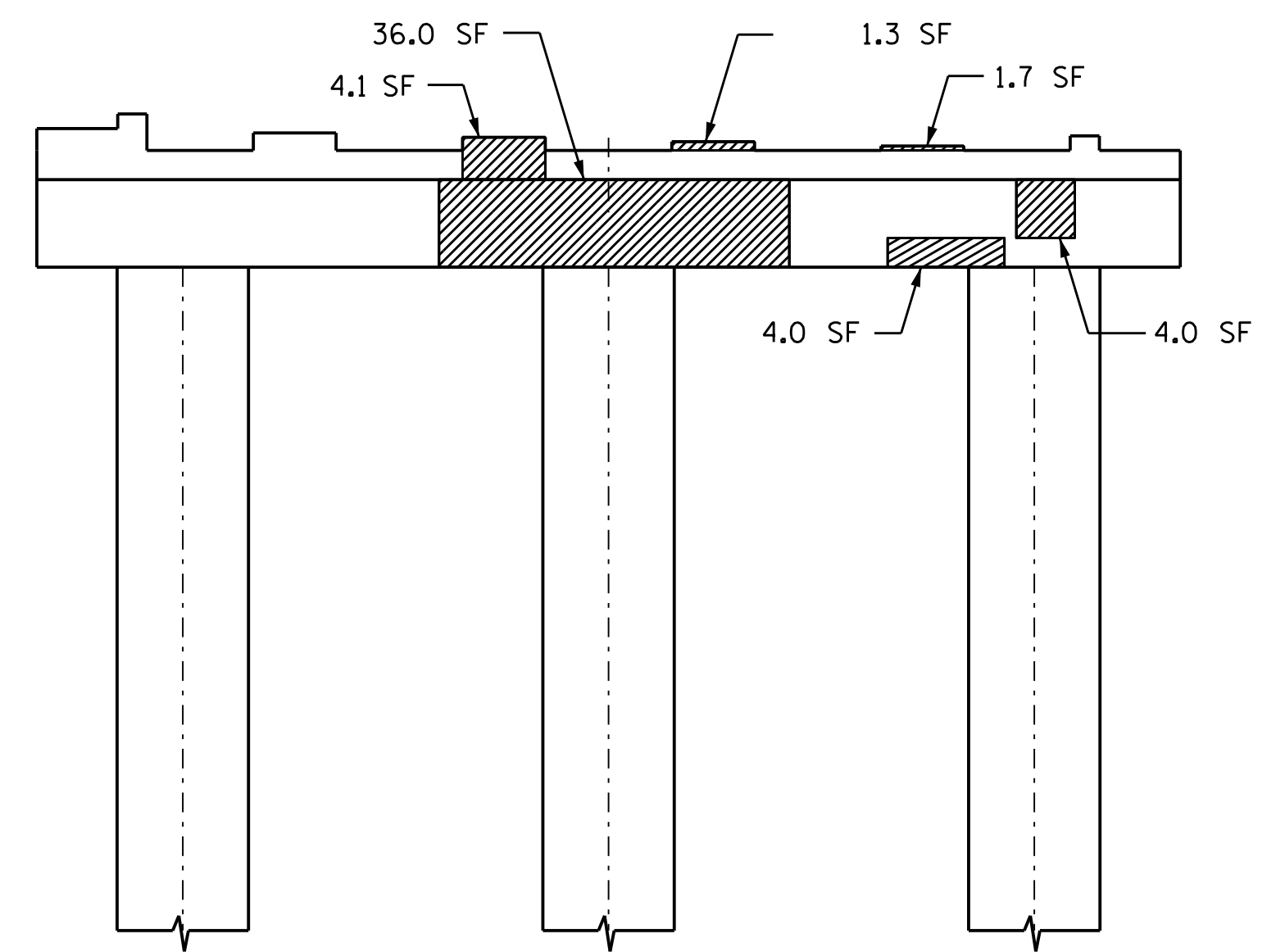
END VIEW
EAST SIDE



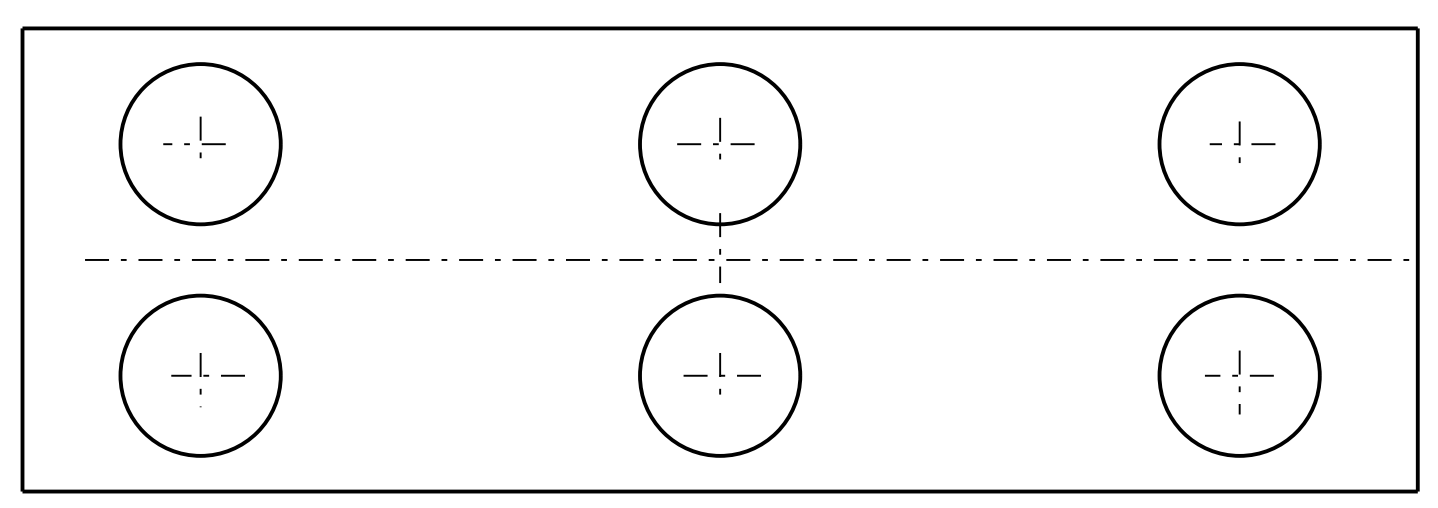
ELEVATION
NORTH SIDE



END VIEW
WEST SIDE



ELEVATION
SOUTH SIDE



PLAN
BOTTOM OF CAP

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION

PROJECT NO. 15BPR.11
CAMDEN COUNTY
STATION: 44

SHEET 22 OF 25



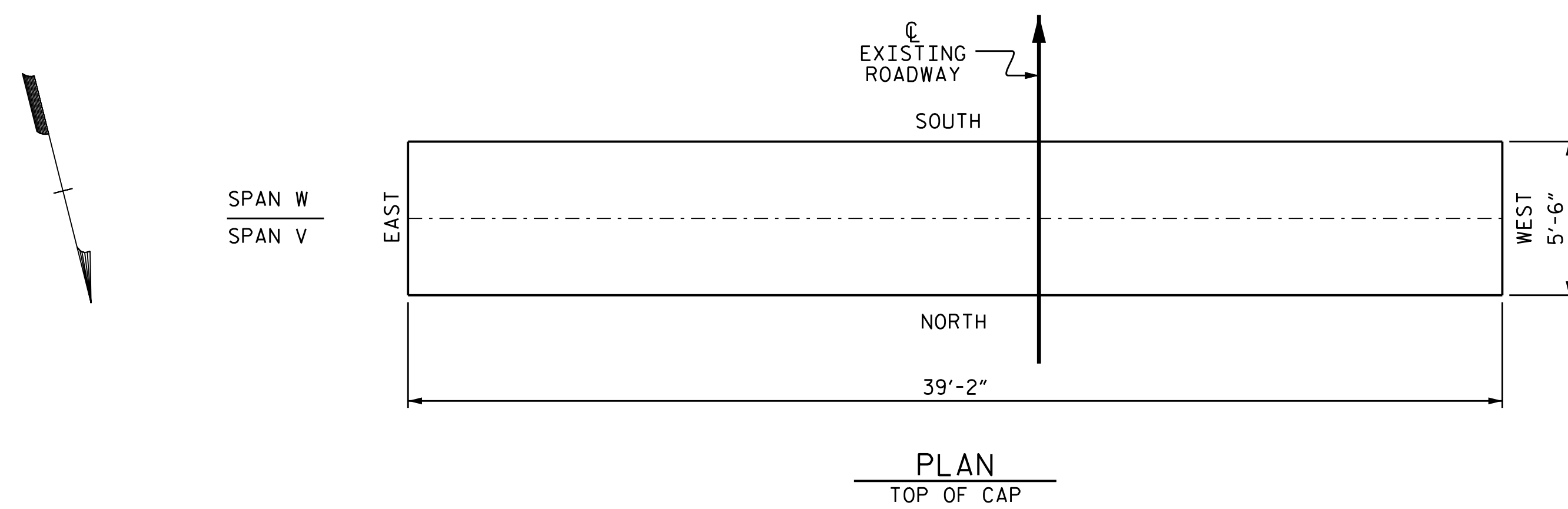
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT 21**

DRAWN BY : P.D. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 02/2018

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SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-94 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |



NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

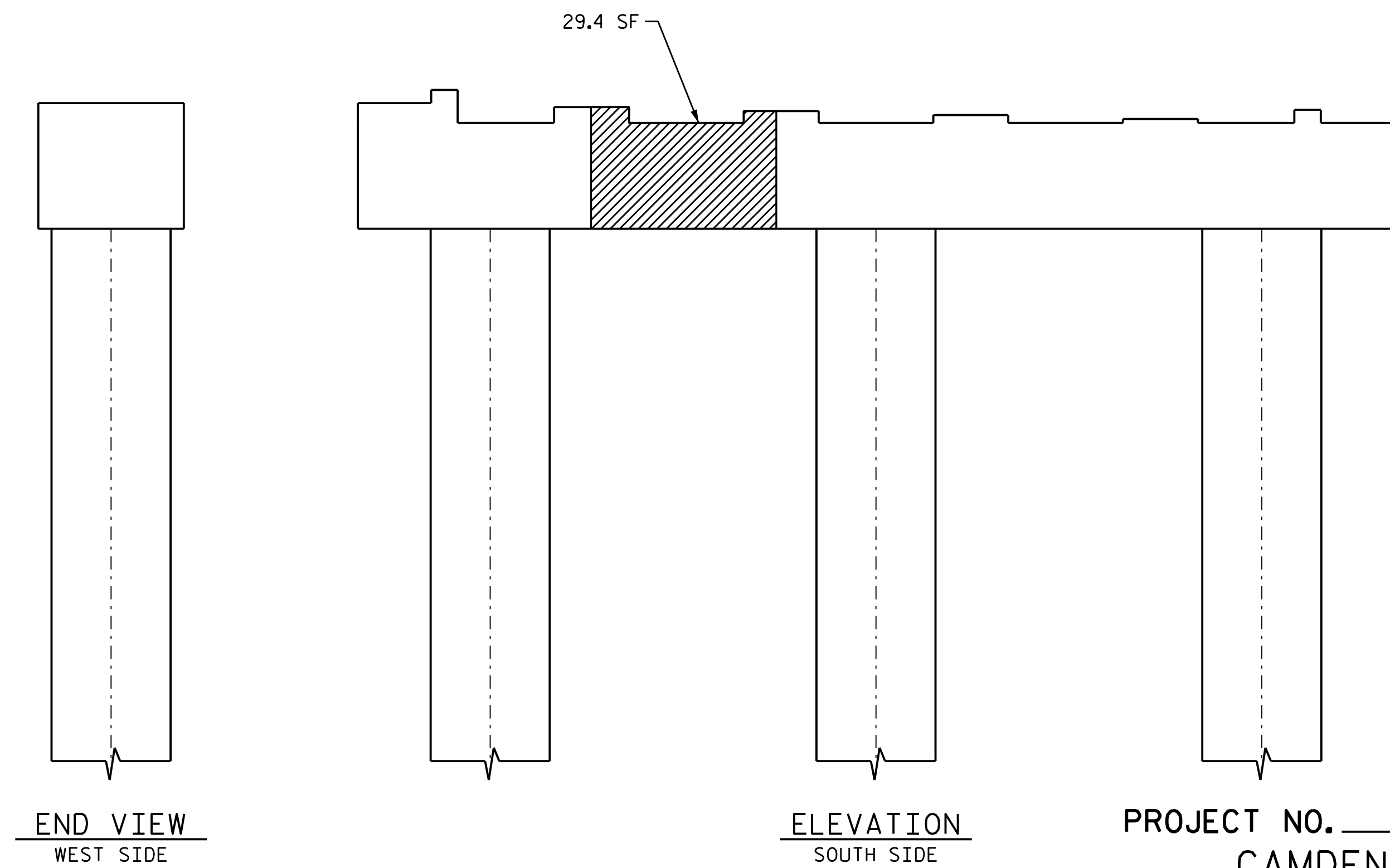
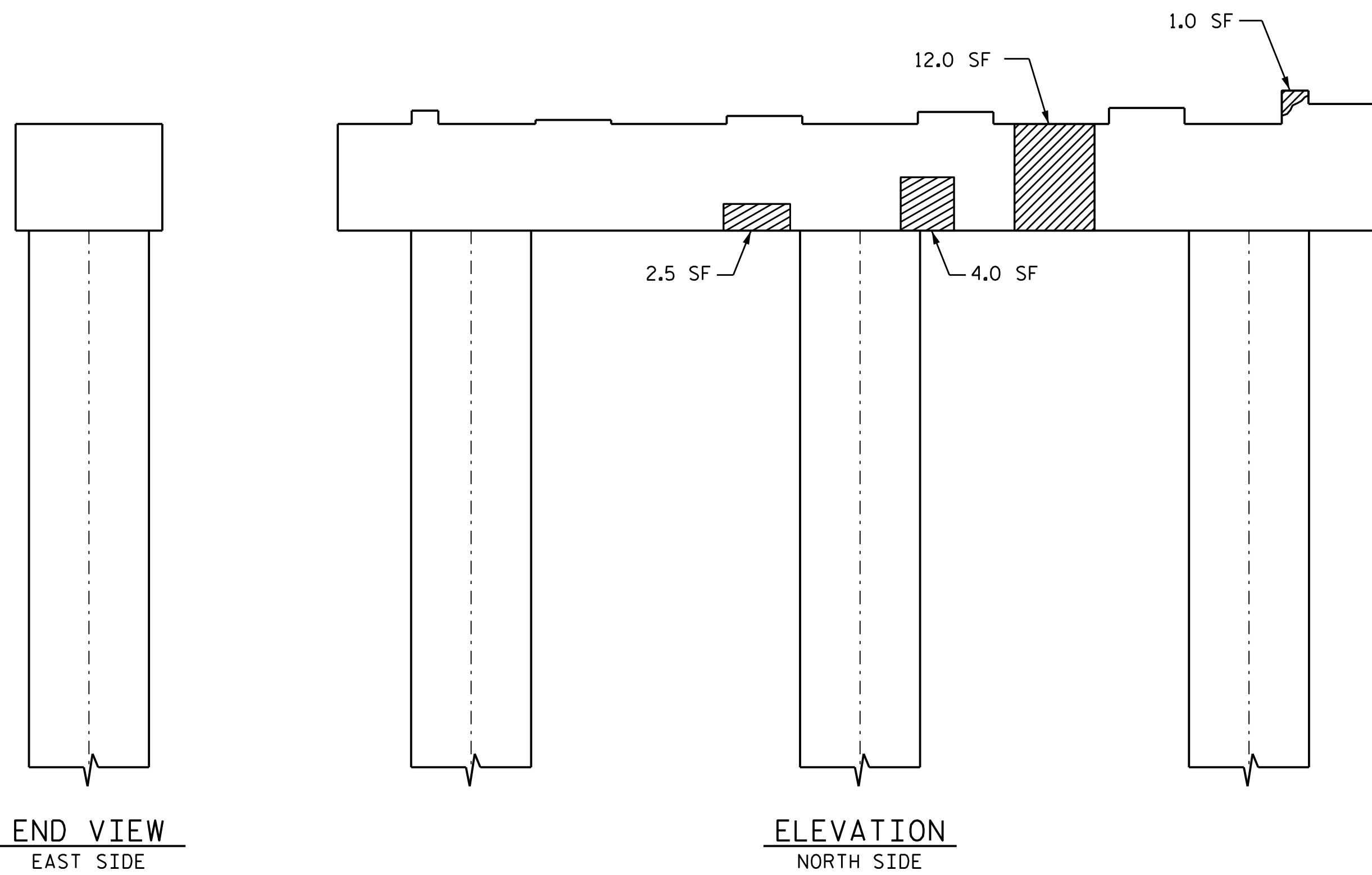
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

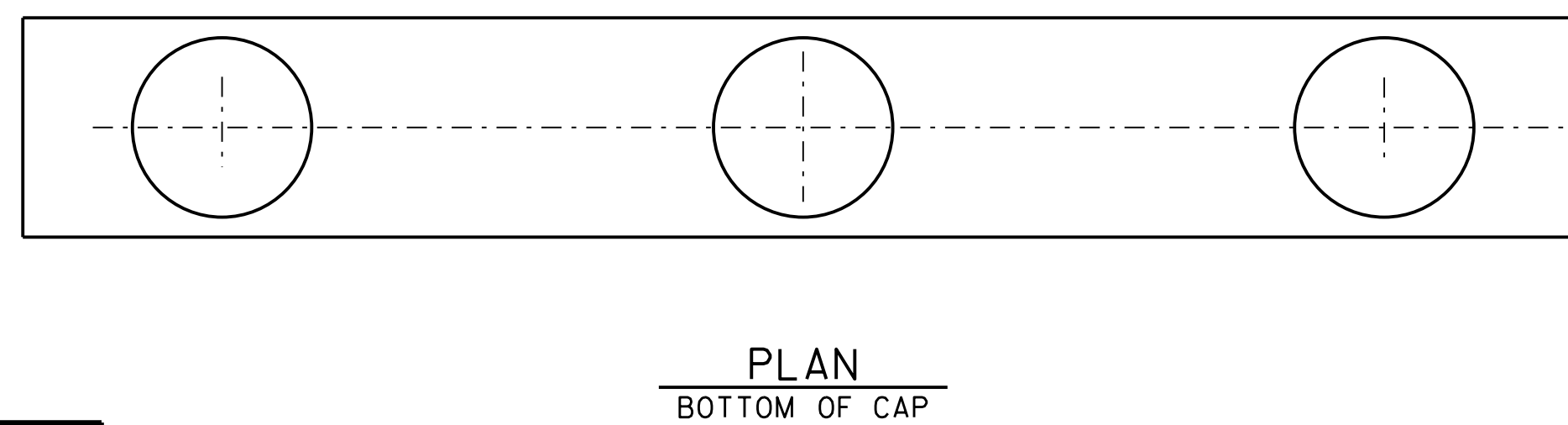
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

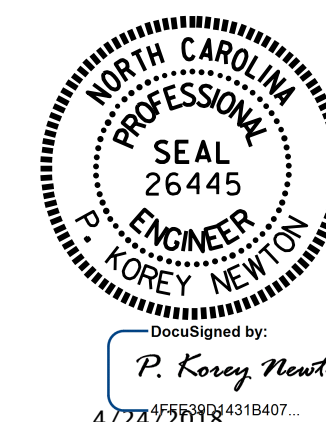
| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 22 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 49.9 | 25.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | | 215.4 | | |



PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 23 OF 25



SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



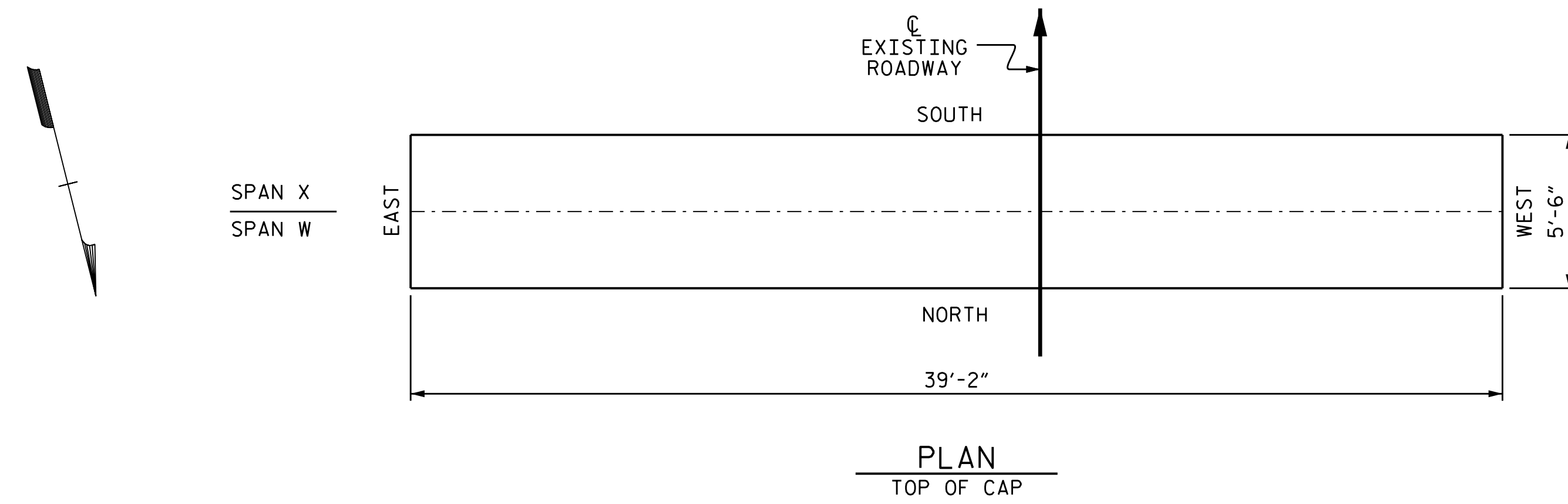
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE BENT 22

DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-95 |
| 1 | | | 3 | | | TOTAL SHEETS 104 |
| 2 | | | 4 | | | |



NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

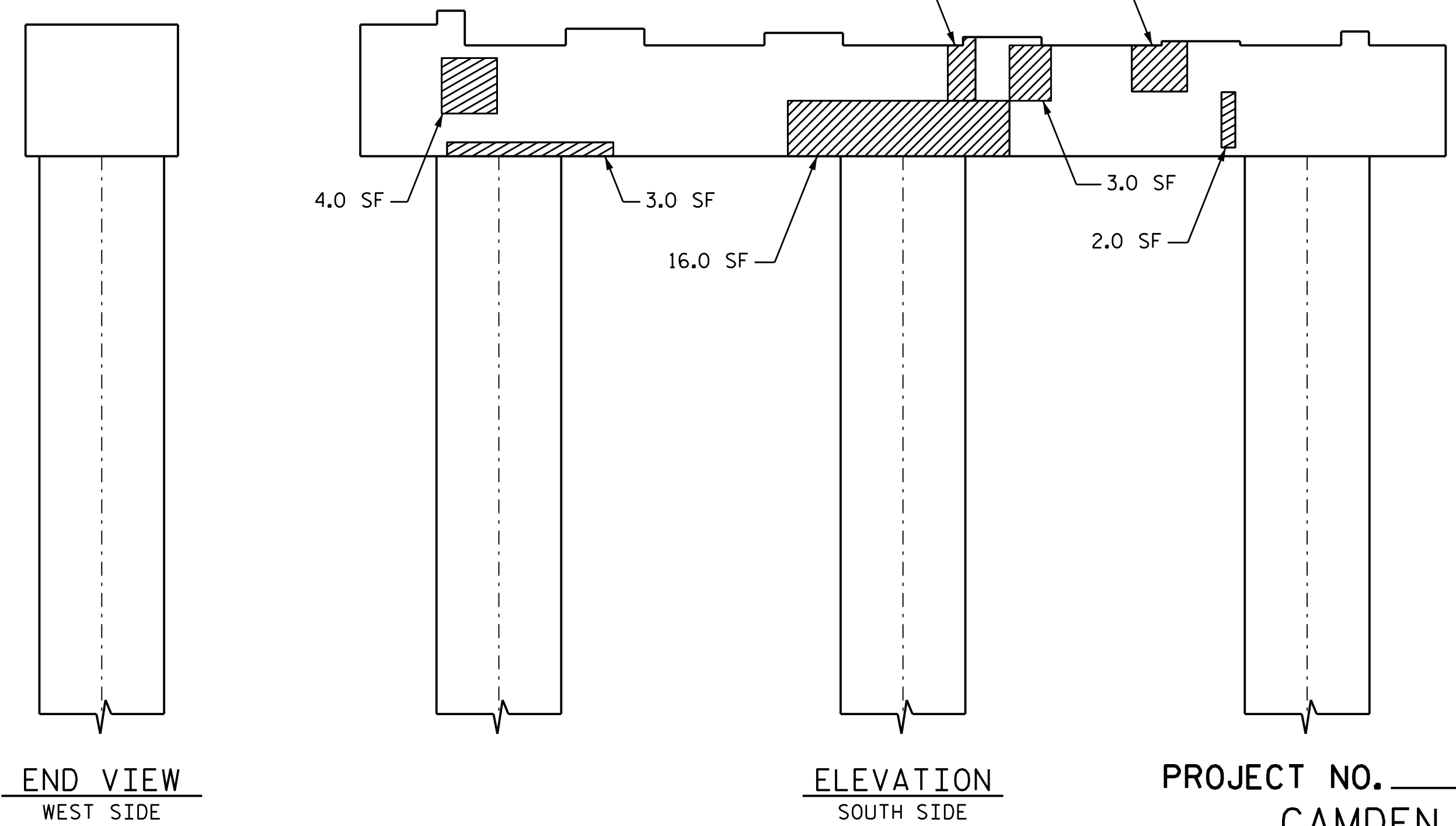
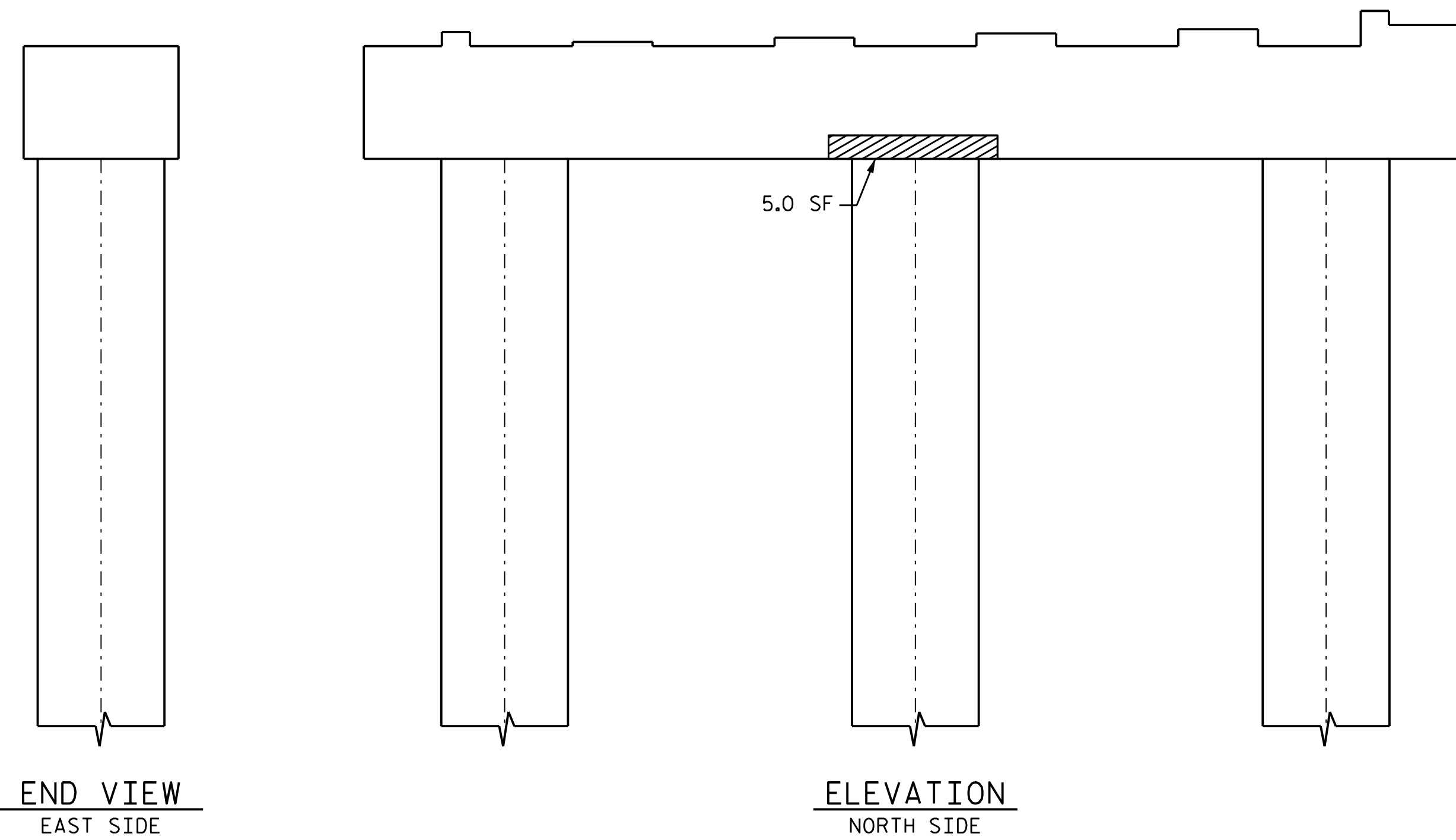
FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

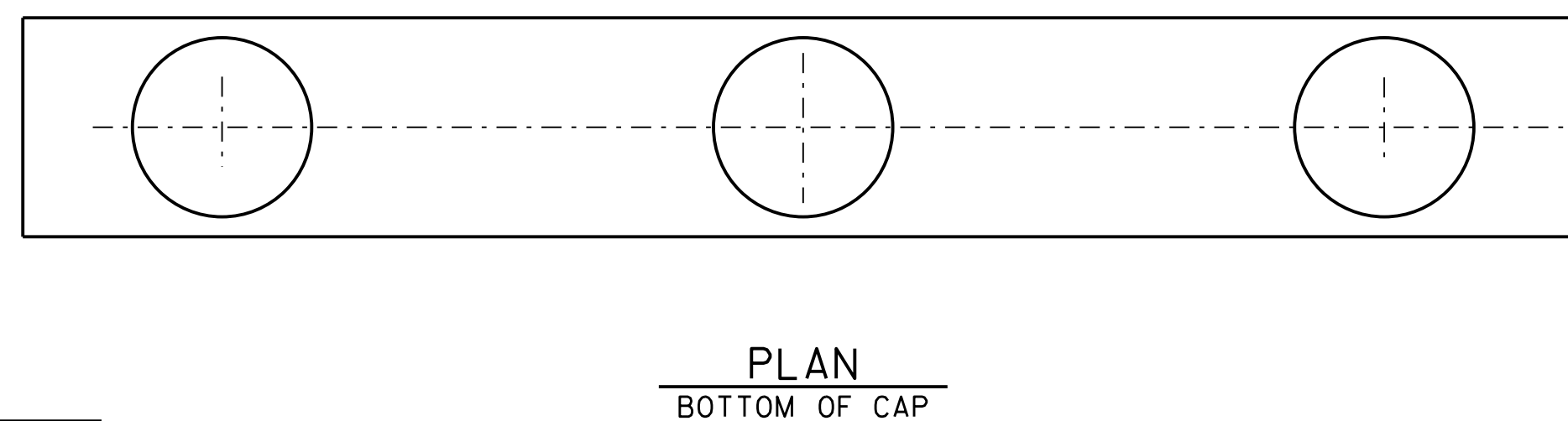
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

| REPAIR QUANTITY TABLE | | | | |
|-----------------------|------------|-----------|-----------|-----------|
| BENT 23 | QUANTITIES | | | |
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 33.0 | 16.5 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | | LN. FT | | LN. FT |
| CAP | | 0.0 | | |
| COLUMN | | 0.0 | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | | 215.4 | | |

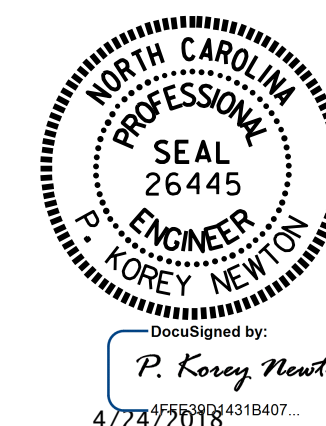


PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 44
 SHEET 24 OF 25



SPAN W
 SPAN X

SHOTCRETE REPAIRS
 ERI EPOXY RESIN INJECTION



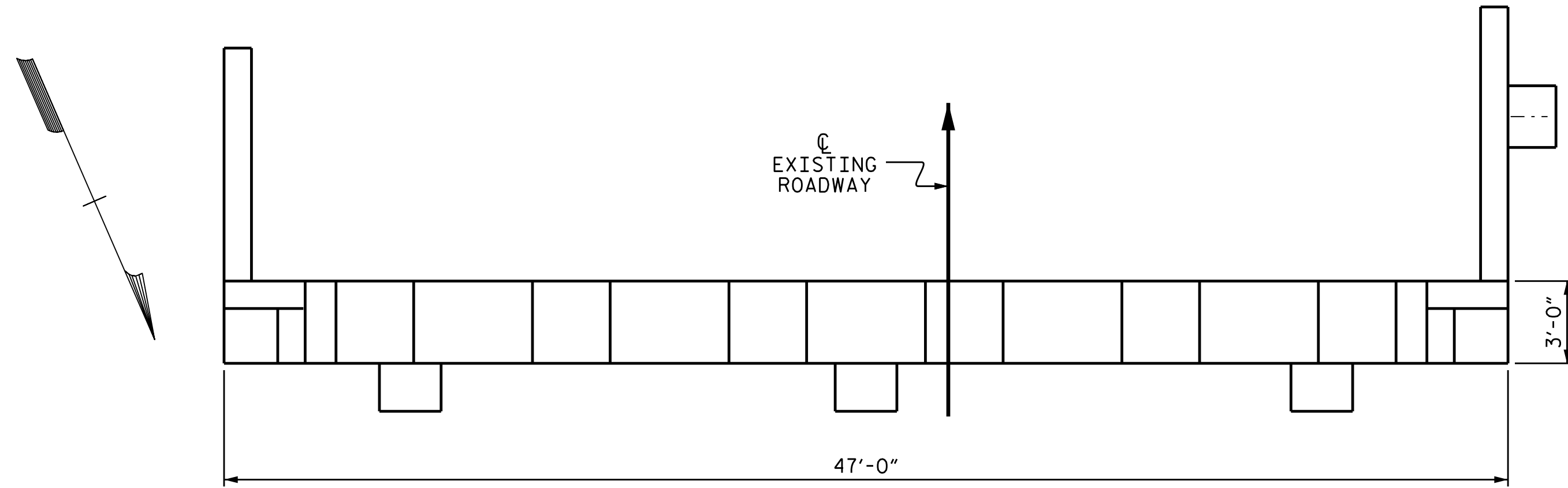
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE BENT 23

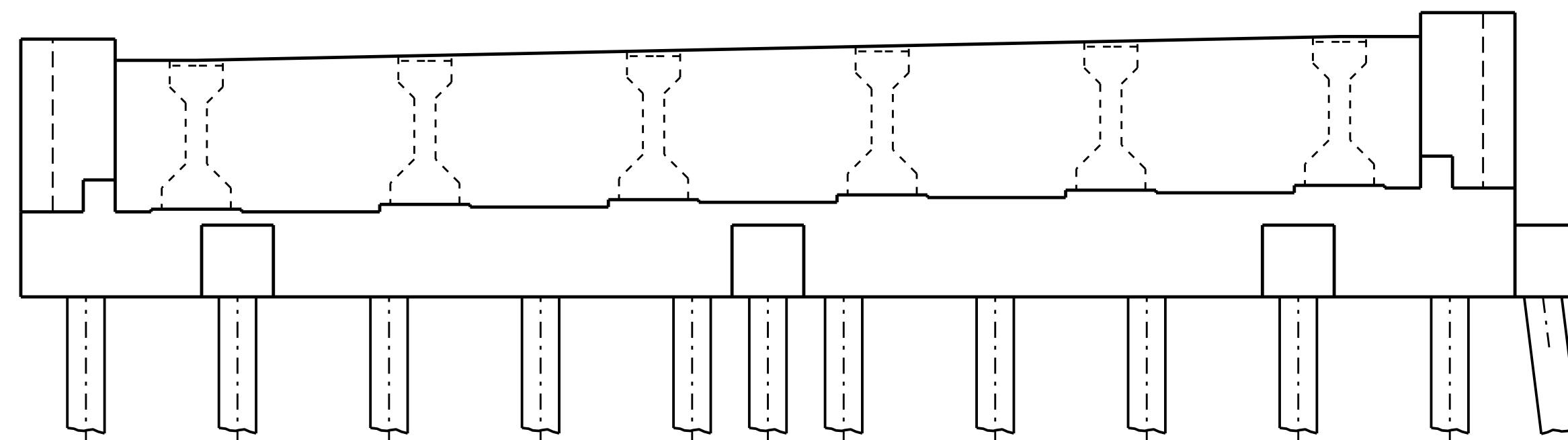
DRAWN BY : P. BRYANT DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

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| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-96 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 104 |

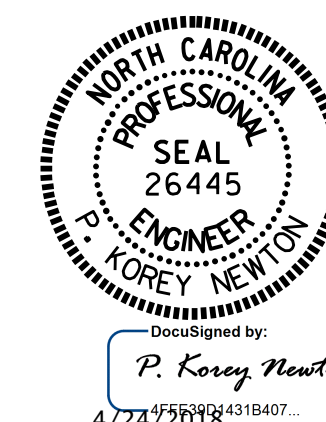


PLAN OF CAP
TOP OF CAP



ELEVATION
NORTH SIDE

▨ SHOTCRETE REPAIRS
ERI EPOXY RESIN INJECTION



DocuSigned by:
P. Corey Newton
4/24/2018 4:43:18 AM

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE END BENT 2

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 44

SHEET 25 OF 25

| END BENT 2 | QUANTITIES | | | |
|-----------------------|------------|-----------|-----------|-----------|
| | ESTIMATE | | ACTUAL | |
| SHOTCRETE REPAIRS | AREA S.F. | VOLUME CF | AREA S.F. | VOLUME CF |
| CAP (VERTICAL FACE) | 0.0 | 0.0 | | |
| CAP (HORIZONTAL FACE) | 0.0 | 0.0 | | |
| COLUMN | 0.0 | 0.0 | | |
| CONCRETE REPAIR | 0.0 | 0.0 | | |
| EPOXY RESIN INJECTION | LN. FT | | LN. FT | |
| CAP | 0.0 | | | |
| COLUMN | 0.0 | | | |
| EPOXY COATING | AREA S.F. | | AREA S.F. | |
| TOP OF CAP | 141.0 | | | |

NOTES:

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FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET S-101.

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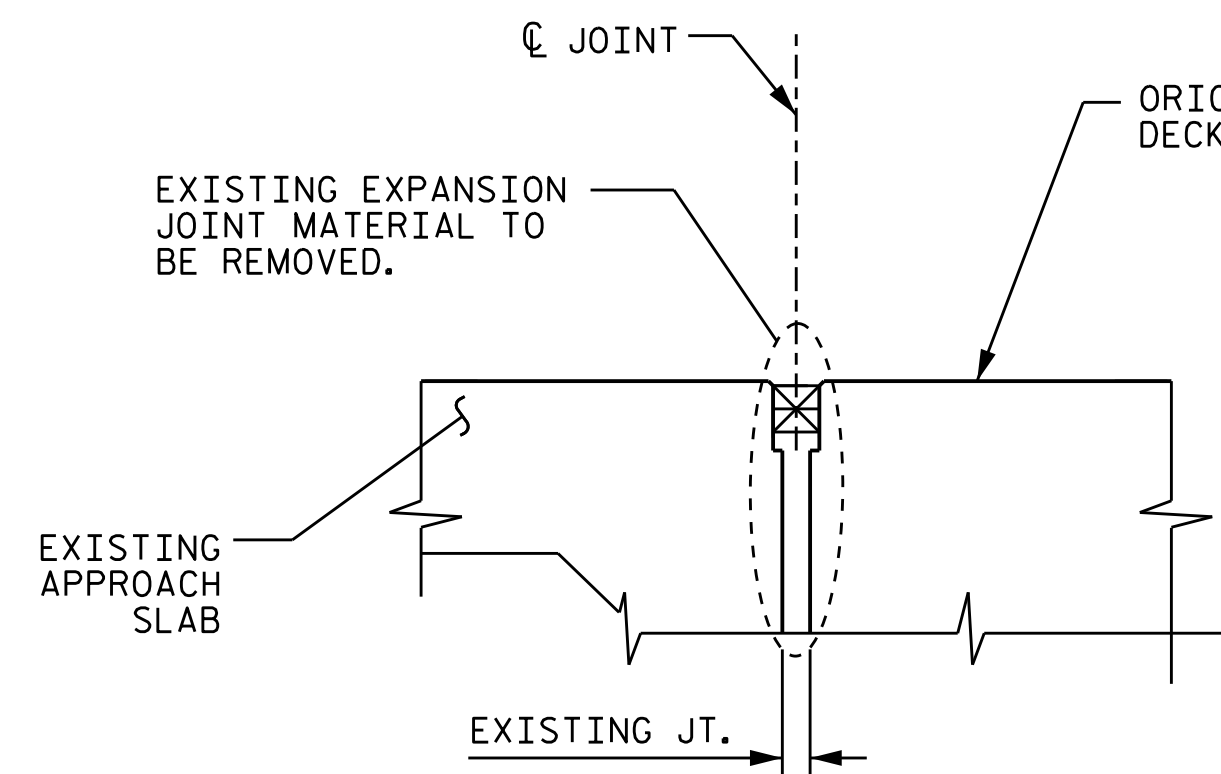
LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONTAL FACES)"

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

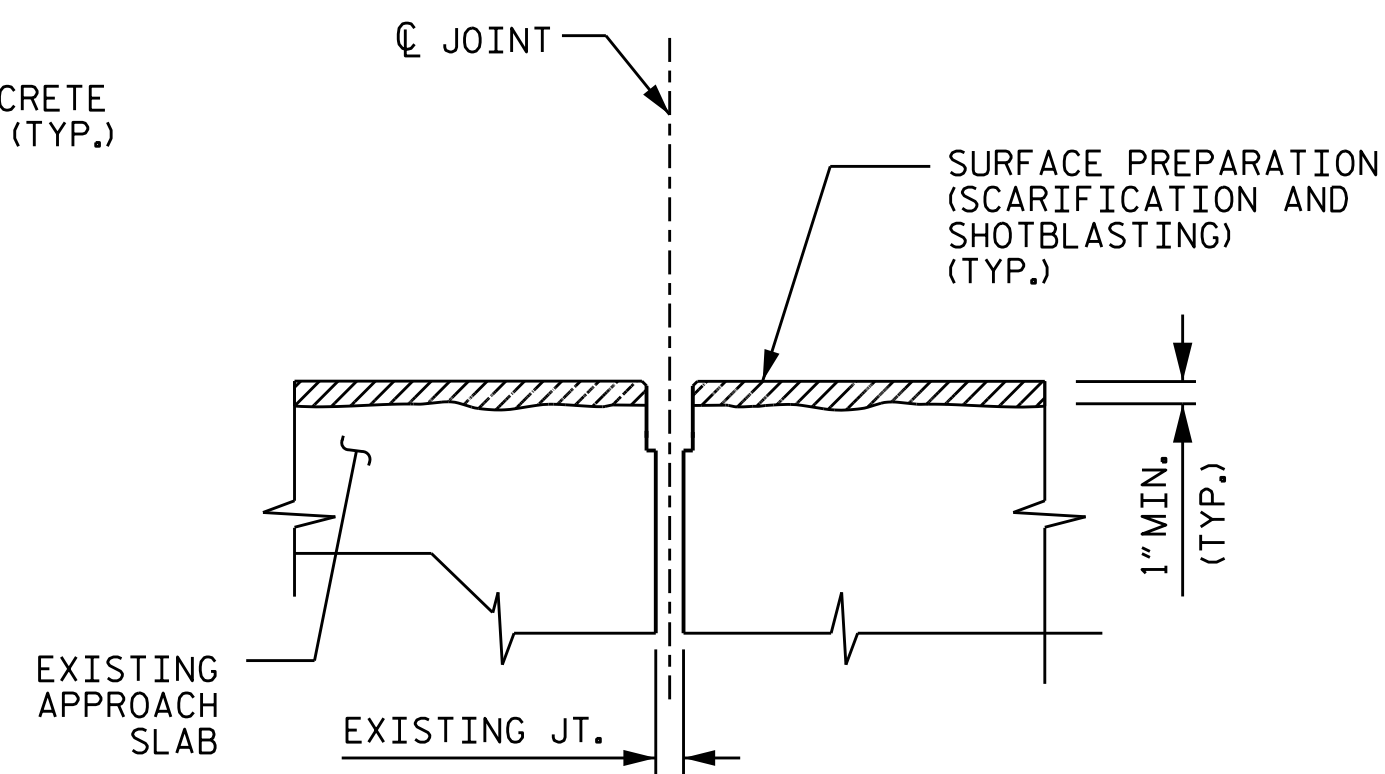
DRAWN BY : P.D. BRYANT DATE : 02/2018
CHECKED BY : W.C. SMITH DATE : 03/2018

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

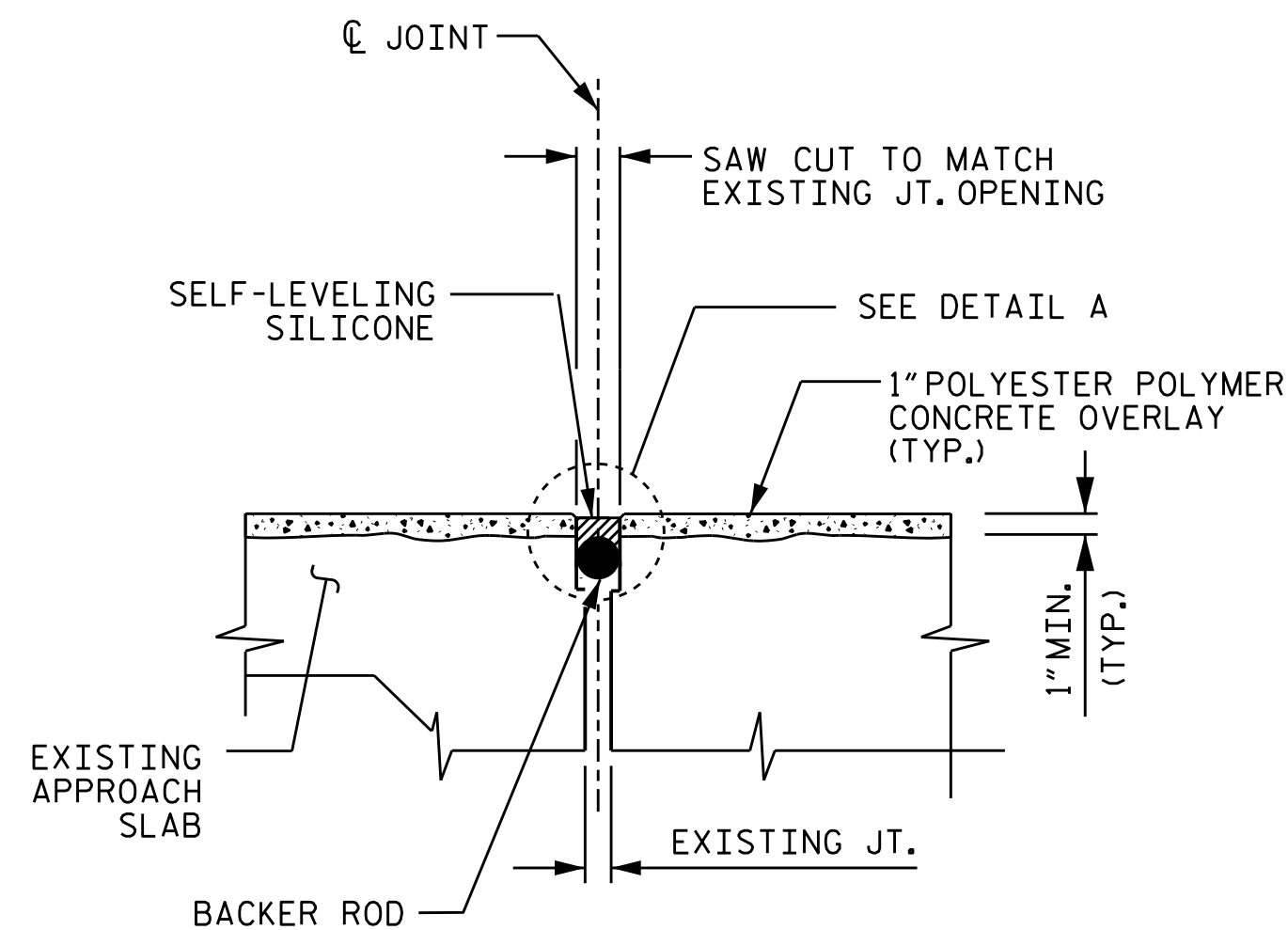
| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | TOTAL SHEETS |
| 1 | | | 3 | | | S-97 |
| 2 | | | 4 | | | 104 |



EXISTING JOINT

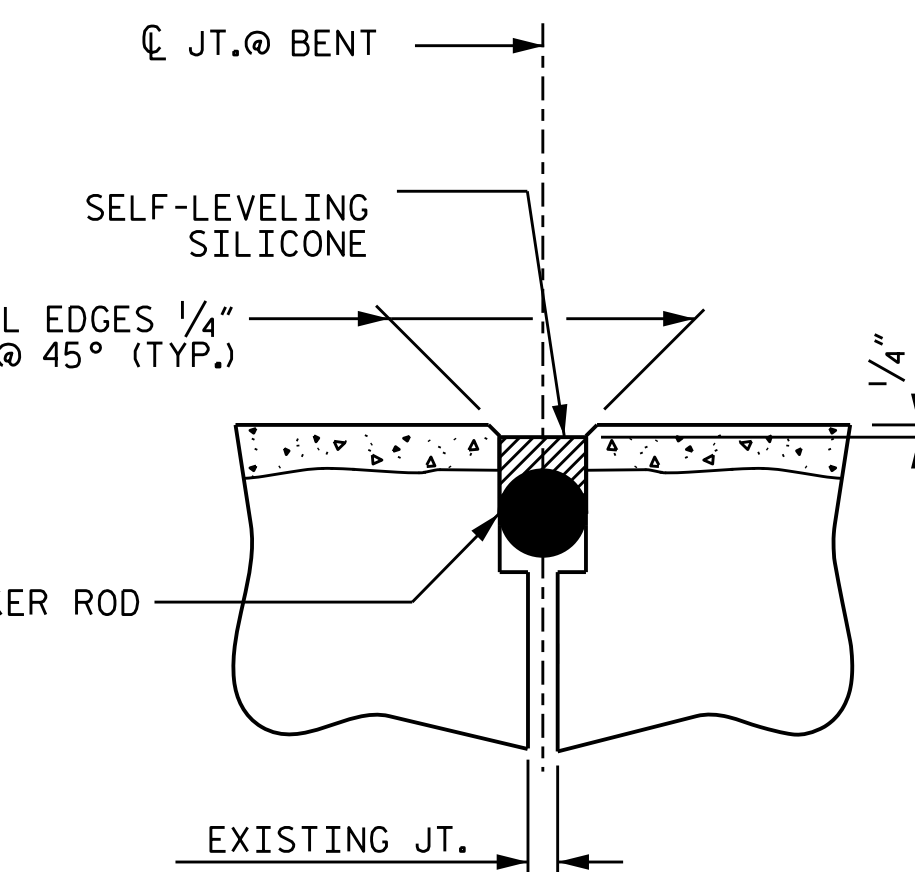


MINIMUM EXISTING JOINT DEMOLITION

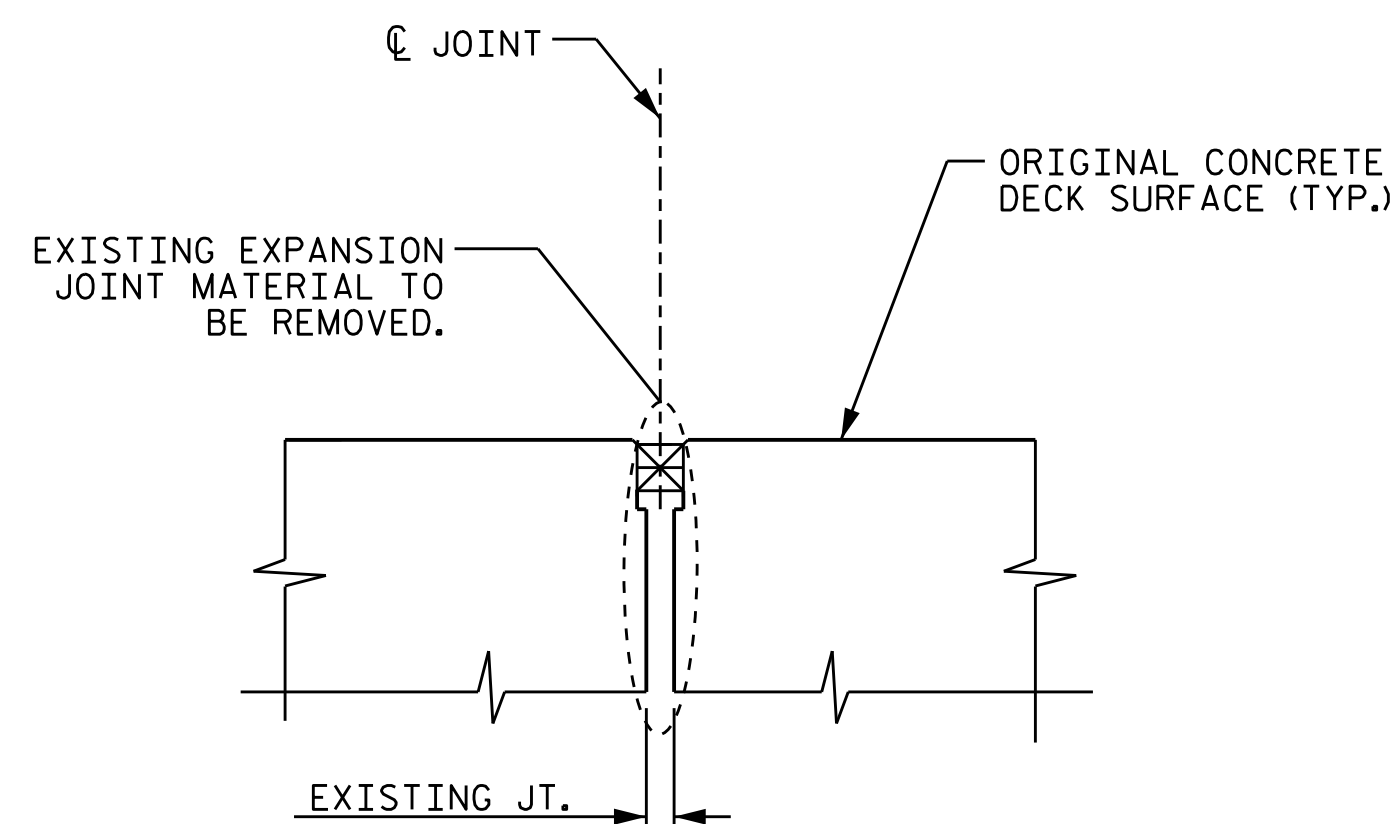


PROPOSED JOINT

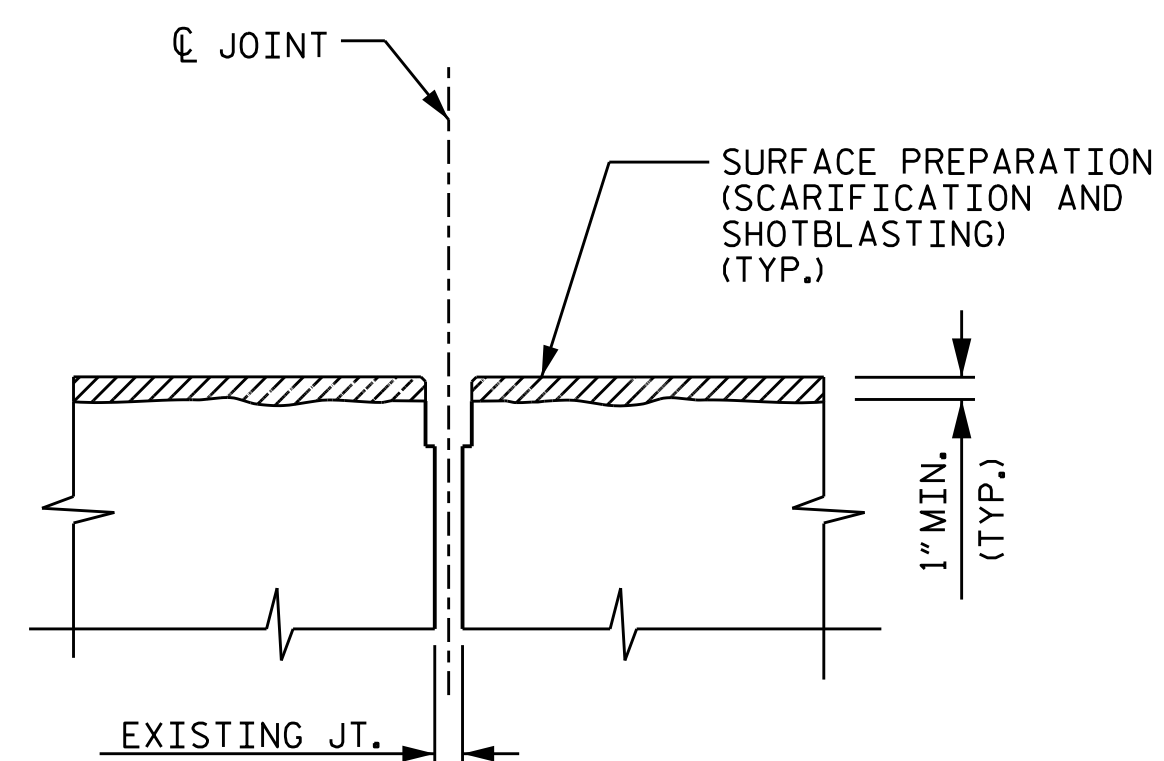
JOINT INSTALLATION SEQUENCE AT END BENTS
(SECTION A-A)



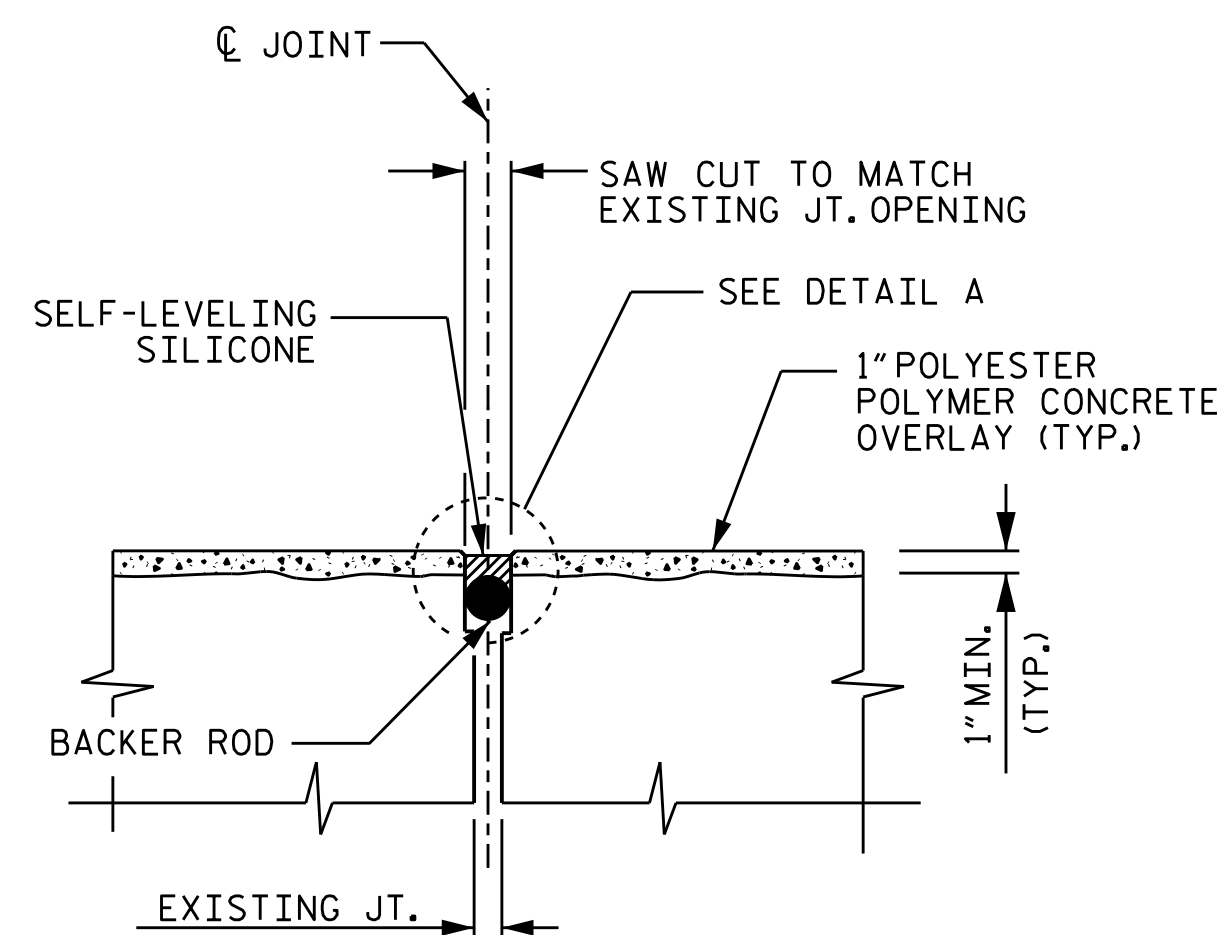
DETAIL A
(PROPOSED)



EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT

JOINT INSTALLATION SEQUENCE AT BENTS
(BENTS 1 THROUGH 8 AND BENTS 12 THROUGH 23)
(SECTION B-B)

NOTES:

CONTRACTOR SHALL NOTE THE EXISTING JOINT OPENINGS PRIOR TO OVERLAYING THE PPC. THE FINAL JOINT OPENINGS SHALL BE SAW CUT TO MATCH THE EXISTING OPENING

UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

ALL EXPOSED ENDS OF CUT BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

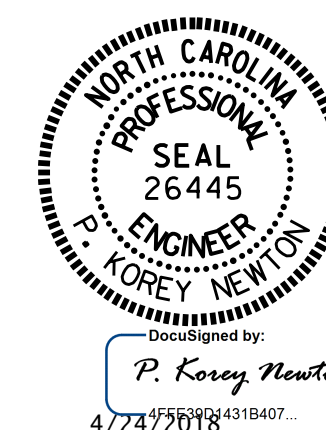
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43 & 44

SHEET 1 OF 2



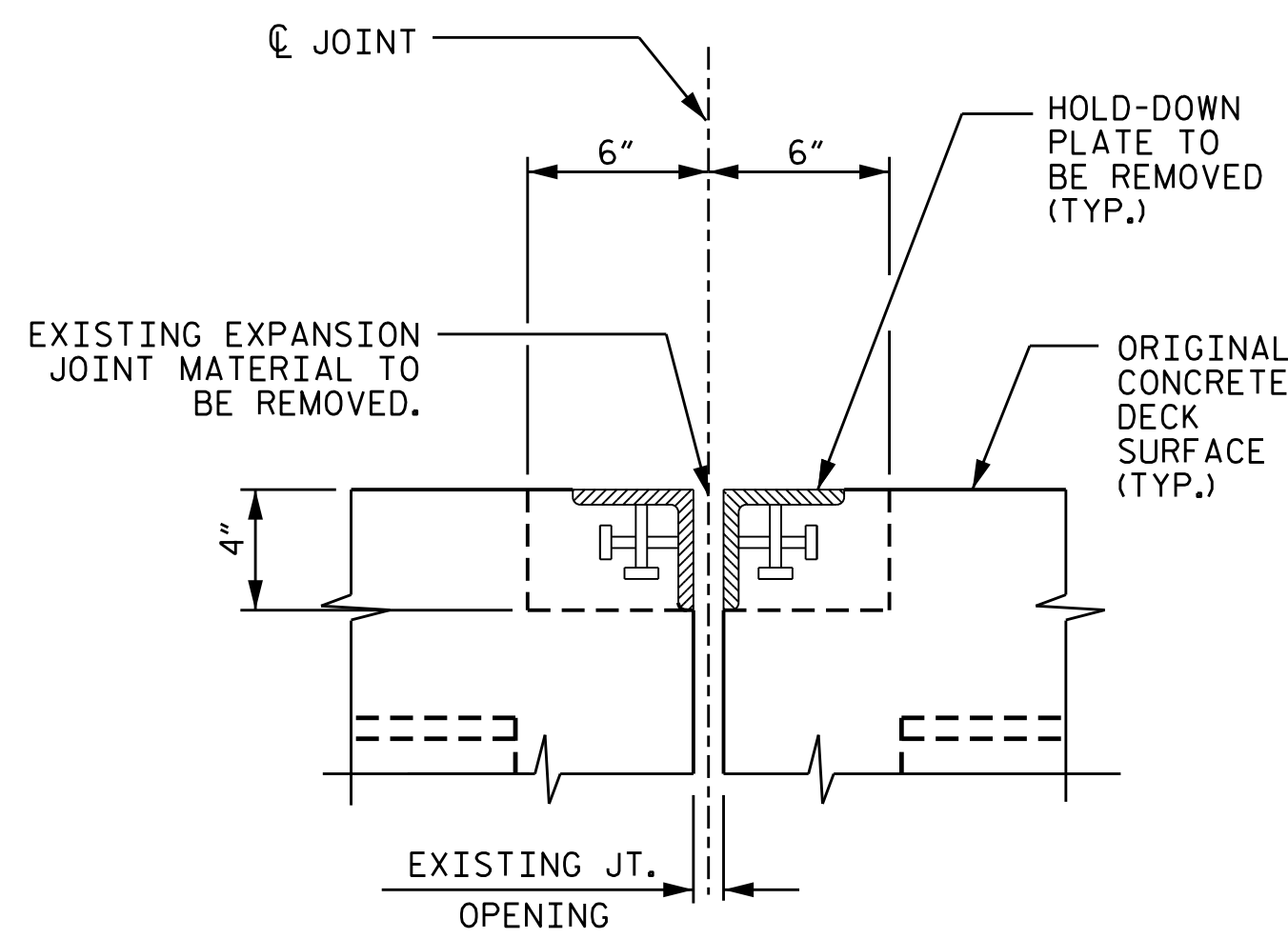
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 JOINT DETAILS

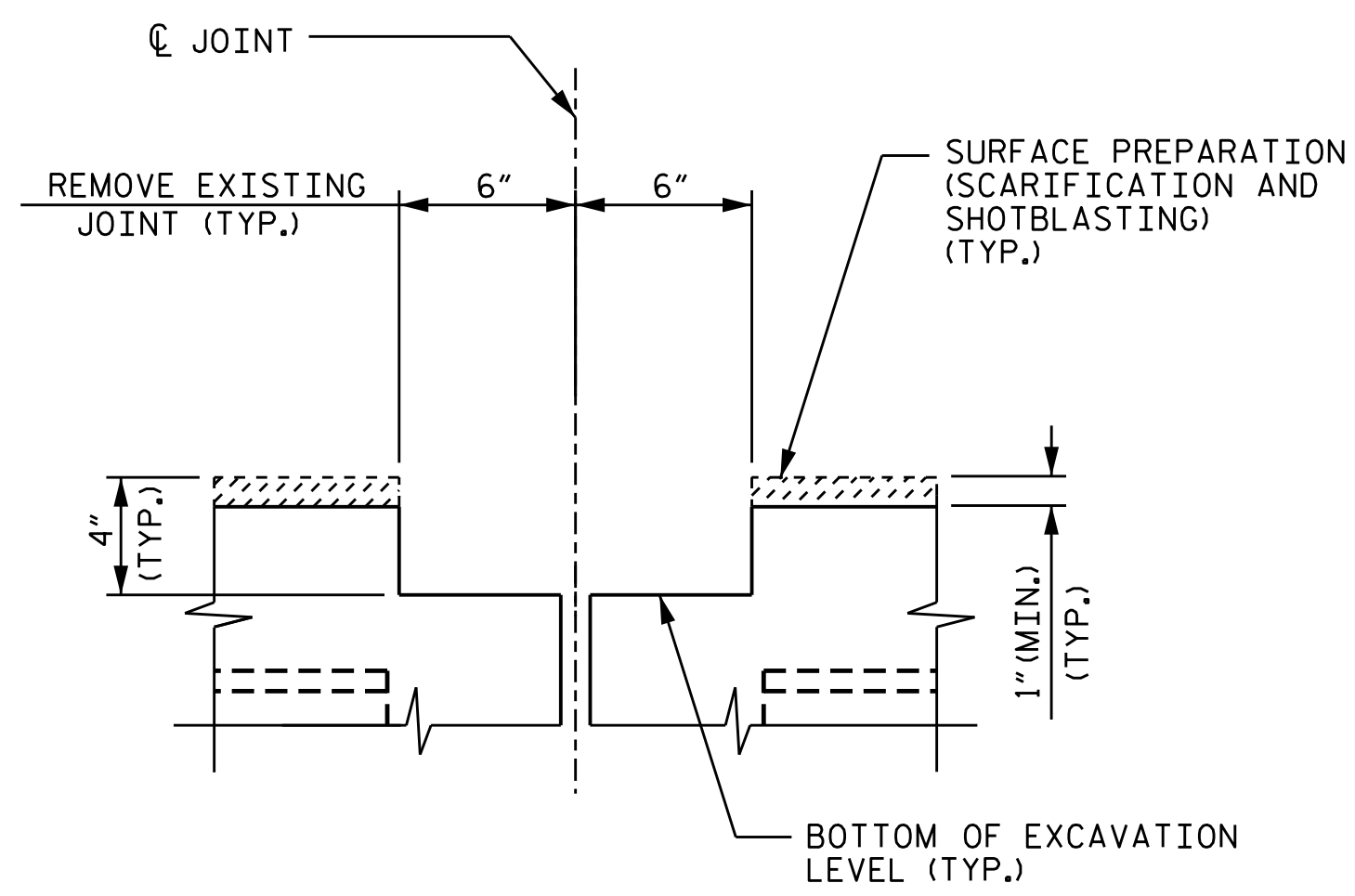
DRAWN BY : P. D. BRYANT DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 03/2018

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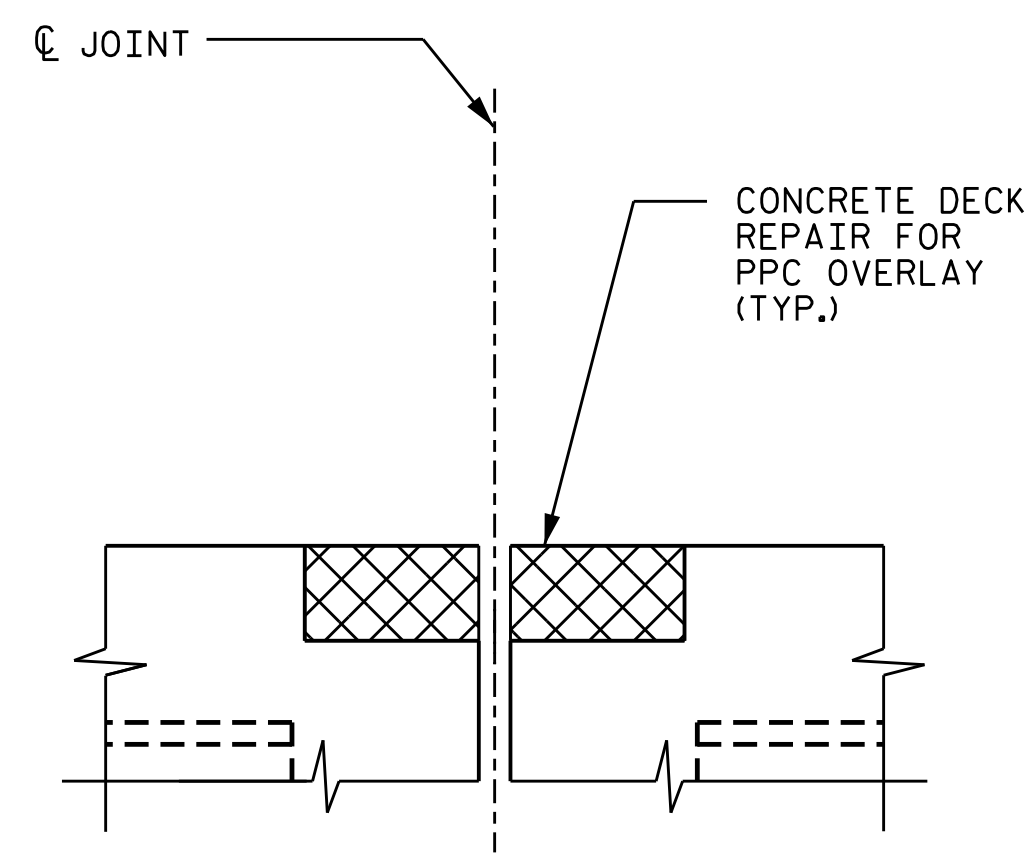
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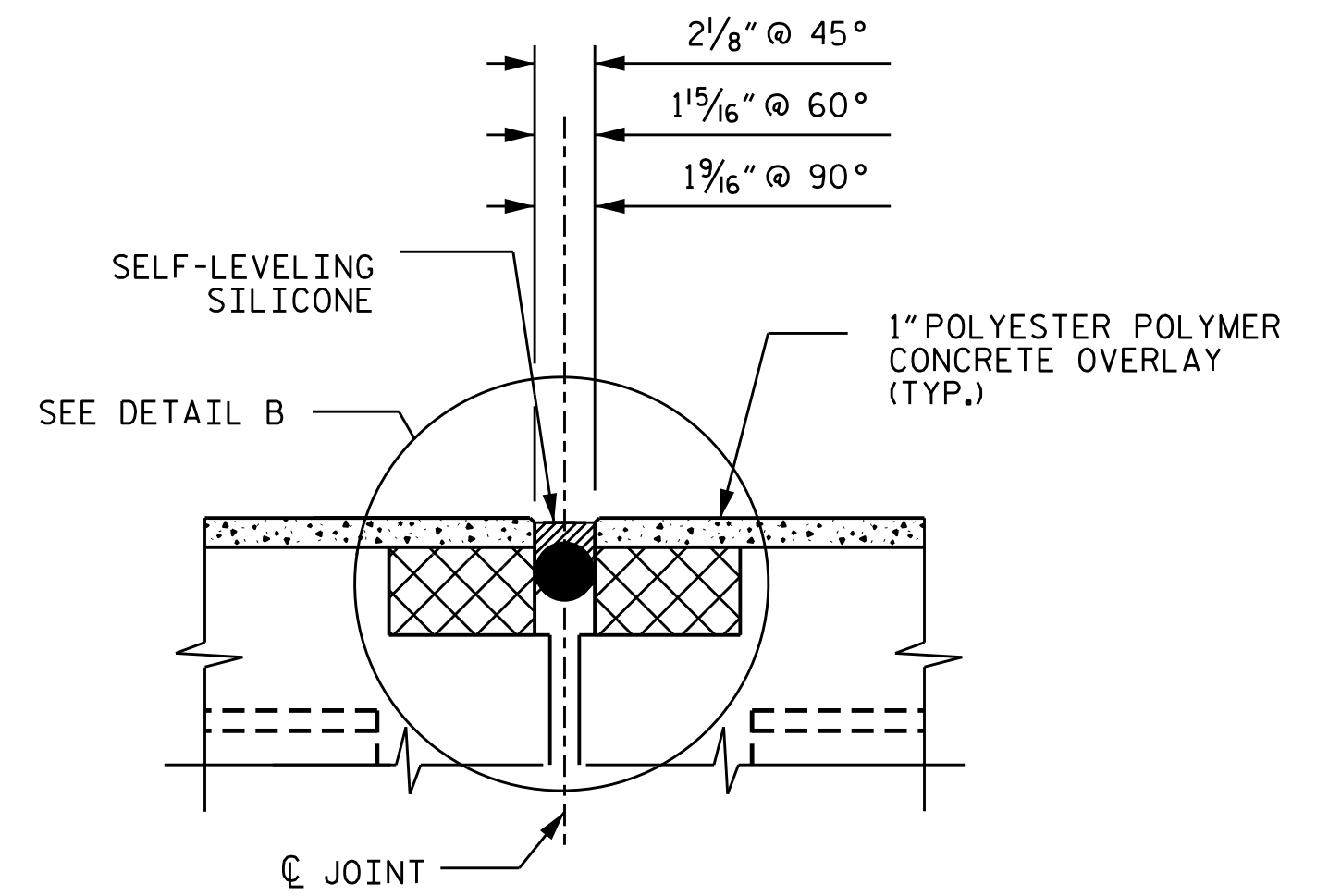
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION

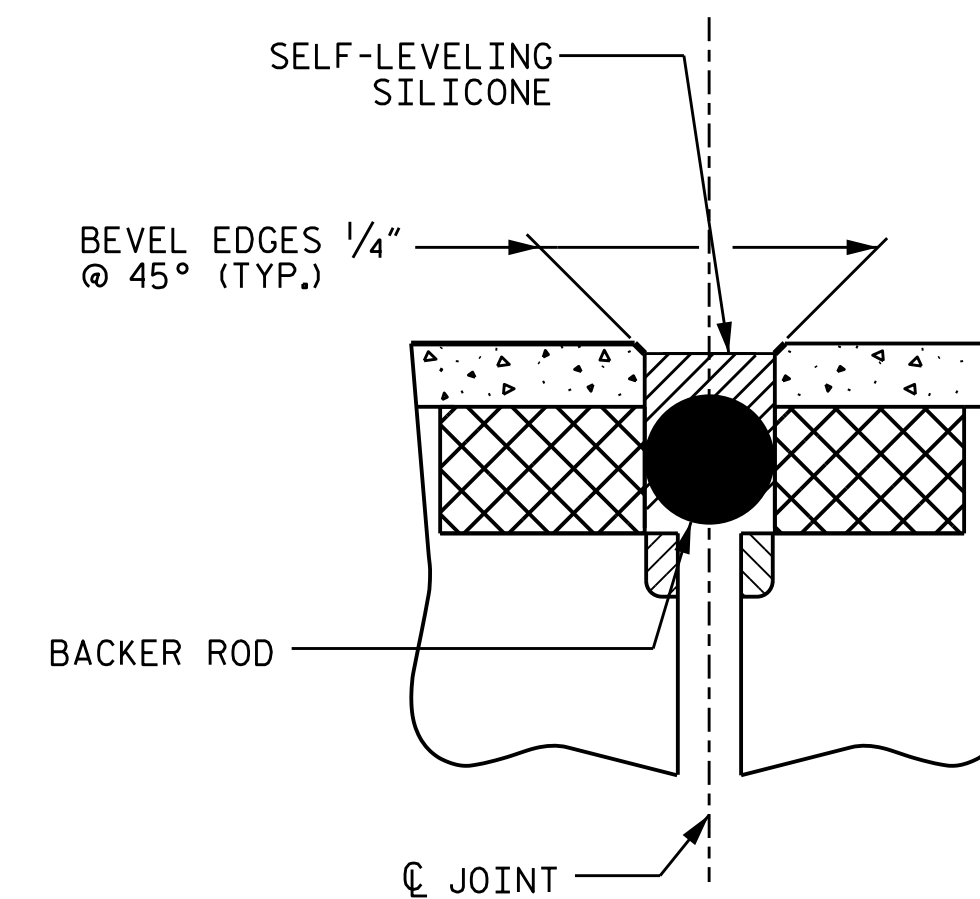


PROPOSED PRE-SAWED JOINT

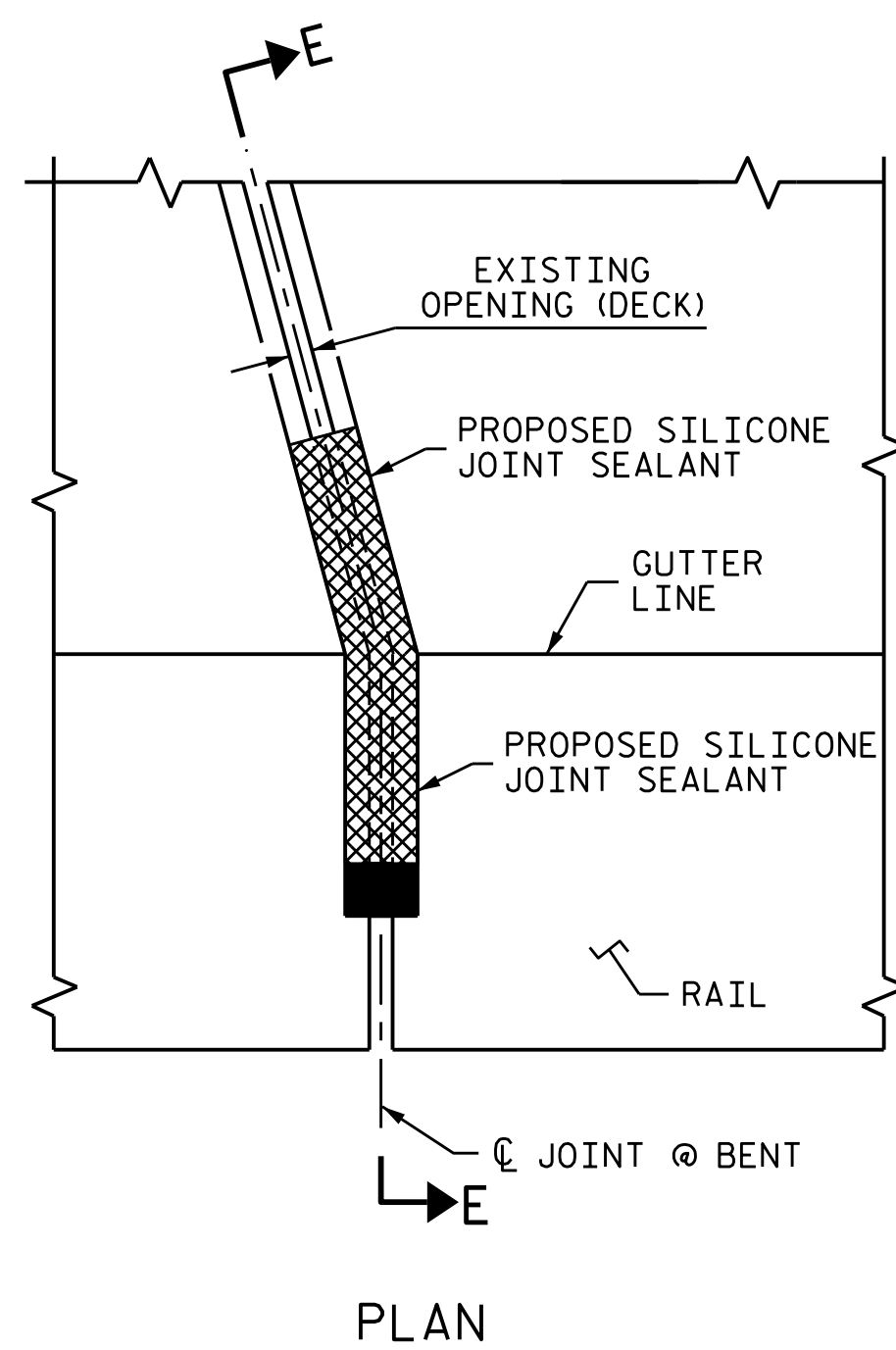


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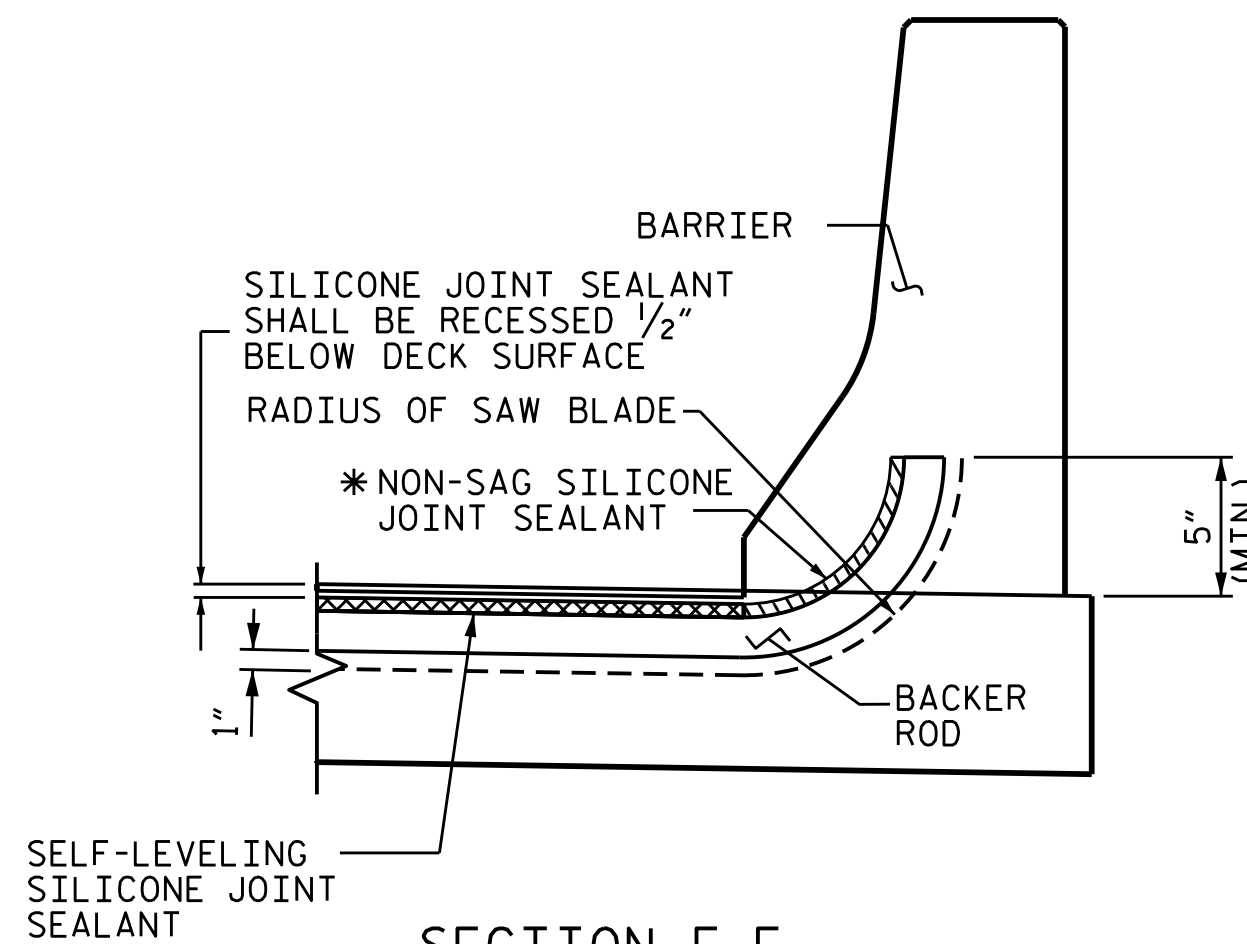
JOINT INSTALLATION SEQUENCE AT ARMORED JOINTS AT BENTS 9 AND 11
SECTION C-C



DETAIL B
(PROPOSED)



PLAN



SECTION E-E

*NON-SAG SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF SELF-LEVELING SILICONE JOINT SEALANT.

JOINT SEAL DETAILS AT BENTS

PROJECT NO. 15BPR.11
CAMDEN COUNTY
BRIDGE NO. 43 & 44

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
JOINT DETAILS

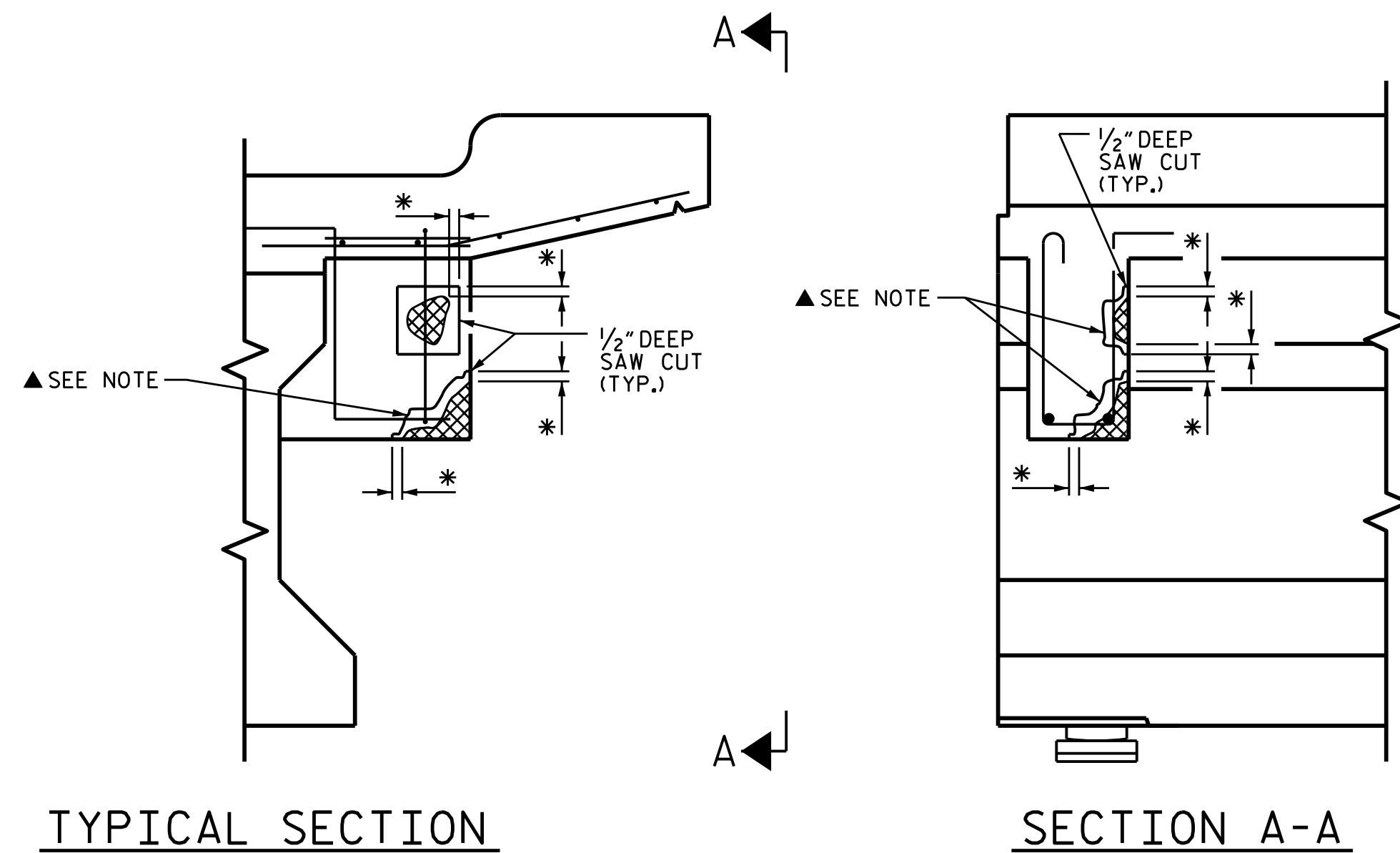


Designed by:
P. Corey Newton
4/24/2018

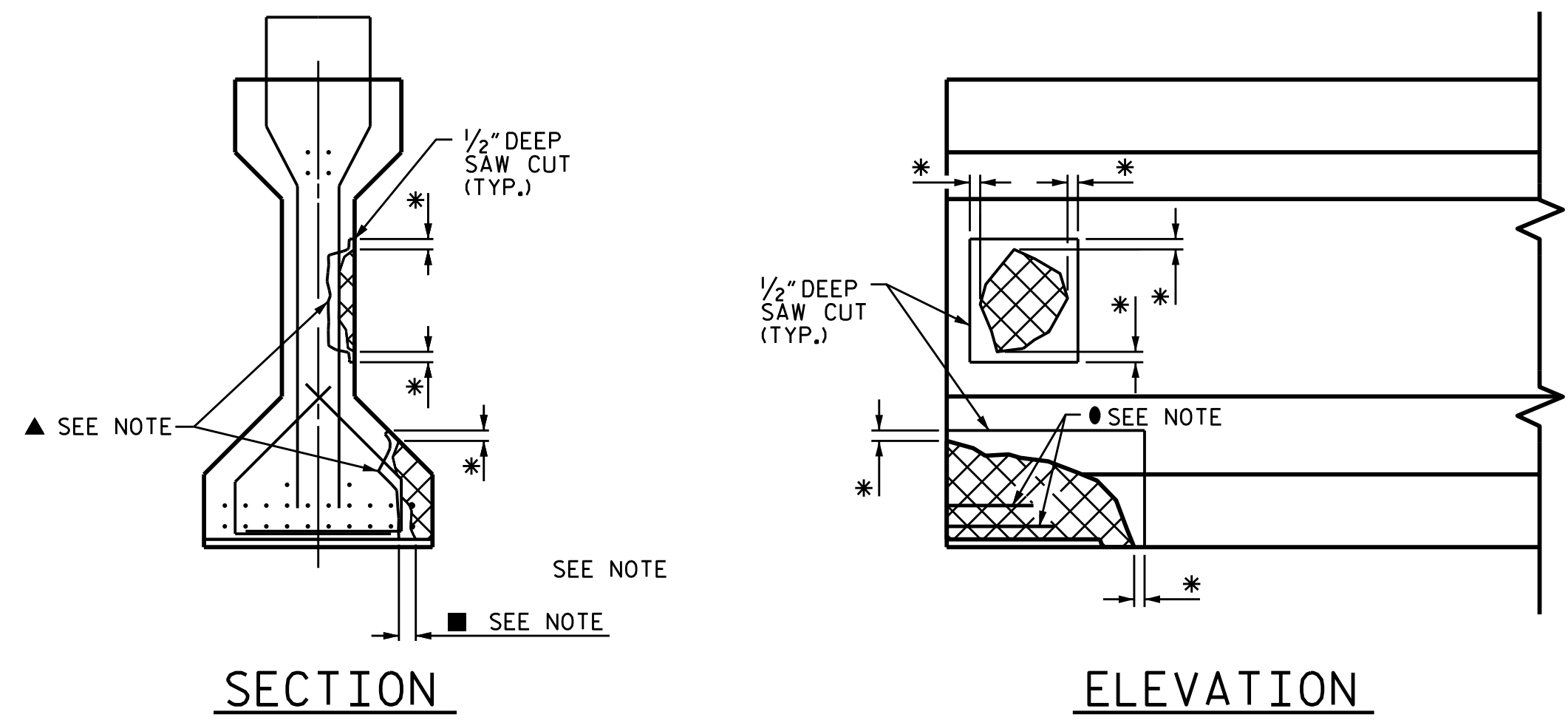
DRAWN BY : P. D. BRYANT DATE : 02/2018
CHECKED BY : W. C. SMITH DATE : 03/2018

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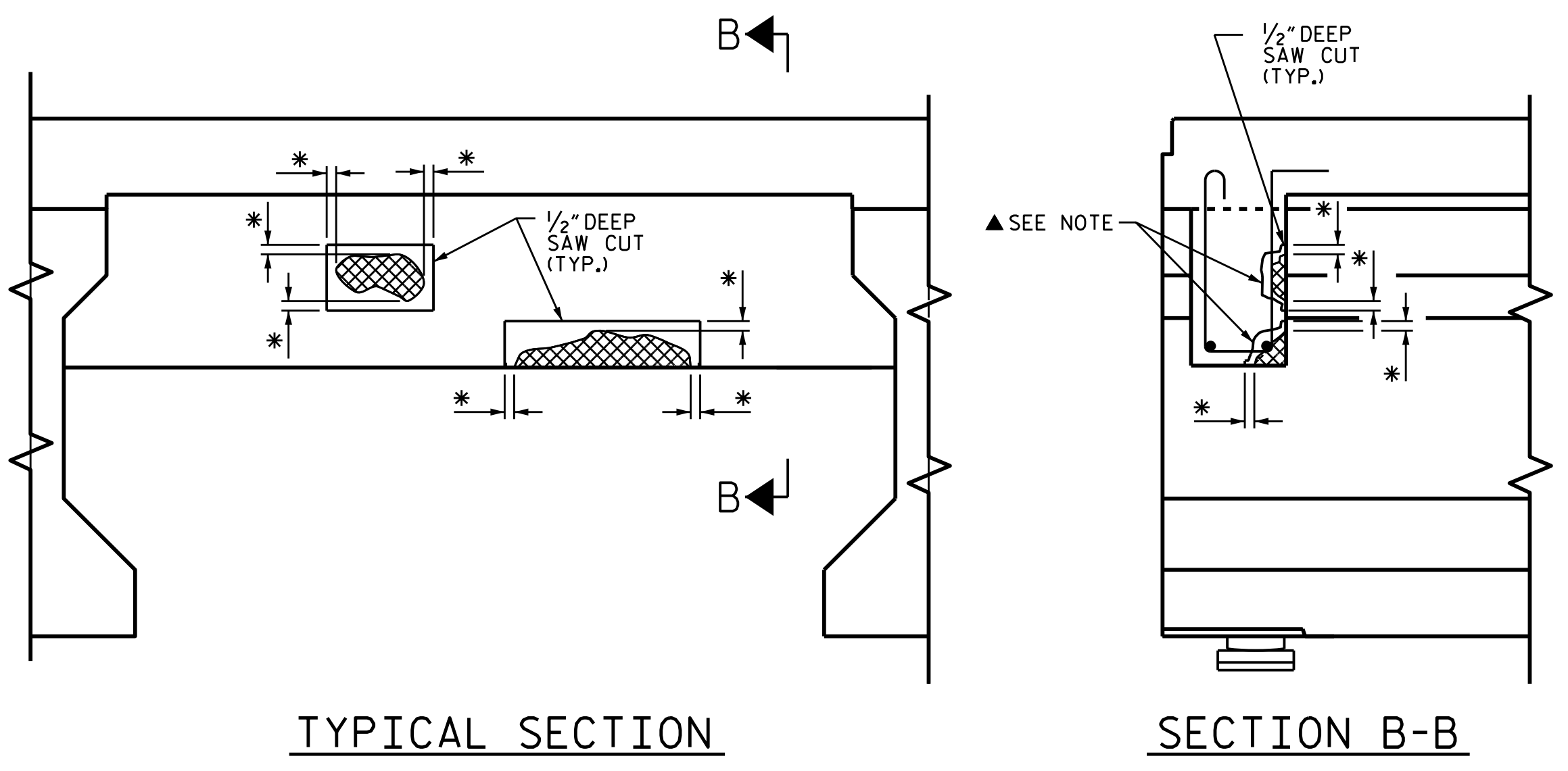


OVERHANG DIAPHRAGM REPAIR DETAIL
 (EXAMPLE DETAILS ONLY, ACTUAL REINFORCING STEEL SIZE & LOCATION MAY VARY)



PRESTRESSED GIRDER REPAIR DETAIL
 (EXAMPLE DETAILS ONLY, ACTUAL REBAR SIZE & LOCATION MAY VARY)

* 1/2" DEEP SAW CUT SHALL BE PLACED 1" INTO SOUND CONCRETE.
 [Cross-hatched symbol] DAMAGED AREA



BENT DIAPHRAGM REPAIR DETAIL
 (EXAMPLE DETAILS ONLY, ACTUAL REINFORCING STEEL SIZE & LOCATION MAY VARY)

- PRESTRESSED GIRDER REPAIR SEQUENCE:**
1. SOUND CONCRETE TO DETERMINE EXTENTS OF REPAIR LOCATION.
 2. REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A MINIMUM DEPTH OF 1/2".
 3. REMOVE CONCRETE WITHIN SAW CUT AREA TO MINIMUM 1/2" DEPTH. IF CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED.
 4. IF MORE THAN HALF THE CIRCUMFERENCE OF REINFORCING STEEL IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1" MIN. BEHIND THE BAR.
 5. ALL UNSOUND CONCRETE MUST BE REMOVED, HOWEVER, PRESTRESSED STRANDS SHOULD NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE TO NOT DAMAGE STRANDS.
 6. USE A WIRE BRUSH TO CLEAN ALL EXPOSED REINFORCING STEEL AND PRESTRESSED STRANDS. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY, OF ALL DAMAGE TO PRESTRESSED STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.
 7. REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.
 8. PREPARE SURFACE AND PLACE APPROVED SHOTCRETE OR REPAIR MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. MAXIMUM AGGREGATE SIZE FOR SHOTCRETE OR REPAIR MATERIAL SHALL NOT EXCEED 2/3 THE MINIMUM REPAIR DEPTH.
 9. FOR REPAIRS TO PRESTRESSED CONCRETE GIRDER, SEE SPECIAL PROVISIONS.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
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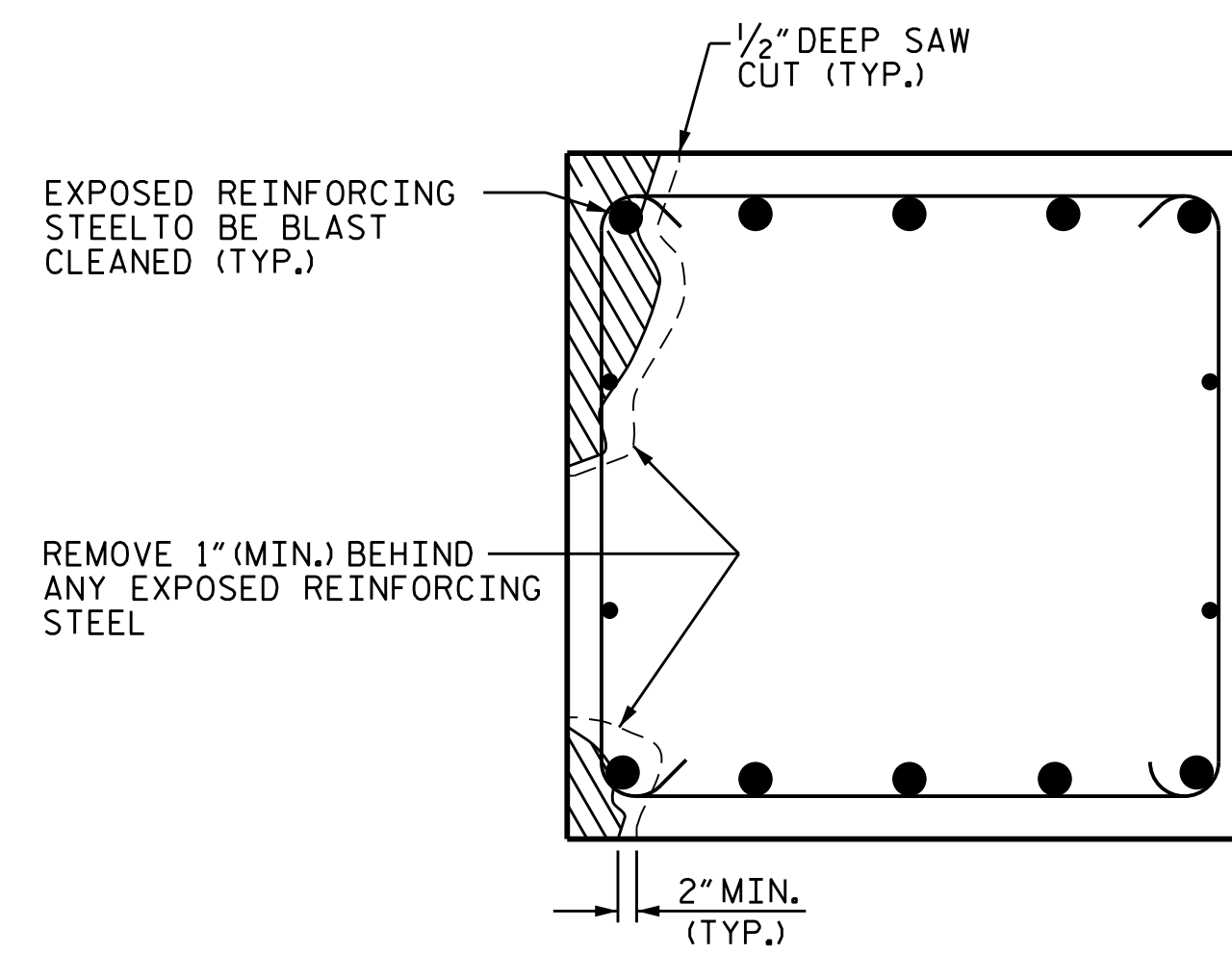
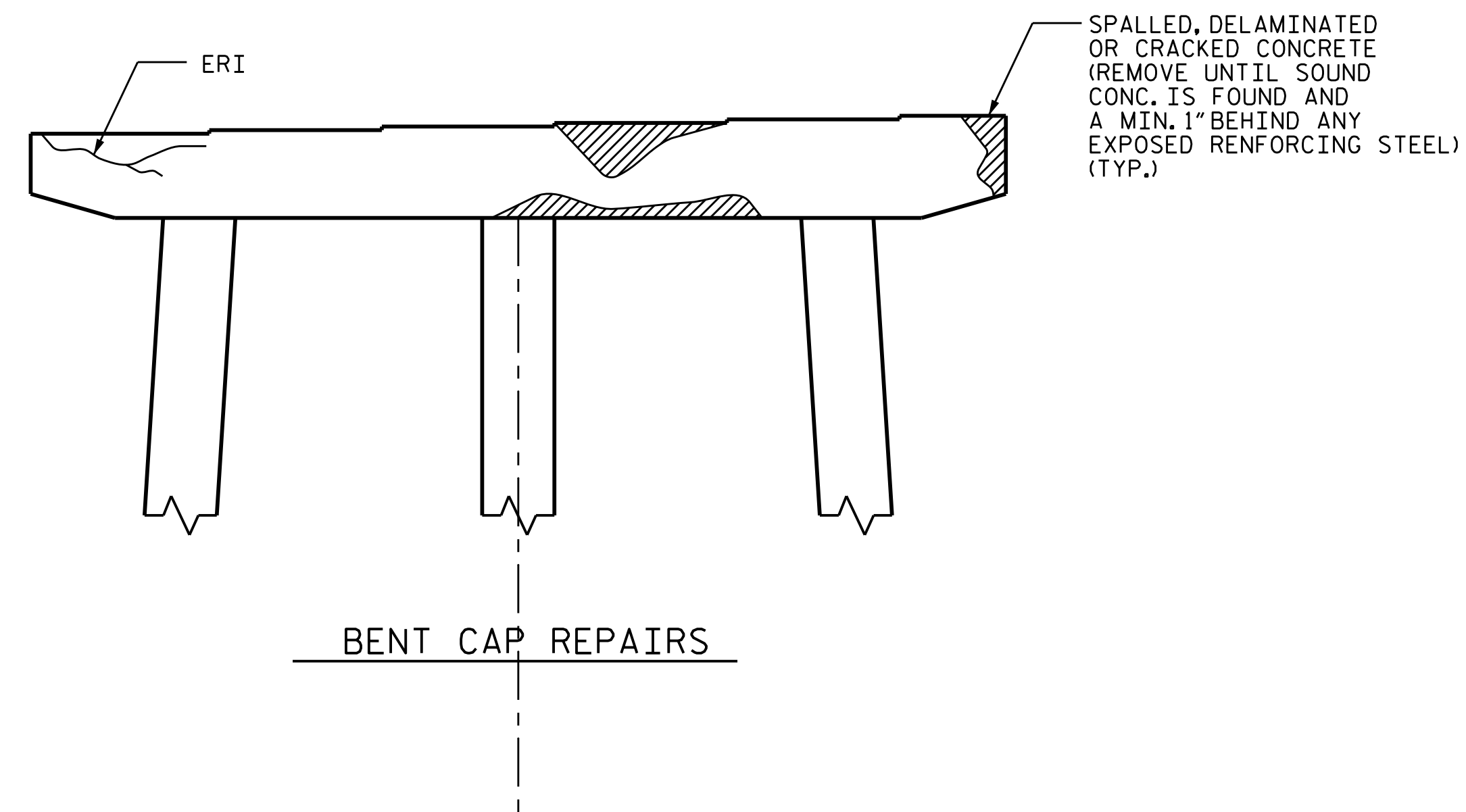


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 TYPICAL GIRDER,
 DIAPHRAGM REPAIR
 DETAILS

DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W.C. SMITH DATE : 02/2018

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| 2 | | | 4 | | | 103 |



SECTION THRU CAP
CAP REPAIR

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43 & 44

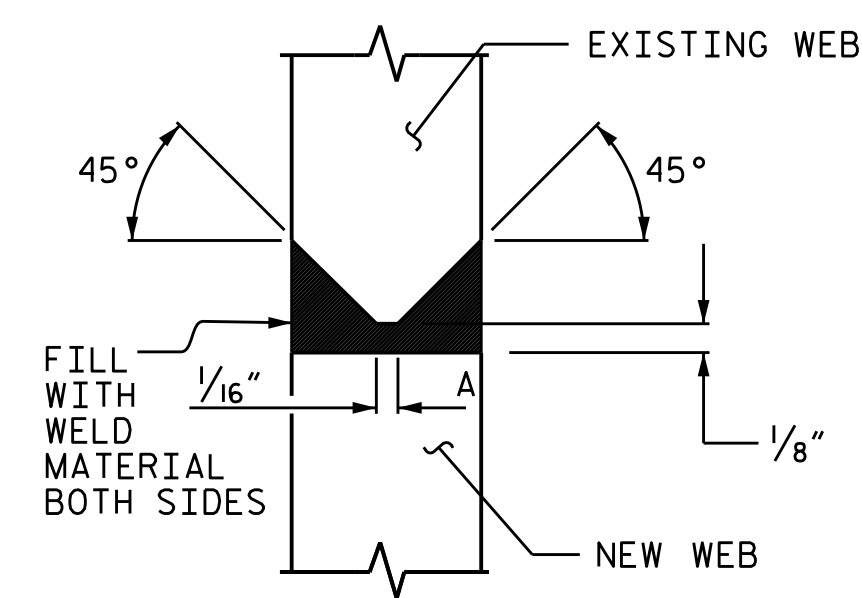


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 TYPICAL CAP
 REPAIR DETAILS

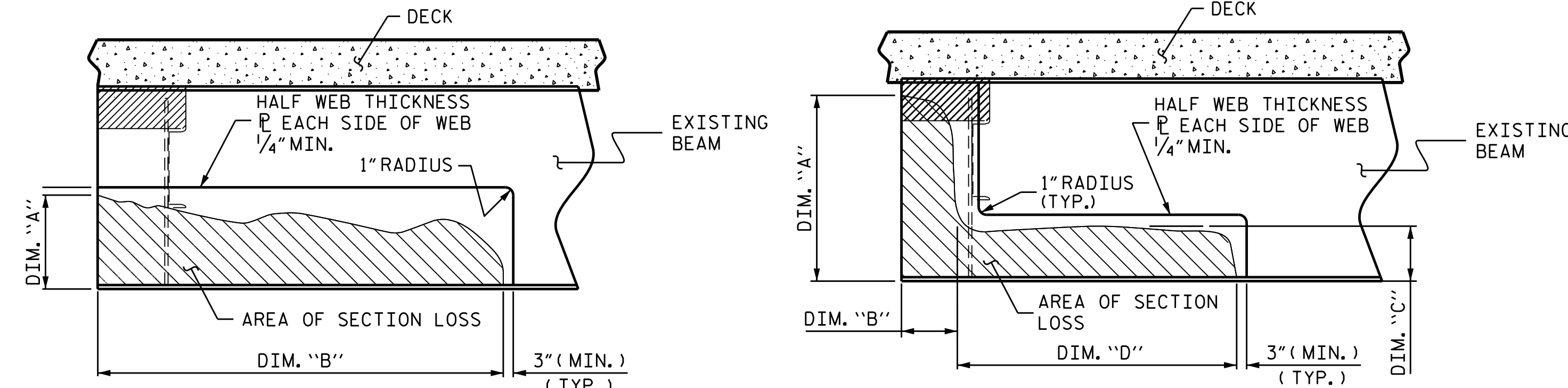
DRAWN BY : S. T. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

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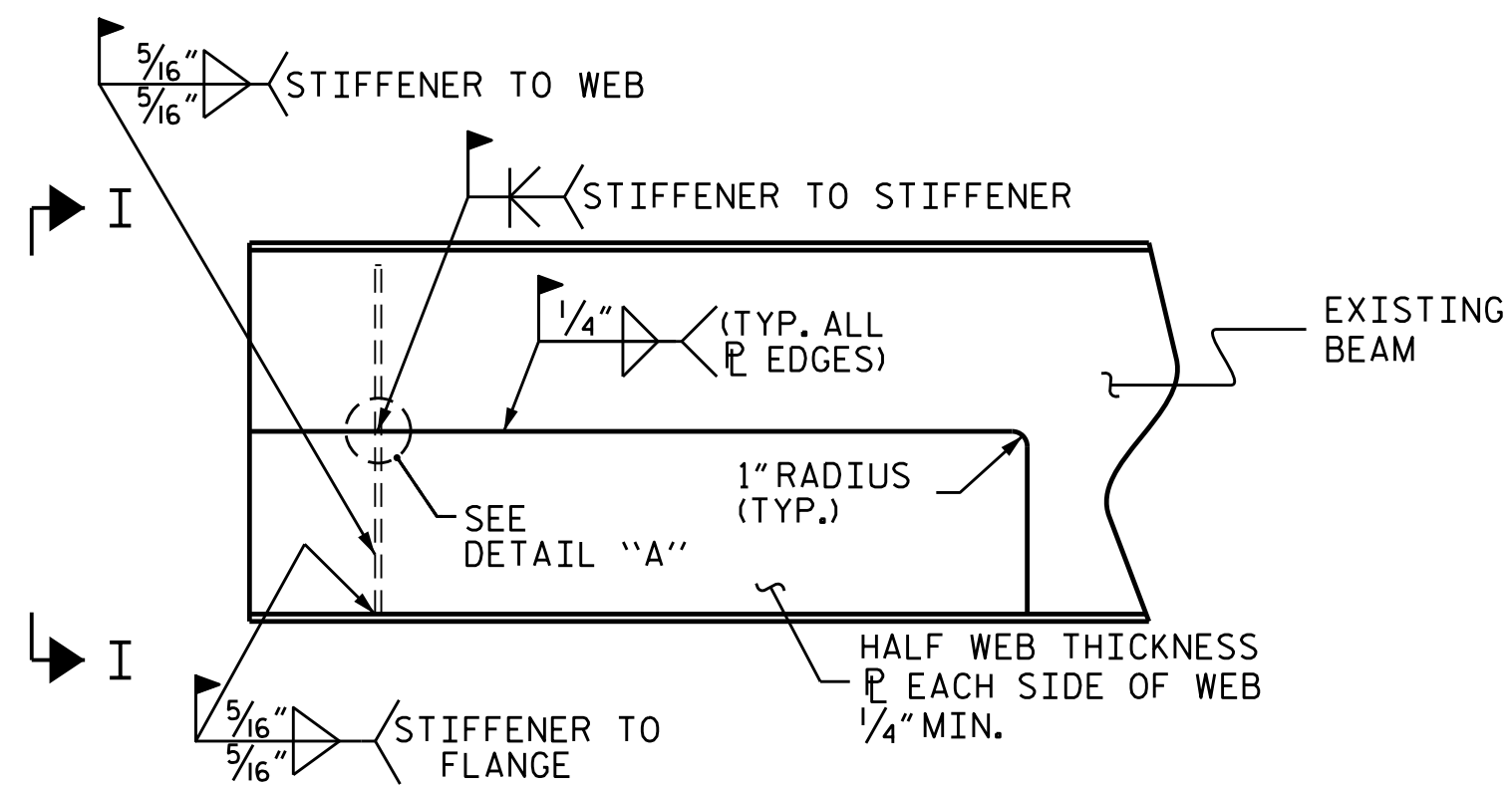


DETAIL "A"

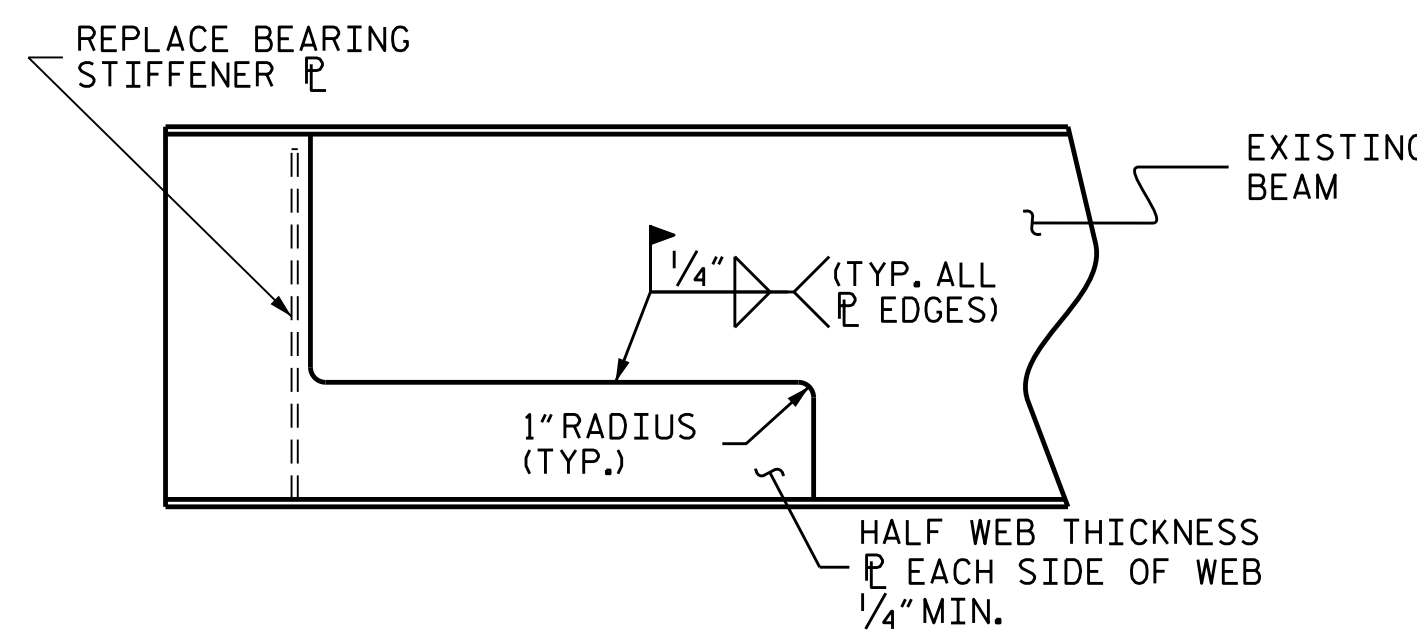


SECTION LOSS BEAM PLATING REPAIR

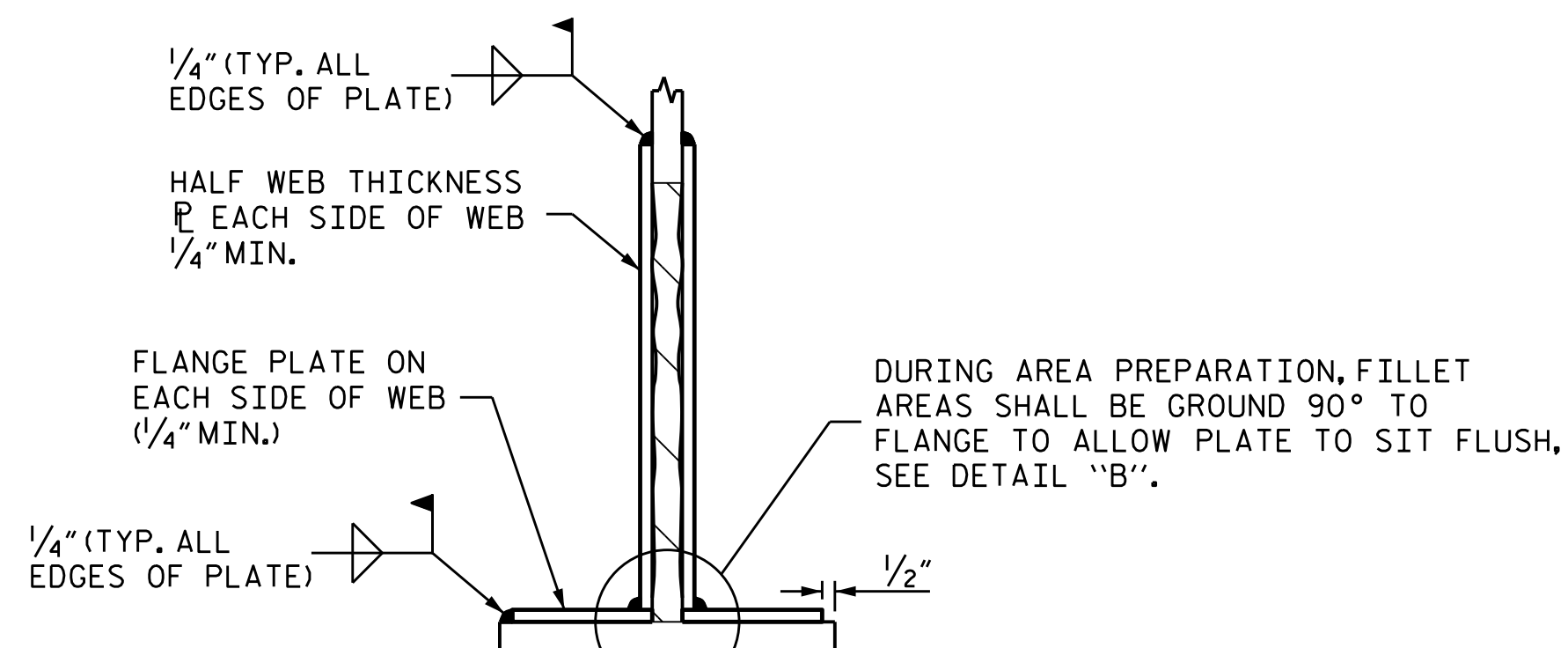
SECTION LOSS BEAM PLATING REPAIR



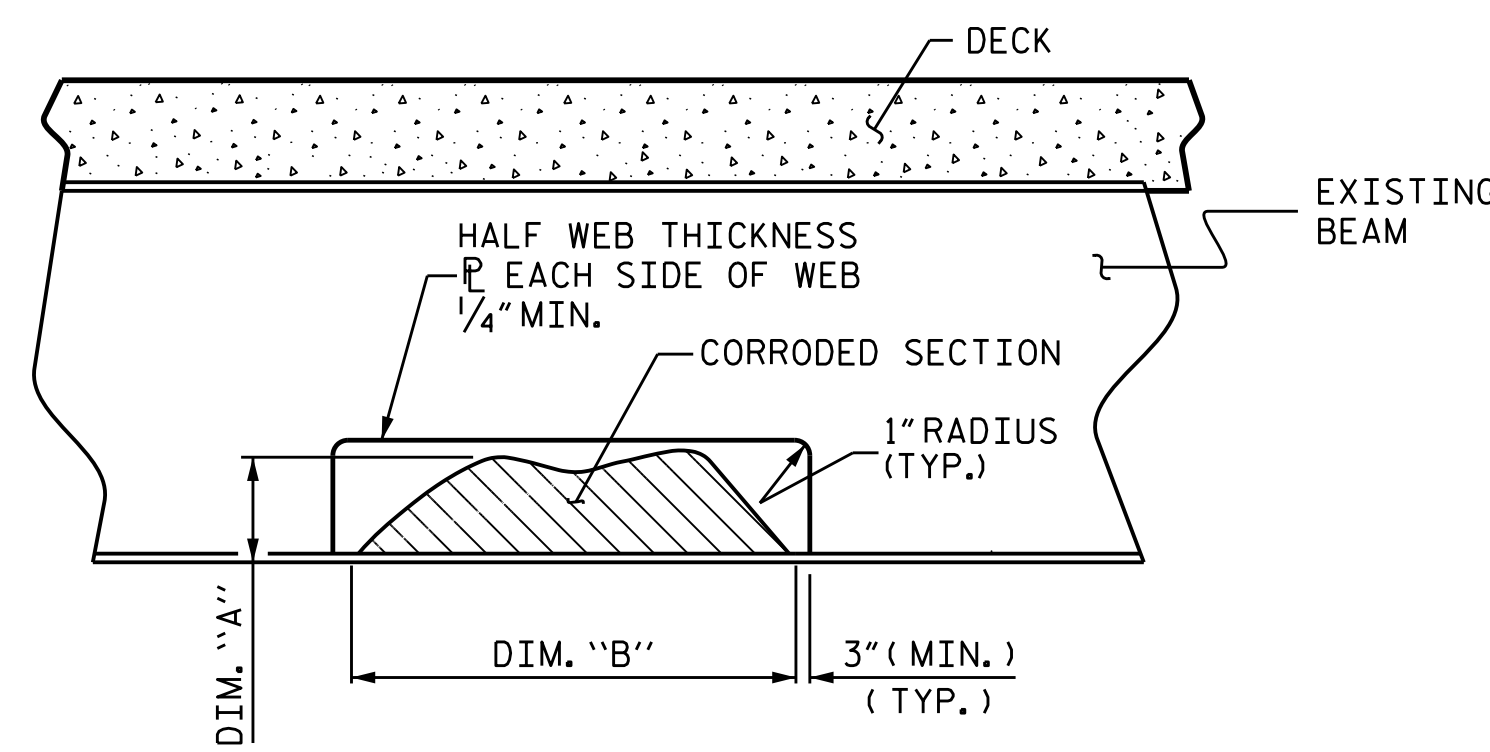
SECTION LOSS BEAM PLATING REPAIR



SECTION LOSS BEAM PLATING REPAIR

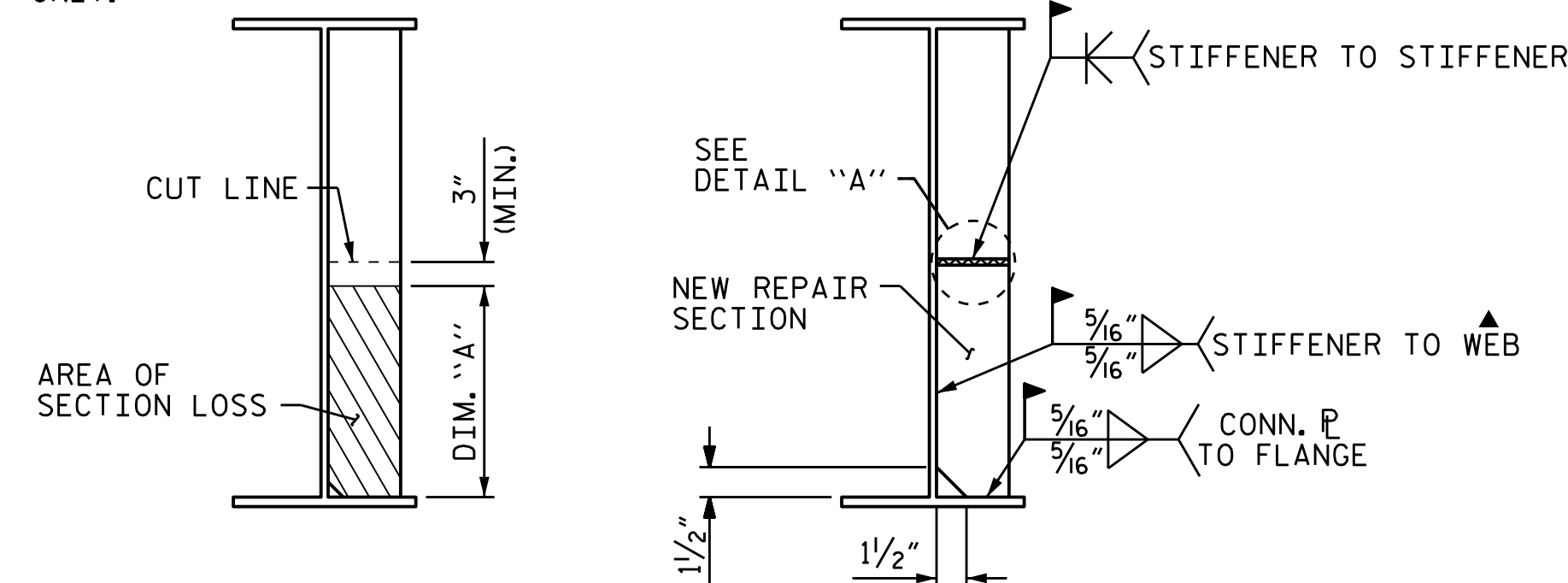


VIEW I-I



SECTION LOSS INTERMEDIATE BEAM PLATING REPAIR

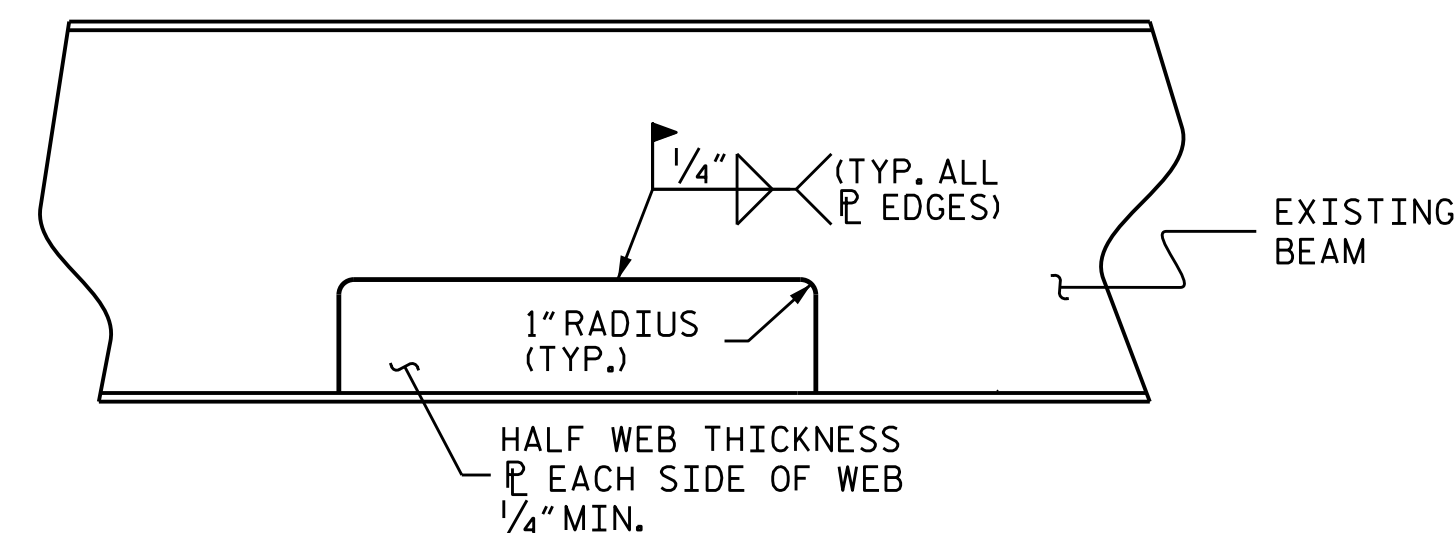
NOTE: DETAIL INDICATES WEB AND FLANGE PLATING, BUT APPROPRIATE DETAILS ARE APPLICABLE FOR WEB PLATING OR FLANGE PLATING, ONLY.



SECTION LOSS STIFFENER/CONN. P REPAIR

SECTION LOSS STIFFENER/CONN. P REPAIR SECTION

▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD



SECTION LOSS INTERMEDIATE BEAM PLATING REPAIR

BEAM REPAIR

AFTER THE STRUCTURAL STEEL HAS BEEN BLASTED AND PRIMED, THE STRUCTURAL STEEL AND BEARING SHALL BE INSPECTED FOR EXCESSIVE SECTION LOSS. AREAS THAT EXHIBIT AN EXCESS OF 35% SECTION LOSS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE IF AREA OF SECTION LOSS SHOULD BE REPAIRED.

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL CONFORM TO AASHTO M270 GRADE 50W.

REPAIR SEQUENCE:

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF NECESSARY, REMOVE EXISTING STIFFENER TO INSTALL WELDED PLATE REPAIR. REPLACE WITH A NEW STIFFENER PLATE OF SIMILAR SIZE.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE.

PRIME ENTIRE REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO WELDING NEW PLATES. REMOVE PRIMER IN WELD AREA ON BEAM AND REPAIR PLATE.

ONE PLATE SHALL BE PLACED, AS INDICATED ON EACH SIDE OF THE BEAM WEB.

UNLESS NOTED OTHERWISE EACH PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM WEB, FLANGE OR STIFFENER, WITH A MINIMUM THICKNESS OF 1/4".

FULLY WELD ALONG TOP AND SIDES OF THE PLATES AS SHOWN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

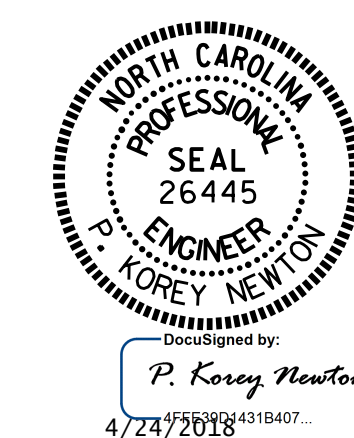
CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE CAST BACK. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR". FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO. 43 & 44



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM PLATING REPAIR DETAILS

| REVISIONS | | | | | | SHEET NO. |
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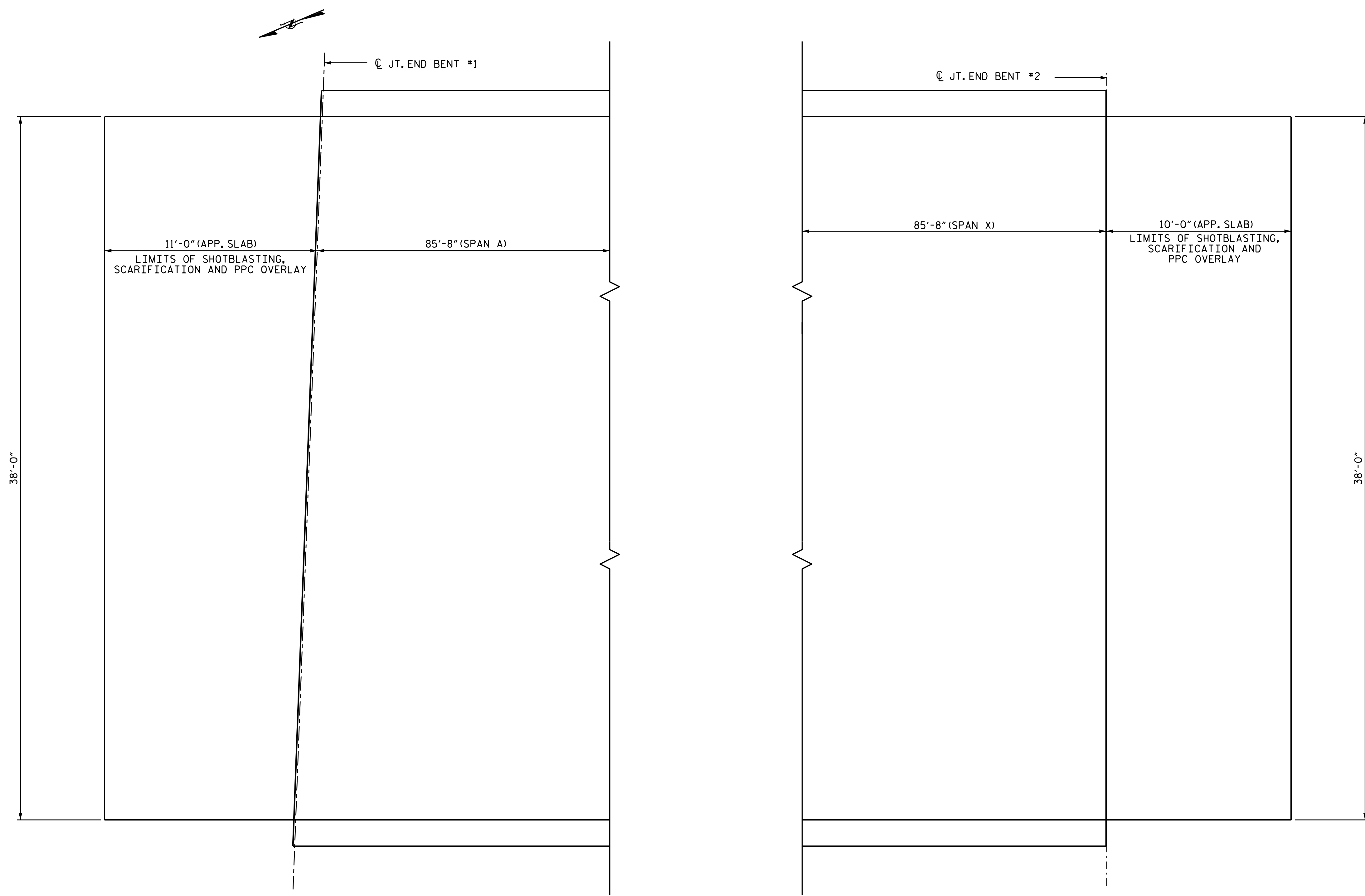
DRAWN BY: M.A. LEE DATE: 9/2016
 CHECKED BY: G.W. DICKEY DATE: 4/2018

SUMMARY OF QUANTITIES

APPROACH SLABS

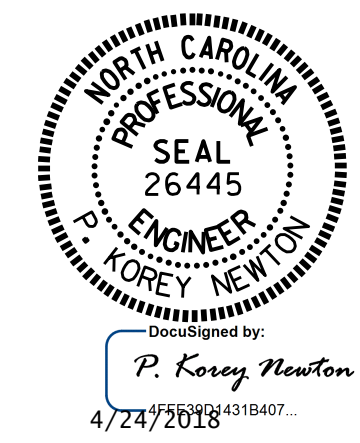
| | ESTIMATE | ACTUAL |
|---------------------------------|-----------|--------|
| SCARIFYING BRIDGE APPR. SLAB | 177.3 SY | |
| CLASS II SURFACE PREPARATION | * 1.0 SY | |
| SHOTBLASTING BRIDGE APPR. SLAB | 177.3 SY | |
| PPC MATERIALS | 5.0 CY | |
| PLACING & FINISHING PPC OVERLAY | 177.3 SY | |
| APPROACH SLAB GROOVING | 1452.0 SF | |
| CONCRETE FOR DECK REPAIRS | * 1.0 SY | |

* CLASS II SURFACE PREPARATION FOR PPC OVERLAY IS ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE FOR REPAIR AREAS THAT ARE ENCOUNTERED.



APPROACH SLABS PLAN

PROJECT NO. 15BPR.11
CAMDEN COUNTY
 BRIDGE NO.: 43 & 44



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 APPROACH SLABS
 SURFACE PREPARATION
 & PPC OVERLAY

DRAWN BY : S. I. SANDOR DATE : 02/2018
 CHECKED BY : W. C. SMITH DATE : 02/2018

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STANDARD NOTES

DESIGN DATA:

| | | |
|--|-------|-------------------------------|
| SPECIFICATIONS | ----- | A.A.S.H.T.O. (CURRENT) |
| LIVE LOAD | ----- | SEE PLANS |
| IMPACT ALLOWANCE | ----- | SEE A.A.S.H.T.O. |
| STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 | -- | 20,000 LBS. PER SQ. IN. |
| - AASHTO M270 GRADE 50W | -- | 27,000 LBS. PER SQ. IN. |
| - AASHTO M270 GRADE 50 | -- | 27,000 LBS. PER SQ. IN. |
| REINFORCING STEEL IN TENSION - GRADE 60 | --- | 24,000 LBS. PER SQ. IN. |
| CONCRETE IN COMPRESSION | ----- | 1,200 LBS. PER SQ. IN. |
| CONCRETE IN SHEAR | ----- | SEE A.A.S.H.T.O. |
| STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS | --- | 1,800 LBS. PER SQ. IN. |
| COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER | ----- | 375 LBS. PER SQ. IN. |
| EQUIVALENT FLUID PRESSURE OF EARTH | ----- | 30 LBS. PER CU. FT. (MINIMUM) |

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 1/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 1/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 1/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 1/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN