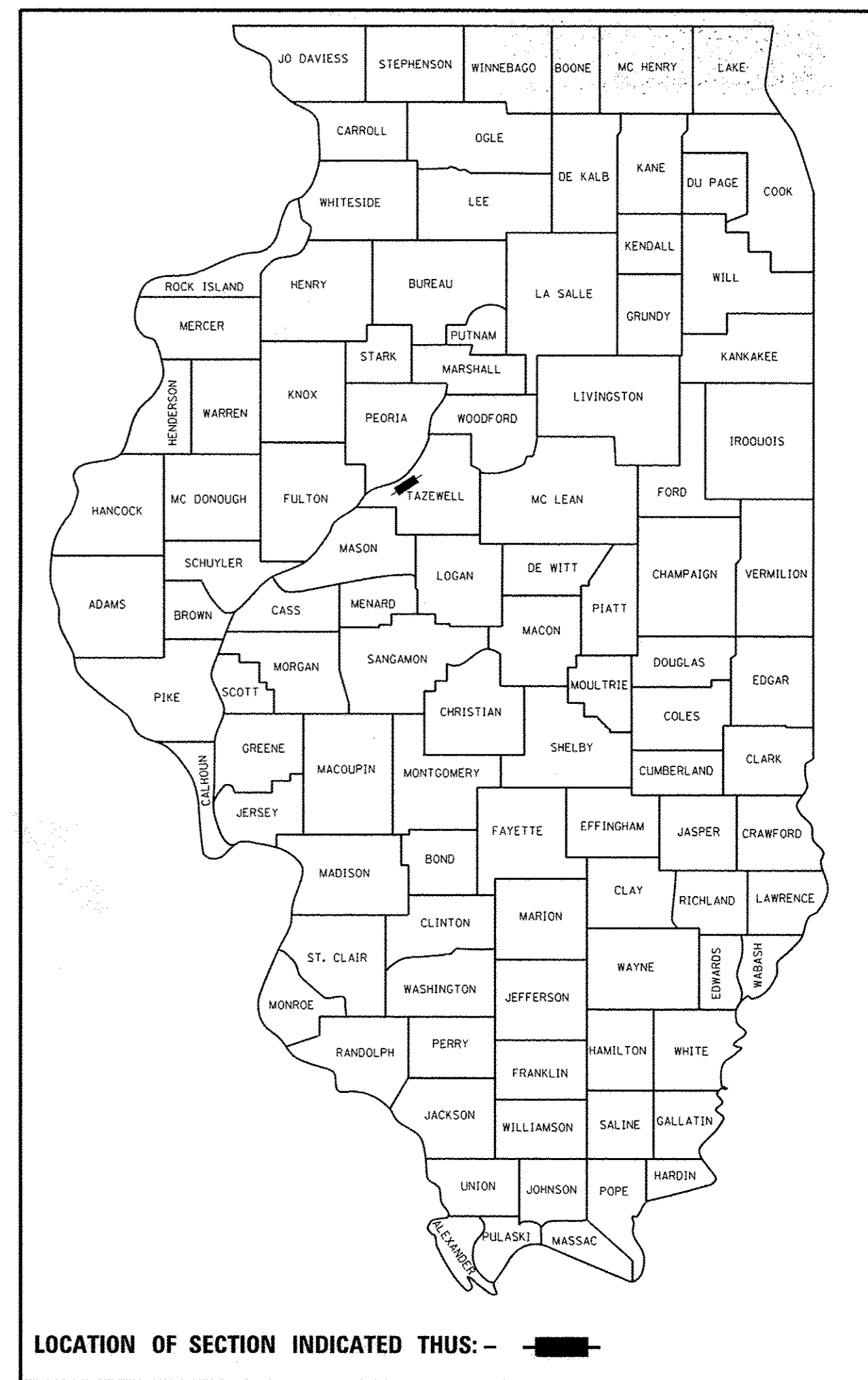


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
MAJOR BRIDGE PROGRAM
F.A.S. 461 / C.H. 16 / MANITO ROAD
OVER MACKINAW RIVER
SECTION 07-00010-12-BR
PROJECT BRS-0461(120)
TAZEWELL COUNTY
C-94-024-13

| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|----------------|-----------------------|--------------|-----------|
| F.A.S. 461 | 07-00010-12-BR | TAZEWELL | 91 | 1 |
| FED. ROAD DIST. NO. | | ILLINOIS CONTRACT NO. | 89634 | |

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|--|
| 1. | COVER SHEET |
| 2. | GENERAL NOTES, STANDARDS & MIX DESIGNS |
| 3. | SUMMARY OF QUANTITIES |
| 4-5. | TYPICAL SECTIONS |
| 6. | SCHEDULE OF QUANTITIES |
| 7-10. | PLAN AND PROFILE SHEETS |
| 11-12. | DETOUR PLAN |
| 13. | EROSION CONTROL PLAN |
| 14. | PAVED SHOULDER LAYOUT |
| 15. | GUARDRAIL LAYOUT |
| 16. | PAVEMENT MARKING LAYOUT |
| 17. | ENTRANCE, BUTT JOINT AND GUARDRAIL DETAILS |
| 18. | SLOPE STEP DETAILS |
| 19-57. | STRUCTURE PLANS |
| 58-63. | BORINGS |
| 64. | ROCK CORE LOGS |
| 65-91. | CROSS SECTIONS |



UTILITIES

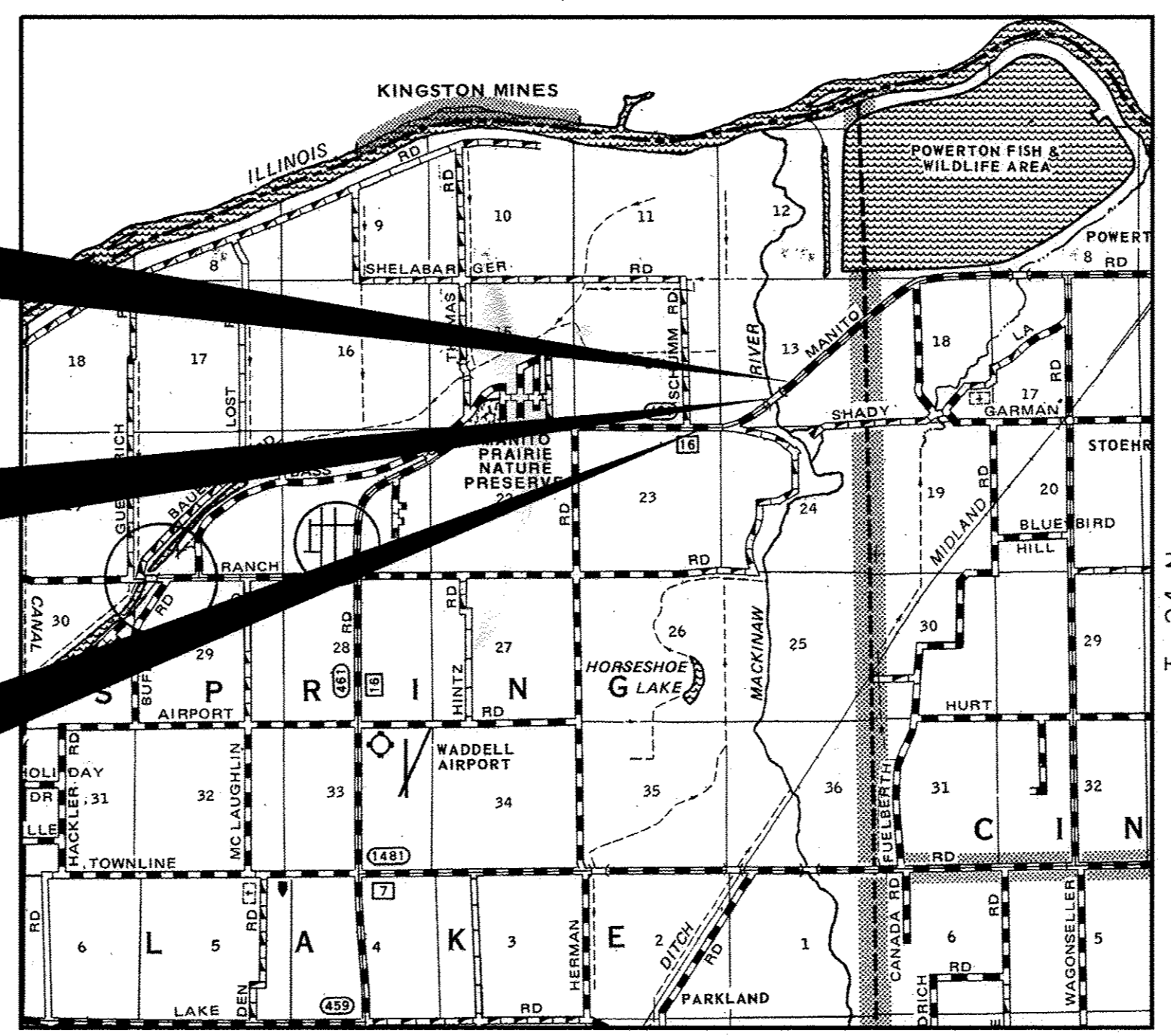
AMEREN / CILCO
 300 LIBERTY STREET
 PEORIA, IL 61602
 309-693-4730

GALLATIN RIVER COMMUNICATIONS
 200 ENTERPRISE DRIVE
 PEKIN, IL 61554
 309-477-0255

IMPROVEMENT BEGINS
 STATION 147+50

STA. 154+54.50
 STEEL PLATE GIRDER BRIDGE
 6 SPANS: 115'-0", 130'-0", 150'-0",
 130'-0", 102'-0", 102'-0"
 36'-0" RDWY.; SKEW = 0°
 EXISTING STRUCTURE NO. 090-3001
 PROPOSED STRUCTURE NO. 090-3248

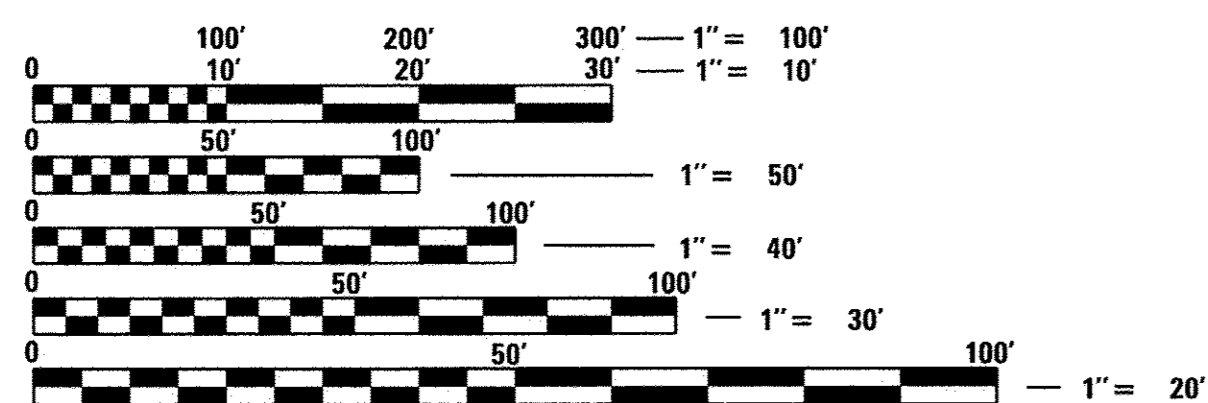
IMPROVEMENT ENDS
 STATION 164+00



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE

NET LENGTH OF SECTION = 1650 FEET = 0.313 MILES
 GROSS LENGTH OF SECTION = 1650 FEET = 0.313 MILES
 ROADWAY LENGTH = 914 FEET = 0.174 MILES
 BRIDGE LENGTH = 736 FEET = 0.139 MILES



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

CATALOG NO. 034898-00
CONTRACT NO. 89634 PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
DESIGN SPEED: 55 MPH
DESIGN TRAFFIC: 12824 ADT (2036)



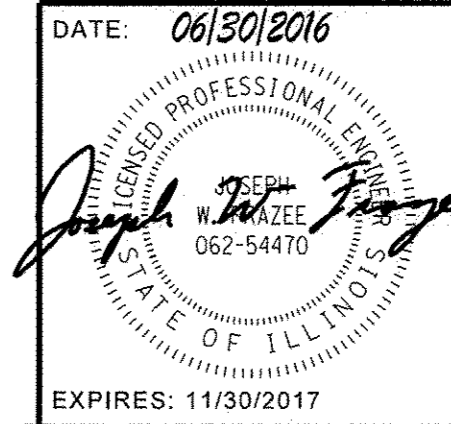
ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED: July 5, 2016
 County Engineer

PASSED: July 6th, 2016
 District Four Engineer of Local Roads & Streets

Releasing For Bid Based on Limited Review: July 6, 2016
 Region Three Engineer

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hltrengineering.com

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED APRIL 1, 2016; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE CONSIDERED TO BE INCLUDED WITH THE CORRESPONDING PAVEMENT REMOVAL PAY ITEM AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE LOCATIONS OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER SEEDING WILL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
ESTIMATED QUANTITY = SEEDING CLASS 2 (SPECIAL) = **0.75 ACRES**
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

| | |
|-----------------------------------|-------------------------------|
| AGGREGATE SURFACE COURSE | 2.05 TON/CU.YD. |
| BITUMINOUS MATERIALS (PRIME COAT) | |
| ON PAVEMENT | 0.05 LB./SQ.FT. |
| INTERMEDIATE LIFTS(TACK COAT) | 0.025 LB./SQ.FT. |
| HOT-MIX ASPHALT | 112 LBS/SQ.YD./INCH THICKNESS |
- ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM NAVD88.
- PRIOR TO THE USE OF ANY PROPOSED BORROW AREAS, USE AREAS (TEMPORARY ACCESS ROADS, DETOURS, RUN-AROUNDS, ETC.) AND/OR WASTE AREAS, THE CONTRACTOR SHALL FILE THE REQUIRED ENVIRONMENTAL RESOURCE REQUEST SURVEYS ACCORDING TO SECTION 107.22 OF THE STANDARD SPECIFICATIONS. THESE SURVEYS ARE REQUIRED IN ORDER FOR THE DEPARTMENT TO CONDUCT CULTURAL AND BIOLOGICAL RESOURCE SURVEYS FOR THE PROPOSED SITE.

 THE REQUIRED ENVIRONMENTAL RESOURCE DOCUMENTATION SHALL INCLUDE THE FOLLOWING:
 BDE FORM 2289 (CULTURAL AND NATURAL RESOURCES REVIEW OF BORROW AREAS)
 BDE FORM 2290 (WASTE/USE AREA REVIEW)
 A LOCATION MAP SHOWING THE SIZE LIMITS AND LOCATION OF THE USE AREA
 COLOR PHOTOGRAPHS DEPICTING THE USE AREA
 BORROW AREA ENTRY AGREEMENT FORM - D4 PI0101

 PRIOR TO ANY WASTE MATERIALS BEING REMOVED FROM THE CONSTRUCTION SITE, THE REQUIRED ENVIRONMENTAL RESOURCE SURVEYS SHALL BE OBTAINED AND FILED BY THE CONTRACTOR. EXCESS WASTE PRODUCTS REMOVED FROM THE CONSTRUCTION SITE SHALL BE DISPOSED OF AS REQUIRED IN SECTION 202.03 OF THE STANDARD SPECIFICATIONS.

 ANY PROTRUDING METAL BARS SHALL BE REMOVED PRIOR TO THE DISPOSAL OF BROKEN CONCRETE AT APPROVED DISPOSAL SITES.

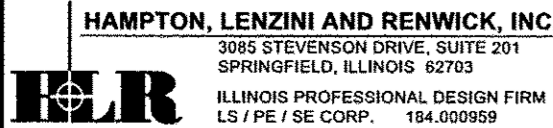
 PLEASE NOTE THAT A MINIMUM OF FOUR WEEKS SHALL BE ALLOWED FOR THE DISTRICT TO OBTAIN THE REQUIRED WASTE SITE ENVIRONMENTAL CLEARANCES AND SIX WEEKS FOR THE REQUIRED BORROW SITE ENVIRONMENTAL CLEARANCES.
- COMMITMENTS AS OF 6/30/2016:
NO TREE REMOVAL MAY BE CONDUCTED BETWEEN APRIL 1 AND SEPTEMBER 30.
THE EXISTING STRUCTURE SHALL BE INSPECTED FOR BAT ACTIVITY PRIOR TO CONSTRUCTION. SEE SPECIAL PROVISIONS.

ASPHALT MIXTURE REQUIREMENTS

| MIXTURE USE(S): | POLYMERIZED HMA SURFACE COURSE | POLYMERIZED HMA BINDER COURSE | POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50 | HMA SHOULDERS (TOP LIFT) | HMA SHOULDERS (BOTTOM LIFTS) | INCIDENTAL HMA SURFACING |
|---|--------------------------------|-------------------------------|--|--------------------------|------------------------------|--------------------------|
| PG: | SBS 76-22 | SBS 76-22 | SBS 76-22 | PG 64-22 | PG 64-22 | PG 64-22 |
| DESIGN AIR VOIDS: | 4% @ Ndes 50 | 4% @ Ndes 50 | 4% @ Ndes 50 | 4% @ Ndes 50 | 4% @ Ndes 50 | 4% @ Ndes 50 |
| MIXTURE COMPOSITION: (MIXTURE GRADATION): | IL 9.5 | IL 9.5 | IL 4.75 | IL 9.5 | IL 19.0 | IL 9.5 |
| FRICTION AGGREGATE: | MIXTURE D | NONE | NONE | MIXTURE C | NONE | MIXTURE C |
| MIXTURE WEIGHTS: | 112 LBS./SQ. YD./ INCH | 112 LBS./SQ. YD./ INCH | 112 LBS./SQ. YD./ INCH | 112 LBS./SQ. YD./ INCH | 112 LBS./SQ. YD./ INCH | 112 LBS./SQ. YD./ INCH |
| QUALITY CONTROL PROGRAM: | QC/QA | QC/QA | QC/QA | QC/QA | QC/QA | QC/QA |

HIGHWAY STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 420406 PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
- 515001-03 NAME PLATE FOR BRIDGES
- 601101-02 CONCRETE HEADWALL FOR PIPE UNDERDRAINS
- 630001-10 STEEL PLATE BEAM GUARDRAIL
- 630301-06 SHOULDER WIDENING FOR TYPE 1, (SPECIAL) GUARDRAIL TERMINALS
- 631031-14 TRAFFIC BARRIER TERMINAL, TYPE 6
- 701006-05 OFF-RD OPERATIONS, 2L, 2W 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
- 701011-04 OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701901-05 TRAFFIC CONTROL DEVICES
- 725001 OBJECT AND TERMINAL MARKERS
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 781001-04 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
- 782006 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL; DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

| | | | | | | | | | | | |
|--|----------------------|-------------------|-----------|---|--|--------------------|-------------------------|----------|--------------|-----------|---------------------------|
| FILE NAME = 100110-shr-notes.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | GENERAL NOTES, STANDARDS AND MIX DESIGNS F.A.S. 461 / C.H. 16 / MANITO ROAD | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
|  HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959 | | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 2 | |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | | CONTRACT NO. 89634 | | | | | |
| | PLOT DATE = 7/1/2016 | DATE - 06/30/16 | REVISED - | | | SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | | ILLINOIS FED. AID PROJECT |

| SUMMARY OF QUANTITIES | | | | |
|-----------------------|-------------|--|-------|--|
| ITEM NUMBER | CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY CONSTRUCTION TYPE CODE 0011 |
| A 1 | 20100500 | TREE REMOVAL, ACRES | ACRE | 0.25 |
| A 2 | 20200100 | EARTH EXCAVATION | CU YD | 204 |
| 3 | 20300100 | CHANNEL EXCAVATION | CU YD | 970 |
| 4 | 20400800 | FURNISHED EXCAVATION | CU YD | 2,280 |
| 5 | 25100115 | MULCH, METHOD 2 | ACRE | 3.5 |
| 6 | 25100630 | EROSION CONTROL BLANKET | SQ YD | 3,418 |
| 7 | 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 327 |
| 8 | 28000400 | PERIMETER EROSION BARRIER | FOOT | 1,701 |
| 9 | 28100209 | STONE RIPRAP, CLASS A5 | TON | 1,647 |
| 10 | 28200200 | FILTER FABRIC | SQ YD | 1,173 |
| 11 | 40600295 | POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) | POUND | 1,588 |
| A 12 | 40600825 | POLYMERIZED LEVELING BINDER (MACHINE METHOD), N50 | TON | 25 |
| 13 | 40600982 | HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT | SQ YD | 214 |
| 14 | 40600990 | TEMPORARY RAMP | SQ YD | 26 |
| 15 | 40603210 | POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-9.5, N50 | TON | 379 |
| A 16 | 40603535 | POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 | TON | 221 |
| A 17 | 40800050 | INCIDENTAL HOT-MIX ASPHALT SURFACING | TON | 26 |
| 18 | 42000070 | PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB | SQ YD | 80 |
| A 19 | 44000100 | PAVEMENT REMOVAL | SQ YD | 313 |
| 20 | 44000152 | HOT-MIX ASPHALT SURFACE REMOVAL, 3/4" | SQ YD | 608 |
| 21 | 44004250 | PAVED SHOULDER REMOVAL | SQ YD | 933 |
| A 22 | 44201785 | CLASS D PATCHES, TYPE I, 12 INCH | SQ YD | 500 |
| A 23 | 48101200 | AGGREGATE SHOULDERS, TYPE B | TON | 250 |
| A 24 | 48203029 | HOT-MIX ASPHALT SHOULDERS, 8" | SQ YD | 1,658 |
| 25 | 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| 26 | 50200100 | STRUCTURE EXCAVATION | CU YD | 724 |
| 27 | 50200300 | COFFERDAM EXCAVATION | CU YD | 1,190 |
| A 28 | 50201121 | COFFERDAM (TYPE 2) (LOCATION - 1) | EACH | 1 |
| A 29 | 50201122 | COFFERDAM (TYPE 2) (LOCATION - 2) | EACH | 1 |
| 30 | 50300100 | FLOOR DRAINS | EACH | 56 |
| 31 | 50300225 | CONCRETE STRUCTURES | CU YD | 644.2 |
| A 32 | 50300255 | CONCRETE SUPERSTRUCTURE | CU YD | 923.5 |
| 33 | 50300260 | BRIDGE DECK GROOVING | SQ YD | 2,989 |
| 34 | 50300265 | SEAL COAT CONCRETE | CU YD | 276 |

^ SEE SPECIAL PROVISIONS

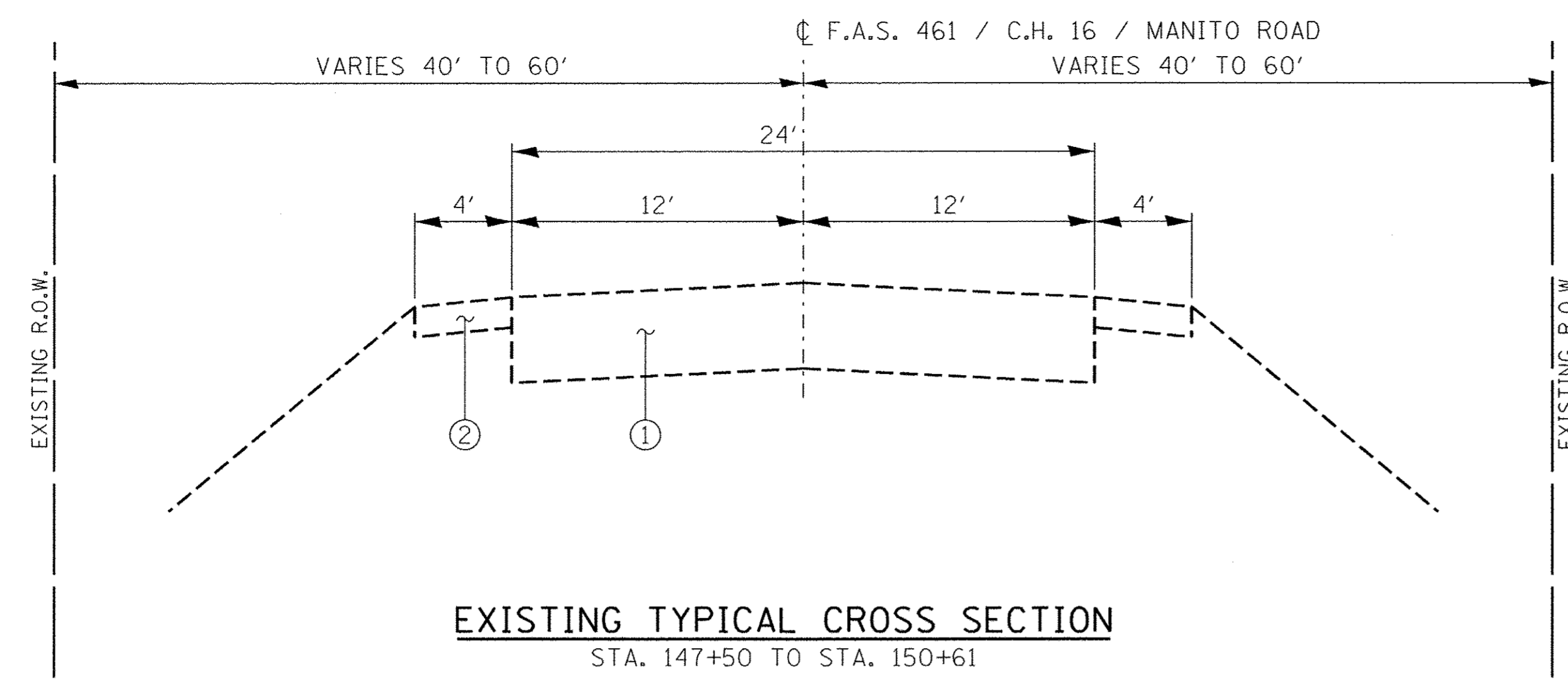
| SUMMARY OF QUANTITIES | | | | |
|-----------------------|-------------|--|--------|--|
| ITEM NUMBER | CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY CONSTRUCTION TYPE CODE 0011 |
| 35 | 50300300 | PROTECTIVE COAT | SQ YD | 3,808 |
| 36 | 50301350 | CONCRETE SUPERSTRUCTURE (APPROACH SLAB) | CU YD | 108.3 |
| A 37 | 50500105 | FURNISHING AND ERECTING STRUCTURAL STEEL | LSUM | 1 |
| 38 | 50500505 | STUD SHEAR CONNECTORS | EACH | 13,660 |
| 39 | 50800205 | REINFORCEMENT BARS, EPOXY COATED | POUND | 376,120 |
| 40 | 50800515 | BAR SPLICERS | EACH | 72 |
| 41 | 50800530 | MECHANICAL SPLICERS | EACH | 484 |
| 42 | 51201600 | FURNISHING STEEL PILES HP12X53 | FOOT | 2,606 |
| 43 | 51201800 | FURNISHING STEEL PILES HP14X73 | FOOT | 1,310 |
| 44 | 51202305 | DRIVING PILES | FOOT | 3,916 |
| 45 | 51203600 | TEST PILE STEEL HP12X53 | EACH | 4 |
| 46 | 51203800 | TEST PILE STEEL HP14X73 | EACH | 3 |
| 47 | 51204650 | PILE SHOES | EACH | 118 |
| 48 | 51500100 | NAME PLATES | EACH | 1 |
| 49 | 52000208 | FINGER PLATE EXPANSION JOINT, 3" | FOOT | 36 |
| 50 | 52000212 | FINGER PLATE EXPANSION JOINT, 4" | FOOT | 36 |
| 51 | 52100010 | ELASTOMERIC BEARING ASSEMBLY, TYPE I | EACH | 10 |
| 52 | 52100020 | ELASTOMERIC BEARING ASSEMBLY, TYPE II | EACH | 10 |
| 53 | 52100505 | ANCHOR BOLTS, 5/8" | EACH | 20 |
| 54 | 52100520 | ANCHOR BOLTS, 1" | EACH | 60 |
| 55 | 52100530 | ANCHOR BOLTS, 1 1/4" | EACH | 40 |
| 56 | 58700300 | CONCRETE SEALER | SQ FT | 1,013 |
| 57 | 59100100 | GEOCOMPOSITE WALL DRAIN | SQ YD | 70 |
| 58 | 60100060 | CONCRETE HEADWALLS FOR PIPE DRAINS | EACH | 4 |
| * 59 | 63000001 | STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS | FOOT | 737.5 |
| * 60 | 63100085 | TRAFFIC BARRIER TERMINAL, TYPE 6 | EACH | 3 |
| * 61 | 63100167 | TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT | EACH | 6 |
| * 62 | 63200310 | GUARDRAIL REMOVAL | FOOT | 1,089 |
| 63 | 67000500 | ENGINEER'S FIELD OFFICE, TYPE B | CAL MO | 9 |
| 64 | 67100100 | MOBILIZATION | LSUM | 1 |
| * 65 | 72501000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 6 |
| * 66 | 78001110 | PAINT PAVEMENT MARKING - LINE 4" | FOOT | 5,160 |
| * 67 | 78100100 | RAISED REFLECTIVE PAVEMENT MARKER | EACH | 11 |
| * 68 | 78200005 | GUARDRAIL REFLECTORS, TYPE A | EACH | 16 |

^ SEE SPECIAL PROVISIONS

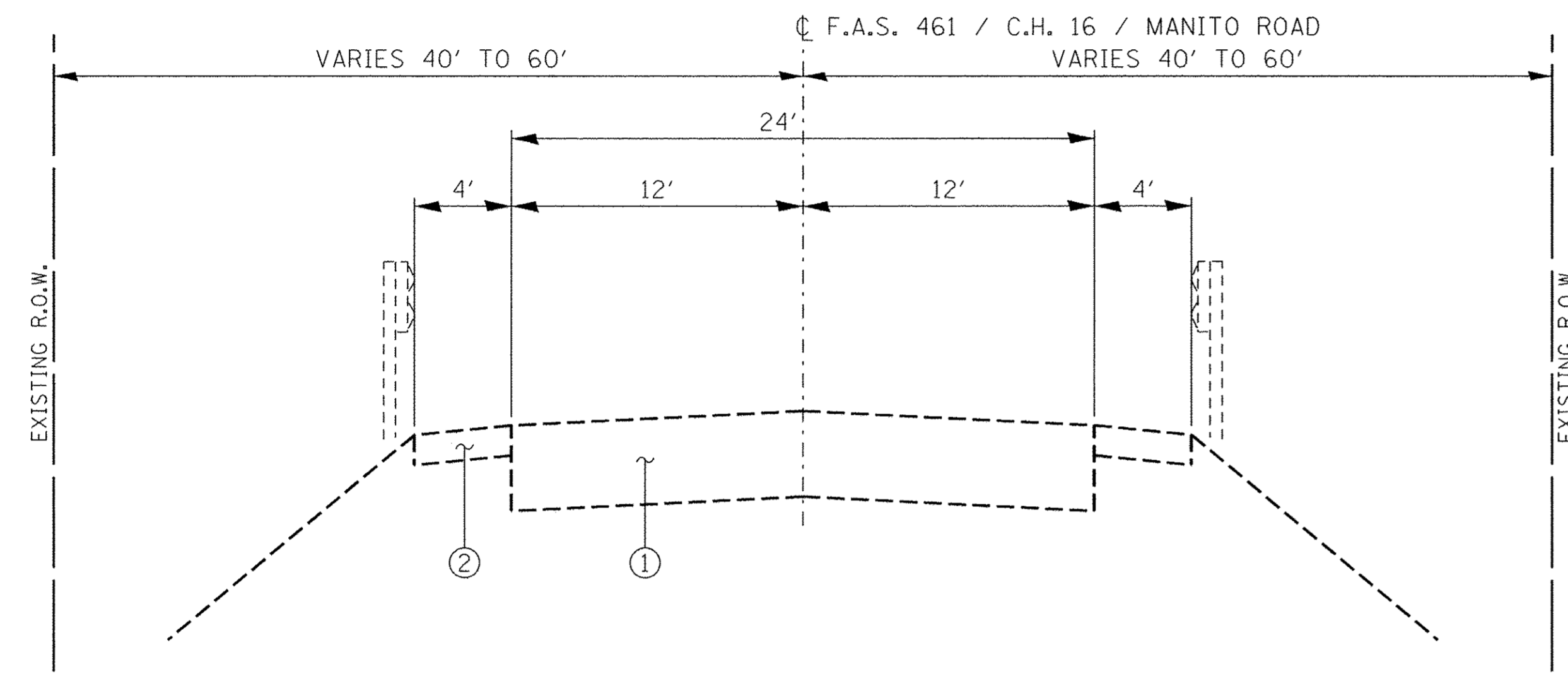
| SUMMARY OF QUANTITIES | | | | |
|-----------------------|-------------|---|-------|--|
| ITEM NUMBER | CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY CONSTRUCTION TYPE CODE 0011 |
| * 69 | 78200010 | BARRIER WALL REFLECTORS, TYPE B | EACH | 18 |
| * 71 | 78300200 | RAISED REFLECTIVE PAVEMENT MARKER REMOVAL | EACH | 11 |
| A 72 | X2501000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.75 |
| A 73 | X5210150 | HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 400K | EACH | 5 |
| A 74 | X5860110 | GRANULAR BACKFILL FOR STRUCTURES | CU YD | 161 |
| * A 75 | X6310187 | TRAFFIC BARRIER TERMINAL, TYPE 6 (MODIFIED) | EACH | 1 |
| A 76 | X7010218 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | EACH | 40 |
| A 77 | XX008438 | TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR | EACH | 1 |
| A 78 | Z0013798 | CONSTRUCTION LAYOUT | LSUM | 1 |
| A 79 | Z0018002 | DRAINAGE SCUPPERS, DS-11 | EACH | 6 |
| A 80 | Z0046304 | PIPE UNDERDRAINS FOR STRUCTURES 4" | FOOT | 160 |
| 81 | Z0076606 | Trainees | Hour | 1000 |
| 82 | Z0076604 | Trainees Training Program Graduate | Hour | 1000 |

^ See Special Provisions

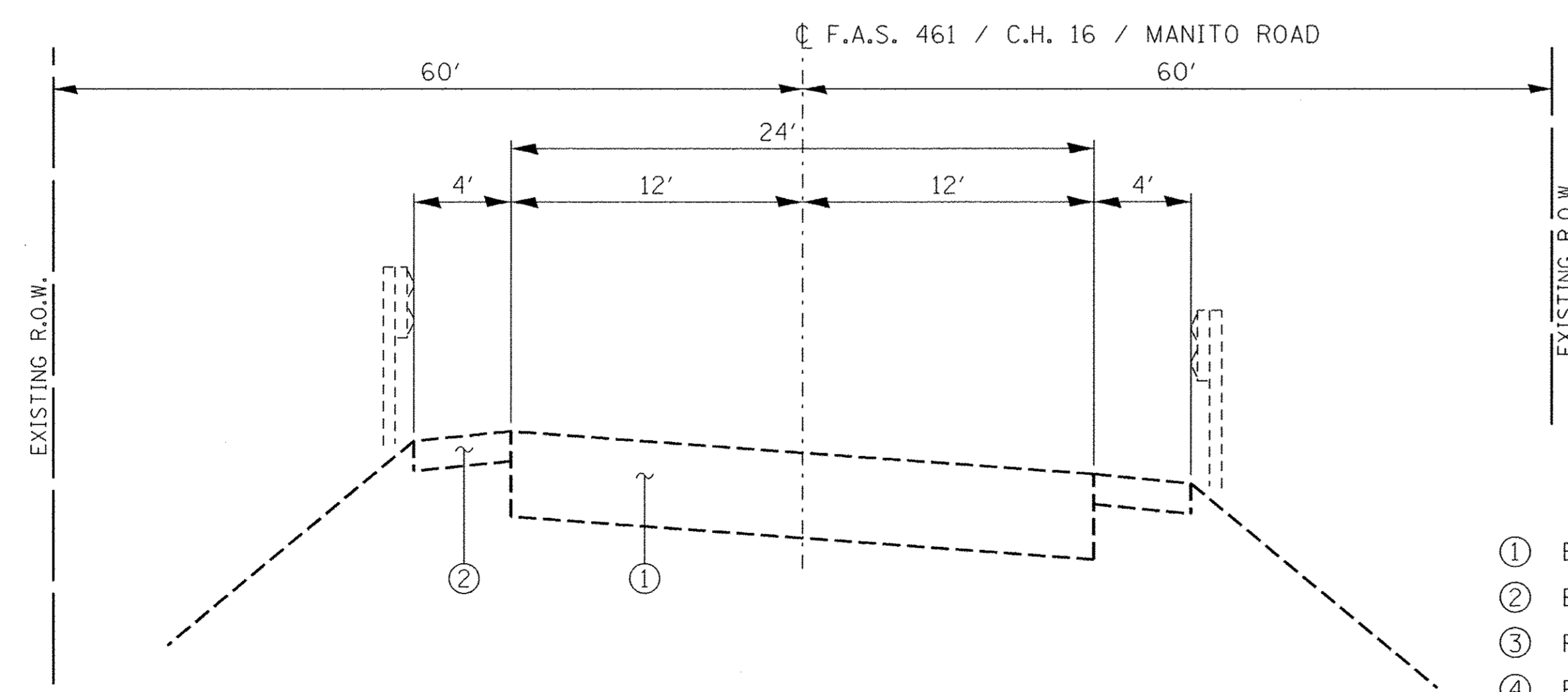
* Specialty Items



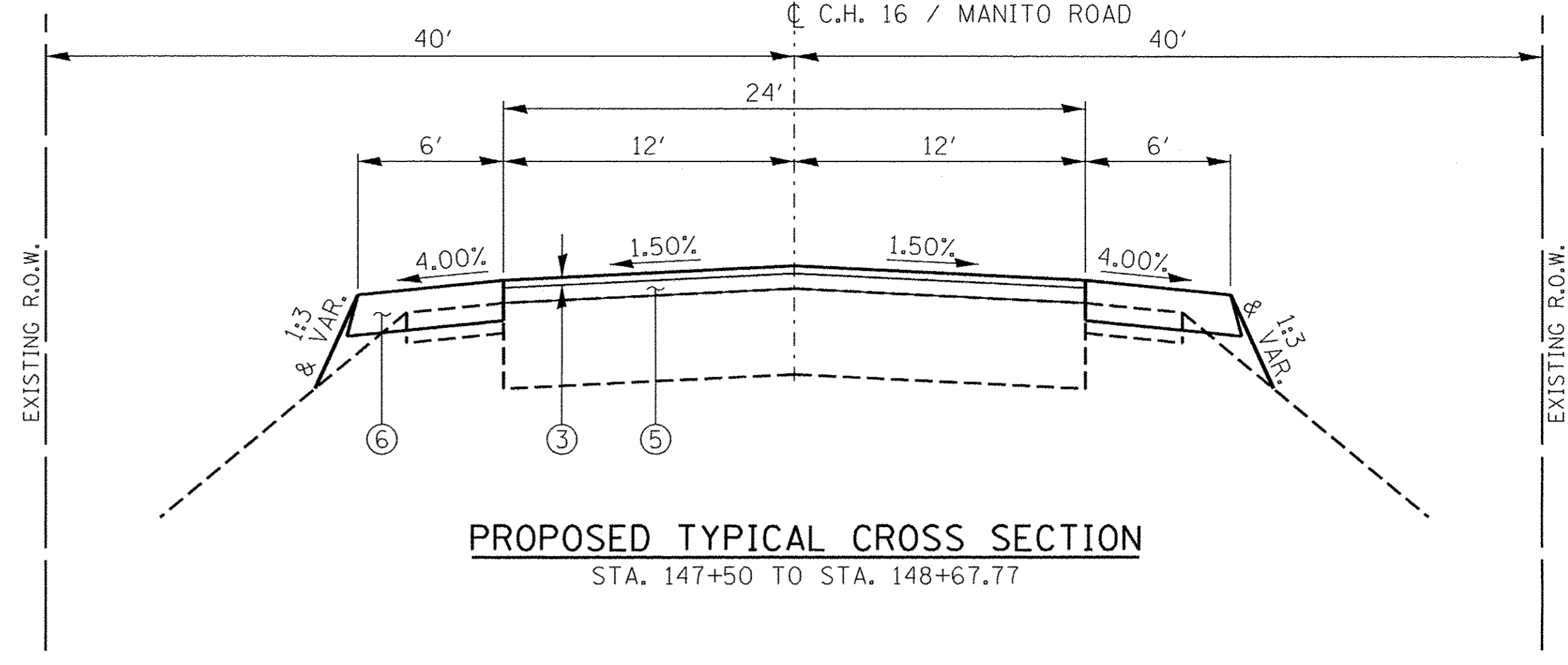
EXISTING TYPICAL CROSS SECTION
STA. 147+50 TO STA. 150+61



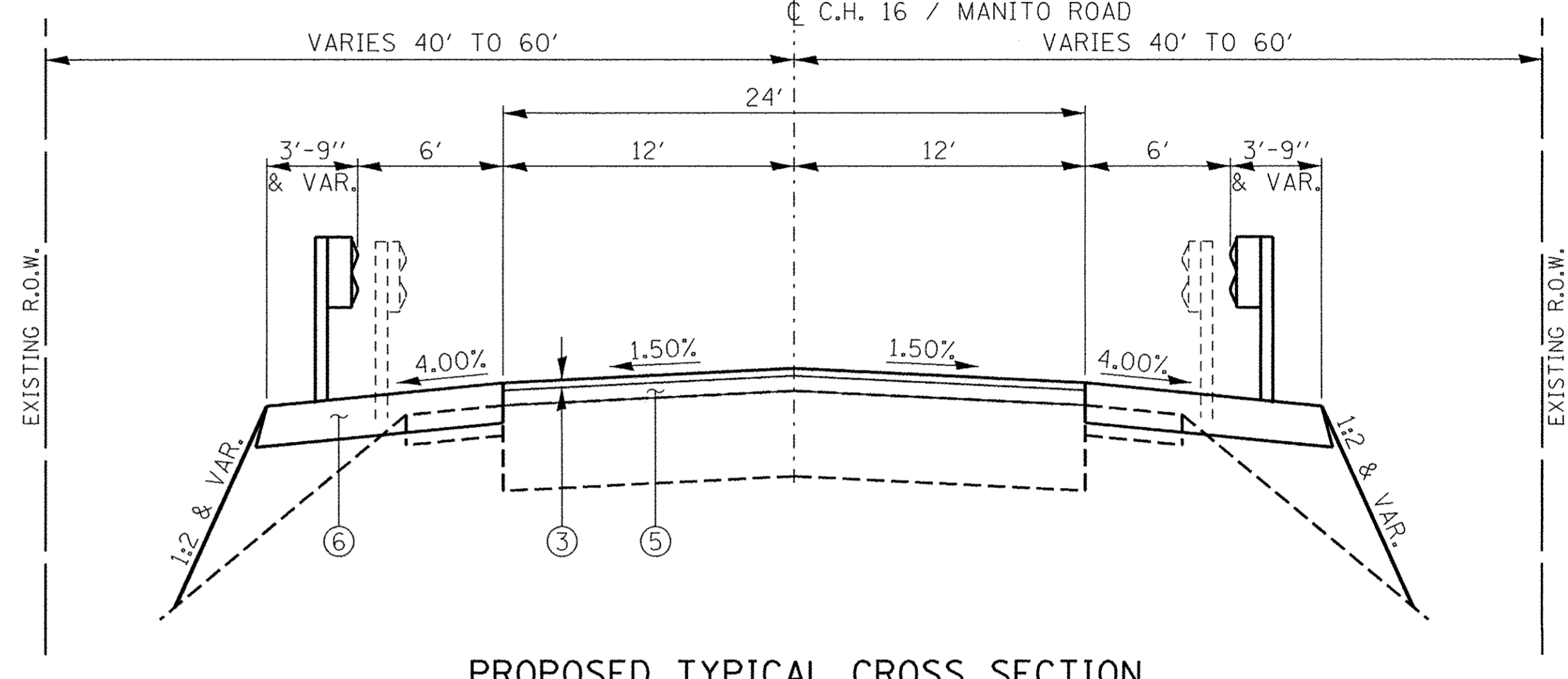
EXISTING TYPICAL CROSS SECTION
STA. 150+61 TO STA. 151+01.75
STA. 157+98.25 TO STA. 162+35.78



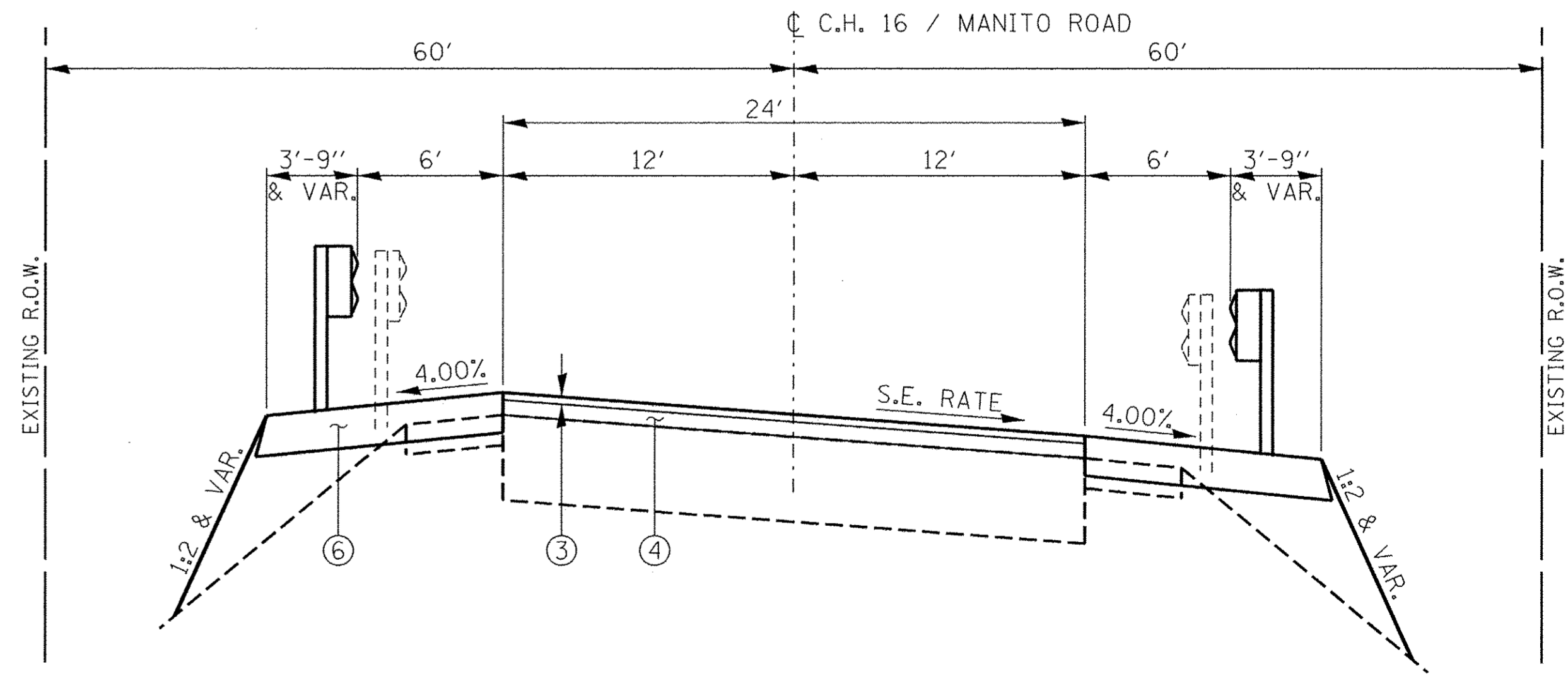
EXISTING TYPICAL CROSS SECTION
STA. 162+35.78 TO STA. 164+00



PROPOSED TYPICAL CROSS SECTION
STA. 147+50 TO STA. 148+67.77



PROPOSED TYPICAL CROSS SECTION
STA. 148+67.77 TO STA. 150+47
STA. 158+62 TO STA. 162+35.78



PROPOSED TYPICAL CROSS SECTION
STA. 162+35.78 TO STA. 164+00

NOTE: SEE SLOPE STEPS
DETAIL ON SHEET 18

LEGEND

- ① EXISTING HMA PAVEMENT (±12")
- ② EXISTING HMA SHOULDERS (±6")
- ③ POLYMERIZED HMA SURFACE COURSE, MIX "D", N50 (1.5")
- ④ POLYMERIZED LEVELING BINDER (MM) N50 (0.75" MIN.)
- ⑤ POLYMERIZED HMA BINDER COURSE IL-19.0, N50 (2.25" MIN.)
- ⑥ HMA SHOULDERS (8")
- ⑦ BRIDGE APPROACH SLAB AND HMA PAVEMENT CONNECTOR

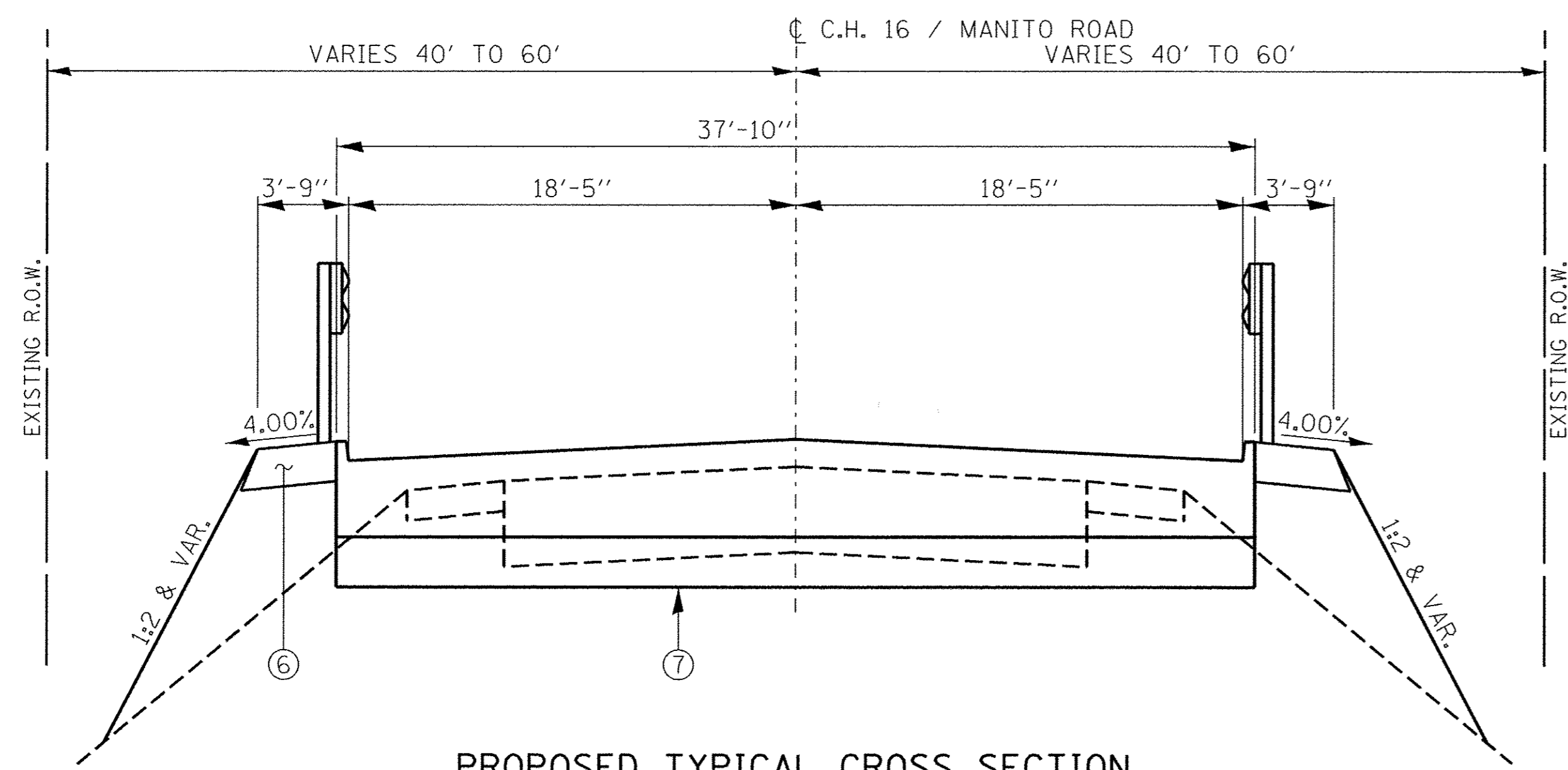
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|--|-----------------------|-------------------|-----------|
| FILE NAME = 100110-sh-typsections.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62763 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | | DRAWN - T.W.K. | REVISED - |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - |
| | PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - |

STATE OF ILLINOIS
TAZEWELL COUNTY HIGHWAY DEPARTMENT

TYPICAL CROSS SECTIONS
F.A.S. 461 / C.H. 16 / MANITO ROAD

SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|----------|--------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 4 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 89634 | |

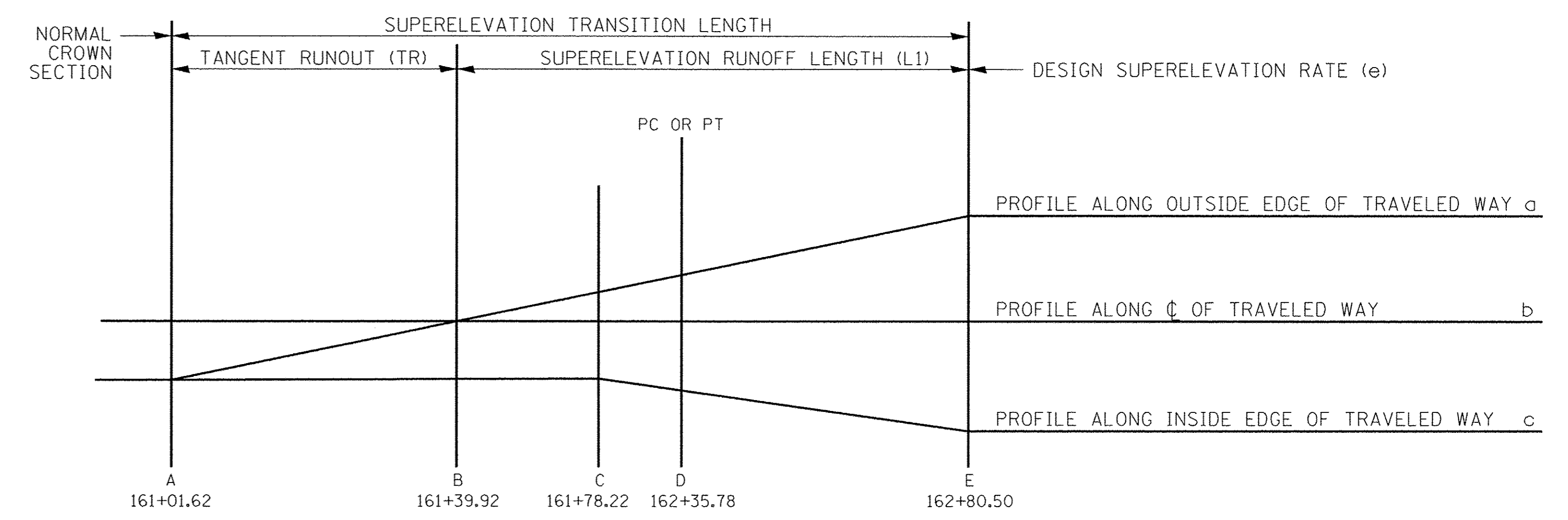


PROPOSED TYPICAL CROSS SECTION
 STA. 150+47 TO STA. 150+57 (PAVEMENT CONNECTOR HMA)
 STA. 150+57 TO STA. 150+87 (BRIDGE APPROACH SLAB)
 STA. 158+22 TO STA. 158+52 (BRIDGE APPROACH SLAB)
 STA. 158+52 TO STA. 158+62 (PAVEMENT CONNECTOR HMA)

NOTE: SEE SLOPE STEPS
 DETAIL ON SHEET 18

LEGEND

- ① EXISTING HMA PAVEMENT (±12")
- ② EXISTING HMA SHOULDERS (±6")
- ③ POLYMERIZED HMA SURFACE COURSE, MIX "D", N50 (1.5")
- ④ POLYMERIZED LEVELING BINDER (MM) N50 (0.75" MIN.)
- ⑤ POLYMERIZED HMA BINDER COURSE IL-19.0, N50 (2.25" MIN.)
- ⑥ HMA SHOULDERS (8")
- ⑦ BRIDGE APPROACH SLAB AND HMA PAVEMENT CONNECTOR



| OUTSIDE EDGE OF TRAVELED WAY | | CL & PROFILE GRADE | INSIDE EDGE OF TRAVELED WAY | |
|------------------------------|-------|--------------------|-----------------------------|---|
| G | 2.83% | | | G |
| F | 5.50% | | 2.83% | F |
| E | 5.50% | | 5.50% | E |
| D | 3.75% | | 5.50% | D |
| C | 1.50% | | 3.75% | C |
| B | 0.00% | | 1.50% | B |
| A | 1.50% | | 1.50% | A |
| LANE WIDTH = 12' | | | LANE WIDTH = 12' | |

CURVE P.I. STATION 169+88.08 TRANSITION DETAILS

| | | |
|---------------|--------------|--------------------|
| R= 2350.00 FT | NC = 1.50 % | LANE WIDTH= 12 FT. |
| CURVE= RIGHT | S.E.= 5.50 % | |

| | 1/4 | 3/4 |
|-------|-------|--------|
| L1 | 140.6 | |
| TR | 38.3 | |
| TOTAL | 178.9 | 134.16 |

| CURVE STATIONS | |
|----------------|-----------|
| P.C. | 162+35.78 |
| P.T. | 176+91.93 |

| | STATION | SUPERELEVATION | |
|---|-----------|----------------|--------|
| | | LEFT | RIGHT |
| A | 161+01.62 | -1.50% | -1.50% |
| B | 161+39.92 | 0.00% | -1.50% |
| C | 161+78.22 | 1.50% | -1.50% |
| D | 162+35.78 | 3.75% | -3.75% |
| E | 162+80.50 | 5.50% | -5.50% |
| F | 163+25.00 | 5.50% | -5.50% |
| G | 164+00.00 | 2.83% | 2.83% |

| ROADWAY SCHEDULE | | | | | | | | | | | | |
|-------------------------------------|--|--|--|----------------|---|---|--------------------------------------|---|------------------|--------------------------------------|------------------------|------------------------------|
| LOCATION | POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) | POLYMERIZED LEVELING BINDER (MACHINE METHOD) N50 | HOT-MIX ASPHALT SURFACE REMOVAL BUTT JOINT | TEMPORARY RAMP | POLYMERIZED HOT-MIX ASPHALT BINDER COURSE IL-9.5, N50 | POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE MIX "D", N50 | INCIDENTAL HOT-MIX ASPHALT SURFACING | BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE) | PAVEMENT REMOVAL | HOT-MIX ASPHALT SURFACE REMOVAL 3/4" | PAVED SHOULDER REMOVAL | HOT-MIX ASPHALT SHOULDERS 8" |
| | 40600295 | 40600825 | 40600982 | 40600990 | 40603210 | 40603535 | 40800050 | 42001430 | 44000100 | 44000152 | 44004250 | 48203029 |
| | POUND | TON | SQ YD | SQ YD | TON | TON | TON | SQ YD | SQ YD | SQ YD | SQ YD | SQ YD |
| FAS 461 / CH16 / MANITO RD | | | | | | | | | | | | |
| CL. STA 147+50 TO CL. STA 150+86.50 | 751 | | 107 | 13 | 279 | 84 | | 40 | 145 | | 312 | 580 |
| CL. STA 158+22.50 TO CL. STA 164+00 | 837 | 25 | 107 | 13 | 100 | 137 | | 40 | 168 | 608 | 621 | 1078 |
| ENTRANCE RT. 150+36 | | | | | | | 11 | | | | | |
| ENTRANCE RT. 162+69 | | | | | | | 6 | | | | | |
| ENTRANCE LT. 163+25 | | | | | | | 9 | | | | | |
| TOTAL | 1588 | 25 | 214 | 26 | 379 | 221 | 26 | 80 | 313 | 608 | 933 | 1658 |

| 28000400 PERIMETER EROSION BARRIER | |
|-------------------------------------|------|
| LOCATION | FOOT |
| FAS 461 / CH16 / MANITO RD | |
| LT. STA 147+50 TO LT. STA 150+61.50 | 315 |
| RT. STA 147+50 TO RT. STA 150+61.50 | 297 |
| LT. STA 158+47.50 TO RT. STA 164+00 | 536 |
| RT. STA 158+47.50 TO RT. STA 164+00 | 553 |
| TOTAL | 1701 |

| 20100500 TREE REMOVAL, ACRES | |
|------------------------------|------|
| LOCATION | ACRE |
| FAS 461 / CH16 / MANITO RD | |
| LT. STA 150+40 TO STA 151+20 | 0.03 |
| LT. STA 158+00 TO STA 162+75 | 0.20 |
| TOTAL | 0.23 |
| USE | 0.25 |

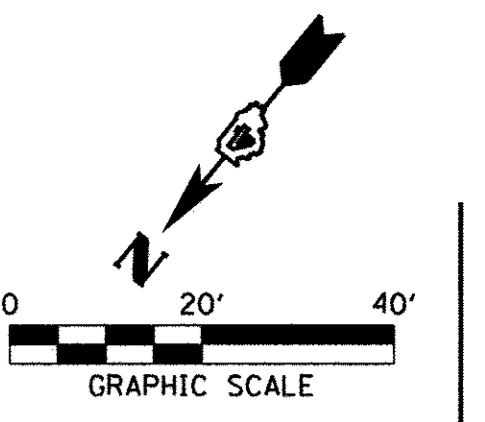
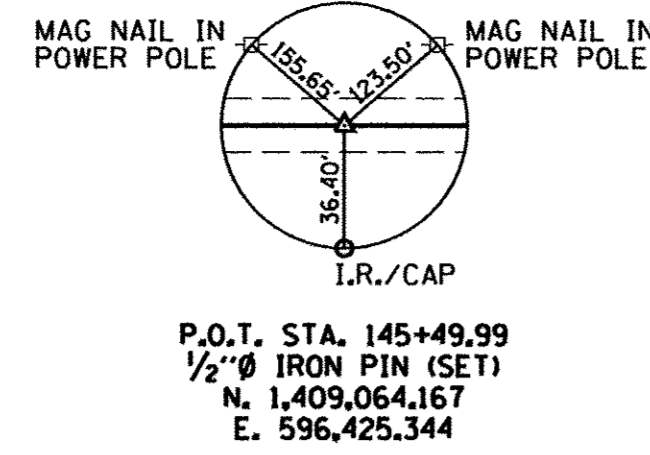
| EARTHWORK SUMMARY | | | | | | | |
|--------------------------------|------------------|--------------------|------------------|---------|---|---------------------|---|
| LOCATION | EARTH EXCAVATION | CHANNEL EXCAVATION | SHRINKAGE FACTOR | % USED | EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%) | EMBANKMENT REQUIRED | EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) |
| | 20200100 | 20300100 | | | | | |
| | CU YD | CU YD | | | CU YD | CU YD | CU YD |
| FAS 461 / CH16 / MANITO RD | | | | | | | |
| STA 147+50 TO STA 150+86.50 | 54 | | 25.00% | 100.00% | 41 | 496 | -455 |
| STA 150+86.50 TO STA 158+22.50 | | 970 | 25.00% | 70.00% | 509 | | 509 |
| STA 158+22.50 TO STA 164+00 | 150 | | 25.00% | 100.00% | 113 | 2447 | -2334 |
| TOTAL | 204 | 970 | | | 663 | 2943 | -2280 |
| | | | | | FURNISHED EXCAVATION | 2280 | CU.YD. |

| SEEDING SCHEDULE | | | | |
|-------------------------------------|-----------------|-------------------------|-----------------------------------|----------------------------|
| LOCATION | MULCH, METHOD 2 | EROSION CONTROL BLANKET | TEMPORARY EROSION CONTROL SEEDING | SEEDING, CLASS 2 (SPECIAL) |
| | 25100115 | 25100630 | 28000250 | X2501000 |
| | ACRE | SQ YD | POUND | ACRE |
| FAS 461 / CH16 / MANITO RD | | | | |
| LT. STA 147+50 TO LT. STA 150+61.50 | 0.52 | 209 | 45 | 0.11 |
| LT. STA 158+47.50 TO LT. STA 164+00 | 1.24 | 1456 | 124 | 0.31 |
| RT. STA 147+50 TO RT. STA 150+61.50 | 0.39 | 303 | 36 | 0.09 |
| RT. STA 158+47.50 TO RT. STA 164+00 | 1.24 | 1450 | 122 | 0.31 |
| TOTAL | 3.39 | 3418 | 327 | 0.82 |
| USE | 3.50 | 3418 | 327 | 0.75 |

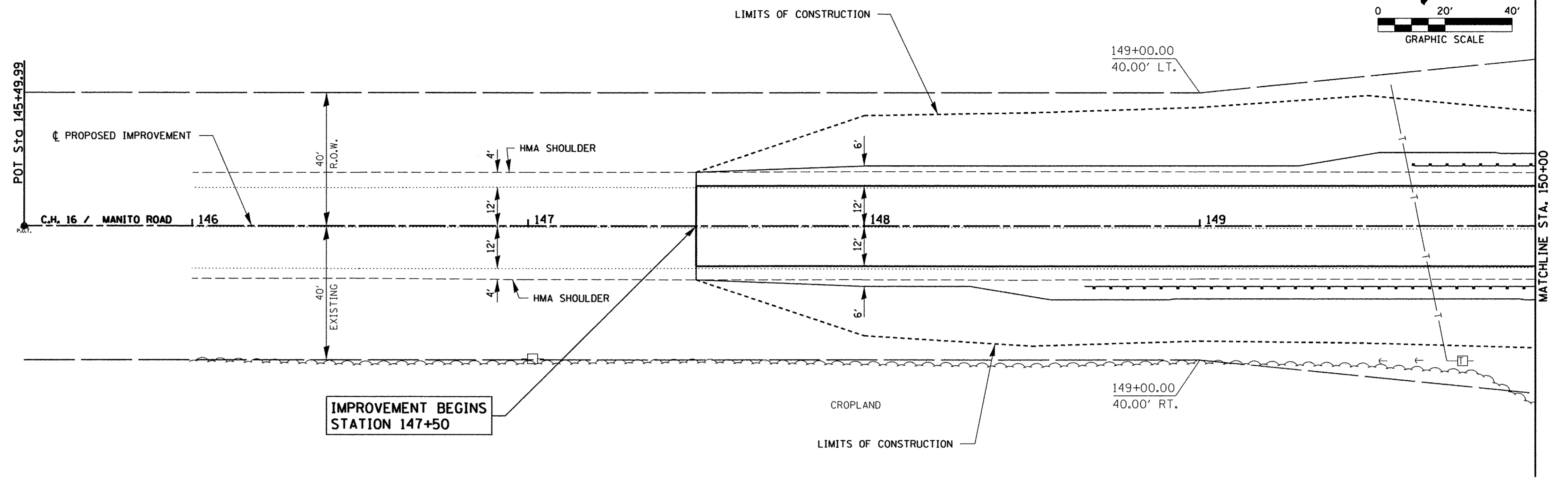
| GUARDRAIL SCHEDULE | | | | | | | | |
|--|-----------------------------|---------------------------------|--|---|-------------------|--------------------------------|-----------------------------|--------------------------------|
| LOCATION | STEEL PLATE BEAM GUARD RAIL | TRAFFIC BARRIER TERMINAL TYPE 6 | TRAFFIC BARRIER TERMINAL TYPE 6 (MODIFIED) | TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT | GUARDRAIL REMOVAL | TERMINAL MARKER DIRECT APPLIED | GUARDRAIL REFLECTORS TYPE A | BARRIER WALL REFLECTORS TYPE B |
| | 6 FOOT POSTS | | | | | | | |
| | 63000001 | 63100085 | X6310187 | 63100167 | 63200310 | 72501000 | 78200005 | 78200010 |
| | FOOT | EACH | EACH | EACH | FOOT | EACH | EACH | EACH |
| FAS 461 / CH16 / MANITO RD | | | | | | | | |
| LT. STA 149+60.73 TO LT. STA 150+74.50 | 12.5 | 1 | | 1 | 42 | 1 | 1 | |
| RT. STA 148+65.75 TO RT. STA 150+22.00 | 50 | | | 2 | | 2 | 2 | |
| RT. STA 150+45.39 TO RT. STA 150+74.50 | | | 1 | | 42 | | 1 | |
| LT. STA 150+74.50 TO LT. STA 158+34.50 | | | | | | | | 9 |
| RT. STA 150+74.50 TO RT. STA 158+34.50 | | | | | | | | 9 |
| LT. STA 158+34.50 TO LT. STA 162+83.28 | 350 | 1 | | 1 | 489 | 1 | 5 | |
| RT. STA 158+34.50 TO RT. STA 162+45.78 | 312.5 | 1 | | 1 | 450 | 1 | 6 | |
| RT. STA 163+01.47 TO RT. STA 163+67.10 | 12.5 | | | 1 | 66 | 1 | 1 | |
| TOTAL | 737.5 | 3 | 1 | 6 | 1089 | 6 | 16 | 18 |

| PAVEMENT MARKING SCHEDULE | | | | | |
|------------------------------------|----------------------------------|-------------------------|-----------------------------|-----------------------------------|---|
| LOCATION | PAINT PAVEMENT MARKING - LINE 4" | | | RAISED REFLECTIVE PAVEMENT MARKER | RAISED REFLECTIVE PAVEMENT MARKER REMOVAL |
| | SOLID EDGE LINE WHITE | SOLID NO PASSING YELLOW | SKIP DASH CENTERLINE YELLOW | | |
| | 78001110 | | | 78100100 | 78300200 |
| | FOOT | FOOT | FOOT | EACH | EACH |
| FAS 461 / CH16 / MANITO RD | | | | | |
| LT. STA 147+50 TO LT. STA 164+00 | 1650 | | | | |
| CL. STA 147+50 TO CL. STA 164+00 | | | 410 | 11 | 11 |
| RCL. STA 149+50 TO RCL. STA 164+00 | | 1450 | | | |
| RT. STA 147+50 TO RT. STA 164+00 | 1650 | | | | |
| SUBTOTAL | 3300 | 1450 | 410 | 11 | 11 |
| TOTAL | | 5160 | | 11 | 11 |

BRIAN BECKER & JOSH CHARLTON
 SE 1/4, SW 1/4, SEC 13, T. 24 N., R. 6 W., 3RD P.M.

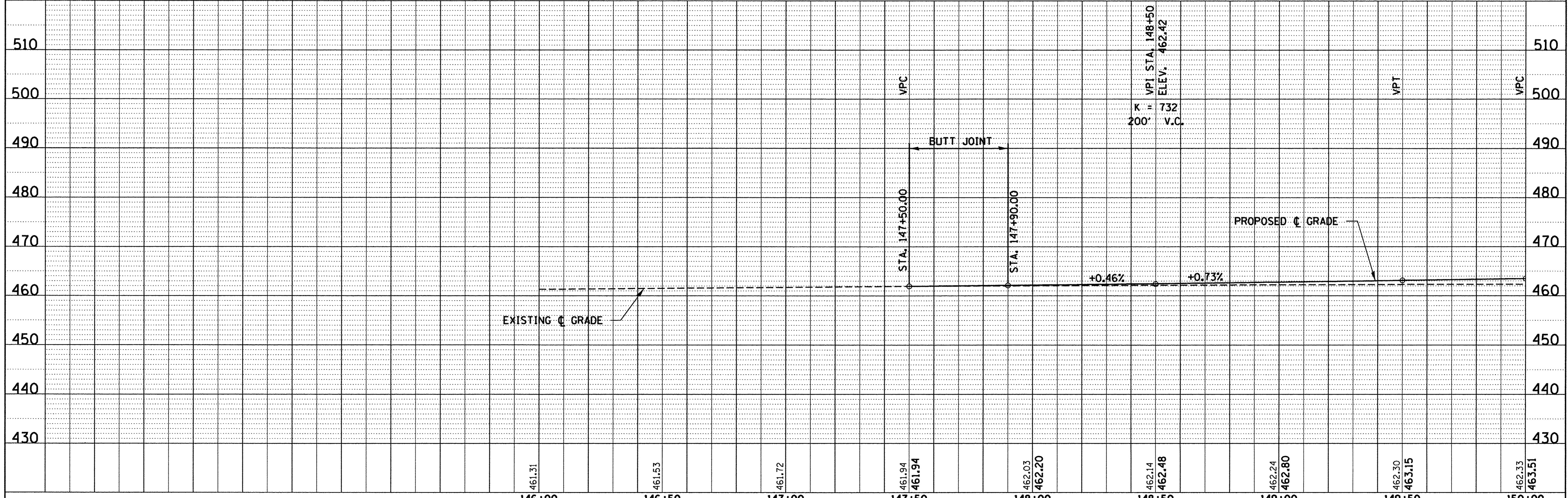


| | | |
|------|----------------|------|
| PLAN | SURVEYED | DATE |
| | PLOTTED | |
| | NOTE BOOK | |
| | ALIGNED | |
| | CADD FILE NAME | |
| | NO. | |



LOSALLE BANK NATIONAL ASSOCIATION, TRUST NO. 127636
 NE 1/4, SW 1/4, SEC 13, T. 24 N., R. 6 W., 3RD P.M.

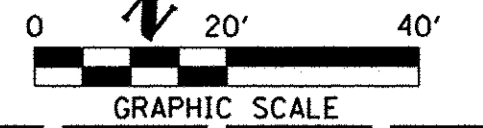
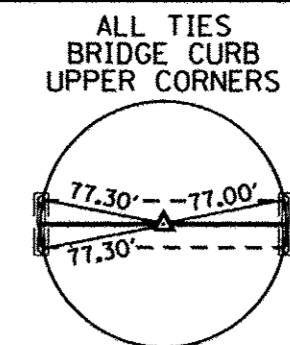
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| PROFILE | SURVEYED | DATE |
| | PLOTTED | |
| | GRADES CHECKED | |
| | STRUCTURE NOTATIONS CHECKED | |
| | NO. | |



| | | | | | | | | | | | |
|--|-------------------|-------------------|-----------|---|--|----------------|-------------------------|---------------------------|----------------------------------|--------------|-----------|
| FILE NAME = 100110-shr-p&p.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | PLAN & PROFILE F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 154.000958 | DESIGNED - T.W.K. | CHECKED - M.D.C. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 7 | | |
| PLOT SCALE = | DATE - 06/30/16 | REVISOR - | REVISOR - | | CONTRACT NO. 89634 | | | ILLINOIS FED. AID PROJECT | | | |
| PLOT DATE = 6/30/2016 | | | | | SCALE: H20:V5 | | SHEET NO. 1 OF 4 SHEETS | | STA. 146+00.00 TO STA. 150+00.00 | | |

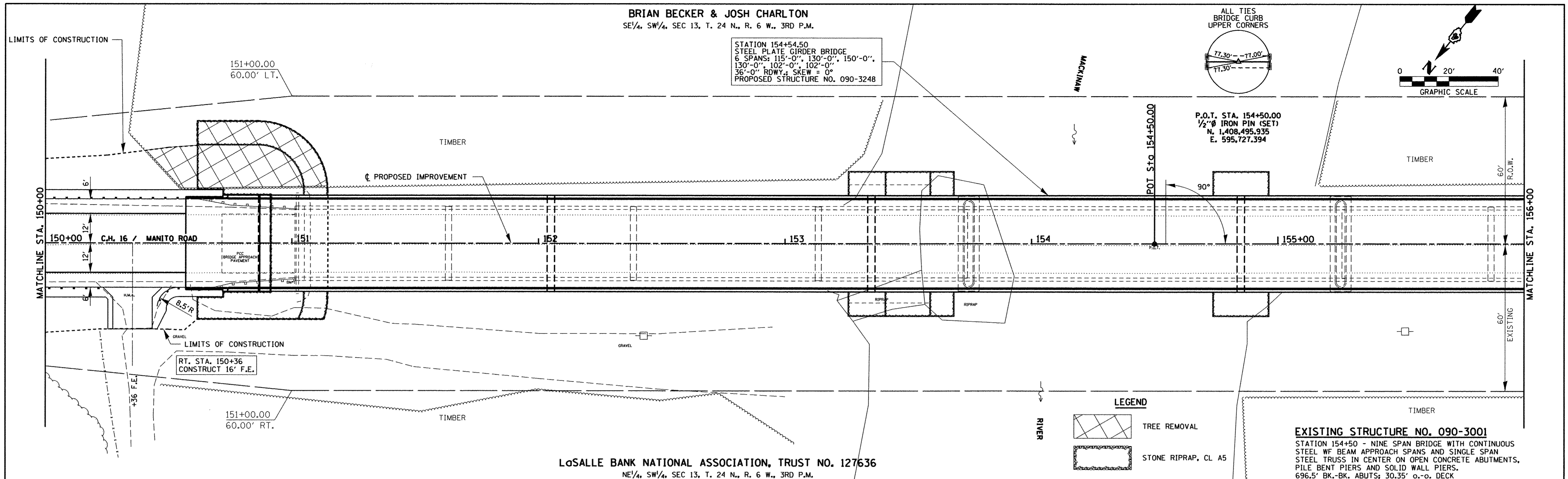
BRIAN BECKER & JOSH CHARLTON
SE 1/4, SW 1/4, SEC 13, T. 24 N., R. 6 W., 3RD P.M.

STATION 154+50.00
STEEL PLATE GIRDER BRIDGE
6 SPANS: 115'-0", 130'-0", 150'-0",
130'-0", 102'-0", 102'-0",
36'-0" RDWY. SKEW = 0°
PROPOSED STRUCTURE NO. 090-3248



P.O.T. STA. 154+50.00
1/2" Ø IRON PIN (SET)
N. 1,408,495.935
E. 595,727.394

| | | |
|----------|----|------|
| PLAN | BY | DATE |
| SURVEYED | | |
| ALIGNED | | |
| CHECKED | | |
| NO. | | |



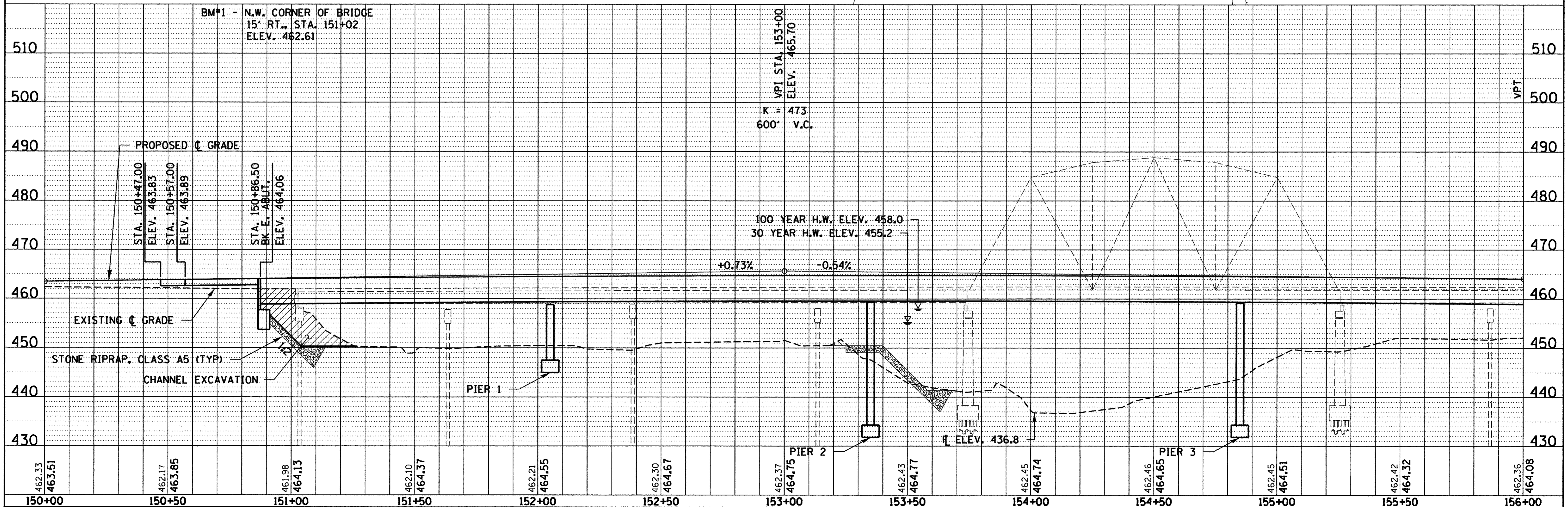
LoSALLE BANK NATIONAL ASSOCIATION, TRUST NO. 127636
NE 1/4, SW 1/4, SEC 13, T. 24 N., R. 6 W., 3RD P.M.

LEGEND

- TREE REMOVAL
- STONE RIPRAP, CL A5

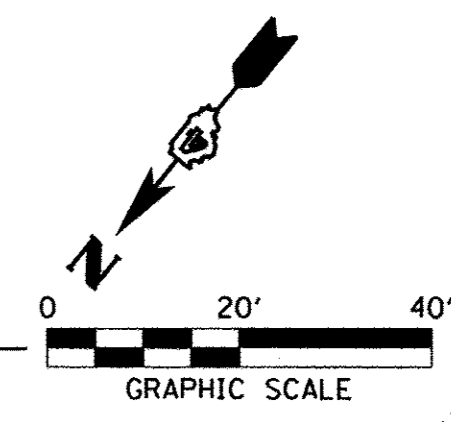
EXISTING STRUCTURE NO. 090-3001
STATION 154+50 - NINE SPAN BRIDGE WITH CONTINUOUS
STEEL WF BEAM APPROACH SPANS AND SINGLE SPAN
STEEL TRUSS IN CENTER ON OPEN CONCRETE ABUTMENTS,
PILE BENT PIERS AND SOLID WALL PIERS.
696.5' BK.-BK. ABUTS; 30.35' o.-o. DECK

| | | |
|----------------|----|------|
| PROFILE | BY | DATE |
| SURVEYED | | |
| GRADES CHECKED | | |
| NO. | | |

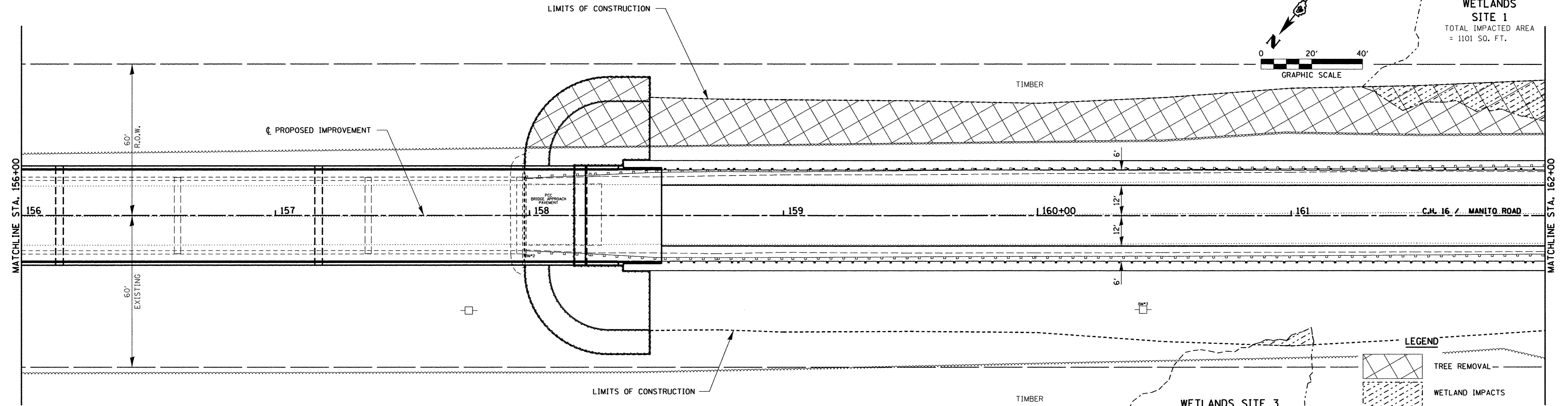


| | | | | | | | | | | |
|--|-------------------------|-------------------|-----------|--|---|----------------------------------|----------------|---------------------------|--------------|-----------|
| FILE NAME = 100110-shr-p&p.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | <p align="center">STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT</p> | <p align="center">PLAN & PROFILE F.A.S. 461 / C.H. 16 / MANITO ROAD</p> | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000262 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 8 |
| PLOT DATE = 6/30/2016 | DATE = 06/30/16 | CHECKED - M.D.C. | REVISED - | | | CONTRACT NO. 89634 | | ILLINOIS FED. AID PROJECT | | |
| SCALE: H20:V5 | SHEET NO. 2 OF 4 SHEETS | DATE = 06/30/16 | REVISED - | | | STA. 150+00.00 TO STA. 156+00.00 | | | | |

PAUL & DEBORAH SIEBERT
SW 1/4, SE 1/4, SEC 14, T. 24 N., R. 5 E., 3RD P.M.



WETLANDS
SITE 1
TOTAL IMPACTED AREA
= 1101 SQ. FT.



LaSALLE BANK NATIONAL ASSOCIATION, TRUST NO. 127636
SW 1/4, SW 1/4, SEC 13, T. 24 N., R. 6 W., 3RD P.M.

LEGEND

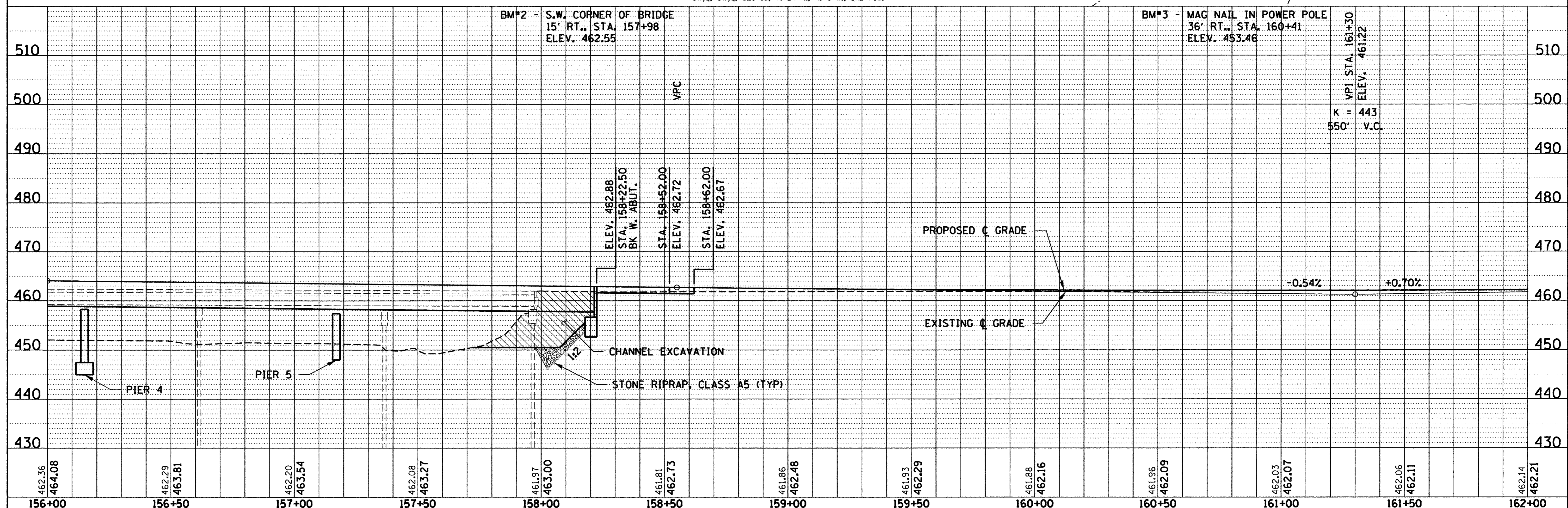
- TREE REMOVAL
- WETLAND IMPACTS
- WETLAND BOUNDARY
- STONE RIPRAP, CL. A5

PLAN

| | | |
|-----------|----|------|
| DESIGNED | BY | DATE |
| NOTED | | |
| ALIGNED | | |
| CHECKED | | |
| BY | | |
| DATE | | |
| FILE NAME | | |
| NO. | | |

PROFILE

| | | |
|-----------|----|------|
| DESIGNED | BY | DATE |
| NOTED | | |
| GRADES | | |
| CHECKED | | |
| BY | | |
| DATE | | |
| FILE NAME | | |
| NO. | | |



| | | | | | | | | | | | | |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 462.36 464.08 | 462.29 463.81 | 462.20 463.54 | 462.08 463.27 | 461.97 463.00 | 461.81 462.73 | 461.86 462.48 | 461.93 462.29 | 461.88 462.16 | 461.96 462.09 | 462.03 462.07 | 462.06 462.11 | 462.14 462.21 |
| 156+00 | 156+50 | 157+00 | 157+50 | 158+00 | 158+50 | 159+00 | 159+50 | 160+00 | 160+50 | 161+00 | 161+50 | 162+00 |

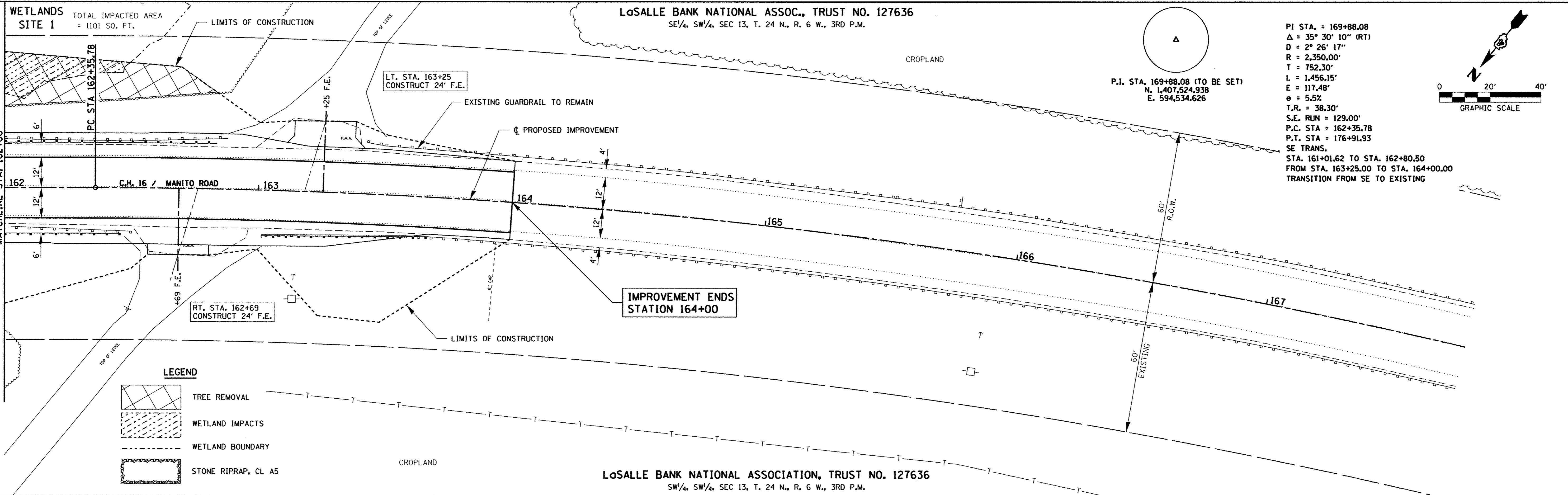
FILE NAME = 100110-sht-p&p.dgn
 USER NAME =
 DESIGNED - J.W.F.
 DRAWN - T.W.K.
 CHECKED - M.D.C.
 DATE - 06/30/16

REVISIONS:
 REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 TAZEWELL COUNTY HIGHWAY DEPARTMENT

PLAN & PROFILE
 F.A.S. 461 / C.H. 16 / MANITO ROAD
 SCALE: H20:V5
 SHEET NO. 3 OF 4 SHEETS
 STA. 156+00.00 TO STA. 162+00.00

| | | | | |
|--------------------|----------------|----------|---------------------------|-----------|
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 9 |
| CONTRACT NO. 89634 | | | ILLINOIS FED. AID PROJECT | |

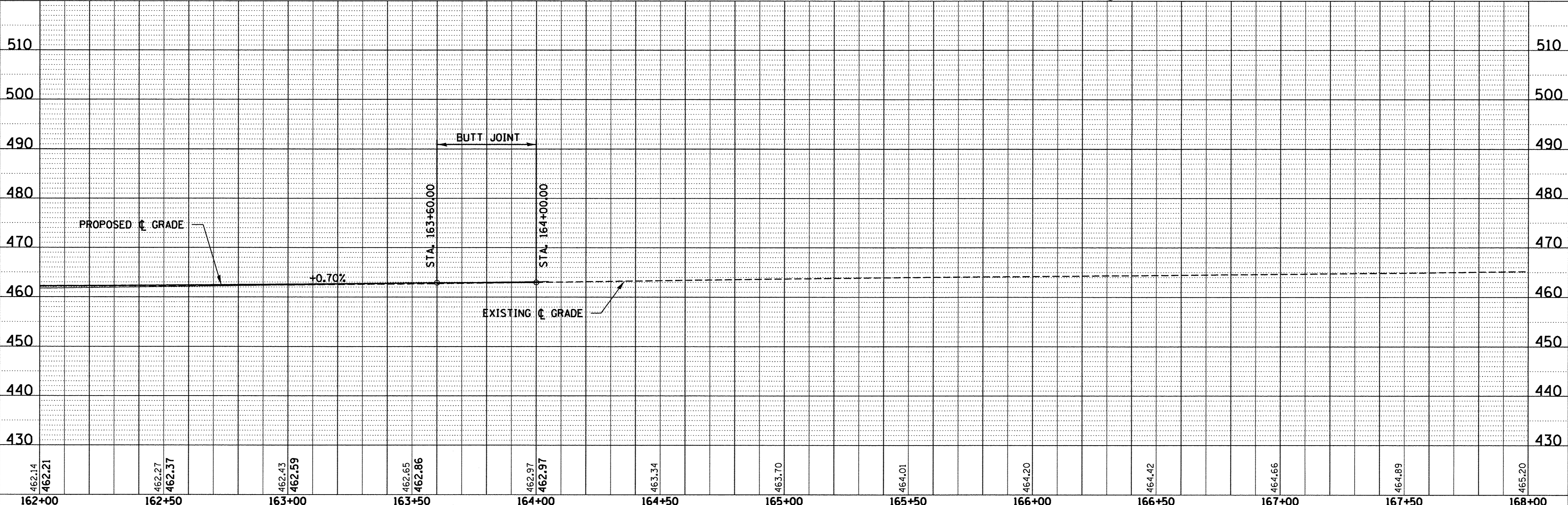


PLAN

| | |
|----------|------|
| BY | DATE |
| SURVEYED | |
| ALIGNED | |
| CHECKED | |
| NO. | |

PROFILE

| | |
|----------------|------|
| BY | DATE |
| PROPOSED | |
| GRADES CHECKED | |
| BLM. NOTE | |
| NO. | |



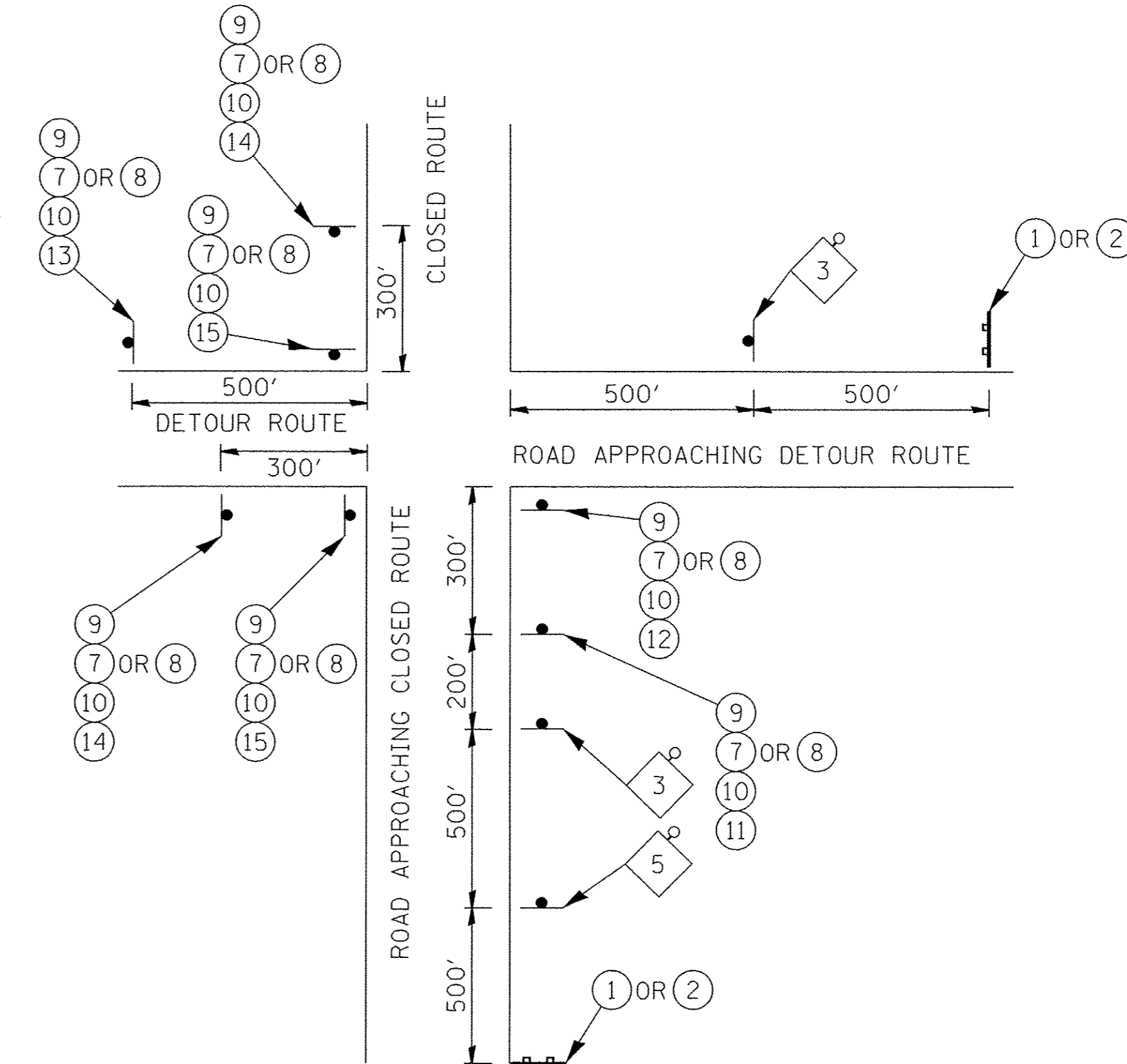
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| FILE NAME = 100110-sht-p&p.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | PLAN & PROFILE F.A.S. 461 / C.H. 16 / MANITO ROAD | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 10 | |
| PLOT DATE = 6/30/2016 | | CHECKED - M.D.C. | REVISED - | | | CONTRACT NO. 89634 | | [ILLINOIS] FED. AID PROJECT | | | |
| | | DATE - 06/30/16 | REVISED - | | | SCALE: H20:V5 | | SHEET NO. 4 OF 4 SHEETS | | STA. 162+00.00 TO STA. 168+00.00 | |

DETOUR GENERAL NOTES

1. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016", "THE QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES ADOPTED 2010", THE DETAILS IN THESE PLANS, THE LATEST EDITION OF THE STATE OF ILLINOIS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", AND THE SPECIAL PROVISIONS FOR TRAFFIC CONTROL AND PROTECTION.
2. THE CONTRACTOR SHALL SCHEDULE ALL WORK IN AN EXPEDIENT MANNER TO REDUCE THE LENGTH OF TIME THAT THE DETOUR NEEDS TO BE IN EFFECT.
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES FOR APPROVAL OF SUCH DATE.
4. IF REQUESTED BY THE ENGINEER A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR SHALL BE HELD AT LEAST TWO WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
5. THE CONTRACTOR SHALL SUPPLY TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF HIS REPRESENTATIVES ON THE CONSTRUCTION SITE AND HIS REPRESENTATIVE RESPONSIBLE FOR THE DETOUR SIGNING PRIOR TO THE START OF THE WORK. THE TAZEWELL COUNTY HIGHWAY DEPARTMENT REPRESENTATIVE FOR THE DETOUR IS:

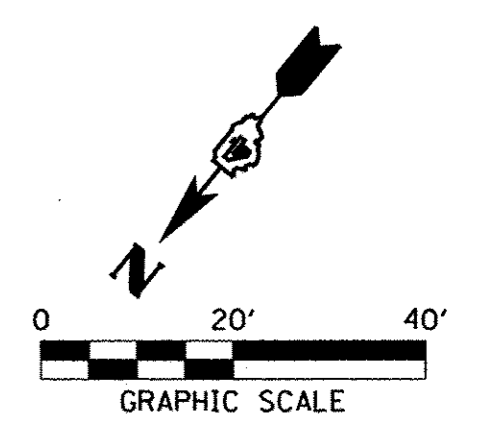
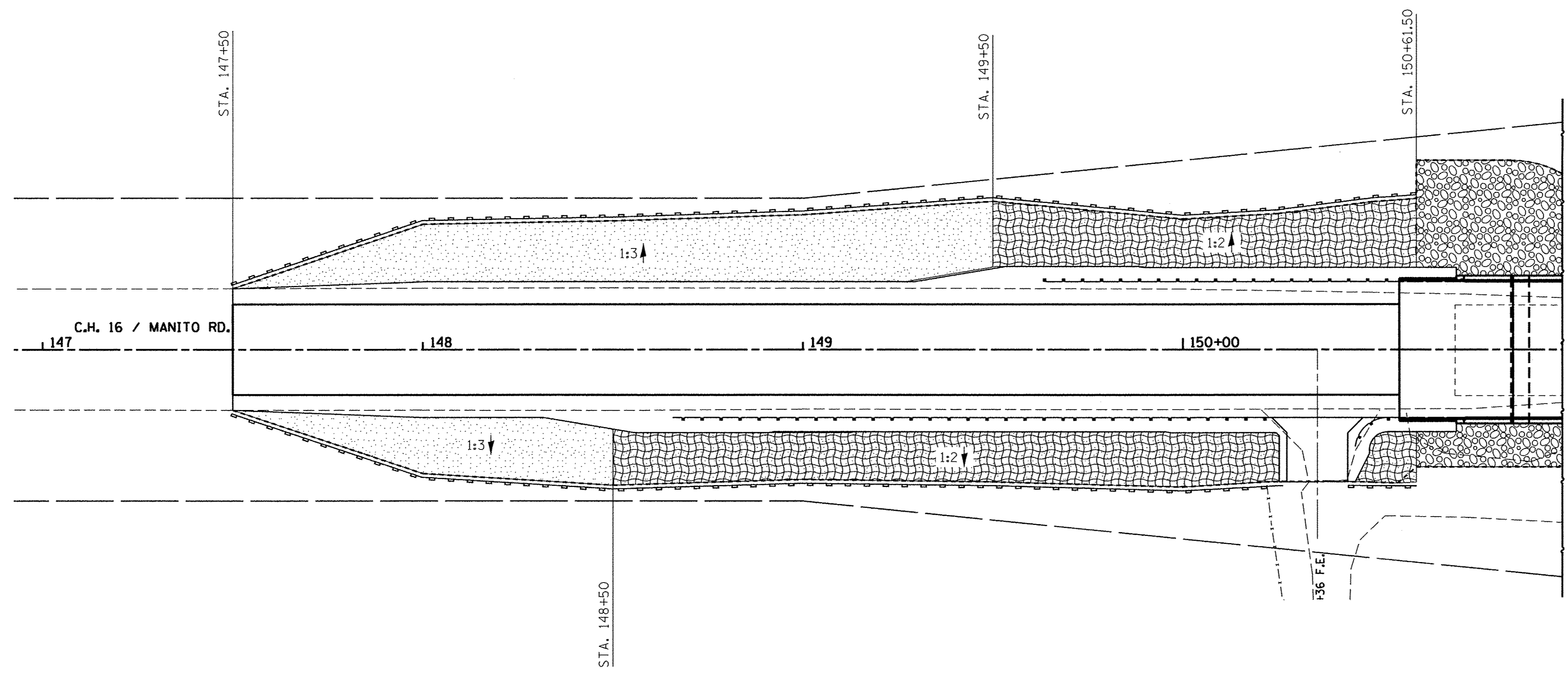
CRAIG FINK
 TAZEWELL COUNTY HIGHWAY DEPARTMENT
 21308 IL RTE 9
 TREMONT, IL 61568
 309-925-5532


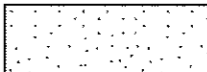
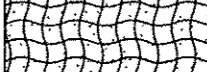

6. THE ENGINEER WILL FIELD LOCATE THE POSITIONS OF ANY SIGNS IF REQUESTED BY THE CONTRACTOR IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
7. LONGITUDINAL DIMENSIONS SHOWN ON THESE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
8. THE ROAD SHALL NOT BE CLOSED UNTIL ALL SIGNING IS ERECTED IN ACCORDANCE WITH THE DETOUR PLAN AND INSPECTED AND APPROVED BY THE ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS, AND OTHER DEVICES INSTALLED BY HIM ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME THE DETOUR IS IN EFFECT.
10. THE TRAFFIC CONTROL SHOWN ON THE DETOUR PLAN IS THE MINIMUM NECESSARY TO ENSURE THIS ROAD CLOSURE. THE CONTRACTOR SHALL MAKE ALL CHANGES IN TRAFFIC CONTROL DEEMED NECESSARY BY THE ENGINEER. ADDITIONS AND DELETIONS OF TRAFFIC CONTROL FOR THIS DETOUR SHALL BE INCLUDED IN THE PAY ITEM "TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR".
11. ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHILE THE DETOUR IS IN EFFECT SHALL BE COMPLETELY COVERED BY THE CONTRACTOR, IN A MANNER APPROVED BY THE ENGINEER.
12. ALL DETOUR SIGNING SHALL BE POST MOUNTED.
13. ALL DETOUR SIGNING EXCEPT REGULATORY SIGNS SHALL HAVE BLACK LEGENDS ON FLUORESCENT ORANGE SHEETING AND STANDARD BLACK BORDERS. THE FLUORESCENT ORANGE REFLECTIVE SHEETING SHALL MEET THE REQUIREMENTS OF ARTICLE 1106.01 OF THE STANDARD SPECIFICATIONS. ALL DETOUR SIGNING SHALL BE NEW OR LIKE NEW CONDITION. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE CONDITION AND ACCEPTANCE OF THE SIGNS.
14. THE SIZES OF ALL SIGNS NOT SPECIFIED IN THESE PLANS SHALL BE AS REQUIRED BY THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
15. AS A MINIMUM, ALL AMBER FLASHING LIGHTS THAT ARE REQUIRED FOR THIS DETOUR SHALL MEET THE REQUIREMENTS FOR TYPE A-LOW INTENSITY FLASHING LIGHTS IN ARTICLE 1106.02 OF THE STANDARD SPECIFICATIONS. ALL LIGHTS SHALL OPERATE DURING THE HOURS OF DARKNESS. ONLY LIGHTS THAT HAVE BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION SHALL BE USED.
16. THE MINIMUM DIMENSIONS OF THE ORANGE WARNING FLAGS SHOWN IN THE PLANS ARE 18" BY 18".
17. ALL BARRICADES SHALL HAVE REFLECTORIZED STRIPING ON BOTH SIDES OF THE BARRICADES. THE TYPE III BARRICADES USED AT THE POINT OF CLOSURE TO THRU TRAFFIC SHALL NOT EXCEED 8'-0" IN WIDTH EACH, FOR A SINGLE APPROACH LANE.
18. THE "ROAD CLOSED" (R11-2), SIGNS SHALL BE MOUNTED ABOVE THE TOP OF THE BARRICADE. ALL TYPE III BARRICADES SHALL HAVE TWO (2) AMBER TYPE A-LOW INTENSITY FLASHING LIGHTS SPACED NEAR THE CENTERLINE OF THE SUPPORTS.
19. THE ROAD NAME SIGN SHALL HAVE A BLACK LEGEND ON FLUORESCENT ORANGE REFLECTIVE SHEETING. THE SIGN BLANK SHALL BE A 9" BY VARIABLE OR A 12" BY VARIABLE WITH DESIGN SERIES C LETTERS. THE CAPITAL LETTERS SHALL BE 6" WITH 5" LOWER CASE.
20. DURING NON-WORKING HOURS AT THE POINT OF ROAD CLOSURE TO ALL TRAFFIC THE CONTRACTOR SHALL PROVIDE A MEANS TO RESTRAIN THE BARRICADES FROM EASY MOVEMENT BY VANDALS. THE CHOSEN METHOD SHALL BE APPROVED BY THE ENGINEER.
21. CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IMMEDIATELY BEHIND THE TYPE III BARRICADES DURING NON-WORKING HOURS. IN ANY EVENT ARTICLE 701.11 OF THE STANDARD SPECIFICATIONS SHALL APPLY.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VISIBILITY OF ALL DETOUR AND CONSTRUCTION SIGNING, INCLUDING BRUSHING BACK VEGETATION IF DEEMED NECESSARY BY THE ENGINEER.
23. THE FOLLOWING ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS ARE APPLICABLE FOR THIS WORK: STANDARD 701901, BLR 21
24. THE ENGINEER SHALL BE NOTIFIED AT LEAST TWO (2) DAYS BEFORE THE ROAD IS TO BE OPENED TO TRAFFIC. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES.

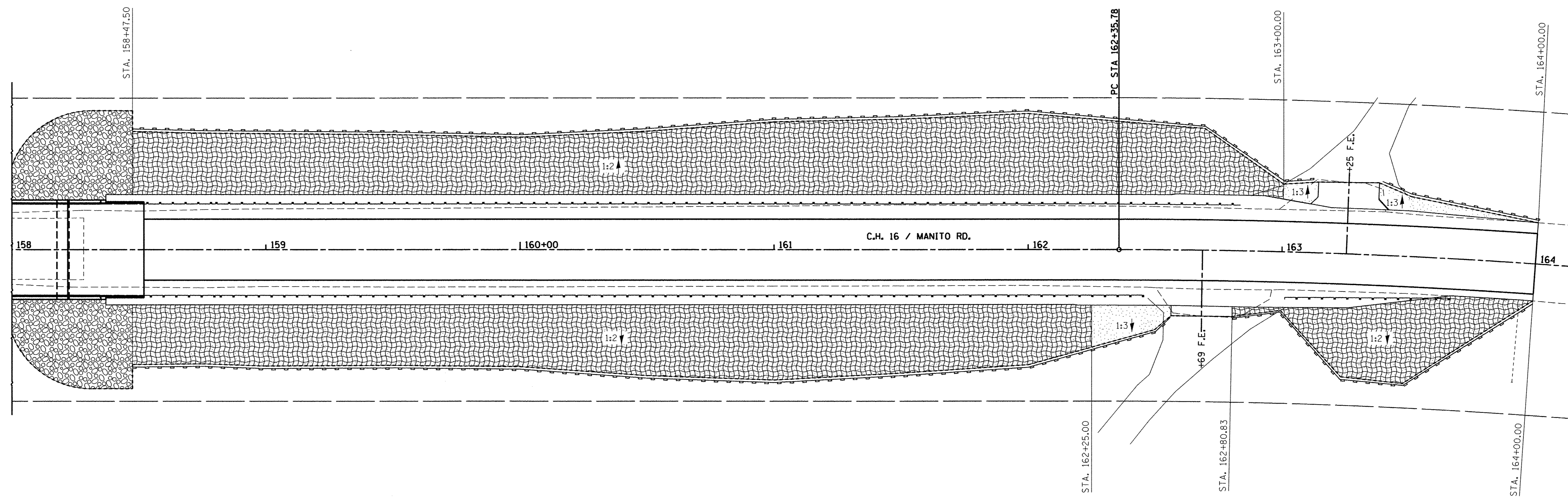


**TYPICAL INTERSECTION
 AT POINT OF DETOUR**

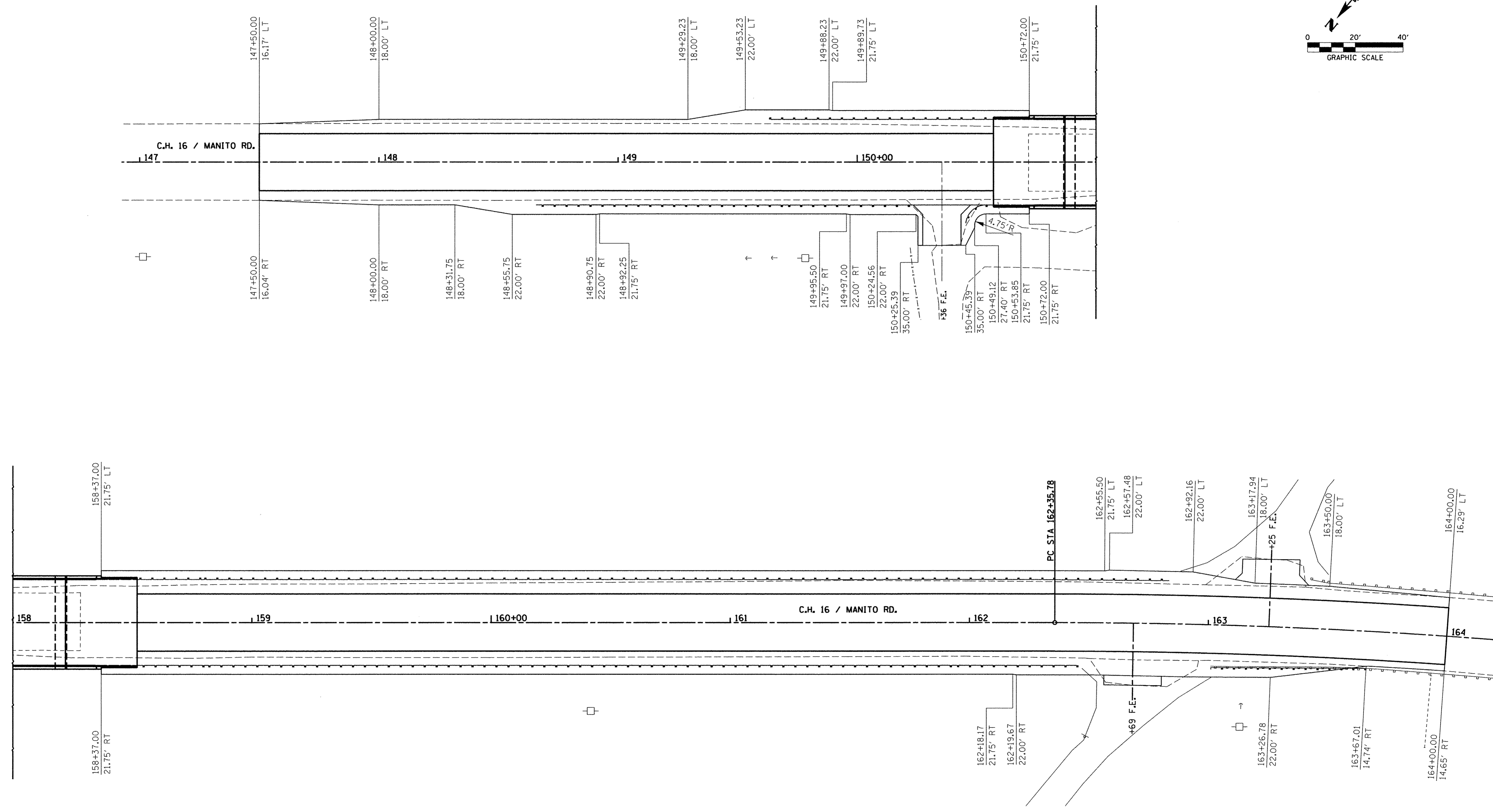
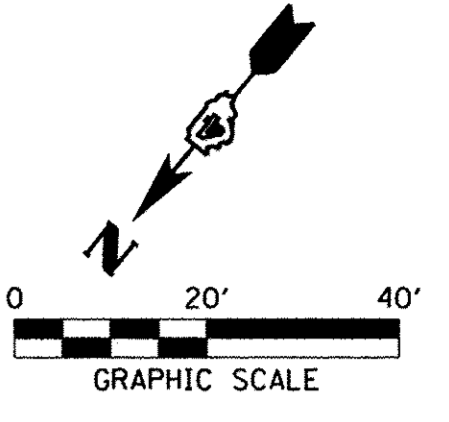
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| FILE NAME = 100110-sht-detour.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | DETOUR PLAN | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | F.A.S. 461 / C.H. 16 / MANITO ROAD | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 12 | |
| ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-000959 | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | | | |
| | | DATE - 06/30/16 | REVISED - | | | | | | | | | |



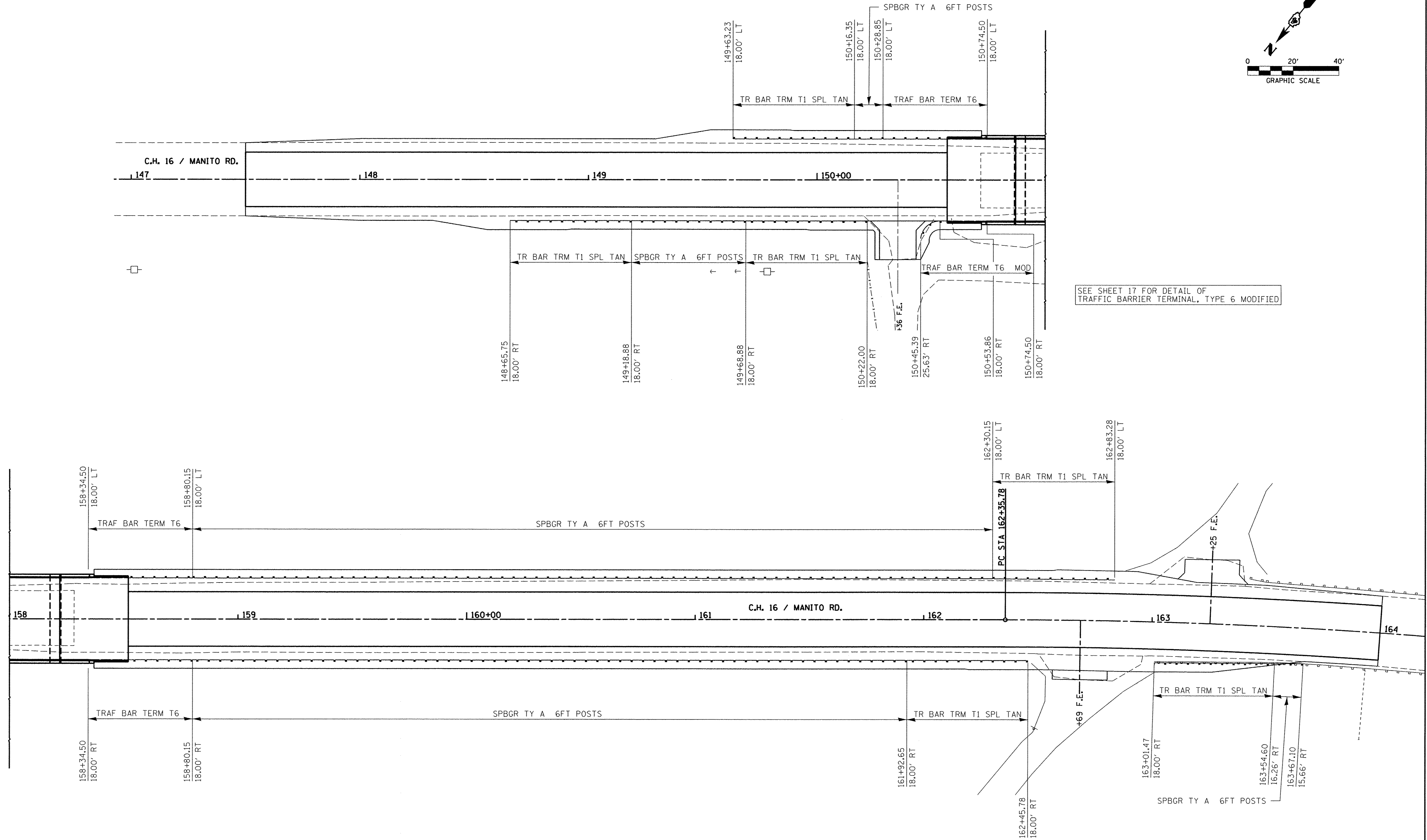
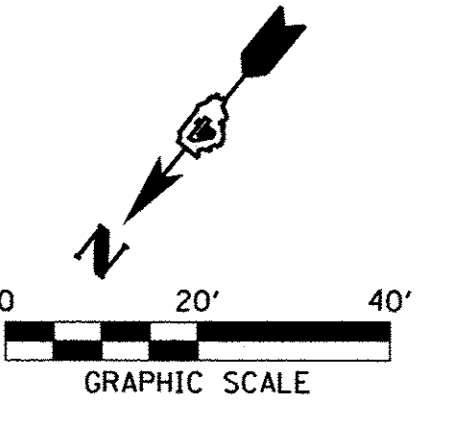
- LEGEND**
-  PERIMETER EROSION BARRIER
 -  CLASS 2 SEEDING
 -  EROSION CONTROL BLANKET AND CLASS 2 SEEDING
 -  STONE RIPRAP, CLASS A5
(SEE STRUCTURE PLANS FOR LAYOUT)



| | | | | | | | | | | | |
|--|-----------------------|-------------------|-----------|---|--|-------------------------|----------|---------|---------------------------|---------------------------|-----------|
| FILE NAME = 100110-sht-erosion.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | EROSION CONTROL PLAN F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 13 | CONTRACT NO. 89634 | |
| ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | | |
| | | DATE - 06/30/16 | REVISED - | | | | | | | | |

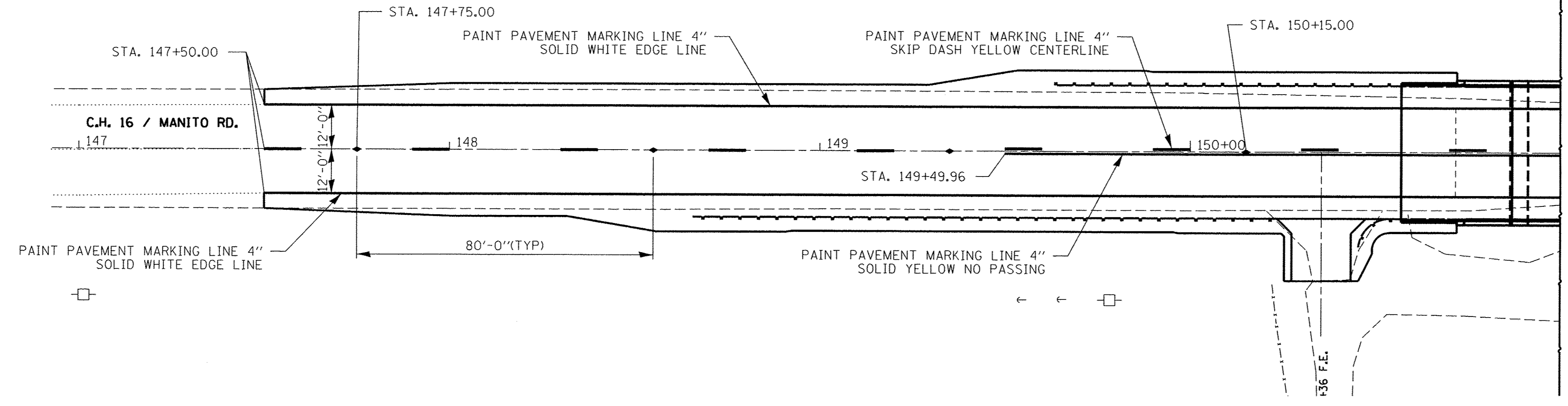
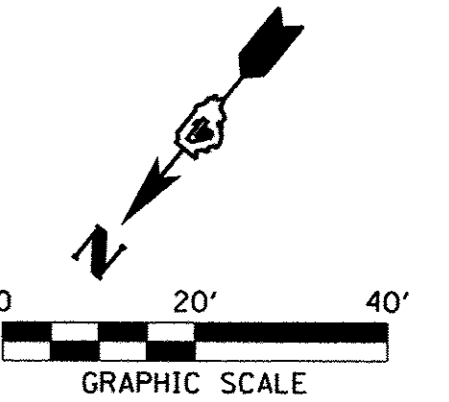


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| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 14 | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - | REVISED - | | SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA. | | CONTRACT NO. 89634 | | | | |
| | | | | | | | ILLINOIS FED. AID PROJECT | | | | |



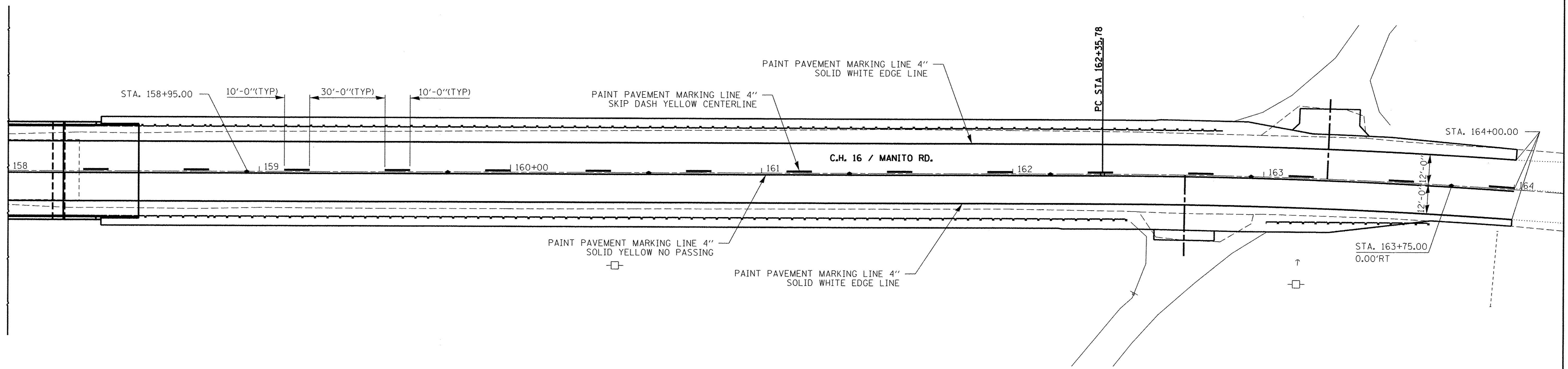
SEE SHEET 17 FOR DETAIL OF TRAFFIC BARRIER TERMINAL, TYPE 6 MODIFIED

| | | | | | | | | | | | |
|---|-----------------|-------------------|-----------|---|--|-------------------------|----------|---------|---------------------------|--------------------|-----------|
| FILE NAME = 100110-sht-guardrail.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | GUARDRAIL LAYOUT F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000999 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 15 | CONTRACT NO. 89634 | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | | |
| | | REVISIONS | | | | | | | | | |



LEGEND

- ◆ RAISED REFLECTIVE PAVEMENT MARKER AMBER 2-WAY
- NOTE:
NO RAISED REFLECTIVE PAVEMENT MARKERS
ARE TO BE PLACED ON BRIDGE OR APPROACH SLABS



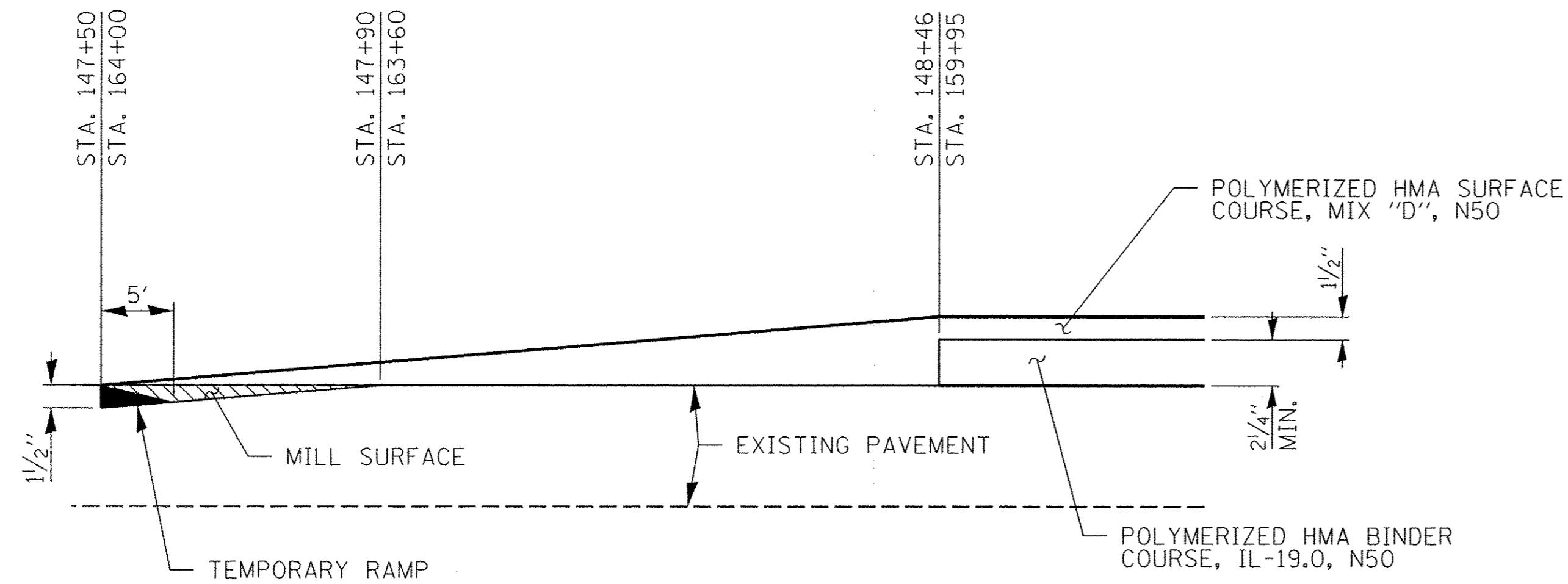
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - |
| ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000059 | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - |
| | | DATE - 06/30/16 | REVISED - |

**STATE OF ILLINOIS
TAZEWELL COUNTY HIGHWAY DEPARTMENT**

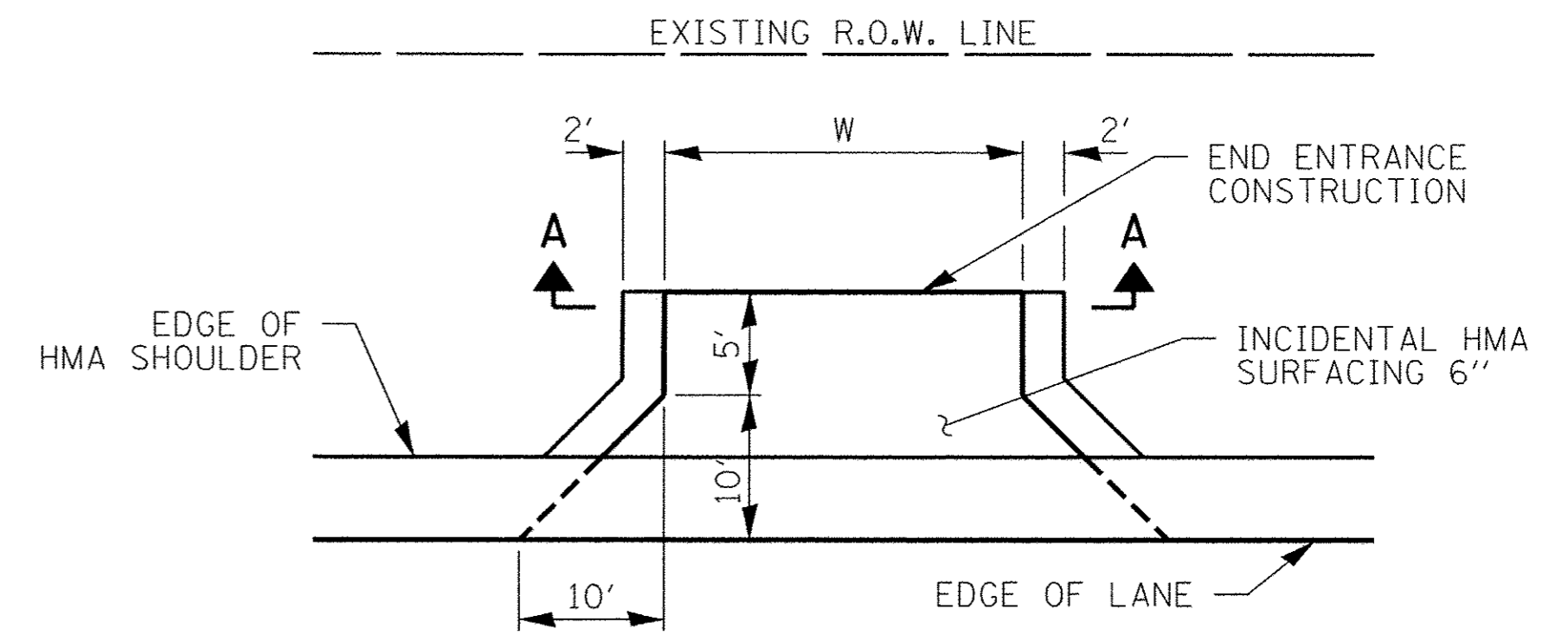
**PAVEMENT MARKING LAYOUT
F.A.S. 461 / C.H. 16 / MANITO ROAD**

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|----------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 16 |
| CONTRACT NO. 89634 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



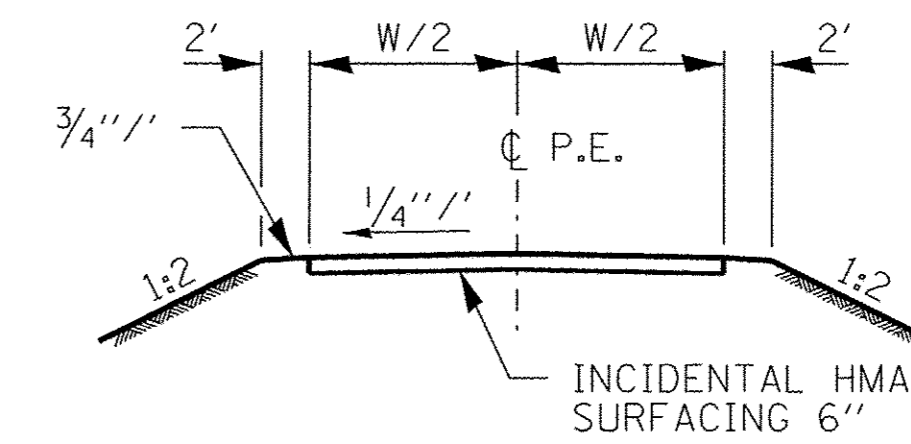
BUTT JOINT DETAIL
NO SCALE



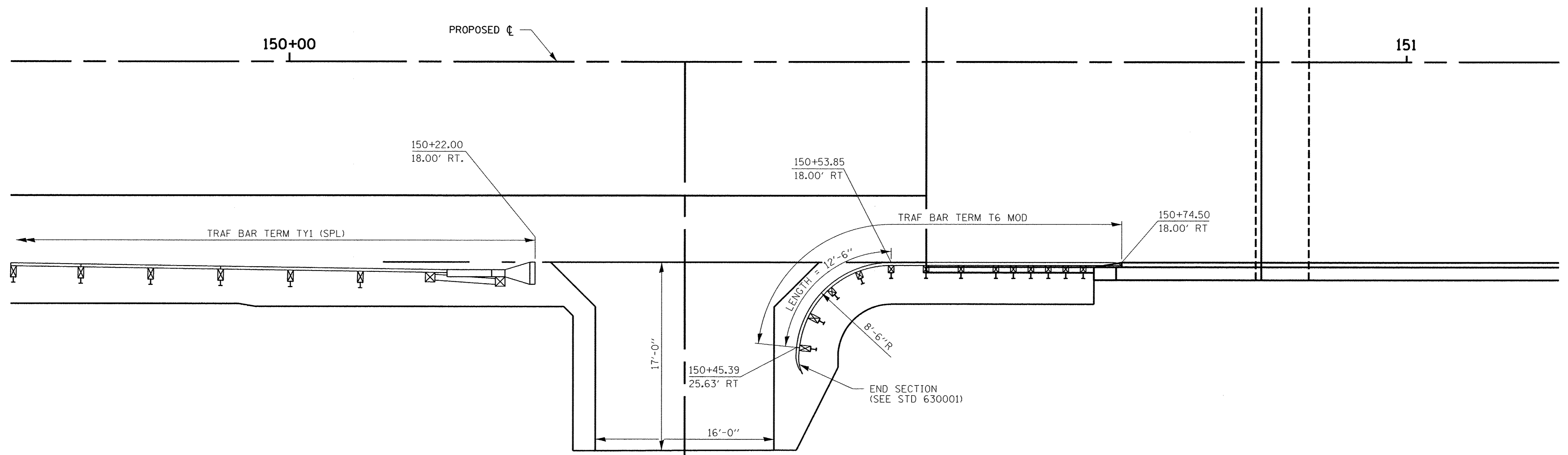
FIELD ENTRANCE DETAIL

NO SCALE
RT. STA. 162+69
LT. STA. 163+25

NOTE:
REMOVAL OF EXISTING HMA APRONS
PAID FOR AS PAVED SHOULDER
REMOVAL.



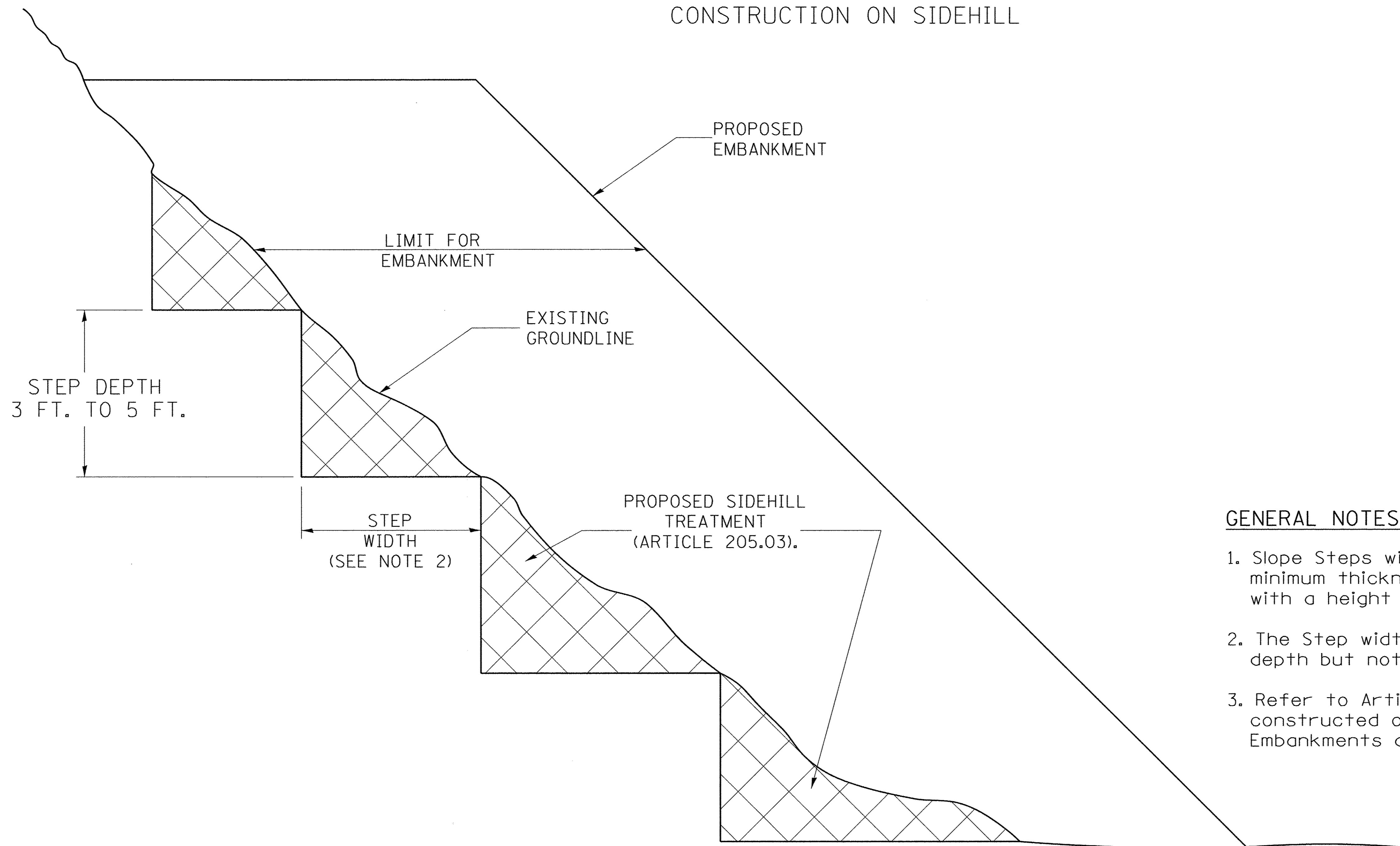
SECTION A-A



FIELD ENTRANCE GUARDRAIL DETAIL - STA. 150+36
SCALE 1" = 5'-0"

| | | | | | | | | | | |
|--|-----------------------|-------------------|-----------|---|--|--|----------------|--------------------|--------------|-----------|
| FILE NAME = 100110-sht-misc-detail.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | ENTRANCE, BUTT JOINT AND GUARDRAIL DETAILS F.A.S. 461 / C.H. 16 / MANITO ROAD | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 17 |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | | SCALE: AS SHOWN SHEET NO. 1 OF 1 SHEETS STA. TO STA. | | CONTRACT NO. 89634 | | |
| | | DATE - 06/30/16 | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | |

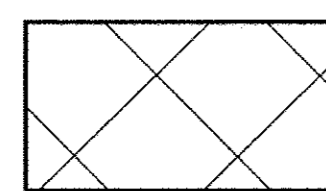
SLOPE STEPS DETAIL
TYPICAL CROSS-SECTION EMBANKMENT
CONSTRUCTION ON SIDEHILL



GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "silver fills" and on a fills with a height of 10'(3.0m).
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT
(IN ACCORDANCE WITH
205 OF THE STANDARD SPECIFACATION).

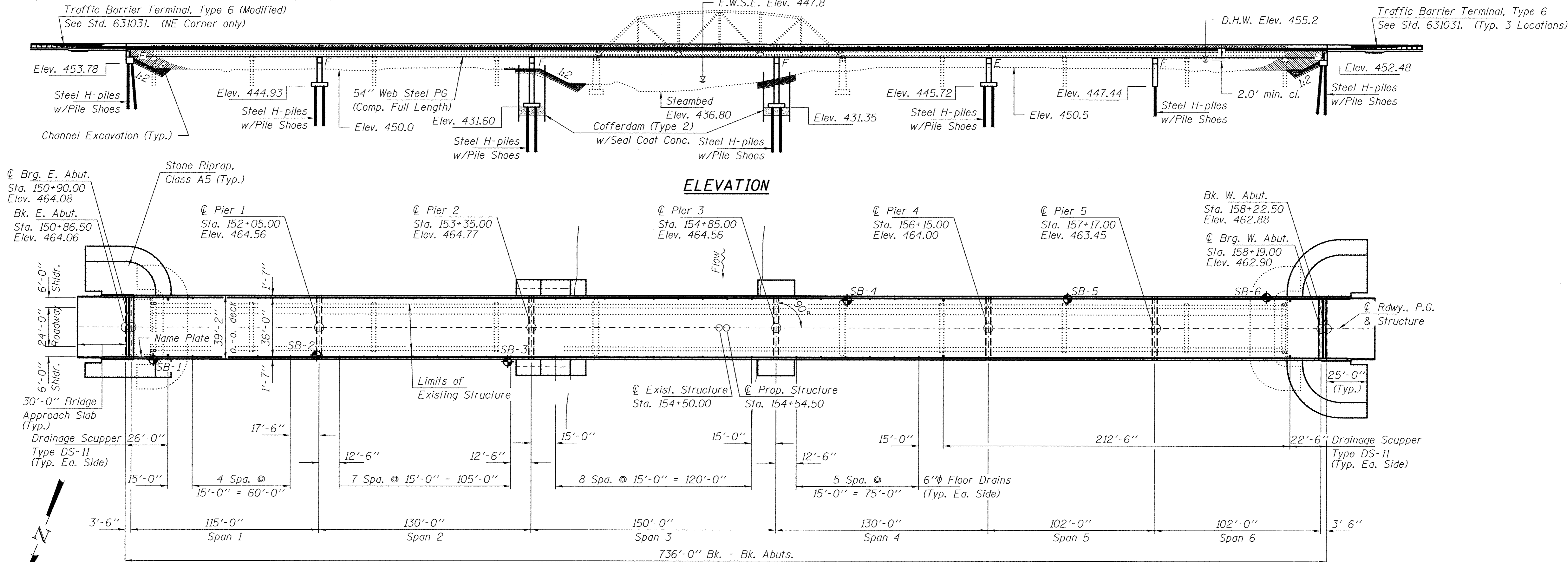
All dimensions are in inches (millimeters) unless otherwise noted.

| | | | | | | | | | | |
|--|-----------------|-------------------|-----------|---|---|--|----------------|---------------------------|--------------|-----------|
| FILE NAME = 100110-sht-misc-detail.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | SLOPE STEP DETAIL F.A.S. 461 / C.H. 16 / MANITO ROAD | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184/000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 18 |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | | SCALE: AS SHOWN SHEET NO. 1 OF 1 SHEETS STA. TO STA. | | ILLINOIS FED. AID PROJECT | | |

BENCHMARK: BM#1 N.W. corner of bridge 15' Rt., Sta. 151+02, Elev. 462.61.

EXISTING STRUCTURE: SN 090-3001 was originally built in 1941 as SA10A Section 10-1-B. In 1981 a new RC deck was placed on the truss span and in 1995 a new RC deck was placed on the approach spans. The bridge has 9-spans and is 696.5' long by 28.5' wide. The bridge will be replaced using road closure and a detour to maintain traffic.

Salvage: Stone riprap around pier on East bank. See special provisions.



DESIGN SCOUR ELEVATION TABLE PLAN

| Event/Limit State | Design Scour Elevations (ft.) | | | | | | | Item 113 |
|-------------------|-------------------------------|--------|--------|--------|--------|--------|----------|----------|
| | E. Abut. | Pier 1 | Pier 2 | Pier 3 | Pier 4 | Pier 5 | W. Abut. | |
| 0.100 | 451.3 | 442.0 | 435.1 | 428.3 | 447.5 | 446.3 | 453.5 | 5 |
| 0.500 | 444.8 | 432.5 | 430.6 | 423.6 | 438.0 | 437.0 | 447.5 | |
| Design | 453.8 | 442.0 | 431.6 | 428.3 | 445.7 | 446.3 | 452.5 | |
| Check | 453.8 | 432.5 | 430.6 | 423.6 | 438.0 | 437.0 | 452.5 | |

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.118g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.188g
 Soil Site Class = D

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 interims.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

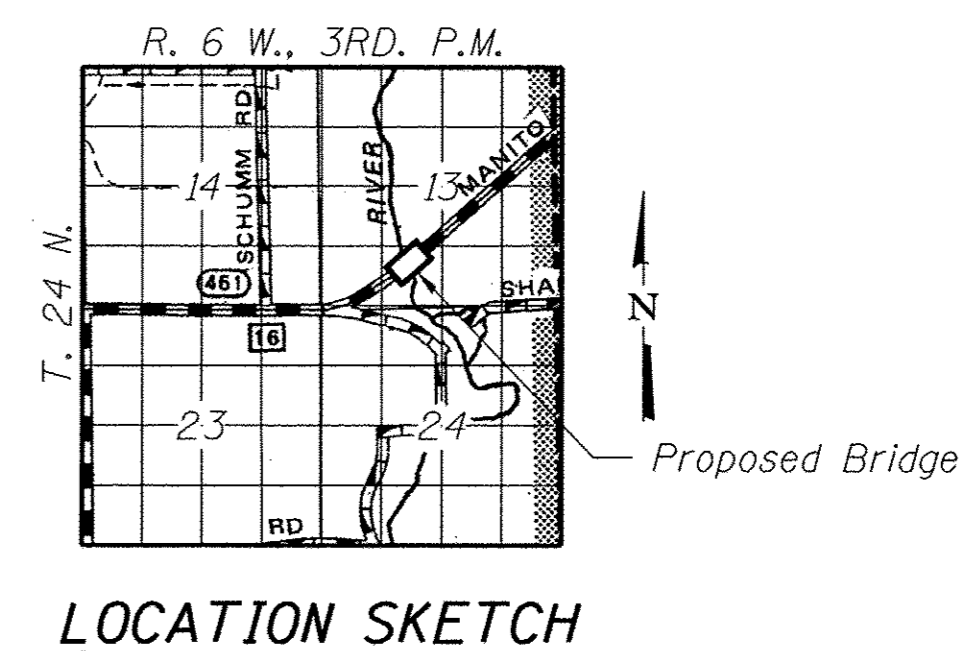
FIELD UNITS

f'_c = 3,500 psi
 f'_c = 4,000 psi (Superstructure Concrete)
 f_y = 60,000 psi (Reinf.)
 f_y = 50,000 psi (Structural Steel) (M270 Gr. 50W)

WATERWAY INFORMATION

| Flood | Q (cfs) | | Opening Sq. Ft. | | Natural H.W.E. | Head - Ft. | | Headwater El. | | |
|---------|----------------|-------|-----------------|-------|----------------|------------|-------|---------------|-------|-------|
| | Exist. | Prop. | Exist. | Prop. | | Exist. | Prop. | Exist. | Prop. | |
| 10 Yr. | Main Channel | 15750 | 15750 | 2390 | 2480 | 452.3 | 0.3 | 0.3 | 452.6 | 452.6 |
| | Relief Struct. | 5250 | 5250 | 1920 | 1920 | | | | | |
| | Total | 21000 | 21000 | 4310 | 4400 | | | | | |
| 30 Yr. | Main Channel | 23850 | 23850 | 4270 | 4490 | 455.2 | 0.6 | 0.6 | 455.8 | 455.8 |
| | Relief Struct. | 7950 | 7950 | 2370 | 2370 | | | | | |
| | Total | 31800 | 31800 | 6640 | 6860 | | | | | |
| 100 Yr. | Main Channel | 34725 | 34725 | 6110 | 6470 | 458.0 | 0.8 | 0.8 | 458.8 | 458.8 |
| | Relief Struct. | 11575 | 11575 | 2850 | 2850 | | | | | |
| | Total | 46300 | 46300 | 8960 | 9320 | | | | | |
| 500 Yr. | Main Channel | 54150 | 54150 | 6440 | 6470 | 458.6 | 1.6 | 1.8 | 460.2 | 460.4 |
| | Relief Struct. | 18050 | 18050 | 2940 | 2940 | | | | | |
| | Total | 72200 | 72200 | 9380 | 9410 | | | | | |

10 Year Velocity Through Existing Bridge = 6.5 fps 10 Year Velocity Through Proposed Bridge = 6.4 fps

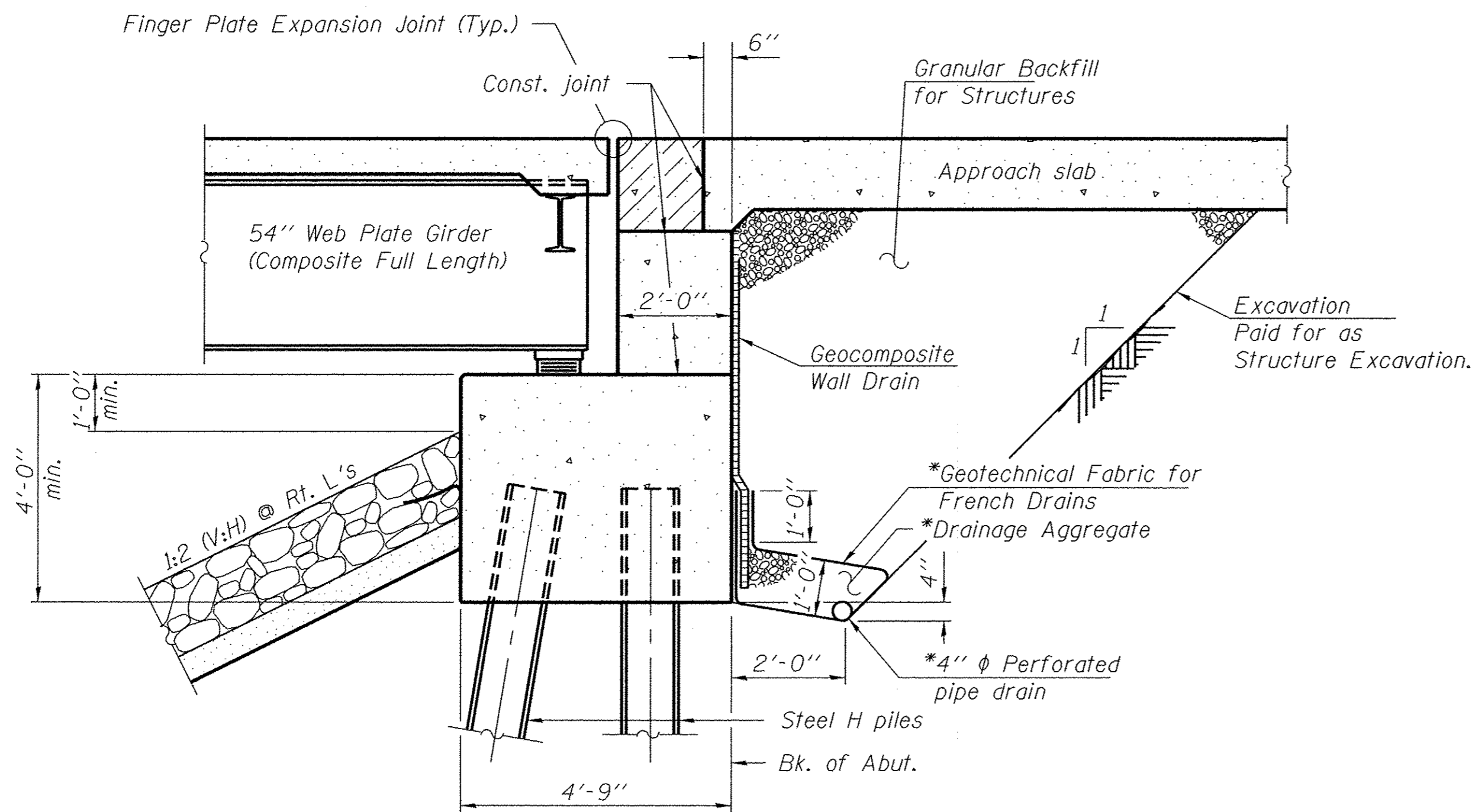


I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."

Scott M. Shoup
 ILLINOIS STRUCTURAL NO. 081-6529

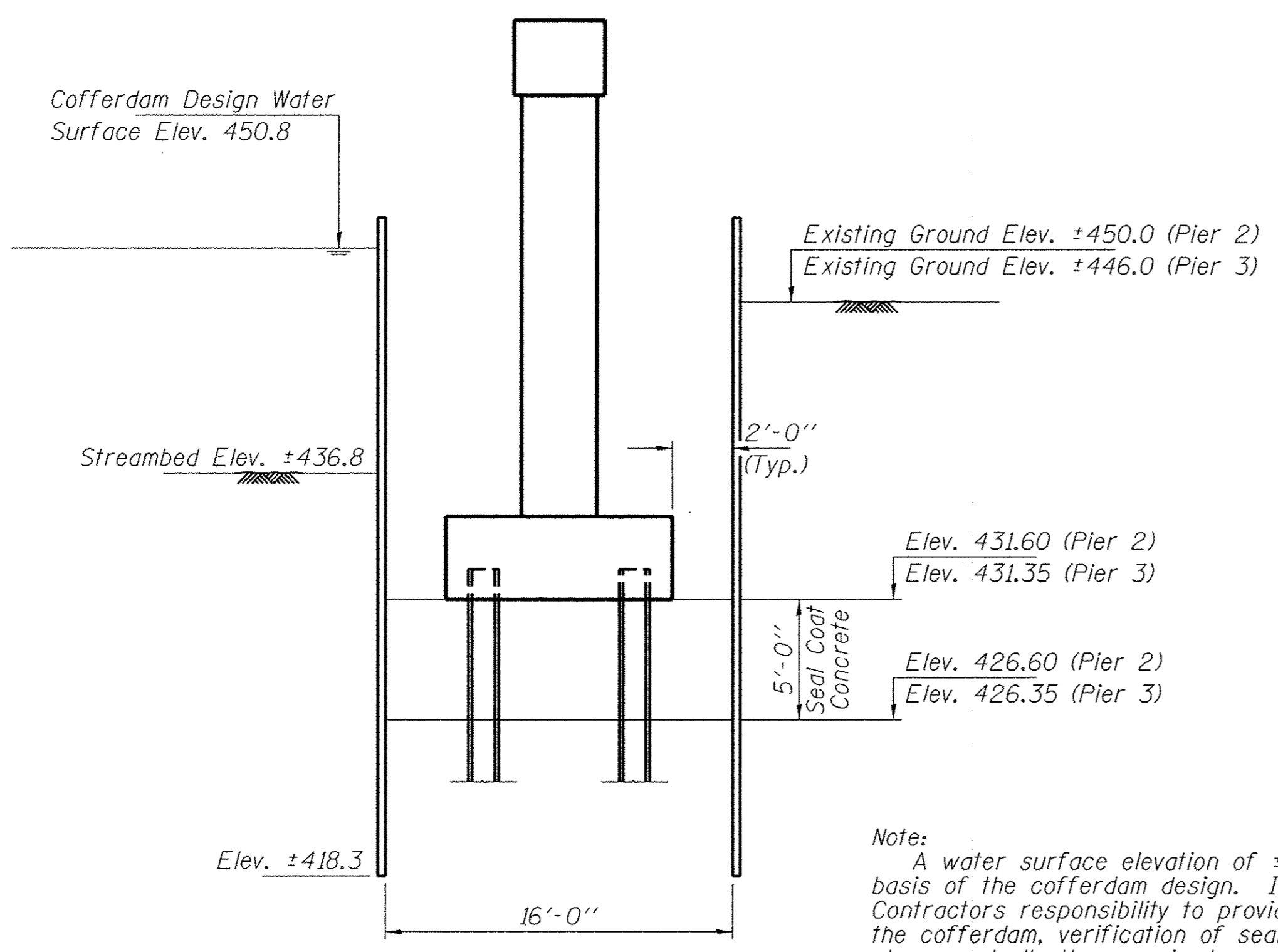
06/30/2016
 Expires 11-30-2016

GENERAL PLAN & ELEVATION
FAS ROUTE 461 / C.H. 16
OVER MACKINAW RIVER
SECTION 07-00010-12-BR
TAZEWELL COUNTY
STATION 154+54.50
STRUCTURE NO. 090-3248



**SECTION THRU PILE SUPPORTED
STUB ABUTMENT**

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



COFFERDAM DETAIL
(Piers 2 & 3 End View)

Note:
A water surface elevation of ±450.8 will be the basis of the cofferdam design. It is the Contractor's responsibility to provide a design for the cofferdam, verification of seal coat thickness shown and all other required appurtenances, subject to approval of the Engineer. Plan dimensions of cofferdam are 16'-0" x 46'-8".

INDEX OF STRUCTURE SHEETS

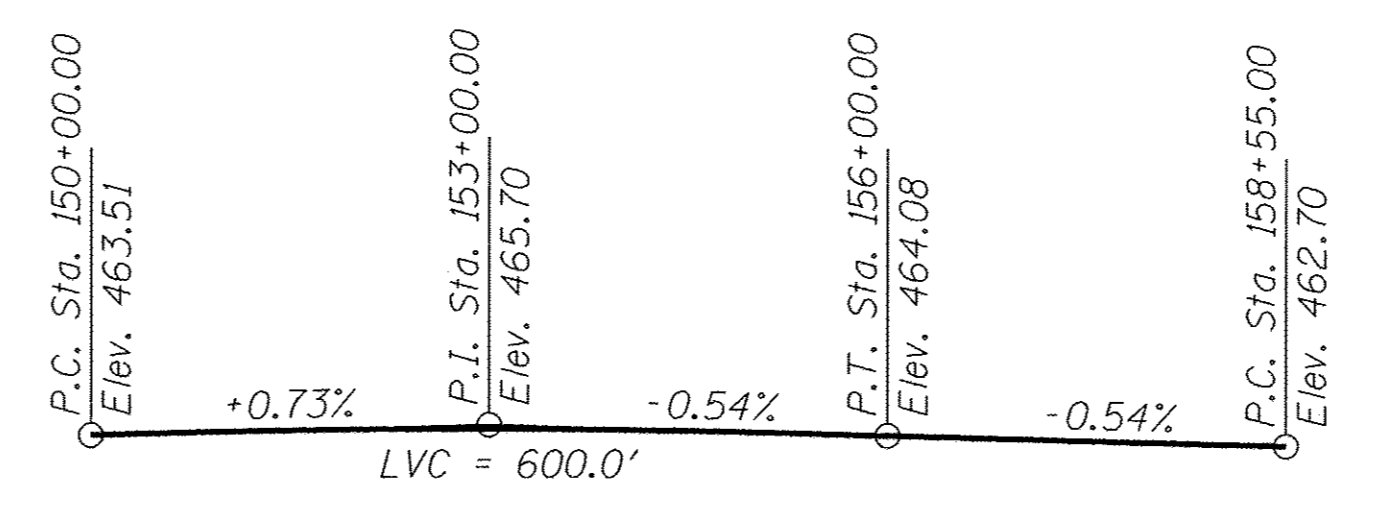
1. General Plan & Elevation
2. General Data
3. Footing & Riprap Layout
- 4-9. Top of Slab Elevations
- 10-11. Top of Approach Slab Elevations
12. Superstructure
- 13-14. Superstructure Details
15. Drainage Scuppers, DS-11
- 16-17. Bridge Approach Slab Details
- 18-19. Structural Steel
- 20-23. Structural Steel Details
- 24-25. Finger Plate Joint Details
- 26-28. Bearing Details
29. HLMR Guided Expansion Bearing Details
30. East Abutment
31. East Abutment Details
32. West Abutment
33. West Abutment Details
34. Pier 1
35. Piers 2 & 3
36. Pier 4
37. Pier 5
38. Bar Splicer Assembly and Mechanical Splicer Details
39. HP Pile Details
- 40-45. Borings
46. Rock Core Logs

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 Type 3 in unpainted areas. Bolts 1/8" φ, holes 5/16" φ, unless otherwise noted.
Calculated weight of Structural Steel = 924,630
All structural steel shall be AASHTO M 270 Grade 50W except expansion joints which shall be AASHTO M 270 Grade 50.
No field welding is permitted except as specified in the contract documents.
Reinforcement bars designated (E) shall be epoxy coated.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8" (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
Concrete Sealer shall be applied to the designated areas of the abutments.
All structural steel and exposed surfaces of bearings within a distance of 10 ft. each way from the deck joints shall be painted as specified in Section 506 of the Standard Specifications.
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Seal coat thickness design is based on the Estimated Water Surface Elevation (EWSE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

TOTAL BILL OF MATERIAL

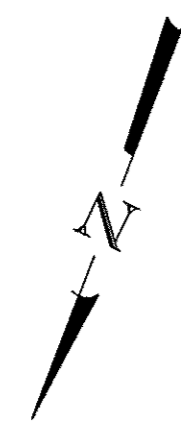
| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|---------|--------|---------|
| Stone Riprap, Class A5 | Ton | | | 1,647 |
| Filter Fabric | Sq. Yd. | | | 1,173 |
| Removal of Existing Structures | Each | | | 1 |
| Structure Excavation | Cu. Yd. | | | 724 |
| Cofferdam Excavation | Cu. Yd. | | | 1,190 |
| Cofferdam (Type 2) (Location-1) | Each | | | 1 |
| Cofferdam (Type 2) (Location-2) | Each | | | 1 |
| Floor Drains | Each | 56 | | 56 |
| Concrete Structures | Cu. Yd. | | 644.2 | 644.2 |
| Concrete Superstructure | Cu. Yd. | 923.5 | | 923.5 |
| Bridge Deck Grooving | Sq. Yd. | 2,989 | | 2,989 |
| Seal Coat Concrete | Cu. Yd. | | | 276 |
| Protective Coat | Sq. Yd. | 3,782 | 26 | 3,808 |
| Concrete Superstructure (Approach Slab) | Cu. Yd. | 108.3 | | 108.3 |
| Furnishing and Erecting Structural Steel | L. Sum | 1 | | 1 |
| Stud Shear Connectors | Each | 13,660 | | 13,660 |
| Reinforcement Bars, Epoxy Coated | Pound | 279,290 | 96,830 | 376,120 |
| Bar Splicers | Each | 72 | | 72 |
| Mechanical Splicers | Each | | 484 | 484 |
| Furnishing Steel Piles HP12x53 | Foot | | 2,606 | 2,606 |
| Furnishing Steel Piles HP14x73 | Foot | | 1,310 | 1,310 |
| Driving Piles | Foot | | 3,916 | 3,916 |
| Test Pile Steel HP12x53 | Each | | 4 | 4 |
| Test Pile Steel HP14x73 | Each | | 3 | 3 |
| Pile Shoes | Each | | 118 | 118 |
| Name Plates | Each | 1 | | 1 |
| Finger Plate Expansion Joint, 3" | Foot | | | 36 |
| Finger Plate Expansion Joint, 4" | Foot | | | 36 |
| Elastomeric Bearing Assembly, Type I | Each | | | 10 |
| Elastomeric Bearing Assembly, Type II | Each | | | 10 |
| Anchor Bolts, 5/8" | Each | | 20 | 20 |
| Anchor Bolts, 1" | Each | | 60 | 60 |
| Anchor Bolts, 1 1/4" | Each | | 40 | 40 |
| Concrete Sealer | Sq. Ft. | | 1,013 | 1,013 |
| Geocomposite Wall Drain | Sq. Yd. | | | 70 |
| Concrete Headwalls for Pipe Drains | Each | | | 4 |
| Drainage Scuppers, DS-11 | Each | 6 | | 6 |
| Pipe Underdrains for Structures 4" | Foot | | | 160 |
| High Load Multi-Rotational Bearings, Guided Expansion, 400K | Each | | | 5 |
| Granular Backfill for Structures | Cu. Yd. | | | 161 |



PROFILE GRADE
(along roadway)

MACKINAW RIVER
BUILT 201_ BY
TAZEWELL COUNTY
SEC. 07-00010-12-BR
FAS 461 / C.H. 16 / MANITO ROAD
STR. NO. 090-3248
LOADING HL 93

NAME PLATE
See Std. 515001



Bk. East Abut.
Sta. 150+86.50

Prop. Rdw., P.G. & Structure

118'-6"

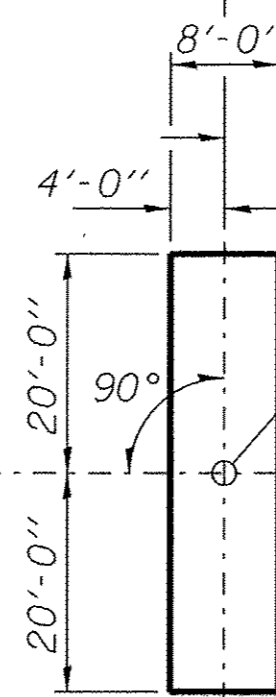
130'-0"

150'-0"

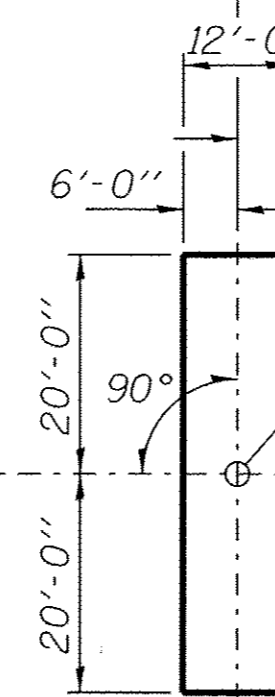
130'-0"

102'-0"

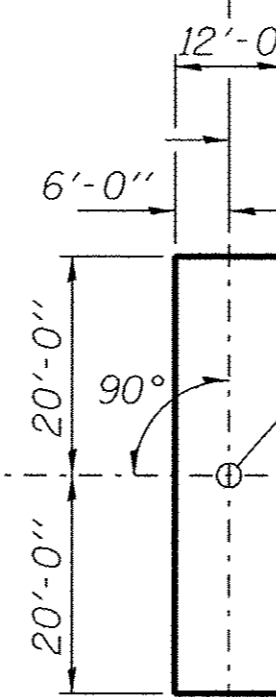
105'-6"



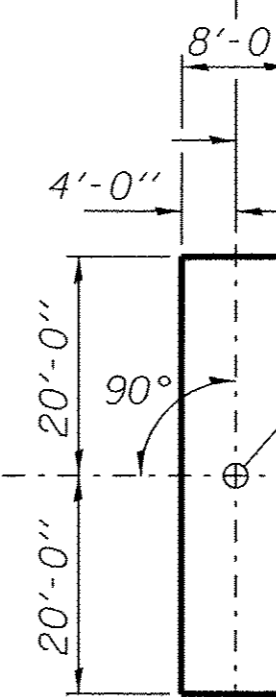
Centerline Pier 1
Sta. 152+05.00



Centerline Pier 2
Sta. 153+35.00



Centerline Pier 3
Sta. 154+85.00

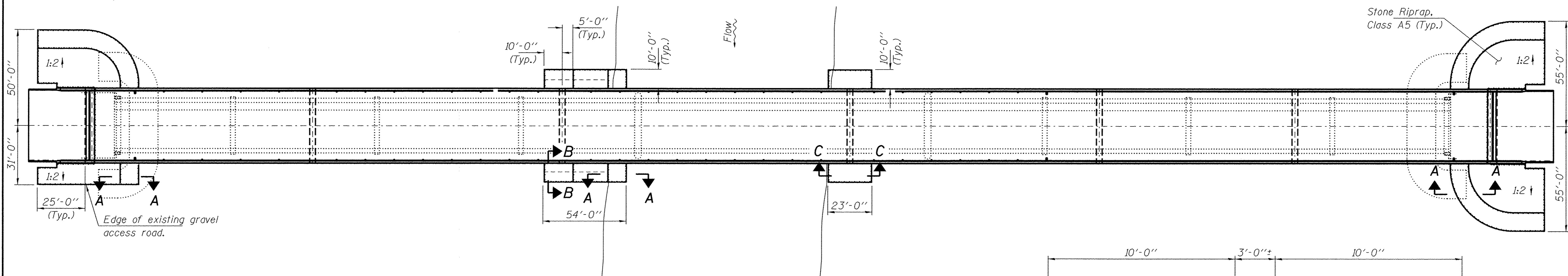


Centerline Pier 4
Sta. 156+15.00

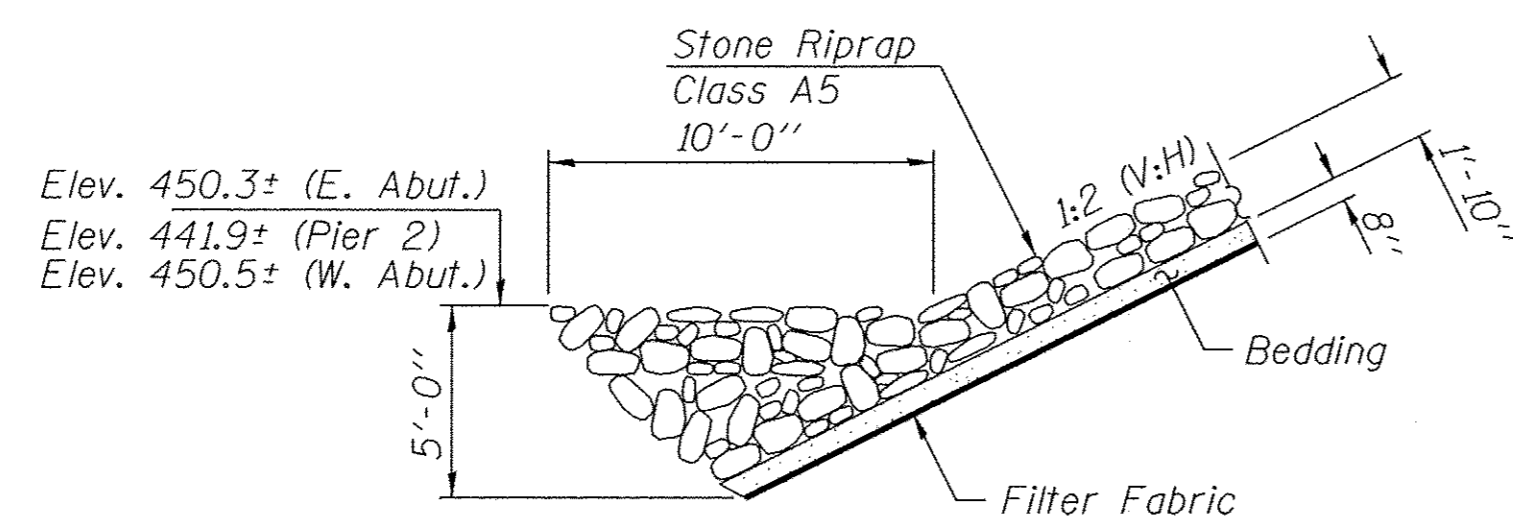
Centerline Pier 5
Sta. 157+17.00

Bk. West Abut.
Sta. 158+22.50

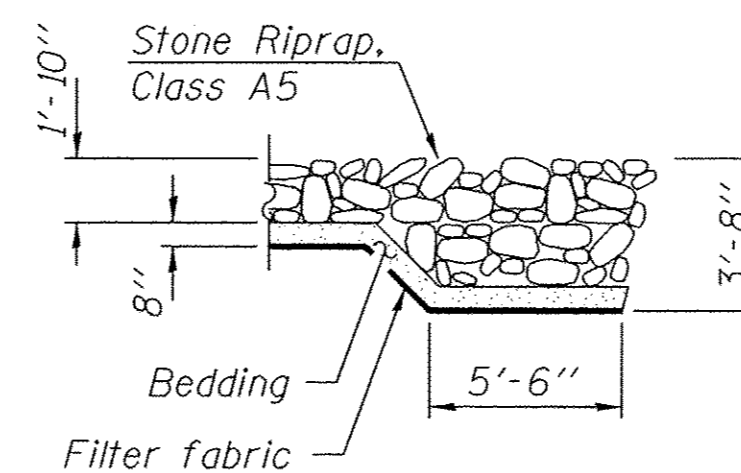
FOOTING LAYOUT



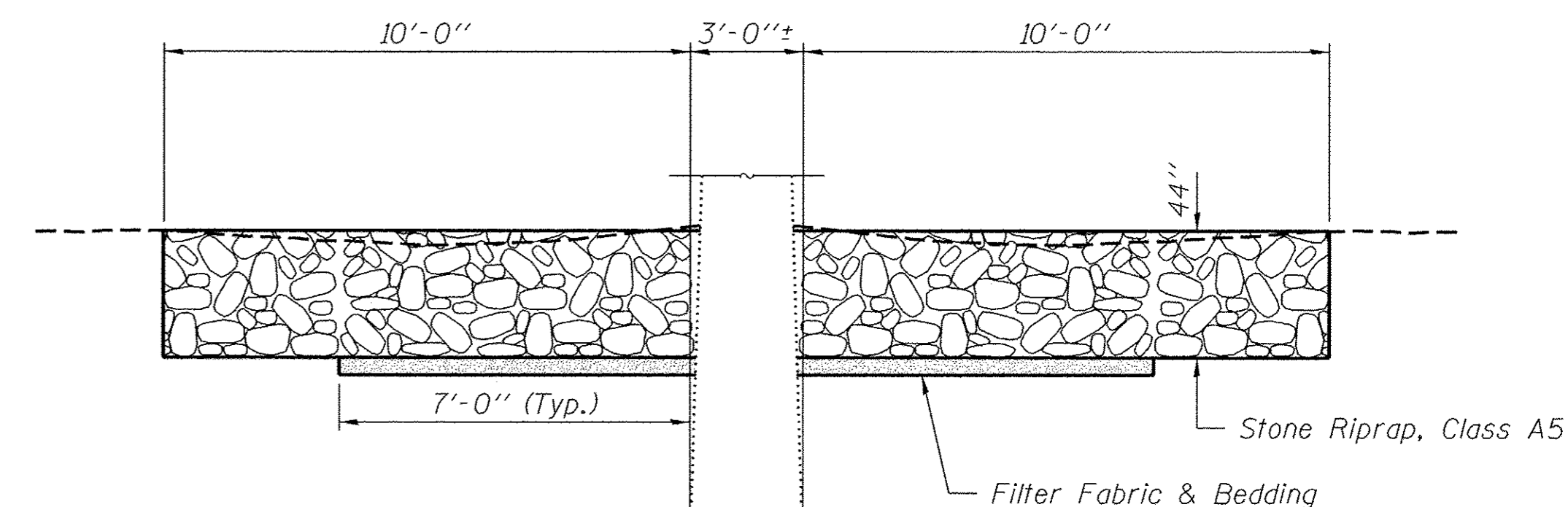
RIPRAP LAYOUT SKETCH



SECTION A-A



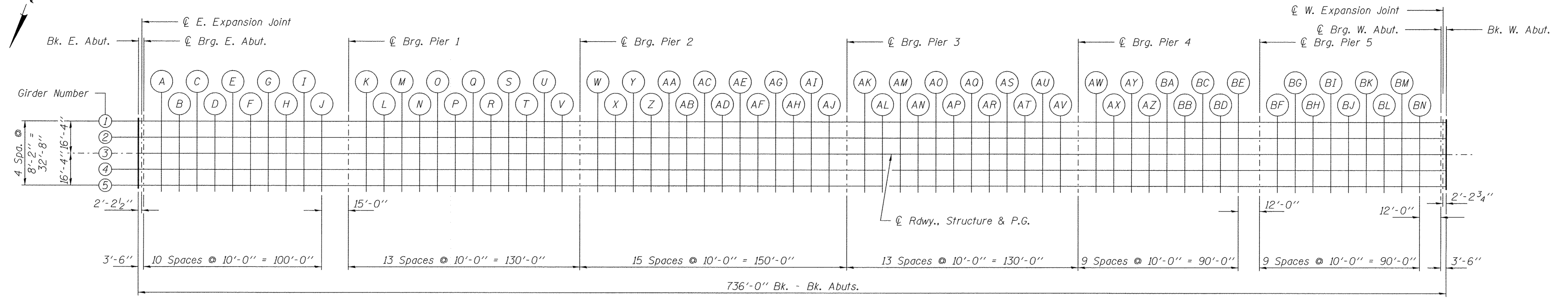
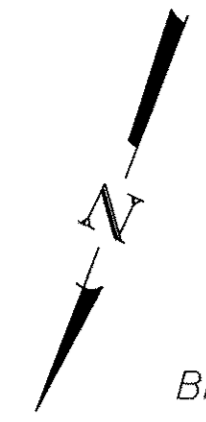
SECTION B-B



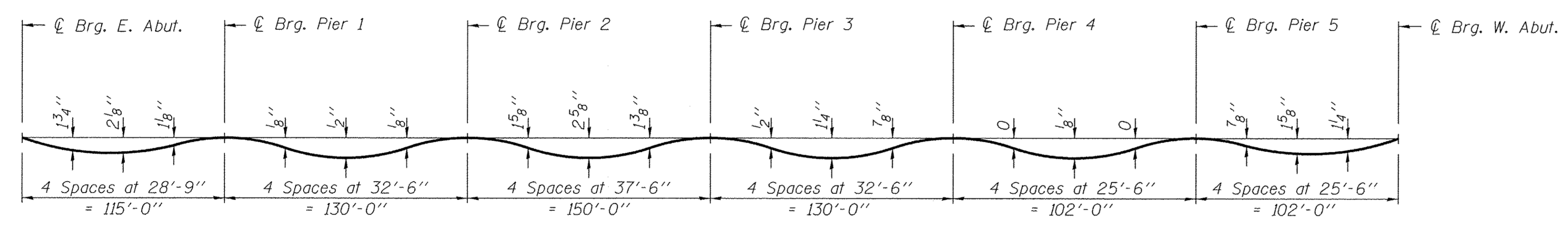
SECTION C-C

Note:
Excavation required for
installation of pier riprap
included in cost of riprap.

| | | | | | | | | | | | |
|---|-----------------------|-------------------|-----------|---|---|------------------------------|--------------------|---------------------------|--------------|-----------|--|
| FILE NAME = 100110-sht-bridge.dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | FOOTING & RIPRAP LAYOUT STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.246.3400 www.lfrengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 21 | |
| 194.000959 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | CONTRACT NO. 89634 | ILLINOIS FED. AID PROJECT | | | |
| | | CHECKED - M.D.C. | REVISED - | | | SHEET NO. 3 OF 46 SHEETS | | | | | |



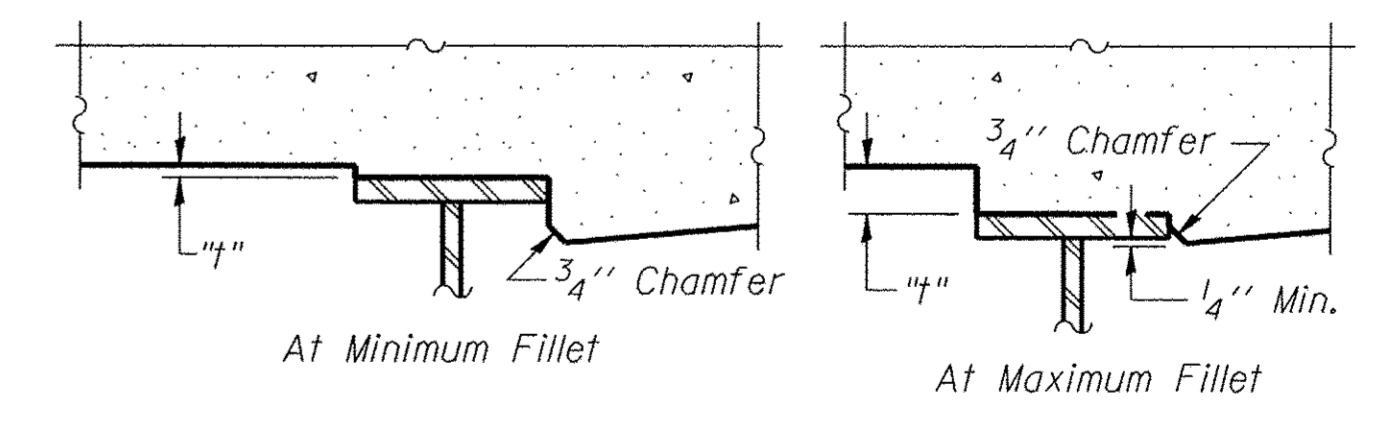
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 5 thru 9 of 46.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets 5 thru 9 of 46. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 5 thru 9 of 46, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

| | | | | | | | | | | | |
|---|-----------------------|-------------------|-----------|---|--|------------------------------|----------------|--------------------|--------------|---------------------------|--|
| FILE NAME = 100110-sht-bridge.dgn 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.646.3400 www.tfrengineering.com 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TOP OF SLAB ELEVATIONS STRUCTURE NO. 090-3248 SHEET NO. 4 OF 46 SHEETS | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 22 | |
| | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | | CONTRACT NO. 89634 | | ILLINOIS FED. AID PROJECT | |
| | | CHECKED - M.D.C. | REVISED - | | | | | | | | |

GIRDER 1

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| Bk. E. Abut. | 150+86.50 | -16.33 | 463.78 | 463.78 |
| ☉ E. Expansion Joint | 150+88.71 | -16.33 | 463.80 | 463.80 |
| ☉ Brg. E. Abut. | 150+90.00 | -16.33 | 463.80 | 463.80 |
| A | 151+00.00 | -16.33 | 463.86 | 463.91 |
| B | 151+10.00 | -16.33 | 463.91 | 464.02 |
| C | 151+20.00 | -16.33 | 463.96 | 464.10 |
| D | 151+30.00 | -16.33 | 464.00 | 464.18 |
| E | 151+40.00 | -16.33 | 464.05 | 464.23 |
| F | 151+50.00 | -16.33 | 464.09 | 464.26 |
| G | 151+60.00 | -16.33 | 464.13 | 464.28 |
| H | 151+70.00 | -16.33 | 464.17 | 464.28 |
| I | 151+80.00 | -16.33 | 464.20 | 464.28 |
| J | 151+90.00 | -16.33 | 464.24 | 464.28 |
| ☉ Brg. Pier 1 | 152+05.00 | -16.33 | 464.28 | 464.28 |
| K | 152+15.00 | -16.33 | 464.31 | 464.31 |
| L | 152+25.00 | -16.33 | 464.34 | 464.34 |
| M | 152+35.00 | -16.33 | 464.36 | 464.37 |
| N | 152+45.00 | -16.33 | 464.39 | 464.41 |
| O | 152+55.00 | -16.33 | 464.41 | 464.44 |
| P | 152+65.00 | -16.33 | 464.42 | 464.46 |
| Q | 152+75.00 | -16.33 | 464.44 | 464.48 |
| R | 152+85.00 | -16.33 | 464.45 | 464.48 |
| S | 152+95.00 | -16.33 | 464.46 | 464.48 |
| T | 153+05.00 | -16.33 | 464.47 | 464.48 |
| U | 153+15.00 | -16.33 | 464.48 | 464.48 |
| V | 153+25.00 | -16.33 | 464.49 | 464.48 |
| ☉ Brg. Pier 2 | 153+35.00 | -16.33 | 464.49 | 464.49 |
| W | 153+45.00 | -16.33 | 464.49 | 464.52 |
| X | 153+55.00 | -16.33 | 464.49 | 464.55 |
| Y | 153+65.00 | -16.33 | 464.49 | 464.59 |
| Z | 153+75.00 | -16.33 | 464.48 | 464.63 |
| AA | 153+85.00 | -16.33 | 464.47 | 464.66 |
| AB | 153+95.00 | -16.33 | 464.46 | 464.67 |
| AC | 154+05.00 | -16.33 | 464.45 | 464.67 |
| AD | 154+15.00 | -16.33 | 464.44 | 464.66 |
| AE | 154+25.00 | -16.33 | 464.42 | 464.62 |
| AF | 154+35.00 | -16.33 | 464.41 | 464.57 |
| AG | 154+45.00 | -16.33 | 464.38 | 464.51 |
| AH | 154+55.00 | -16.33 | 464.36 | 464.45 |
| AI | 154+65.00 | -16.33 | 464.34 | 464.39 |
| AJ | 154+75.00 | -16.33 | 464.31 | 464.33 |

GIRDER 1 (CONTINUED)

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| ☉ Brg. Pier 3 | 154+85.00 | -16.33 | 464.28 | 464.28 |
| AK | 154+95.00 | -16.33 | 464.25 | 464.25 |
| AL | 155+05.00 | -16.33 | 464.22 | 464.23 |
| AM | 155+15.00 | -16.33 | 464.18 | 464.21 |
| AN | 155+25.00 | -16.33 | 464.15 | 464.20 |
| AO | 155+35.00 | -16.33 | 464.11 | 464.18 |
| AP | 155+45.00 | -16.33 | 464.07 | 464.16 |
| AQ | 155+55.00 | -16.33 | 464.02 | 464.13 |
| AR | 155+65.00 | -16.33 | 463.98 | 464.08 |
| AS | 155+75.00 | -16.33 | 463.93 | 464.02 |
| AT | 155+85.00 | -16.33 | 463.88 | 463.95 |
| AU | 155+95.00 | -16.33 | 463.83 | 463.87 |
| AV | 156+05.00 | -16.33 | 463.78 | 463.79 |
| ☉ Brg. Pier 4 | 156+15.00 | -16.33 | 463.72 | 463.72 |
| AW | 156+25.00 | -16.33 | 463.67 | 463.66 |
| AX | 156+35.00 | -16.33 | 463.61 | 463.61 |
| AY | 156+45.00 | -16.33 | 463.56 | 463.56 |
| AZ | 156+55.00 | -16.33 | 463.51 | 463.51 |
| BA | 156+65.00 | -16.33 | 463.45 | 463.46 |
| BB | 156+75.00 | -16.33 | 463.40 | 463.40 |
| BC | 156+85.00 | -16.33 | 463.34 | 463.34 |
| BD | 156+95.00 | -16.33 | 463.29 | 463.28 |
| BE | 157+05.00 | -16.33 | 463.24 | 463.23 |
| ☉ Brg. Pier 5 | 157+17.00 | -16.33 | 463.17 | 463.17 |
| BF | 157+27.00 | -16.33 | 463.12 | 463.14 |
| BG | 157+37.00 | -16.33 | 463.06 | 463.12 |
| BH | 157+47.00 | -16.33 | 463.01 | 463.10 |
| BI | 157+57.00 | -16.33 | 462.95 | 463.07 |
| BJ | 157+67.00 | -16.33 | 462.90 | 463.03 |
| BK | 157+77.00 | -16.33 | 462.85 | 462.98 |
| BL | 157+87.00 | -16.33 | 462.79 | 462.92 |
| BM | 157+97.00 | -16.33 | 462.74 | 462.84 |
| BN | 158+07.00 | -16.33 | 462.68 | 462.74 |
| ☉ Brg. W. Abut. | 158+19.00 | -16.33 | 462.62 | 462.62 |
| ☉ W. Expansion Joint | 158+20.27 | -16.33 | 462.61 | 462.61 |
| Bk. W. Abut. | 158+22.50 | -16.33 | 462.60 | 462.60 |

GIRDER 2

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| Bk. E. Abut. | 150+86.50 | -8.17 | 463.93 | 463.93 |
| ⊕ E. Expansion Joint | 150+88.71 | -8.17 | 463.95 | 463.95 |
| ⊕ Brg. E. Abut. | 150+90.00 | -8.17 | 463.95 | 463.95 |
| A | 151+00.00 | -8.17 | 464.01 | 464.06 |
| B | 151+10.00 | -8.17 | 464.06 | 464.17 |
| C | 151+20.00 | -8.17 | 464.11 | 464.26 |
| D | 151+30.00 | -8.17 | 464.15 | 464.33 |
| E | 151+40.00 | -8.17 | 464.20 | 464.38 |
| F | 151+50.00 | -8.17 | 464.24 | 464.41 |
| G | 151+60.00 | -8.17 | 464.28 | 464.43 |
| H | 151+70.00 | -8.17 | 464.32 | 464.43 |
| I | 151+80.00 | -8.17 | 464.35 | 464.43 |
| J | 151+90.00 | -8.17 | 464.39 | 464.43 |
| ⊕ Brg. Pier 1 | 152+05.00 | -8.17 | 464.43 | 464.43 |
| K | 152+15.00 | -8.17 | 464.46 | 464.46 |
| L | 152+25.00 | -8.17 | 464.49 | 464.49 |
| M | 152+35.00 | -8.17 | 464.51 | 464.52 |
| N | 152+45.00 | -8.17 | 464.54 | 464.56 |
| O | 152+55.00 | -8.17 | 464.56 | 464.59 |
| P | 152+65.00 | -8.17 | 464.57 | 464.61 |
| Q | 152+75.00 | -8.17 | 464.59 | 464.63 |
| R | 152+85.00 | -8.17 | 464.60 | 464.63 |
| S | 152+95.00 | -8.17 | 464.61 | 464.63 |
| T | 153+05.00 | -8.17 | 464.62 | 464.63 |
| U | 153+15.00 | -8.17 | 464.63 | 464.63 |
| V | 153+25.00 | -8.17 | 464.64 | 464.63 |
| ⊕ Brg. Pier 2 | 153+35.00 | -8.17 | 464.64 | 464.64 |
| W | 153+45.00 | -8.17 | 464.64 | 464.67 |
| X | 153+55.00 | -8.17 | 464.64 | 464.70 |
| Y | 153+65.00 | -8.17 | 464.64 | 464.74 |
| Z | 153+75.00 | -8.17 | 464.63 | 464.78 |
| AA | 153+85.00 | -8.17 | 464.62 | 464.81 |
| AB | 153+95.00 | -8.17 | 464.61 | 464.82 |
| AC | 154+05.00 | -8.17 | 464.60 | 464.82 |
| AD | 154+15.00 | -8.17 | 464.59 | 464.81 |
| AE | 154+25.00 | -8.17 | 464.57 | 464.77 |
| AF | 154+35.00 | -8.17 | 464.56 | 464.72 |
| AG | 154+45.00 | -8.17 | 464.54 | 464.67 |
| AH | 154+55.00 | -8.17 | 464.51 | 464.60 |
| AI | 154+65.00 | -8.17 | 464.49 | 464.54 |
| AJ | 154+75.00 | -8.17 | 464.46 | 464.48 |

GIRDER 2 (CONTINUED)

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| ⊕ Brg. Pier 3 | 154+85.00 | -8.17 | 464.43 | 464.43 |
| AK | 154+95.00 | -8.17 | 464.40 | 464.40 |
| AL | 155+05.00 | -8.17 | 464.37 | 464.38 |
| AM | 155+15.00 | -8.17 | 464.33 | 464.36 |
| AN | 155+25.00 | -8.17 | 464.30 | 464.35 |
| AO | 155+35.00 | -8.17 | 464.26 | 464.33 |
| AP | 155+45.00 | -8.17 | 464.22 | 464.31 |
| AQ | 155+55.00 | -8.17 | 464.17 | 464.28 |
| AR | 155+65.00 | -8.17 | 464.13 | 464.23 |
| AS | 155+75.00 | -8.17 | 464.08 | 464.17 |
| AT | 155+85.00 | -8.17 | 464.03 | 464.10 |
| AU | 155+95.00 | -8.17 | 463.98 | 464.02 |
| AV | 156+05.00 | -8.17 | 463.93 | 463.94 |
| ⊕ Brg. Pier 4 | 156+15.00 | -8.17 | 463.87 | 463.87 |
| AW | 156+25.00 | -8.17 | 463.82 | 463.81 |
| AX | 156+35.00 | -8.17 | 463.76 | 463.76 |
| AY | 156+45.00 | -8.17 | 463.71 | 463.71 |
| AZ | 156+55.00 | -8.17 | 463.66 | 463.66 |
| BA | 156+65.00 | -8.17 | 463.60 | 463.61 |
| BB | 156+75.00 | -8.17 | 463.55 | 463.55 |
| BC | 156+85.00 | -8.17 | 463.49 | 463.50 |
| BD | 156+95.00 | -8.17 | 463.44 | 463.43 |
| BE | 157+05.00 | -8.17 | 463.39 | 463.38 |
| ⊕ Brg. Pier 5 | 157+17.00 | -8.17 | 463.32 | 463.32 |
| BF | 157+27.00 | -8.17 | 463.27 | 463.29 |
| BG | 157+37.00 | -8.17 | 463.21 | 463.27 |
| BH | 157+47.00 | -8.17 | 463.16 | 463.25 |
| BI | 157+57.00 | -8.17 | 463.10 | 463.22 |
| BJ | 157+67.00 | -8.17 | 463.05 | 463.18 |
| BK | 157+77.00 | -8.17 | 463.00 | 463.13 |
| BL | 157+87.00 | -8.17 | 462.94 | 463.07 |
| BM | 157+97.00 | -8.17 | 462.89 | 462.99 |
| BN | 158+07.00 | -8.17 | 462.83 | 462.89 |
| ⊕ Brg. W. Abut. | 158+19.00 | -8.17 | 462.77 | 462.77 |
| ⊕ W. Expansion Joint | 158+20.27 | -8.17 | 462.76 | 462.76 |
| Bk. W. Abut. | 158+22.50 | -8.17 | 462.75 | 462.75 |

GIRDER 3 & C STRUCTURE

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| Bk. E. Abut. | 150+86.50 | 0.00 | 464.06 | 464.06 |
| C E. Expansion Joint | 150+88.71 | 0.00 | 464.07 | 464.07 |
| C Brg. E. Abut. | 150+90.00 | 0.00 | 464.08 | 464.08 |
| A | 151+00.00 | 0.00 | 464.13 | 464.19 |
| B | 151+10.00 | 0.00 | 464.18 | 464.29 |
| C | 151+20.00 | 0.00 | 464.23 | 464.38 |
| D | 151+30.00 | 0.00 | 464.28 | 464.45 |
| E | 151+40.00 | 0.00 | 464.32 | 464.51 |
| F | 151+50.00 | 0.00 | 464.37 | 464.54 |
| G | 151+60.00 | 0.00 | 464.41 | 464.55 |
| H | 151+70.00 | 0.00 | 464.45 | 464.56 |
| I | 151+80.00 | 0.00 | 464.48 | 464.56 |
| J | 151+90.00 | 0.00 | 464.51 | 464.55 |
| C Brg. Pier 1 | 152+05.00 | 0.00 | 464.56 | 464.56 |
| K | 152+15.00 | 0.00 | 464.59 | 464.58 |
| L | 152+25.00 | 0.00 | 464.62 | 464.61 |
| M | 152+35.00 | 0.00 | 464.64 | 464.65 |
| N | 152+45.00 | 0.00 | 464.66 | 464.68 |
| O | 152+55.00 | 0.00 | 464.68 | 464.72 |
| P | 152+65.00 | 0.00 | 464.70 | 464.74 |
| Q | 152+75.00 | 0.00 | 464.72 | 464.75 |
| R | 152+85.00 | 0.00 | 464.73 | 464.76 |
| S | 152+95.00 | 0.00 | 464.74 | 464.76 |
| T | 153+05.00 | 0.00 | 464.75 | 464.76 |
| U | 153+15.00 | 0.00 | 464.76 | 464.75 |
| V | 153+25.00 | 0.00 | 464.76 | 464.76 |
| C Brg. Pier 2 | 153+35.00 | 0.00 | 464.77 | 464.77 |
| W | 153+45.00 | 0.00 | 464.77 | 464.79 |
| X | 153+55.00 | 0.00 | 464.77 | 464.83 |
| Y | 153+65.00 | 0.00 | 464.76 | 464.87 |
| Z | 153+75.00 | 0.00 | 464.76 | 464.91 |
| AA | 153+85.00 | 0.00 | 464.75 | 464.93 |
| AB | 153+95.00 | 0.00 | 464.74 | 464.95 |
| AC | 154+05.00 | 0.00 | 464.73 | 464.95 |
| AD | 154+15.00 | 0.00 | 464.72 | 464.93 |
| AE | 154+25.00 | 0.00 | 464.70 | 464.90 |
| AF | 154+35.00 | 0.00 | 464.68 | 464.85 |
| AG | 154+45.00 | 0.00 | 464.66 | 464.79 |
| AH | 154+55.00 | 0.00 | 464.64 | 464.73 |
| AI | 154+65.00 | 0.00 | 464.62 | 464.67 |
| AJ | 154+75.00 | 0.00 | 464.59 | 464.61 |

GIRDER 3 & C STRUCTURE (CONTINUED)

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| C Brg. Pier 3 | 154+85.00 | 0.00 | 464.56 | 464.56 |
| AK | 154+95.00 | 0.00 | 464.53 | 464.53 |
| AL | 155+05.00 | 0.00 | 464.50 | 464.51 |
| AM | 155+15.00 | 0.00 | 464.46 | 464.49 |
| AN | 155+25.00 | 0.00 | 464.43 | 464.48 |
| AO | 155+35.00 | 0.00 | 464.39 | 464.46 |
| AP | 155+45.00 | 0.00 | 464.34 | 464.44 |
| AQ | 155+55.00 | 0.00 | 464.30 | 464.40 |
| AR | 155+65.00 | 0.00 | 464.26 | 464.36 |
| AS | 155+75.00 | 0.00 | 464.21 | 464.30 |
| AT | 155+85.00 | 0.00 | 464.16 | 464.23 |
| AU | 155+95.00 | 0.00 | 464.11 | 464.15 |
| AV | 156+05.00 | 0.00 | 464.05 | 464.07 |
| C Brg. Pier 4 | 156+15.00 | 0.00 | 464.00 | 464.00 |
| AW | 156+25.00 | 0.00 | 463.95 | 463.94 |
| AX | 156+35.00 | 0.00 | 463.89 | 463.89 |
| AY | 156+45.00 | 0.00 | 463.84 | 463.84 |
| AZ | 156+55.00 | 0.00 | 463.78 | 463.79 |
| BA | 156+65.00 | 0.00 | 463.73 | 463.74 |
| BB | 156+75.00 | 0.00 | 463.68 | 463.68 |
| BC | 156+85.00 | 0.00 | 463.62 | 463.62 |
| BD | 156+95.00 | 0.00 | 463.57 | 463.56 |
| BE | 157+05.00 | 0.00 | 463.51 | 463.50 |
| C Brg. Pier 5 | 157+17.00 | 0.00 | 463.45 | 463.45 |
| BF | 157+27.00 | 0.00 | 463.39 | 463.42 |
| BG | 157+37.00 | 0.00 | 463.34 | 463.39 |
| BH | 157+47.00 | 0.00 | 463.29 | 463.37 |
| BI | 157+57.00 | 0.00 | 463.23 | 463.35 |
| BJ | 157+67.00 | 0.00 | 463.18 | 463.31 |
| BK | 157+77.00 | 0.00 | 463.12 | 463.26 |
| BL | 157+87.00 | 0.00 | 463.07 | 463.19 |
| BM | 157+97.00 | 0.00 | 463.02 | 463.11 |
| BN | 158+07.00 | 0.00 | 462.96 | 463.02 |
| C Brg. W. Abut. | 158+19.00 | 0.00 | 462.90 | 462.90 |
| C W. Expansion Joint | 158+20.27 | 0.00 | 462.89 | 462.89 |
| Bk. W. Abut. | 158+22.50 | 0.00 | 462.88 | 462.88 |

GIRDER 4

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| Bk. E. Abut. | 150+86.50 | 8.17 | 463.93 | 463.93 |
| ⊕ E. Expansion Joint | 150+88.71 | 8.17 | 463.95 | 463.95 |
| ⊕ Brg. E. Abut. | 150+90.00 | 8.17 | 463.95 | 463.95 |
| A | 151+00.00 | 8.17 | 464.01 | 464.06 |
| B | 151+10.00 | 8.17 | 464.06 | 464.17 |
| C | 151+20.00 | 8.17 | 464.11 | 464.26 |
| D | 151+30.00 | 8.17 | 464.15 | 464.33 |
| E | 151+40.00 | 8.17 | 464.20 | 464.38 |
| F | 151+50.00 | 8.17 | 464.24 | 464.41 |
| G | 151+60.00 | 8.17 | 464.28 | 464.43 |
| H | 151+70.00 | 8.17 | 464.32 | 464.43 |
| I | 151+80.00 | 8.17 | 464.35 | 464.43 |
| J | 151+90.00 | 8.17 | 464.39 | 464.43 |
| ⊕ Brg. Pier 1 | 152+05.00 | 8.17 | 464.43 | 464.43 |
| K | 152+15.00 | 8.17 | 464.46 | 464.46 |
| L | 152+25.00 | 8.17 | 464.49 | 464.49 |
| M | 152+35.00 | 8.17 | 464.51 | 464.52 |
| N | 152+45.00 | 8.17 | 464.54 | 464.56 |
| O | 152+55.00 | 8.17 | 464.56 | 464.59 |
| P | 152+65.00 | 8.17 | 464.57 | 464.61 |
| Q | 152+75.00 | 8.17 | 464.59 | 464.63 |
| R | 152+85.00 | 8.17 | 464.60 | 464.63 |
| S | 152+95.00 | 8.17 | 464.61 | 464.63 |
| T | 153+05.00 | 8.17 | 464.62 | 464.63 |
| U | 153+15.00 | 8.17 | 464.63 | 464.63 |
| V | 153+25.00 | 8.17 | 464.64 | 464.63 |
| ⊕ Brg. Pier 2 | 153+35.00 | 8.17 | 464.64 | 464.64 |
| W | 153+45.00 | 8.17 | 464.64 | 464.67 |
| X | 153+55.00 | 8.17 | 464.64 | 464.70 |
| Y | 153+65.00 | 8.17 | 464.64 | 464.74 |
| Z | 153+75.00 | 8.17 | 464.63 | 464.78 |
| AA | 153+85.00 | 8.17 | 464.62 | 464.81 |
| AB | 153+95.00 | 8.17 | 464.61 | 464.82 |
| AC | 154+05.00 | 8.17 | 464.60 | 464.82 |
| AD | 154+15.00 | 8.17 | 464.59 | 464.81 |
| AE | 154+25.00 | 8.17 | 464.57 | 464.77 |
| AF | 154+35.00 | 8.17 | 464.56 | 464.72 |
| AG | 154+45.00 | 8.17 | 464.54 | 464.67 |
| AH | 154+55.00 | 8.17 | 464.51 | 464.60 |
| AI | 154+65.00 | 8.17 | 464.49 | 464.54 |
| AJ | 154+75.00 | 8.17 | 464.46 | 464.48 |

GIRDER 4 (CONTINUED)

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| ⊕ Brg. Pier 3 | 154+85.00 | 8.17 | 464.43 | 464.43 |
| AK | 154+95.00 | 8.17 | 464.40 | 464.40 |
| AL | 155+05.00 | 8.17 | 464.37 | 464.38 |
| AM | 155+15.00 | 8.17 | 464.33 | 464.36 |
| AN | 155+25.00 | 8.17 | 464.30 | 464.35 |
| AO | 155+35.00 | 8.17 | 464.26 | 464.33 |
| AP | 155+45.00 | 8.17 | 464.22 | 464.31 |
| AQ | 155+55.00 | 8.17 | 464.17 | 464.28 |
| AR | 155+65.00 | 8.17 | 464.13 | 464.23 |
| AS | 155+75.00 | 8.17 | 464.08 | 464.17 |
| AT | 155+85.00 | 8.17 | 464.03 | 464.10 |
| AU | 155+95.00 | 8.17 | 463.98 | 464.02 |
| AV | 156+05.00 | 8.17 | 463.93 | 463.94 |
| ⊕ Brg. Pier 4 | 156+15.00 | 8.17 | 463.87 | 463.87 |
| AW | 156+25.00 | 8.17 | 463.82 | 463.81 |
| AX | 156+35.00 | 8.17 | 463.76 | 463.76 |
| AY | 156+45.00 | 8.17 | 463.71 | 463.71 |
| AZ | 156+55.00 | 8.17 | 463.66 | 463.66 |
| BA | 156+65.00 | 8.17 | 463.60 | 463.61 |
| BB | 156+75.00 | 8.17 | 463.55 | 463.55 |
| BC | 156+85.00 | 8.17 | 463.49 | 463.50 |
| BD | 156+95.00 | 8.17 | 463.44 | 463.43 |
| BE | 157+05.00 | 8.17 | 463.39 | 463.38 |
| ⊕ Brg. Pier 5 | 157+17.00 | 8.17 | 463.32 | 463.32 |
| BF | 157+27.00 | 8.17 | 463.27 | 463.29 |
| BG | 157+37.00 | 8.17 | 463.21 | 463.27 |
| BH | 157+47.00 | 8.17 | 463.16 | 463.25 |
| BI | 157+57.00 | 8.17 | 463.10 | 463.22 |
| BJ | 157+67.00 | 8.17 | 463.05 | 463.18 |
| BK | 157+77.00 | 8.17 | 463.00 | 463.13 |
| BL | 157+87.00 | 8.17 | 462.94 | 463.07 |
| BM | 157+97.00 | 8.17 | 462.89 | 462.99 |
| BN | 158+07.00 | 8.17 | 462.83 | 462.89 |
| ⊕ Brg. W. Abut. | 158+19.00 | 8.17 | 462.77 | 462.77 |
| ⊕ W. Expansion Joint | 158+20.27 | 8.17 | 462.76 | 462.76 |
| Bk. W. Abut. | 158+22.50 | 8.17 | 462.75 | 462.75 |

GIRDER 5

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| Bk. E. Abut. | 150+86.50 | 16.33 | 463.78 | 463.78 |
| ☉ E. Expansion Joint | 150+88.71 | 16.33 | 463.80 | 463.80 |
| ☉ Brg. E. Abut. | 150+90.00 | 16.33 | 463.80 | 463.80 |
| A | 151+00.00 | 16.33 | 463.86 | 463.91 |
| B | 151+10.00 | 16.33 | 463.91 | 464.02 |
| C | 151+20.00 | 16.33 | 463.96 | 464.10 |
| D | 151+30.00 | 16.33 | 464.00 | 464.18 |
| E | 151+40.00 | 16.33 | 464.05 | 464.23 |
| F | 151+50.00 | 16.33 | 464.09 | 464.26 |
| G | 151+60.00 | 16.33 | 464.13 | 464.28 |
| H | 151+70.00 | 16.33 | 464.17 | 464.28 |
| I | 151+80.00 | 16.33 | 464.20 | 464.28 |
| J | 151+90.00 | 16.33 | 464.24 | 464.28 |
| ☉ Brg. Pier 1 | 152+05.00 | 16.33 | 464.28 | 464.28 |
| K | 152+15.00 | 16.33 | 464.31 | 464.31 |
| L | 152+25.00 | 16.33 | 464.34 | 464.34 |
| M | 152+35.00 | 16.33 | 464.36 | 464.37 |
| N | 152+45.00 | 16.33 | 464.39 | 464.41 |
| O | 152+55.00 | 16.33 | 464.41 | 464.44 |
| P | 152+65.00 | 16.33 | 464.42 | 464.46 |
| Q | 152+75.00 | 16.33 | 464.44 | 464.48 |
| R | 152+85.00 | 16.33 | 464.45 | 464.48 |
| S | 152+95.00 | 16.33 | 464.46 | 464.48 |
| T | 153+05.00 | 16.33 | 464.47 | 464.48 |
| U | 153+15.00 | 16.33 | 464.48 | 464.48 |
| V | 153+25.00 | 16.33 | 464.49 | 464.48 |
| ☉ Brg. Pier 2 | 153+35.00 | 16.33 | 464.49 | 464.49 |
| W | 153+45.00 | 16.33 | 464.49 | 464.52 |
| X | 153+55.00 | 16.33 | 464.49 | 464.55 |
| Y | 153+65.00 | 16.33 | 464.49 | 464.59 |
| Z | 153+75.00 | 16.33 | 464.48 | 464.63 |
| AA | 153+85.00 | 16.33 | 464.47 | 464.66 |
| AB | 153+95.00 | 16.33 | 464.46 | 464.67 |
| AC | 154+05.00 | 16.33 | 464.45 | 464.67 |
| AD | 154+15.00 | 16.33 | 464.44 | 464.66 |
| AE | 154+25.00 | 16.33 | 464.42 | 464.62 |
| AF | 154+35.00 | 16.33 | 464.41 | 464.57 |
| AG | 154+45.00 | 16.33 | 464.38 | 464.51 |
| AH | 154+55.00 | 16.33 | 464.36 | 464.45 |
| AI | 154+65.00 | 16.33 | 464.34 | 464.39 |
| AJ | 154+75.00 | 16.33 | 464.31 | 464.33 |

GIRDER 5 (CONTINUED)

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|----------------------|-----------|--------|------------------------------|--|
| ☉ Brg. Pier 3 | 154+85.00 | 16.33 | 464.28 | 464.28 |
| AK | 154+95.00 | 16.33 | 464.25 | 464.25 |
| AL | 155+05.00 | 16.33 | 464.22 | 464.23 |
| AM | 155+15.00 | 16.33 | 464.18 | 464.21 |
| AN | 155+25.00 | 16.33 | 464.15 | 464.20 |
| AO | 155+35.00 | 16.33 | 464.11 | 464.18 |
| AP | 155+45.00 | 16.33 | 464.07 | 464.16 |
| AQ | 155+55.00 | 16.33 | 464.02 | 464.13 |
| AR | 155+65.00 | 16.33 | 463.98 | 464.08 |
| AS | 155+75.00 | 16.33 | 463.93 | 464.02 |
| AT | 155+85.00 | 16.33 | 463.88 | 463.95 |
| AU | 155+95.00 | 16.33 | 463.83 | 463.87 |
| AV | 156+05.00 | 16.33 | 463.78 | 463.79 |
| ☉ Brg. Pier 4 | 156+15.00 | 16.33 | 463.72 | 463.72 |
| AW | 156+25.00 | 16.33 | 463.67 | 463.66 |
| AX | 156+35.00 | 16.33 | 463.61 | 463.61 |
| AY | 156+45.00 | 16.33 | 463.56 | 463.56 |
| AZ | 156+55.00 | 16.33 | 463.51 | 463.51 |
| BA | 156+65.00 | 16.33 | 463.45 | 463.46 |
| BB | 156+75.00 | 16.33 | 463.40 | 463.40 |
| BC | 156+85.00 | 16.33 | 463.34 | 463.34 |
| BD | 156+95.00 | 16.33 | 463.29 | 463.28 |
| BE | 157+05.00 | 16.33 | 463.24 | 463.23 |
| ☉ Brg. Pier 5 | 157+17.00 | 16.33 | 463.17 | 463.17 |
| BF | 157+27.00 | 16.33 | 463.12 | 463.14 |
| BG | 157+37.00 | 16.33 | 463.06 | 463.12 |
| BH | 157+47.00 | 16.33 | 463.01 | 463.10 |
| BI | 157+57.00 | 16.33 | 462.95 | 463.07 |
| BJ | 157+67.00 | 16.33 | 462.90 | 463.03 |
| BK | 157+77.00 | 16.33 | 462.85 | 462.98 |
| BL | 157+87.00 | 16.33 | 462.79 | 462.92 |
| BM | 157+97.00 | 16.33 | 462.74 | 462.84 |
| BN | 158+07.00 | 16.33 | 462.68 | 462.74 |
| ☉ Brg. W. Abut. | 158+19.00 | 16.33 | 462.62 | 462.62 |
| ☉ W. Expansion Joint | 158+20.27 | 16.33 | 462.61 | 462.61 |
| Bk. W. Abut. | 158+22.50 | 16.33 | 462.60 | 462.60 |

SOUTH CURB LINE

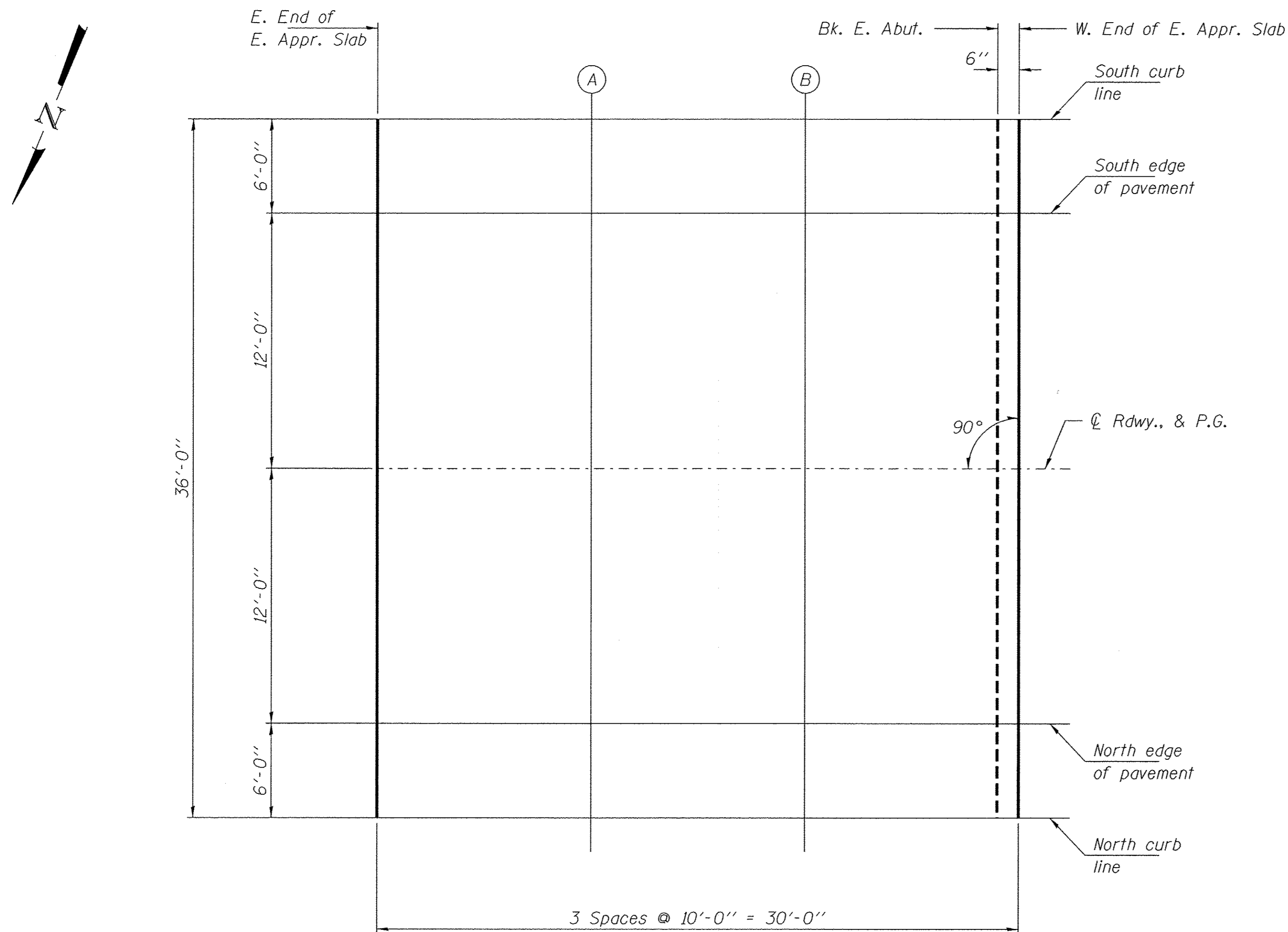
| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of E. Appr. Slab | 150+57.00 | -18.00 | 463.58 |
| A | 150+67.00 | -18.00 | 463.64 |
| B | 150+77.00 | -18.00 | 463.70 |
| W. End of E. Appr. Slab | 150+87.00 | -18.00 | 463.75 |

SOUTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of E. Appr. Slab | 150+57.00 | -12.00 | 463.70 |
| A | 150+67.00 | -12.00 | 463.76 |
| B | 150+77.00 | -12.00 | 463.82 |
| W. End of E. Appr. Slab | 150+87.00 | -12.00 | 463.88 |

CL RDWY. & P.G.

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of E. Appr. Slab | 150+57.00 | 0.00 | 463.89 |
| A | 150+67.00 | 0.00 | 463.95 |
| B | 150+77.00 | 0.00 | 464.01 |
| W. End of E. Appr. Slab | 150+87.00 | 0.00 | 464.06 |



EAST APPROACH SLAB - PLAN

NORTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of E. Appr. Slab | 150+57.00 | 12.00 | 463.70 |
| A | 150+67.00 | 12.00 | 463.76 |
| B | 150+77.00 | 12.00 | 463.82 |
| W. End of E. Appr. Slab | 150+87.00 | 12.00 | 463.88 |

NORTH CURB LINE

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of E. Appr. Slab | 150+57.00 | 18.00 | 463.58 |
| A | 150+67.00 | 18.00 | 463.64 |
| B | 150+77.00 | 18.00 | 463.70 |
| W. End of E. Appr. Slab | 150+87.00 | 18.00 | 463.75 |

SOUTH CURB LINE

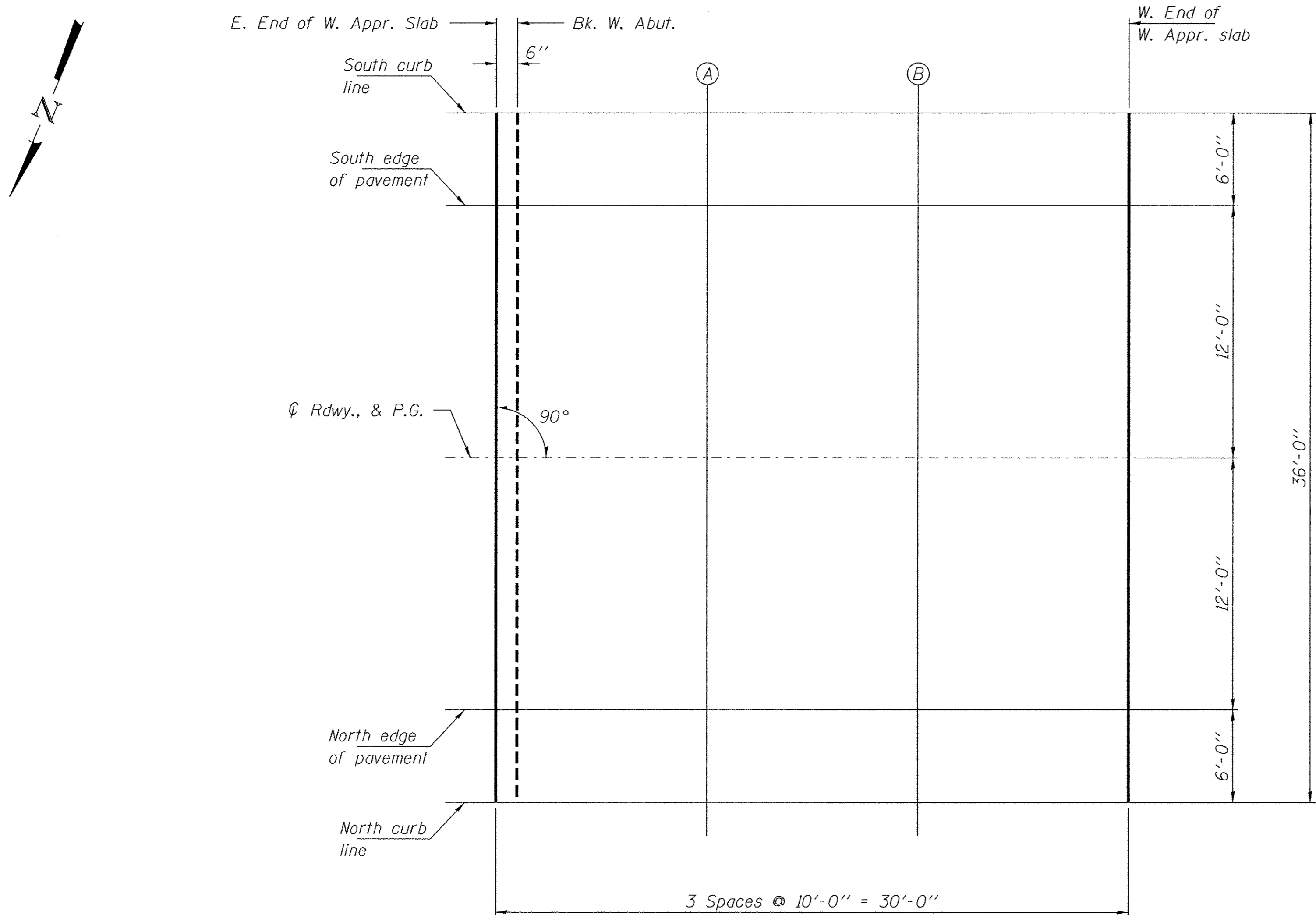
| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of W. Appr. Slab | 158+22.00 | -18.00 | 462.57 |
| A | 158+32.00 | -18.00 | 462.51 |
| B | 158+42.00 | -18.00 | 462.46 |
| W. End of W. Appr. Slab | 158+52.00 | -18.00 | 462.41 |

SOUTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of W. Appr. Slab | 158+22.00 | -12.00 | 462.69 |
| A | 158+32.00 | -12.00 | 462.64 |
| B | 158+42.00 | -12.00 | 462.59 |
| W. End of W. Appr. Slab | 158+52.00 | -12.00 | 462.53 |

☉ RDWY.. & P.G.

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of W. Appr. Slab | 158+22.00 | 0.00 | 462.88 |
| A | 158+32.00 | 0.00 | 462.83 |
| B | 158+42.00 | 0.00 | 462.77 |
| W. End of W. Appr. Slab | 158+52.00 | 0.00 | 462.72 |



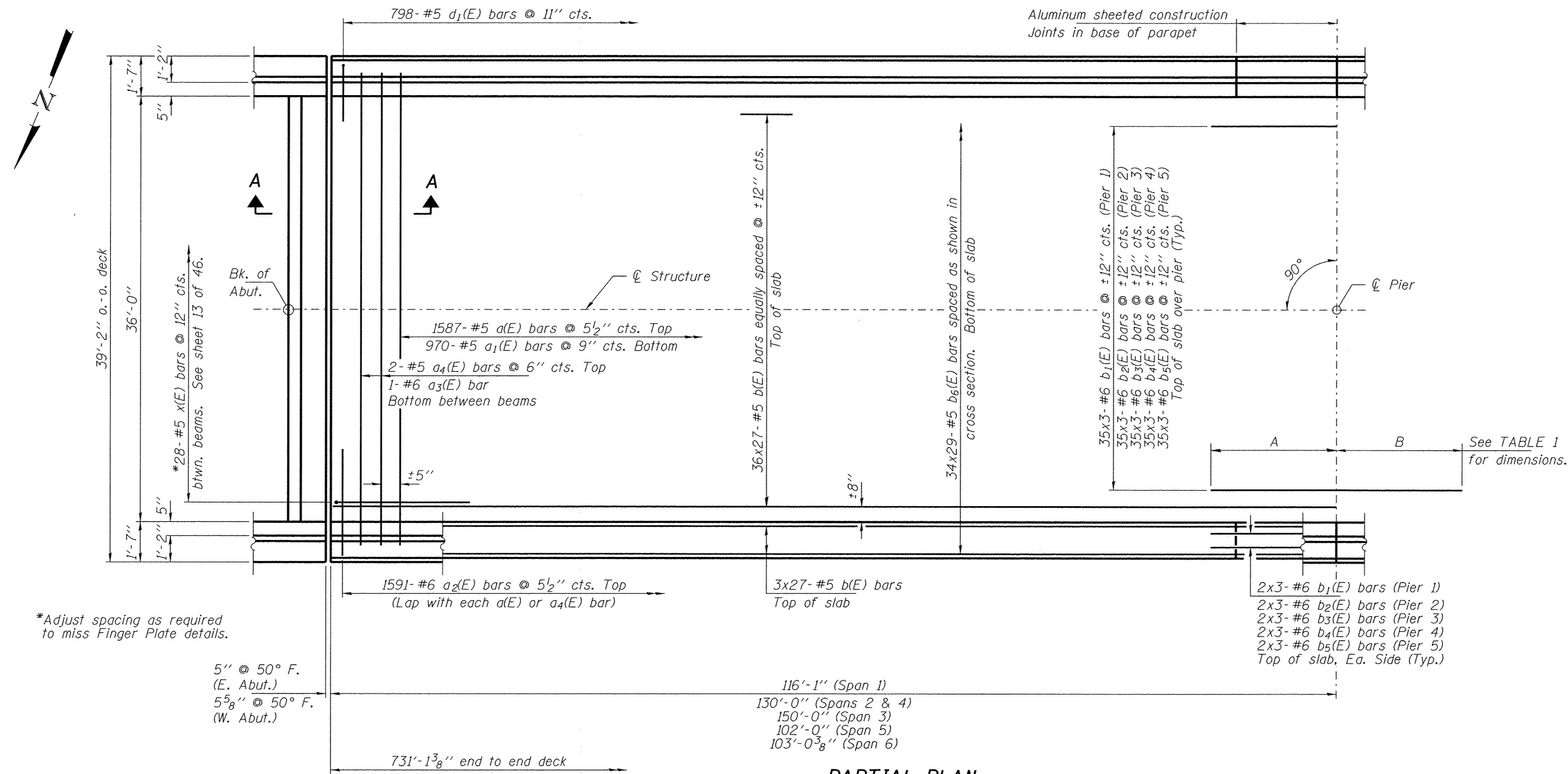
WEST APPROACH SLAB - PLAN

NORTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of W. Appr. Slab | 158+22.00 | 12.00 | 462.69 |
| A | 158+32.00 | 12.00 | 462.64 |
| B | 158+42.00 | 12.00 | 462.59 |
| W. End of W. Appr. Slab | 158+52.00 | 12.00 | 462.53 |

NORTH CURB LINE

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| E. End of W. Appr. Slab | 158+22.00 | 18.00 | 462.57 |
| A | 158+32.00 | 18.00 | 462.51 |
| B | 158+42.00 | 18.00 | 462.46 |
| W. End of W. Appr. Slab | 158+52.00 | 18.00 | 462.41 |



Notes:
 See sheets 13 & 14 of 46 for superstructure details and Bill of Material.
 Bars indicated thus 35x3-#6 etc. indicates 35 lines of bars with 3 lengths per line.
 See sheets 13 & 14 of 46 for parapet reinforcement and aluminum sheeted construction joint spacing.
 See sheet 13 of 46 for Section A-A.

MIN. BAR LAP
 (Deck)
 #5 bars = 3'-6"
 #6 bars = 4'-5"

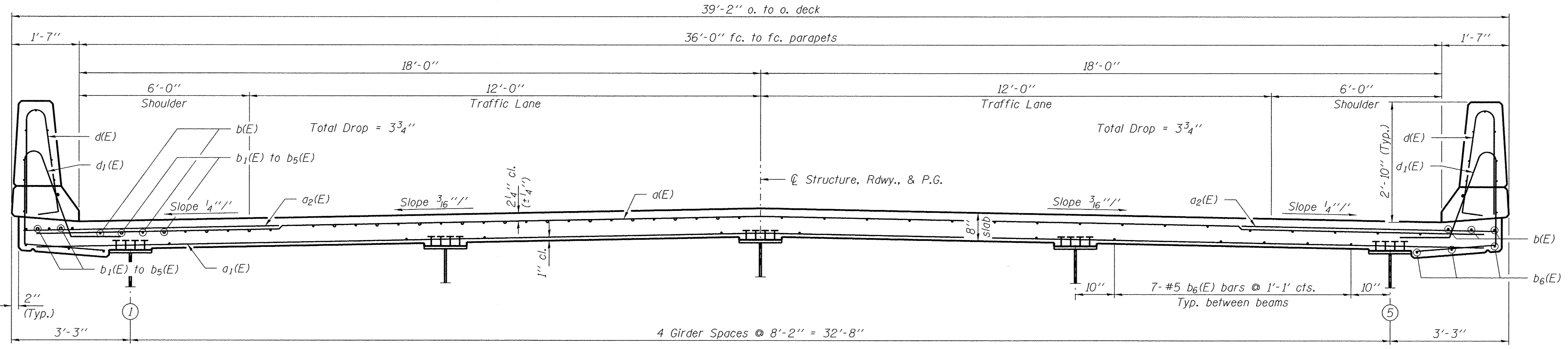
TABLE 1

| Pier | A | B |
|------|--------|--------|
| 1 | 32'-9" | 37'-9" |
| 2 | 39'-9" | 33'-6" |
| 3 | 38'-9" | 41'-0" |
| 4 | 27'-9" | 29'-9" |
| 5 | 32'-3" | 27'-9" |

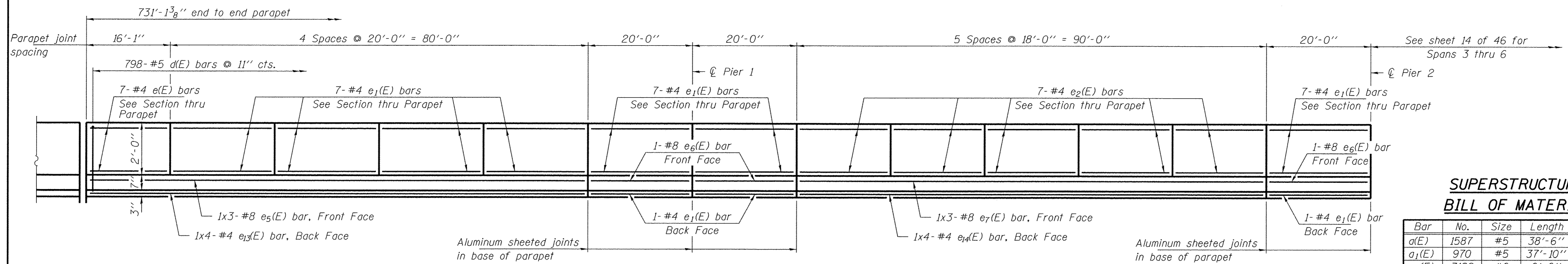
*Adjust spacing as required to miss Finger Plate details.

5" @ 50° F.
 (E. Abut.)
 5 5/8" @ 50° F.
 (W. Abut.)

PARTIAL PLAN



CROSS SECTION
 (Looking West)

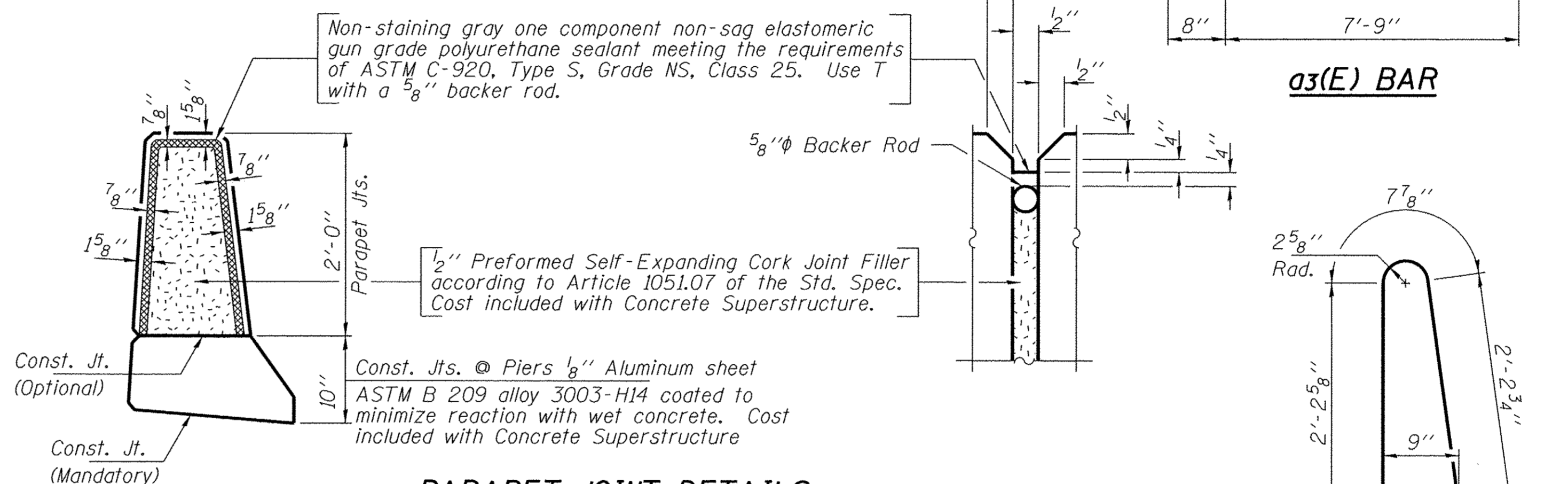


**SUPERSTRUCTURE
BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|---------|---------|---------|-------|
| a(E) | 1587 | #5 | 38'-6" | — |
| a ₁ (E) | 970 | #5 | 37'-10" | — |
| a ₂ (E) | 3182 | #6 | 6'-6" | — |
| a ₃ (E) | 8 | #6 | 9'-1" | — |
| a ₄ (E) | 4 | #5 | 38'-6" | — |
| a ₅ (E) | 48 | #5 | 1'-6" | — |
| b(E) | 1134 | #5 | 30'-6" | — |
| b ₁ (E) | 117 | #6 | 26'-6" | — |
| b ₂ (E) | 117 | #6 | 27'-5" | — |
| b ₃ (E) | 117 | #6 | 29'-7" | — |
| b ₄ (E) | 117 | #6 | 22'-3" | — |
| b ₅ (E) | 117 | #6 | 23'-0" | — |
| b ₆ (E) | 986 | #5 | 28'-7" | — |
| d(E) | 1596 | #5 | 5'-7" | — |
| d ₁ (E) | 1596 | #5 | 7'-8" | — |
| e(E) | 28 | #4 | 15'-8" | — |
| e ₁ (E) | 120 | #4 | 19'-8" | — |
| e ₂ (E) | 214 | #4 | 17'-8" | — |
| e ₃ (E) | 154 | #4 | 18'-8" | — |
| e ₄ (E) | 64 | #4 | 14'-8" | — |
| e ₅ (E) | 6 | #8 | 36'-0" | — |
| e ₆ (E) | 8 | #8 | 19'-8" | — |
| e ₇ (E) | 6 | #8 | 34'-0" | — |
| e ₈ (E) | 4 | #8 | 17'-8" | — |
| e ₉ (E) | 8 | #8 | 33'-0" | — |
| e ₁₀ (E) | 6 | #8 | 35'-8" | — |
| e ₁₁ (E) | 8 | #8 | 14'-8" | — |
| e ₁₂ (E) | 6 | #8 | 33'-2" | — |
| e ₁₃ (E) | 8 | #4 | 26'-1" | — |
| e ₁₄ (E) | 8 | #4 | 24'-6" | — |
| e ₁₅ (E) | 10 | #4 | 25'-0" | — |
| e ₁₆ (E) | 8 | #4 | 25'-9" | — |
| e ₁₇ (E) | 8 | #4 | 20'-0" | — |
| e ₁₈ (E) | 8 | #4 | 24'-0" | — |
| e ₁₉ (E) | 6 | #8 | 27'-10" | — |
| x(E) | 56 | #5 | 5'-2" | — |
| Reinforcement Bars, Epoxy Coated | Pound | 255,920 | | |
| Concrete Superstructure | Cu. Yd. | 923.5 | | |
| Bridge Deck Grooving | Sq. Yd. | 2,762 | | |
| Protective Coat | Sq. Yd. | 3,537 | | |

Bars indicated thus 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.

INSIDE ELEVATION OF PARAPET
(Spans 1 & 2)



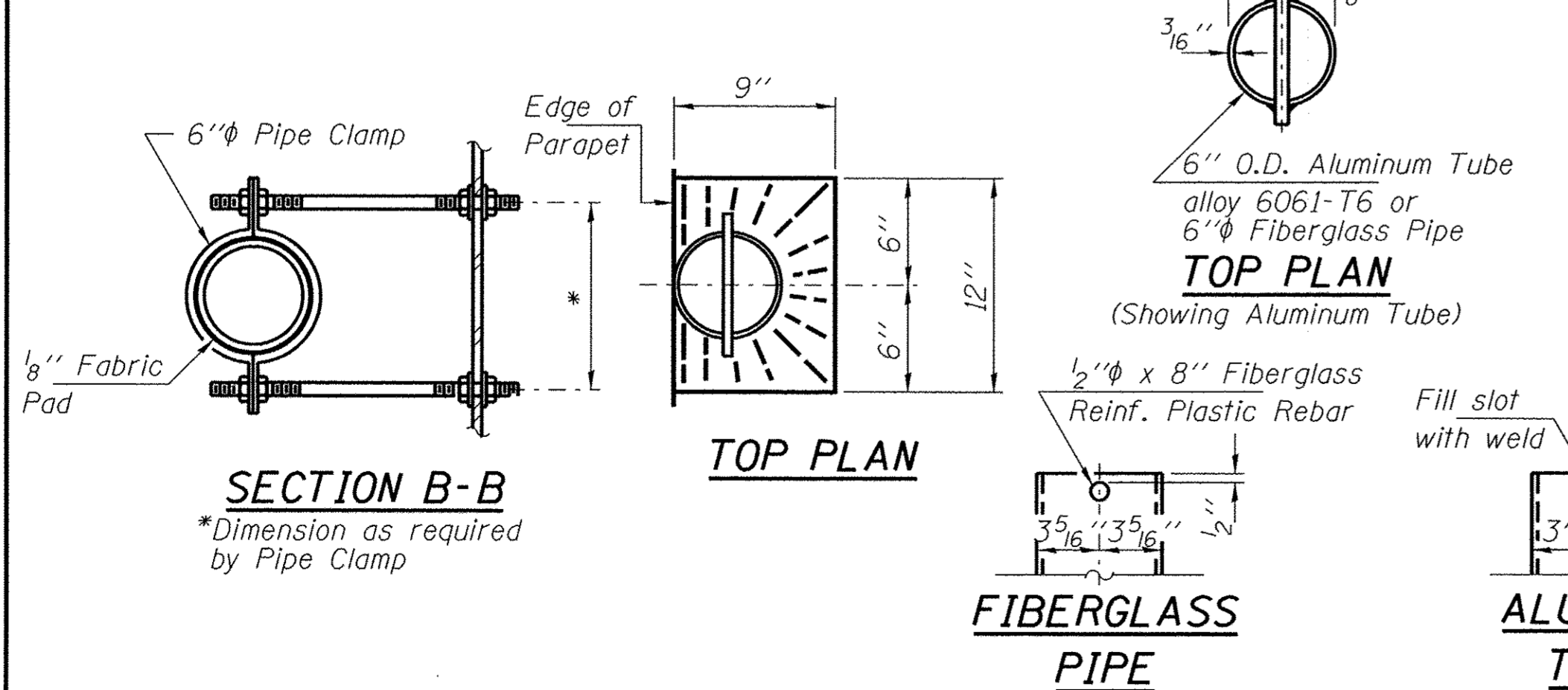
PARAPET JOINT DETAILS

Notes:
Drains shall be located clear of all diaphragms.
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

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

5" @ 50° F (E. Abut.)
5 5/8" @ 50° F (W. Abut.)
For details of finger plate, see sheet 24 & 25 of 46.

SECTION THRU PARAPET



SECTION B-B
*Dimension as required by Pipe Clamp

TOP PLAN

TOP PLAN
(Showing Aluminum Tube)

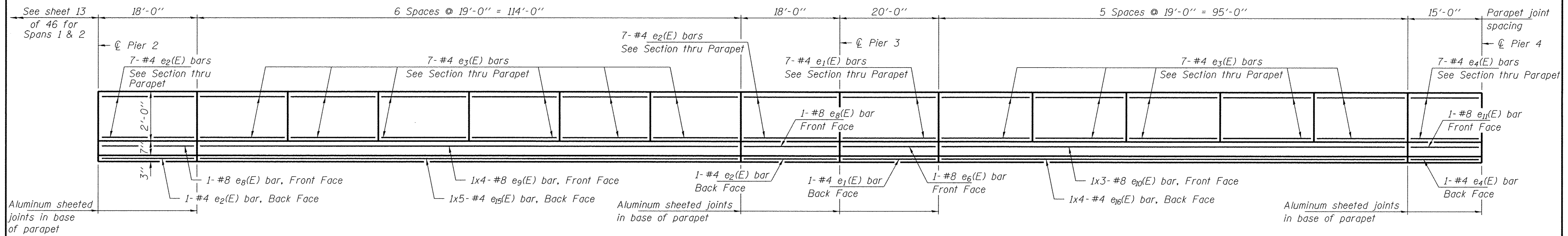
FIBERGLASS PIPE

ALUMINUM TUBE

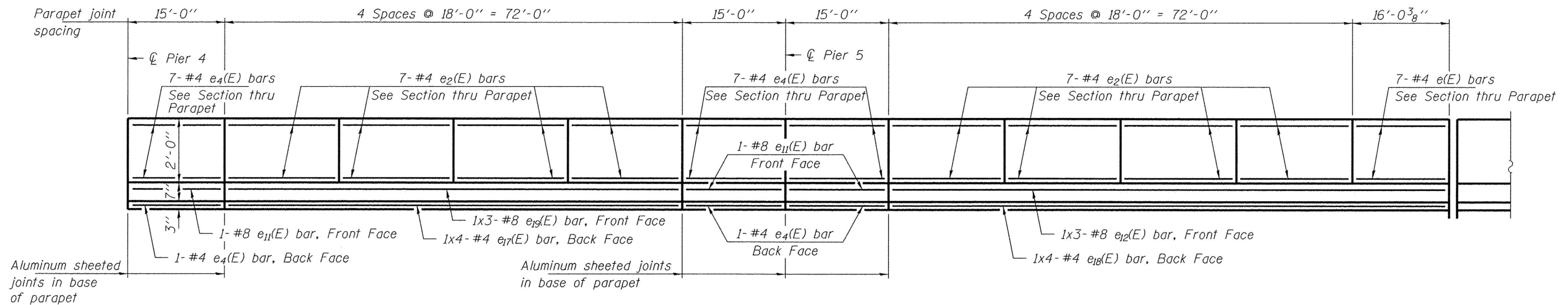
DRAINAGE SCUPPERS PLAN VIEW

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

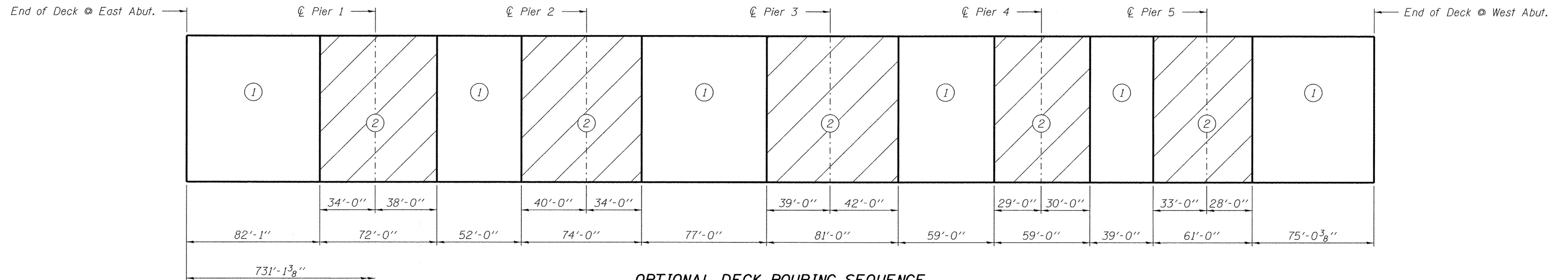
BAR x(E)



INSIDE ELEVATION OF PARAPET
(Spans 3 & 4)



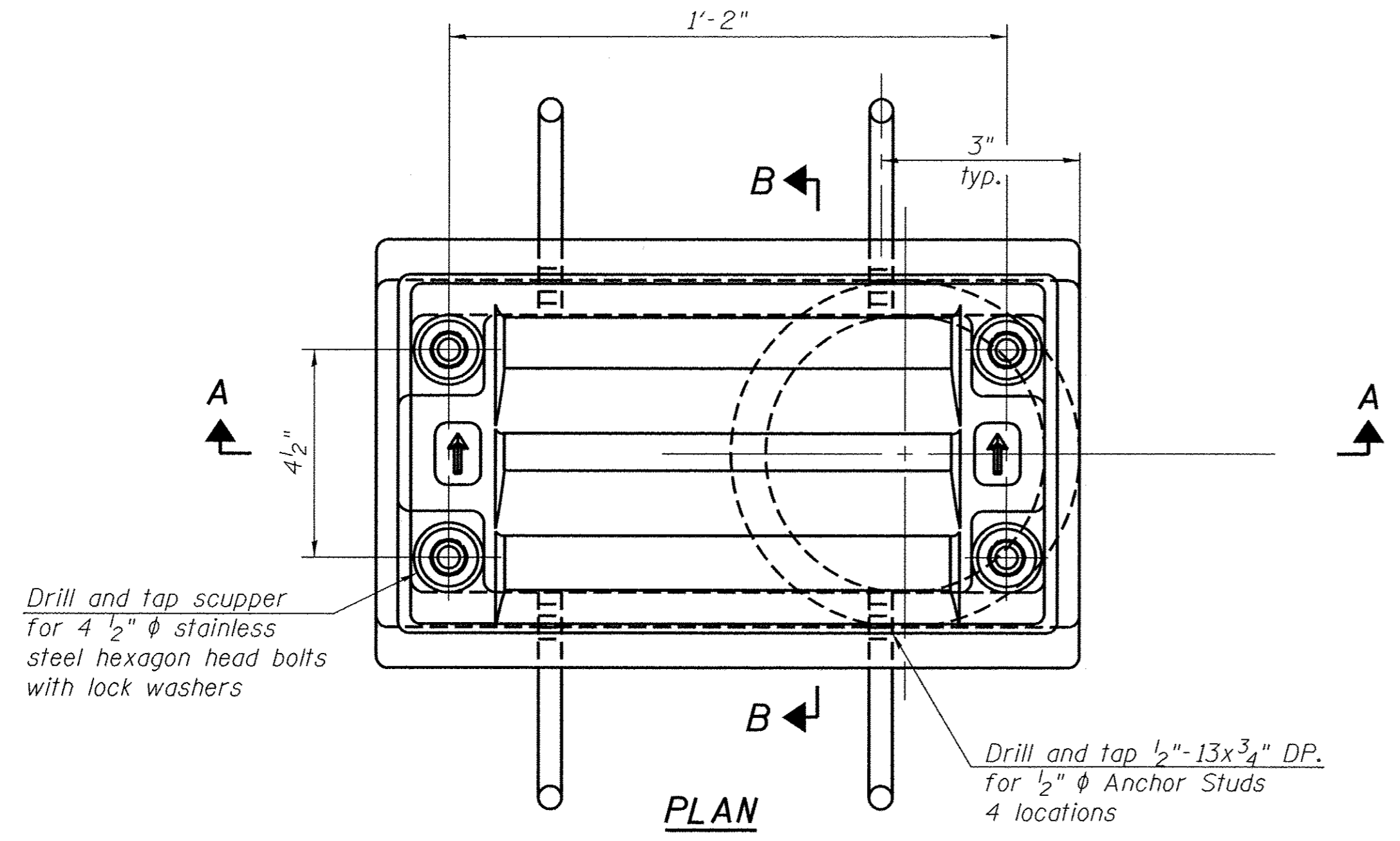
INSIDE ELEVATION OF PARAPET
(Spans 5 & 6)



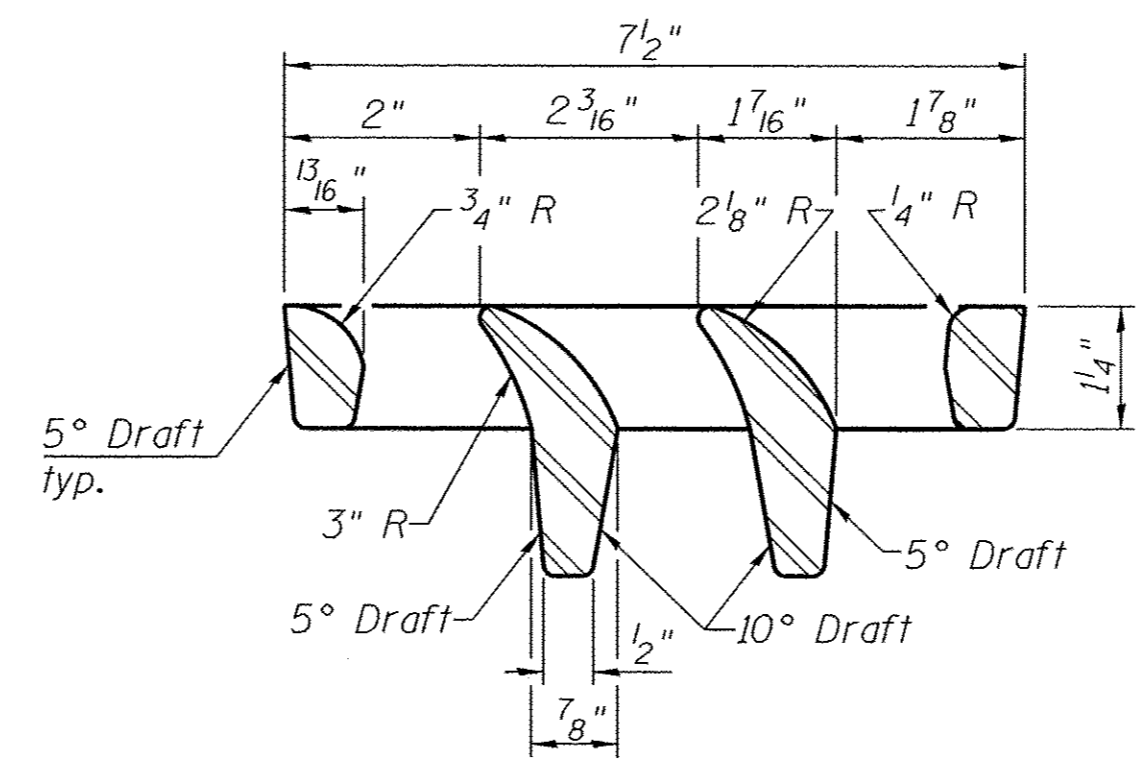
OPTIONAL DECK POURING SEQUENCE

When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:

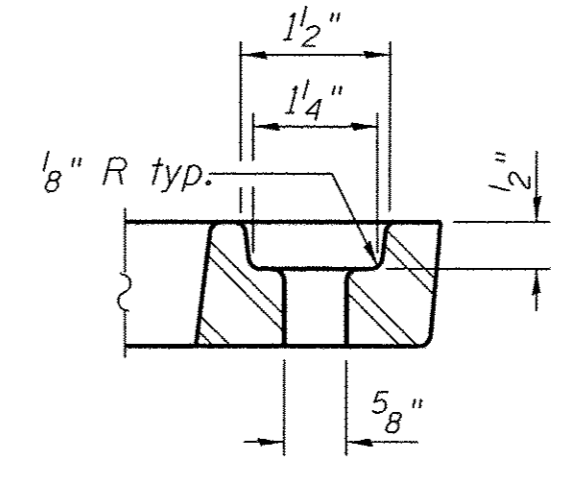
- 1) At least 72 hours shall have elapsed from the end of the previous pour.
- 2) The concrete strength shall have attained a minimum flexural strength of 675 psi or a minimum compressive strength of 4000 psi.



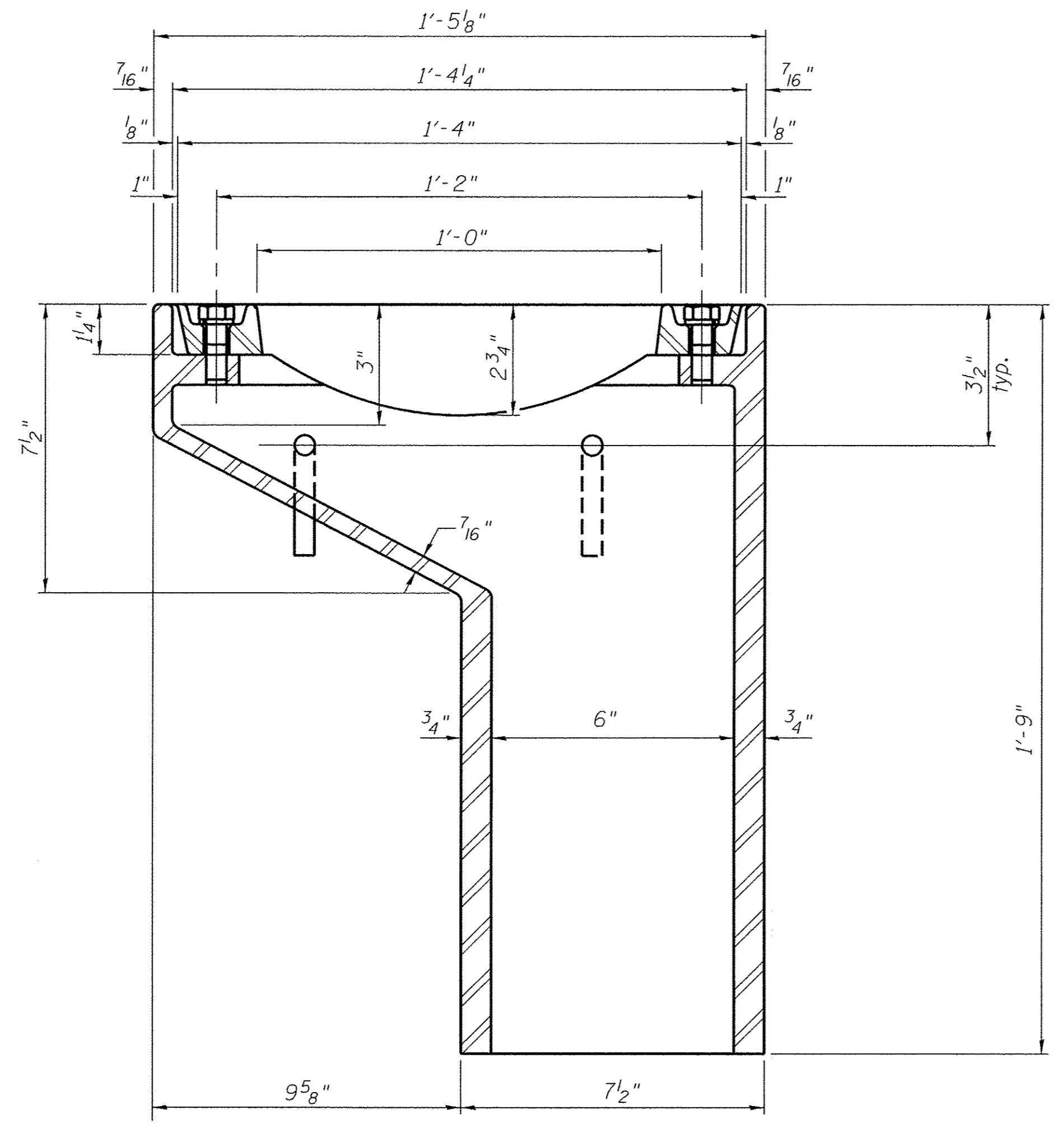
PLAN



VANE GRATE DETAIL

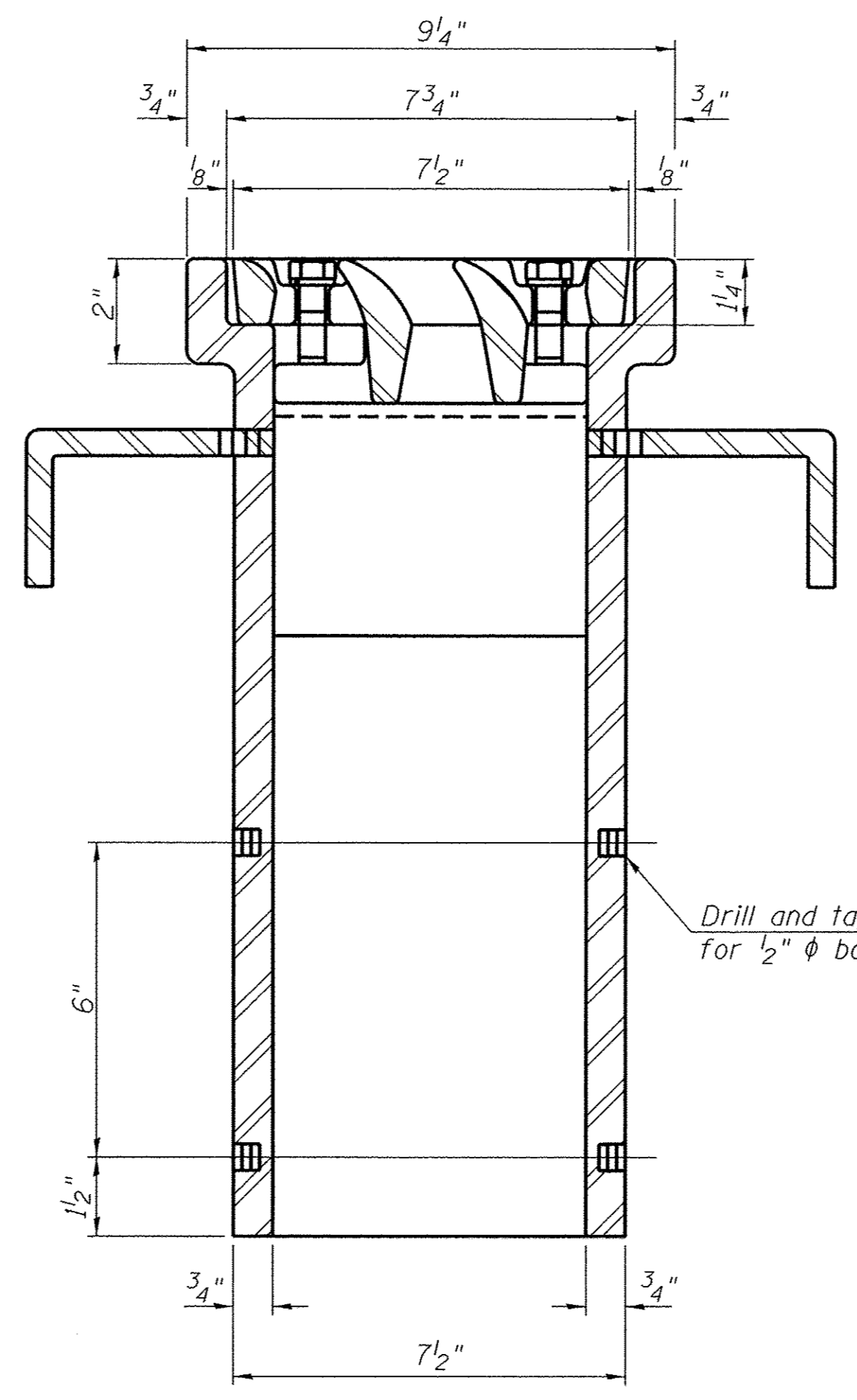


BOLT HOLE DETAIL

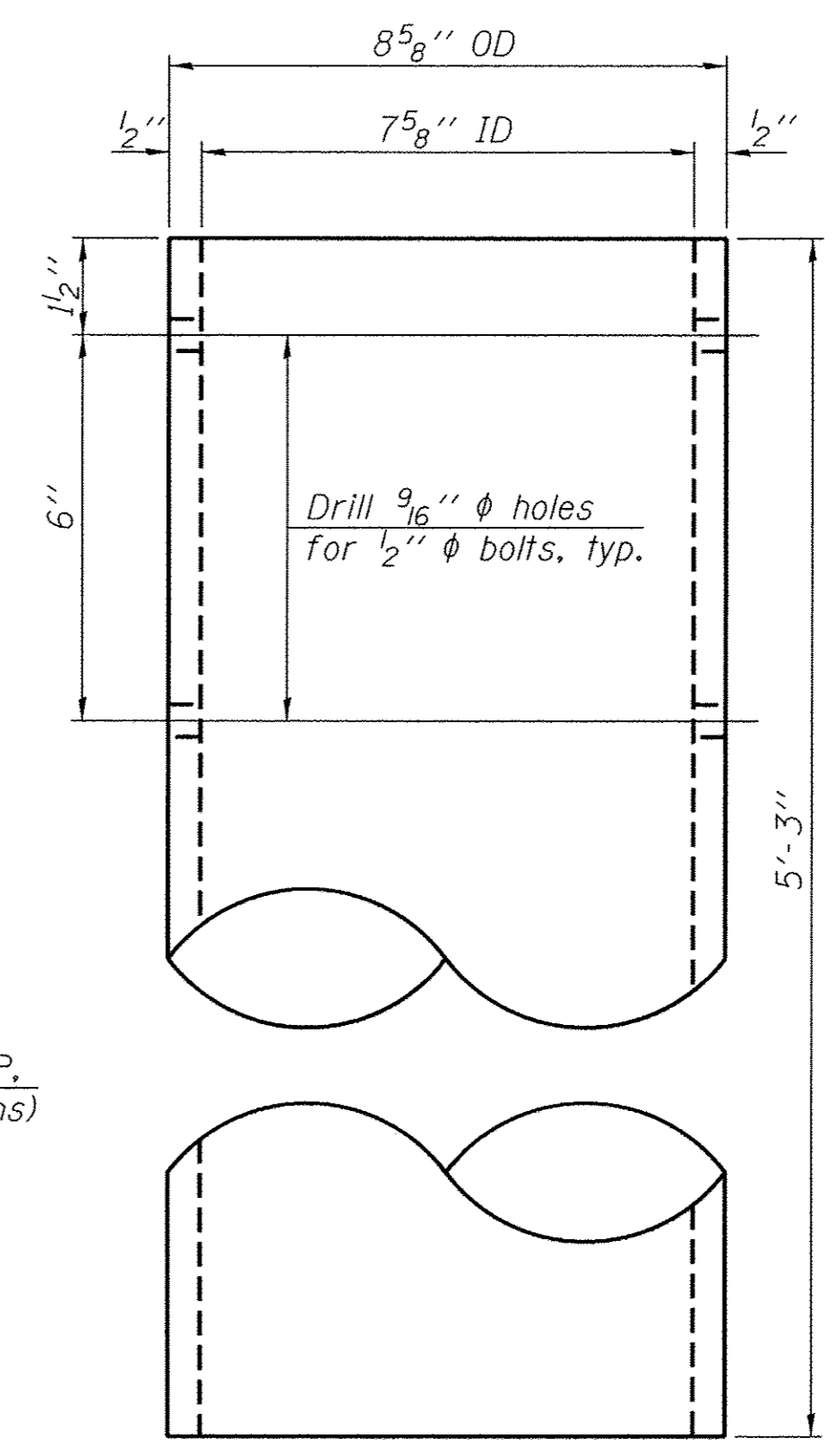


SECTION A-A

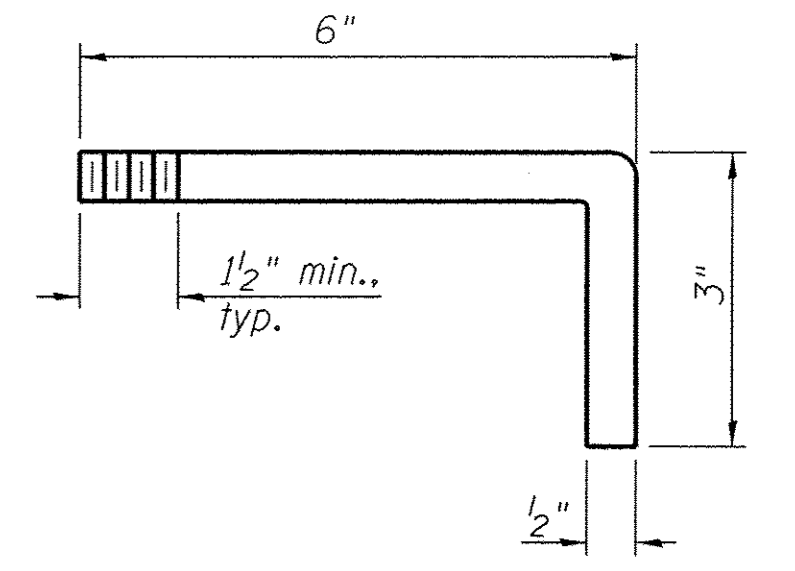
See sheet 13 of 46 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
 Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
 As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-II.
 Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|-------------------------|------|----------|
| Drainage Scupper, DS-II | Each | 6 |

DS-II 7-1-10

FILE NAME = 100110-sht-br1dge.dgn
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.245.3400 www.tlringier.com
 184.000895
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORPORATION

USER NAME =
 CHECKED - D.W.T.
 DRAWN - D.A.B.
 CHECKED - M.D.C.
 PLOT SCALE =
 PLOT DATE = 6/30/2016

DESIGNED - S.M.S.
 CHECKED - D.W.T.
 DRAWN - D.A.B.
 CHECKED - M.D.C.
 REVISED -
 REVISED -
 REVISED -
 REVISED -

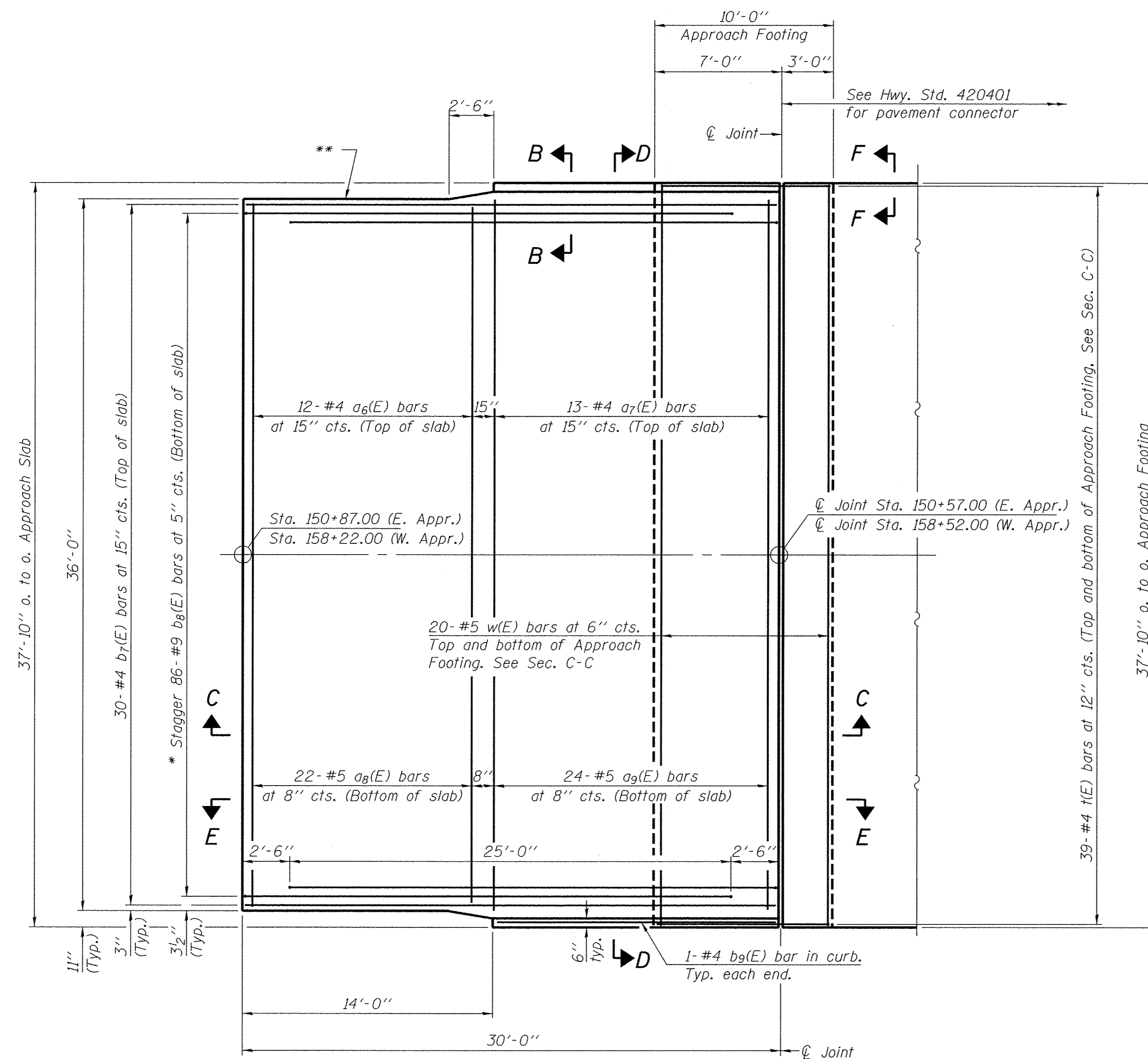
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
 STRUCTURE NO. 090-3248

SHEET NO. 15 OF 46 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------|----------------|----------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 33 |

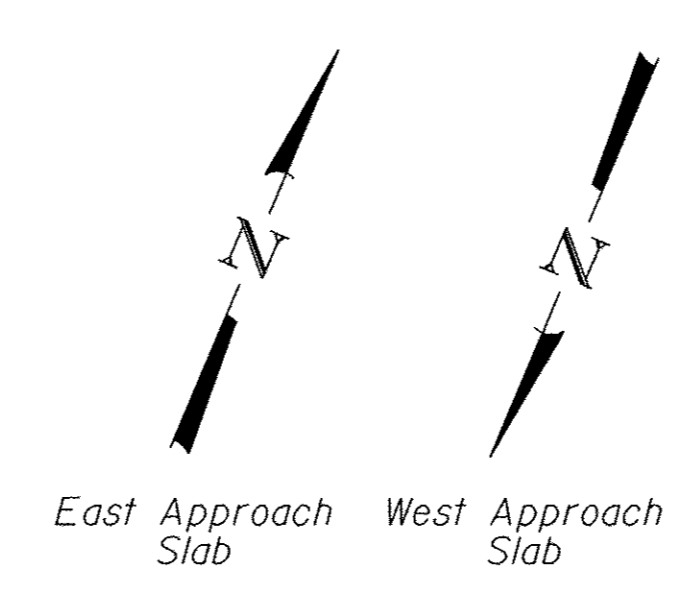
MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634
 ILLINOIS FED. AID PROJECT



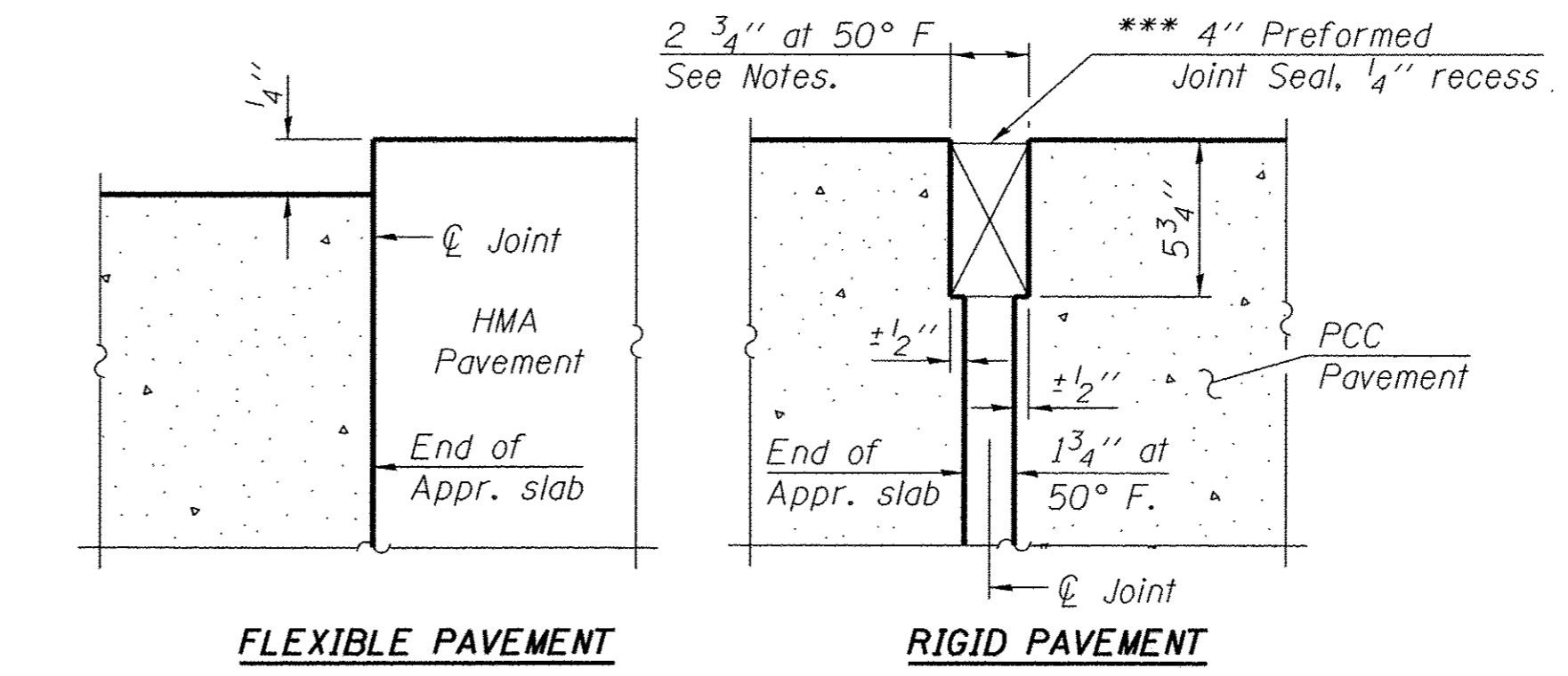
PLAN

(West Approach shown - East Approach Similar)

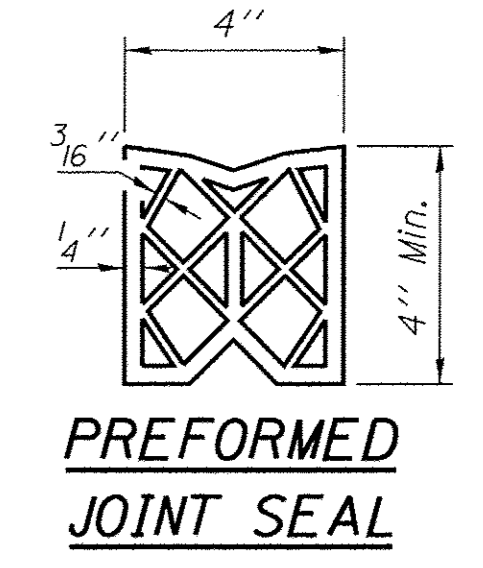
- * Tilt #9 b8(E) bars as required to maintain clearance.
- ** Prefomed expansion joint filler according to Article 1051.09 of the Std. Specifications; full depth of slab, full length of parapet. Typ. each parapet.



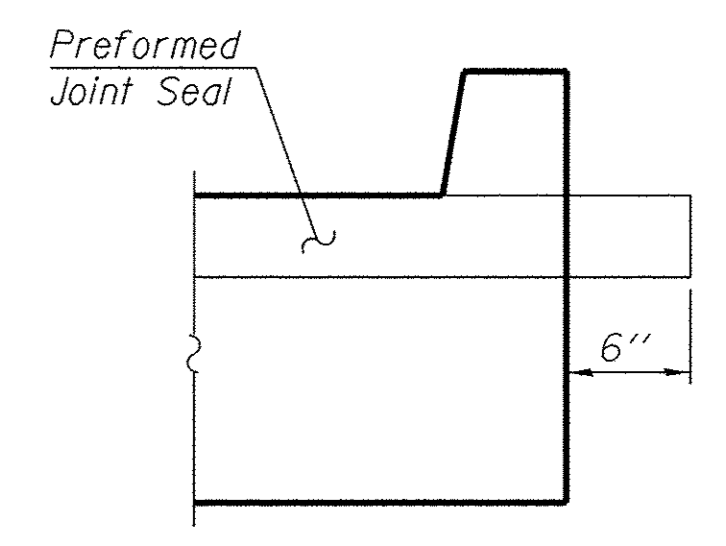
Notes:
 See sheet 17 of 46 for Sections C-C & D-D and View E-E.
 a7(E) thru a9(E) bar spacings measured along ϕ Rdwy.
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1/2" for installation purposes.



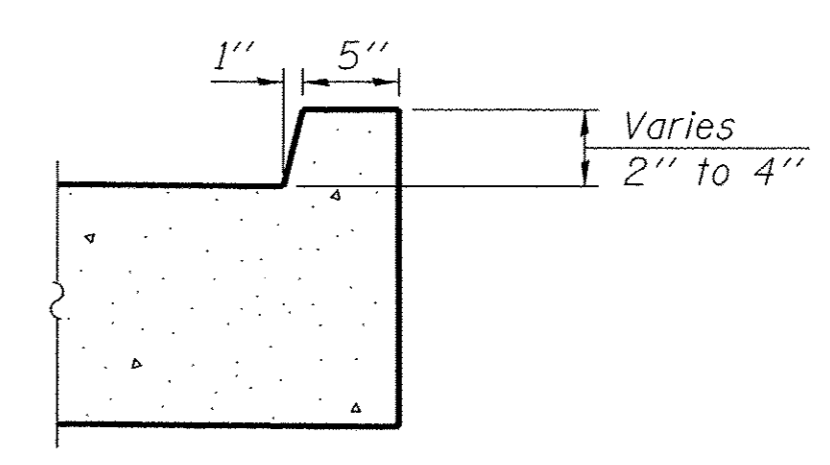
DETAIL A



PREFORMED JOINT SEAL



VIEW F-F

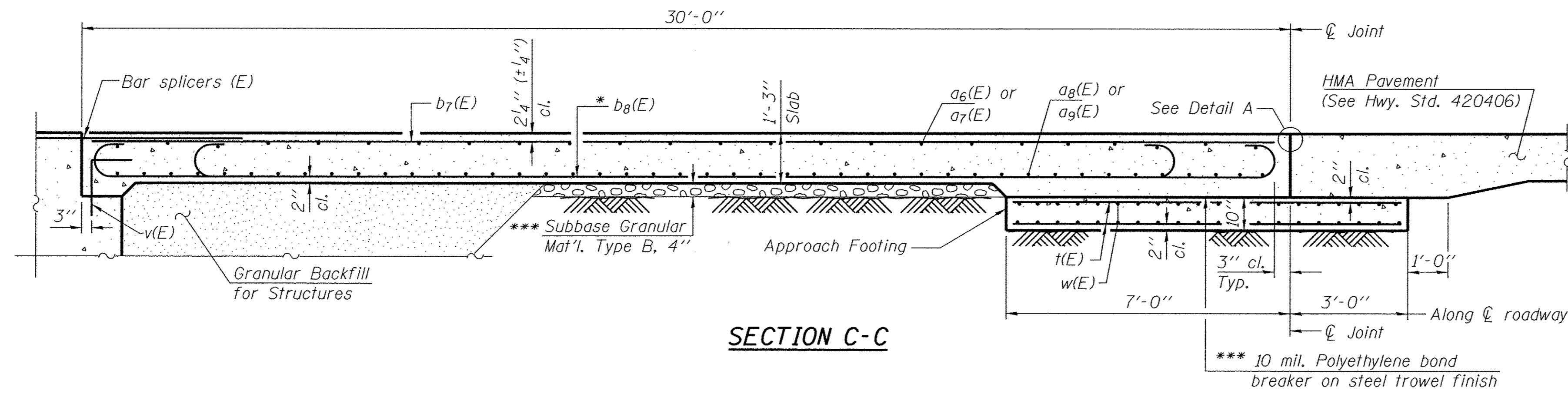


VIEW B-B

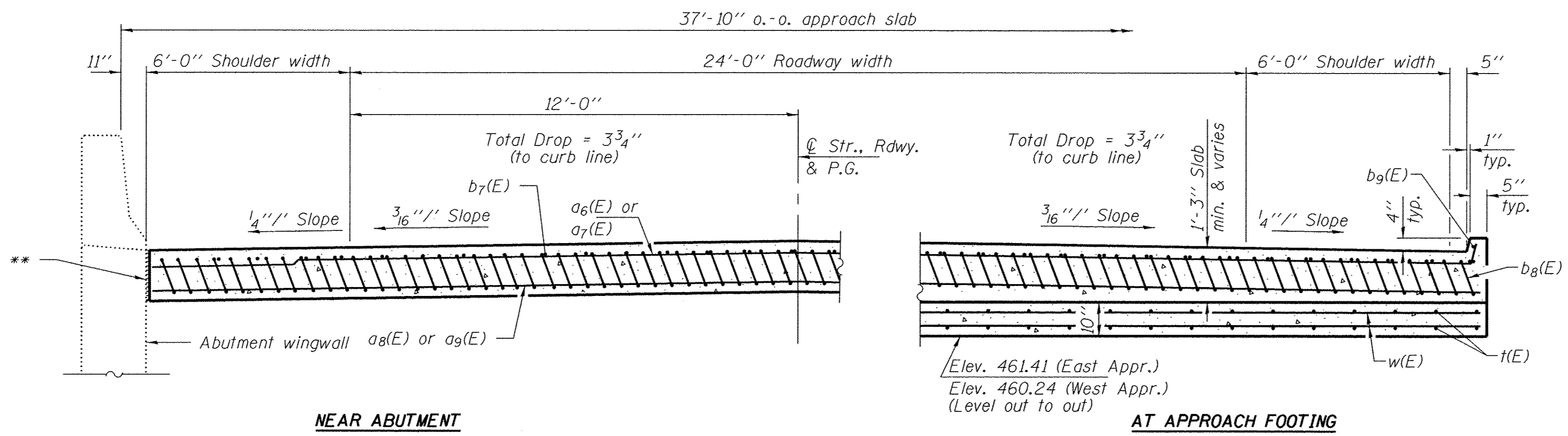
*** Cost included with Concrete Superstructure.

(Sheet 1 of 2)

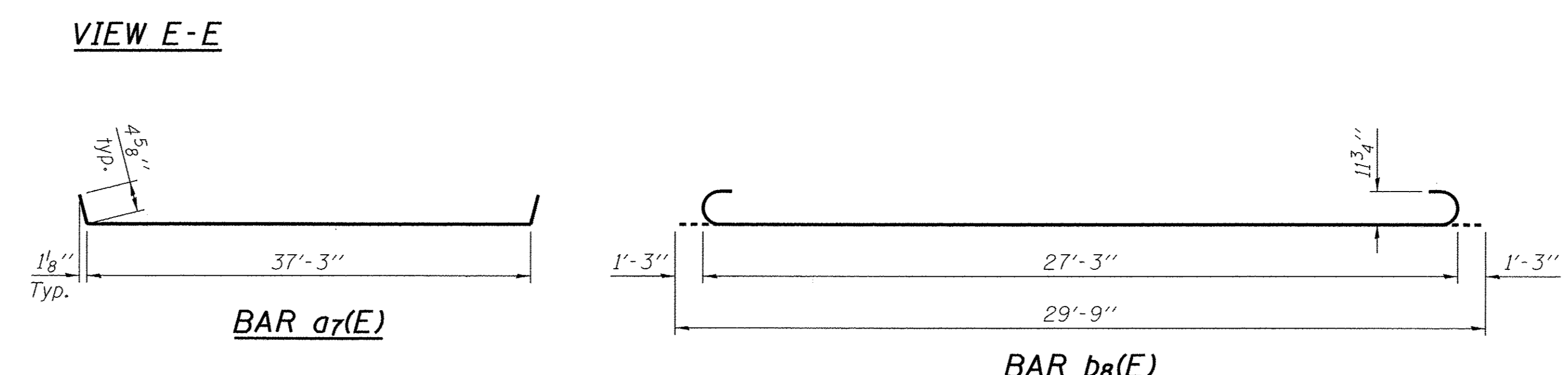
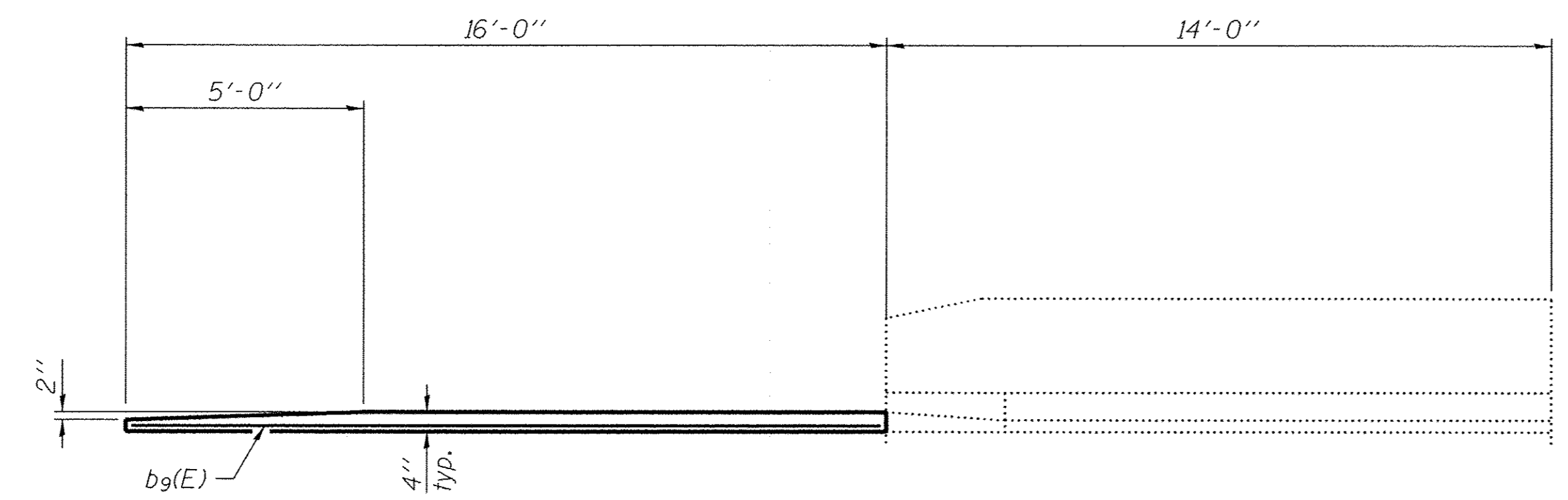
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|---|-----------------------|-------------------|-----------|---|--|------------------------------|--------------------|----------|--------------|-----------|--|
| FILE NAME = 100110-ah-bridge.dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.545.5400 www.hlrengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 34 | |
| 184.002859 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | CONTRACT NO. 89634 | | | | |
| | | CHECKED - M.D.C. | REVISED - | | | [ILLINOIS] FED. AID PROJECT | | | | | |



Notes:
 See sheet 15 of 46 for Detail A and View B-B.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 30 & 32 of 46.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For Bar Splicer Details, see sheet 38 of 46.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 46.
 For parapet details, see sheet 13 & 14 of 46.

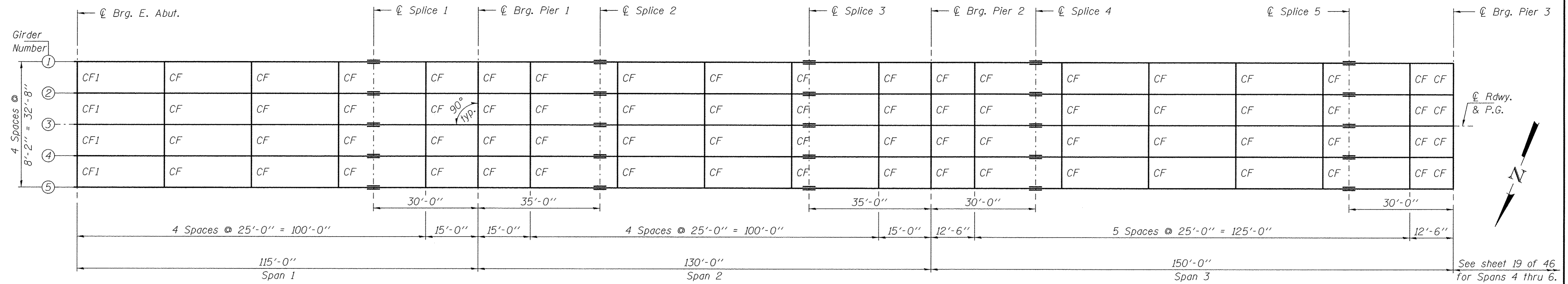


* Tilt #9 b8(E) bars as required to maintain clearance.
 ** Preformed expansion joint filler.
 *** Cost included with Concrete Superstructure (Approach Slab).



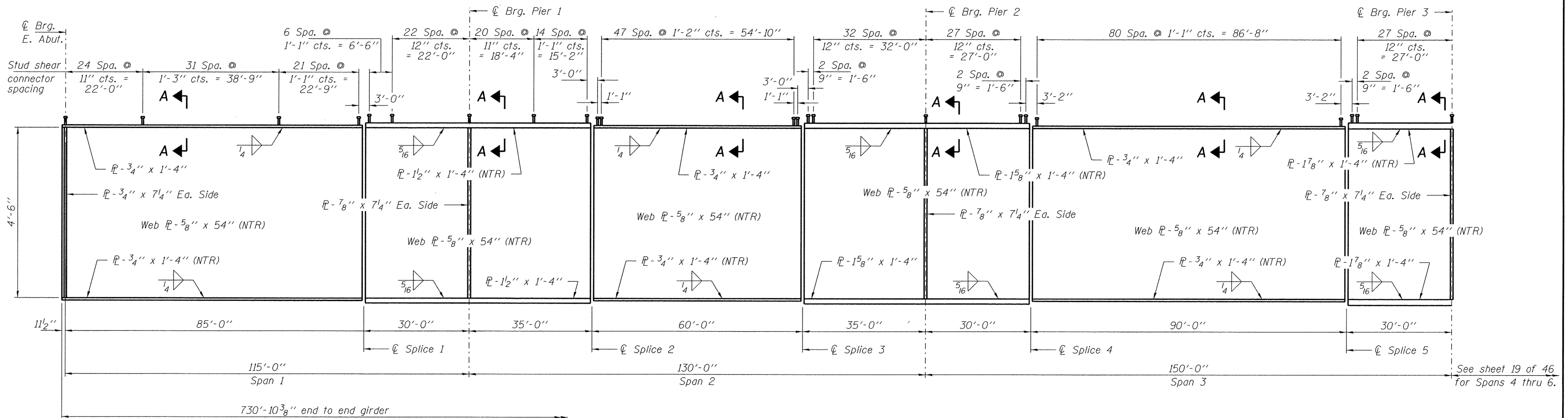
**TWO APPROACHES
 BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|---|-----|------|---------|--------|
| a6(E) | 24 | #4 | 35'-8" | — |
| a7(E) | 26 | #4 | 38'-1" | — |
| a8(E) | 44 | #5 | 35'-8" | — |
| a9(E) | 48 | #5 | 37'-6" | — |
| b7(E) | 60 | #4 | 29'-8" | — |
| b8(E) | 172 | #9 | 29'-9" | — |
| b9(E) | 4 | #4 | 15'-8" | — |
| t(E) | 156 | #4 | 9'-8" | — |
| w(E) | 80 | #5 | 37'-6" | — |
| Concrete Structures | | | Cu. Yd. | 23.4 |
| Concrete Superstructure (Approach Slab) | | | Cu. Yd. | 108.3 |
| Bridge Deck Grooving | | | Sq. Yd. | 227 |
| Protective Coat | | | Sq. Yd. | 245 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 27,510 |



FRAMING PLAN

(Showing Spans 1 thru 3. For Spans 4 thru 6, see sheet 19 of 46.)

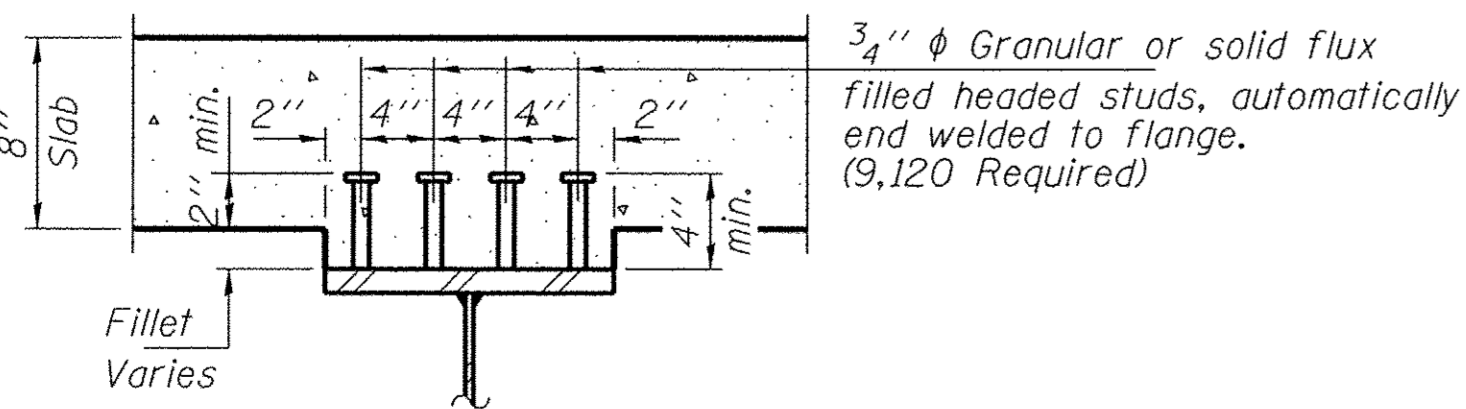


GIRDER ELEVATION

(Showing Spans 1 thru 3. For Spans 4 thru 6, see sheet 19 of 46.)

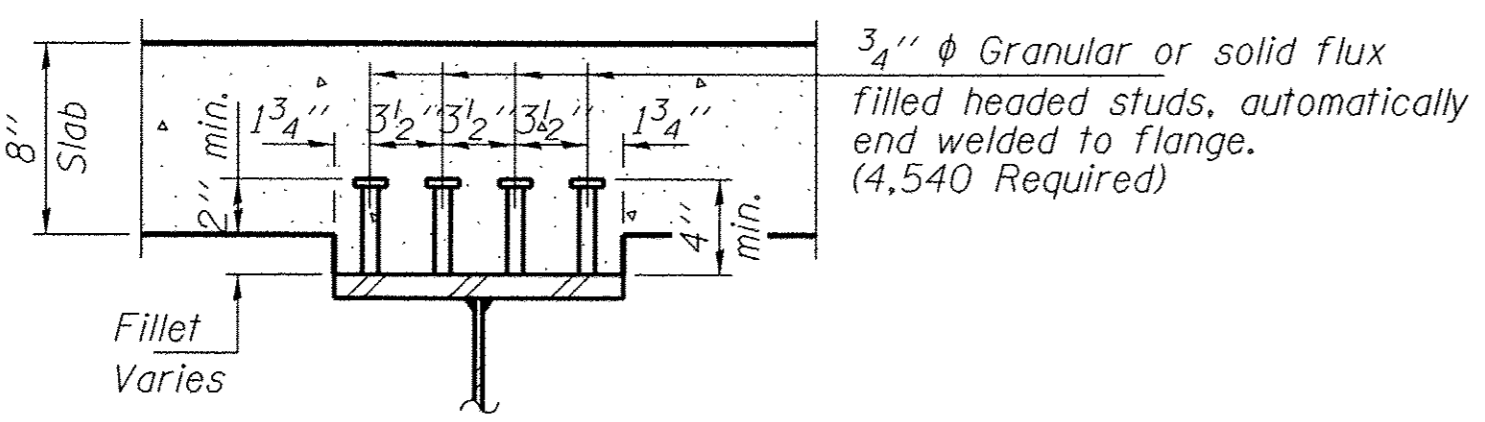
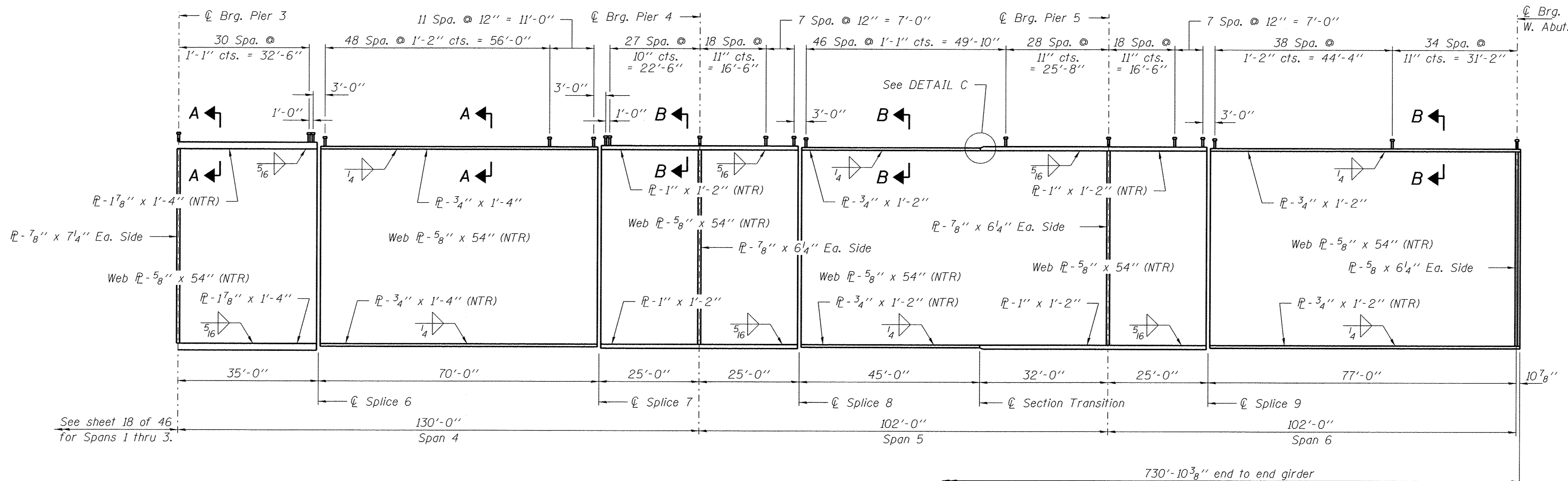
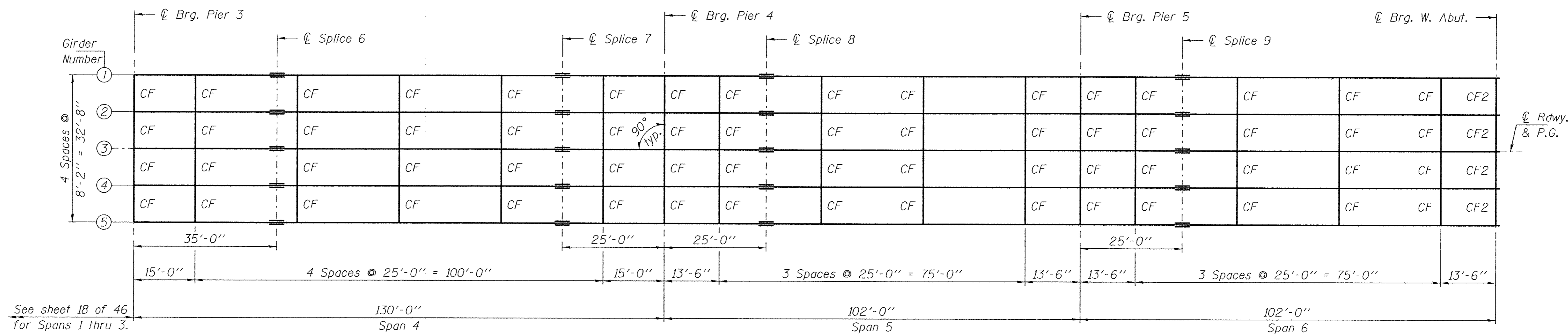
Notes:

- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All plates of the girders, including bearing stiffeners, shall be AASHTO M270 Grade 50W.
- For additional structural steel details see sheets 19 thru 23 of 46.

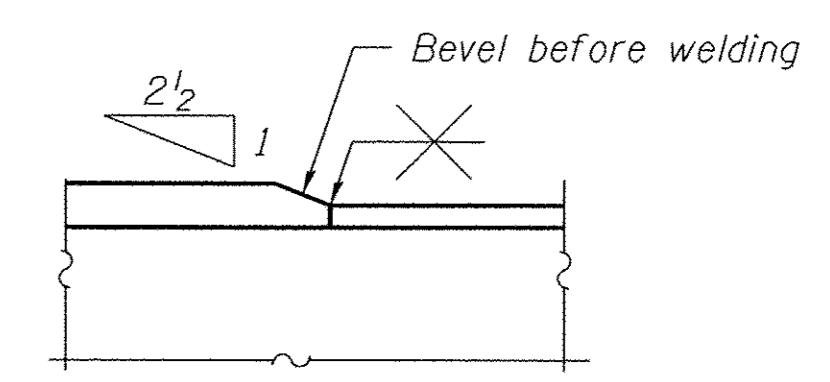


SECTION A-A

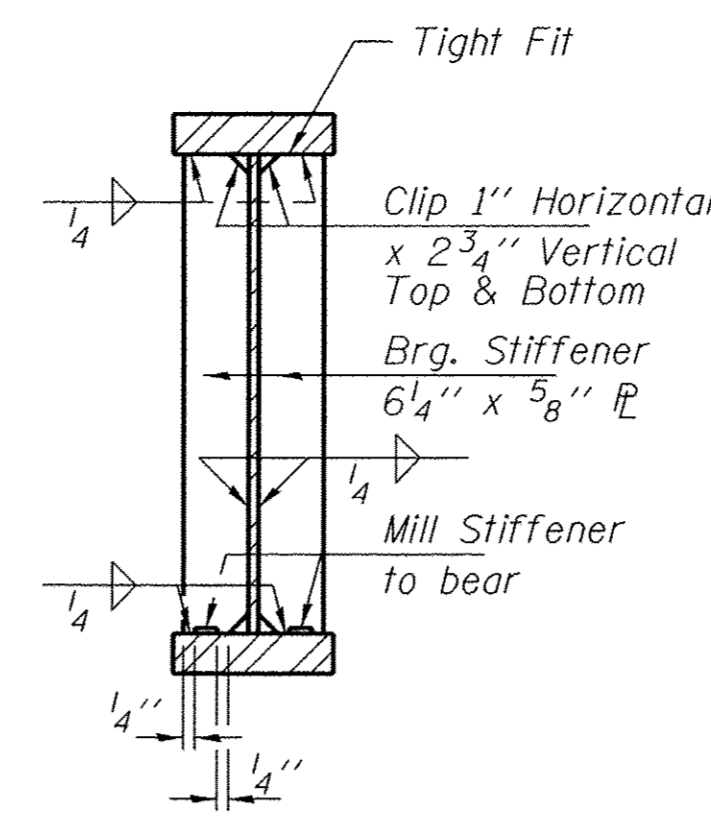
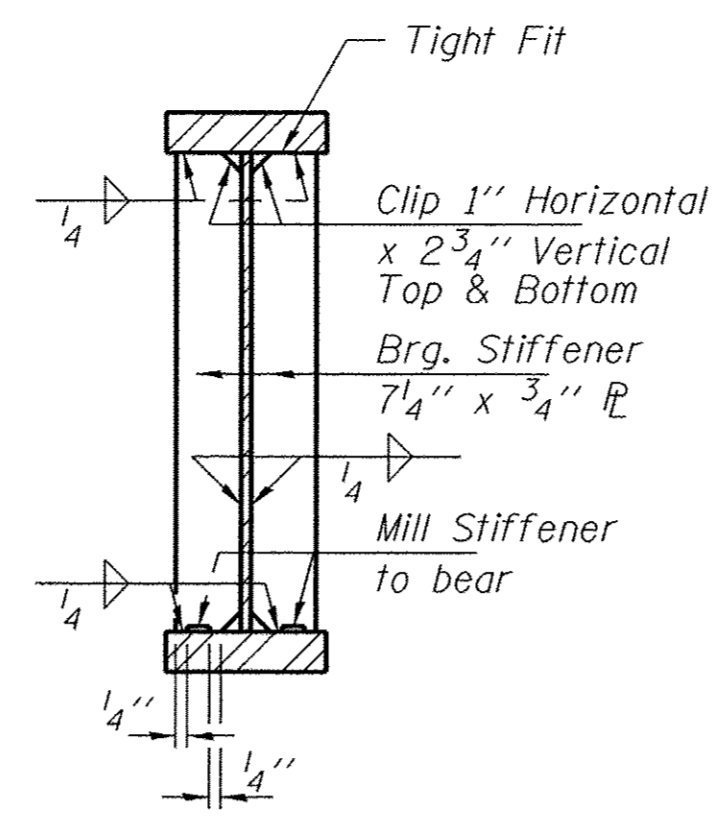
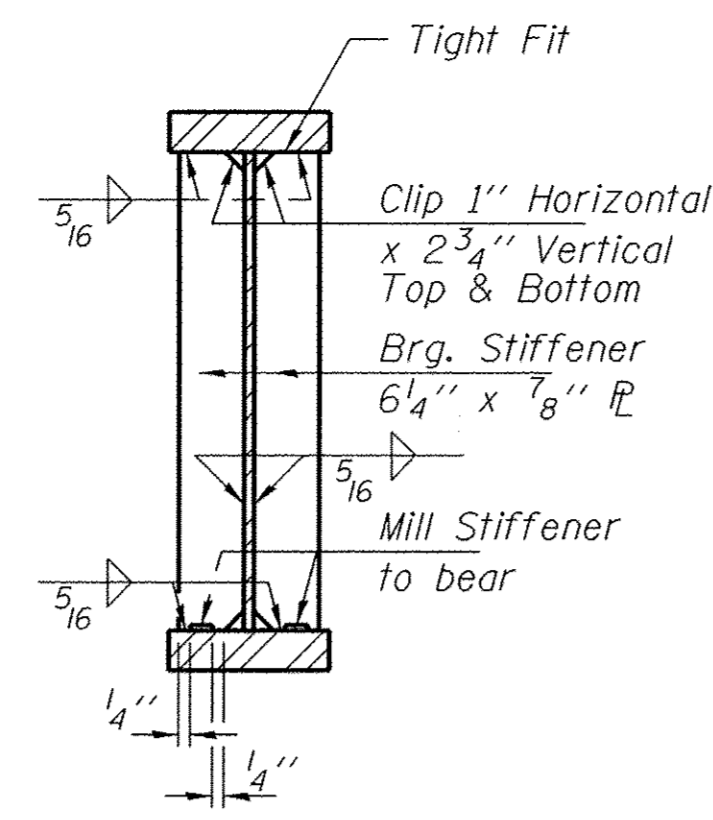
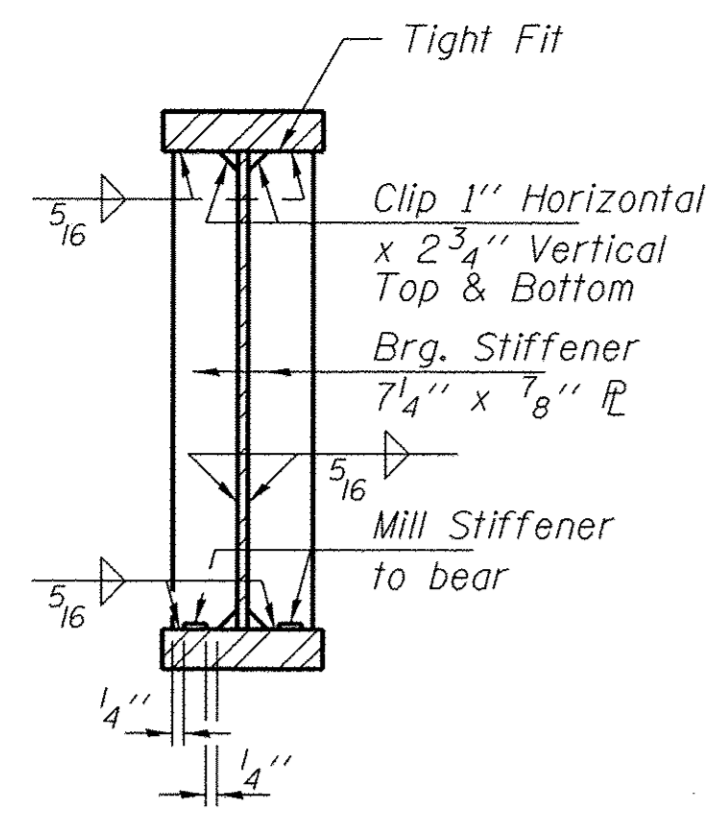
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|--|--|---|--|---|--|---------------|--|--------------------|--------------------|-----------------|
| FILE NAME = 100110-sht-bridge.dgn 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62705 217.546.3400 www.hfr-engineering.com 184.00959 ILLINOIS PROFESSIONAL DESIGN FIRM LSI/PE/SE CORPORATION | USER NAME = PLOT SCALE = PLOT DATE = 6/30/2016 | DESIGNED - S.M.S. CHECKED - D.W.T. DRAWN - D.A.B. CHECKED - M.D.C. | REVISED - REVISED - REVISED - REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | STRUCTURAL STEEL STRUCTURE NO. 090-3248 | F.A.S. 461 | SECTION 07-00010-12-BR | COUNTY TAZEWELL | TOTAL SHEETS 91 | SHEET NO. 36 |
| | SHEET NO. 18 OF 46 SHEETS | | | | | | MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634 ILLINOIS FED. AID PROJECT | | | |



Notes:
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to allow bearing anchor rods.
 All plates of the girders, including bearing stiffeners, shall be AASHTO M270 Grade 50W.
 For additional structural steel details see sheets 18 and 20 thru 23 of 46. See sheet 18 of 46 for SECTION A-A.



| | | | | | | | | | | | |
|---|-----------------------|-------------------|-----------|---|--|------------------------------|--------------------|---------------------------|--------------|-----------|--|
| FILE NAME = 108110-sht-brdgdg.dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | STRUCTURAL STEEL STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.266.3400 www.tlrengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 37 | |
| 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | CONTRACT NO. 89634 | ILLINOIS FED. AID PROJECT | | | |
| | | CHECKED - M.D.C. | REVISED - | | | SHEET NO. 19 OF 46 SHEETS | | | | | |



SECTION AT PIERS 1, 2 & 3

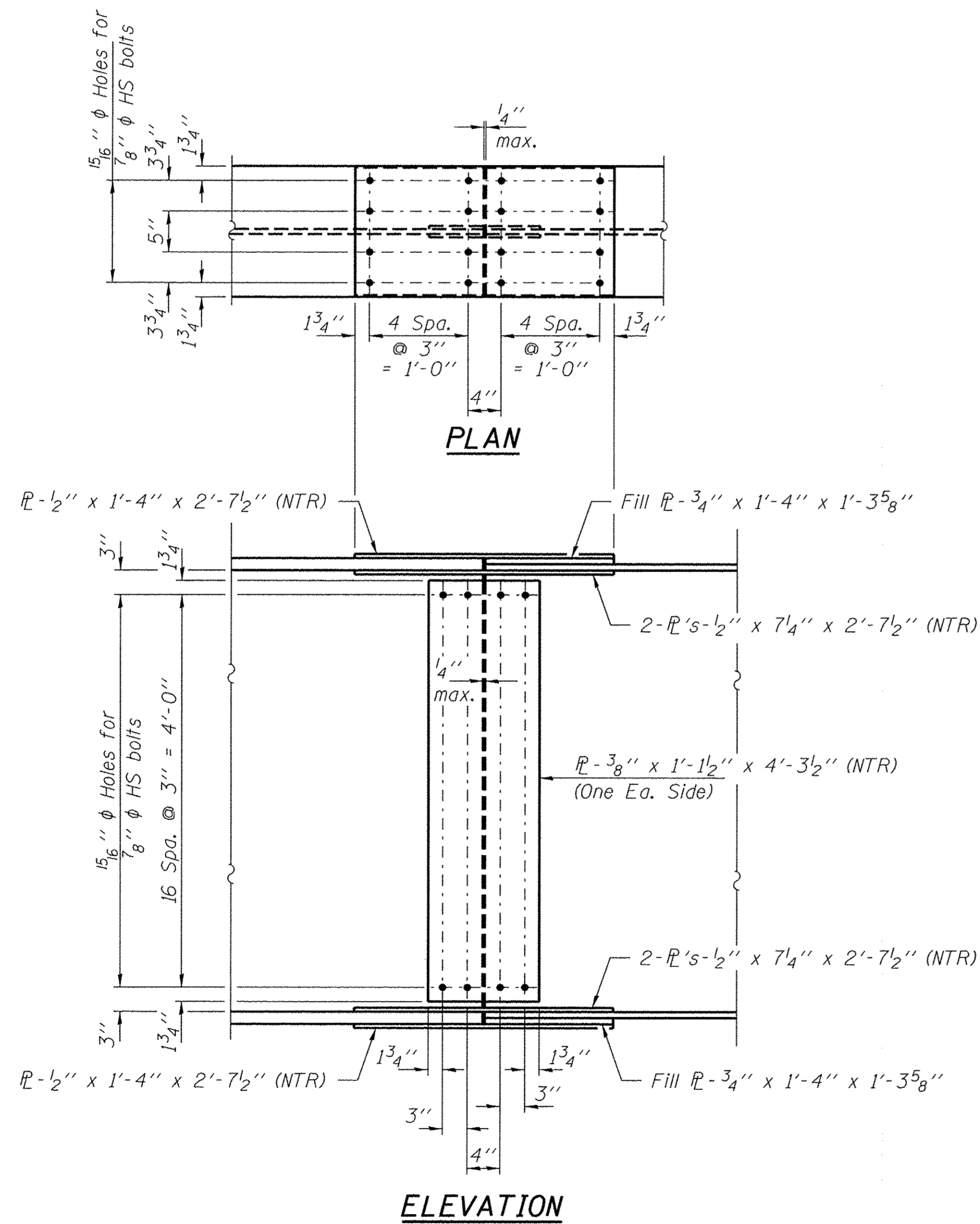
SECTION AT PIERS 4 & 5

SECTION AT E. ABUTMENT

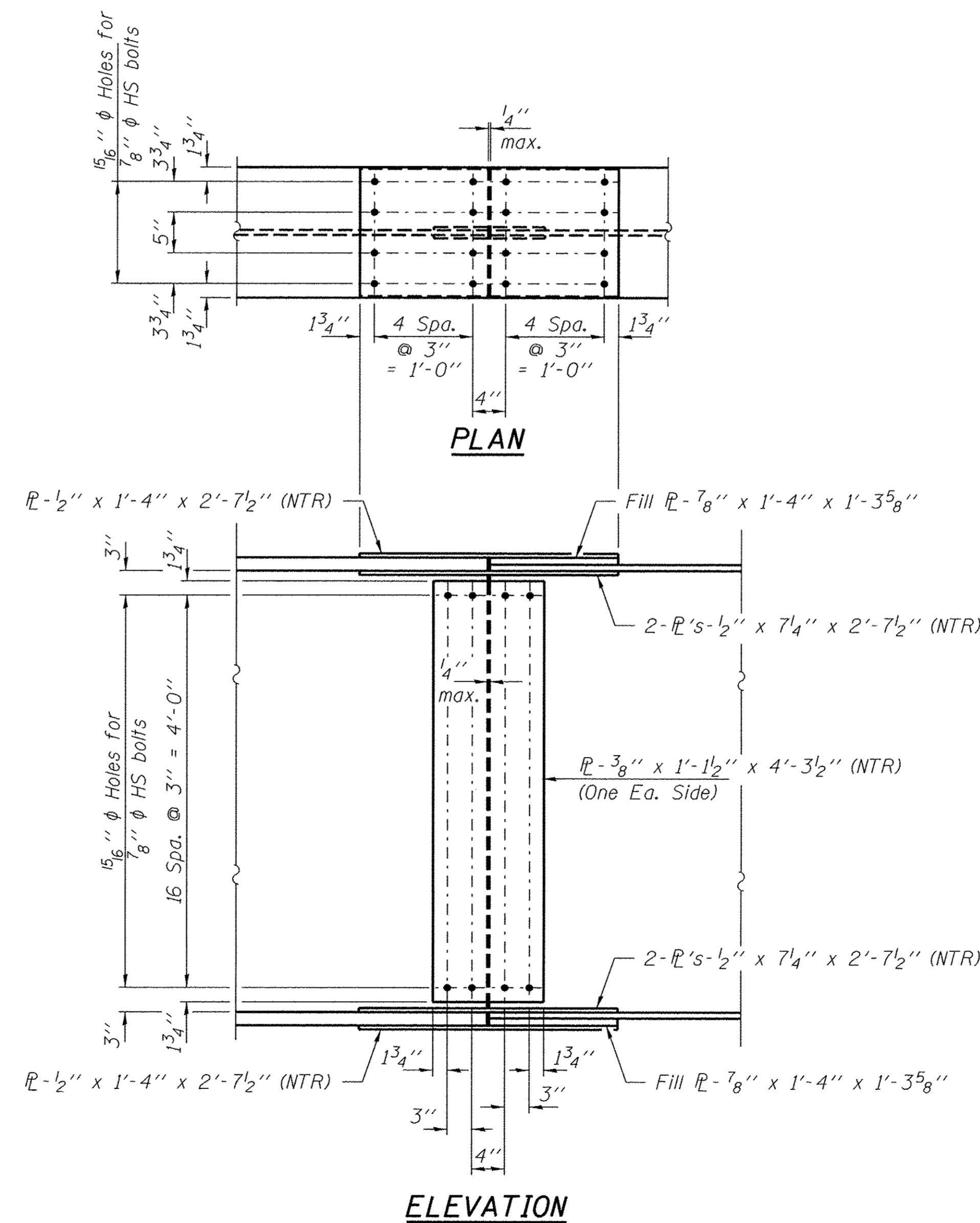
SECTION AT W. ABUTMENT

BEARING STIFFENER P'S

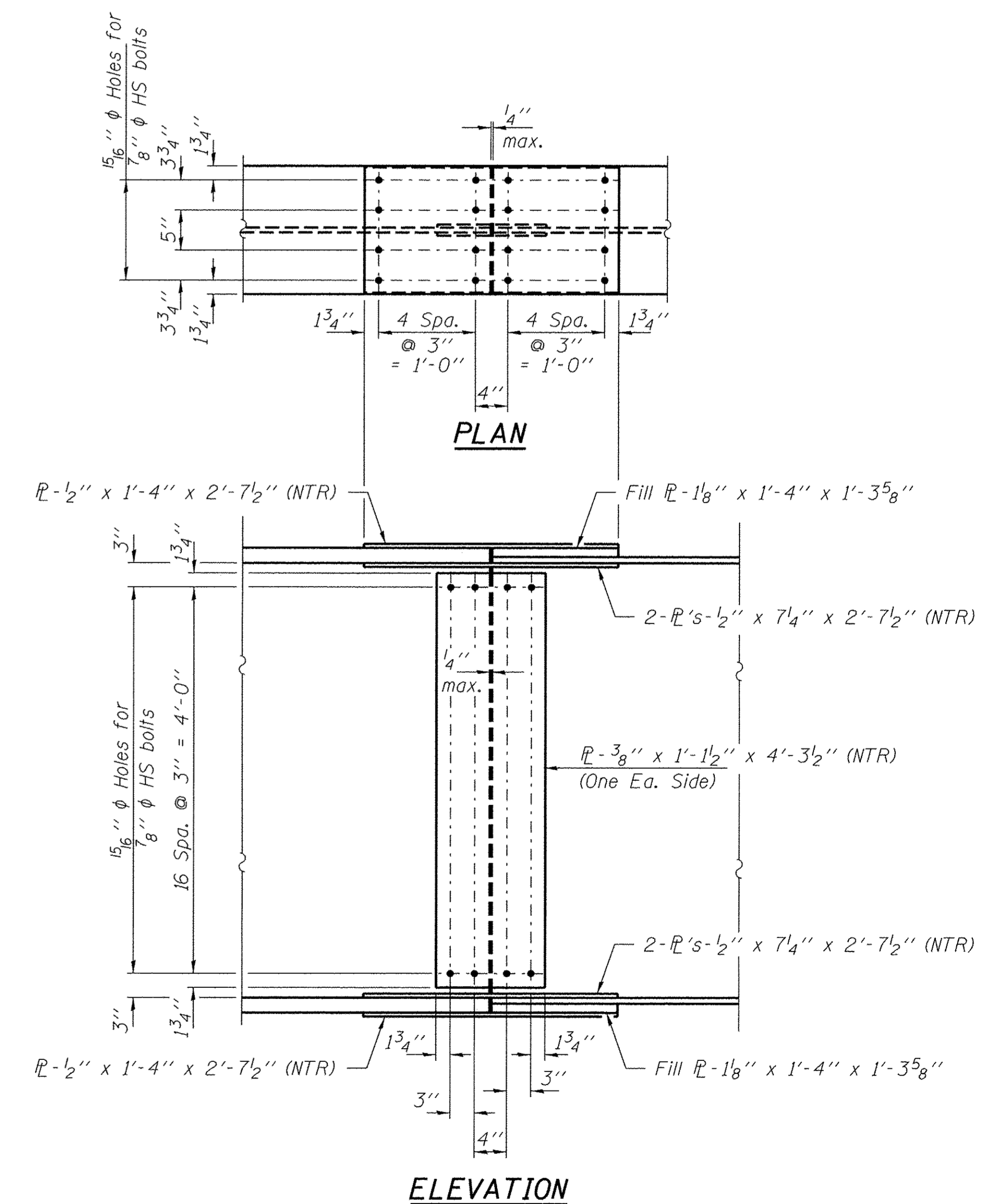
Notes:
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 All structural steel for splice plates and stiffeners shall be AASHTO M270 Grade 50W.
 For additional structural steel details see sheets 18, 19 and 21 thru 23 of 46.



SPLICE #1 & #2 DETAIL
(10-required)



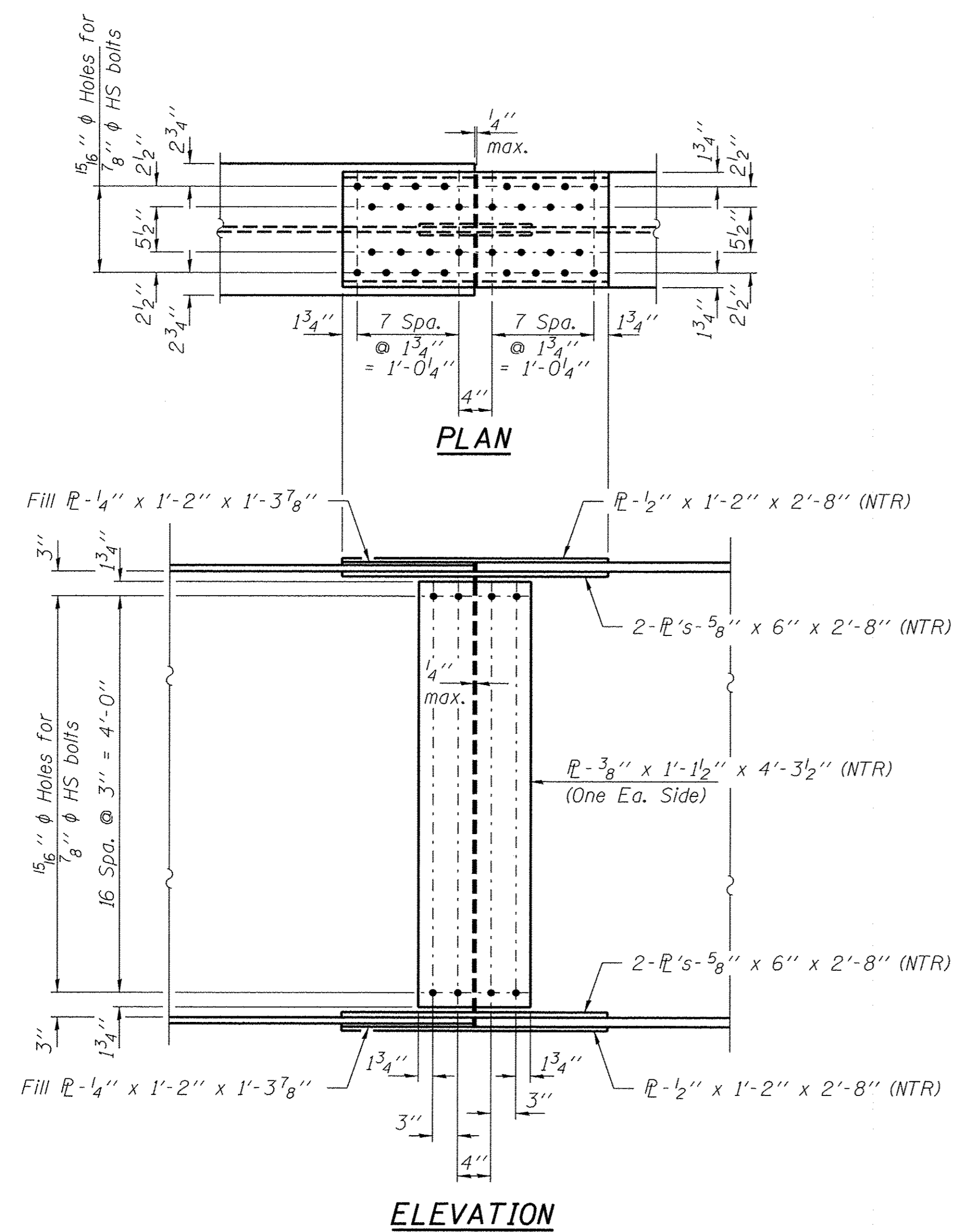
SPLICE #3 & #4 DETAIL
(10-required)



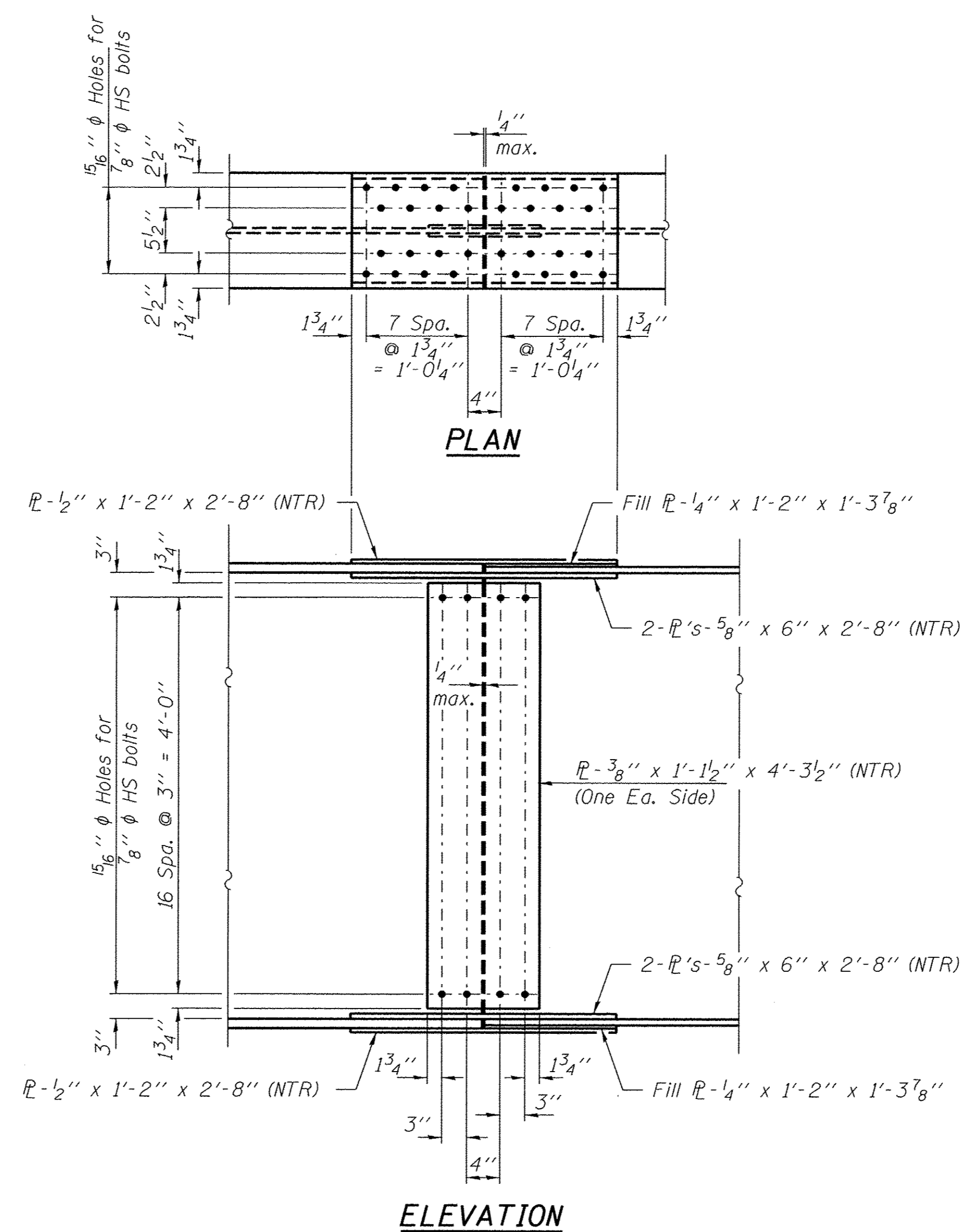
SPLICE #5 & #6 DETAIL
(10-required)

| | | | | | | | | | | | |
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| FILE NAME = 100110-sht-bridge.dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | STRUCTURAL STEEL DETAILS STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.245.3400 www.tlrengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 38 | |
| 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM LS/PE/SE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634 | | | | | |
| | | CHECKED - M.D.C. | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | | |
| SHEET NO. 20 OF 46 SHEETS | | | | | | | | | | | |

Notes:
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 All structural steel for splice plates and stiffeners shall be AASHTO M270 Grade 50W.
 For additional structural steel details see sheets 18 thru 20 and 22 & 23 of 46.

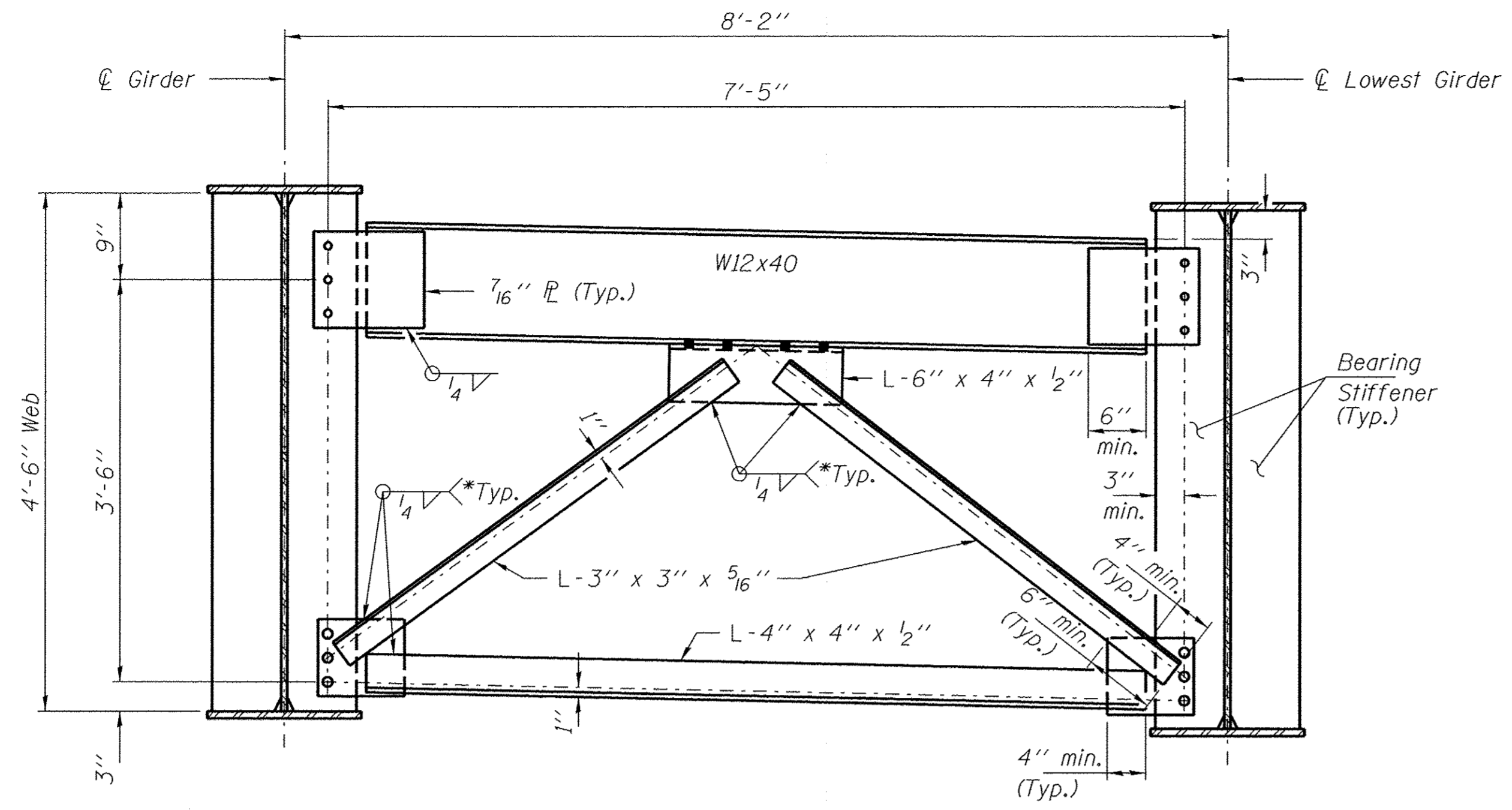


SPLICE #7 DETAIL
 (5-required)

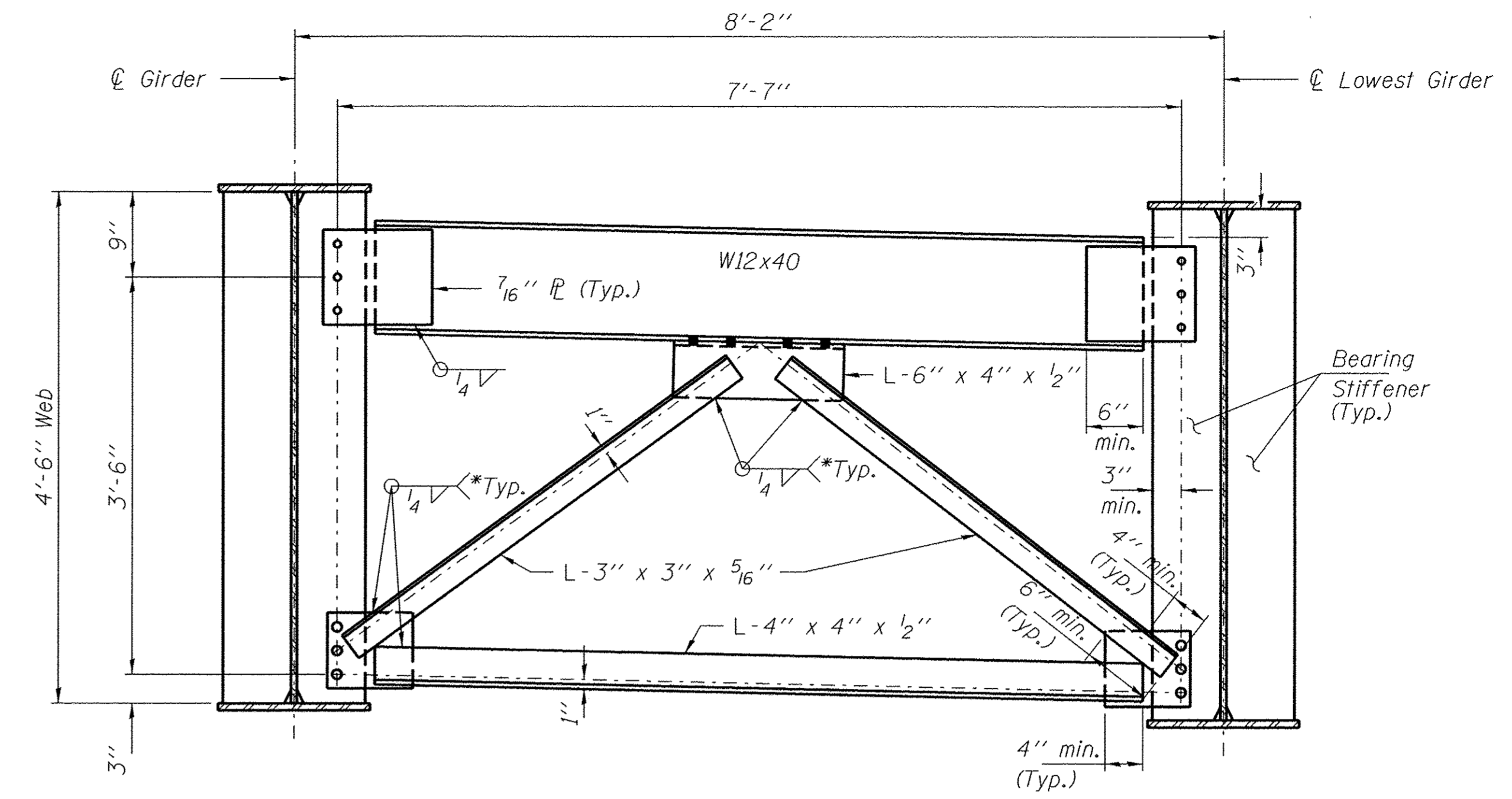


SPLICE #8 & #9 DETAIL
 (10-required)

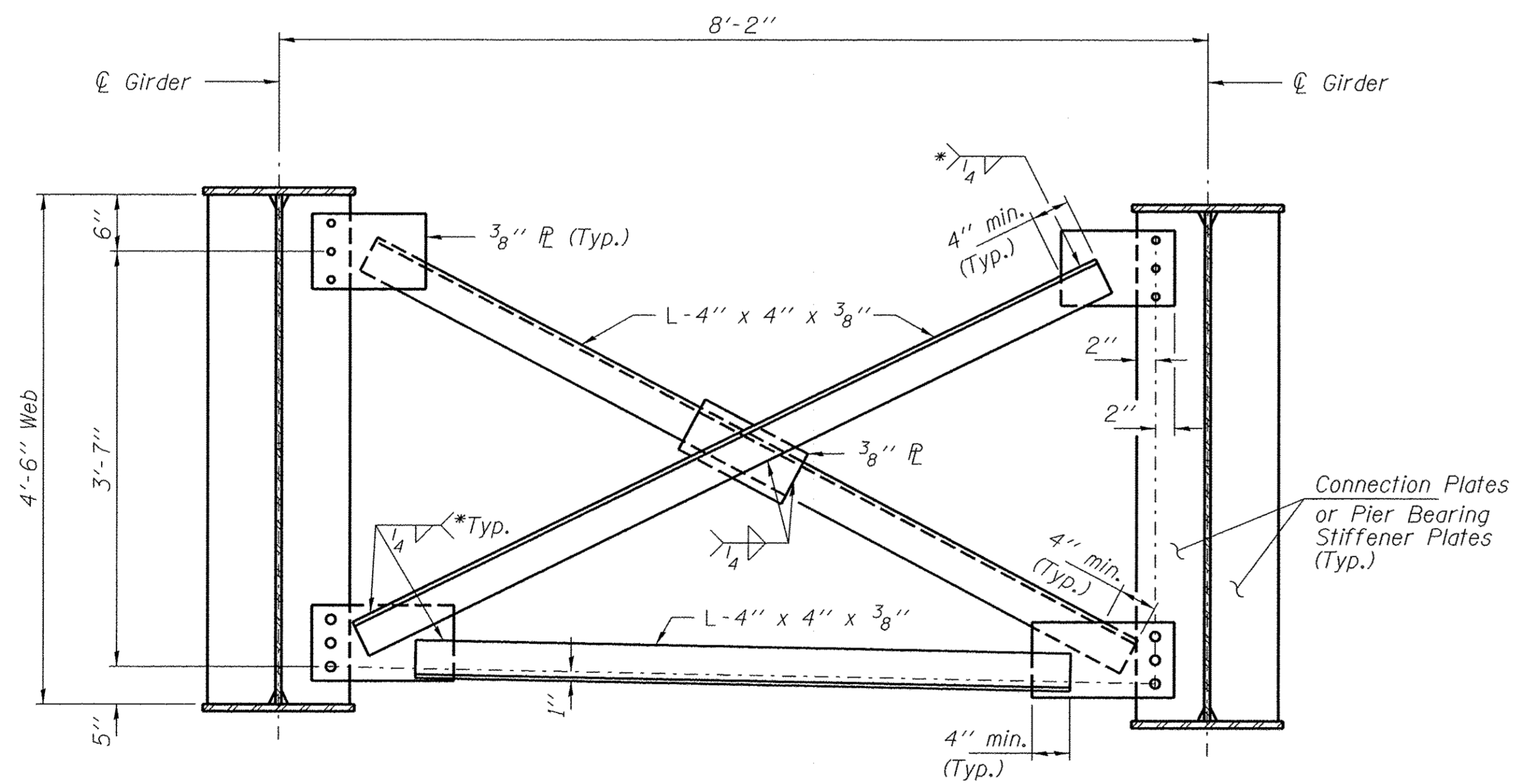
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| | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 39 |
| | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634 | | | | |
| | | CHECKED - M.D.C. | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | |



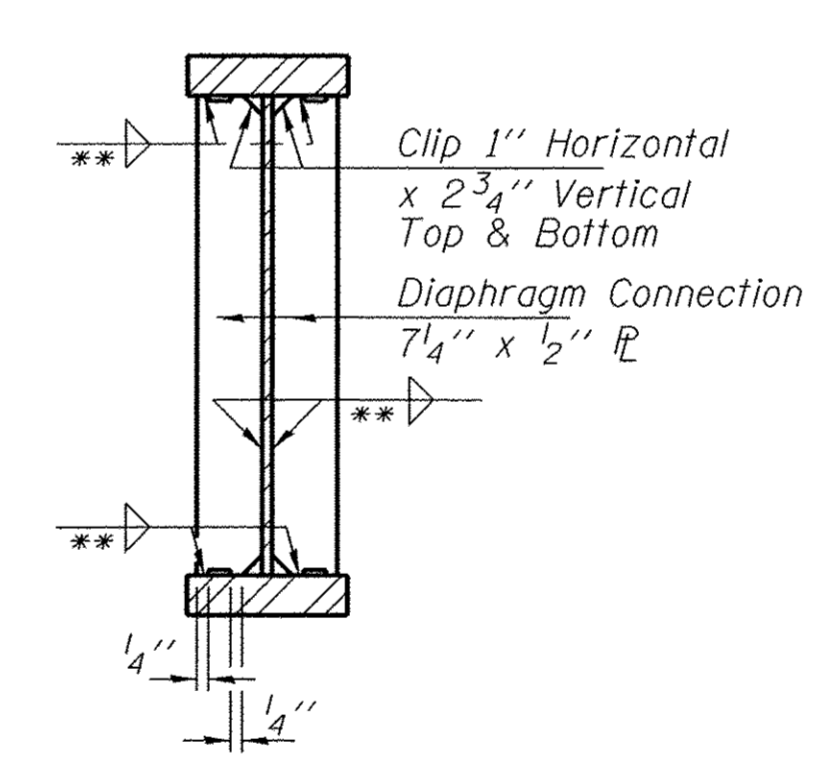
CROSS FRAME CF1
(East Abut.)
(4-required)



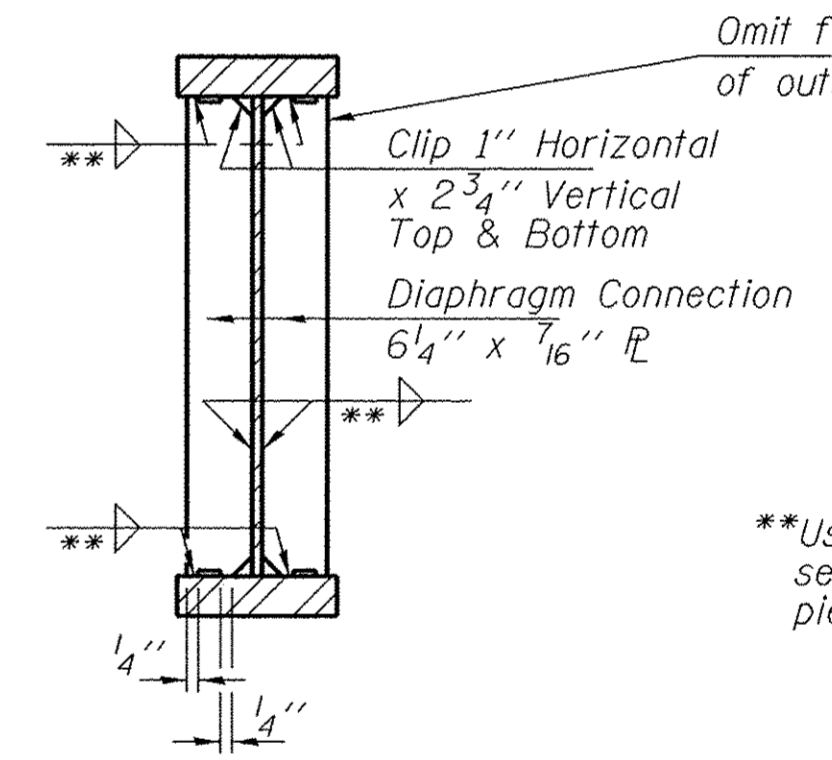
CROSS FRAME CF2
(West Abut.)
(4-required)



CROSS FRAME CF
(Interior)
(132-required)



SECTION AT 1'-4" FLANGE
(152 required)



SECTION AT 1'-2" FLANGE
(72 required)

CROSS FRAME CONNECTION PLATES

Omit for exterior face of outside beams.

**Use 1/4" welds for midspan sections and 5/16" welds for pier sections.

*Fillet weld angles along 3 sides on one face of gusset plate.

Notes:
All structural steel for cross frames, connection plates and stiffeners shall be AASHTO M270 Grade 50W.
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
Bolts for cross frame connections shall be 3/4" φ, holes 15/16" φ.
Two hardened washers required for each set of oversized holes.

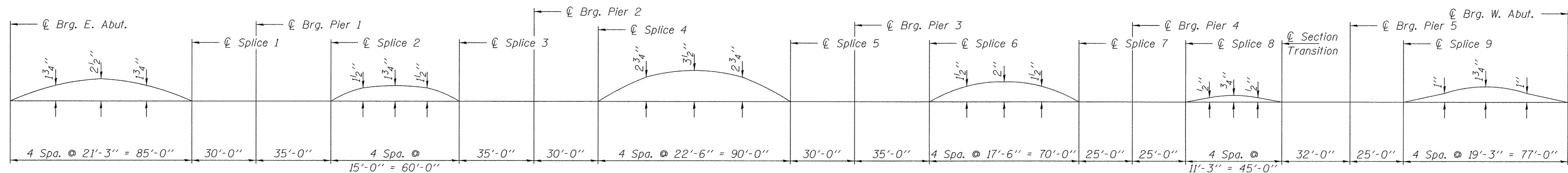
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|--|-----------------------|-------------------|----------|---|--|------------------------------|----------------|--------------------|--------------|-----------------------------|--|
| FILE NAME = 100110-sht-bridge.dgn | USER NAME = | DESIGNED - S.M.S. | REVISD - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | STRUCTURAL STEEL DETAILS STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217-546-3400 www.hireengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISD - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 40 | |
| 184.000259 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISD - | | | MANITO RD OVER MACKINAW RIV. | | CONTRACT NO. 89634 | | [ILLINOIS] FED. AID PROJECT | |
| | | CHECKED - M.D.C. | REVISD - | | | SHEET NO. 22 OF 46 SHEETS | | | | | |

| | 0.4 Sp. 1 | Pier 1 | 0.5 Sp. 2 | Pier 2 | 0.5 Sp. 3 | Pier 3 | 0.5 Sp. 4 | Pier 4 | 0.5 Sp. 5 | Pier 5 | 0.6 Sp. 6 |
|---------------------------|---------------------------|--------|-----------|---------|-----------|---------|-----------|--------|-----------|--------|-----------|
| I_s | (in ⁴) 26,187 | 45,173 | 26,187 | 48,436 | 26,187 | 55,049 | 26,187 | 29,378 | 23,939 | 29,378 | 23,939 |
| $I_c(n)$ | (in ⁴) 65,152 | 95,065 | 65,152 | 100,001 | 65,152 | 109,856 | 65,152 | 70,598 | 61,621 | 70,598 | 61,621 |
| $I_c(3n)$ | (in ⁴) 48,459 | 71,228 | 48,459 | 75,039 | 48,459 | 82,698 | 48,459 | 52,530 | 45,780 | 52,530 | 45,780 |
| $I_c(cr)$ | (in ⁴) 30,634 | 53,514 | 30,634 | 56,876 | 30,634 | 63,680 | 30,634 | 37,237 | 28,367 | 37,237 | 28,367 |
| S_s | (in ³) 943 | 1,585 | 943 | 1,692 | 943 | 1,906 | 943 | 1,049 | 862 | 1,049 | 862 |
| $S_c(n)$ | (in ³) 1,350 | 2,037 | 1,350 | 2,152 | 1,350 | 2,383 | 1,350 | 1,467 | 1,267 | 1,467 | 1,267 |
| $S_c(3n)$ | (in ³) 1,226 | 1,873 | 1,226 | 1,982 | 1,226 | 2,199 | 1,226 | 1,334 | 1,146 | 1,334 | 1,146 |
| $S_c(cr)$ | (in ³) 993 | 1,695 | 993 | 1,801 | 993 | 2,012 | 993 | 1,168 | 923 | 1,168 | 923 |
| DC1 | (k/ft) 1.10 | 1.20 | 1.10 | 1.21 | 1.10 | 1.24 | 1.10 | 1.11 | 1.08 | 1.11 | 1.08 |
| M _{DC1} | (k) 1,011 | 1,868 | 434 | 2,024 | 914 | 2,433 | 617 | 1,058 | 275 | 1,223 | 862 |
| DC2 | (k/ft) 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| M _{DC2} | (k) 171 | 289 | 78 | 318 | 162 | 372 | 107 | 176 | 48 | 199 | 146 |
| DW | (k/ft) 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 |
| M _{DW} | (k) 388 | 655 | 176 | 723 | 368 | 845 | 243 | 399 | 108 | 451 | 331 |
| $M_L + IM$ | (k) 1,712 | 2,005 | 1,543 | 2,179 | 1,694 | 2,285 | 1,552 | 1,636 | 1,247 | 1,534 | 1,476 |
| M_u (Strength I) | (k) 5,056 | 7,188 | 3,604 | 7,825 | 4,862 | 8,773 | 3,986 | 5,004 | 2,748 | 5,139 | 4,340 |
| $\phi_r M_n$ | (k) 6,503 | 7,867 | 6,964 | 8,297 | 6,576 | 9,290 | 6,818 | 5,780 | 6,623 | 5,737 | 6,114 |
| f_s DC1 | (ksi) 12.9 | 14.1 | 5.5 | 14.4 | 11.6 | 15.3 | 7.9 | 12.1 | 3.8 | 14.0 | 12.0 |
| f_s DC2 | (ksi) 1.7 | 2.0 | 0.8 | 2.1 | 1.6 | 2.2 | 1.1 | 1.6 | 0.5 | 1.8 | 1.5 |
| f_s DW | (ksi) 3.8 | 4.6 | 1.7 | 4.8 | 3.6 | 5.0 | 2.4 | 3.6 | 1.1 | 4.1 | 3.5 |
| f_s ($L+IM$) | (ksi) 15.3 | 14.2 | 13.8 | 14.5 | 15.1 | 13.6 | 13.9 | 13.4 | 11.8 | 12.6 | 14.0 |
| f_s (Service II) | (ksi) 38.2 | 39.3 | 25.9 | 40.2 | 36.5 | 40.3 | 29.3 | 34.7 | 20.8 | 36.3 | 35.3 |
| $0.95R_n F_y r$ | (ksi) 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 |
| f_s (Total)(Strength I) | (ksi) - | 52.0 | - | 53.2 | - | 53.3 | - | 45.9 | - | 47.8 | - |
| $\phi_r F_n$ | (ksi) - | - | - | - | - | - | - | - | - | - | - |
| V_r | (k) 66.2 | - | 72.4 | - | 70.8 | - | 73.0 | - | 69.2 | - | 64.4 |

| | E. Abut. | Pier 1 | Pier 2 | Pier 3 | Pier 4 | Pier 5 | W. Abut. |
|-------------|-----------|--------|--------|--------|--------|--------|----------|
| R_{DC1} | (k) 47.3 | 155.3 | 159.3 | 175.4 | 115.8 | 125.1 | 43.2 |
| R_{DC2} | (k) 7.9 | 24.4 | 25.1 | 27.1 | 19.2 | 20.6 | 7.3 |
| R_{DW} | (k) 17.9 | 55.3 | 57.0 | 61.6 | 43.6 | 46.7 | 16.5 |
| R_{L+IM} | (k) 98.8 | 194.4 | 201.2 | 204.6 | 180.0 | 173.8 | 94.6 |
| R_{Total} | (k) 171.9 | 429.4 | 442.6 | 468.7 | 358.6 | 366.2 | 161.6 |

TOP OF WEB ELEVATIONS (For Fabrication Only)

| Location | ℄ Brg. E. Abut. | ℄ Splice 1 | ℄ Brg. Pier 1 | ℄ Splice 2 | ℄ Splice 3 | ℄ Brg. Pier 2 | ℄ Splice 4 | ℄ Splice 5 | ℄ Brg. Pier 3 | ℄ Splice 6 | ℄ Brg. Pier 4 | ℄ Splice 7 | ℄ Brg. Pier 5 | ℄ Splice 8 | ℄ Brg. Pier 5 | ℄ Splice 9 | ℄ Brg. W. Abut. |
|----------|-----------------|------------|---------------|------------|------------|---------------|------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|-----------------|
| Girder 1 | 463.01 | 463.38 | 463.43 | 463.48 | 463.56 | 463.63 | 463.68 | 463.51 | 463.40 | 463.27 | 463.07 | 462.90 | 462.73 | 462.36 | 462.24 | 461.83 | |
| Girder 2 | 463.16 | 463.53 | 463.58 | 463.64 | 463.71 | 463.78 | 463.83 | 463.66 | 463.55 | 463.42 | 463.22 | 463.05 | 462.88 | 462.51 | 462.39 | 461.98 | |
| Girder 3 | 463.29 | 463.66 | 463.71 | 463.76 | 463.84 | 463.90 | 463.96 | 463.79 | 463.68 | 463.54 | 463.34 | 463.18 | 463.01 | 462.64 | 462.51 | 462.11 | |
| Girder 4 | 463.16 | 463.53 | 463.58 | 463.64 | 463.71 | 463.78 | 463.83 | 463.66 | 463.55 | 463.42 | 463.22 | 463.05 | 462.88 | 462.51 | 462.39 | 461.98 | |
| Girder 5 | 463.01 | 463.38 | 463.43 | 463.48 | 463.56 | 463.63 | 463.68 | 463.51 | 463.40 | 463.27 | 463.07 | 462.90 | 462.73 | 462.36 | 462.24 | 461.83 | |



CAMBER DIAGRAM

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

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

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

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s ($L+IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).

$M_L + IM / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).

$f_{SDC1} + f_{SDC2} + f_{SDW} + 1.3 f_s (L + IM)$

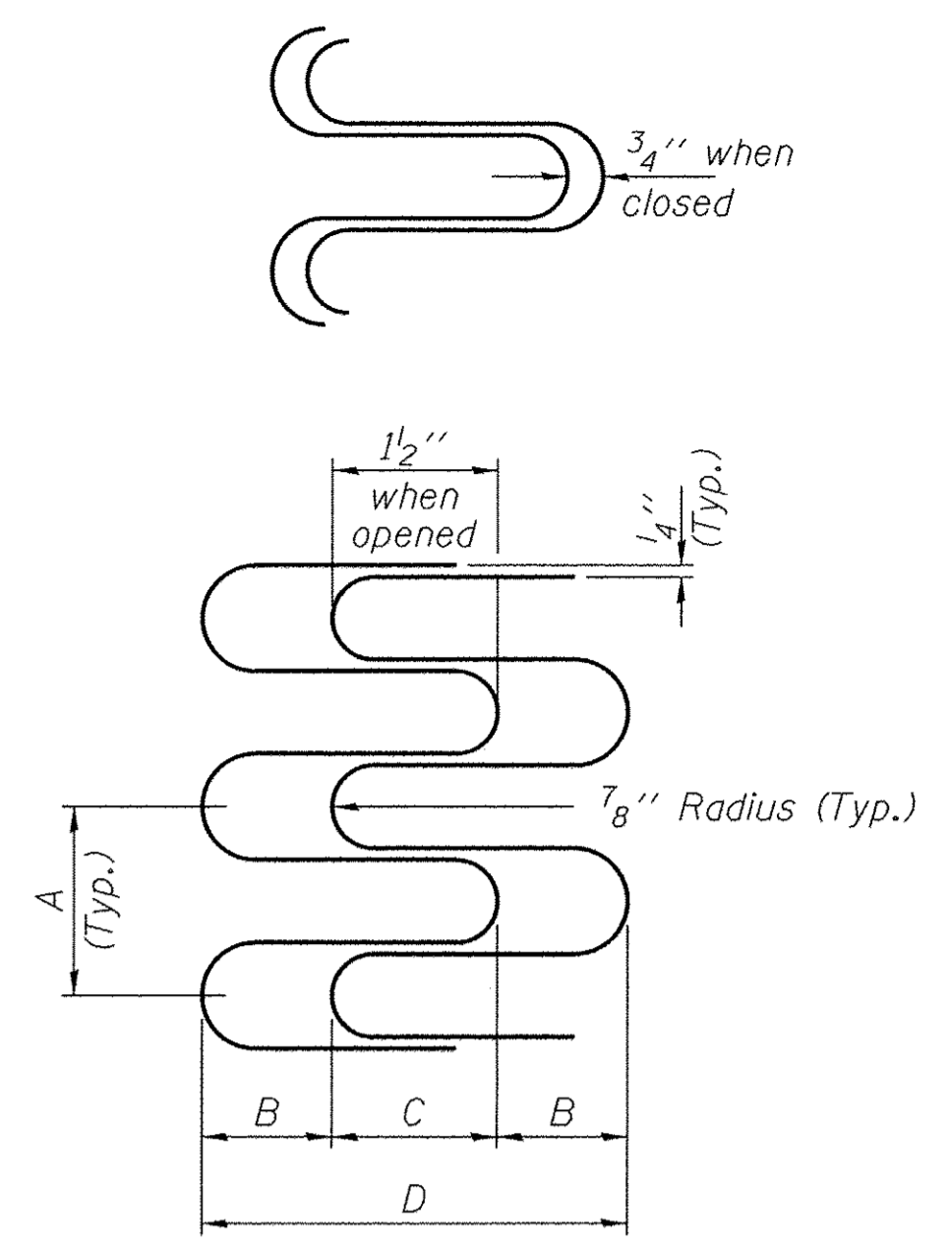
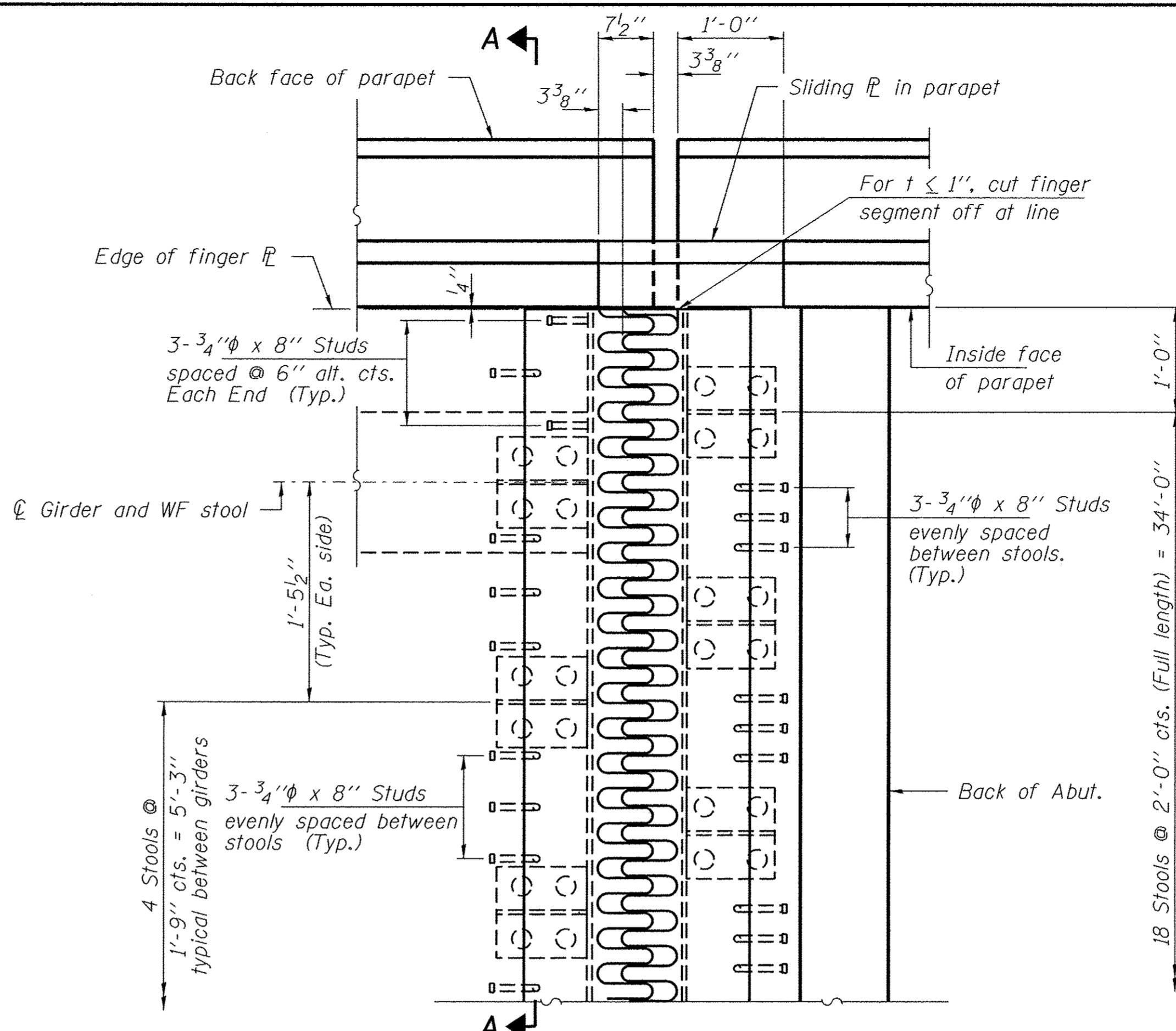
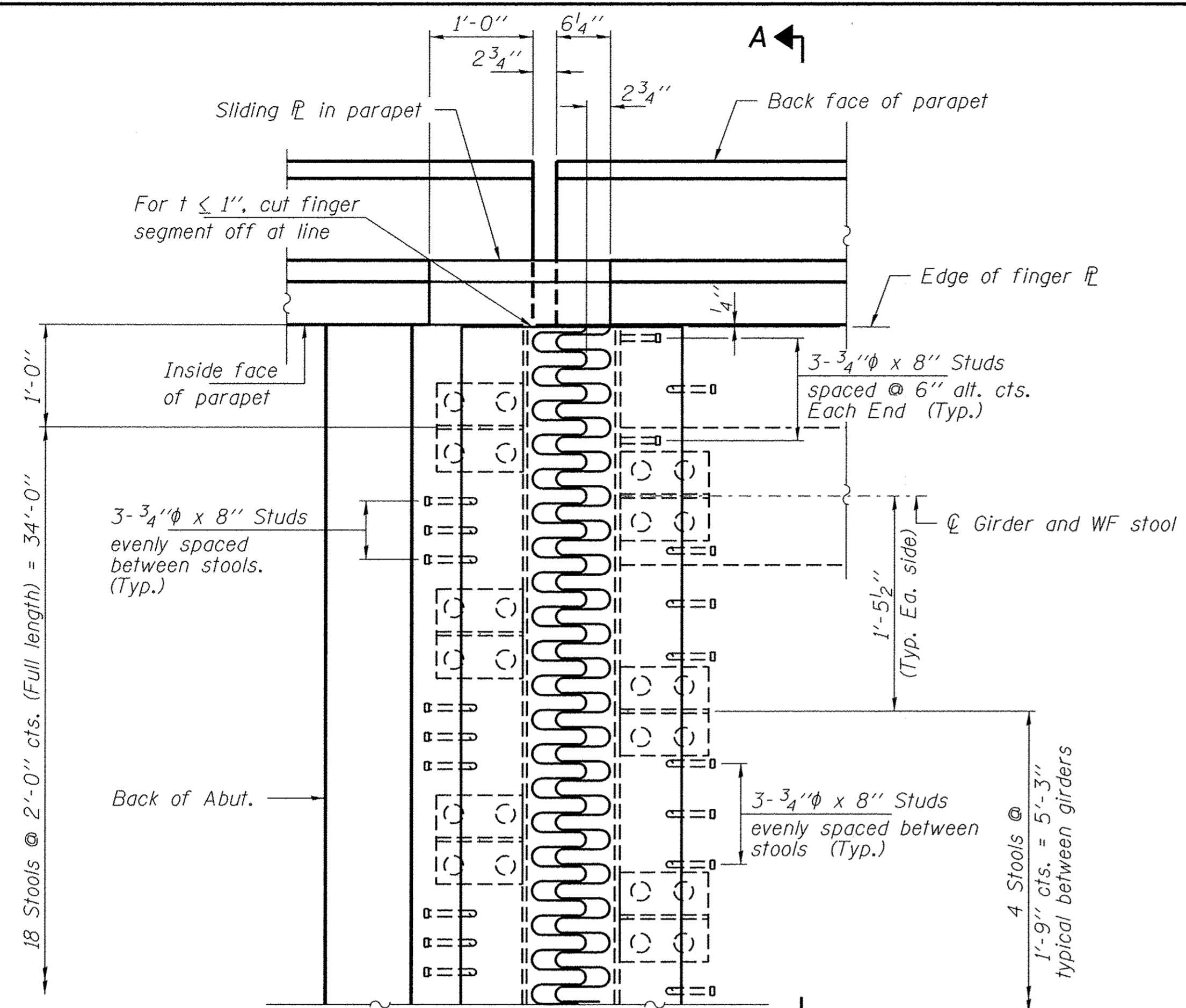
$0.95 R_n F_y r$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

$1.25 (f_{SDC1} + f_{SDC2}) + 1.5 f_{SDW} + 1.75 f_s (L + IM)$

$\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_r : Maximum factored shear range in span computed according to Article 6.10.10.

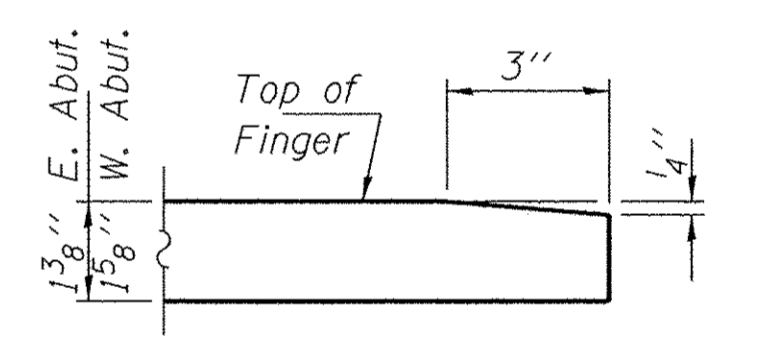
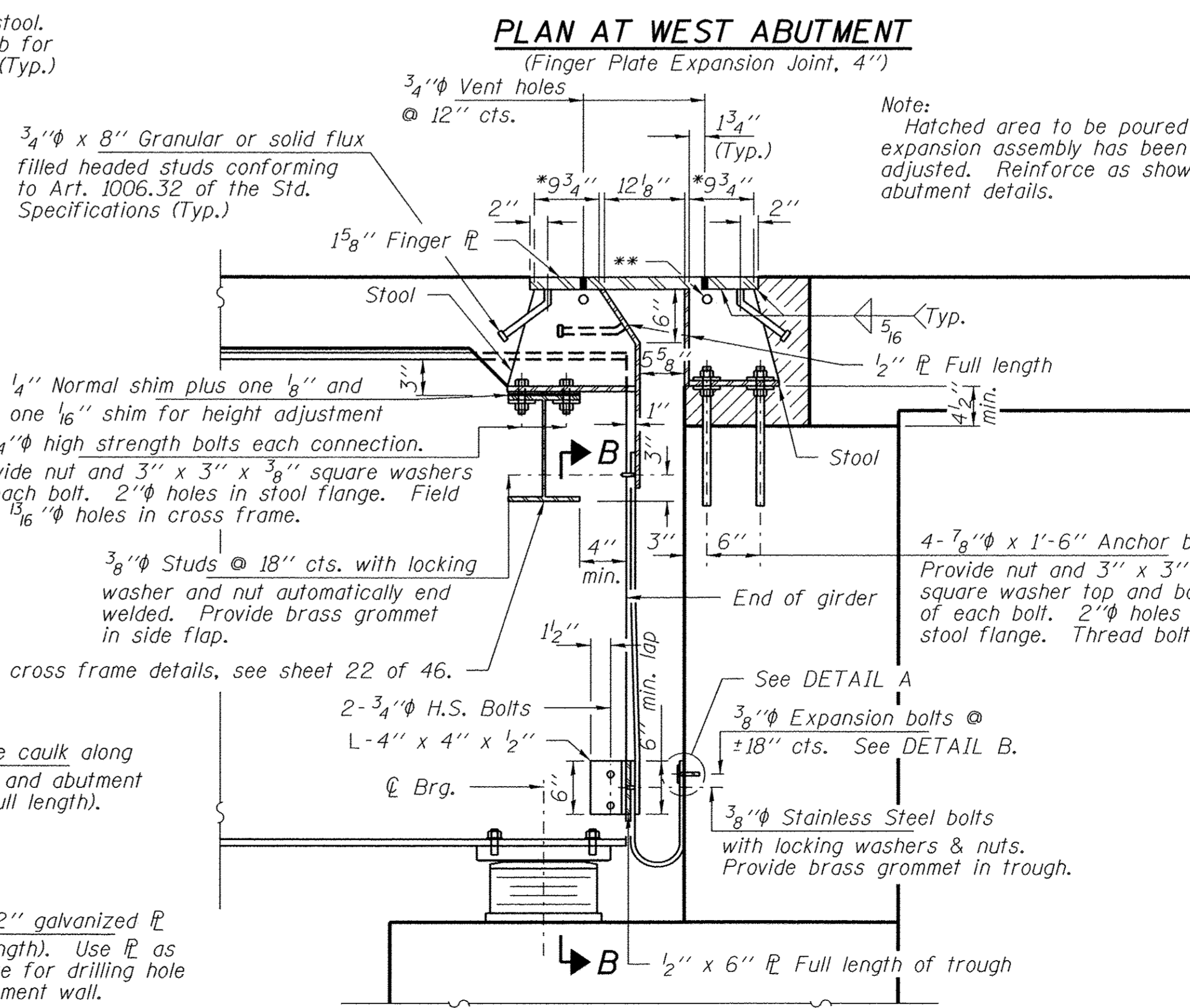
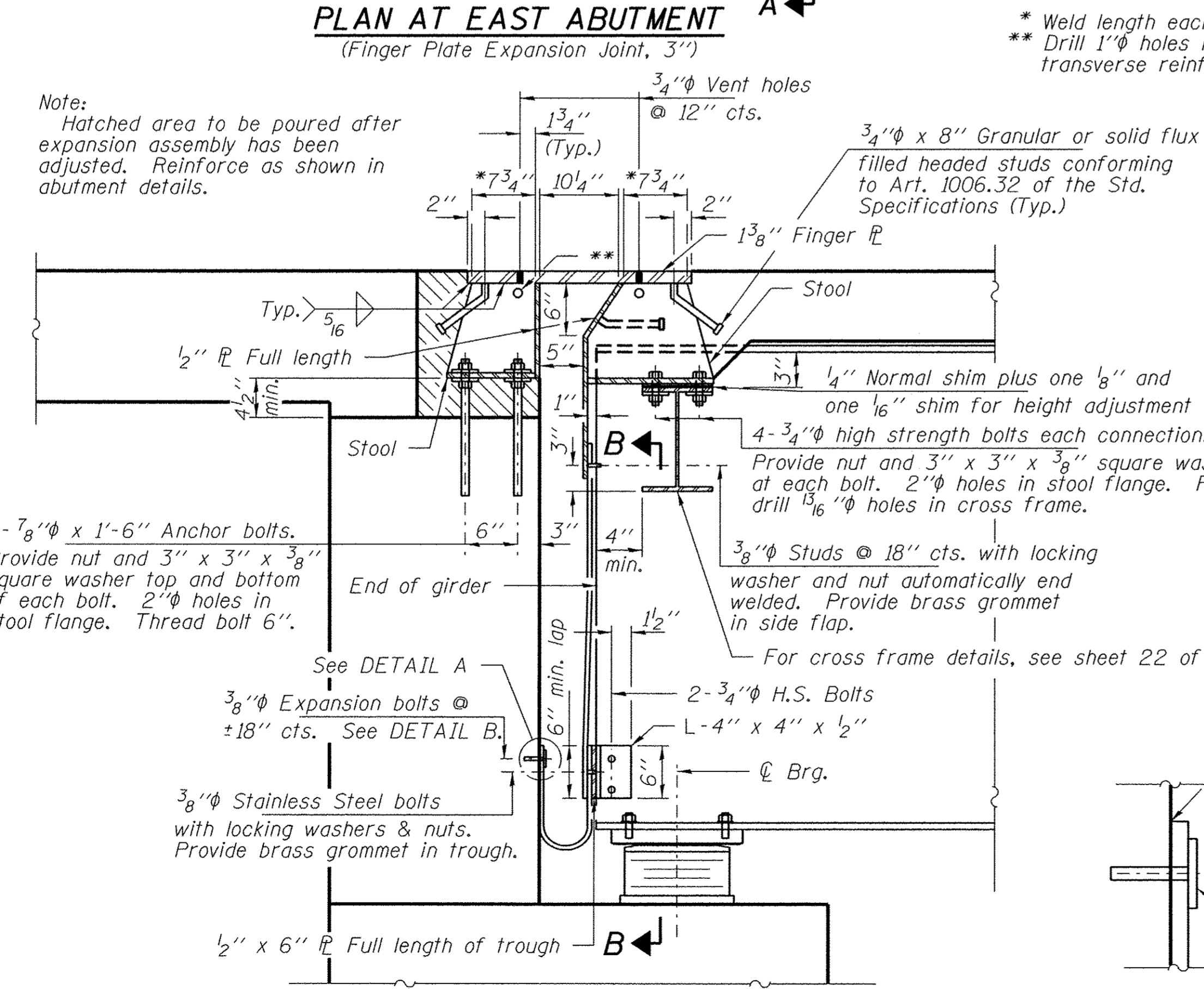


FINGER PLATE DETAIL
(See Table for Dimensions)

TABLE OF DIMENSIONS

| LOCATION | A | B | C | D |
|----------|----|--------|--------|---------|
| E. Abut. | 4" | 2 3/4" | 3 1/2" | 9" |
| W. Abut. | 4" | 3 3/8" | 4 1/8" | 10 1/8" |

Note: Dimensions at 50° F.

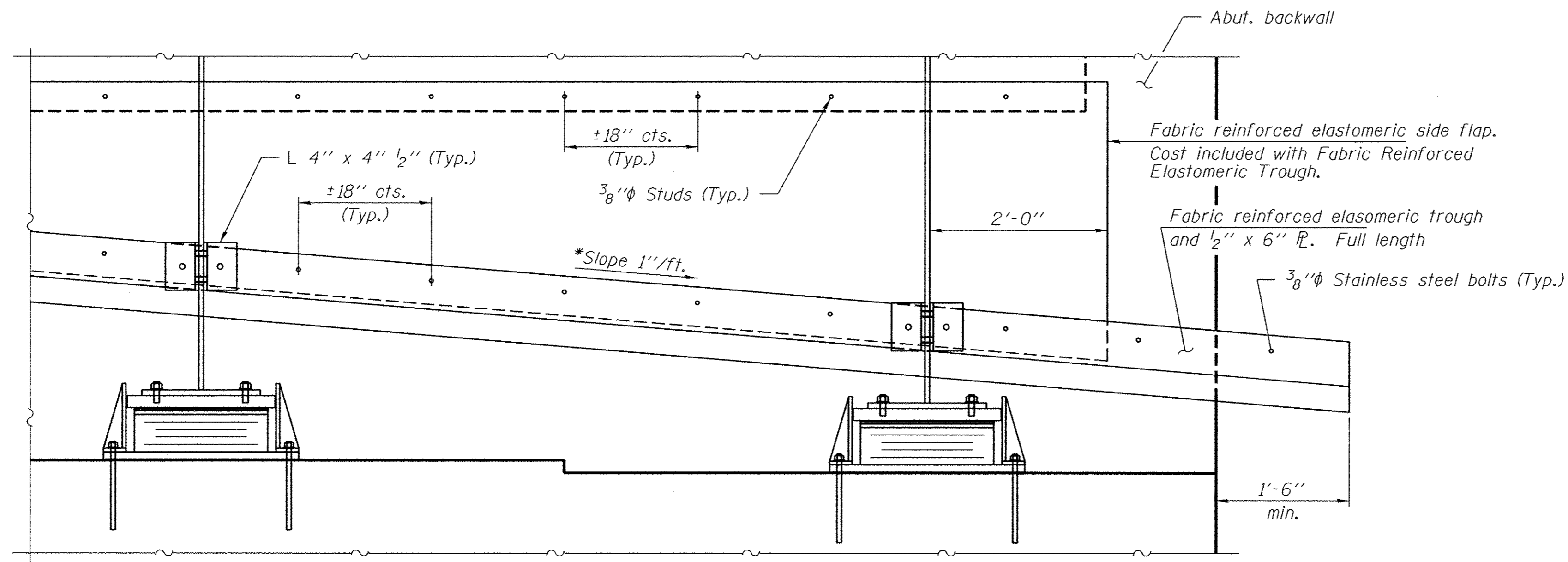


FINGER BEVEL DETAIL

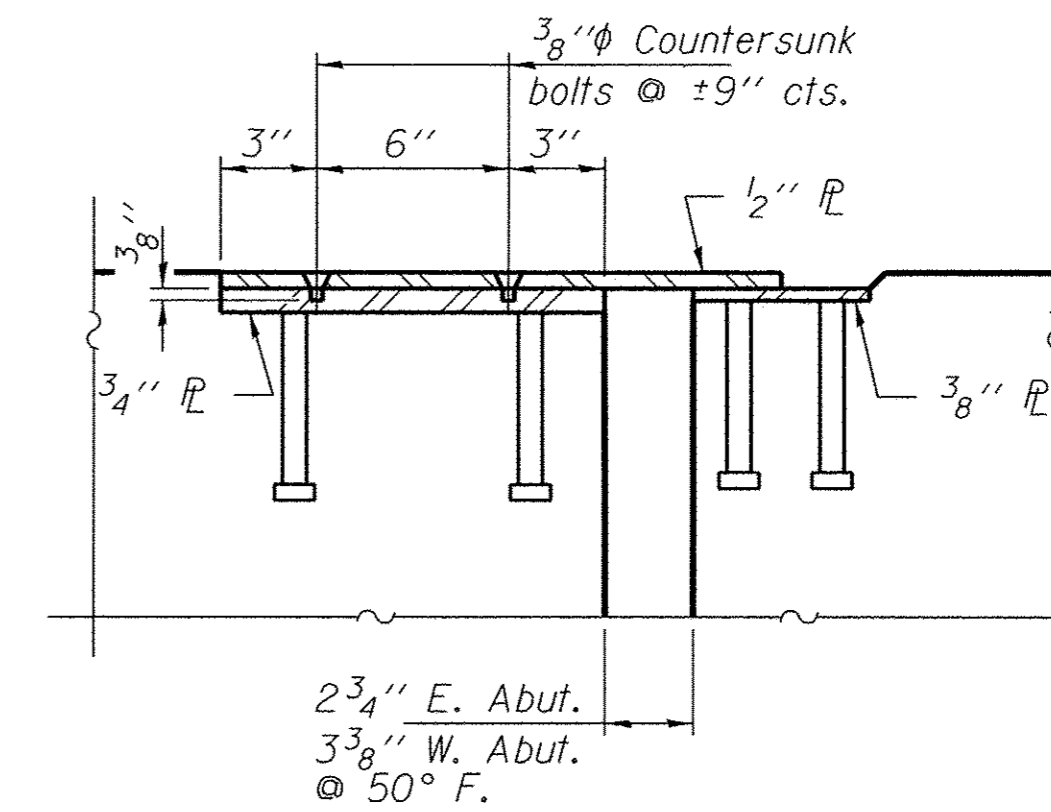
Notes:
For additional details and sections, see sheet 25 of 46.
Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
Cut stools from WF sections. Space evenly between girders and on top of girders.
Finger plate expansion joints shall be AASHTO M270 Grade 50 (NTR).
All steel components of finger plate assembly shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

BILL OF MATERIAL

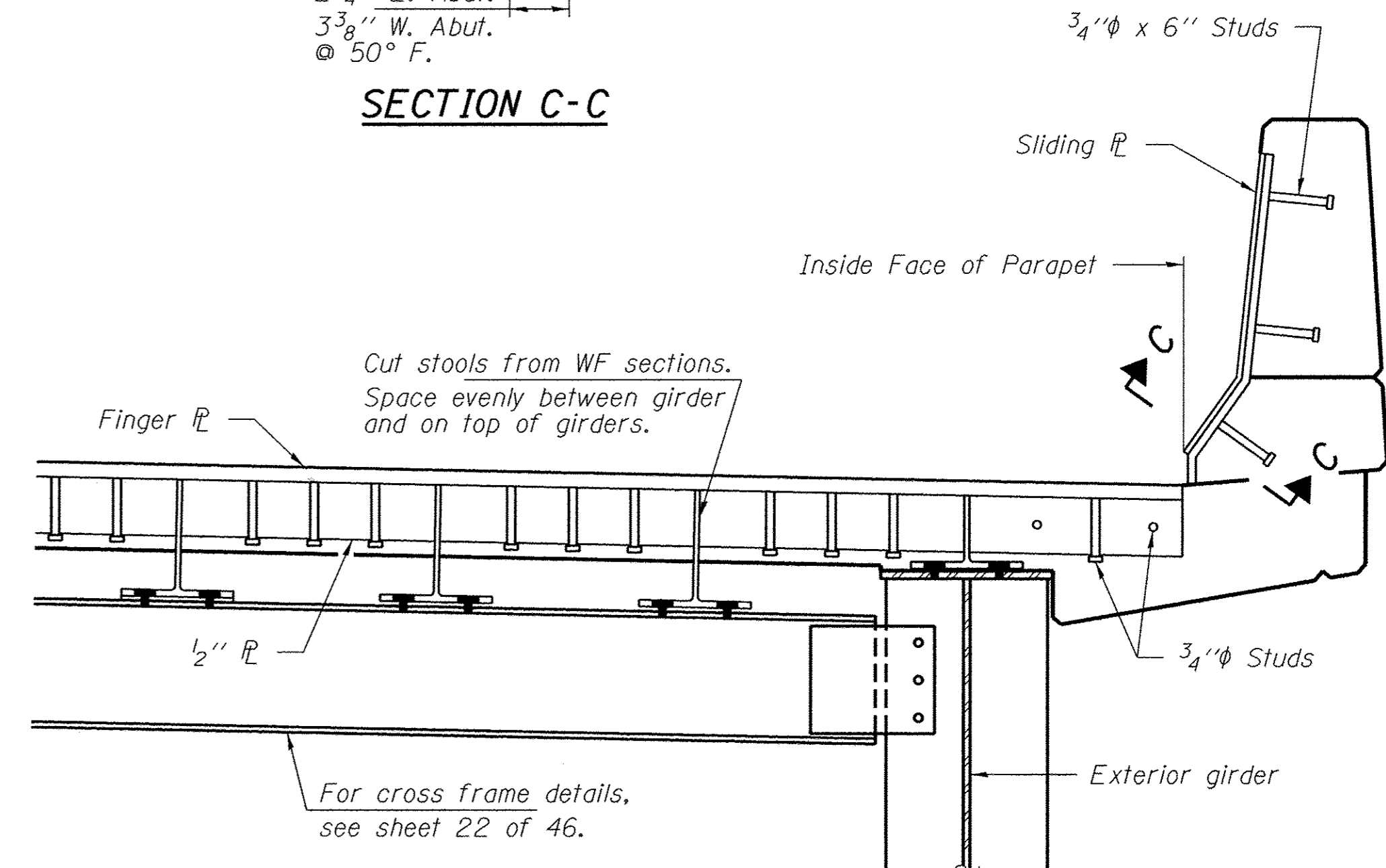
| Item | Unit | Total |
|----------------------------------|------|-------|
| Finger Plate Expansion Joint, 3" | Foot | 36 |
| Finger Plate Expansion Joint, 4" | Foot | 36 |



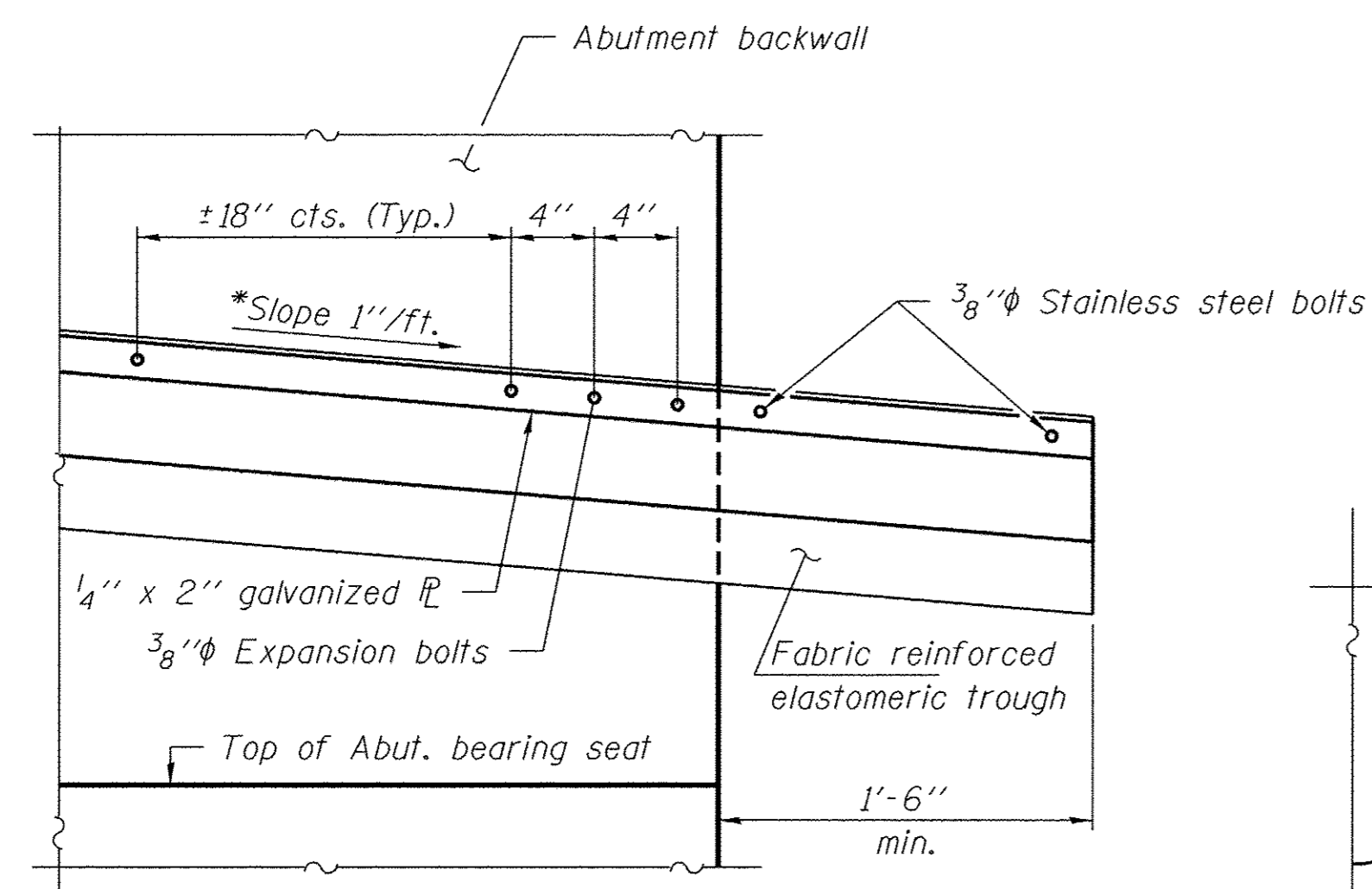
SECTION B-B



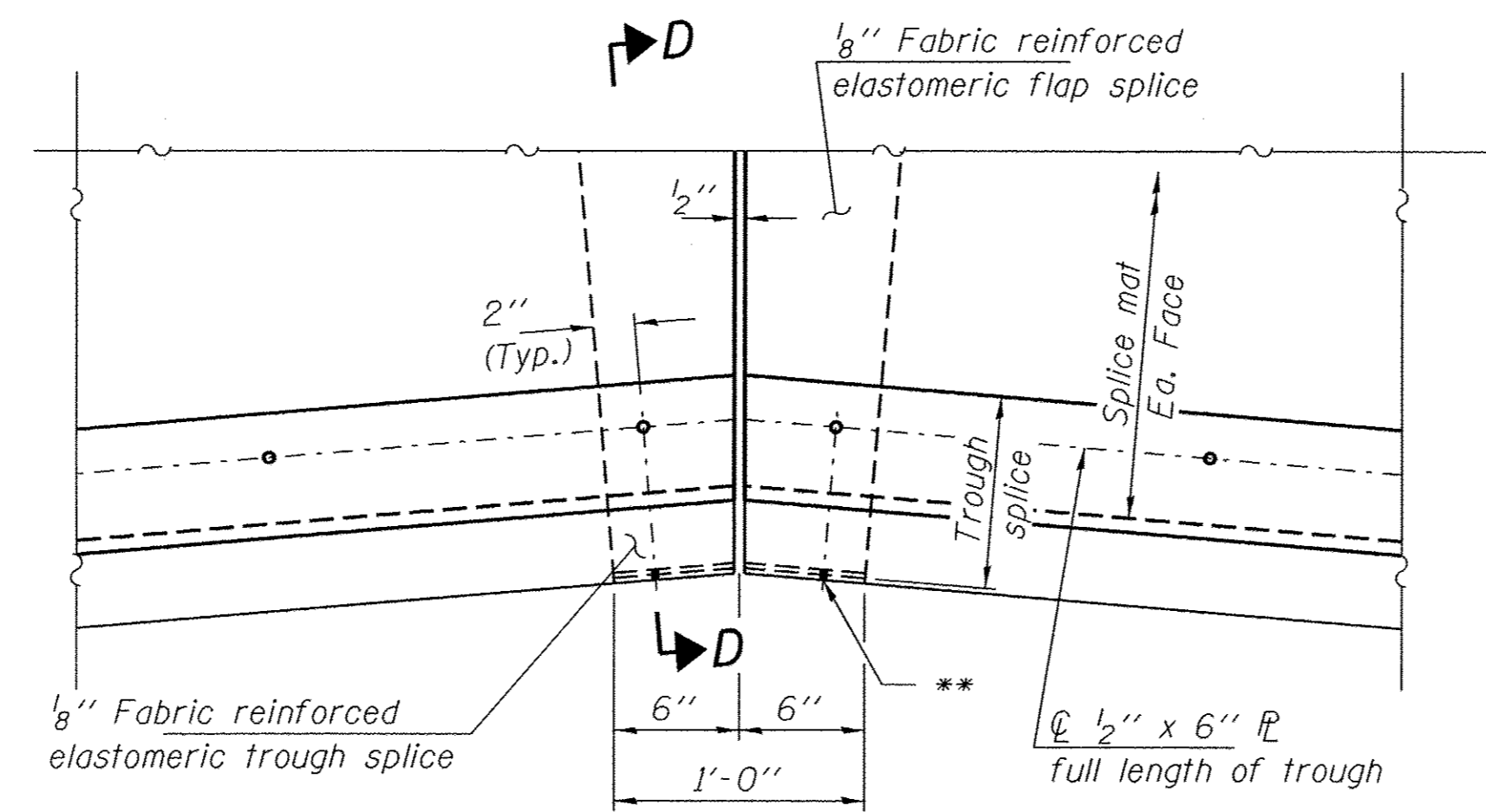
SECTION C-C



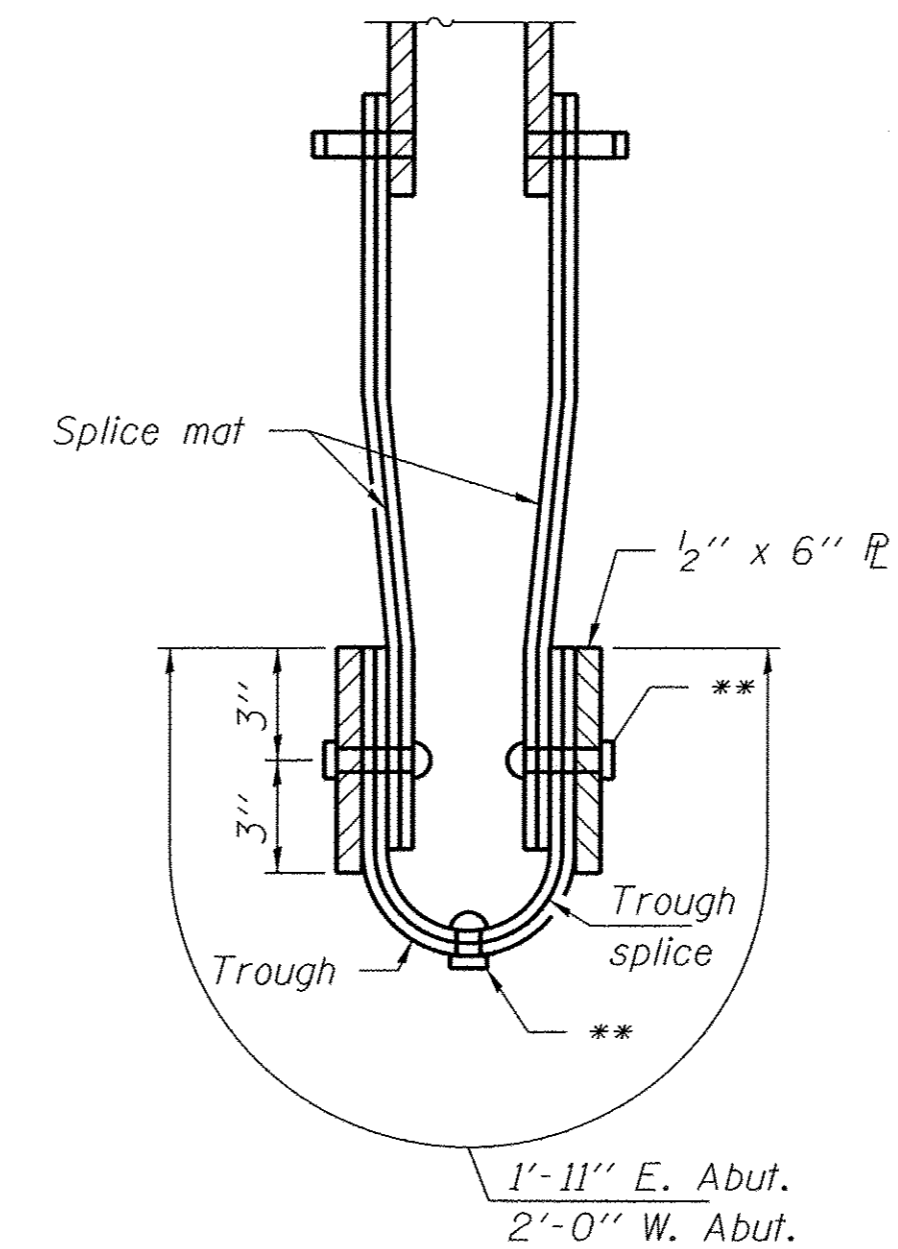
SECTION A-A



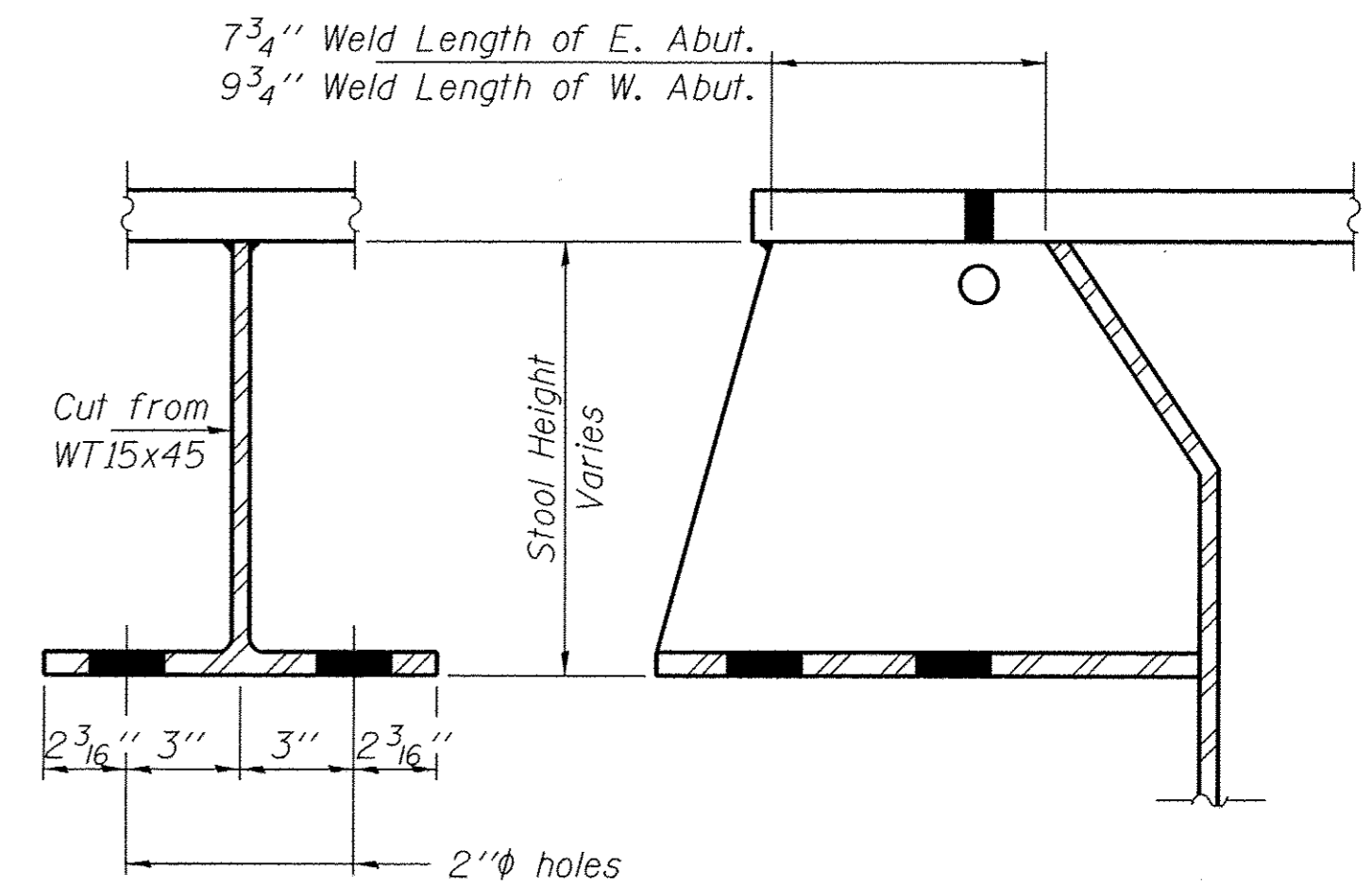
DETAIL B



THROUGH SPLICE DETAIL



SECTION D-D

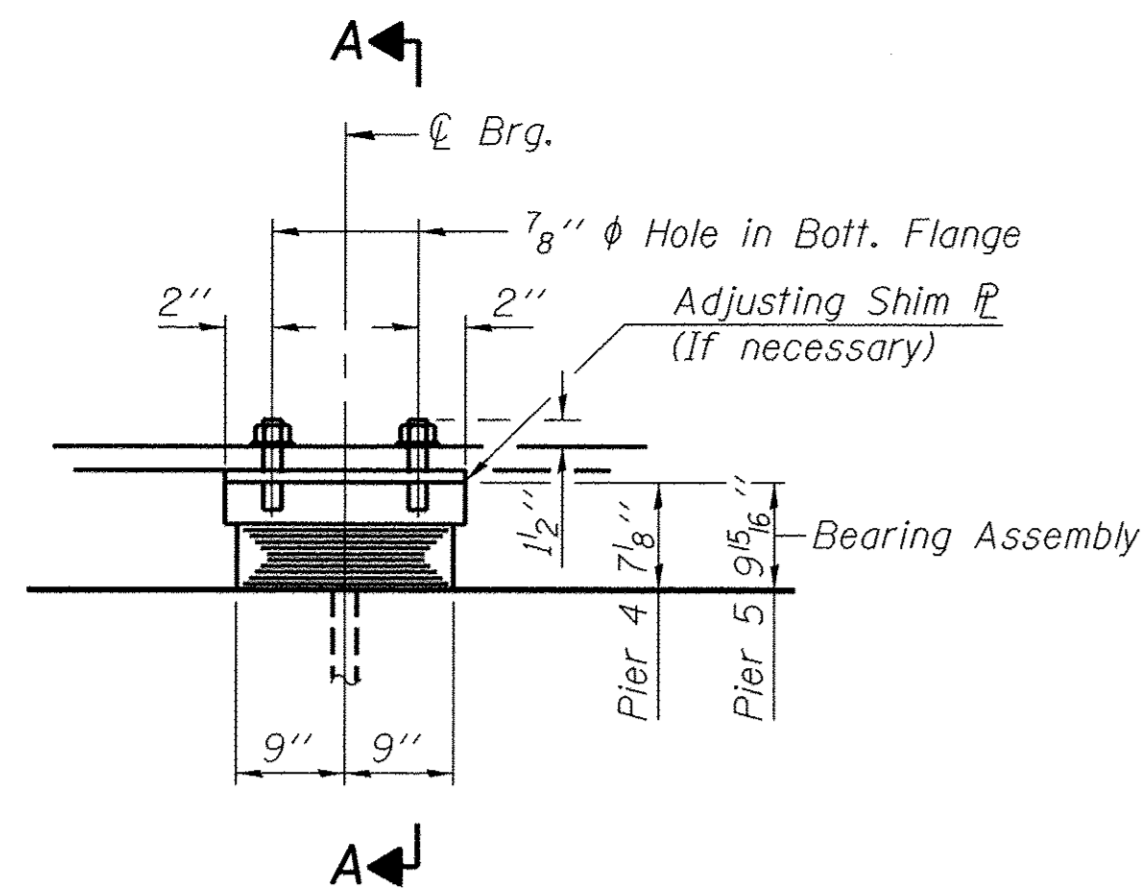


FINGER PLATE STOOL DETAIL

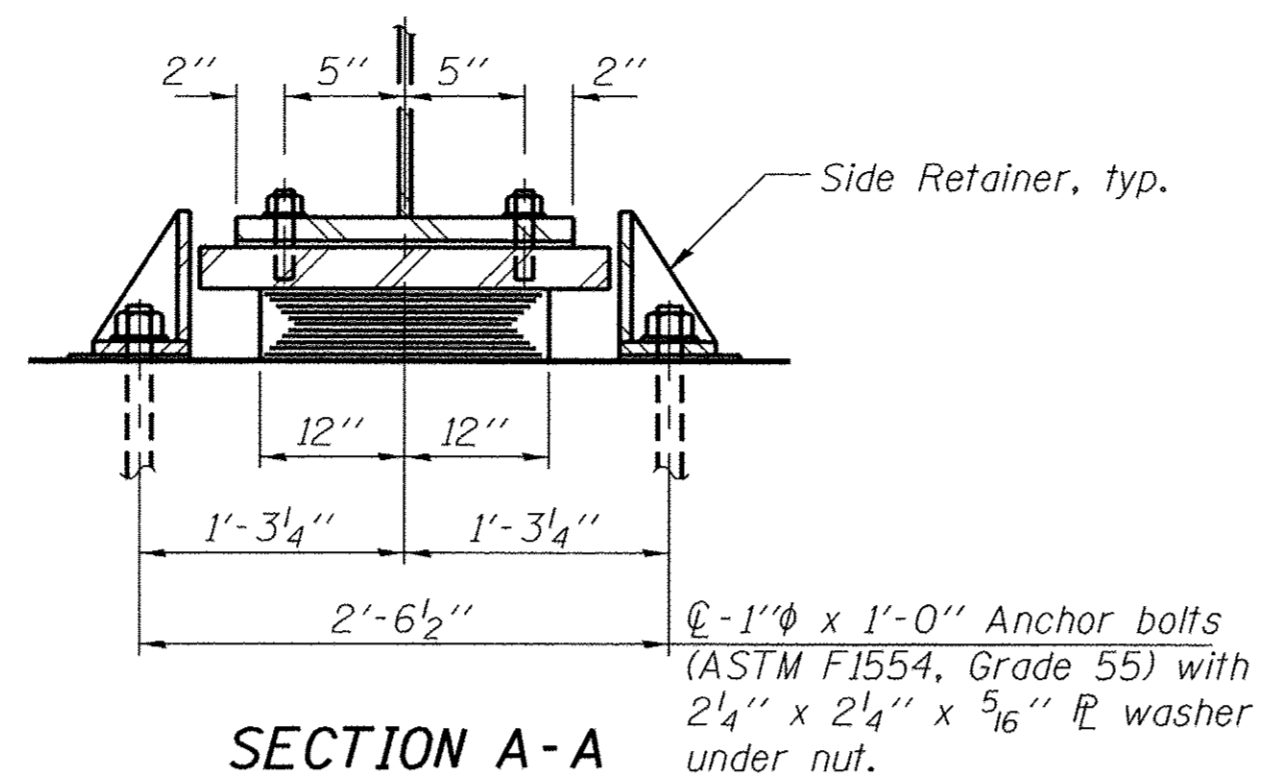
Note:
Fabric reinforced material for trough and side flap shall be according to Section 520 of the Standard Specifications.

** 3/8" Stainless Steel bolts with washers & nuts. Provide brass grommet in trough.

| | | | | | | | | | | | |
|---|-----------------------|-------------------|-----------|---|--|------------------------------|--------------------|---------------------------|--------------|-----------|--|
| FILE NAME = 100110-sht-bridge.dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | FINGER PLATE JOINT DETAILS STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.545.3409 www.tfrengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 43 | |
| 184.000955 ILLINOIS PROFESSIONAL DESIGN FIRM L57 PLS. PSE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | CONTRACT NO. 89634 | ILLINOIS FED. AID PROJECT | | | |
| | | CHECKED - M.D.C. | REVISED - | | | SHEET NO. 25 OF 46 SHEETS | | | | | |



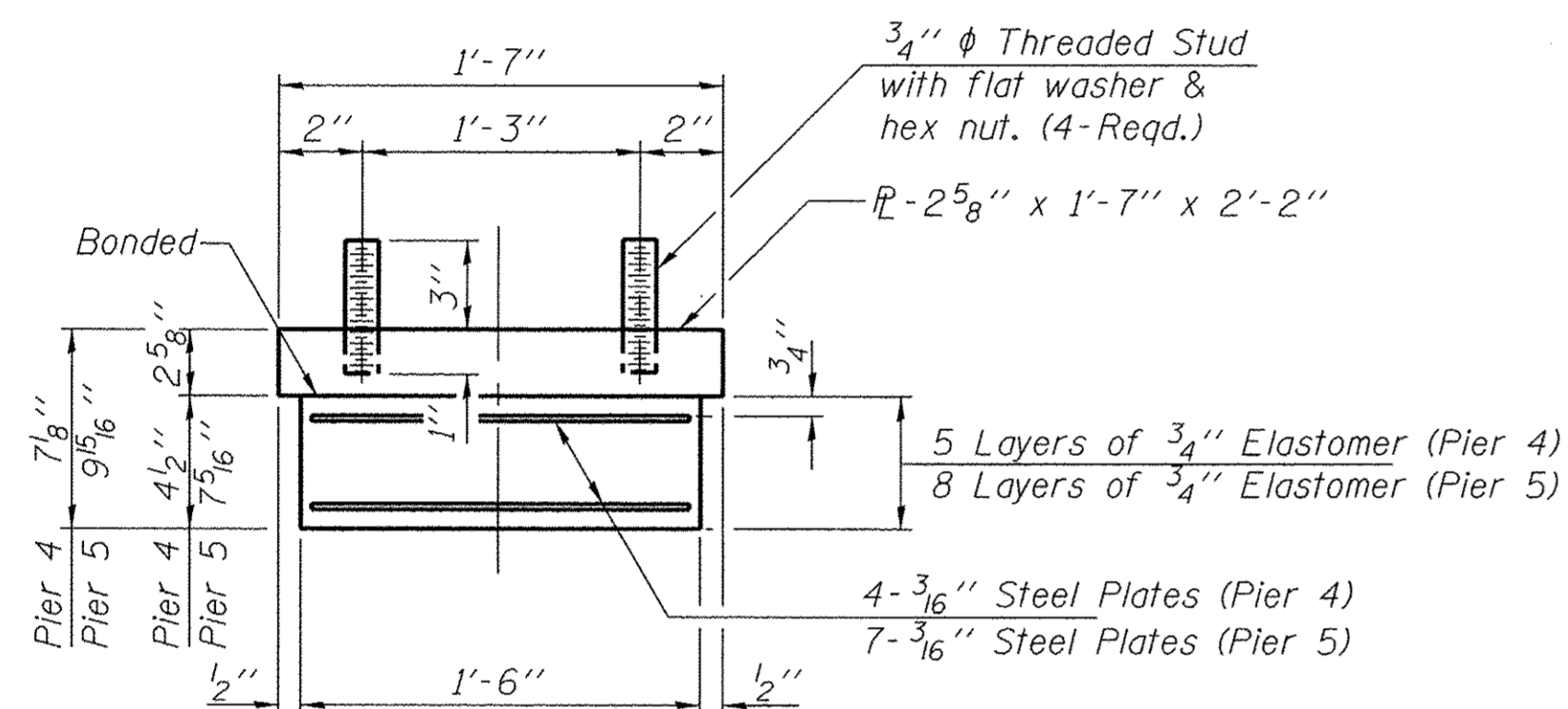
ELEVATION AT PIERS 4 & 5



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

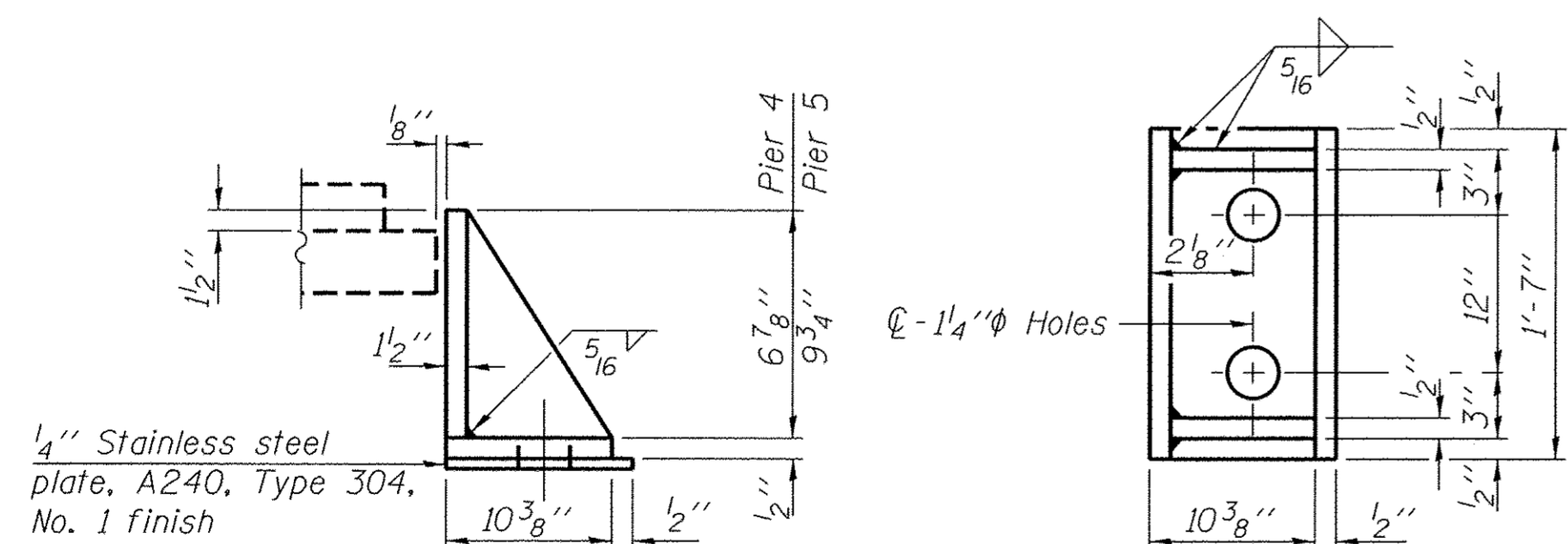
(Pier 4 - 5 required)
(Pier 5 - 5 required)



BEARING ASSEMBLY

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

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.



SIDE RETAINER

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

BILL OF MATERIAL

| Item | Unit | Total |
|-------------------------------------|------|-------|
| Elastomeric Bearing Assembly Type I | Each | 10 |
| Anchor Bolts, 1" | Each | 40 |

I-2E-1

12-2-15

FILE NAME = 100110-sht-bridge.dgn
USER NAME =
DESIGNED - S.M.S.
CHECKED - D.W.T.
DRAWN - D.A.B.
CHECKED - M.D.C.
PLOT SCALE =
PLOT DATE = 6/30/2016

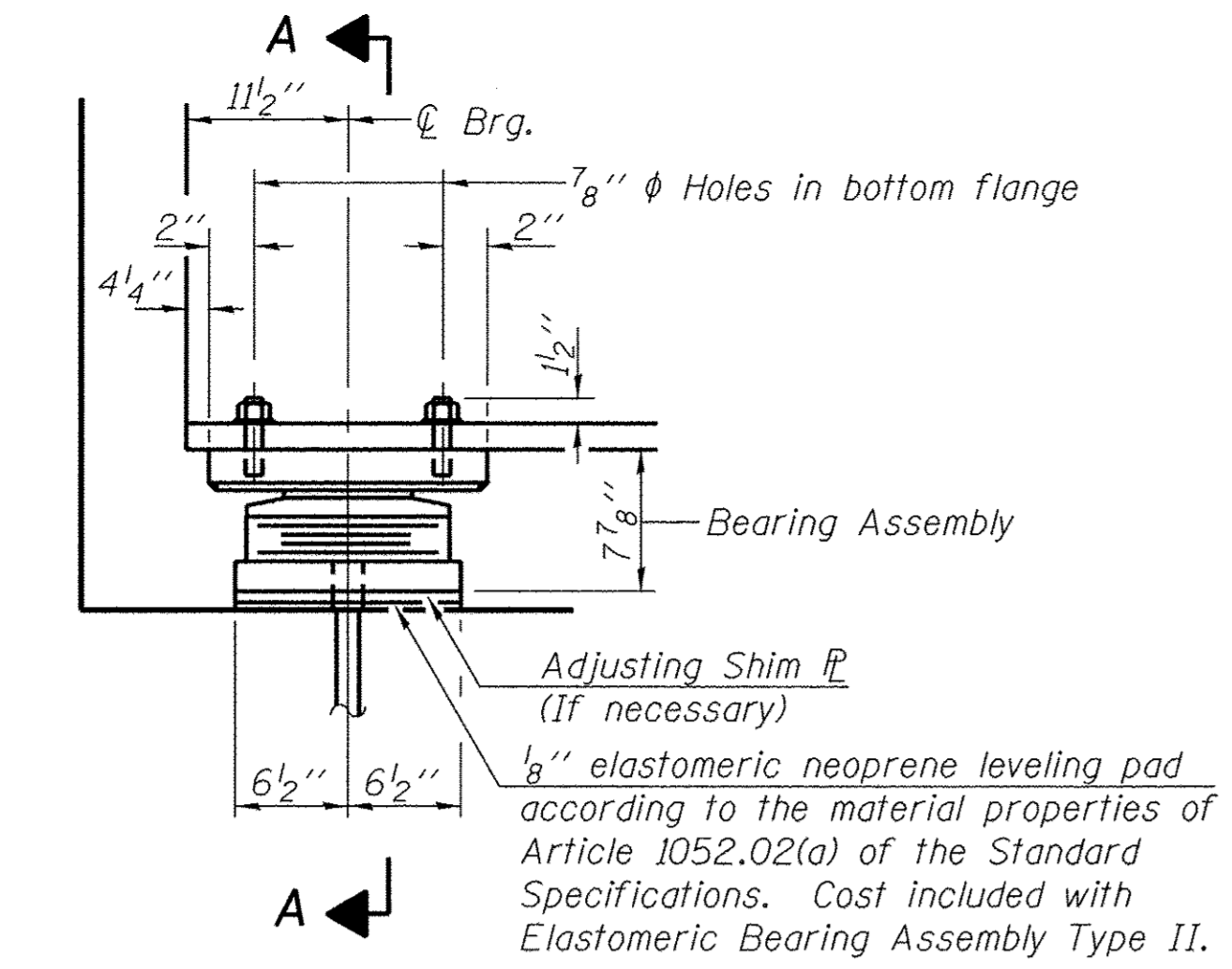
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REVISER -
REVISER -
REVISER -
REVISER -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

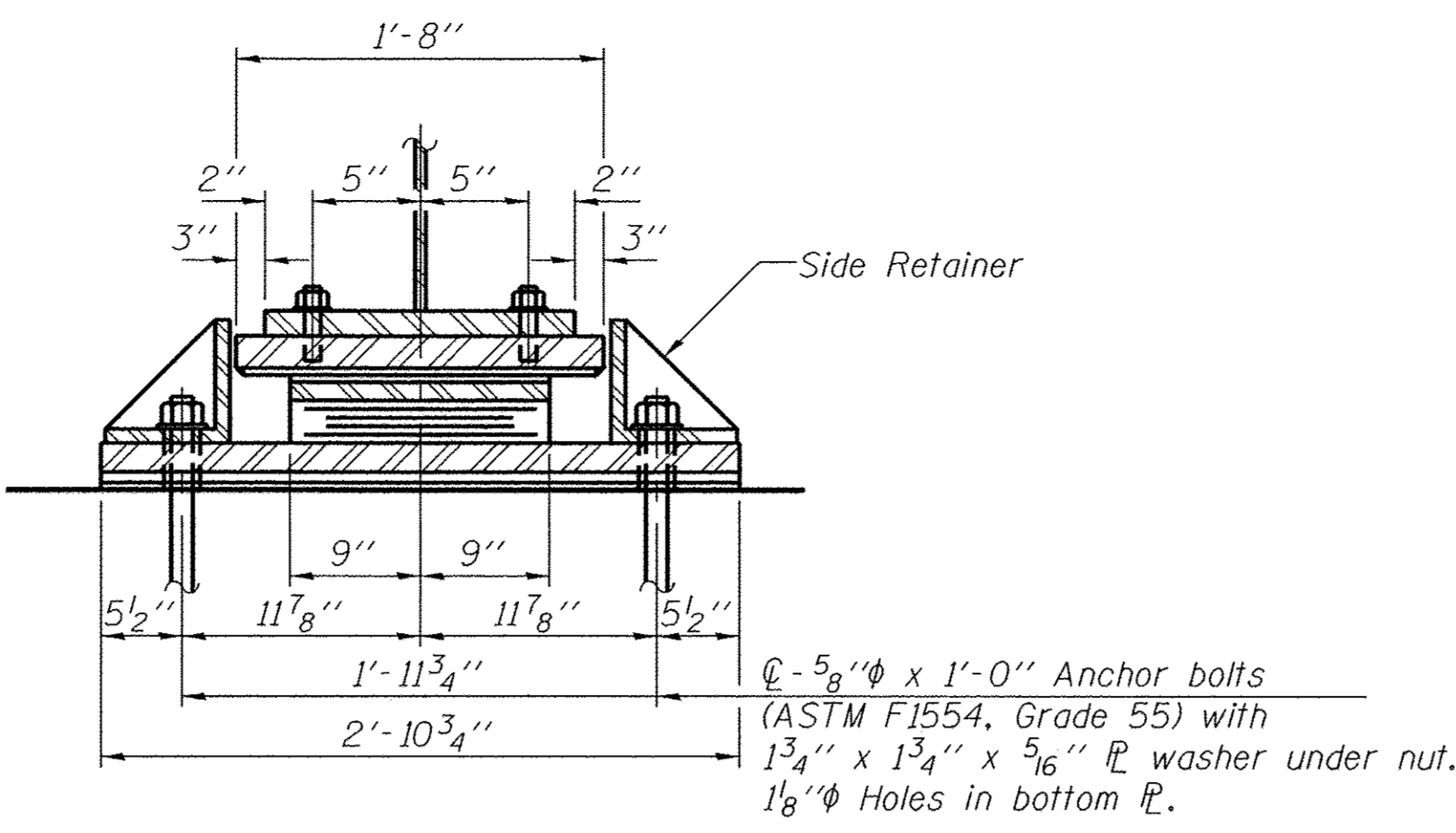
**BEARING DETAILS
STRUCTURE NO. 090-3248**

SHEET NO. 26 OF 46 SHEETS

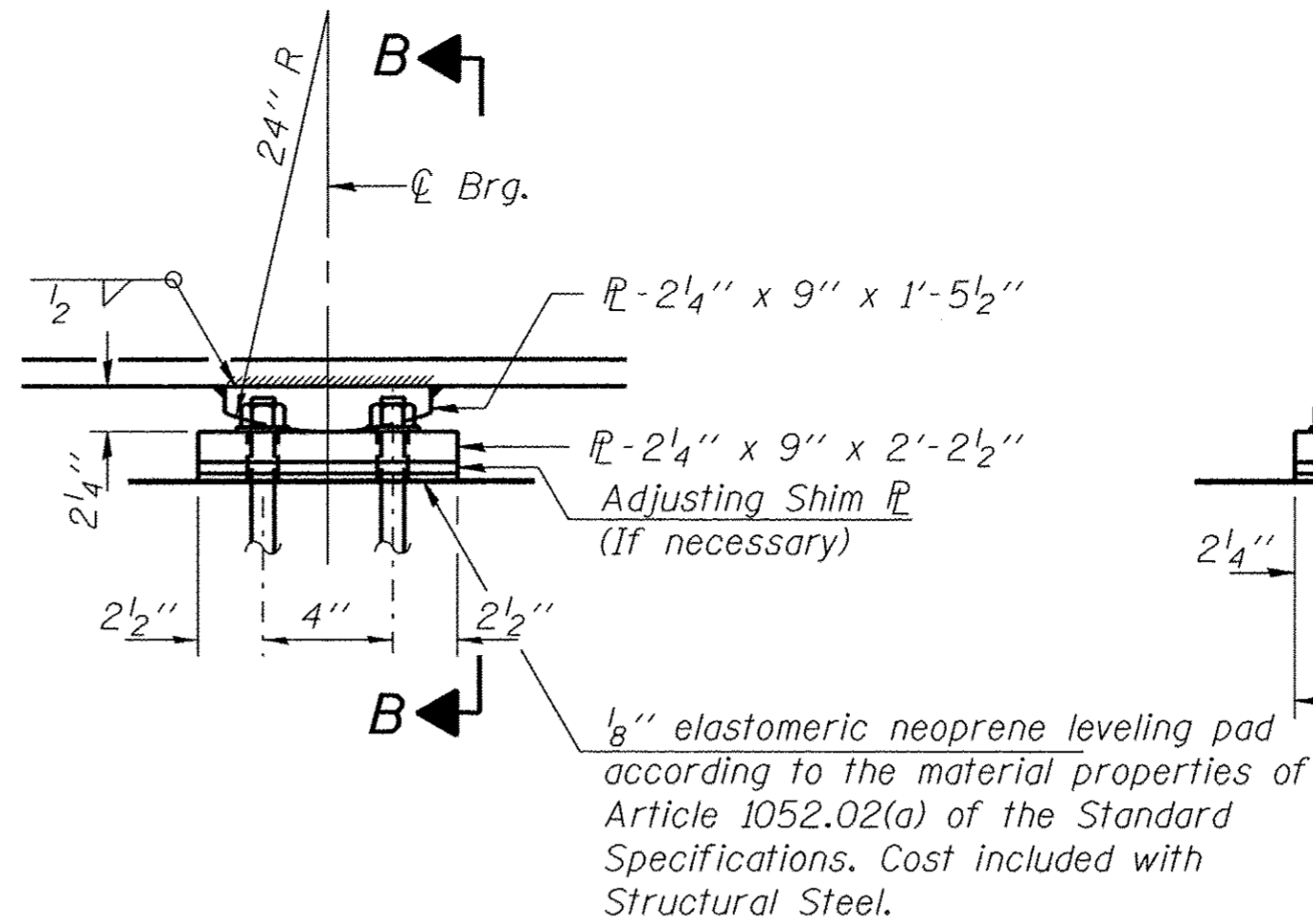
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------------------|----------------|----------|--------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 44 |
| MANITO RD OVER MACKINAW RIV. | | | CONTRACT NO. 89634 | |
| ILLINOIS FED. AID PROJECT | | | | |



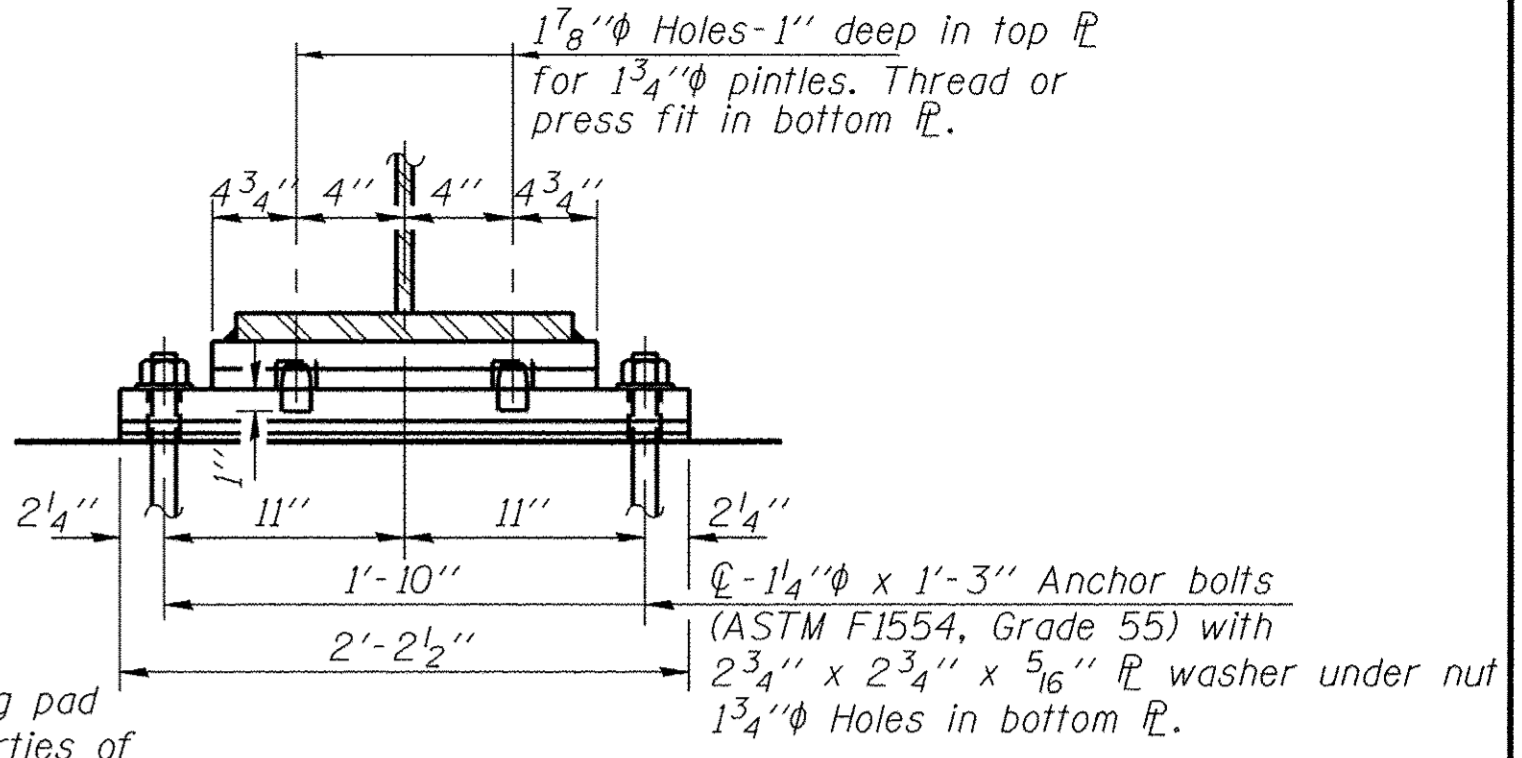
ELEVATION AT EAST ABUT.
TYPE II ELASTOMERIC EXP. BRG.
 (East Abutment - 5 required)



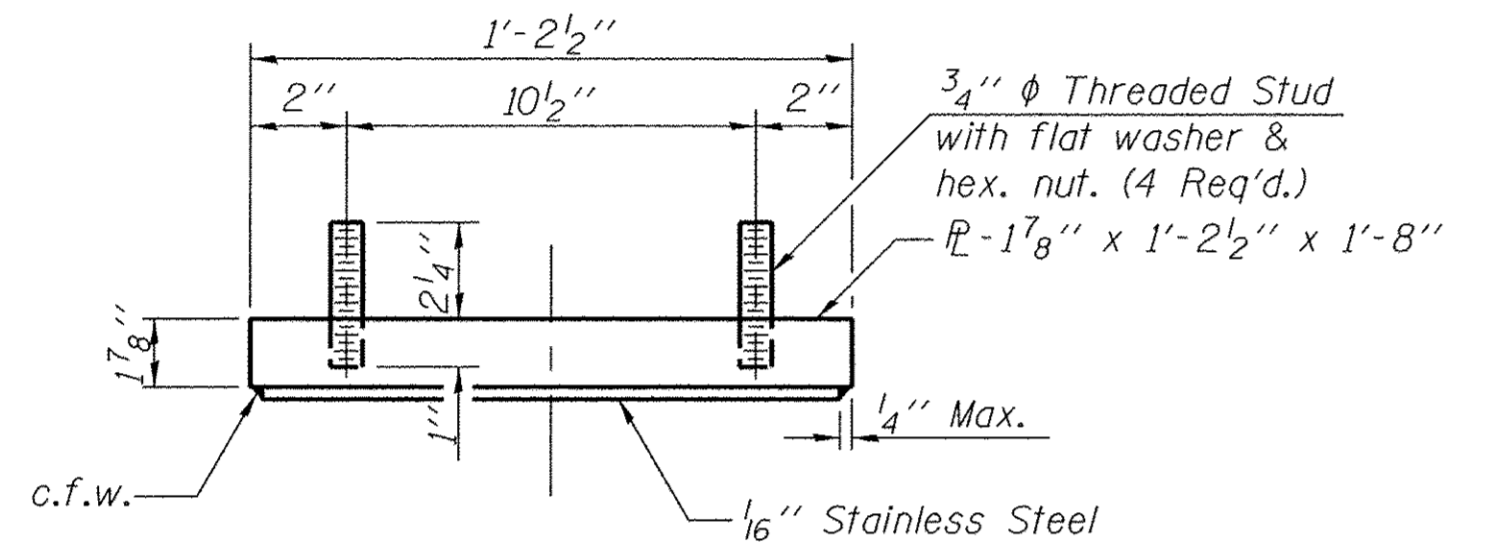
SECTION A-A



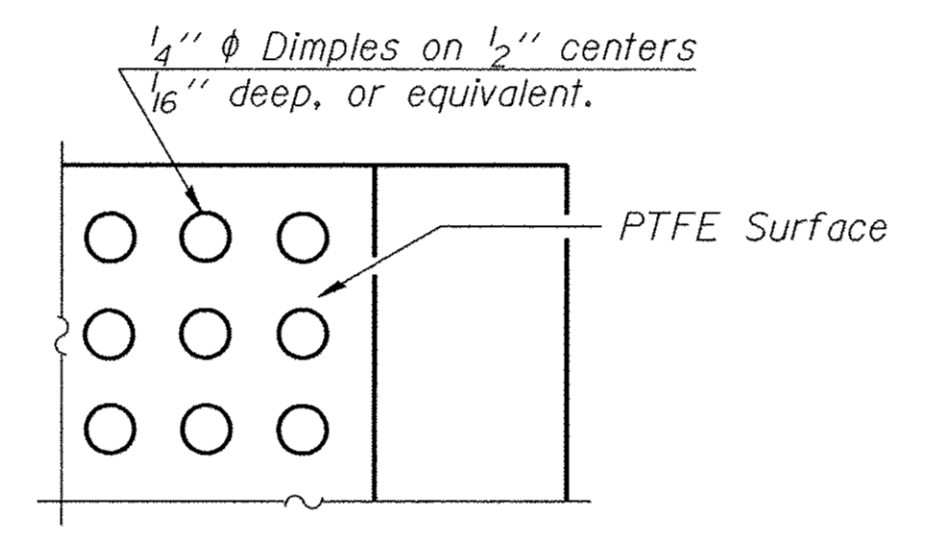
ELEVATION AT PIER
FIXED BEARING AT PIER 2
 (5 - required)



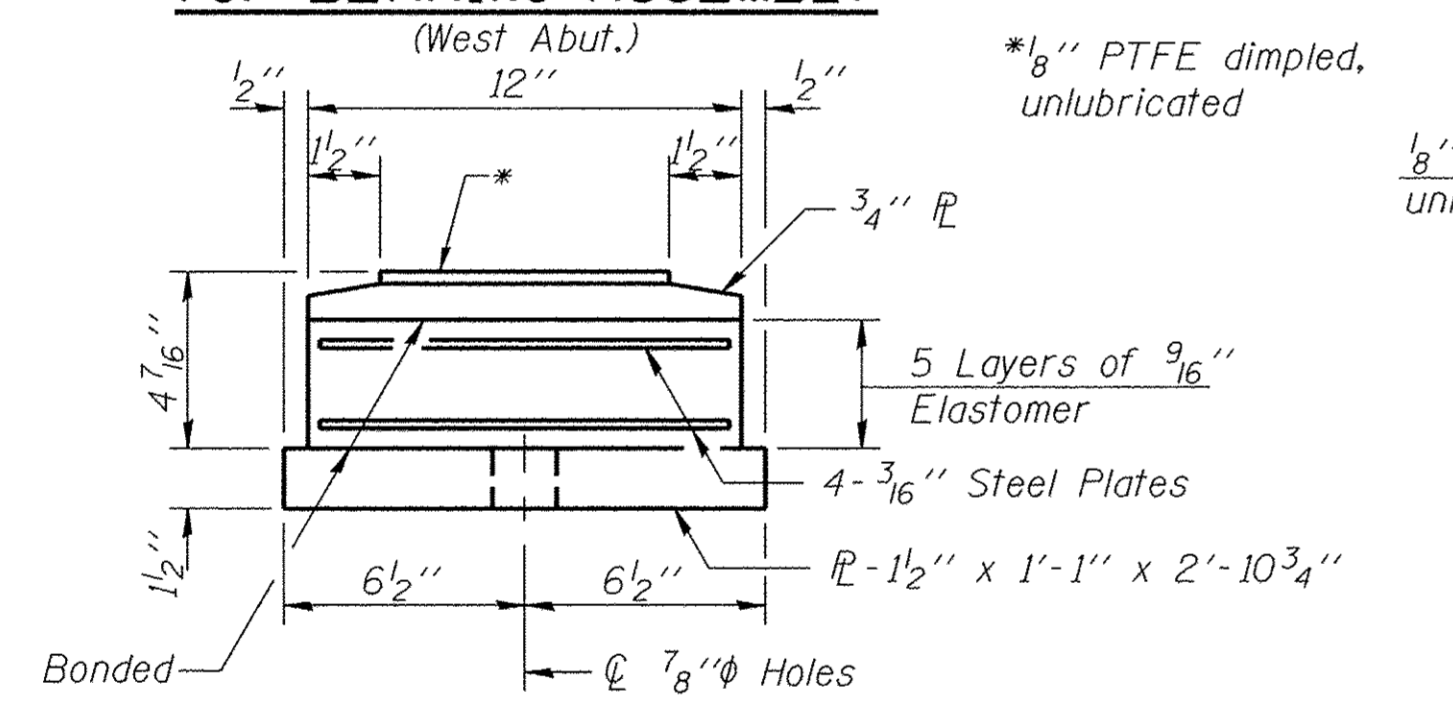
SECTION B-B



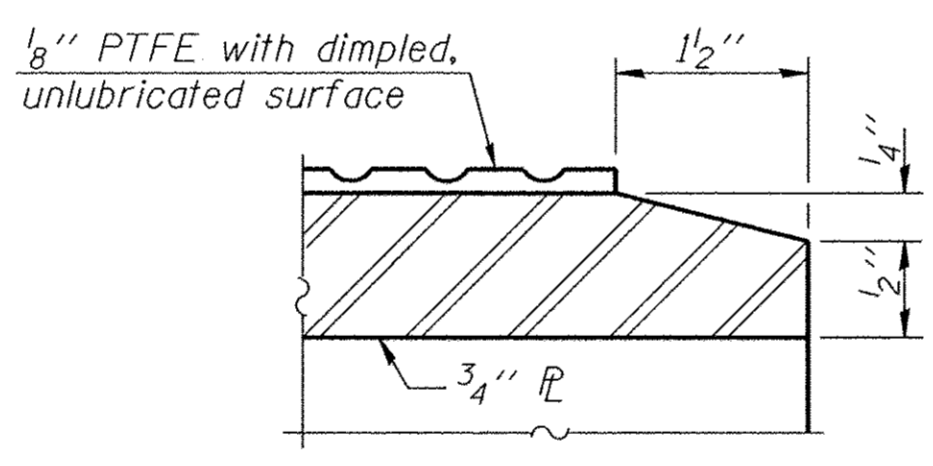
TOP BEARING ASSEMBLY
 (West Abut.)



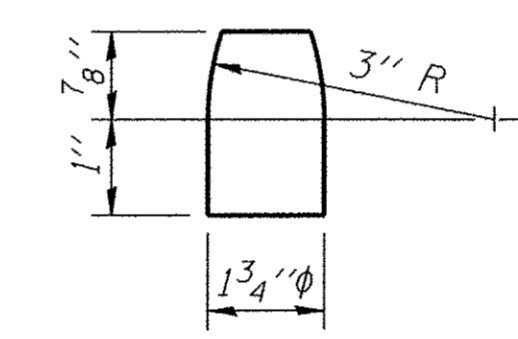
PLAN-PTFE SURFACE



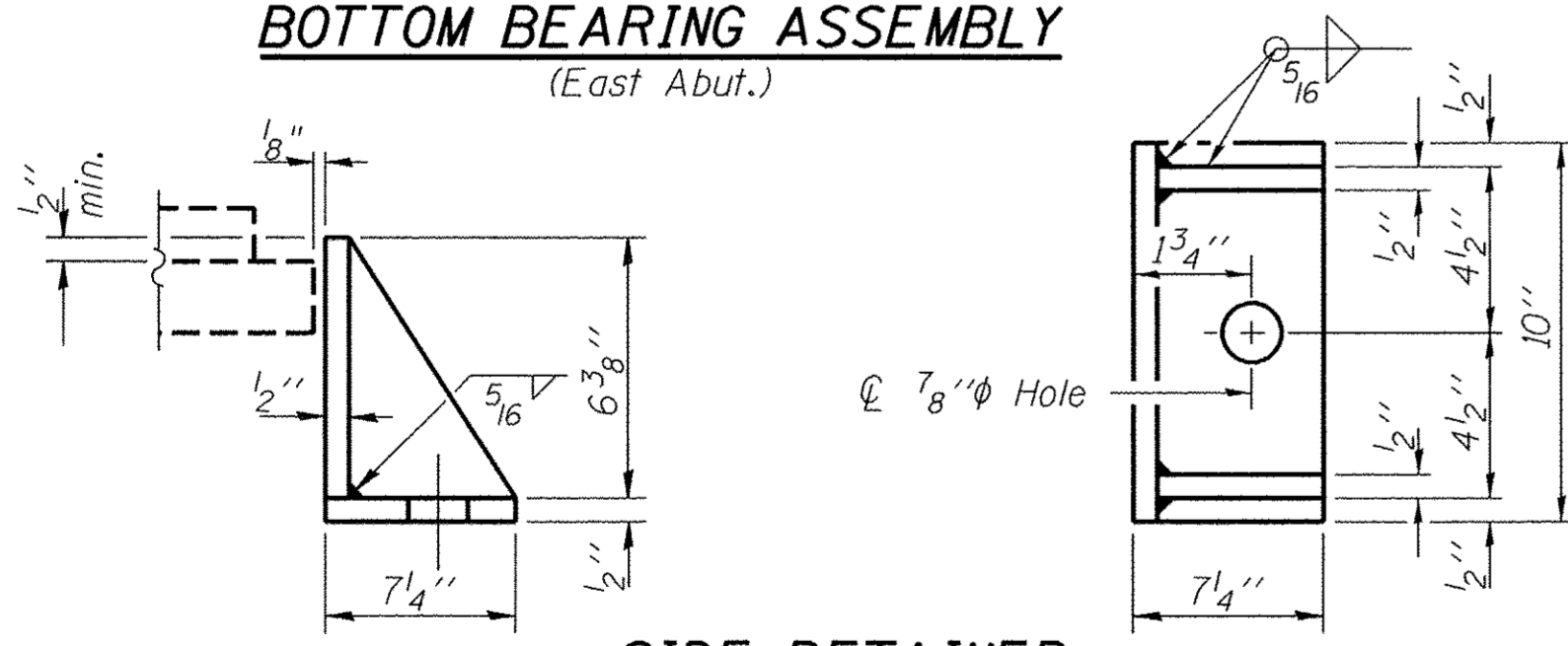
BOTTOM BEARING ASSEMBLY
 (East Abut.)



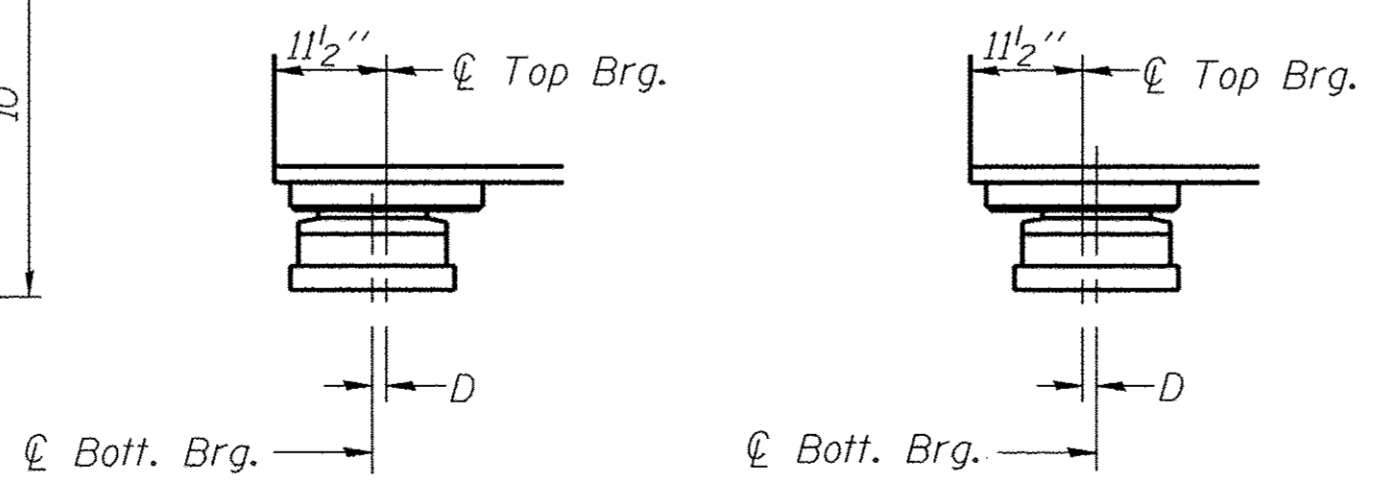
SECTION THRU PTFE



PINTLE



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



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

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
 The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 The fixed bearing anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.
 Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

BILL OF MATERIAL

| Item | Unit | Total |
|--------------------------------------|------|-------|
| Elastomeric Bearing Assembly Type II | Each | 5 |
| Anchor Bolts, 5/8" | Each | 10 |
| Anchor Bolts, 1 1/4" | Each | 20 |

I-2E-2 12-2-15

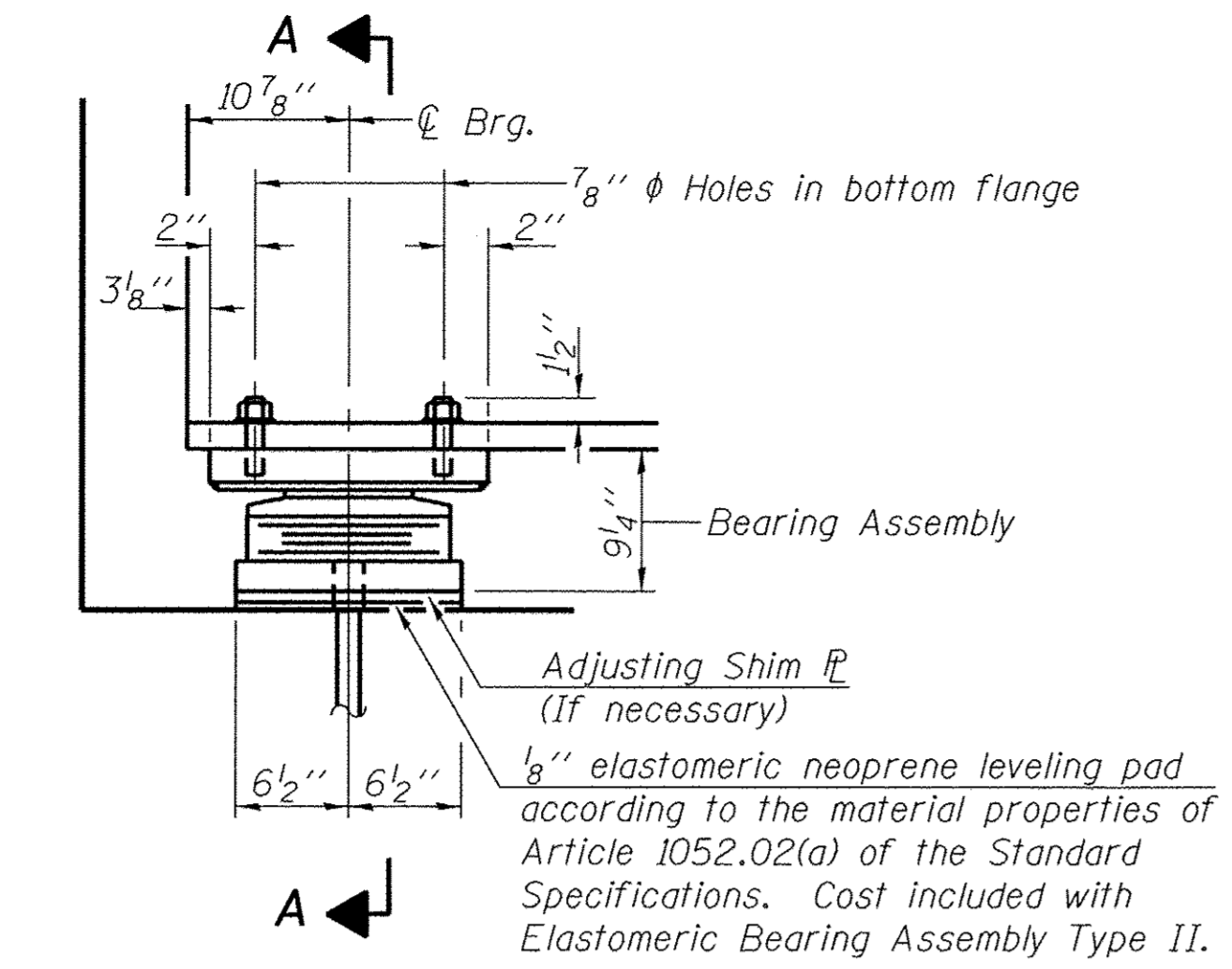
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 USER NAME =
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.246.3400 www.tbengineering.com
 184.00059
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS/PE/SE CORPORATION

| | |
|-------------------|-------------|
| DESIGNED - S.M.S. | REVISIONS - |
| CHECKED - D.W.T. | REVISIONS - |
| DRAWN - D.A.B. | REVISIONS - |
| CHECKED - M.D.C. | REVISIONS - |

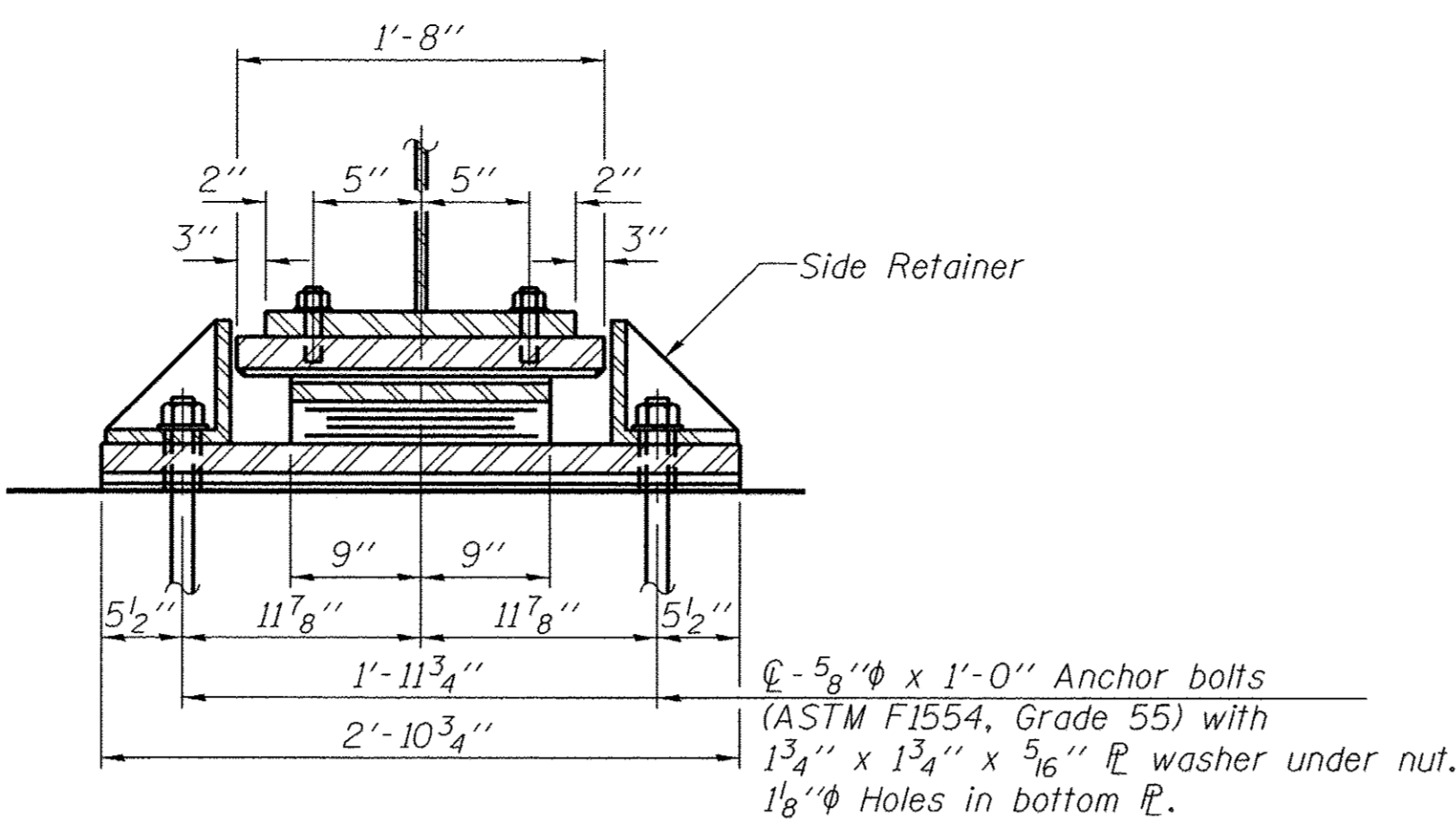
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 090-3248
 SHEET NO. 27 OF 46 SHEETS

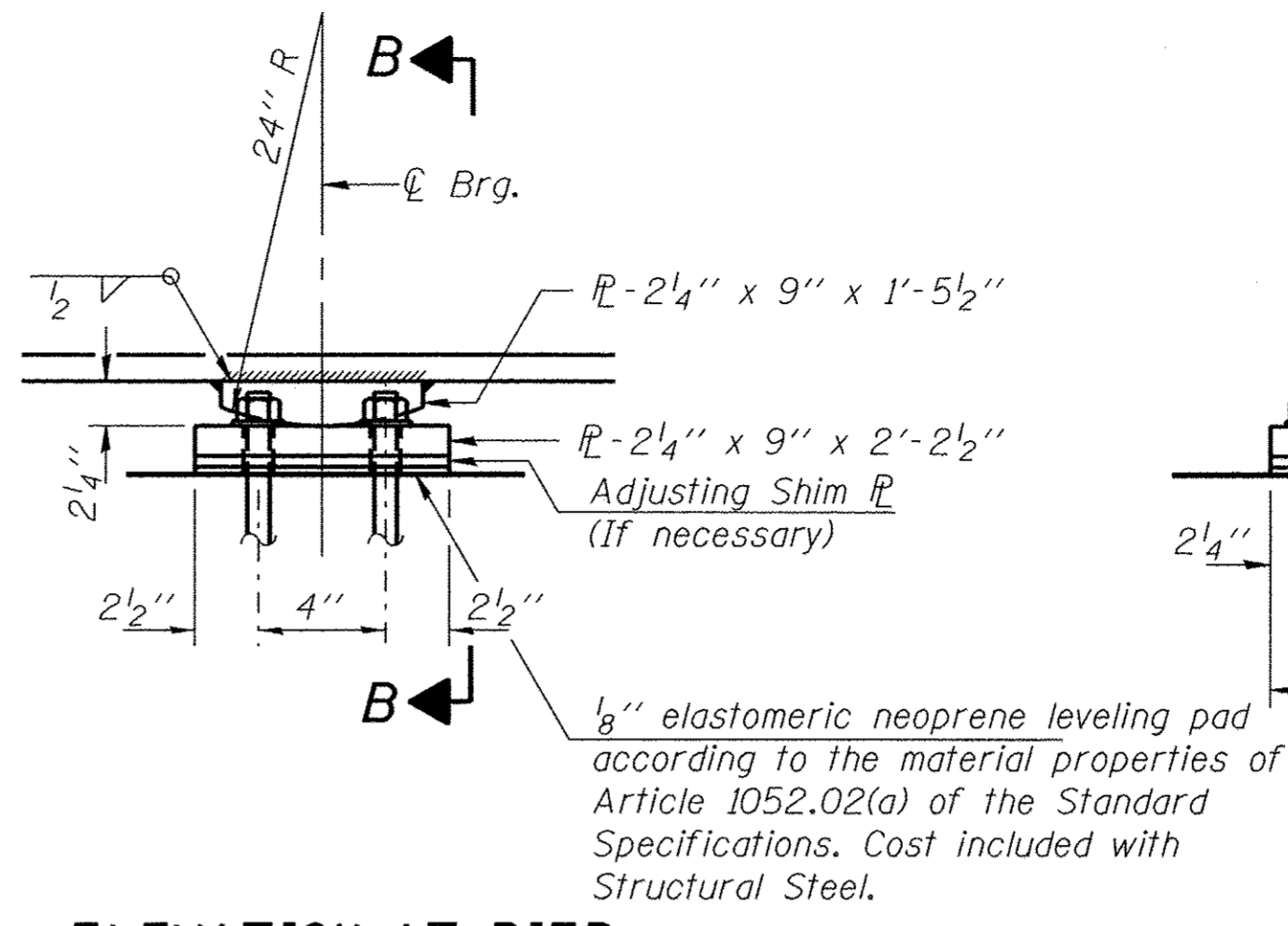
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------------------|----------------|----------|--------------|--------------------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 45 |
| MANITO RD OVER MACKINAW RIV. | | | | CONTRACT NO. 89634 |
| ILLINOIS FED. AID PROJECT | | | | |



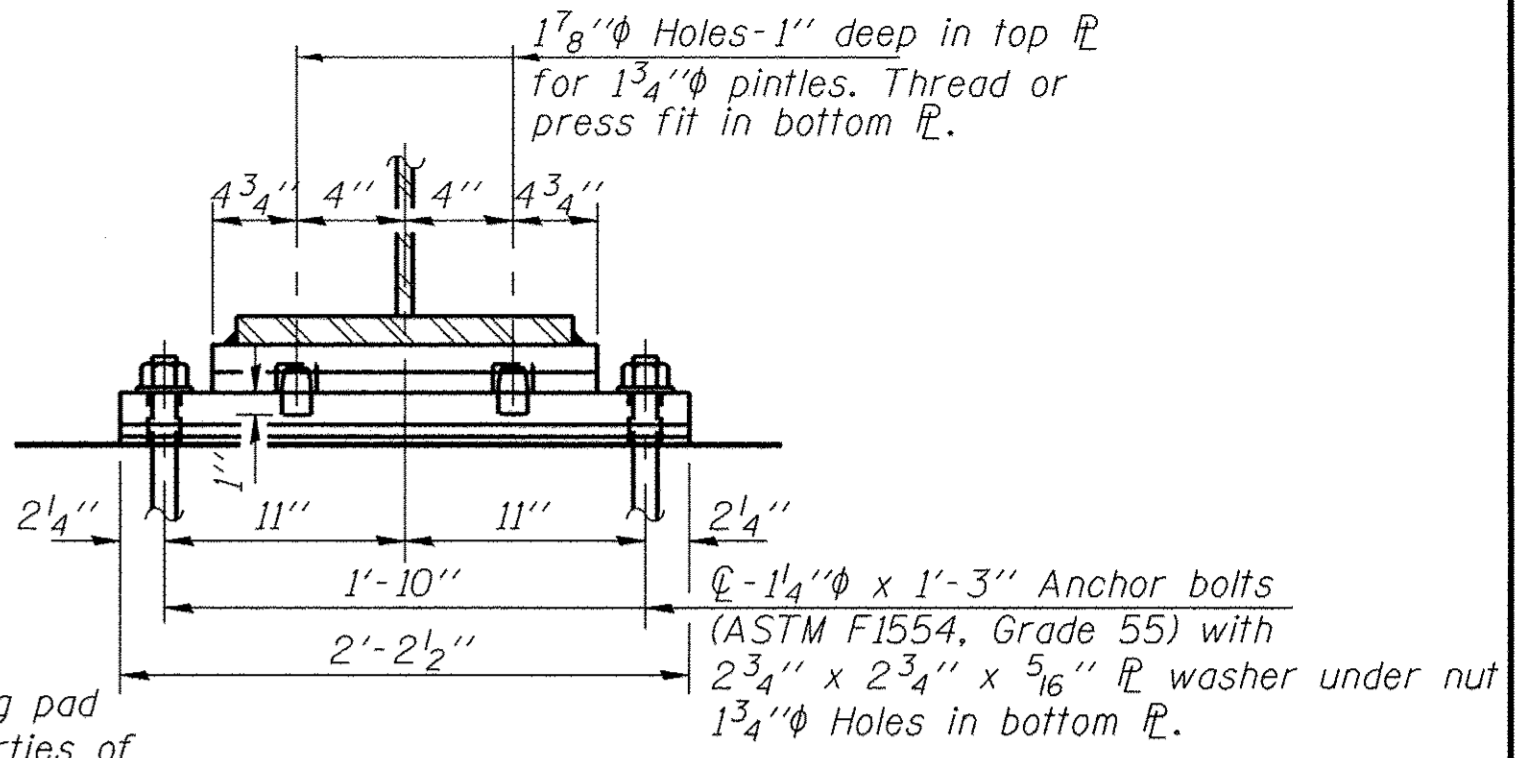
ELEVATION AT WEST ABUT.



SECTION A-A



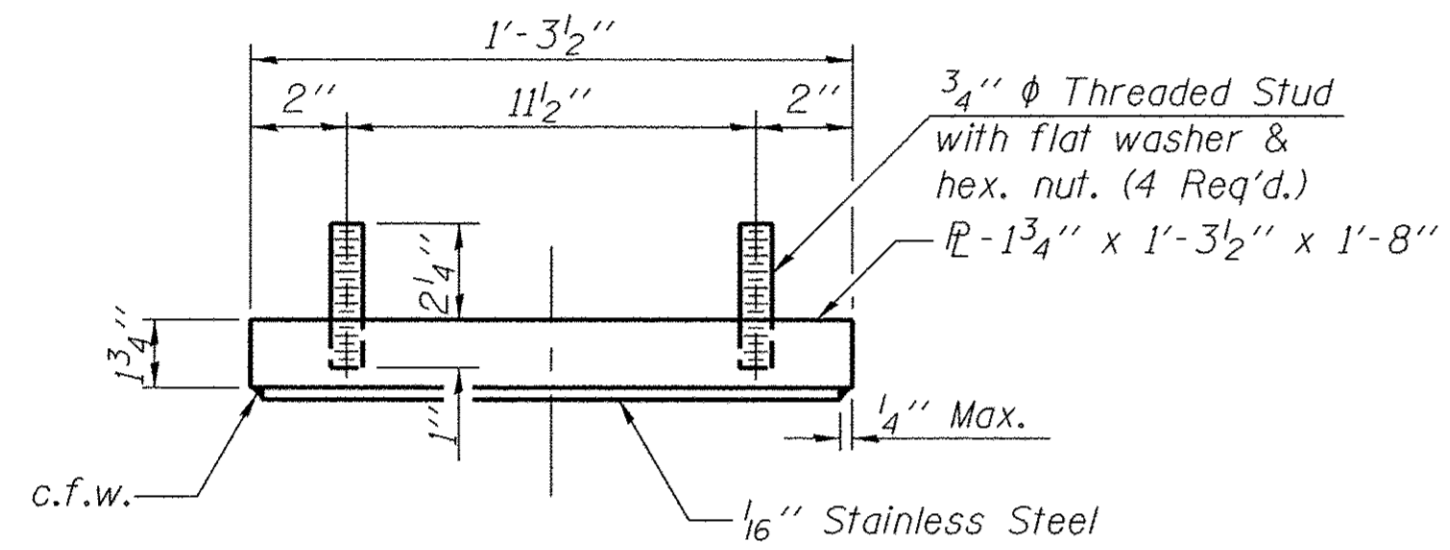
ELEVATION AT PIER



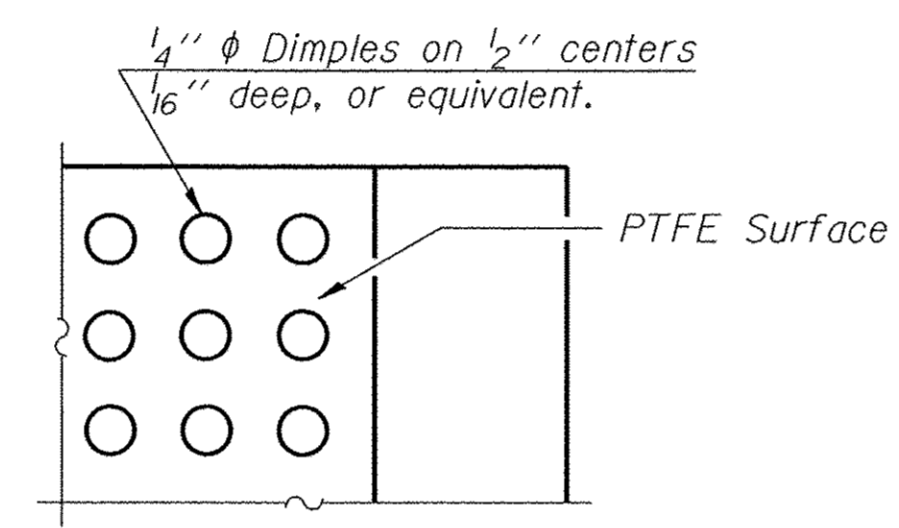
SECTION B-B

TYPE II ELASTOMERIC EXP. BRG.
(West Abutment - 5 required)

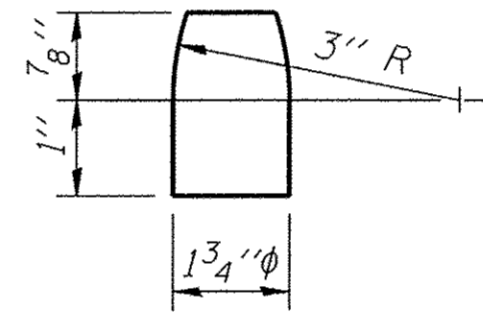
FIXED BEARING AT PIER 3
(5 - required)



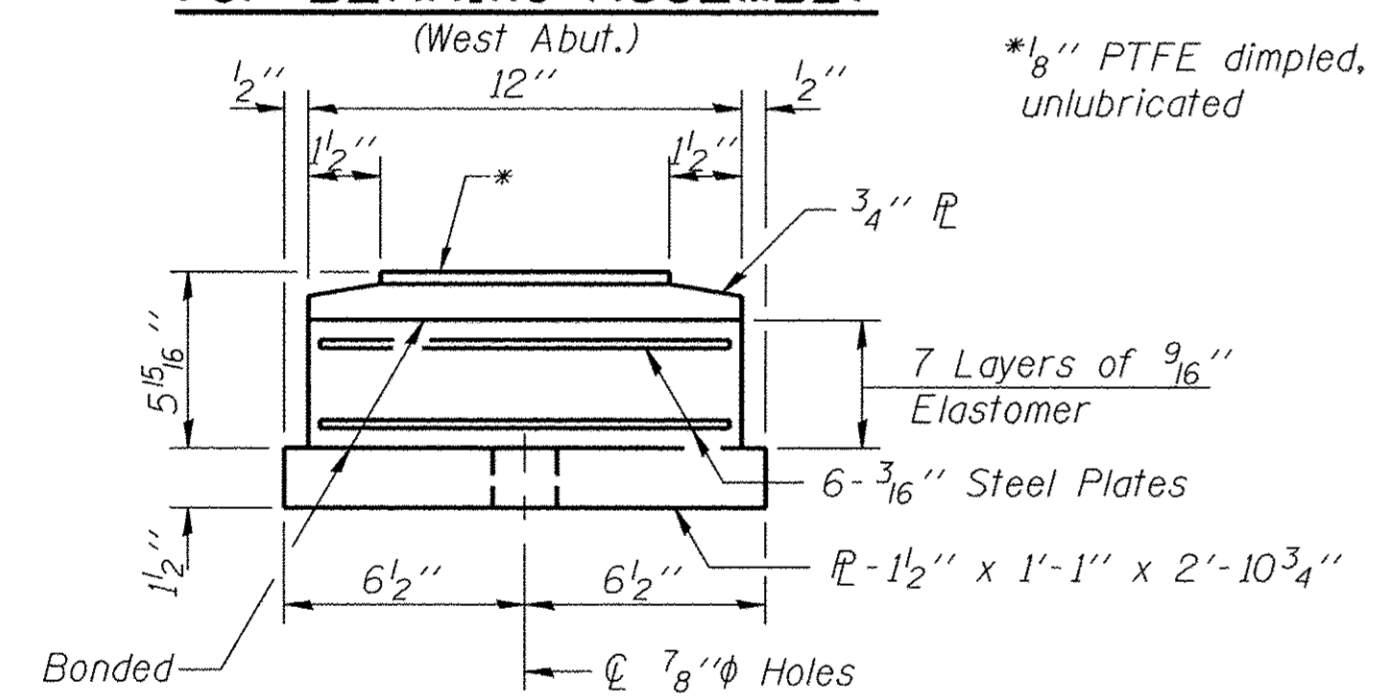
TOP BEARING ASSEMBLY



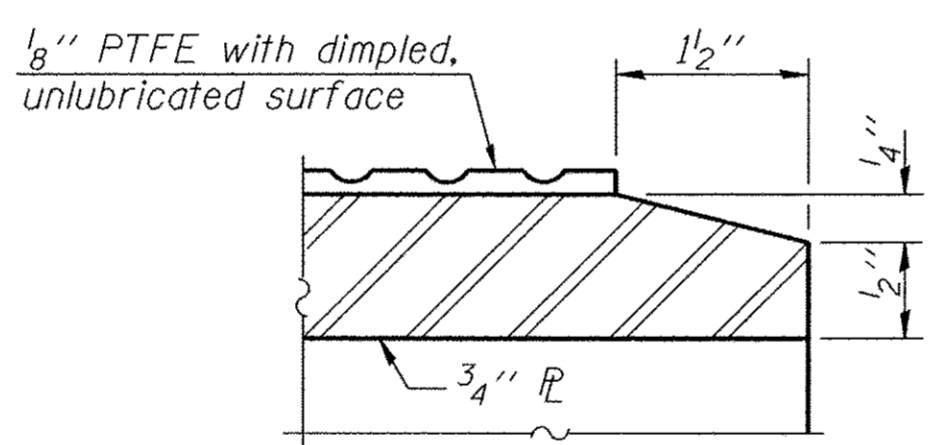
PLAN-PTFE SURFACE



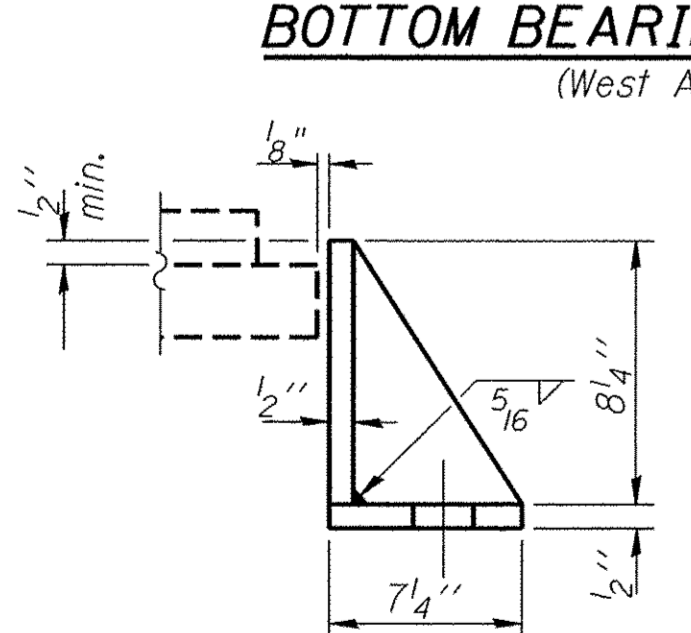
PINTLE



BOTTOM BEARING ASSEMBLY

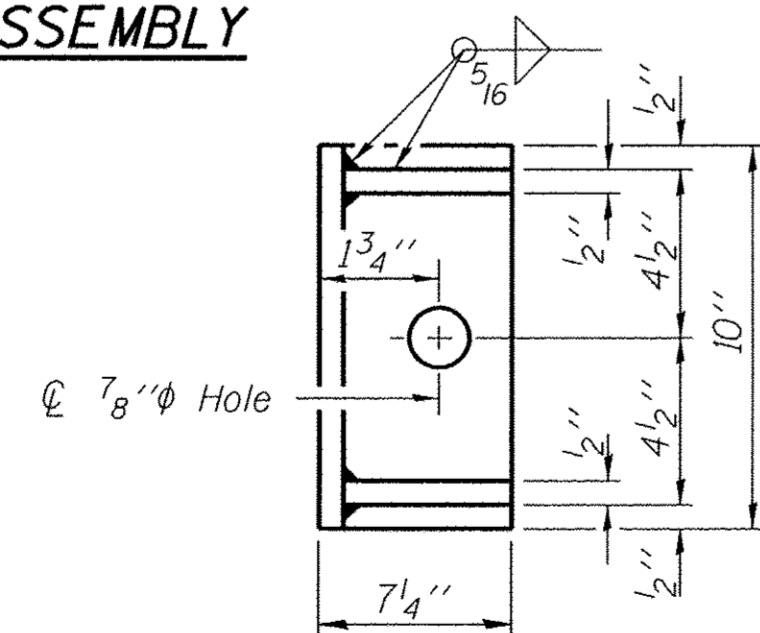


SECTION THRU PTFE



SIDE RETAINER

(West Abut.)
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

ABOVE 50°F.

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

EXPANSION BEARING ORIENTATION

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The fixed bearing anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

BILL OF MATERIAL

| Item | Unit | Total |
|--------------------------------------|------|-------|
| Elastomeric Bearing Assembly Type II | Each | 5 |
| Anchor Bolts, 5/8" | Each | 10 |
| Anchor Bolts, 1 1/4" | Each | 20 |

I-2E-2 12-2-15

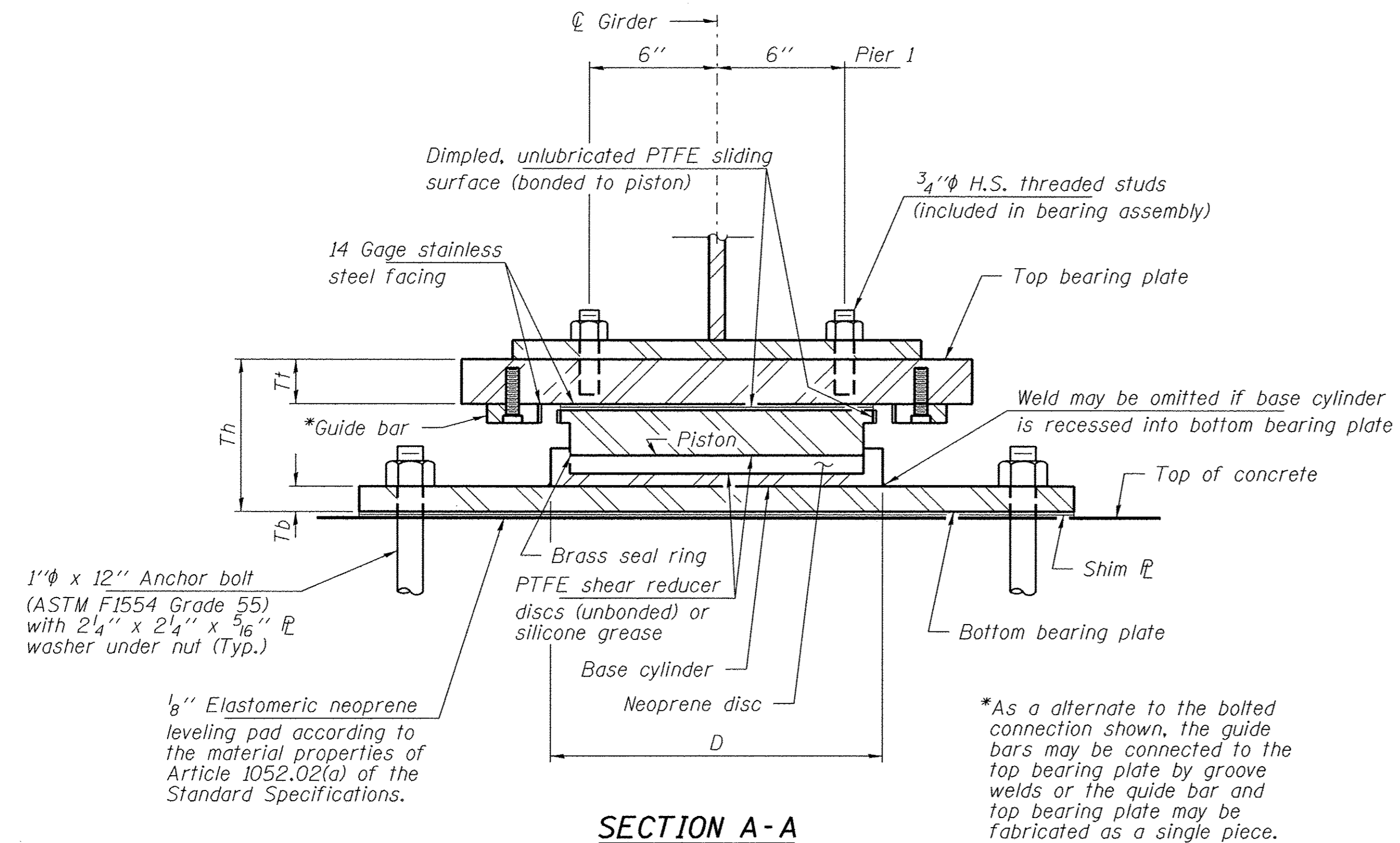
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3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.246.2400 www.tbrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM
L3 / PE / SE CORPORATION

| | |
|-------------------|-------------|
| DESIGNED - S.M.S. | REVISIONS - |
| CHECKED - D.W.T. | REVISIONS - |
| DRAWN - D.A.B. | REVISIONS - |
| CHECKED - M.D.C. | REVISIONS - |

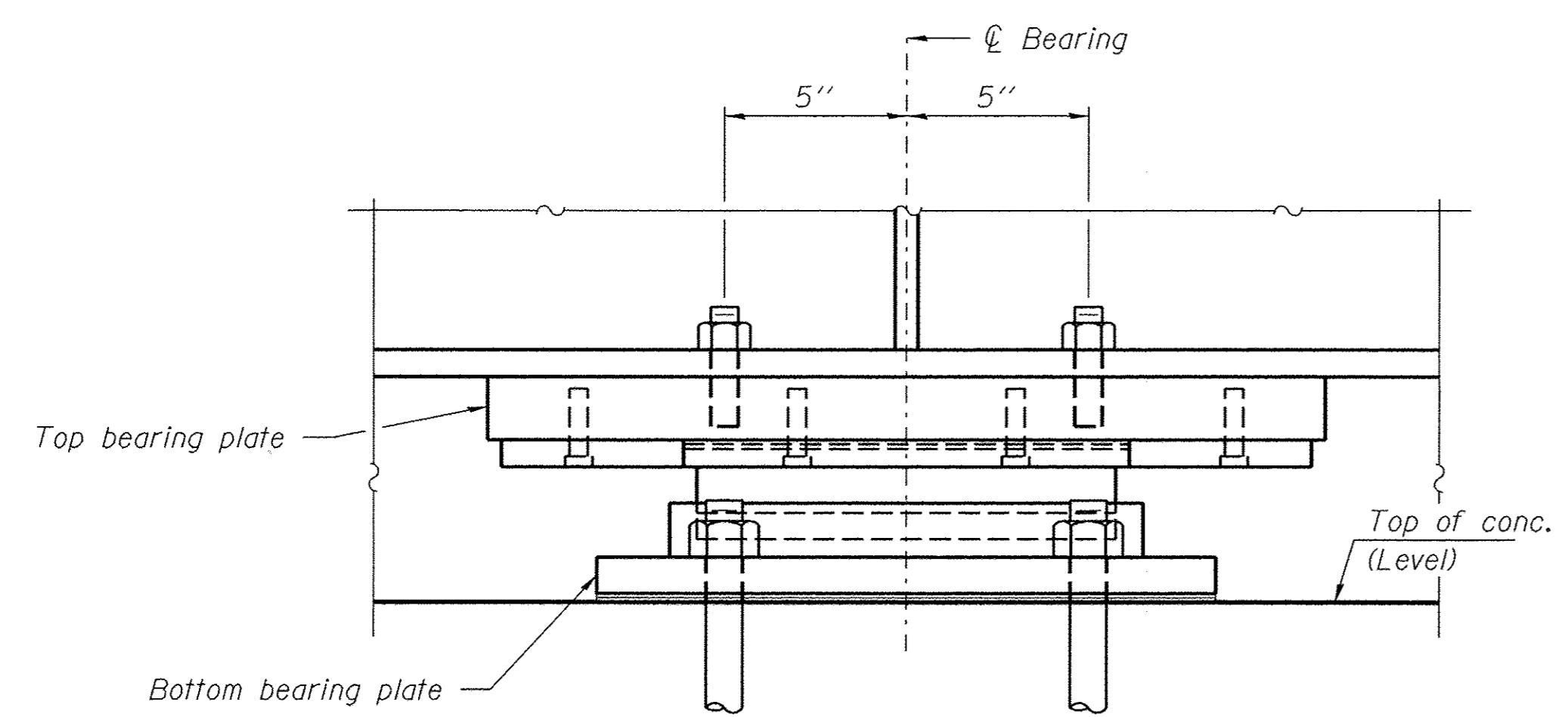
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 090-3248
SHEET NO. 28 OF 46 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------------------|----------------|----------|--------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 46 |
| MANITO RD OVER MACKINAW RIV. | | | CONTRACT NO. 89634 | |
| ILLINOIS FED. AID PROJECT | | | | |



SECTION A-A

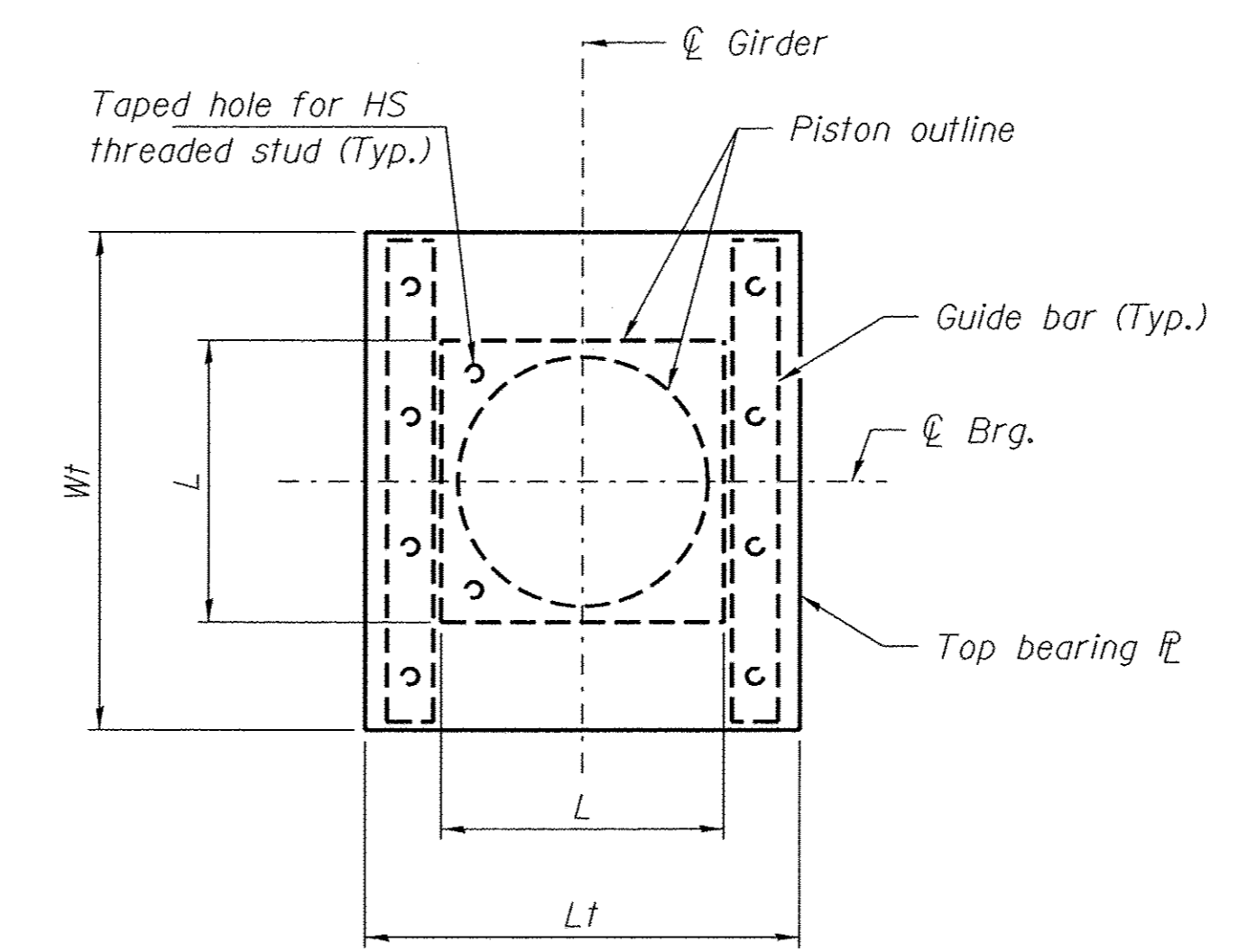


SECTION B-B

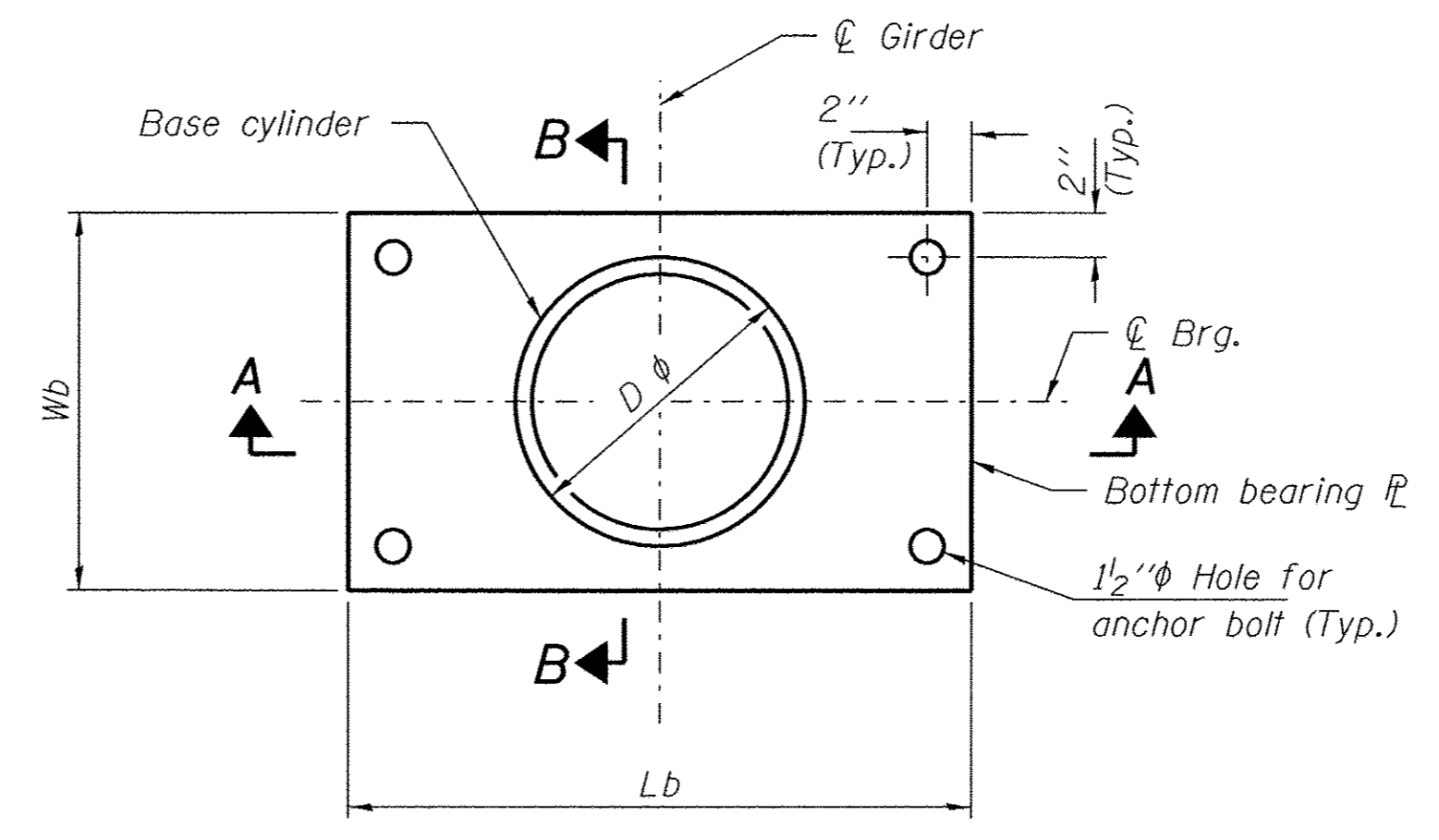
BEARING DESIGN DATA

| Location | Vert. Design Load** (kips) | Horiz. Design Load** (kips) | Required Rotation Range*** (radians) | Max. Theor. Thermal Mvmt**** from 50°F | Top Plate | | | Bearing Assembly | | Bottom Plate | | | Total Height |
|----------|----------------------------|-----------------------------|--------------------------------------|--|-----------|--------|----|------------------|-----------|--------------|-------|--------|--------------|
| | | | | | Wt | Lt | Tt | L | D | Wb | Lb | Tb | |
| Pier 1 | 400 | 80 | 0.02 | 1 3/8" | 1'-9" | 1'-10" | 2" | 1'-4" | 1'-3 1/2" | 1'-6" | 2'-5" | 1 3/4" | 10 1/4" |

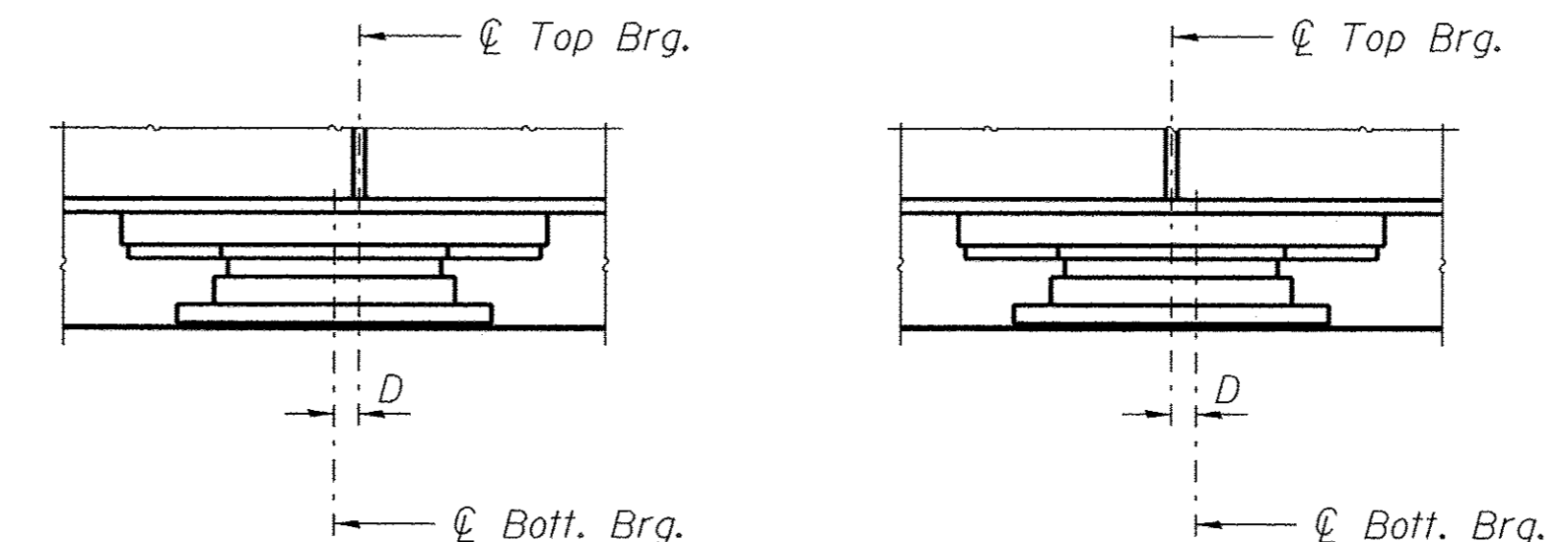
** Design Loads are the governing service loads with no dynamic load allowance.
 *** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.
 **** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.



TOP BEARING PLATE AND PISTON PLAN



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN



BELOW 50°F **ABOVE 50°F**

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

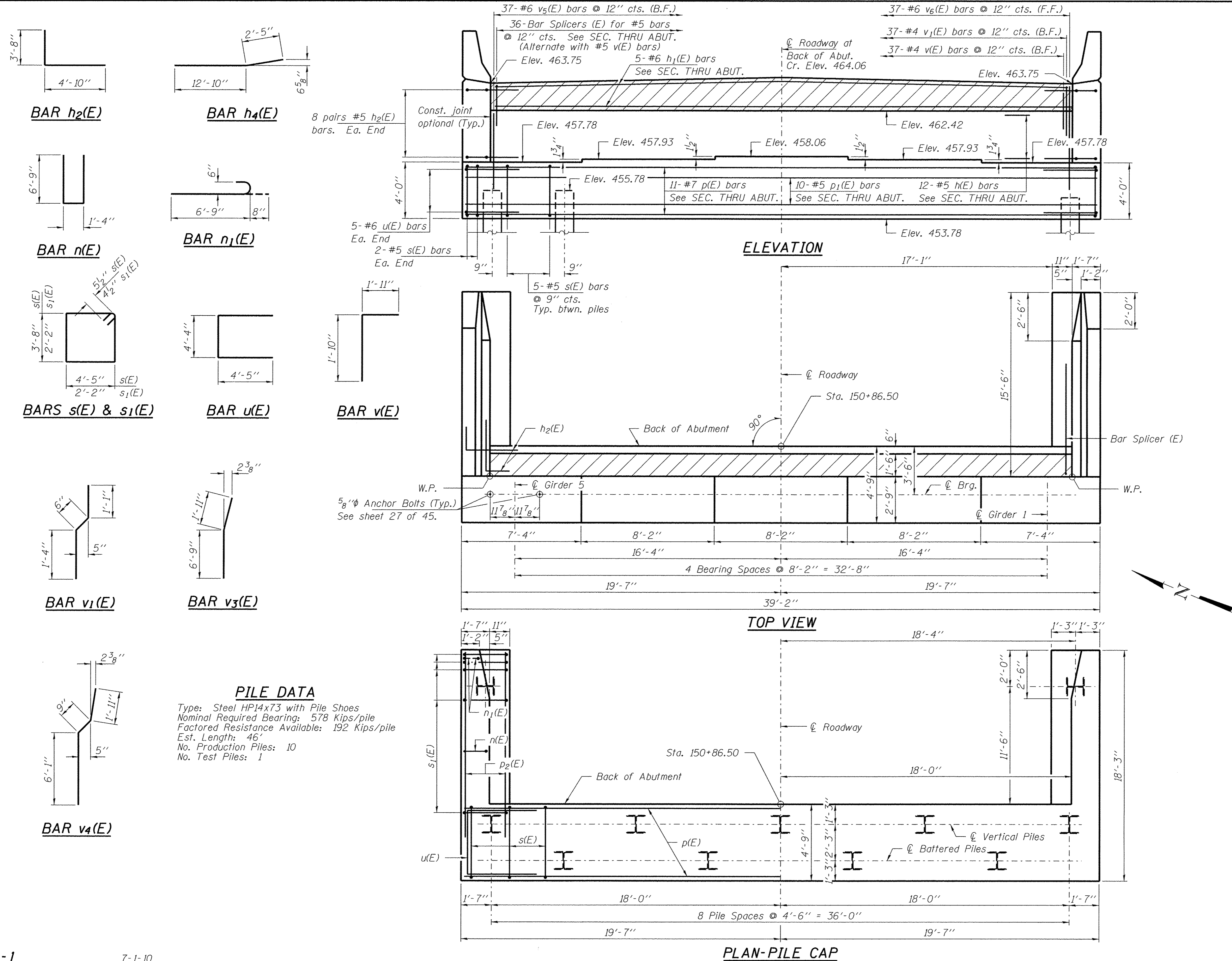
EXPANSION BEARING ORIENTATION

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts at HLMR bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 The PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
 The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier concrete. Total bearing height is taken at the centerline of bearing for beveled top plates.
 Bearing assemblies shall be designed and assembled to allow for replacement by jacking the superstructure.
 Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

BILL OF MATERIAL

| Item | Unit | Total |
|---|------|-------|
| High Load Multi-Rotational Bearings, Guided Expansion, 400k | Each | 5 |
| Anchor Bolts, 1" | Each | 20 |



**EAST ABUTMENT
BILL OF MATERIAL**

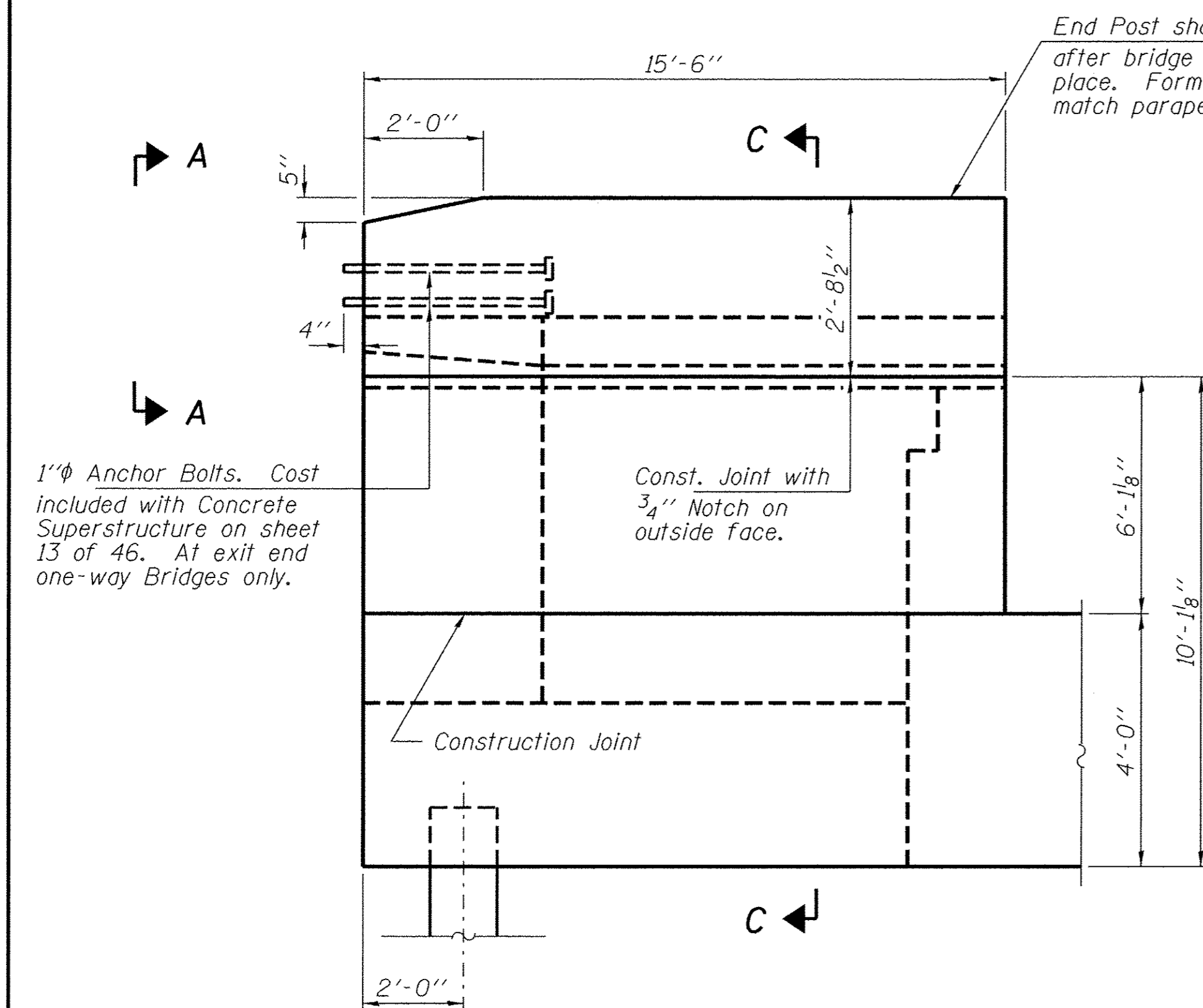
| Bar | No. | Size | Length | Shape |
|----------------------------------|---------|------|---------|-------|
| h(E) | 12 | #5 | 38'-10" | — |
| h1(E) | 5 | #6 | 35'-8" | — |
| h2(E) | 32 | #5 | 8'-6" | L |
| h3(E) | 28 | #4 | 15'-2" | — |
| h4(E) | 20 | #4 | 15'-3" | — |
| n(E) | 28 | #6 | 14'-10" | — |
| n1(E) | 12 | #6 | 7'-5" | — |
| p(E) | 11 | #7 | 38'-10" | — |
| p1(E) | 10 | #5 | 38'-10" | — |
| p2(E) | 12 | #7 | 17'-0" | — |
| s(E) | 44 | #5 | 17'-1" | — |
| s1(E) | 38 | #4 | 9'-5" | — |
| u(E) | 10 | #6 | 13'-2" | — |
| v(E) | 37 | #5 | 3'-9" | — |
| v1(E) | 37 | #4 | 2'-11" | — |
| v2(E) | 32 | #6 | 8'-5" | — |
| v3(E) | 6 | #6 | 8'-8" | — |
| v4(E) | 26 | #6 | 8'-9" | — |
| v5(E) | 37 | #6 | 6'-9" | — |
| v6(E) | 37 | #6 | 8'-3" | — |
| Structure Excavation | Cu. Yd. | | 192 | |
| Concrete Structures | Cu. Yd. | | 63.3 | |
| Protective Coat | Sq. Yd. | | 13 | |
| Reinforcement Bars, Epoxy Coated | Pound | | 7,070 | |
| Furnishing Steel Piles HP14x73 | Foot | | 460 | |
| Driving Piles | Foot | | 460 | |
| Test Pile Steel HP14x73 | Each | | 1 | |
| Pile Shoes | Each | | 11 | |
| Concrete Sealer | Sq. Ft. | | 504 | |
| Bar Splicers | Each | | 36 | |

PILE DATA
 Type: Steel HP14x73 with Pile Shoes
 Nominal Required Bearing: 578 Kips/pile
 Factored Resistance Available: 192 Kips/pile
 Est. Length: 46'
 No. Production Piles: 10
 No. Test Piles: 1

Notes:
 For details of Bar Splicers, see sheet 38 of 46.
 For details of piles, see sheet 39 of 46.
 Hatched area to be poured after superstructure false work has been removed.

A-1 7-1-10

| | | | | | | | | | | |
|--|-----------------------|-------------------|-----------|---|---|------------------------------|---------------------------|--------------------|--------------|-----------|
| FILE NAME = 100110-sht-br1dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | EAST ABUTMENT STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.246.3400 www.hlr.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 48 |
| 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM L5 LP/SE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 89634 | | |
| | | CHECKED - M.D.C. | REVISED - | | | SHEET NO. 30 OF 46 SHEETS | | | | |

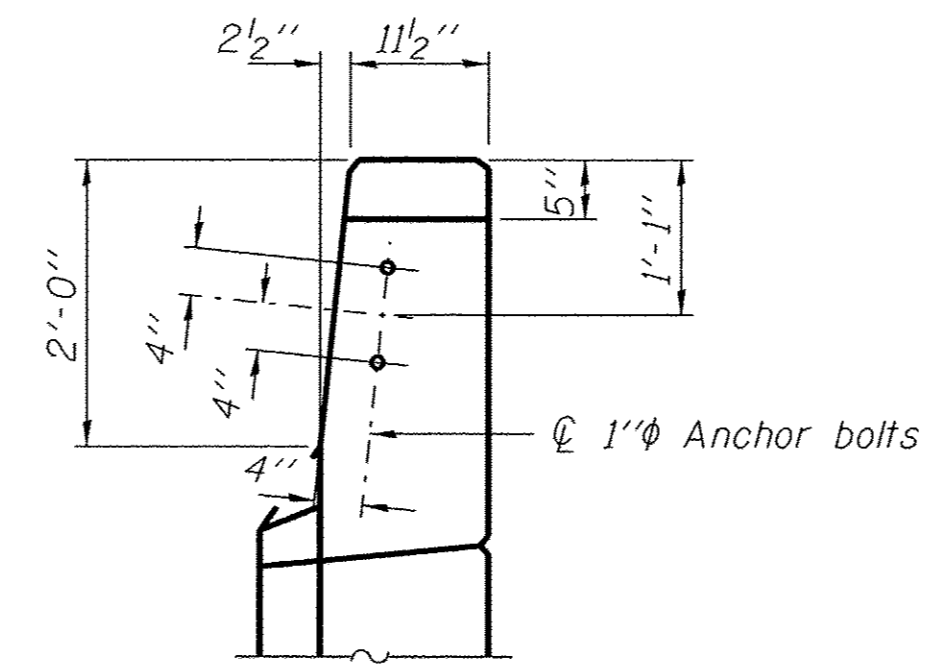


WING WALL ELEVATION
Showing Dimensions

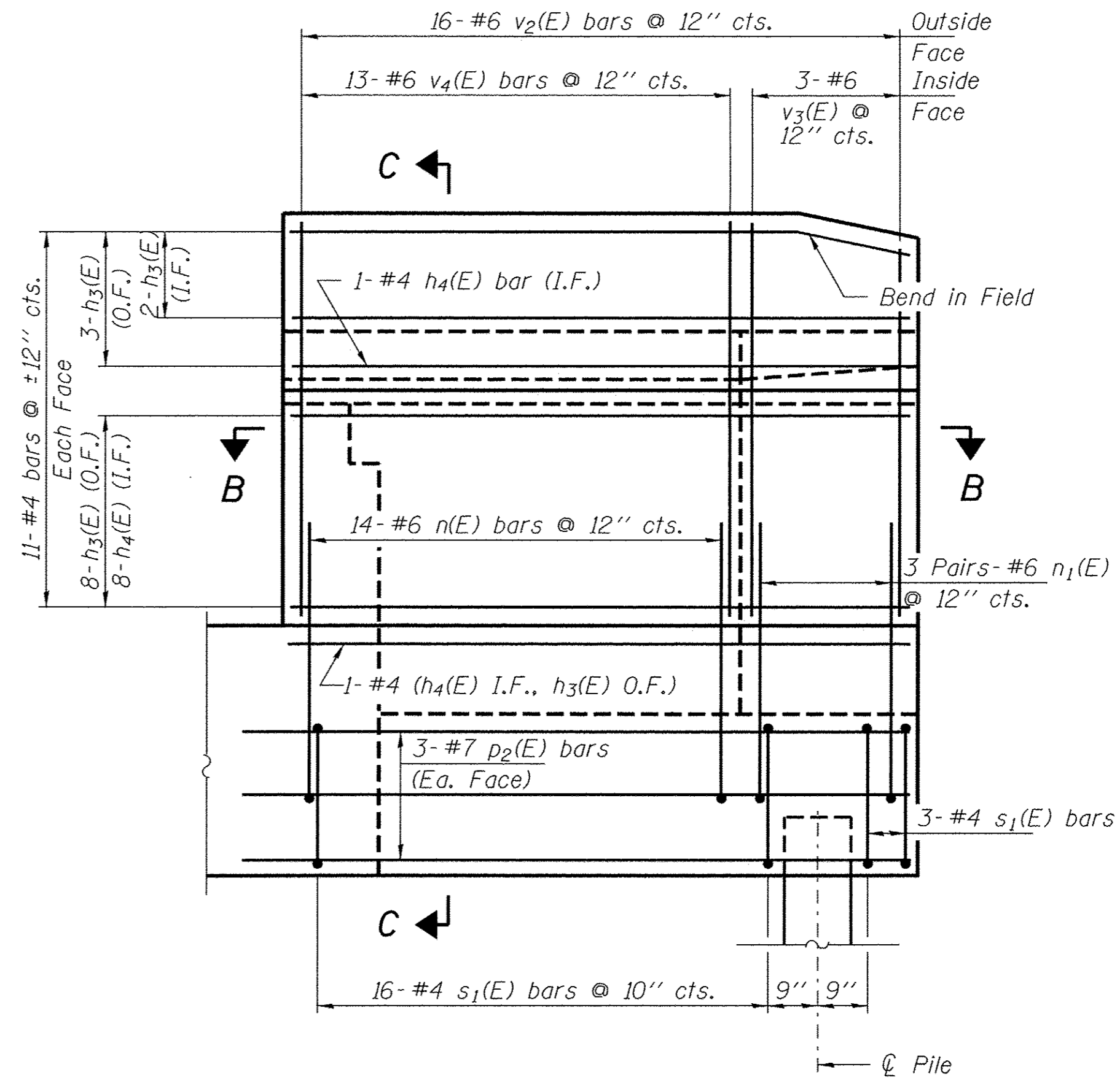
1" ϕ Anchor Bolts. Cost included with Concrete Superstructure on sheet 13 of 46. At exit end one-way Bridges only.

Const. Joint with 3/4" Notch on outside face.

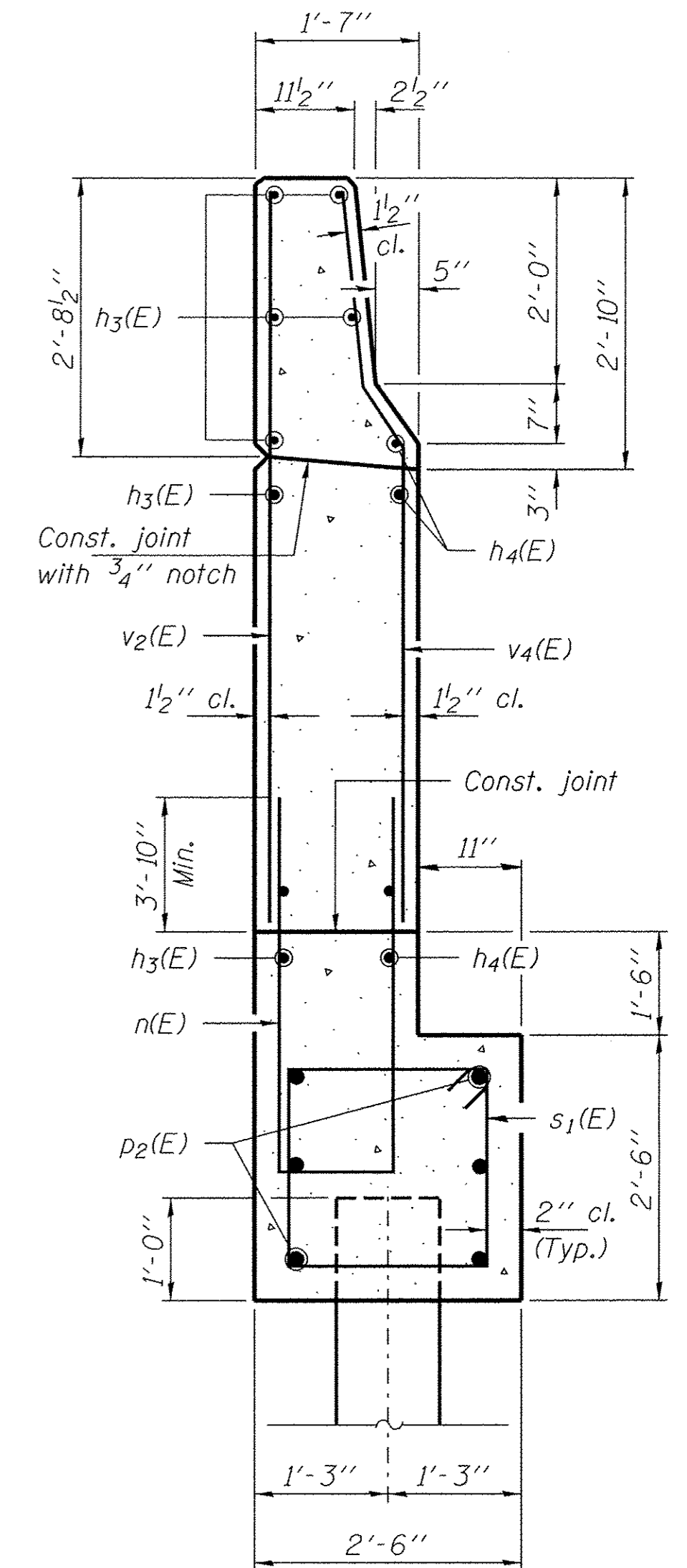
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



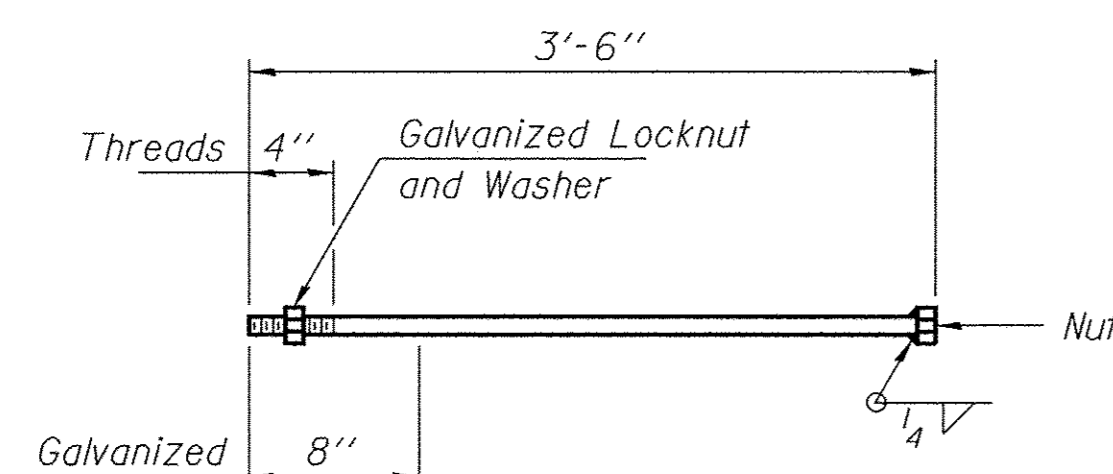
VIEW A-A



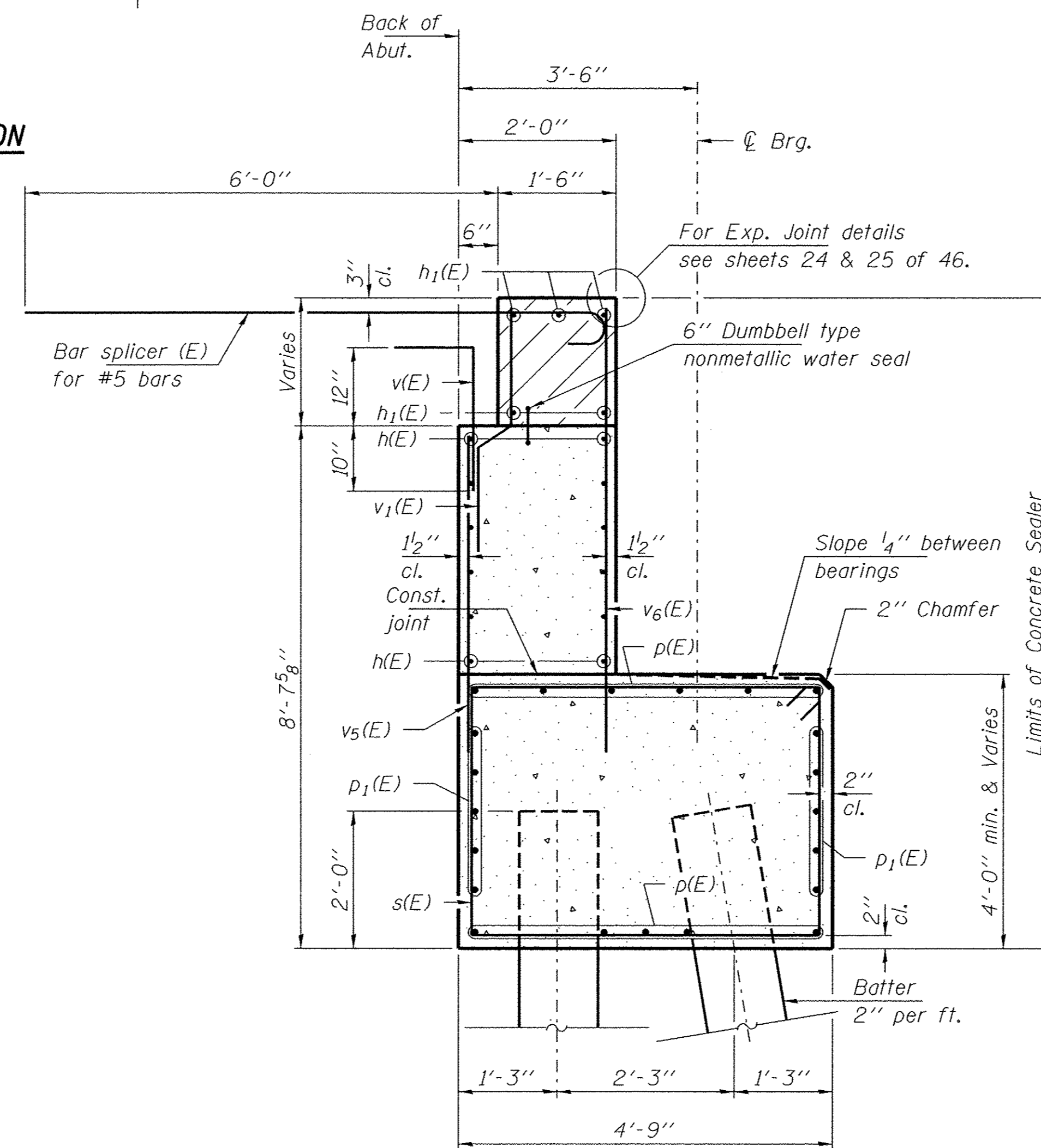
WING WALL ELEVATION
Showing Reinforcement



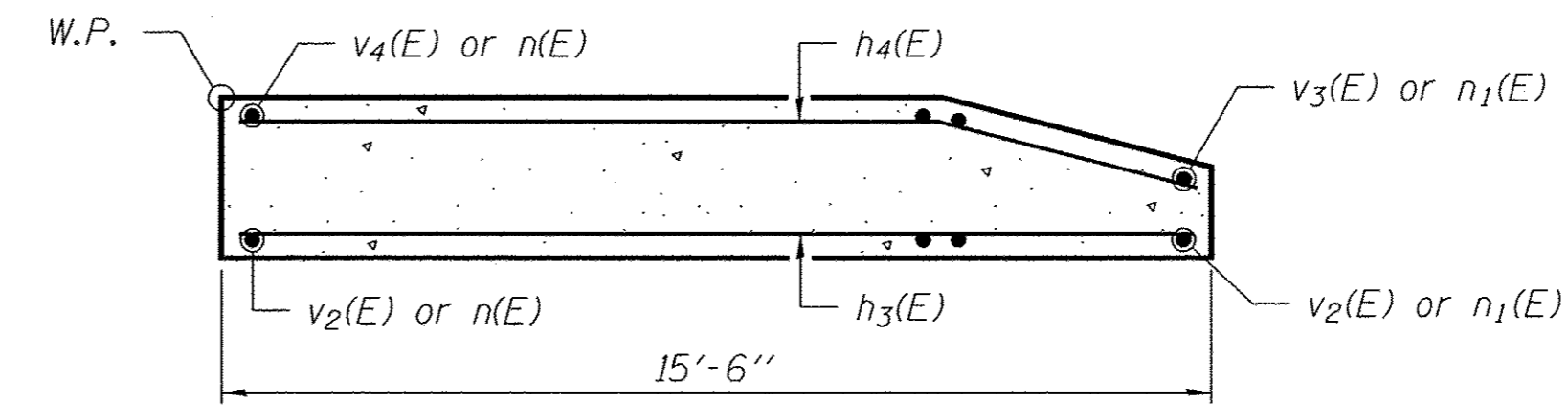
SECTION C-C



1" ϕ ANCHOR BOLT



SEC. THRU ABUT.



SECTION B-B

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Cut v6(E) bars that conflict with fingerplate stool placement off flush with top of backwall and seal with epoxy.

A-1-D

1-27-12

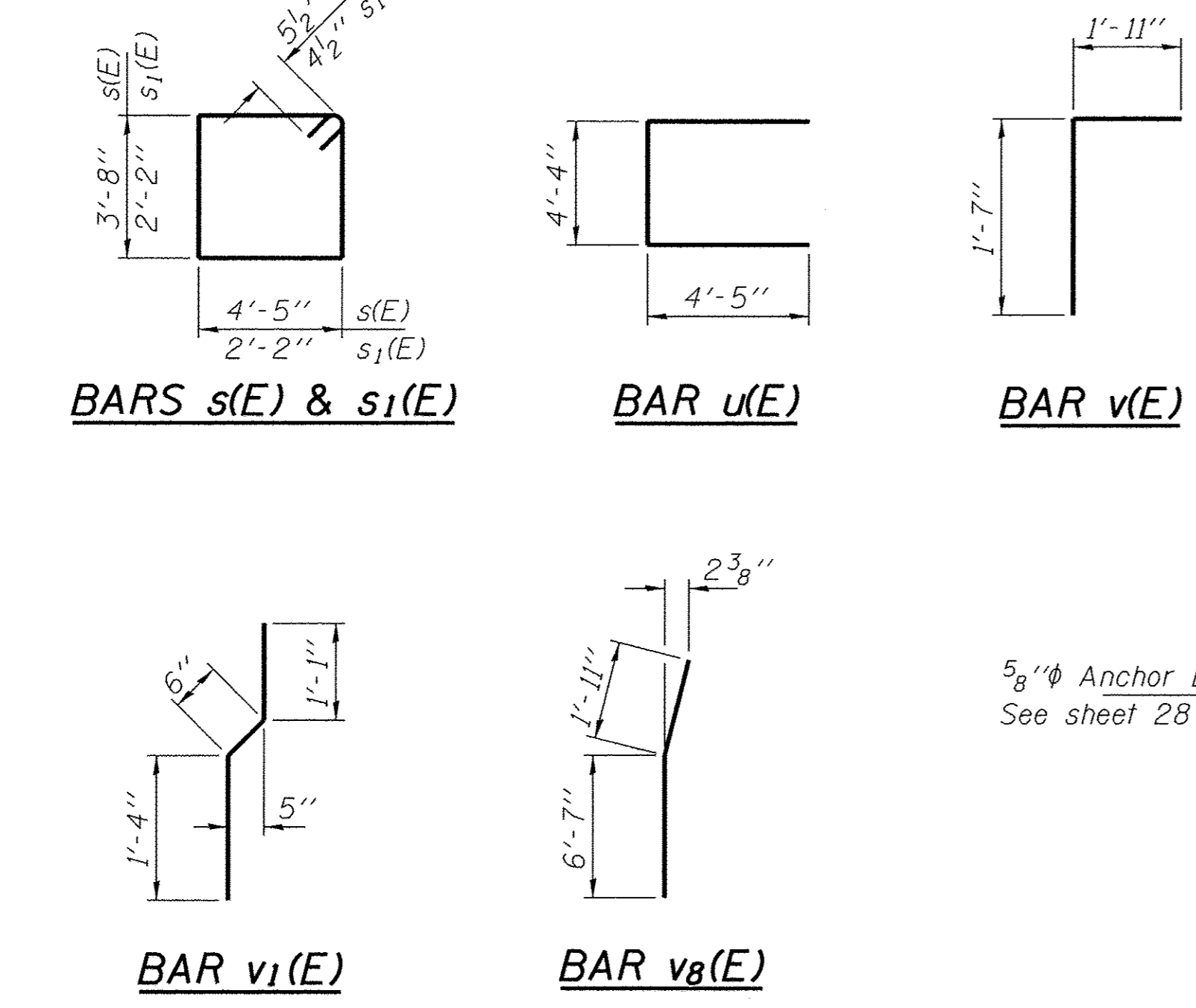
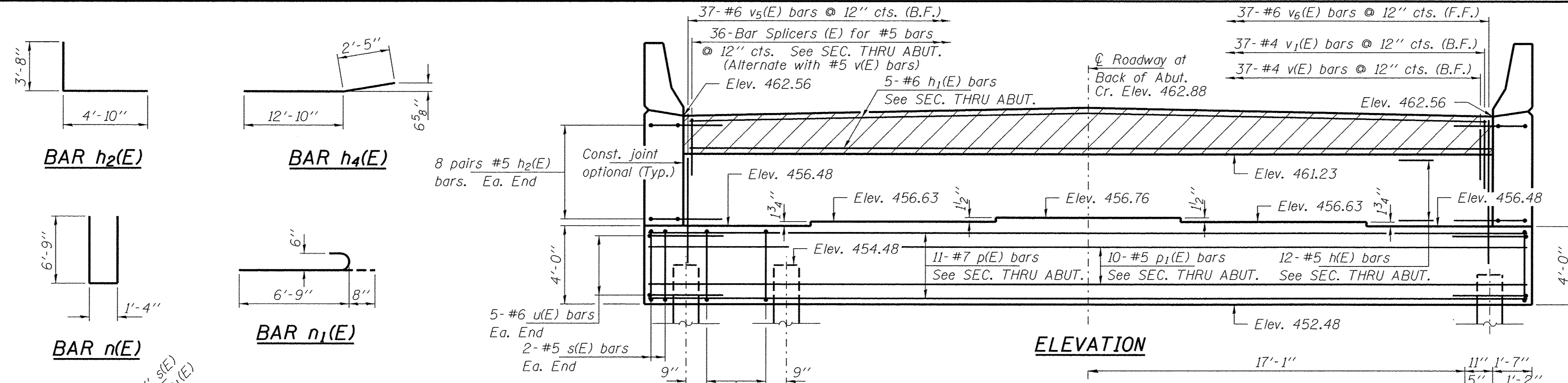
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| FILE NAME = 100110-sht-bridge.dgn | USER NAME = |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.246.3400 www.tlringengineering.com | |
| 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / P E / S E CORPORATION | |
| PLOT SCALE = | |
| PLOT DATE = 6/30/2016 | |

| | |
|-------------------|-----------|
| DESIGNED - S.M.S. | REVISED - |
| CHECKED - D.W.T. | REVISED - |
| DRAWN - D.A.B. | REVISED - |
| CHECKED - M.D.C. | REVISED - |

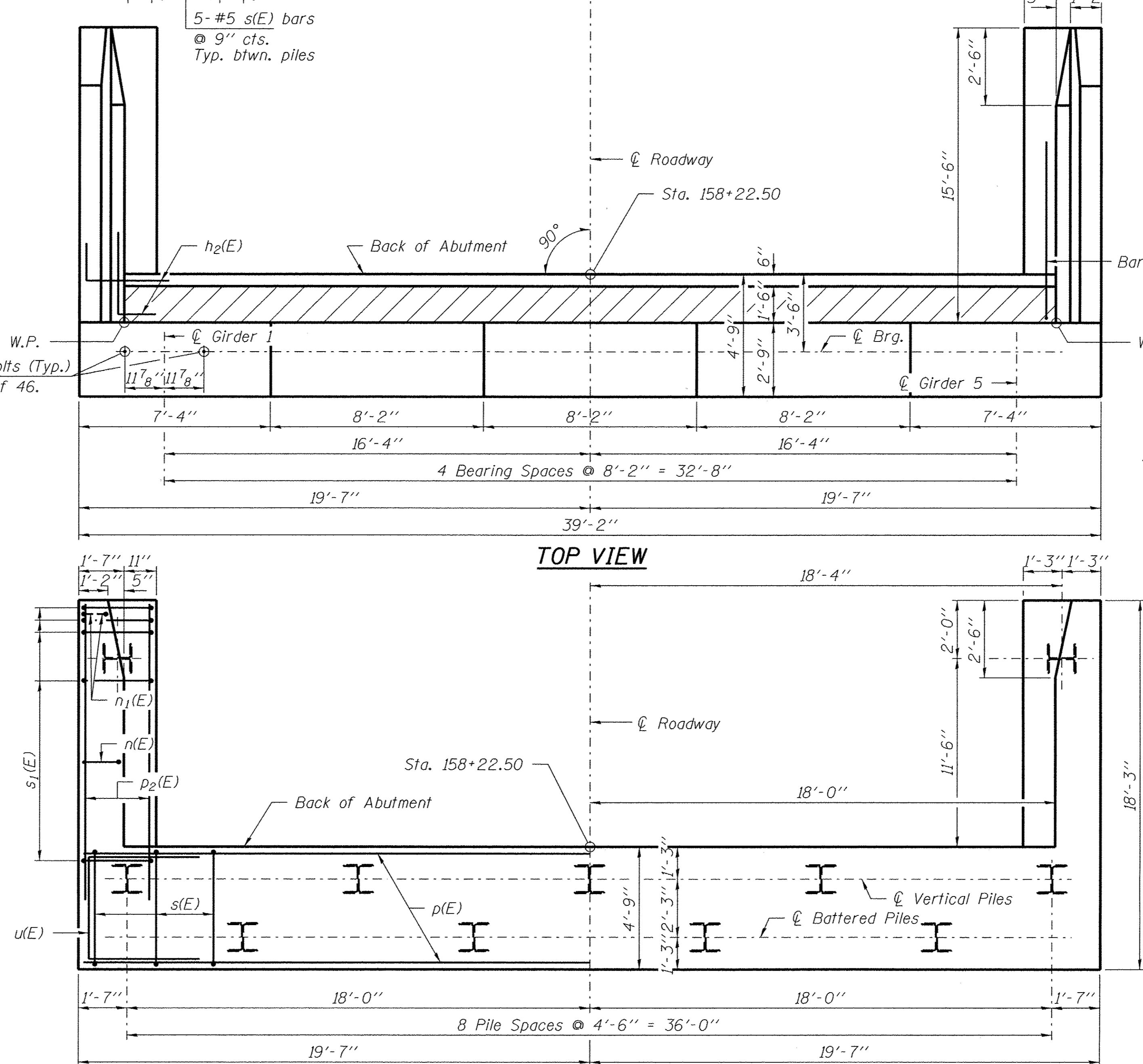
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT DETAILS
STRUCTURE NO. 090-3248**
SHEET NO. 31 OF 46 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------------------|----------------|--------------------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 49 |
| MANITO RD OVER MACKINAW RIV. | | CONTRACT NO. 89634 | | |
| ILLINOIS FED. AID PROJECT | | | | |



PILE DATA
 Type: Steel HP14x73 with Pile Shoes
 Nominal Required Bearing: 578 Kips/pile
 Factored Resistance Available: 257 Kips/pile
 Est. Length: 50'
 No. Production Piles: 10
 No. Test Piles: 1



**WEST ABUTMENT
 BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| h(E) | 12 | #5 | 38'-10" | — |
| h1(E) | 5 | #6 | 35'-8" | — |
| h2(E) | 32 | #5 | 8'-6" | └ |
| h3(E) | 28 | #4 | 15'-2" | — |
| h4(E) | 20 | #4 | 15'-3" | — |
| n(E) | 28 | #6 | 14'-10" | └ |
| n1(E) | 12 | #6 | 7'-5" | └ |
| p(E) | 11 | #7 | 38'-10" | — |
| p1(E) | 10 | #5 | 38'-10" | — |
| p2(E) | 12 | #7 | 17'-0" | — |
| s(E) | 44 | #5 | 17'-1" | └ |
| s1(E) | 38 | #4 | 9'-5" | └ |
| u(E) | 10 | #6 | 13'-2" | └ |
| v(E) | 37 | #5 | 3'-9" | └ |
| v1(E) | 37 | #4 | 2'-11" | └ |
| v5(E) | 37 | #6 | 6'-9" | — |
| v6(E) | 37 | #6 | 8'-3" | — |
| v7(E) | 32 | #6 | 8'-7" | — |
| v8(E) | 6 | #6 | 8'-6" | — |
| v9(E) | 26 | #6 | 8'-10" | — |
| Structure Excavation | | Cu. Yd. | 232 | |
| Concrete Structures | | Cu. Yd. | 63.8 | |
| Protective Coat | | Sq. Yd. | 13 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 7,080 | |
| Furnishing Steel Piles HP14x73 | | Foot | 500 | |
| Driving Piles | | Foot | 500 | |
| Test Pile Steel HP14x73 | | Each | 1 | |
| Pile Shoes | | Each | 11 | |
| Concrete Sealer | | Sq. Ft. | 509 | |
| Bar Splicers | | Each | 36 | |

Notes:
 For details of Bar Splicers, see sheet 38 of 46.
 For details of piles, see sheet 39 of 46.
 Hatched area to be poured after superstructure false work has been removed.

A-1 7-1-10

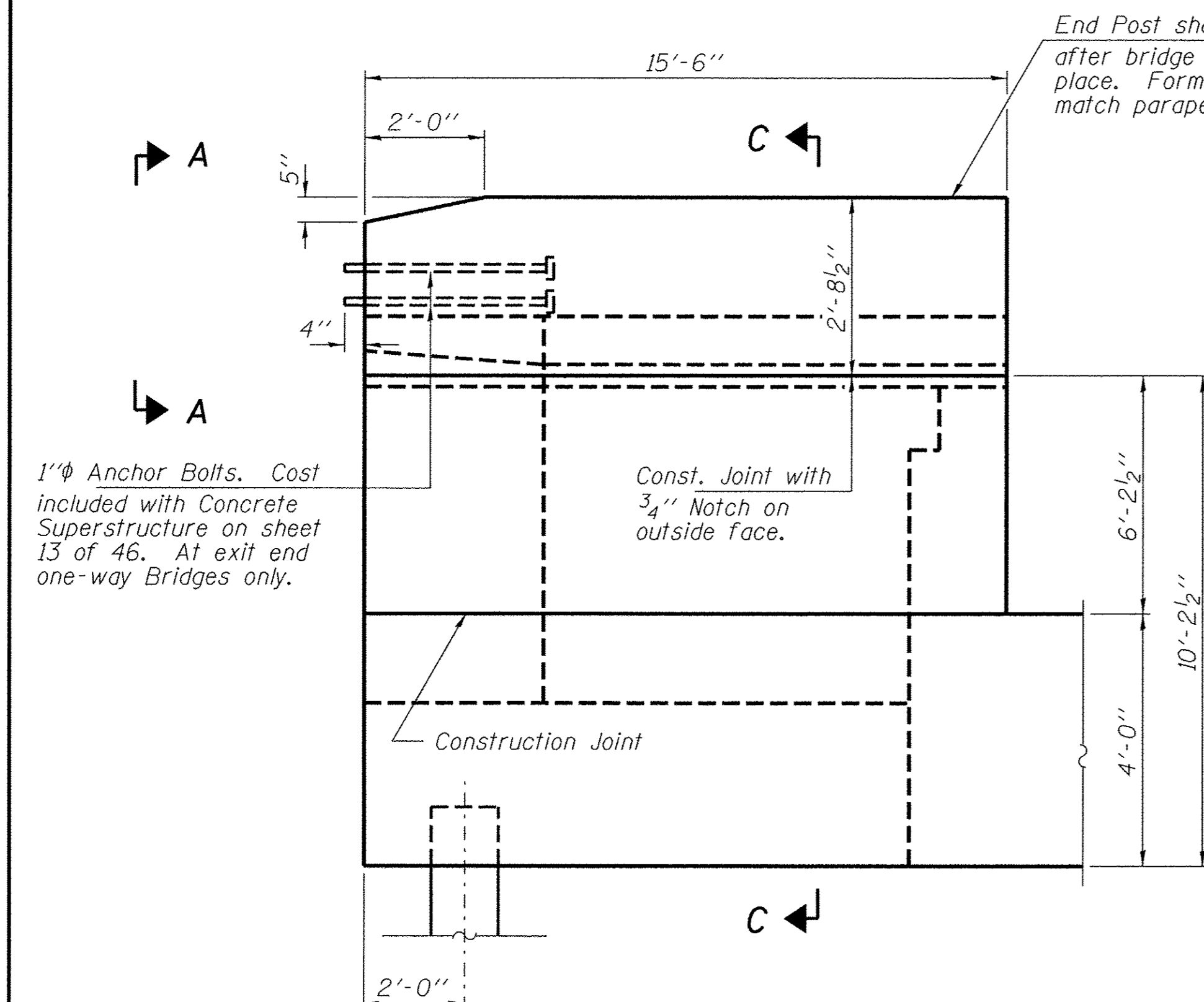
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 USER NAME =
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hlr.com
 184.000939
 ILLINOIS PROFESSIONAL DESIGN FIRM
 L5/PE/SE CORPORATION

DESIGNED - S.M.S.
 CHECKED - D.W.T.
 PLOT SCALE =
 DRAWN - D.A.B.
 PLOT DATE = 6/30/2016
 CHECKED - M.D.C.
 REVISED -
 REVISED -
 REVISED -
 REVISED -

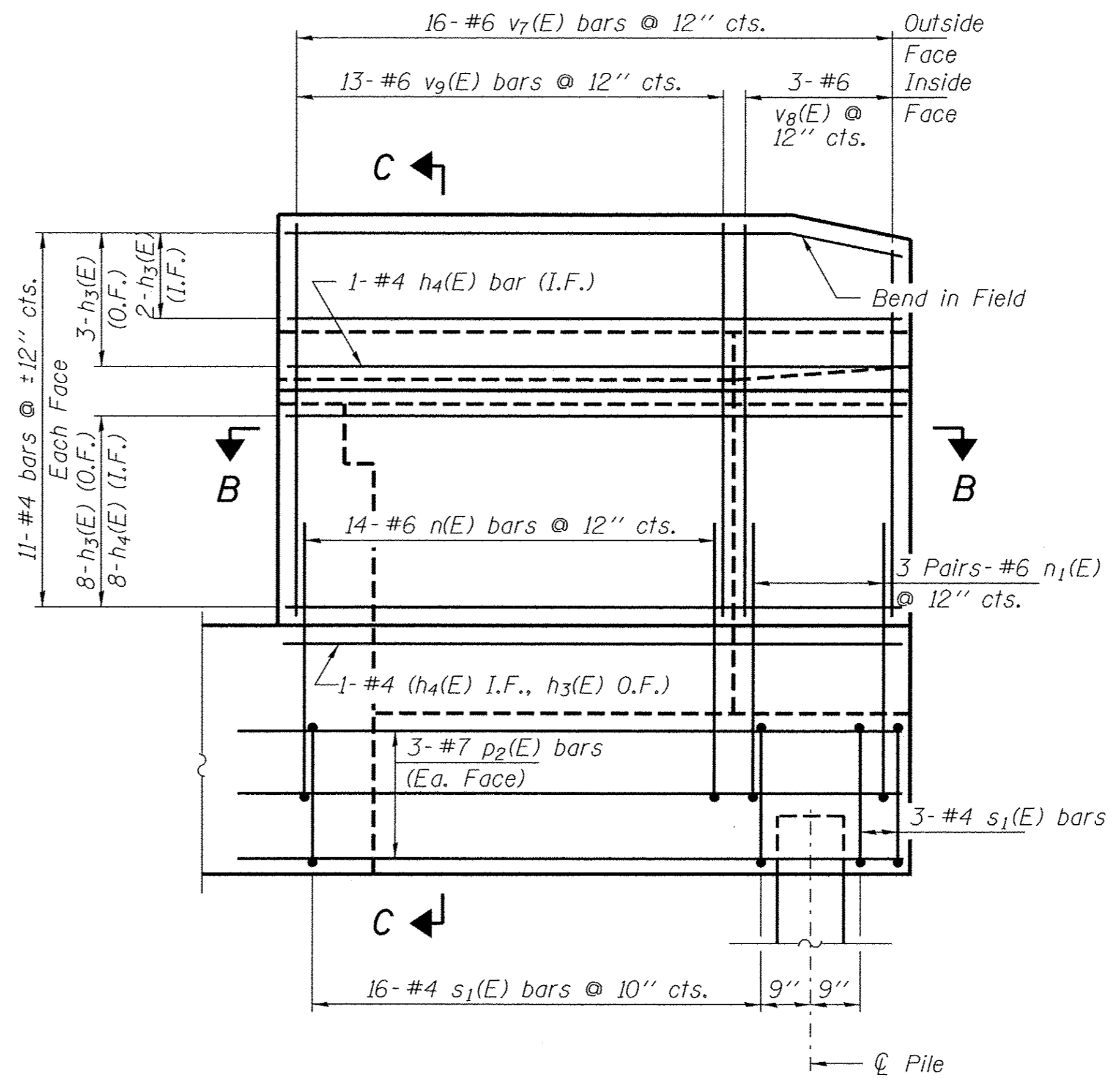
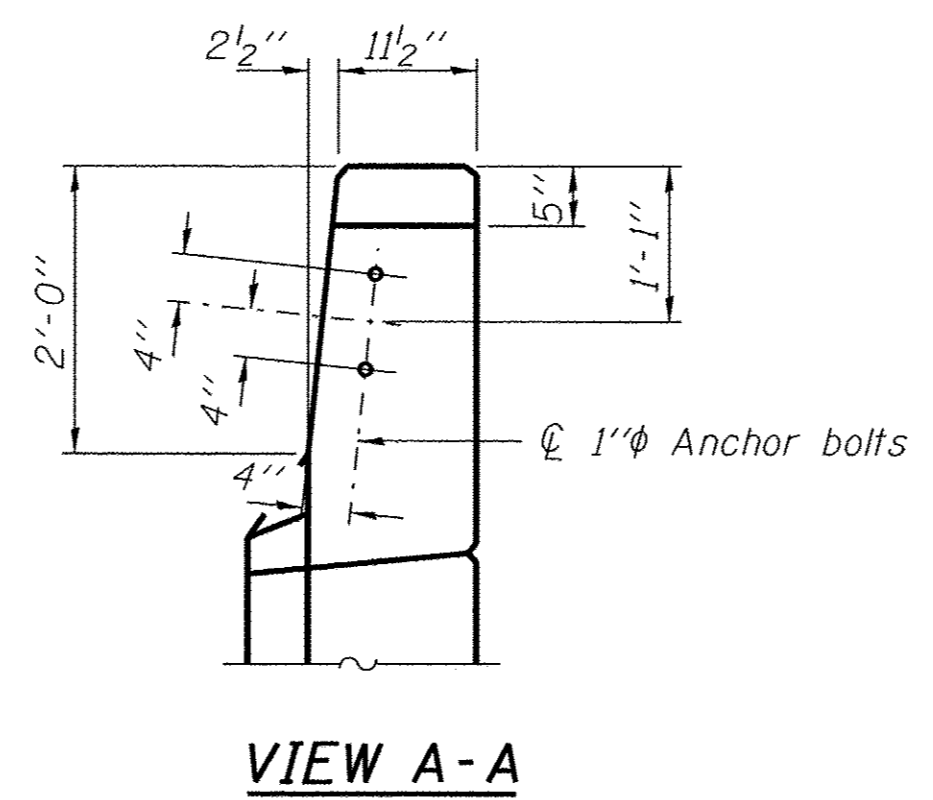
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
 STRUCTURE NO. 090-3248
 SHEET NO. 32 OF 46 SHEETS

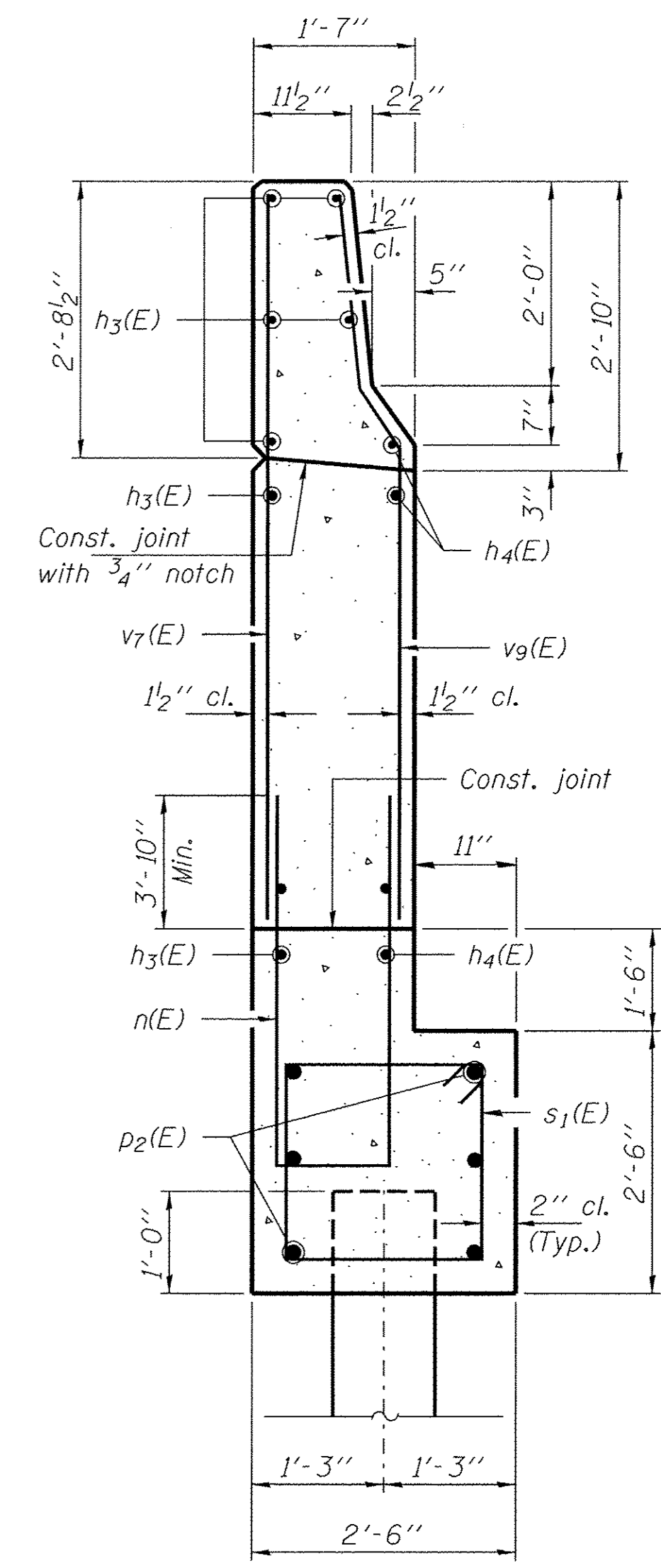
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|----------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 50 |
| MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



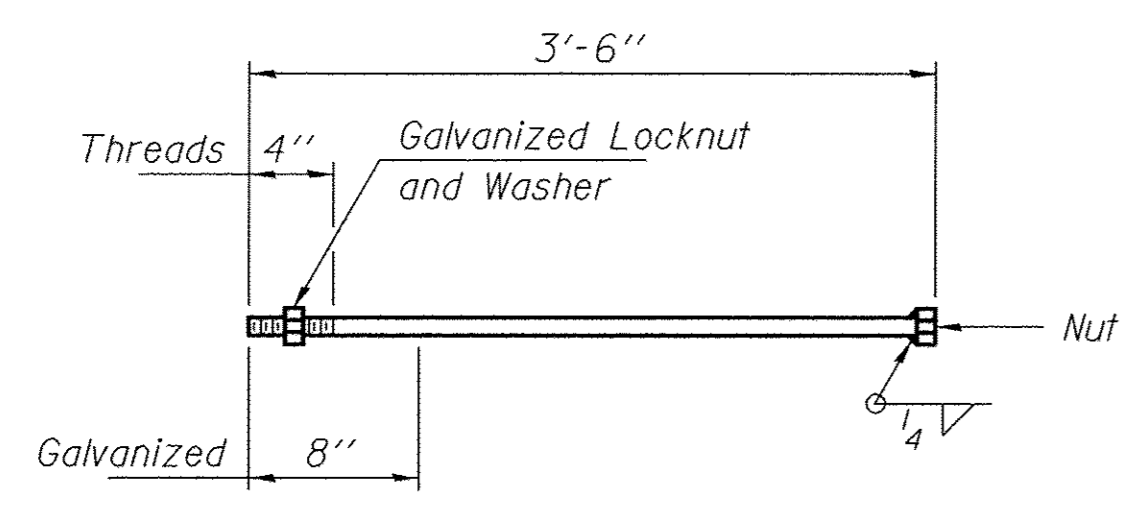
WING WALL ELEVATION
Showing Dimensions



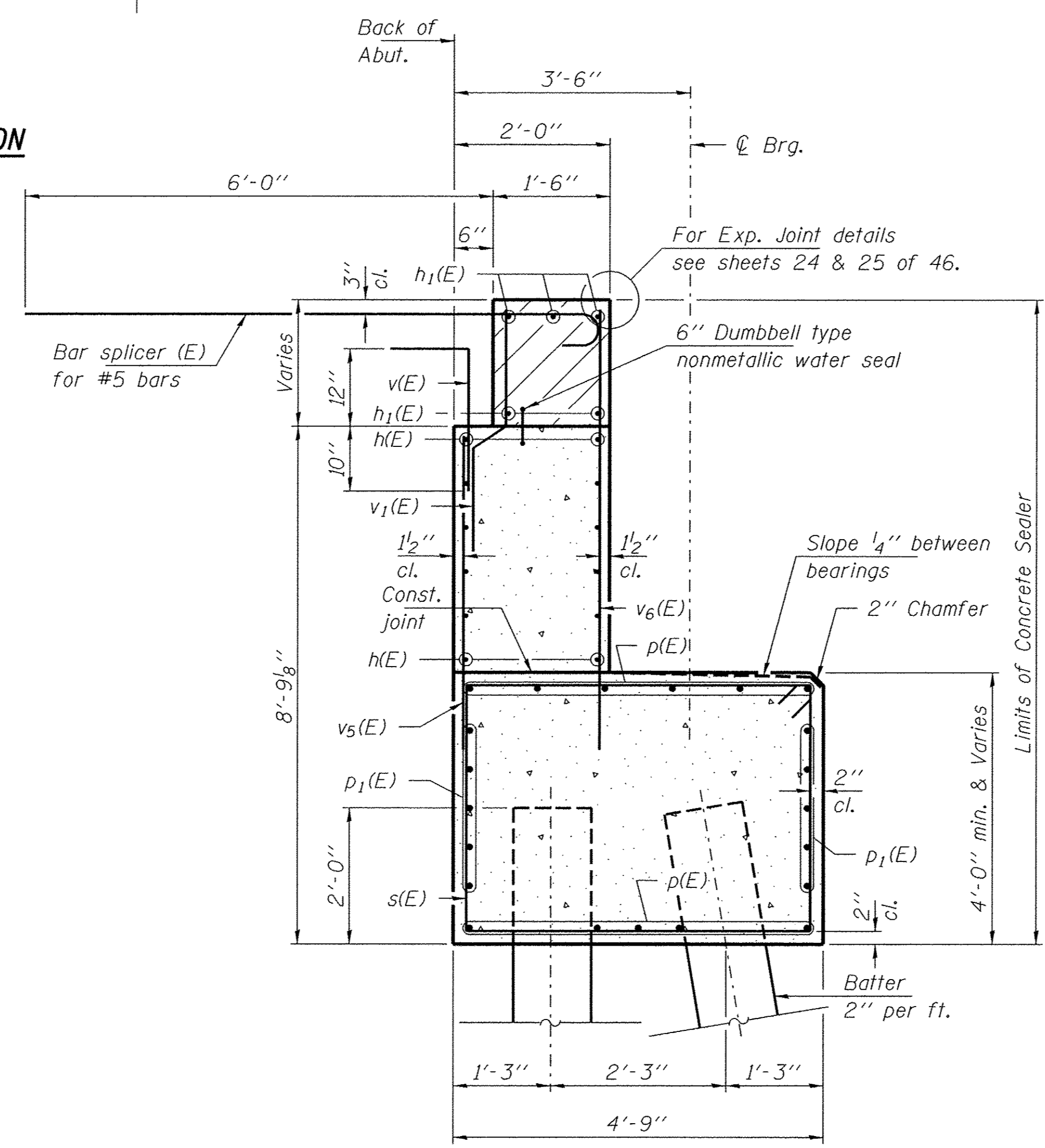
WING WALL ELEVATION
Showing Reinforcement



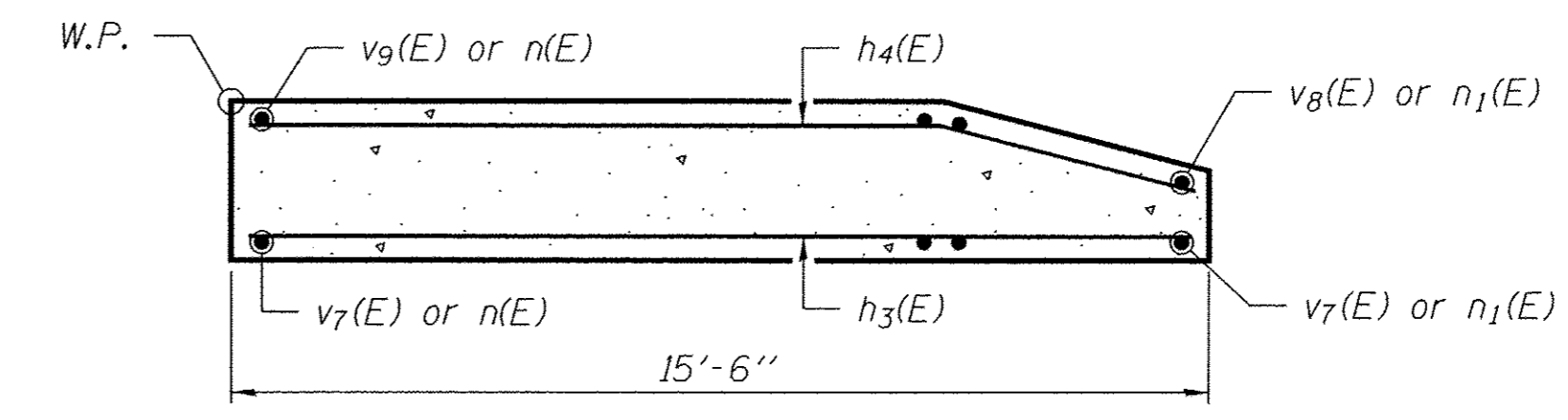
SECTION C-C



1" ϕ ANCHOR BOLT



SEC. THRU ABUT.



SECTION B-B

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure. Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. Cut v₆(E) bars that conflict with fingerplate stool placement off flush with top of backwall and seal with epoxy.

A-1-D

1-27-12

| | |
|---|-------------|
| FILE NAME = 100110-shr-bridge.dgn | USER NAME = |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.246.3400 www.lfrengineering.com | |
| 184.000559 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORPORATION | |
| PLOT SCALE = | |
| PLOT DATE = 6/30/2016 | |

| | |
|-------------------|-----------|
| DESIGNED - S.M.S. | REVISED - |
| CHECKED - D.W.T. | REVISED - |
| DRAWN - D.A.B. | REVISED - |
| CHECKED - M.D.C. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

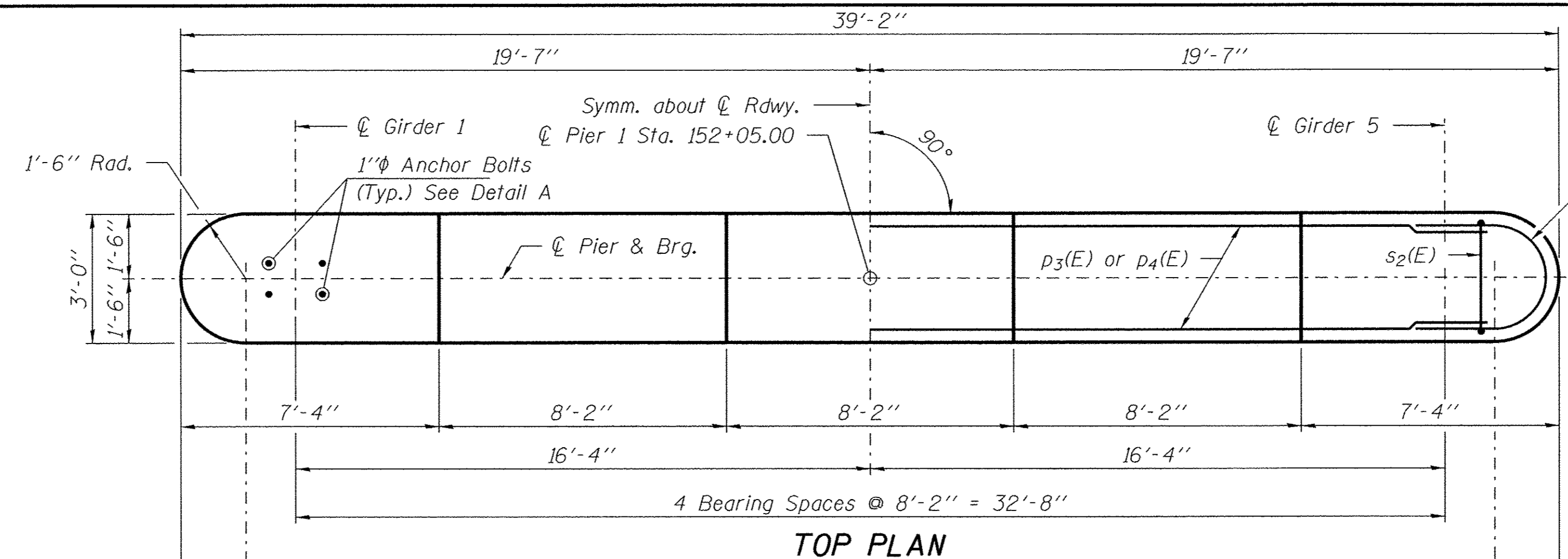
WEST ABUTMENT DETAILS
STRUCTURE NO. 090-3248
SHEET NO. 33 OF 46 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------------------|----------------|--------------------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 51 |
| MANITO RD OVER MACKINAW RIV. | | CONTRACT NO. 89634 | | |
| ILLINOIS FED. AID PROJECT | | | | |

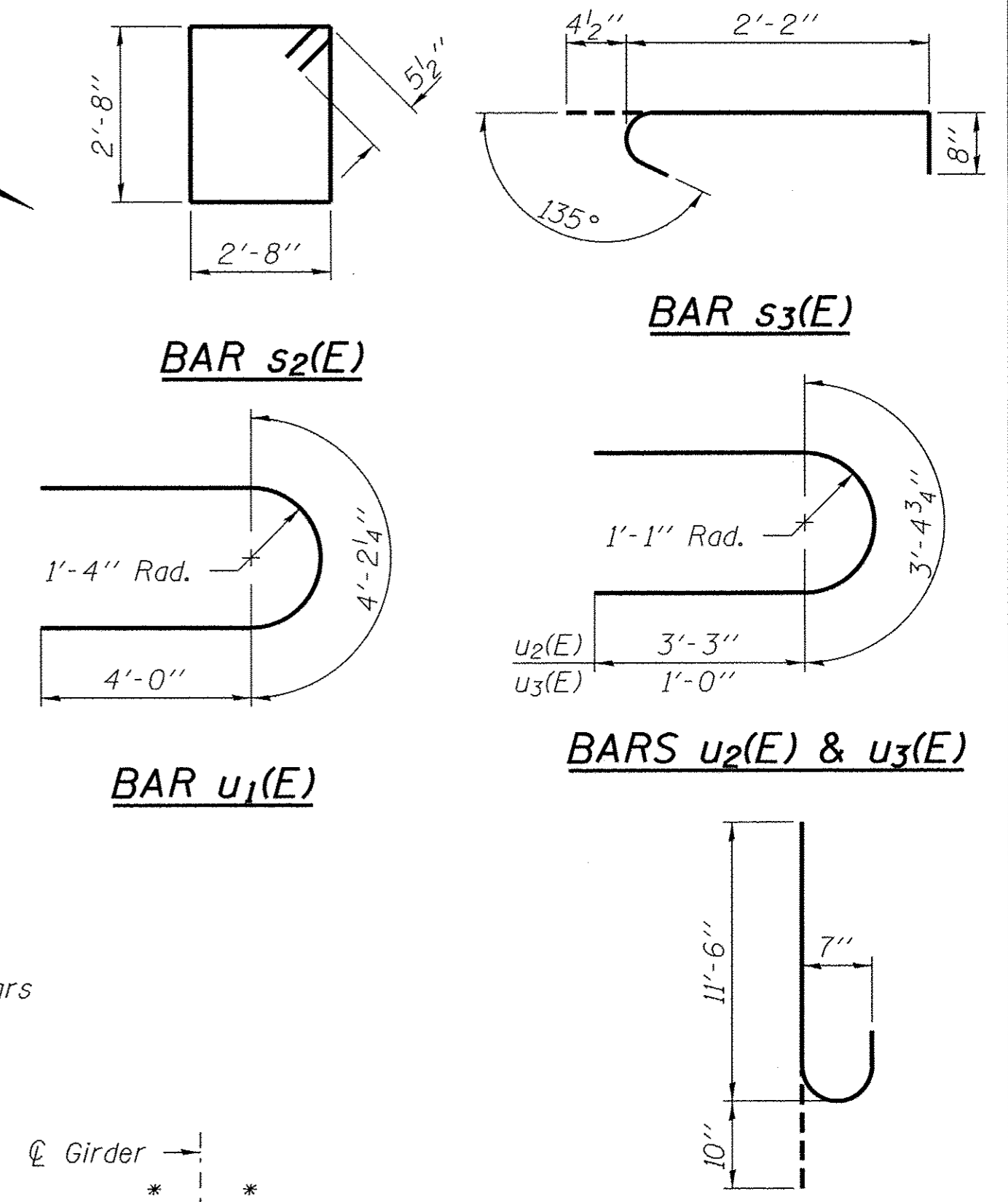
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 39 of 46.

PILE DATA

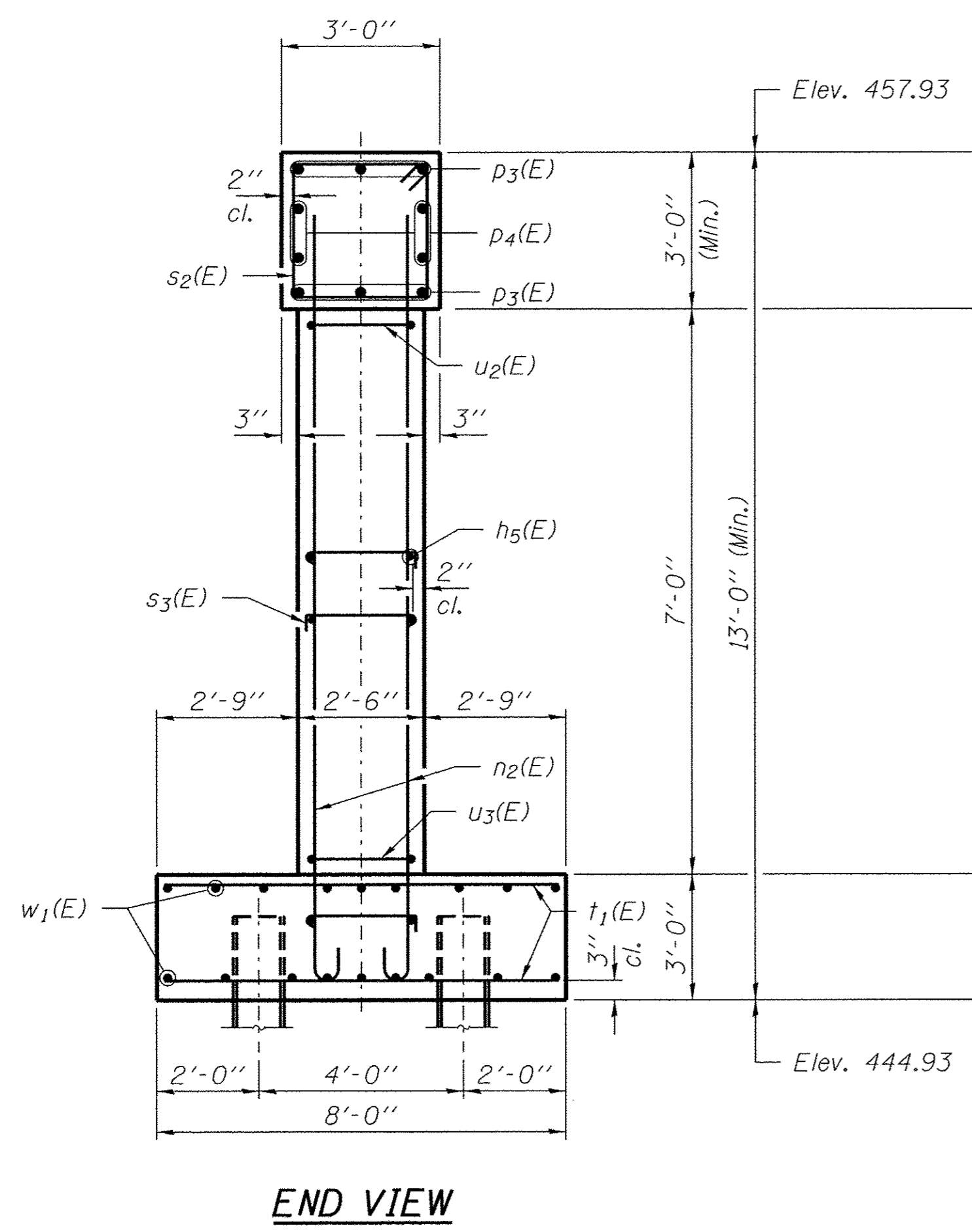
Type: Steel HP12x53 with Pile Shoes
 Nominal Required Bearing: 419 Kips/pile
 Factored Resistance Available: 228 Kips/pile
 Est. Length: 40'
 No. Production Piles: 13
 No. Test Piles: 1



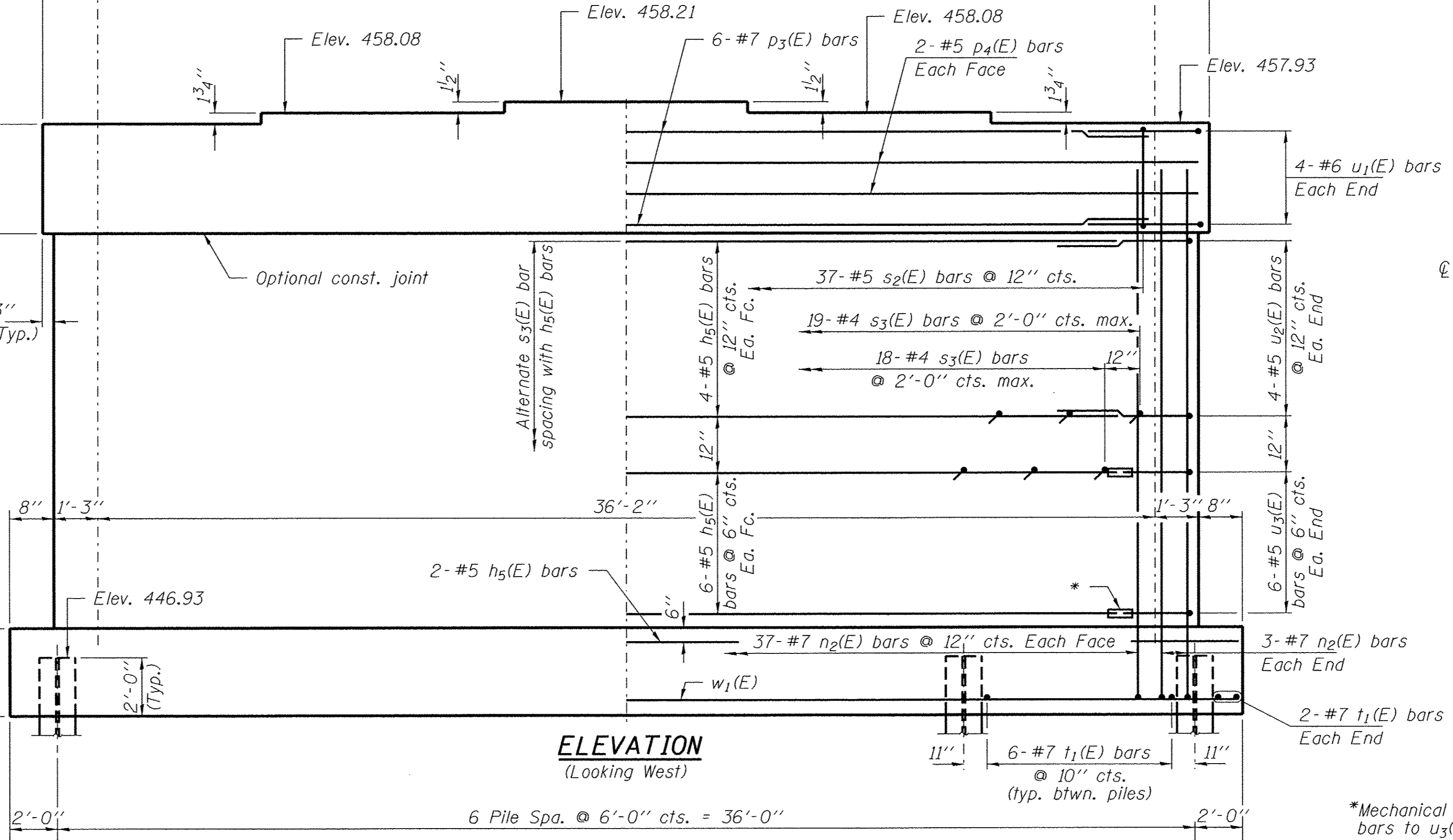
TOP PLAN



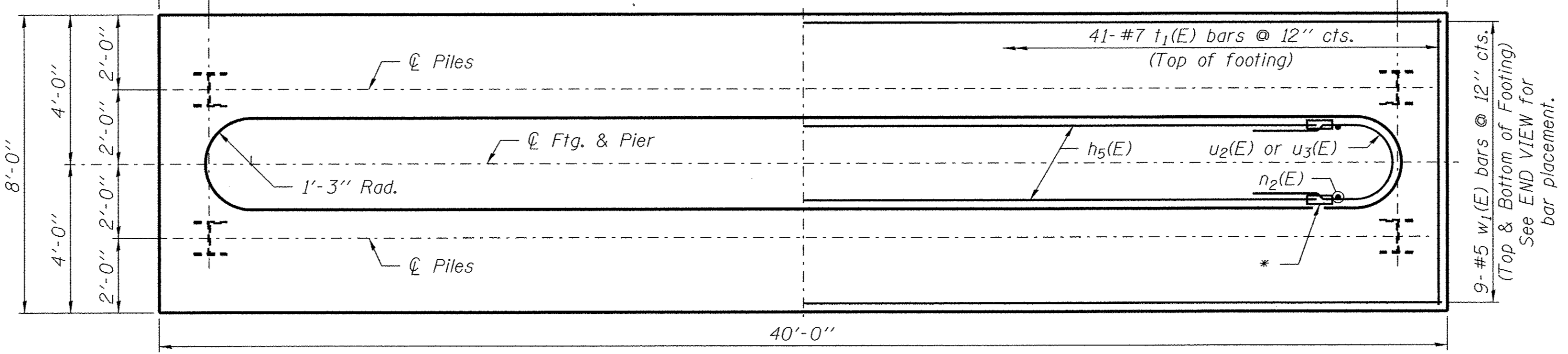
DETAIL A



END VIEW



ELEVATION
(Looking West)



FOOTING PLAN

*See shee 29 of 46 for HLMR bearing layout. Dimensions shall be verified per HLMR manufacturer.

**PIER 1
BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h5(E) | 22 | #5 | 36'-2" | — |
| n2(E) | 80 | #7 | 12'-4" | U |
| p3(E) | 6 | #7 | 36'-2" | — |
| p4(E) | 4 | #5 | 36'-2" | — |
| s2(E) | 37 | #5 | 11'-7" | □ |
| s3(E) | 203 | #4 | 3'-3" | U |
| t1(E) | 81 | #7 | 7'-6" | — |
| u1(E) | 8 | #6 | 12'-3" | U |
| u2(E) | 8 | #5 | 9'-11" | U |
| u3(E) | 12 | #5 | 5'-5" | U |
| w1(E) | 18 | #5 | 39'-6" | — |
| Structure Excavation | | | Cu. Yd. | 109 |
| Concrete Structures | | | Cu. Yd. | 73.5 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 6,610 |
| Furnishing Steel Piles HP12x53 | | | Foot | 520 |
| Driving Piles | | | Foot | 520 |
| Test Pile Steel HP12x53 | | | Each | 1 |
| Pile Shoes | | | Each | 14 |
| Mechanical Splicer | | | Each | 24 |

PC-1 7-1-10

| | |
|---|-----------------------|
| FILE NAME = 100110-shr-bridge.dgn | USER NAME = |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.9400 www.hlrengineering.com | PLOT SCALE = |
| 184.002859 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION | PLOT DATE = 6/30/2016 |

| | |
|-------------------|----------|
| DESIGNED - S.M.S. | REVISD - |
| CHECKED - D.W.T. | REVISD - |
| DRAWN - D.A.B. | REVISD - |
| CHECKED - M.D.C. | REVISD - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

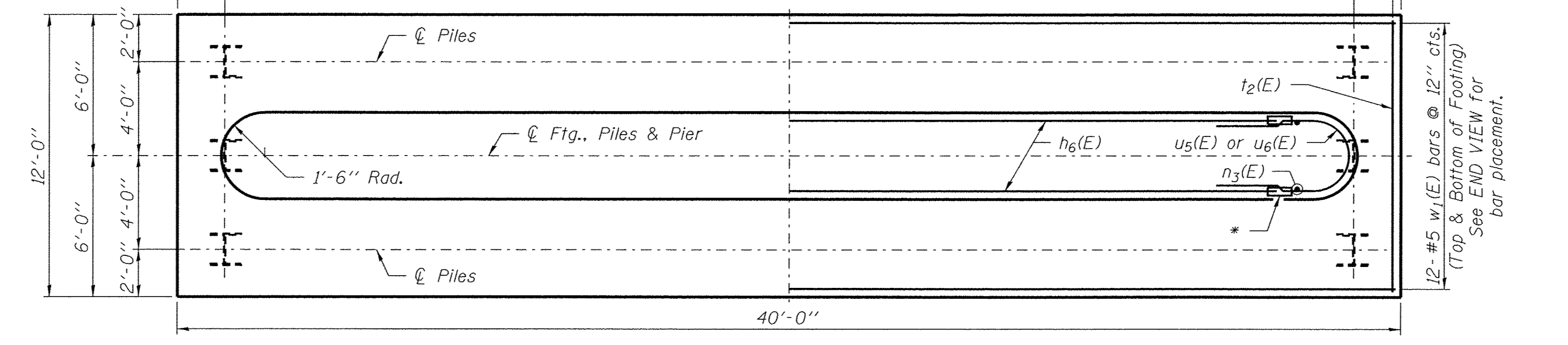
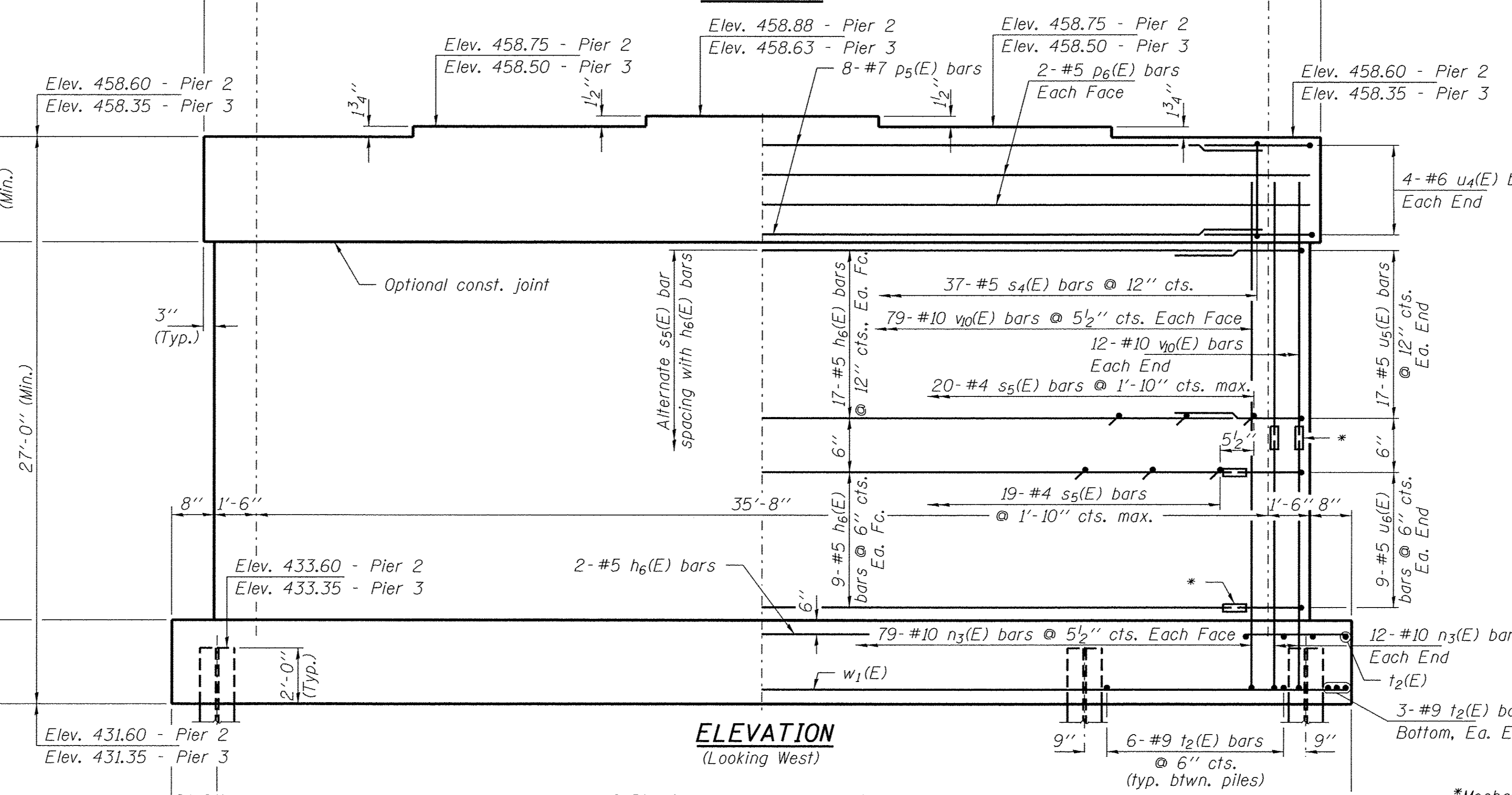
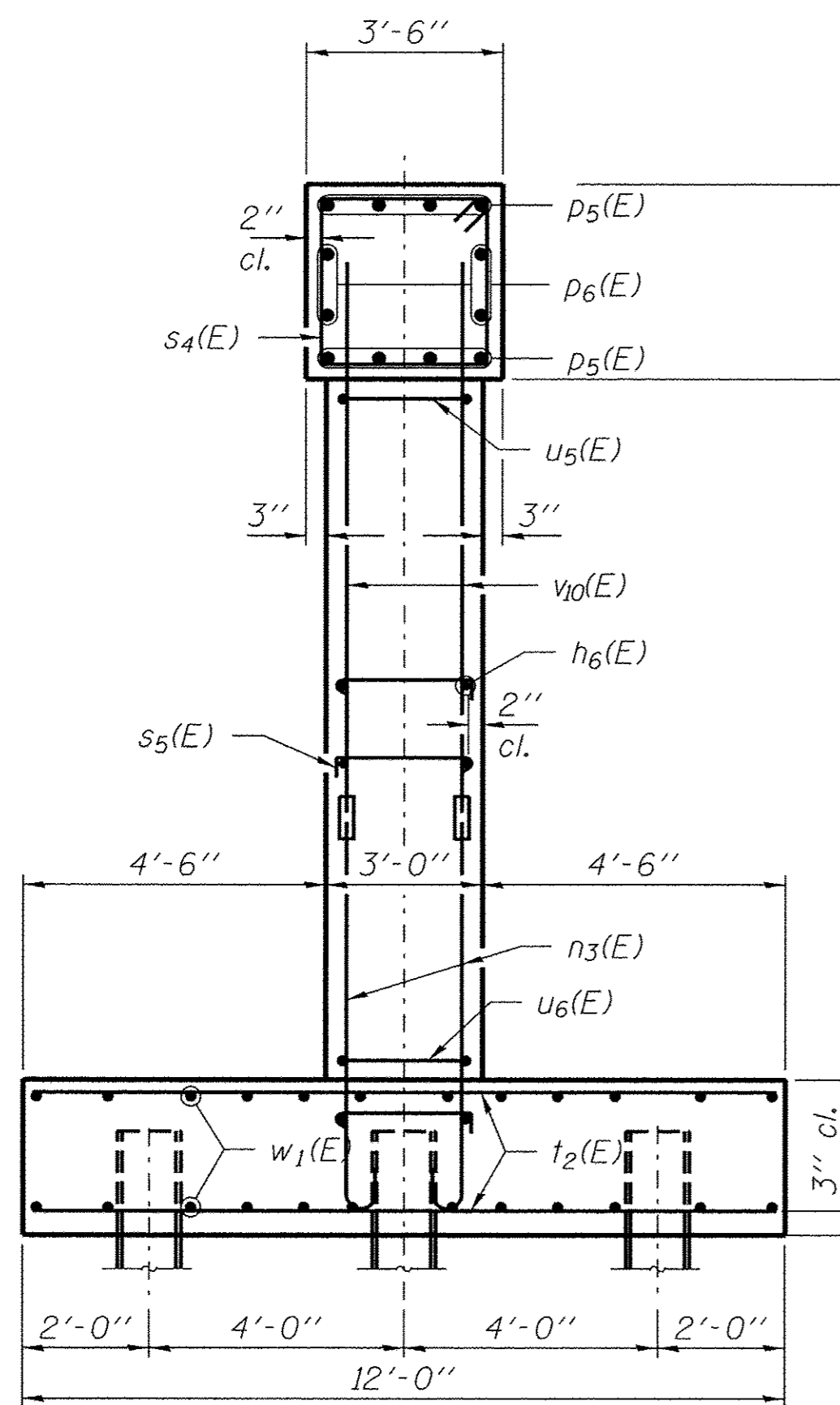
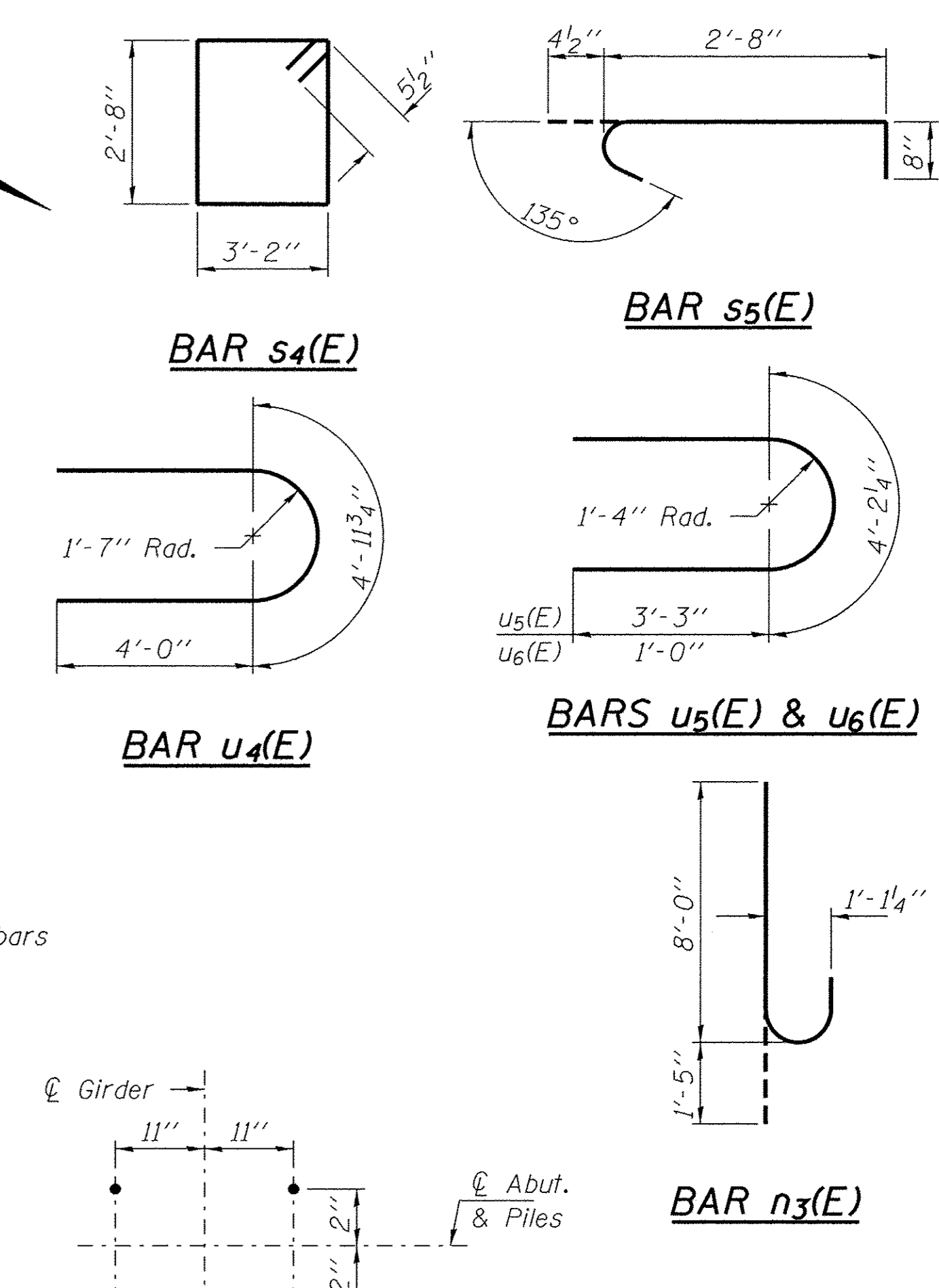
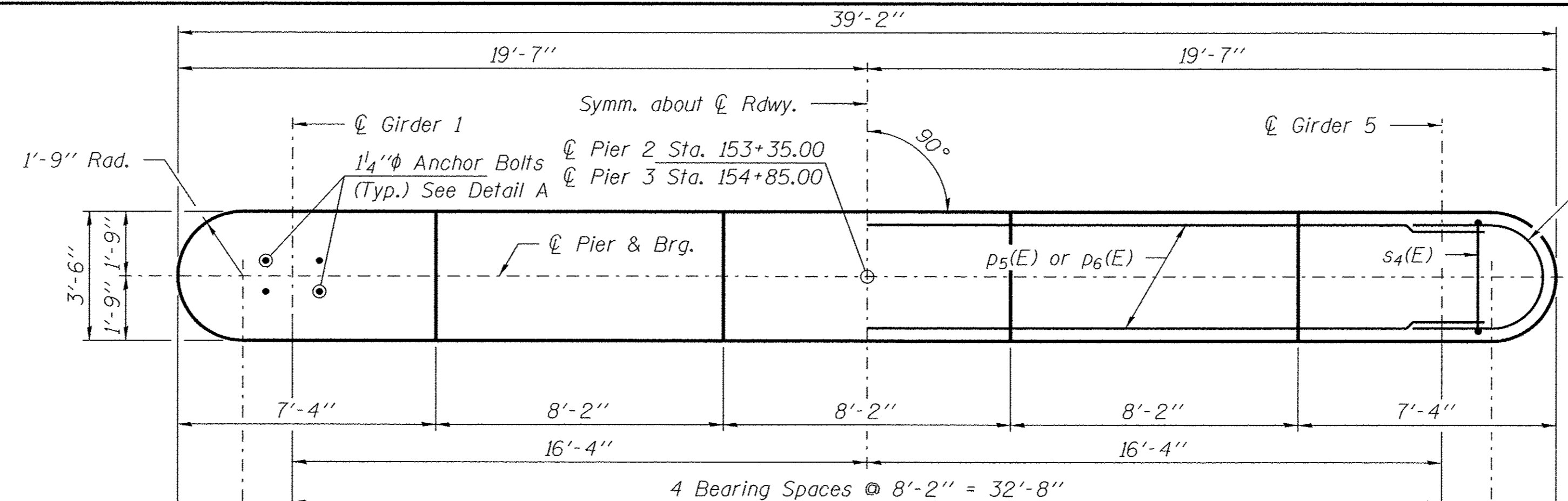
PIER 1
STRUCTURE NO. 090-3248
SHEET NO. 34 OF 46 SHEETS

| | | | | |
|------------------------------|----------------|----------|--------------------|-----------|
| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 52 |
| MANITO RD OVER MACKINAW RIV. | | | CONTRACT NO. 89634 | |
| ILLINOIS FED. AID PROJECT | | | | |

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 39 of 46.

PILE DATA

Type: Steel HP12x53 with Pile Shoes
 Nominal Required Bearing: 419 Kips/pile
 Factored Resistance Available: 230 Kips/pile
 Est. Length: 26' (Pier 2)
 28' (Pier 3)
 No. Production Piles: 58
 No. Test Piles: 2



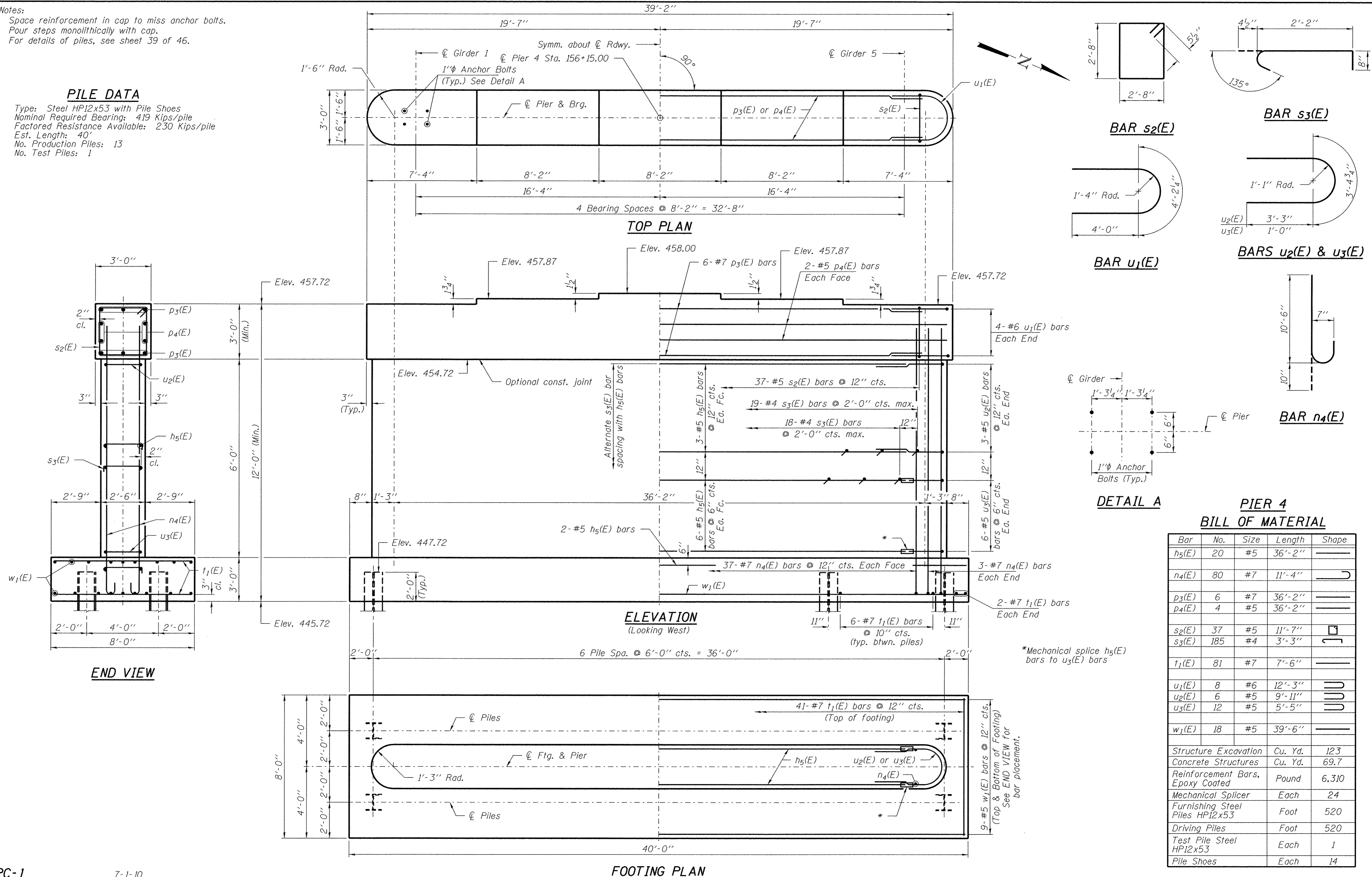
**PIERS 2 & 3
 BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|------|---------|--------|-------|
| h ₆ (E) | 108 | #5 | 35'-8" | — |
| n ₃ (E) | 364 | #10 | 9'-5" | ⌋ |
| p ₅ (E) | 16 | #7 | 35'-8" | — |
| p ₆ (E) | 8 | #5 | 35'-8" | — |
| s ₄ (E) | 74 | #5 | 12'-7" | ⌋ |
| s ₅ (E) | 1054 | #4 | 3'-9" | ⌋ |
| t ₂ (E) | 258 | #9 | 7'-6" | — |
| u ₄ (E) | 16 | #6 | 15'-0" | ⌋ |
| u ₅ (E) | 68 | #5 | 10'-9" | ⌋ |
| u ₆ (E) | 36 | #5 | 6'-3" | ⌋ |
| v ₁₀ (E) | 364 | #10 | 18'-0" | — |
| w ₁ (E) | 48 | #5 | 39'-6" | — |
| Cofferdam Excavation | | Cu. Yd. | 1,190 | |
| Concrete Structures | | Cu. Yd. | 314.6 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 61,950 | |
| Furnishing Steel Piles HP12x53 | | Foot | 1,566 | |
| Driving Piles | | Foot | 1,566 | |
| Test Pile Steel HP12x53 | | Each | 2 | |
| Pile Shoes | | Each | 60 | |
| Mechanical Splicer | | Each | 436 | |

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 39 of 46.

PILE DATA

Type: Steel HP12x53 with Pile Shoes
 Nominal Required Bearing: 419 Kips/pile
 Factored Resistance Available: 230 Kips/pile
 Est. Length: 40'
 No. Production Piles: 13
 No. Test Piles: 1



**PIER 4
 BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h5(E) | 20 | #5 | 36'-2" | — |
| n4(E) | 80 | #7 | 11'-4" | U |
| p3(E) | 6 | #7 | 36'-2" | — |
| p4(E) | 4 | #5 | 36'-2" | — |
| s2(E) | 37 | #5 | 11'-7" | □ |
| s3(E) | 185 | #4 | 3'-3" | ┌ |
| t1(E) | 81 | #7 | 7'-6" | — |
| u1(E) | 8 | #6 | 12'-3" | U |
| u2(E) | 6 | #5 | 9'-11" | U |
| u3(E) | 12 | #5 | 5'-5" | U |
| w1(E) | 18 | #5 | 39'-6" | — |
| Structure Excavation | | | Cu. Yd. | 123 |
| Concrete Structures | | | Cu. Yd. | 69.7 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 6,310 |
| Mechanical Splicer | | | Each | 24 |
| Furnishing Steel Piles HP12x53 | | | Foot | 520 |
| Driving Piles | | | Foot | 520 |
| Test Pile Steel HP12x53 | | | Each | 1 |
| Pile Shoes | | | Each | 14 |

PC-1 7-1-10

FILE NAME = 100110-sht-bridge.dgn
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.246.2400 www.lfrengineering.com
 184.000859
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS/PE/SE CORPORATION

DESIGNED - S.M.S.
 CHECKED - D.W.T.
 DRAWN - D.A.B.
 CHECKED - M.D.C.

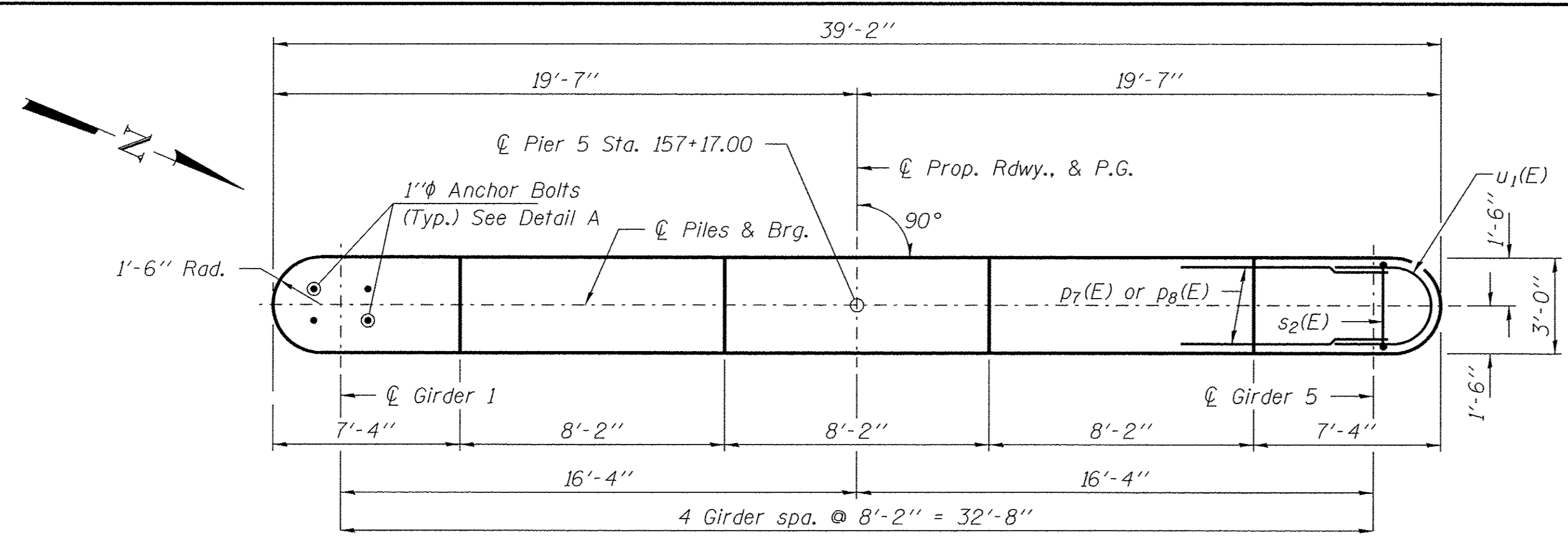
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

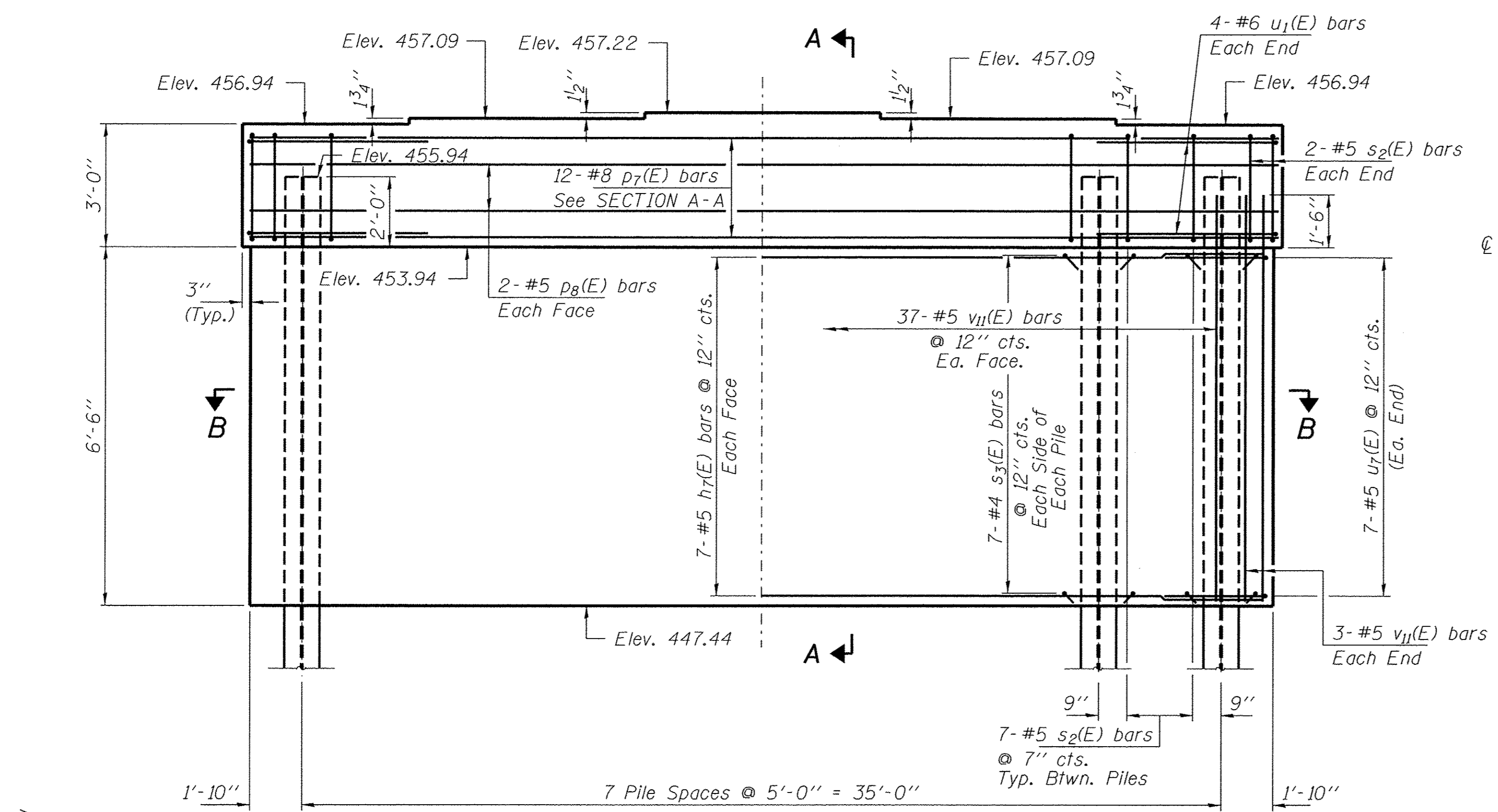
PIER 4
 STRUCTURE NO. 090-3248
 SHEET NO. 36 OF 46 SHEETS

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------|----------------|----------|--------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 54 |

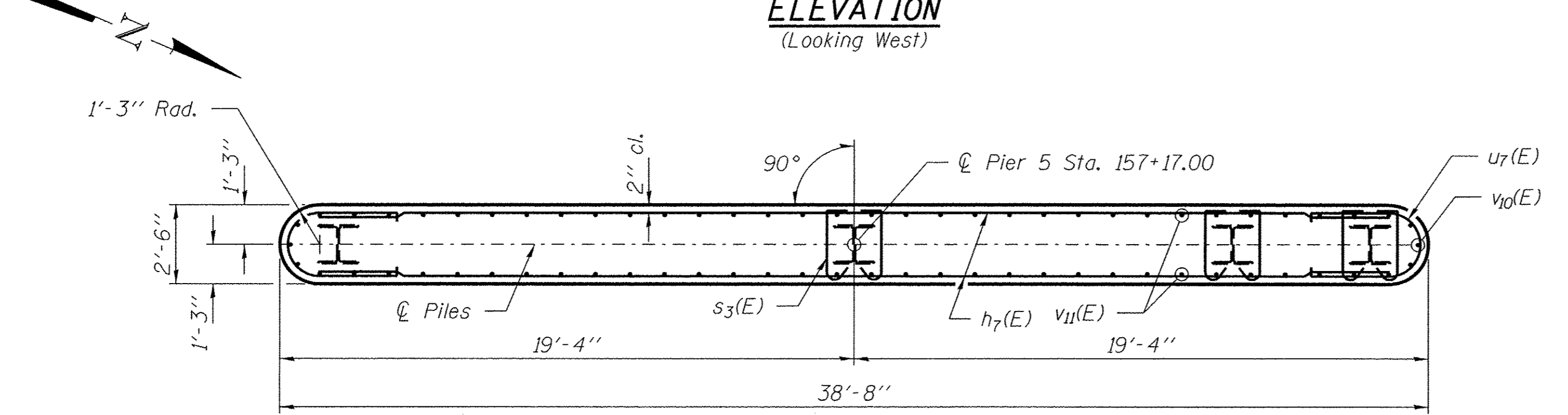
MANITO RD OVER MACKINAW RIV. CONTRACT NO. 89634
 ILLINOIS FED. AID PROJECT



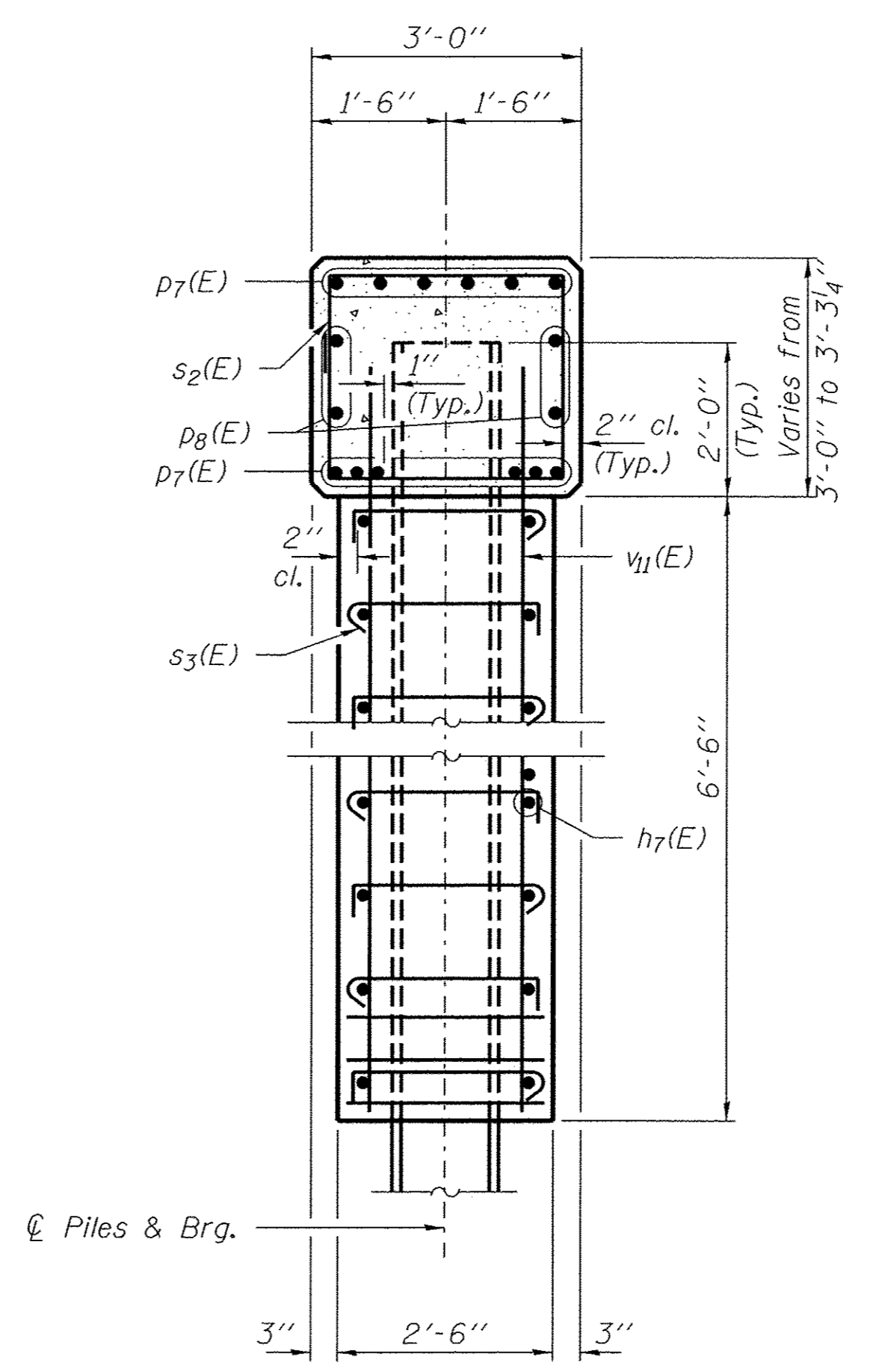
PLAN



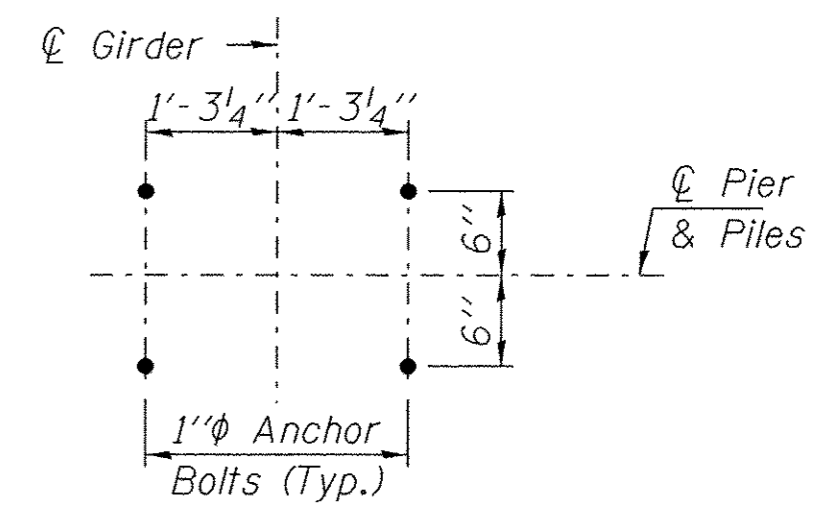
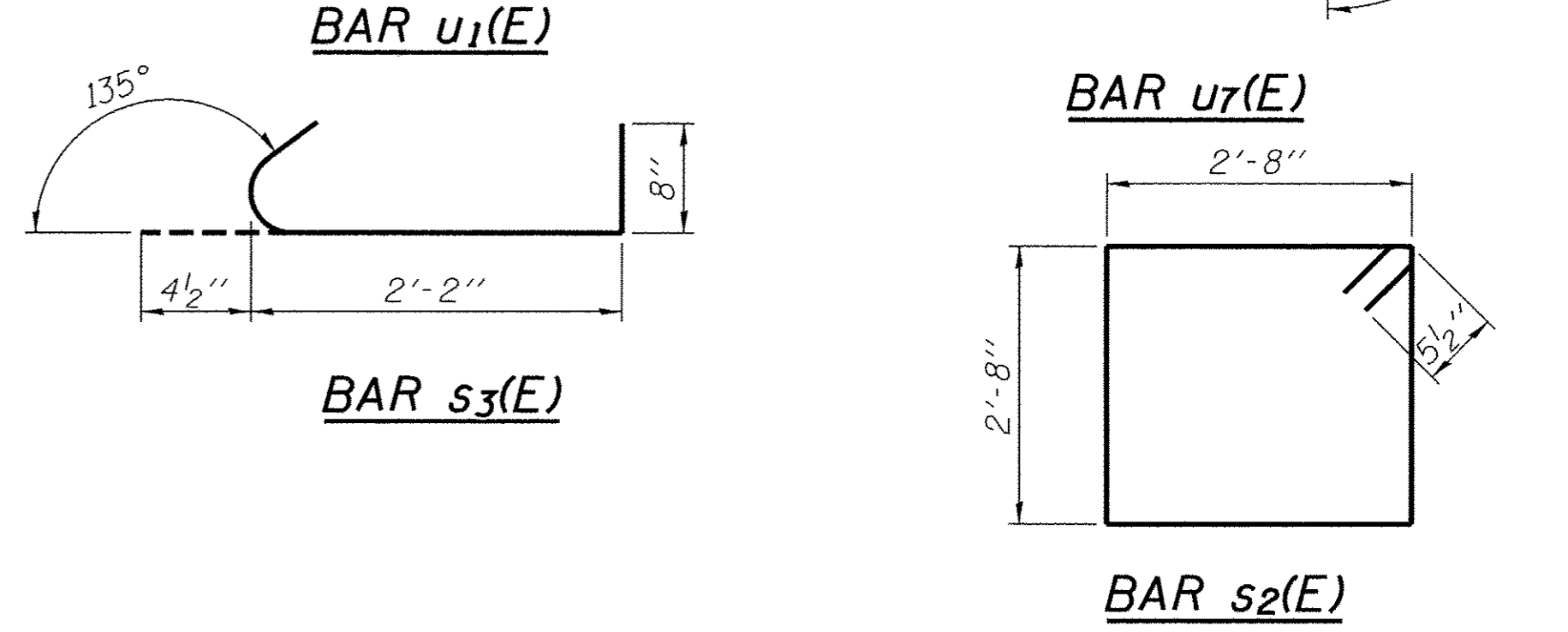
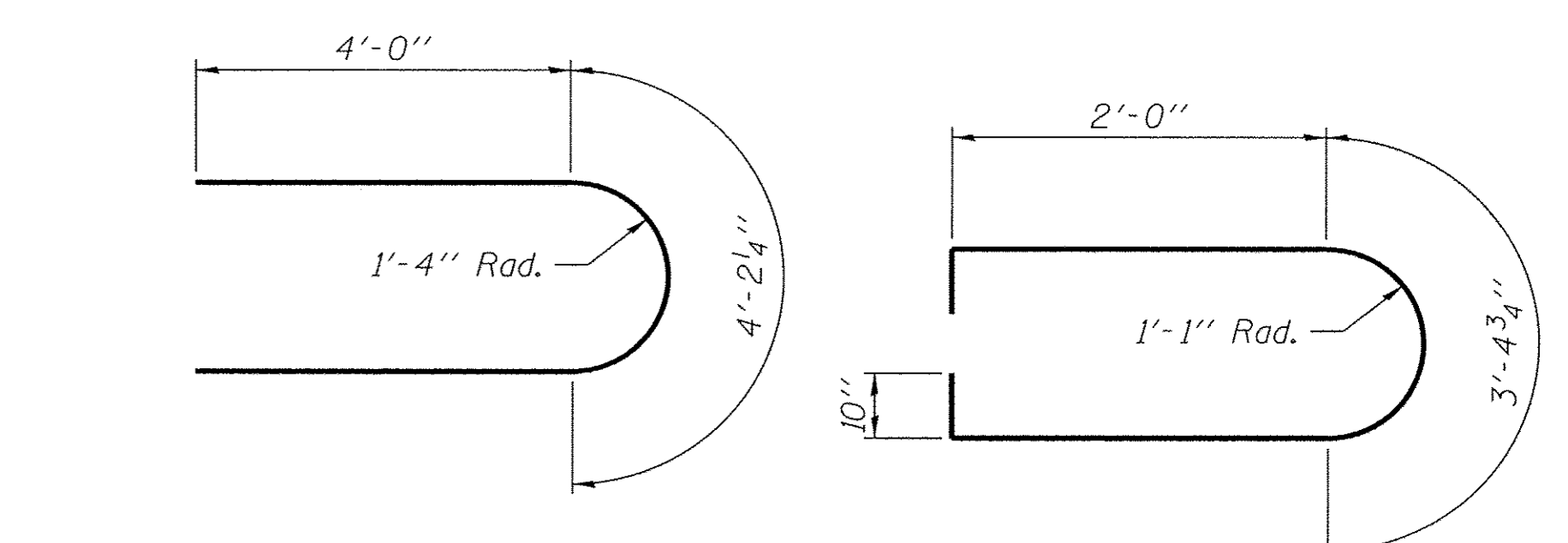
ELEVATION
(Looking West)



SECTION B-B



SECTION A-A



DETAIL A

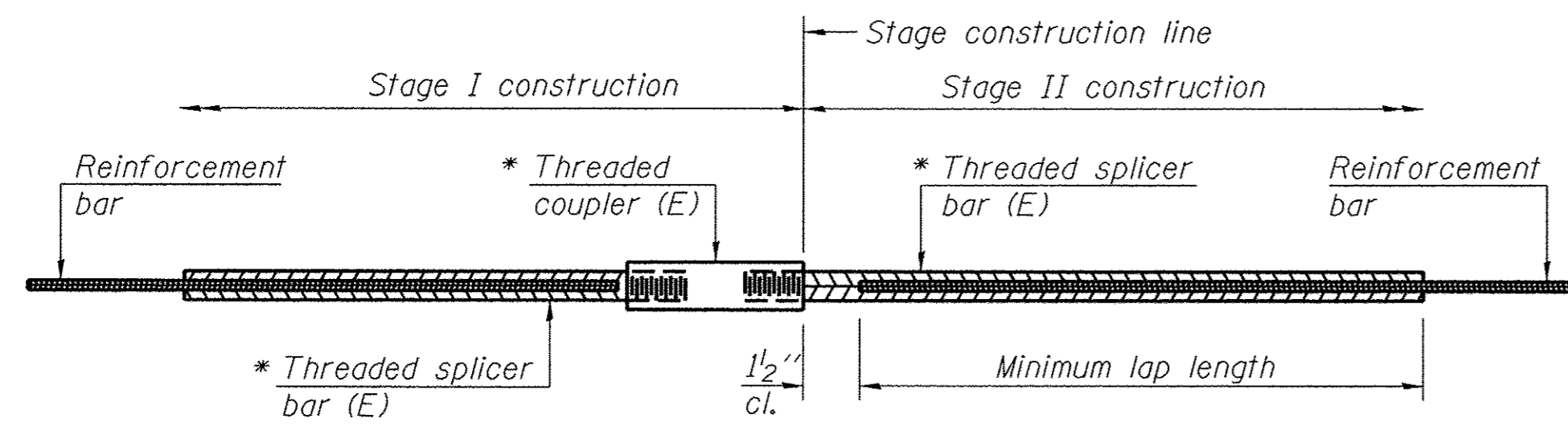
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 39 of 46.

PILE DATA

Type: Steel HP14x73 with Pile Shoes
Nominal Required Bearing: 578 Kips/pile
Factored Resistance Available: 318 Kips/pile
Est. Length: 50'
No. Production Piles: 7
No. Test Piles: 1

**PIER 5
BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h7(E) | 14 | #5 | 36'-2" | — |
| p7(E) | 12 | #8 | 36'-2" | — |
| p8(E) | 4 | #5 | 36'-2" | — |
| s2(E) | 53 | #5 | 11'-7" | □ |
| s3(E) | 112 | #4 | 3'-3" | ┌ |
| u1(E) | 8 | #6 | 12'-3" | U |
| u7(E) | 14 | #5 | 9'-1" | U |
| v11(E) | 80 | #5 | 8'-0" | — |
| Structure Excavation | | | Cu. Yd. | 68 |
| Concrete Structures | | | Cu. Yd. | 35.9 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 3,670 |
| Furnishing Steel Piles HP14x73 | | | Foot | 350 |
| Driving Piles | | | Foot | 350 |
| Test Pile Steel HP14x73 | | | Each | 1 |
| Pile Shoes | | | Each | 8 |

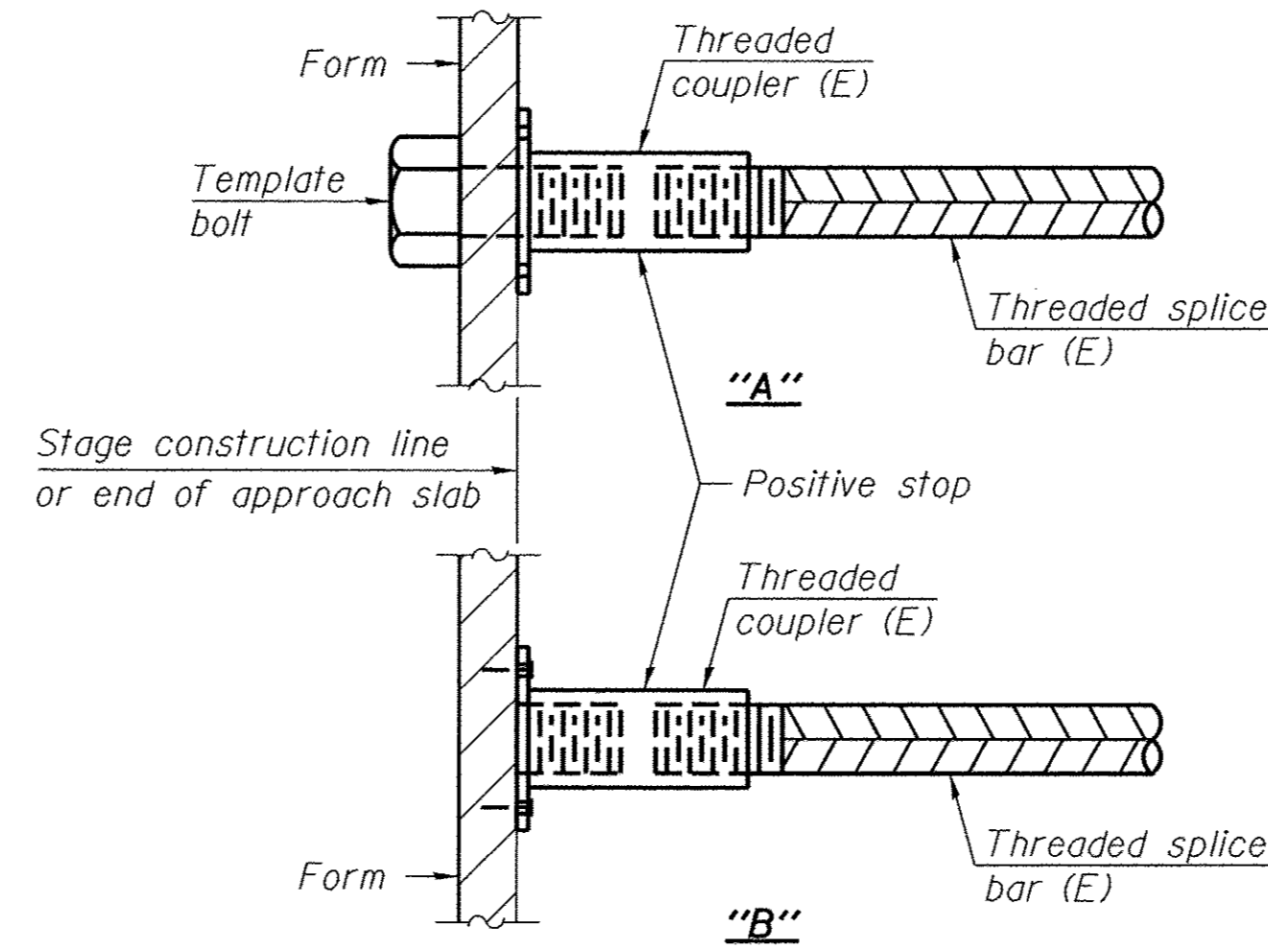


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1/2" + thread length

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

| Location | Bar size | No. assemblies required | Minimum lap length |
|----------|----------|-------------------------|--------------------|
| | | | |
| | | | |
| | | | |
| | | | |

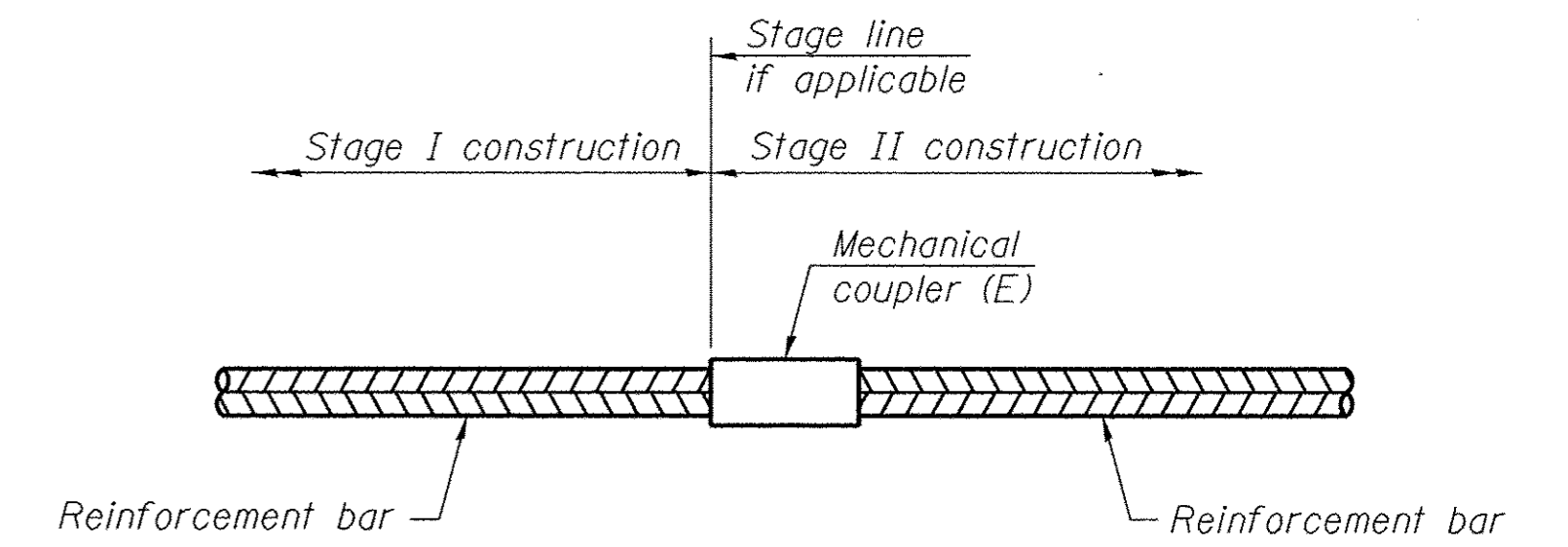


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

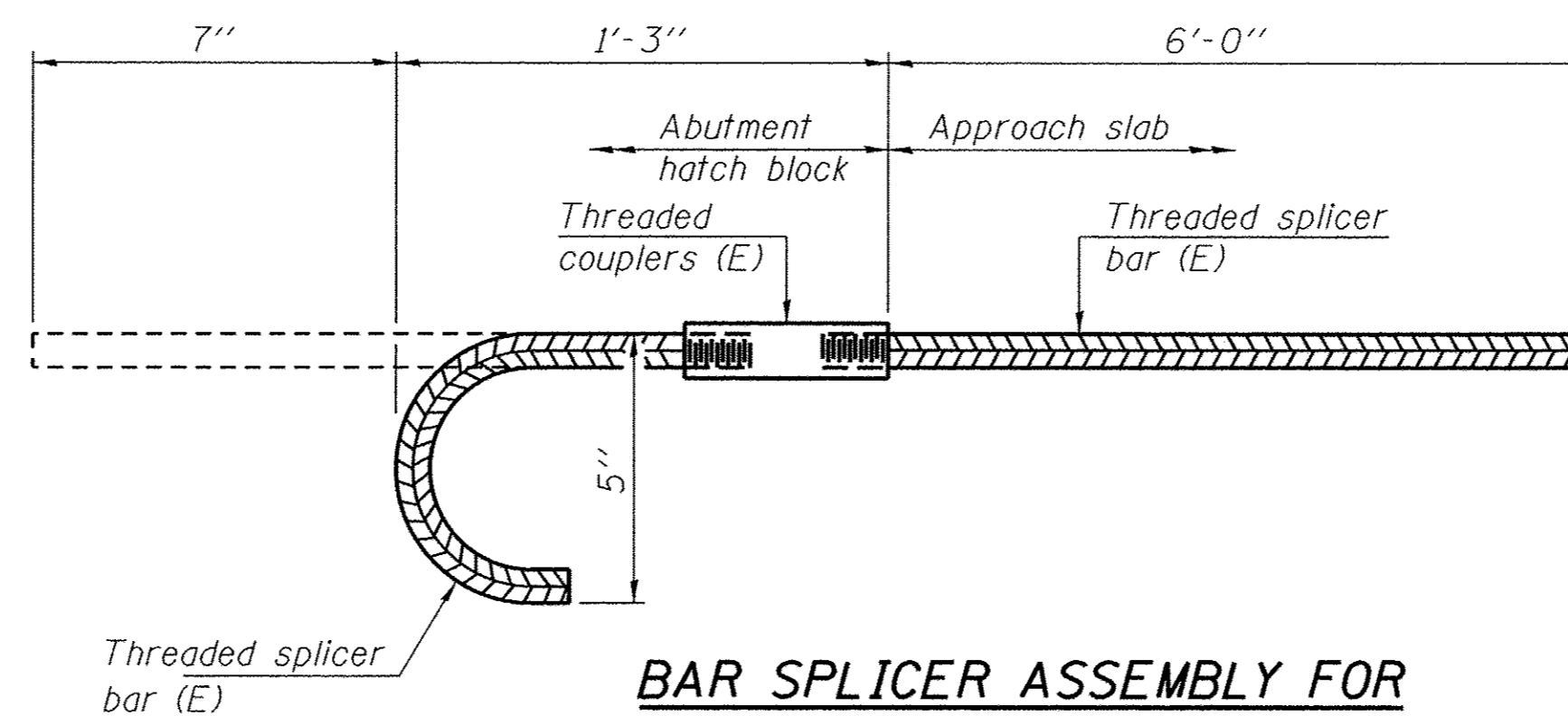
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
| Pier 1 | #5 | 24 |
| Pier 2 | #5 | 36 |
| Pier 2 | #10 | 182 |
| Pier 3 | #5 | 36 |
| Pier 3 | #10 | 182 |
| Pier 4 | #5 | 24 |



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 72

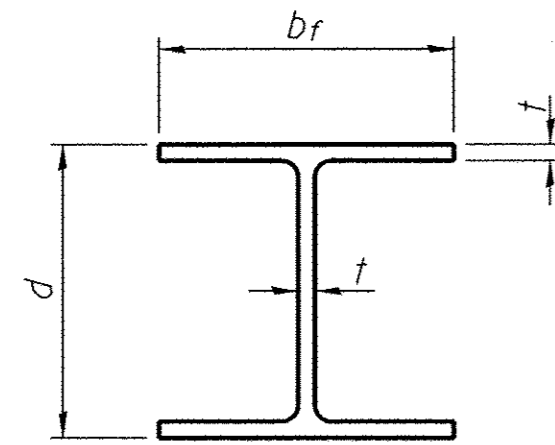
NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

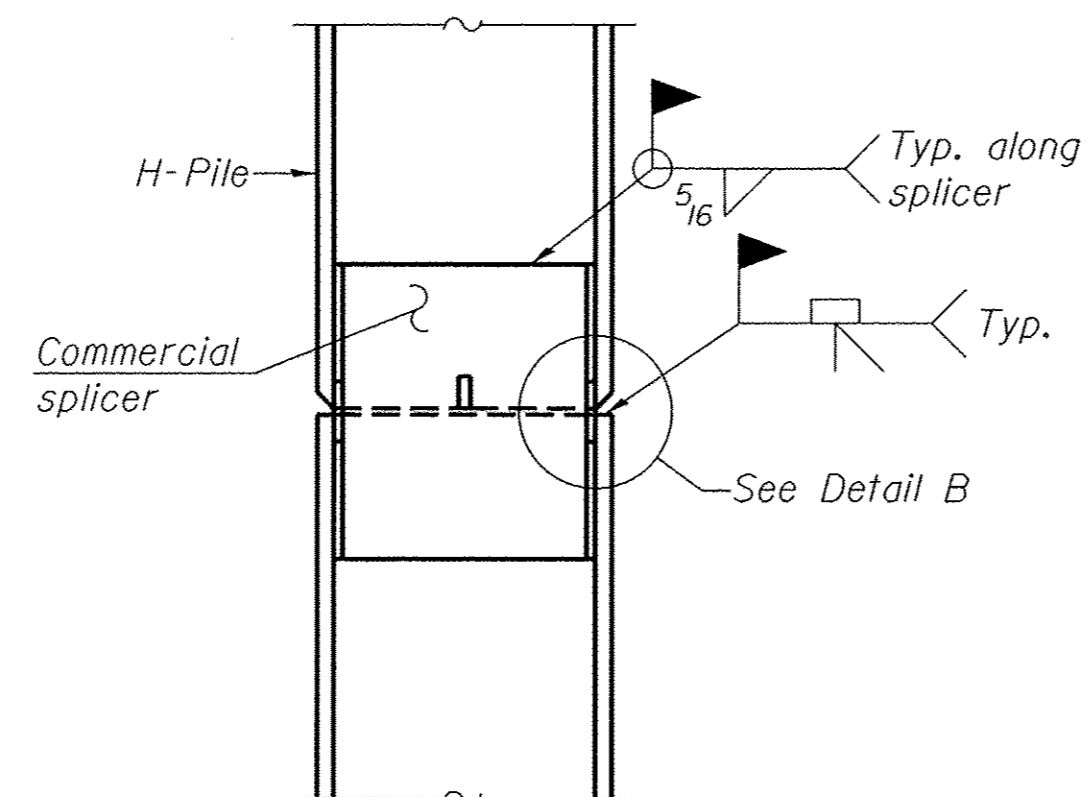
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

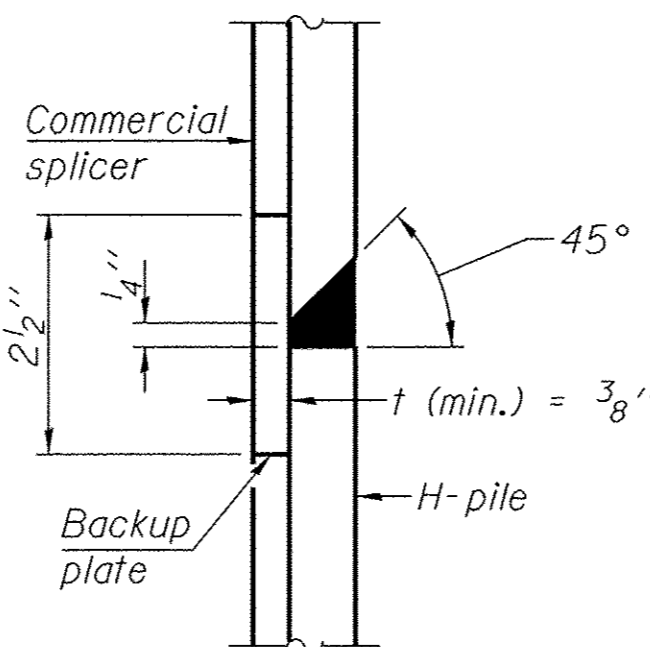


STEEL PILE TABLE

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

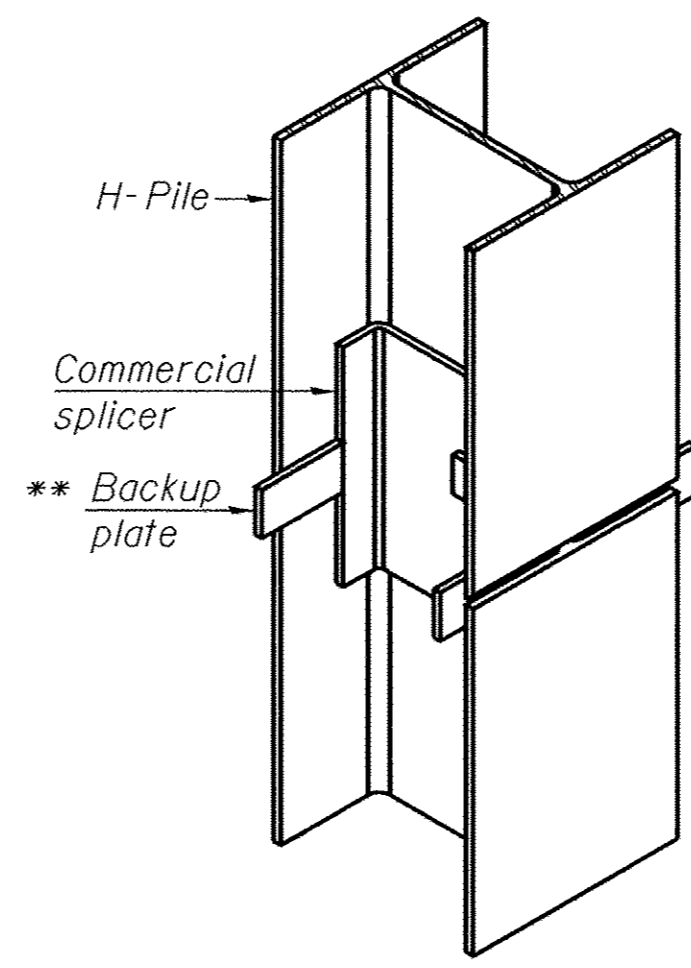


ELEVATION

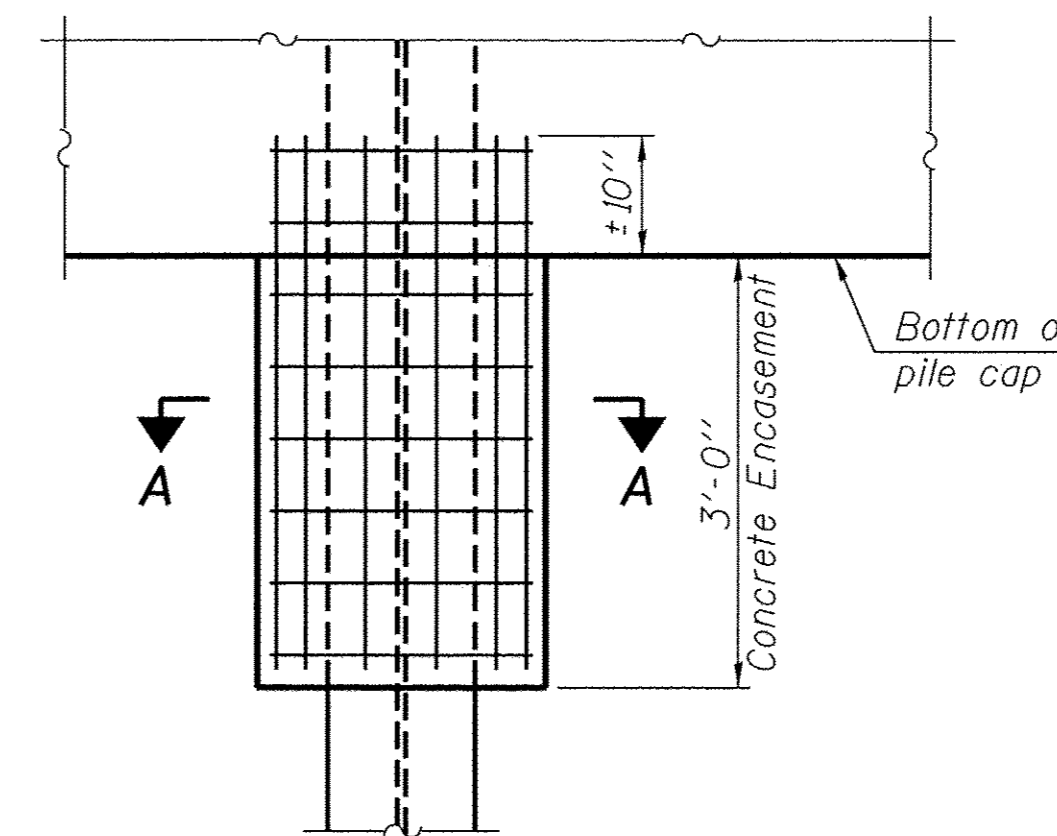


DETAIL "B"

WELDED COMMERCIAL SPLICE

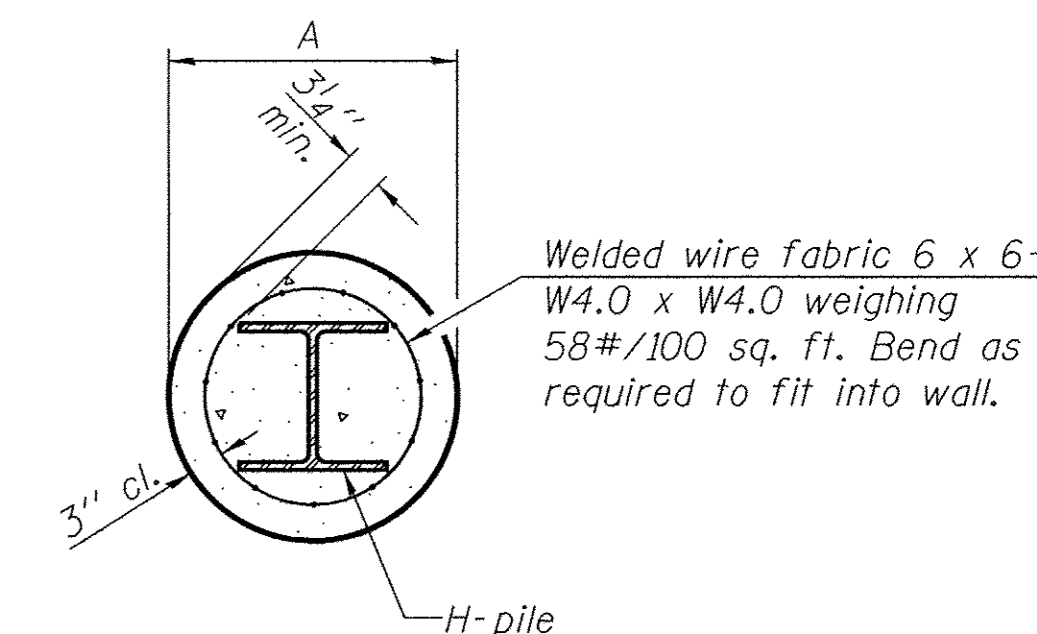


ISOMETRIC VIEW



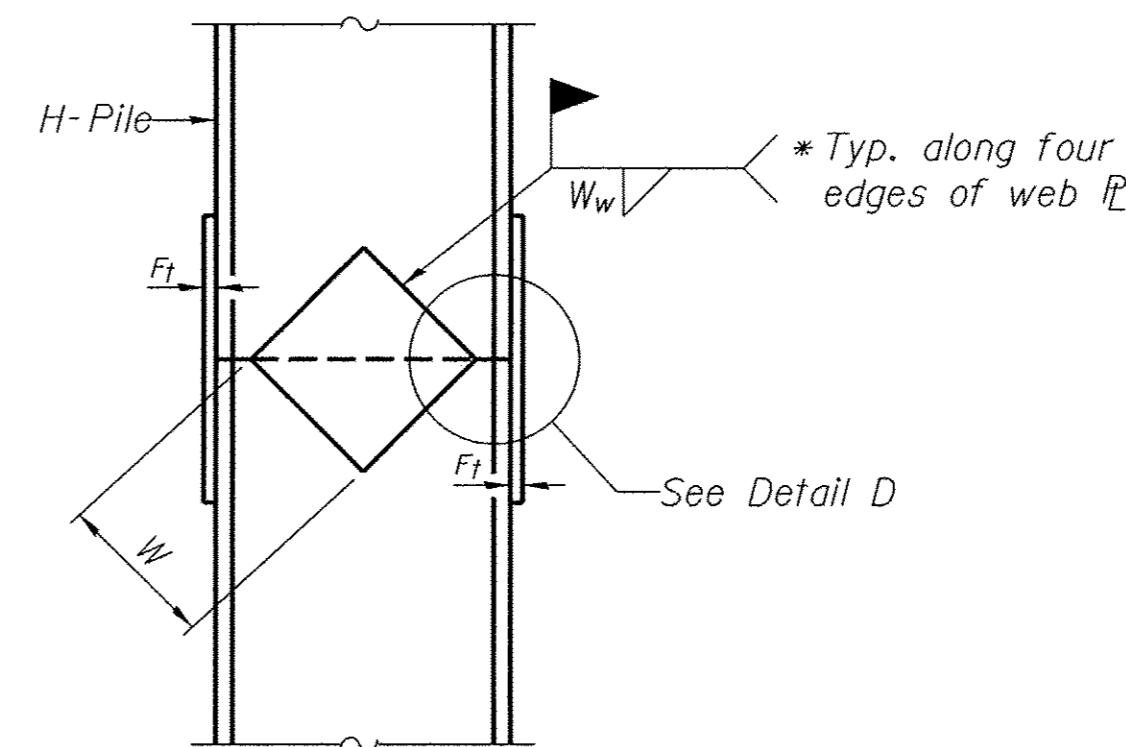
ELEVATION

PILE ENCASEMENT

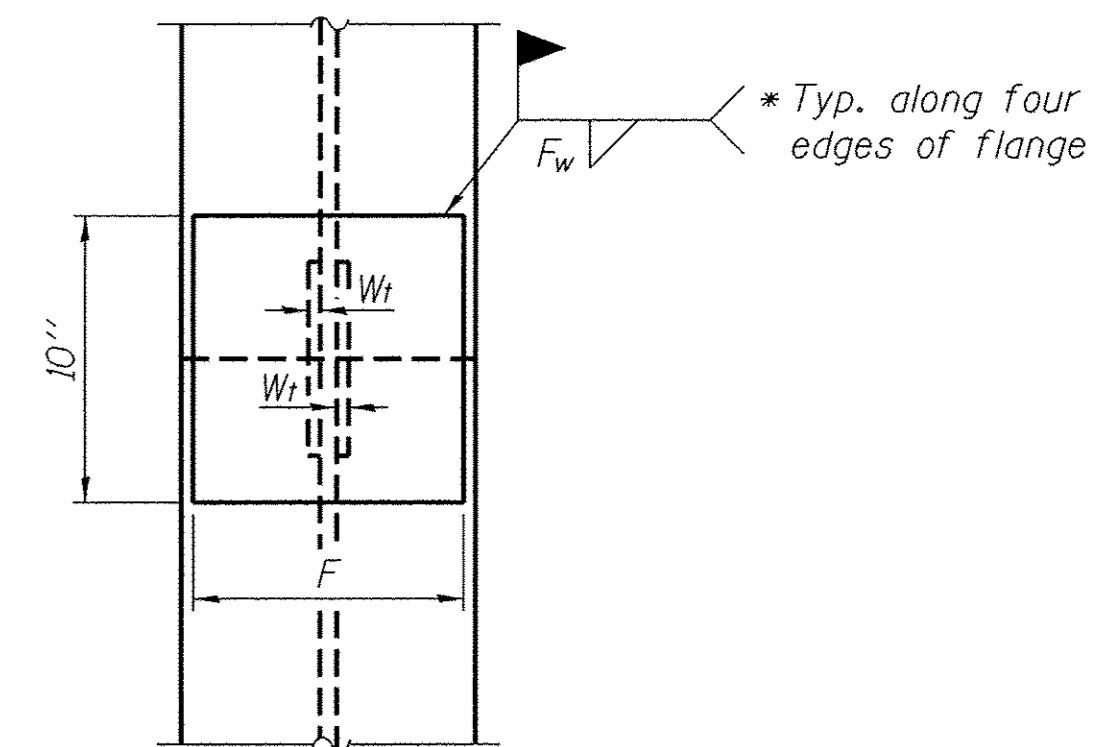


SECTION A-A

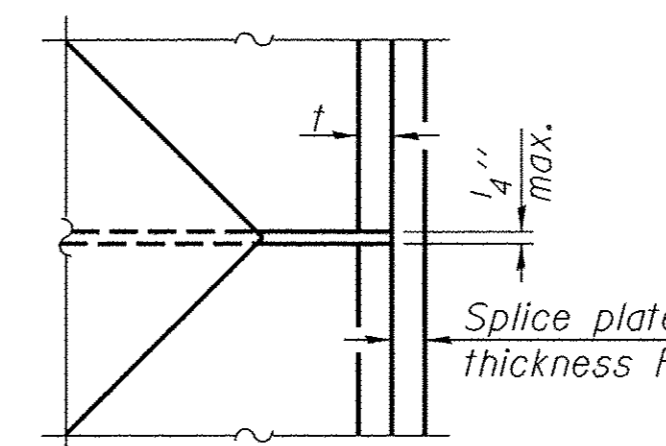
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



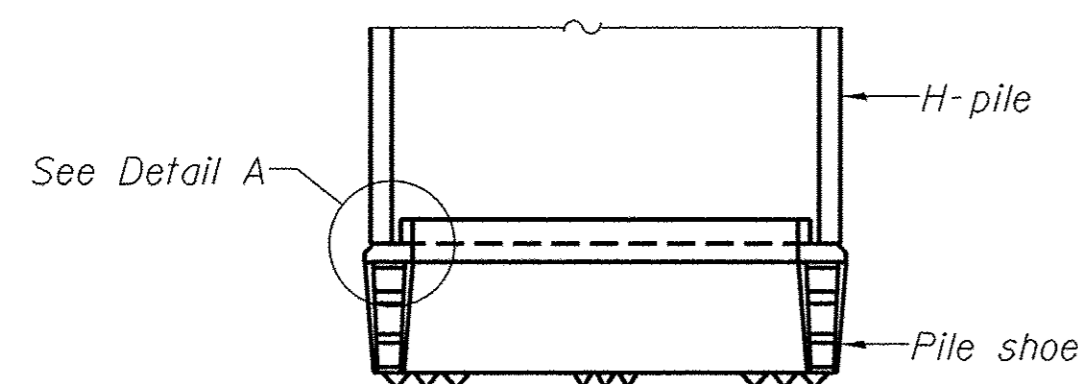
END VIEW



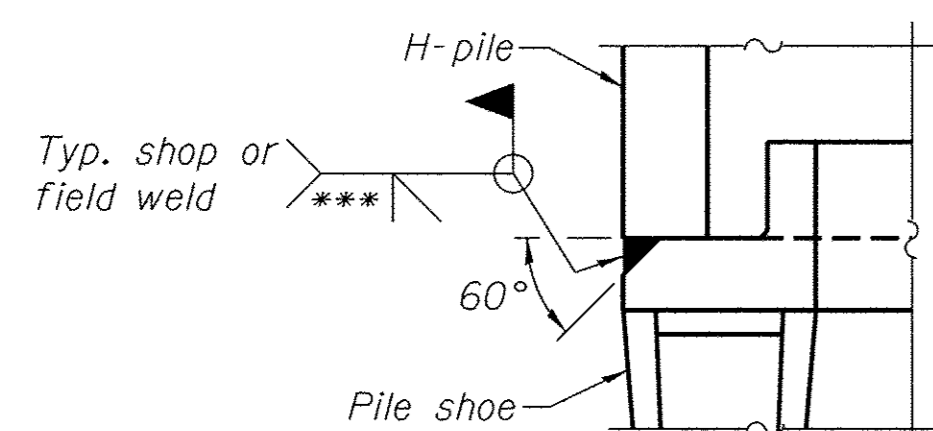
DETAIL D

WELDED PLATE FIELD SPLICE

| Designation | F | Ft | Fw | W | Wt | Ww |
|-------------|---------|------|-------|--------|------|------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1/16" | 7 3/4" | 5/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 1/2" | 3/8" |

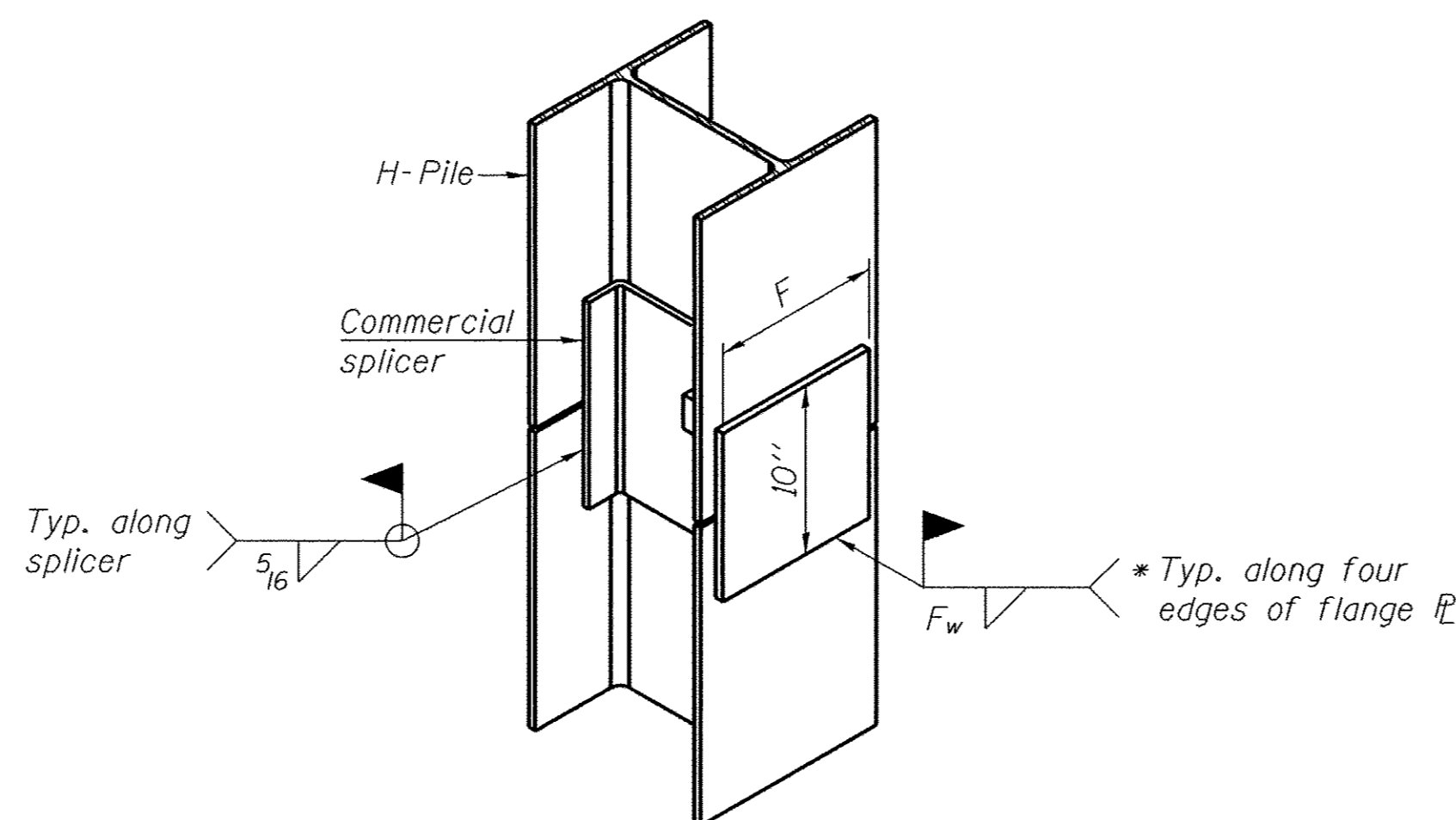


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

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

F-HP

1-27-12

| | | | | | | | | | | | |
|--|-----------------------|-------------------|-----------|---|---|--|----------------|----------|--------------|-----------|--|
| FILE NAME = 100110-sht-br1dgn | USER NAME = | DESIGNED - S.M.S. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | HP PILE DETAILS STRUCTURE NO. 090-3248 | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.tbengineering.com | PLOT SCALE = | CHECKED - D.W.T. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 57 | |
| 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM L2 / P/E / SE CORPORATION | PLOT DATE = 6/30/2016 | DRAWN - D.A.B. | REVISED - | | | MANITO RD OVER MACKINAW RIV. ILLINOIS FED. AID PROJECT | | | | | |
| | | CHECKED - M.D.C. | REVISED - | | | SHEET NO. 39 OF 46 SHEETS | | | | | |

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
 SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
 COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)
 BORING NO. SB-1 DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

| SOIL DESCRIPTION | | | | | | SOIL DESCRIPTION | | | | | |
|---|-------|---------|-------|-----|--|---|-------|---------|-------|-----|--|
| (ft.) | (ft.) | (blows) | (tsf) | (%) | | (ft.) | (ft.) | (blows) | (tsf) | (%) | |
| Dark Brown SANDY CLAY LOAM Organic Topsoil 10" | | | | | | DD = 95 PCF 2 0.4 26 2 B | | | | | |
| Stiff, Black To Dark Gray SILTY CLAY | | | | | | 429.4 (4) | | | | | |
| DD = 95 PCF 2 3 1.5 24 7 | | | | | | Medium-Density, Brown, Medium- To Coarse-Grained SAND With Some Fine-Grained Gravel And Silt 8 17 11 (19) | | | | | |
| DD = 93 PCF -5 2 2 1.1 26 20 | | | | | | 426.4 (6) Dense, Brown, Medium- To Coarse-Grained SAND And Fine- To Coarse-Grained GRAVEL -25 27 - - 31 (58) | | | | | |
| 447.4 (4) | | | | | | 423.9 | | | | | |
| Medium, Black SILTY CLAY With Occasional Fine-Grained Gravel DD = 97 PCF 2 3 0.9 23 14 | | | | | | Medium-Density, Brown, Fine- To Medium-Grained SAND 11 - - 13 (24) | | | | | |
| 443.9 (5) | | | | | | 421.4 | | | | | |
| Stiff, Dark Brown SILTY CLAY DD = 98 PCF -10 2 3 1.2 22 12 | | | | | | Dense, Brown, Medium- To Coarse-Grained With Fine- To Coarse-Grained Gravel -30 14 - - 17 (31) | | | | | |
| 439.4 (6) | | | | | | | | | | | |
| Medium, Light Brown And Gray Mottled Dark Brown SILTY CLAY LOAM DD = 101 PCF 2 3 0.9 21 | | | | | | | | | | | |
| 436.4 (5) | | | | | | | | | | | |
| Medium, Light Brown And Gray SILTY CLAY DD = 94 PCF -15 1 3 0.6 25 18 | | | | | | Hard, Light Brown SILTSTONE 415.4 91/5" 4.5+ 10 P | | | | | |
| 431.9 (5) | | | | | | 412.4 | | | | | |
| Soft, Light Brown And Gray SILT -20 1 | | | | | | Hard, Gray SHALE 101/3 4.5+ 8 P | | | | | |
| | | | | | | -40 | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
 SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
 COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)
 BORING NO. SB-1 DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

| SOIL DESCRIPTION | | | | | | SOIL DESCRIPTION | | | | | |
|--|-------|---------|-------|-----|--|-----------------------------|-------|---------|-------|-----|--|
| (ft.) | (ft.) | (blows) | (tsf) | (%) | | (ft.) | (ft.) | (blows) | (tsf) | (%) | |
| See Sheet 8 of 19 | | | | | | Surface Water Elev. - (ft.) | | | | | |
| | | | | | | Groundwater Elev. - (ft.) | | | | | |
| | | | | | | First Encounter 19.5 (ft.) | | | | | |
| | | | | | | Upon Completion 17.2 (ft.) | | | | | |
| | | | | | | After - Hrs. - (ft.) | | | | | |
| | | | | | | 122/3" 4.5+ 7 P | | | | | |
| | | | | | | -45 | | | | | |
| | | | | | | -65 | | | | | |
| | | | | | | 404.9 | | | | | |
| EXPLORATORY BORING DISCONTINUED | | | | | | | | | | | |
| | | | | | | -50 | | | | | |
| | | | | | | -70 | | | | | |
| | | | | | | -75 | | | | | |
| | | | | | | -80 | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator). The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

BORING SB-1

SOIL BORING LOG

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
 SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
 COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)
 BORING NO. SB-2 DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

| SOIL DESCRIPTION | ELEV. (ft.) | DEPTH (ft.) | SPT (blows) | UCS (tsf) | MOIST. (%) | SOIL DESCRIPTION | | | | |
|---|-------------|-------------|-------------|-----------|------------|------------------------------------|-------------|-------------|-----------|------------|
| | | | | | | ELEV. (ft.) | DEPTH (ft.) | SPT (blows) | UCS (tsf) | MOIST. (%) |
| Dark Brown SANDY LOAM Organic Topsoil | | 8" | | | | SAND With Some Fine-Grained Gravel | | 3 | - | 14 |
| Medium, Dark Brown And Orange-Brown SILTY CLAY LOAM With Some Brick Fragments | 446.1 | (5) | 1 | | | 428.1 | 6 | | | |
| Medium, Black SILTY CLAY With Trace Of Organic Matter | 443.1 | (6) | 2 | 0.9 | 28 | 425.6 | 8 | | | |
| DD = 93 PCF | | | 2 | | | | 9 | | | |
| Medium, Dark Brown SANDY CLAY LOAM | 440.6 | (4) | 2 | 0.6 | 19 | 421.1 | 12 | | | |
| DD = 99 PCF | | | 1 | 0.6 | 23 | | 13 | | | |
| Medium, Dark Brown CLAY LOAM | 438.1 | (3) | 2 | | | | 14 | | | |
| DD = 95 PCF | | | 2 | 0.9 | 26 | | 20 | | | |
| Medium, Light Brown And Gray SILTY CLAY | 435.6 | (4) | 2 | | | 415.6 | 9 | | | |
| DD = 93 PCF | | | 1 | 0.3 | 27 | | 14 | | | |
| Soft, Light Brown And Gray SILTY CLAY LOAM | 433.1 | (2) | 1 | | | | 20 | | | |
| DD = 95 PCF | | | 1 | 0.4 | 22 | | 34 | | | |
| Soft, Light Brown And Gray CLAY LOAM | 430.6 | (3) | 1 | | | | | | | |
| DD = 95 PCF | | | 2 | | | | | | | |
| Loose, Brown, Fine- To Medium-Grained | | -20 | 4 | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
 The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

SOIL BORING LOG

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
 SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
 COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)
 BORING NO. SB-2 DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

| SOIL DESCRIPTION | ELEV. (ft.) | DEPTH (ft.) | SPT (blows) | UCS (tsf) | MOIST. (%) | SOIL DESCRIPTION | | | | |
|---------------------------------|-------------|-------------|-------------|-----------|------------|------------------|-------------|-------------|-----------|------------|
| | | | | | | ELEV. (ft.) | DEPTH (ft.) | SPT (blows) | UCS (tsf) | MOIST. (%) |
| Hard, Gray SHALE | | 97'6" | 4.5+ | | 9 | | | | | |
| AUGER REFUSAL AT (-)44.0 FEET | 406.1 | | | | | | | | | |
| EXPLORATORY BORING DISCONTINUED | | -45 | | | | | | | | |
| | | -65 | | | | | | | | |
| | | -70 | | | | | | | | |
| | | -75 | | | | | | | | |
| | | -80 | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer).
 The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

BORING SB-2



SOIL BORING LOG

Page 14 of 19
Date 10/01/10

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)

Table with columns for SOIL DESCRIPTION, ELEVATION, DEPTH, SPT, UNITS, MOISTURE, and SOIL DESCRIPTION. Includes data for various soil layers and SPT values.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)



SOIL BORING LOG

Page 15 of 19
Date 10/01/10

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY T. Fehl
SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SE 13 TWP. 24N RNG. 6W PM
COUNTY Tazewell STRUCTURE NO. 090-3001 (Exist.) (Prop.)

Table with columns for SOIL DESCRIPTION, ELEVATION, DEPTH, SPT, UNITS, MOISTURE, and SOIL DESCRIPTION. Includes data for various soil layers and SPT values.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator).
The Standard Penetration Test (SPT) N Value is per (AASHTO T206)

BBS 137 (9/05)

BORING SB-4



ROCK CORE LOG

Page 1 of 1
Date 10/06/2010

ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw LOGGED BY Feh/Krusemark
SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SEC. 13 TWP. 24N RNG. 6W PM

COUNTY Tazewell CORING METHOD Single Tube With Water
STRUCT. NO. 090-3001 CORING BARREL TYPE & SIZE NGW x 5'
Station 151+02 to 157+98 Core Diameter 1.98 - 1.85 in
Top of Rock Elev. 413.2 ft
Begin Core Elev. 39.0 ft
BORING NO. SB-3
Station 153+17
Offset 21' Right of Centerline
Ground Surface Elev. 451.7 ft

Table with columns: DEPTH (ft), CORE (#), RECOVERY (%), RQD (%), CORE TIME (min/ft), STRENGTH (tsf). Rows include: Medium-Density, Gray-Brown And Brown, Fine- To Coarse-Grained GRAVEL And Coarse-Grained SAND; Hard, Blue-Gray CLAY SHALE; Hard, Gray And Light Brown SHALE; CORE RUN DISCONTINUED.

Color pictures of the cores Attached
Cores will be stored for examination until 03/01/2011
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS 138 (Rev. 3/01)

ROCK CORE LOG SB-3



ROCK CORE LOG

Page 1 of 1
Date 10/06/2010

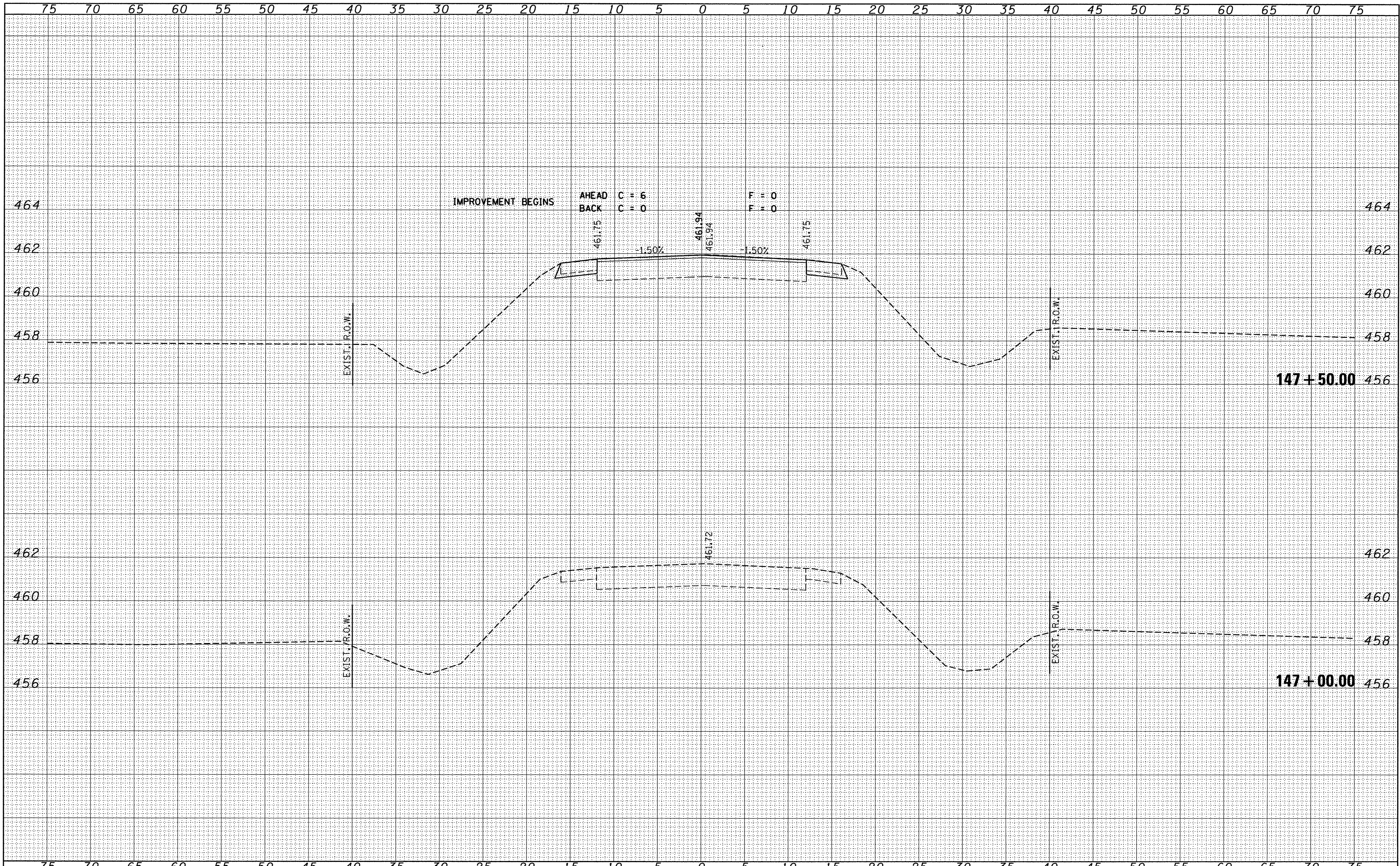
ROUTE FAS 461 DESCRIPTION Manito Road Bridge Over Mackinaw River LOGGED BY Feh/Krusemark
SECTION 93-00010-11-BR LOCATION Tazewell County, Illinois SEC. 13 TWP. 24N RNG. 6W PM

COUNTY Tazewell CORING METHOD Single Tube With Water
STRUCT. NO. 090-3001 CORING BARREL TYPE & SIZE NGW x 5'
Station 151+02 to 157+98 Core Diameter 1.90 in
Top of Rock Elev. 411.1 ft
Begin Core Elev. 411.1 ft
BORING NO. SB-4
Station 155+25
Offset 17' Left of Centerline
Ground Surface Elev. 450.1 ft

Table with columns: DEPTH (ft), CORE (#), RECOVERY (%), RQD (%), CORE TIME (min/ft), STRENGTH (tsf). Rows include: Medium-Density, Fine- To Medium-Grained SAND With Trace Of Coarse-Grained Sand; No Sample Recovery - No Return Of Drilling Fluid; Very Stiff, Blue-Gray CLAY SHALE (Fractured); Hard, Blue-Gray CLAY SHALE; CORE RUN DISCONTINUED.

Color pictures of the cores Attached
Cores will be stored for examination until 03/01/2011
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS 138 (Rev. 3/01)

ROCK CORE LOG SB-4



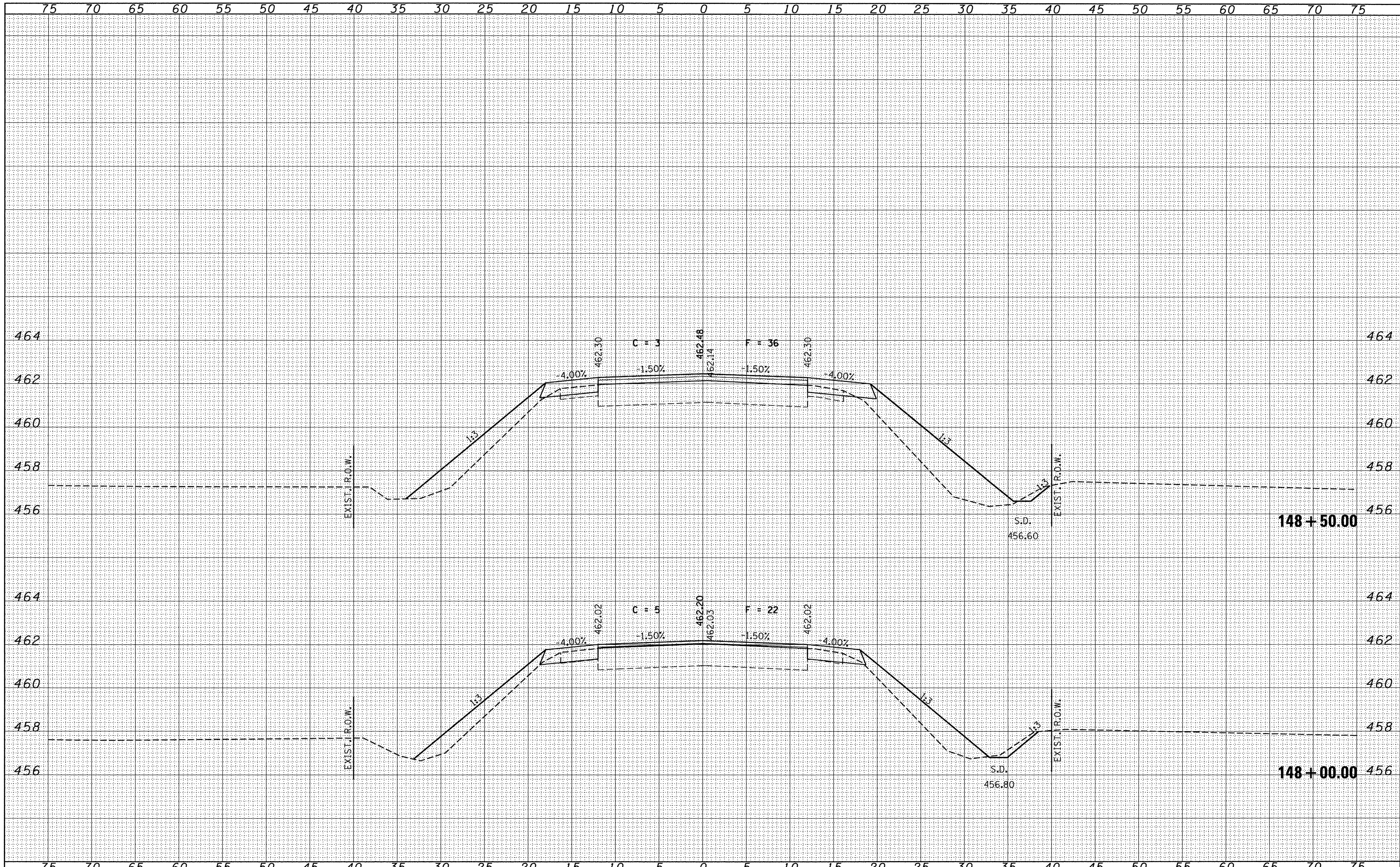
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| FILE NAME = 100110-shr-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 65 | CONTRACT NO. 89634 | | |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 1 OF 27 SHEETS | | STA. 146+50.00 TO STA. 147+50.00 | | ILLINOIS FED. AID PROJECT | |
| | PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - | | | | | | | | | |

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| NO. | |



FILE NAME = 100110-sht-sxs.dgn
HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.000959

USER NAME =
 PLOT SCALE =
 PLOT DATE = 6/30/2016

DESIGNED - J.W.F.
 DRAWN - T.W.K.
 CHECKED - M.D.C.
 DATE - 06/30/16

REVISED -
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**STATE OF ILLINOIS
 TAZEWELL COUNTY HIGHWAY DEPARTMENT**

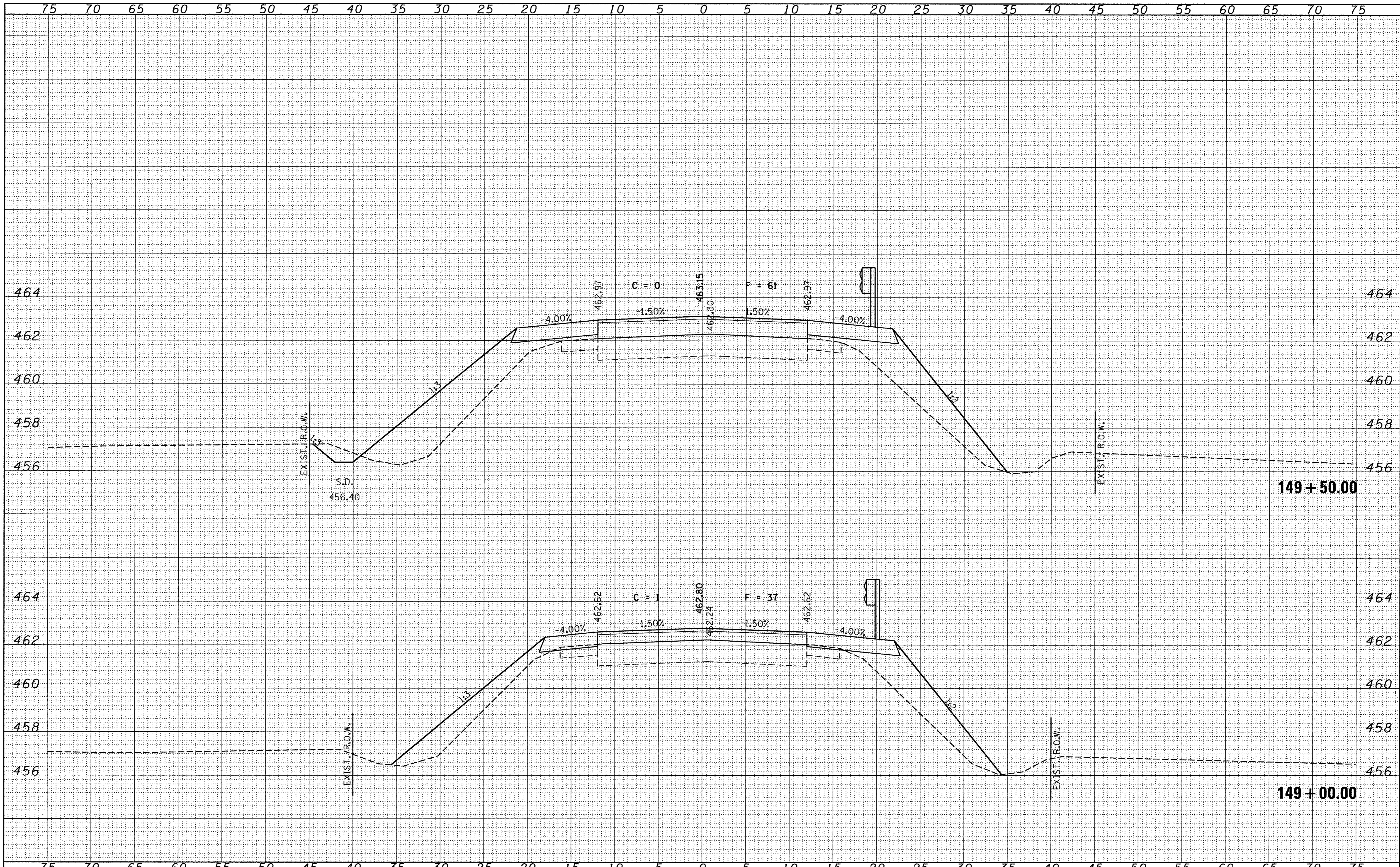
**CROSS SECTIONS
 F.A.S. 461 / C.H. 16 / MANITO ROAD**

SCALE: H5:V2 SHEET NO. 2 OF 27 SHEETS STA. 148+00.00 TO STA. 148+50.00

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|----------|--------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 66 |
| | | | CONTRACT NO. 89634 | |
| ILLINOIS FED. AID PROJECT | | | | |

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| FINAL SURVEY | |
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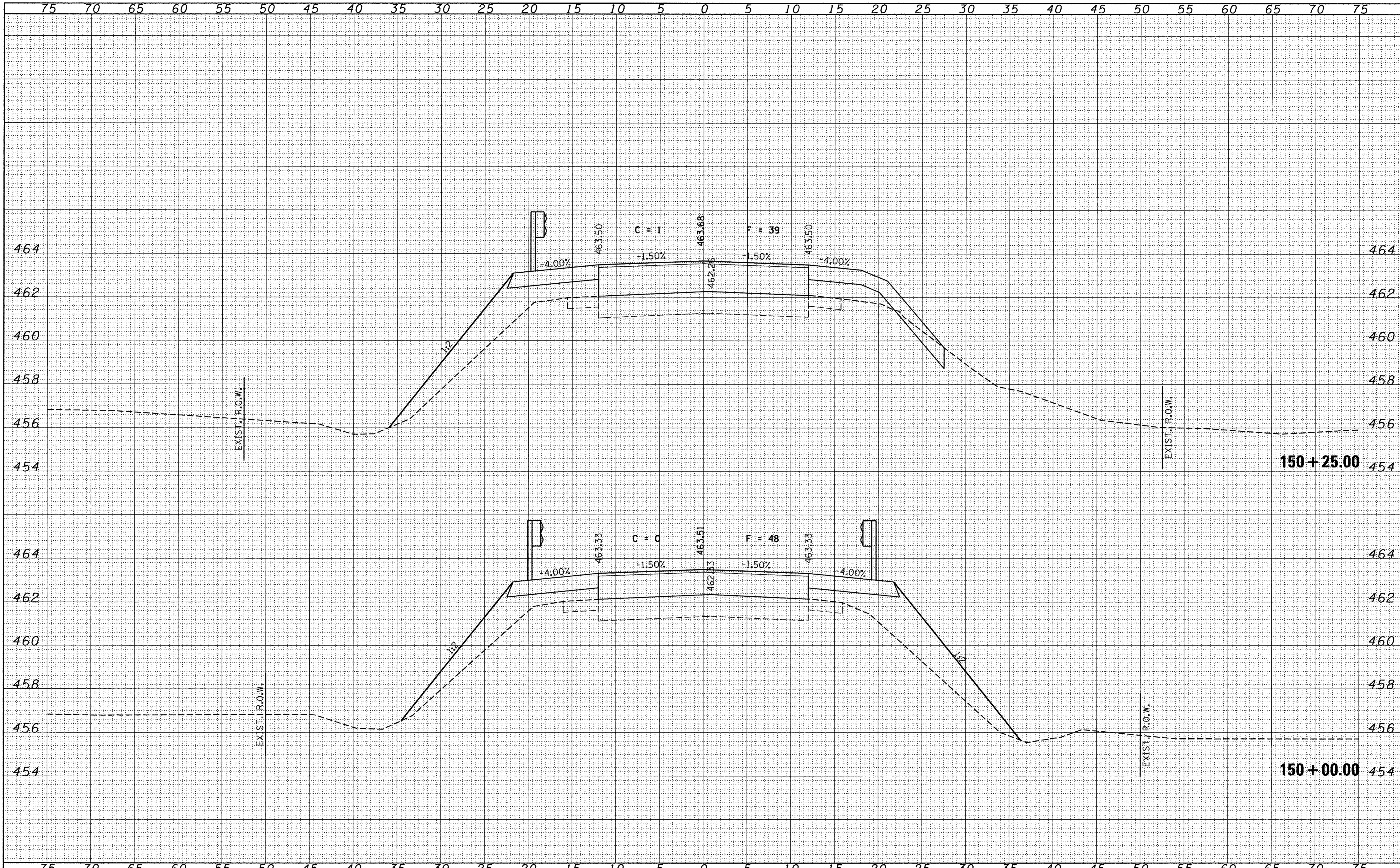
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009559 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 67 | | | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 3 OF 27 SHEETS | | STA. 149+00.00 TO STA. 149+50.00 | | CONTRACT NO. 89634 | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |

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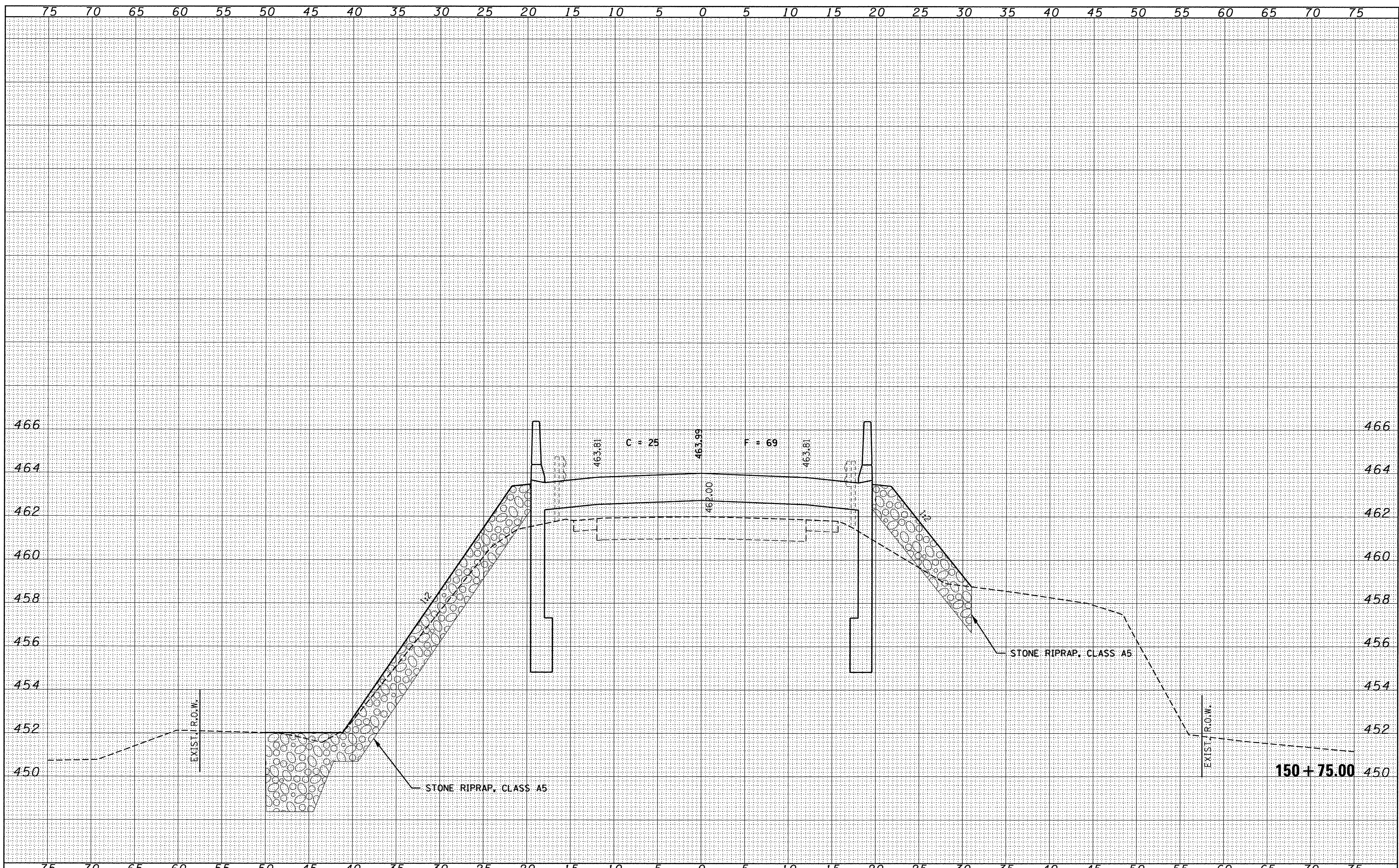
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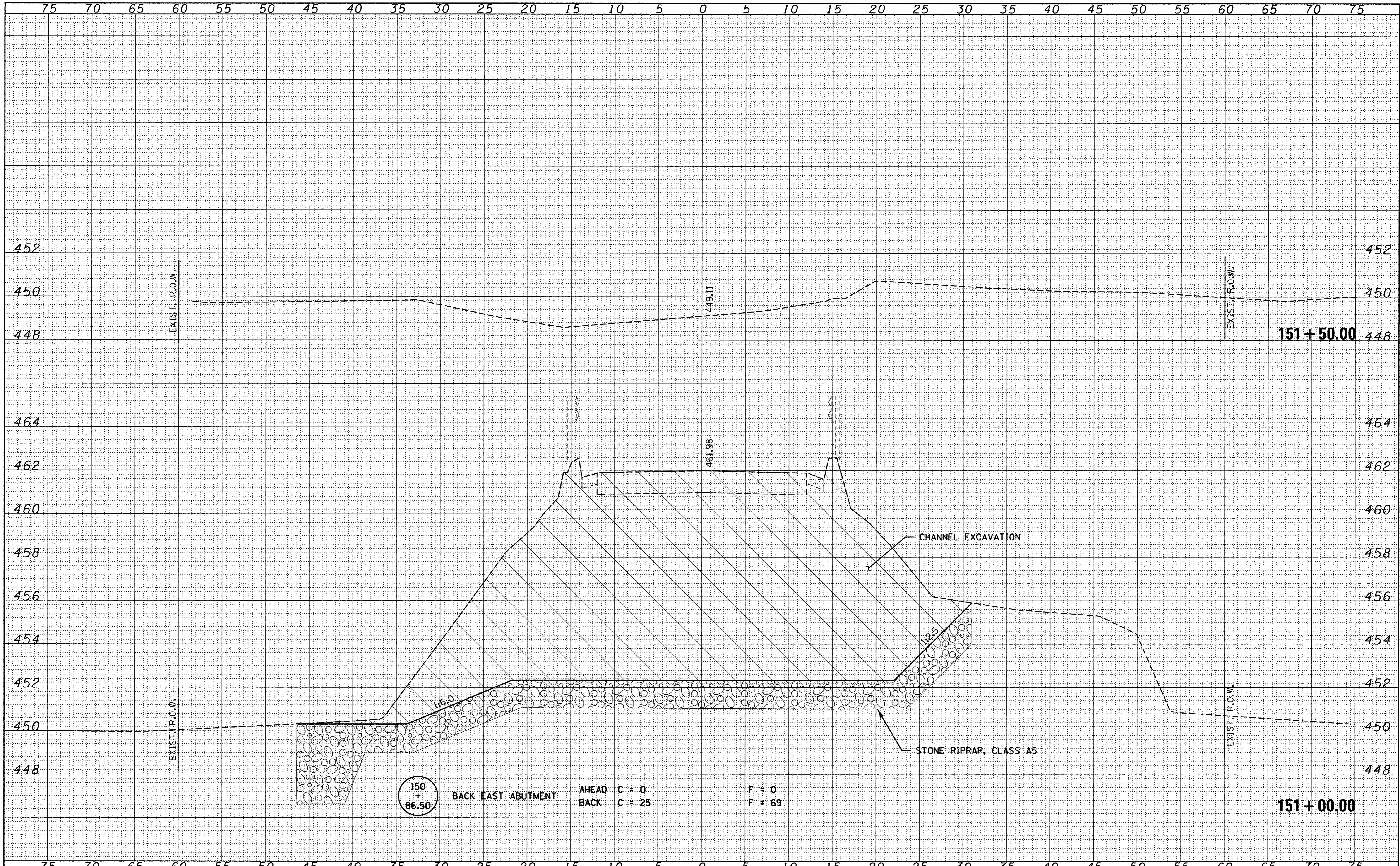
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 194-00959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | F.A.S. 461 / C.H. 16 / MANITO ROAD | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 68 |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5=V2 | | | SHEET NO. 4 OF 27 SHEETS | | | CONTRACT NO. 89634 | |
| | | DATE - 06/30/16 | REVISED - | | STA. 150+00.00 TO STA. 150+25.00 | | | ILLINOIS FED. AID PROJECT | | | | |

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| FINAL SURVEY | SURVEYED | DATE |
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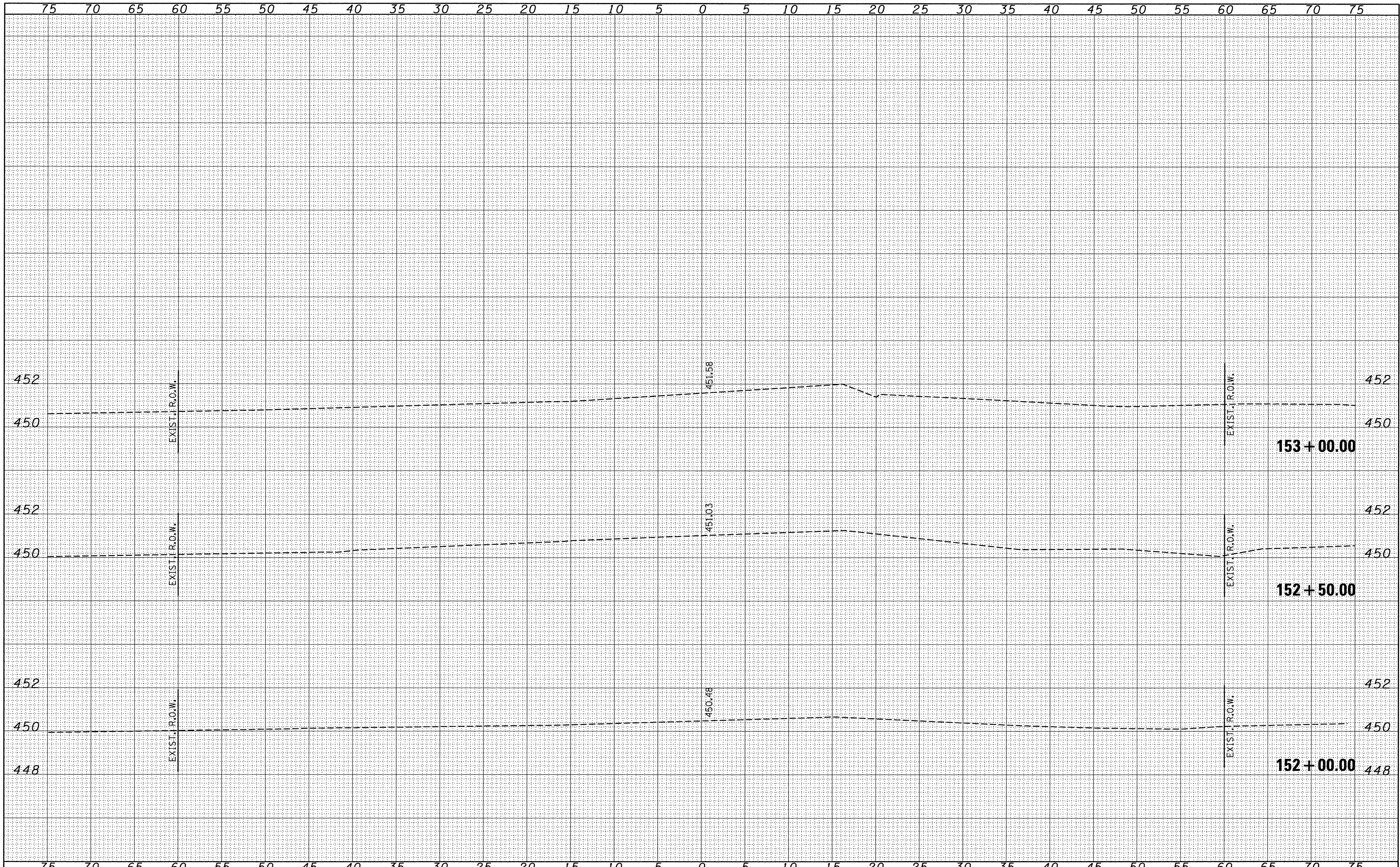
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 70 | | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 6 OF 27 SHEETS | | STA. 150+75.00 TO STA. 150+75.00 | | CONTRACT NO. 89634 | |
| | | REVISIONS | | | ILLINOIS FED. AID PROJECT | | | | | | | |



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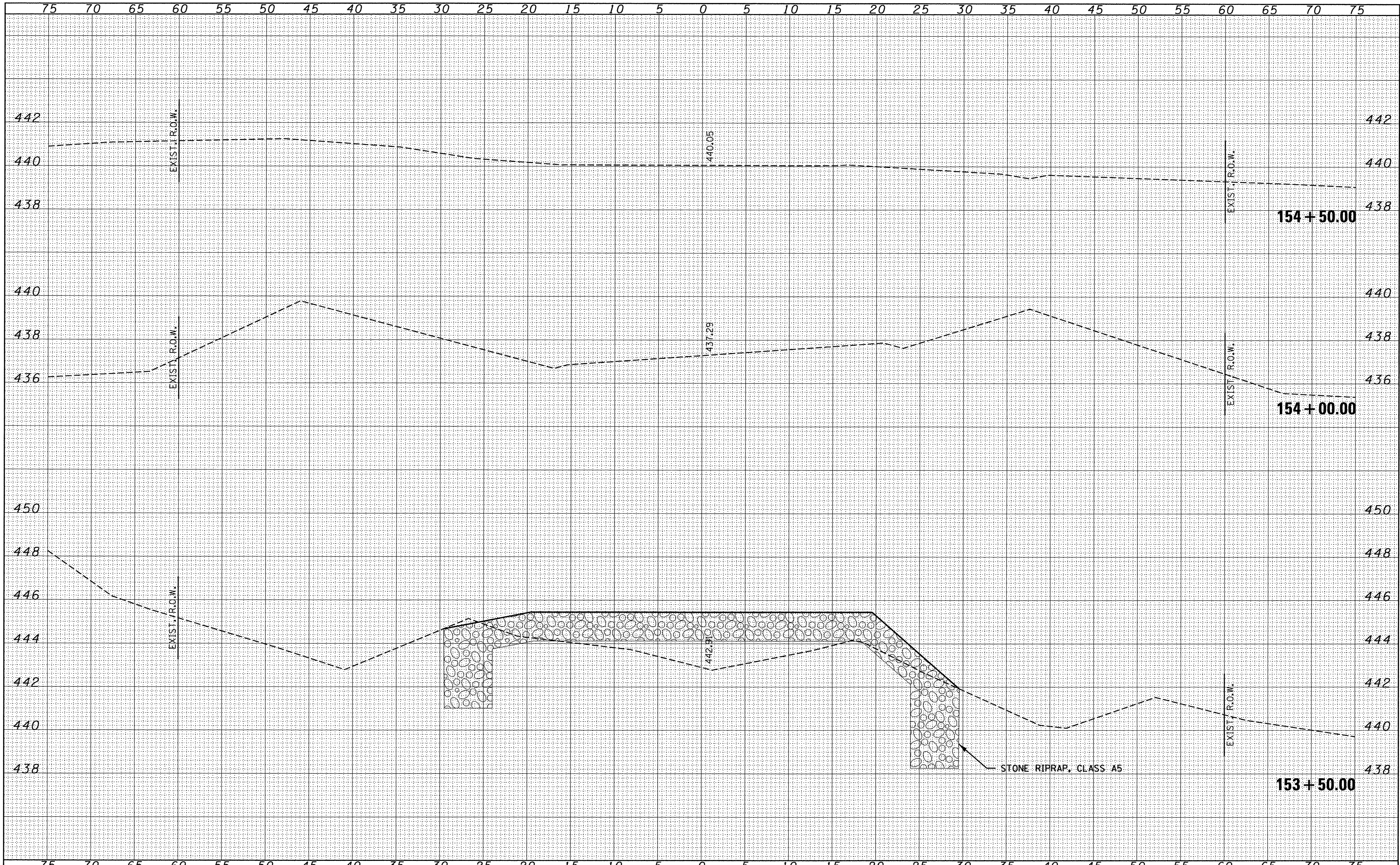
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| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | F.A.S. 461 / C.H. 16 / MANITO ROAD | | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 71 |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | | | SHEET NO. 7 OF 27 SHEETS | | STA. 151+00.00 TO STA. 151+50.00 | | |
| | | DATE - 06/30/16 | REVISED - | | CONTRACT NO. 89634 | | | | ILLINOIS FED. AID PROJECT | | | | |



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| FINAL SURVEY | SURVEYED | DATE |
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| ORIGINAL SURVEY | SURVEYED | DATE |
| NOTE BOOK | PLOTTED | BY |
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| FILE NAME = 100110-sht-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62705 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 72 | | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 SHEET NO. 8 OF 27 SHEETS STA. 152+00.00 TO STA. 153+00.00 | | | CONTRACT NO. 89634 | | | | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |



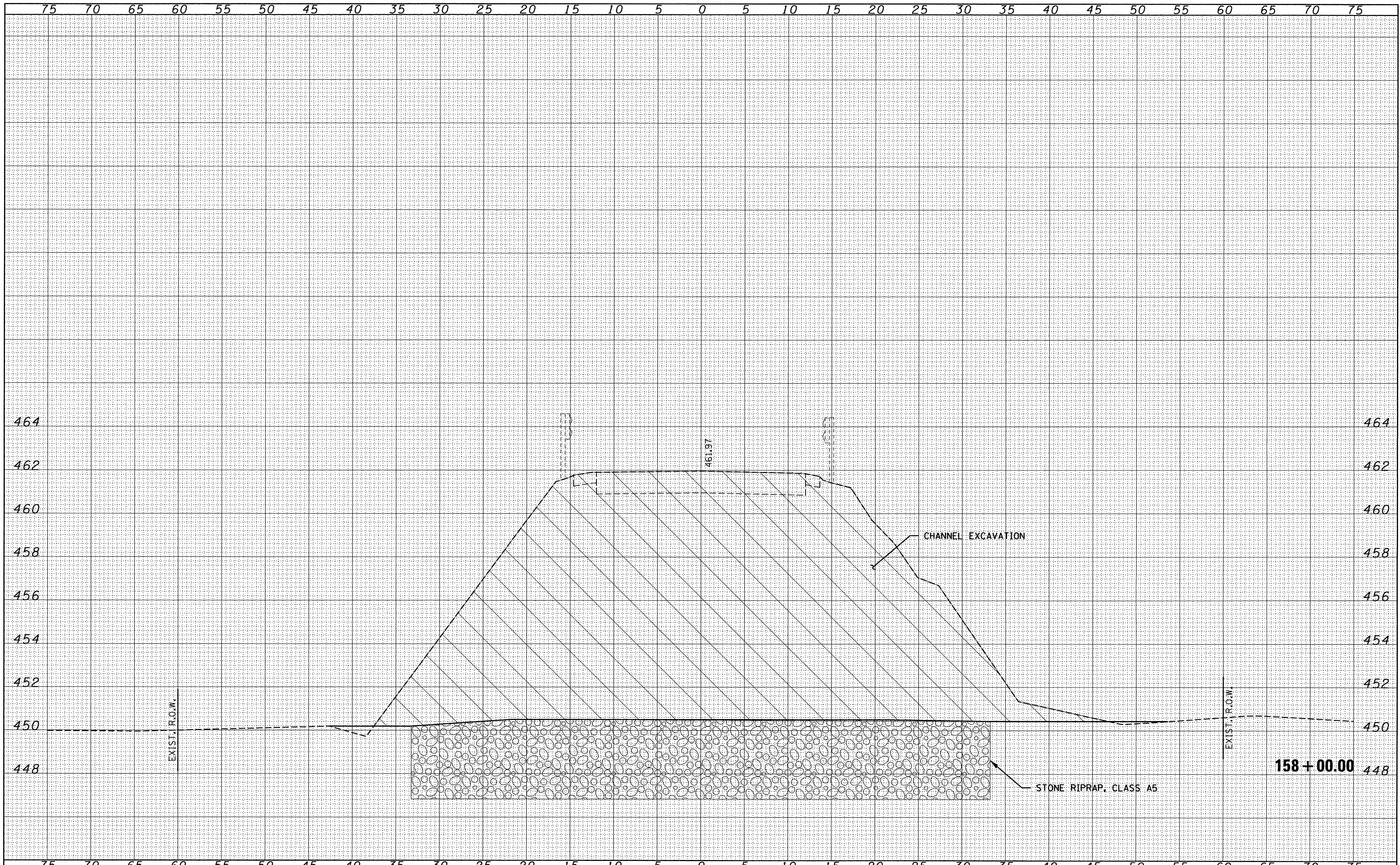
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| DATE | BY |
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| NOTE BOOK | NO. |

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| FILE NAME = 100110-shr-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000999 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 73 | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | ILLINOIS FED. AID PROJECT | | | | |
| | | DATE - 06/30/16 | REVISED - | | SCALE: H5:V2 | SHEET NO. 9 OF 27 SHEETS | STA. 153+50.00 TO STA. 154+50.00 | | | | |

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FILE NAME = 100110-sht-sss.dgn
HAMPTON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184.009959

USER NAME =
 PLOT SCALE =
 PLOT DATE = 6/30/2016

DESIGNED - J.W.F.
 DRAWN - T.W.K.
 CHECKED - M.D.C.
 DATE - 06/30/16

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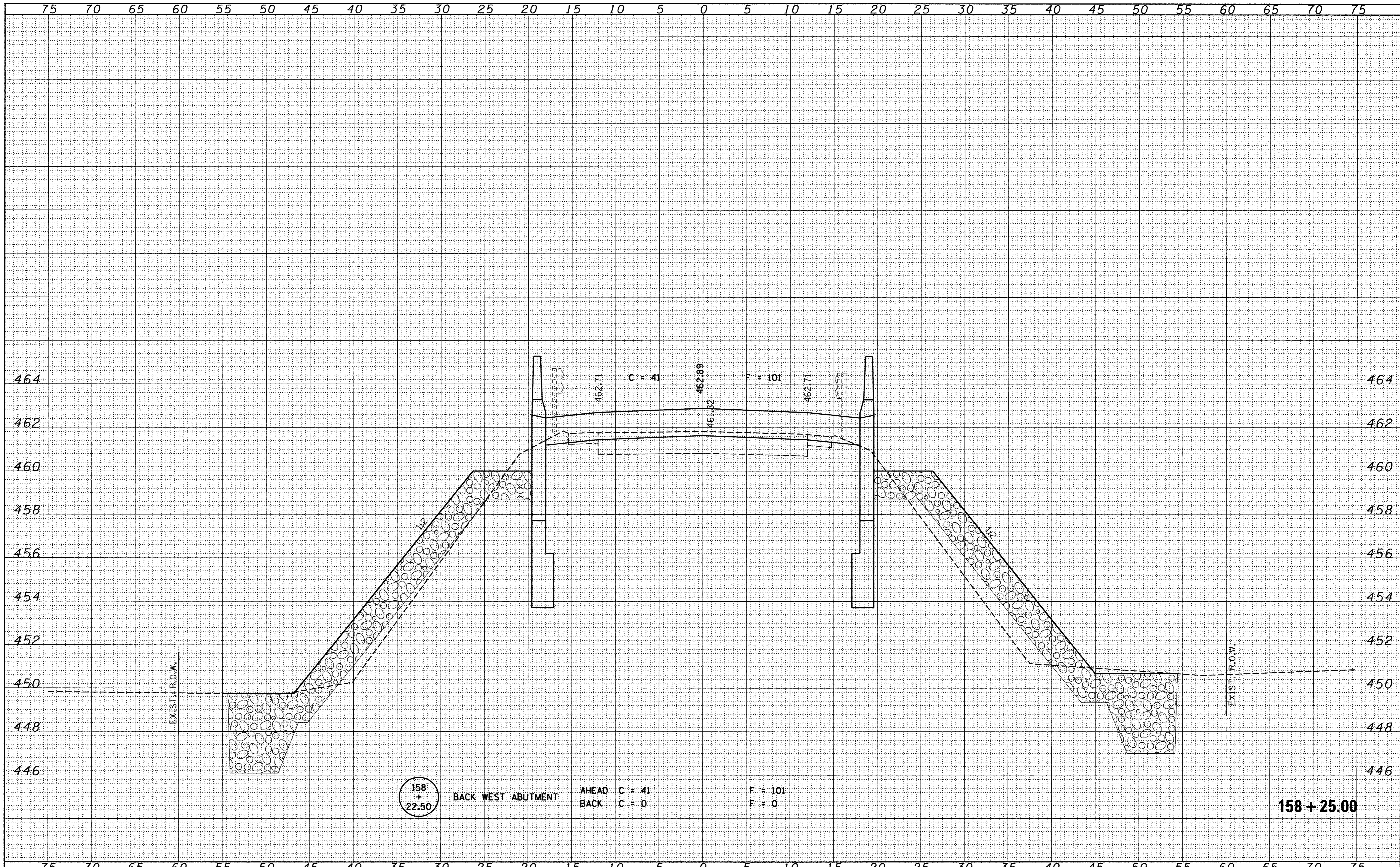
**STATE OF ILLINOIS
 TAZEWELL COUNTY HIGHWAY DEPARTMENT**

**CROSS SECTIONS
 F.A.S. 461 / C.H. 16 / MANITO ROAD**
 SCALE: H5:V2 SHEET NO. 10 OF 27 SHEETS STA. 158+00.00 TO STA. 158+00.00

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|----------|--------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 74 |
| | | | CONTRACT NO. 89634 | |
| ILLINOIS FED. AID PROJECT | | | | |

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158
+
22.50

BACK WEST ABUTMENT

AHEAD C = 41
BACK C = 0

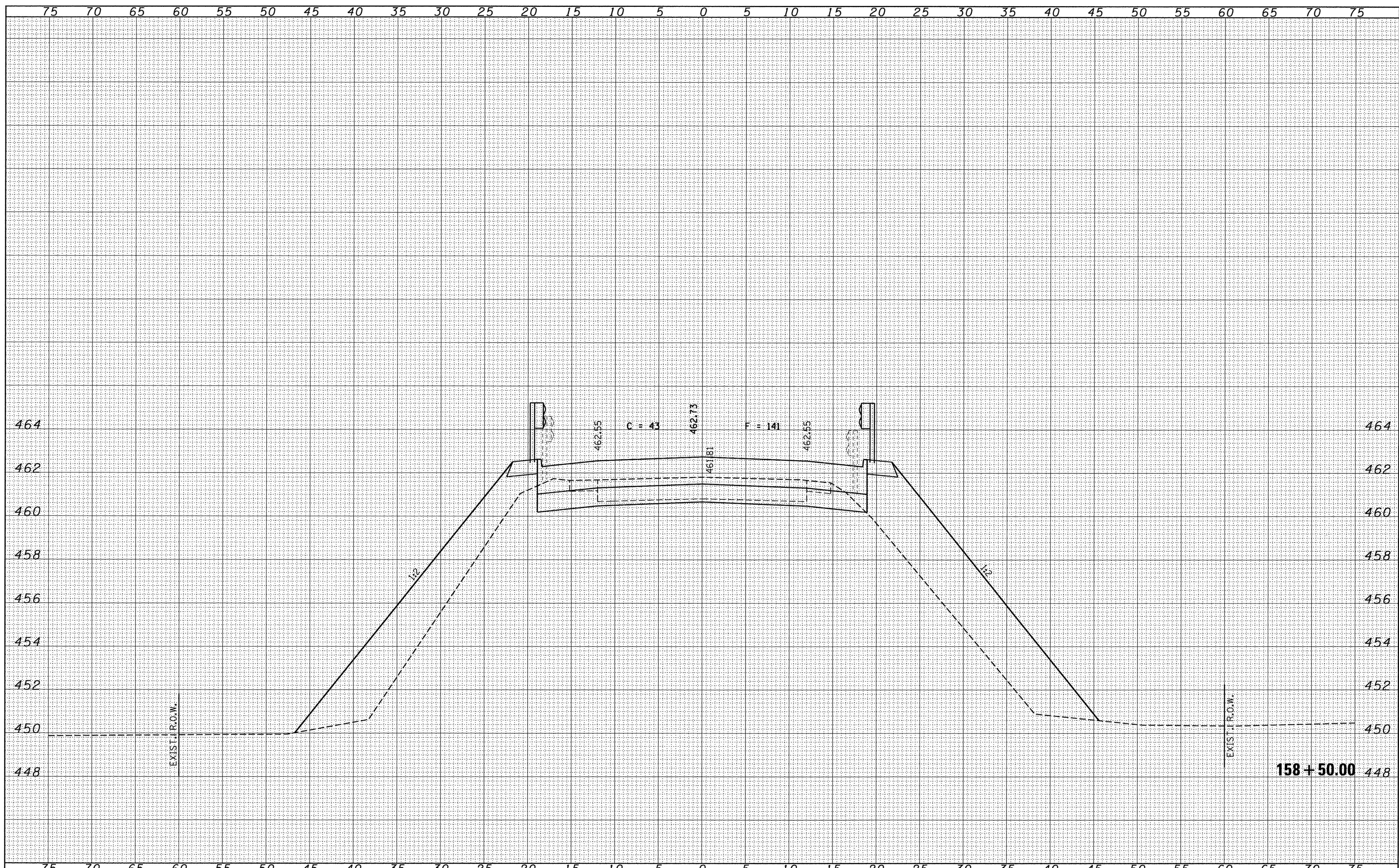
F = 101
F = 0

158 + 25.00

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| FILE NAME = 100110-sh1-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 75 | | | |
| ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009989 | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5+V2 | SHEET NO. 11 OF 27 SHEETS | STA. 158+25.00 TO STA. 158+25.00 | CONTRACT NO. 89634 | | ILLINOIS FED. AID PROJECT | | |
| | | DATE - 06/30/16 | REVISED - | | | | | | | | | |

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| FINAL SURVEY NO. | SURVEYED | DATE |
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| AREAS | TEMPLATE | |
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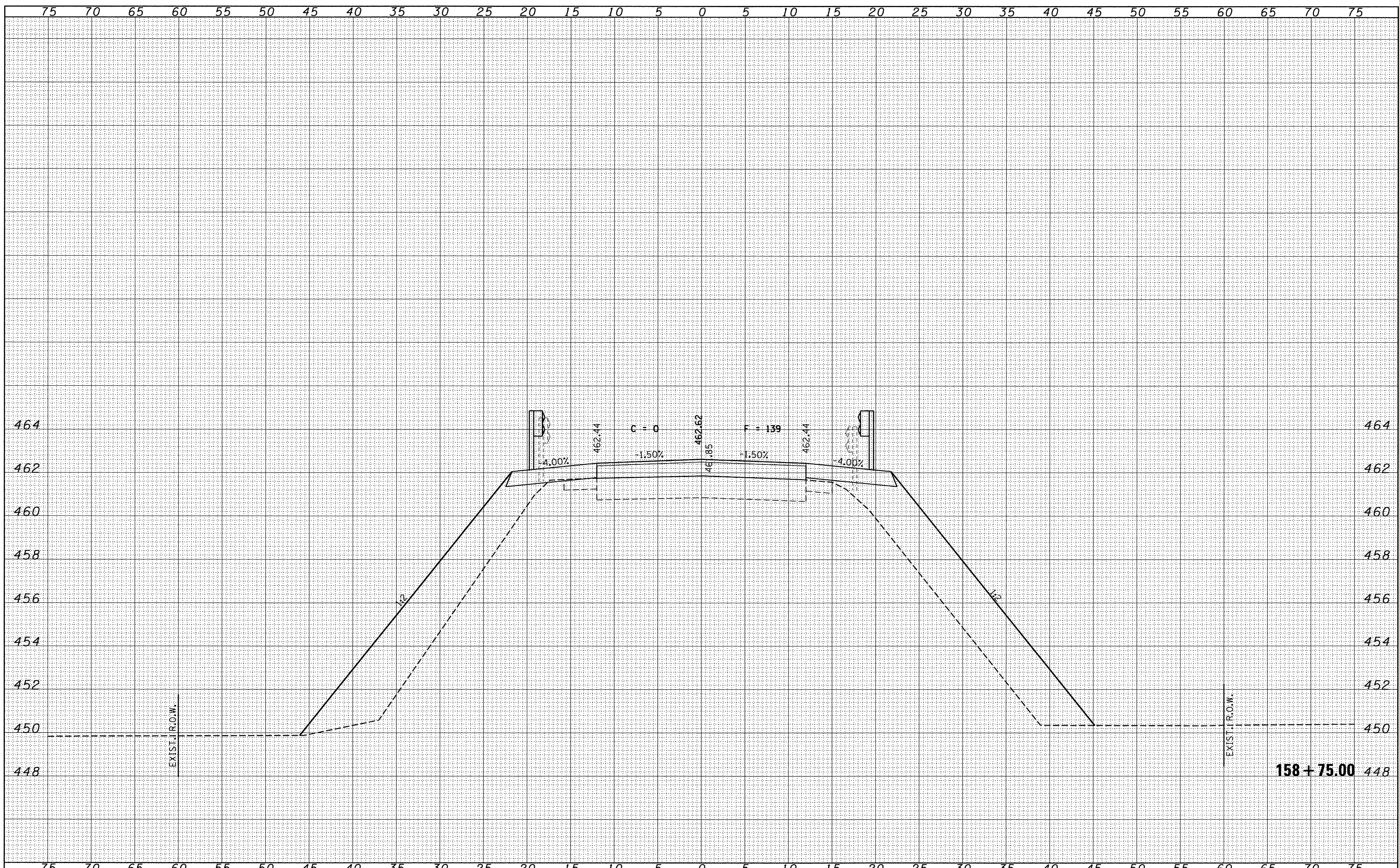
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| ORIGINAL SURVEY NO. | SURVEYED | DATE |
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| AREAS | TEMPLATE | |
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| FILE NAME = 100110-sht-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 194.000950 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 76 |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | | CONTRACT NO. 89634 | | | ILLINOIS FED. AID PROJECT | |
| | | DATE - 06/30/16 | REVISED - | | | SCALE: H5:V2 | SHEET NO. 12 OF 27 SHEETS | STA. 158+50.00 TO STA. 158+50.00 | | |

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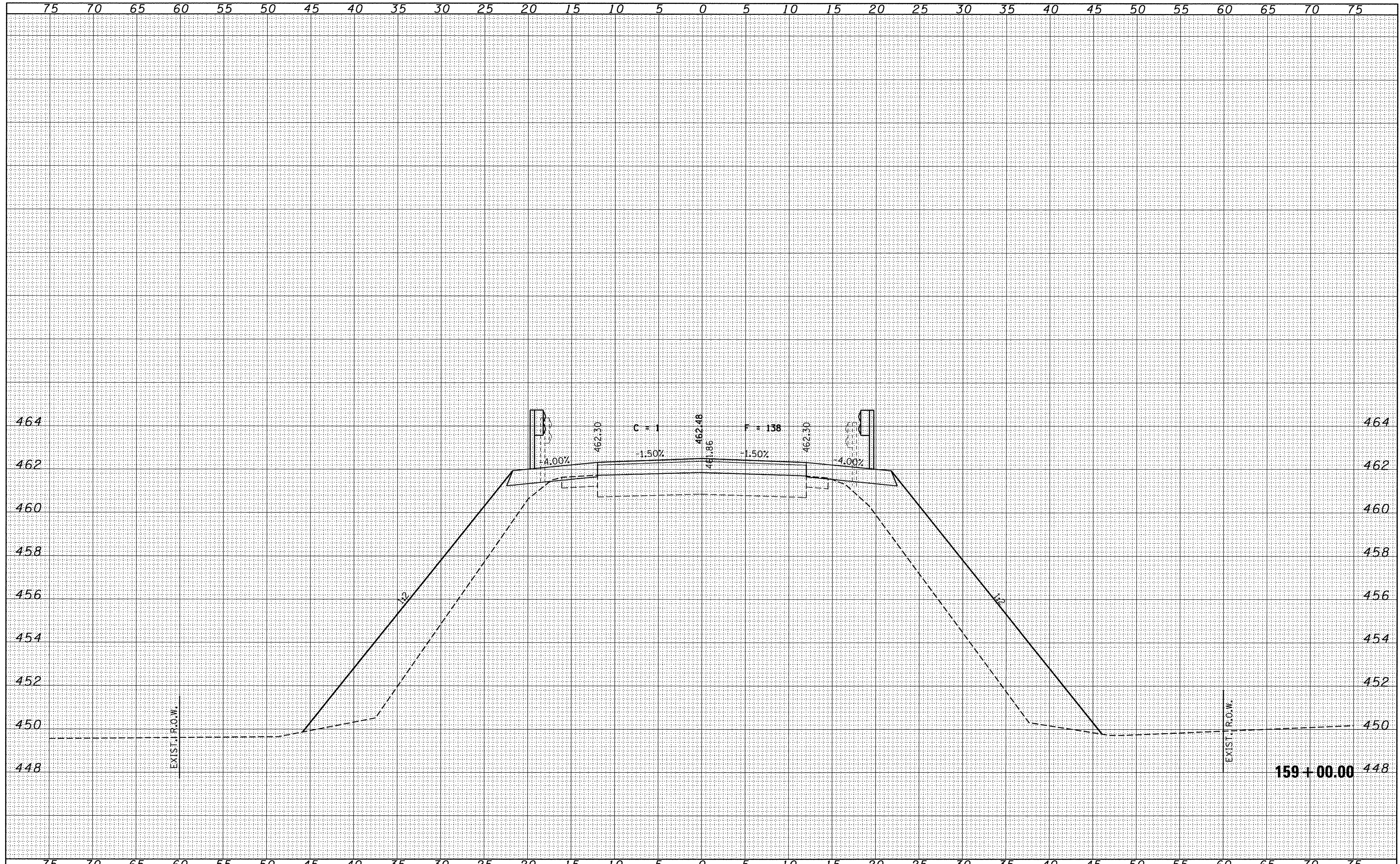
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| FILE NAME = 100110-sht-xxx.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000998 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 77 | | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 13 OF 27 SHEETS | | STA. 158+75.00 TO STA. 158+75.00 | | CONTRACT NO. 89634 | |
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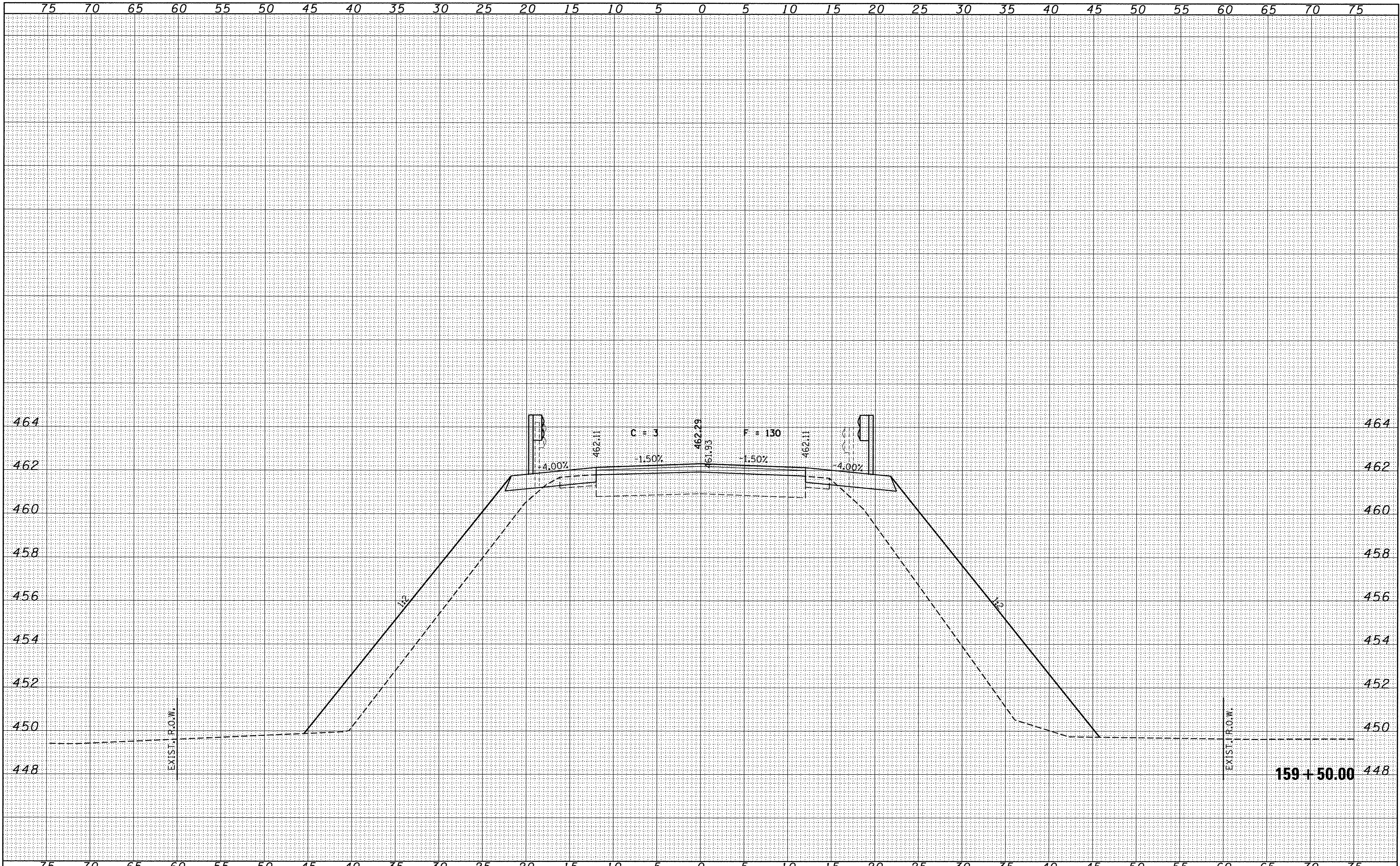
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| FILE NAME = 100110-sht-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62709 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-000559 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 78 | | | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 14 OF 27 SHEETS | | STA. 159+00.00 TO STA. 159+00.00 | | CONTRACT NO. 89634 | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |

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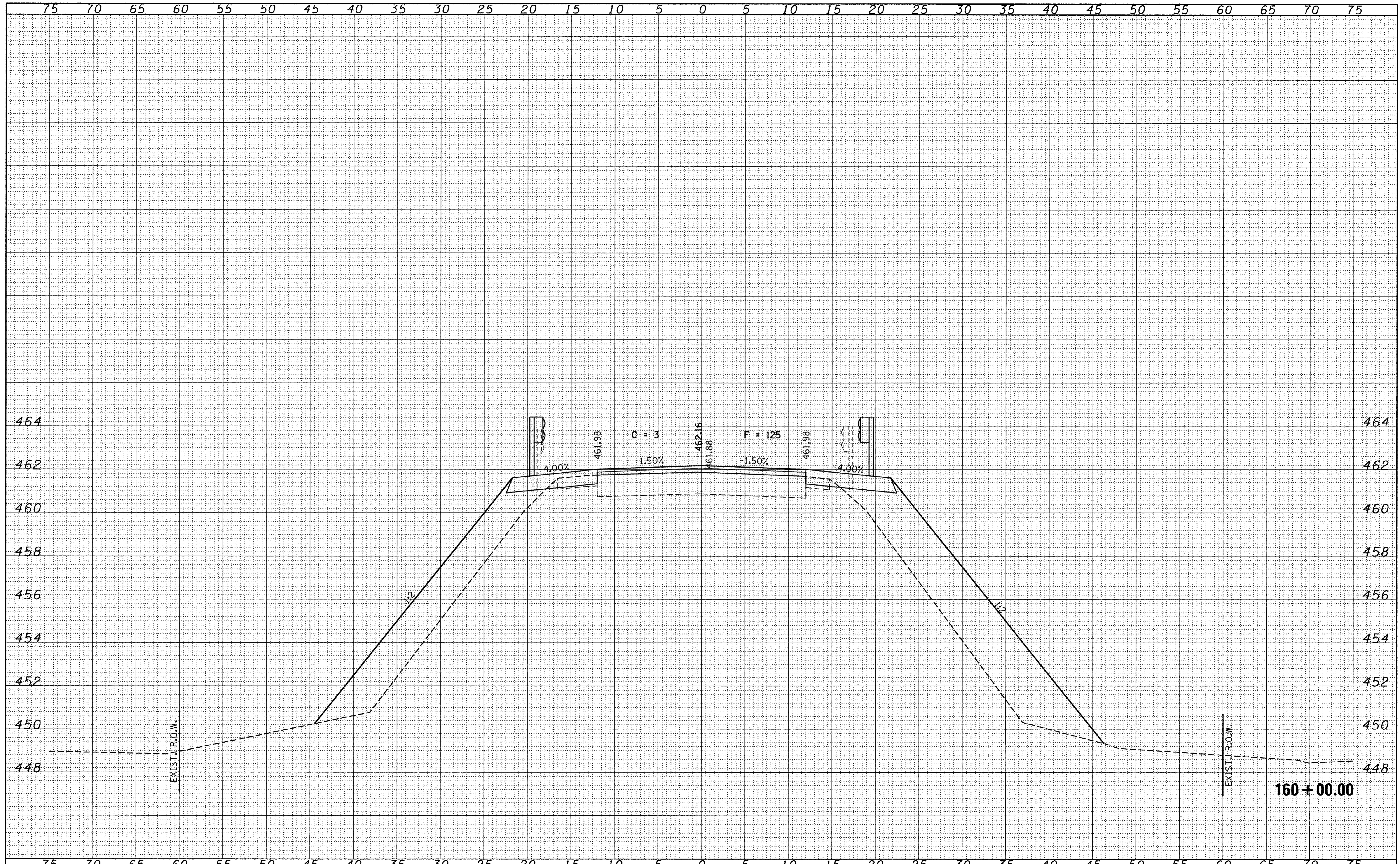
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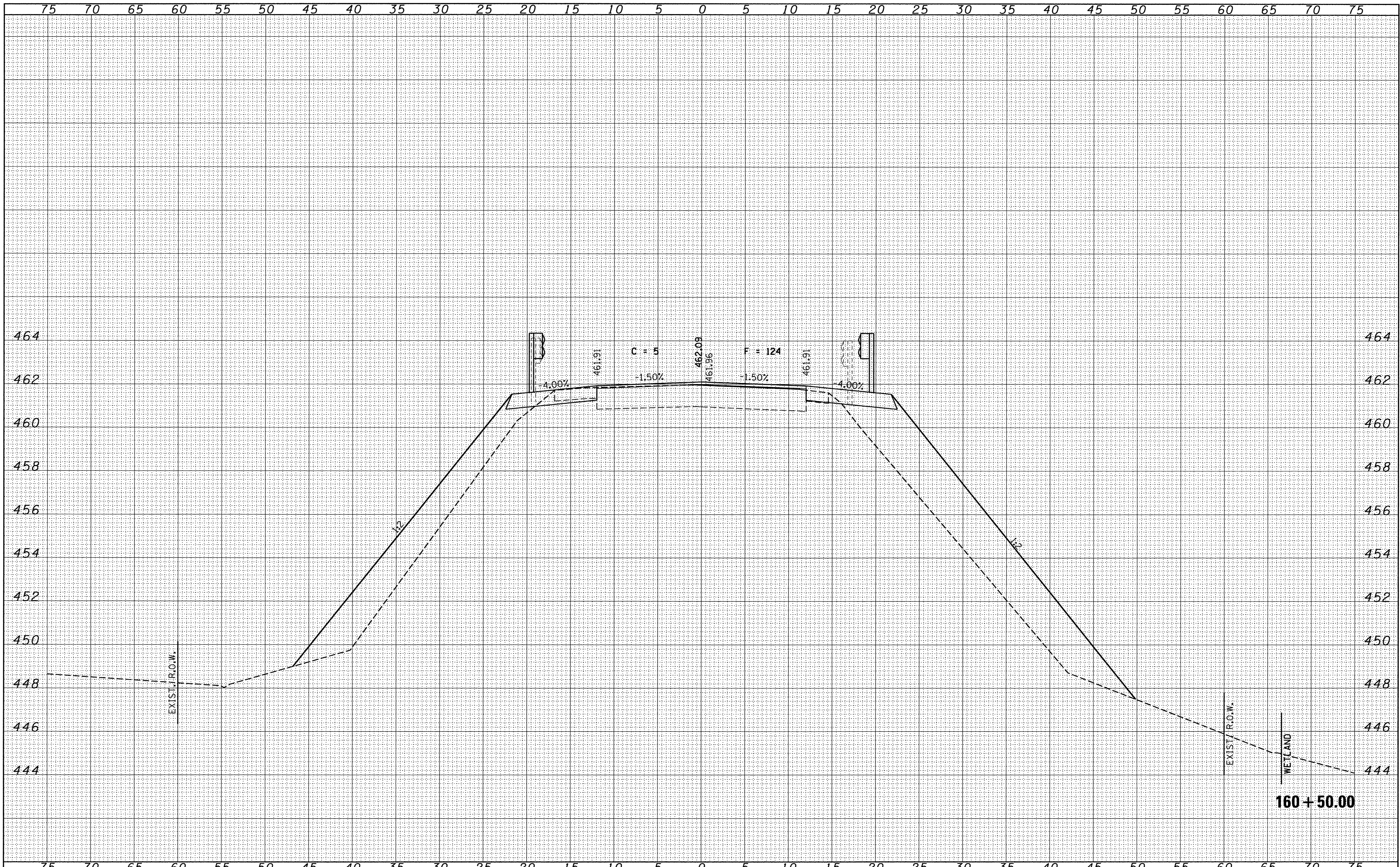
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| FILE NAME = 100110-sht-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | <p align="center">STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT</p> | <p align="center">CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD</p> | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.00889 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 79 | CONTRACT NO. 89634 | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | SHEET NO. 15 OF 27 SHEETS | STA. 159+50.00 TO STA. 159+50.00 | ILLINOIS FED. AID PROJECT | | | |
| | | DATE - 06/30/16 | REVISED - | | | | | | | | |

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| FILE NAME = 100110-sht-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 80 | | | | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | ILLINOIS FED. AID PROJECT | | | | |
| | | DATE - 06/30/16 | REVISED - | | SCALE: H5:V2 | SHEET NO. 16 OF 27 SHEETS | STA. 160+00.00 TO STA. 160+00.00 | | | | | | |



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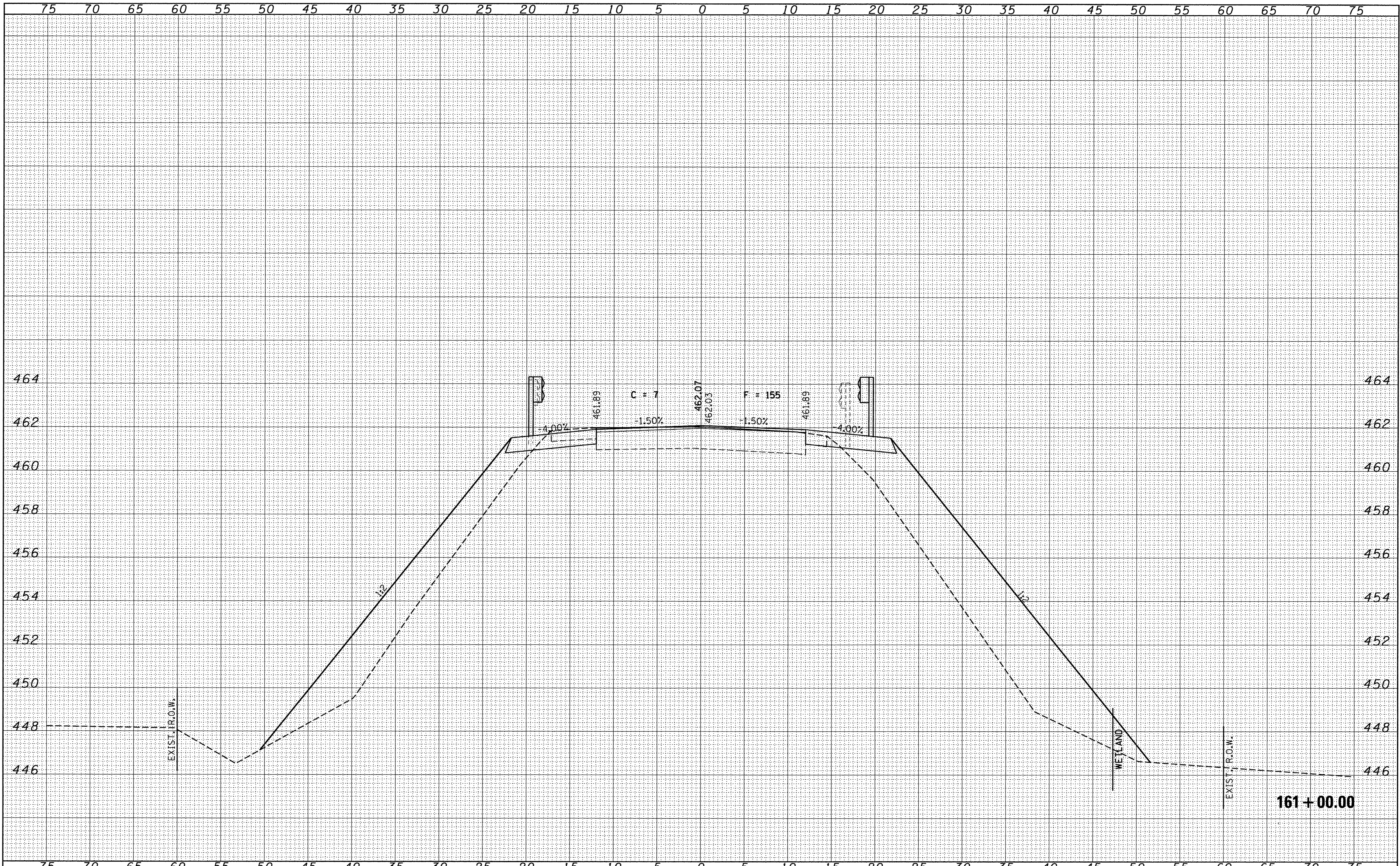
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| FILE NAME = 100110-sh1-9xs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184.000959 | | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 81 | | | |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | | | | |
| | PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |

SCALE: H5:V2 SHEET NO. 17 OF 27 SHEETS STA. 160+50.00 TO STA. 160+50.00

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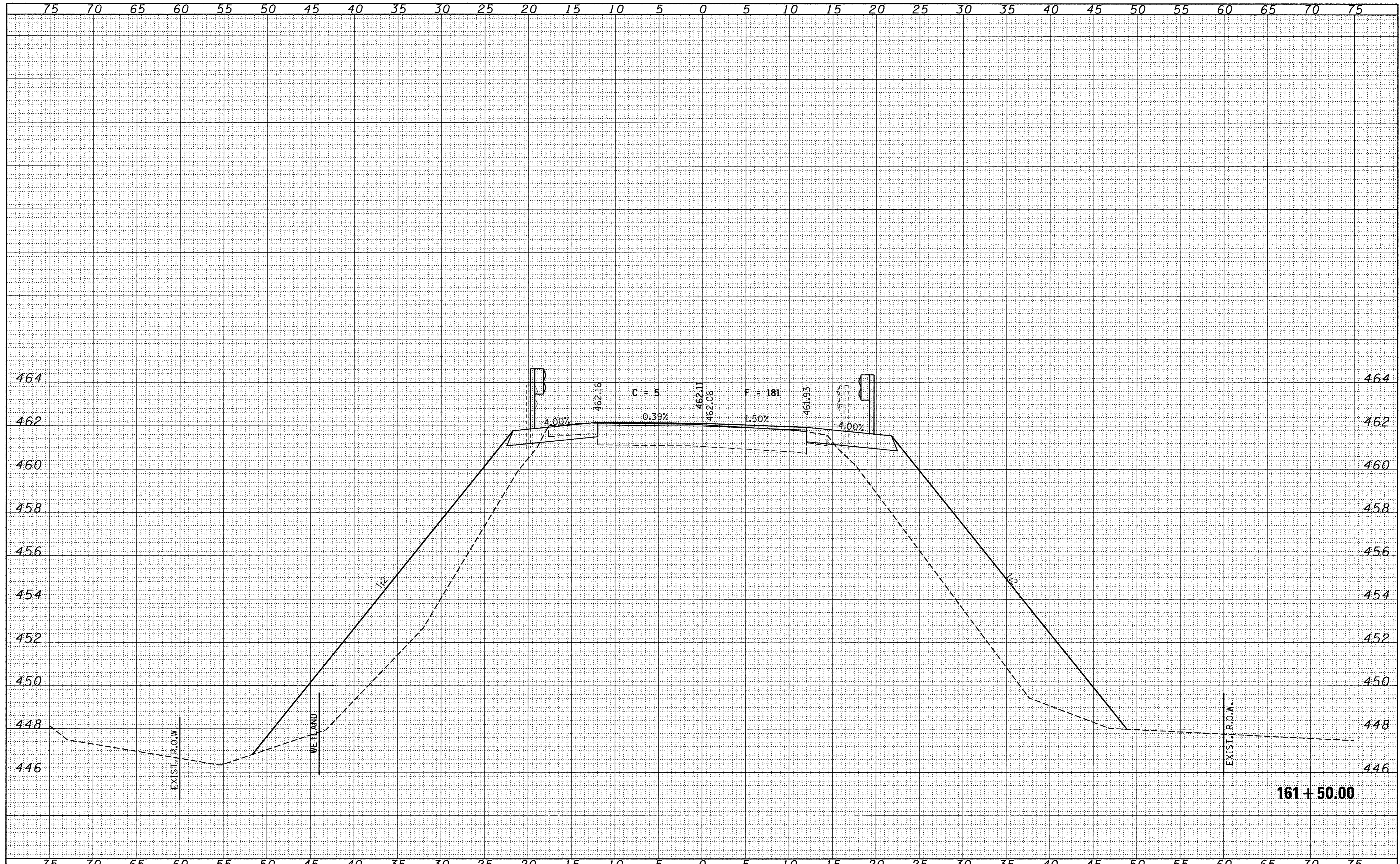
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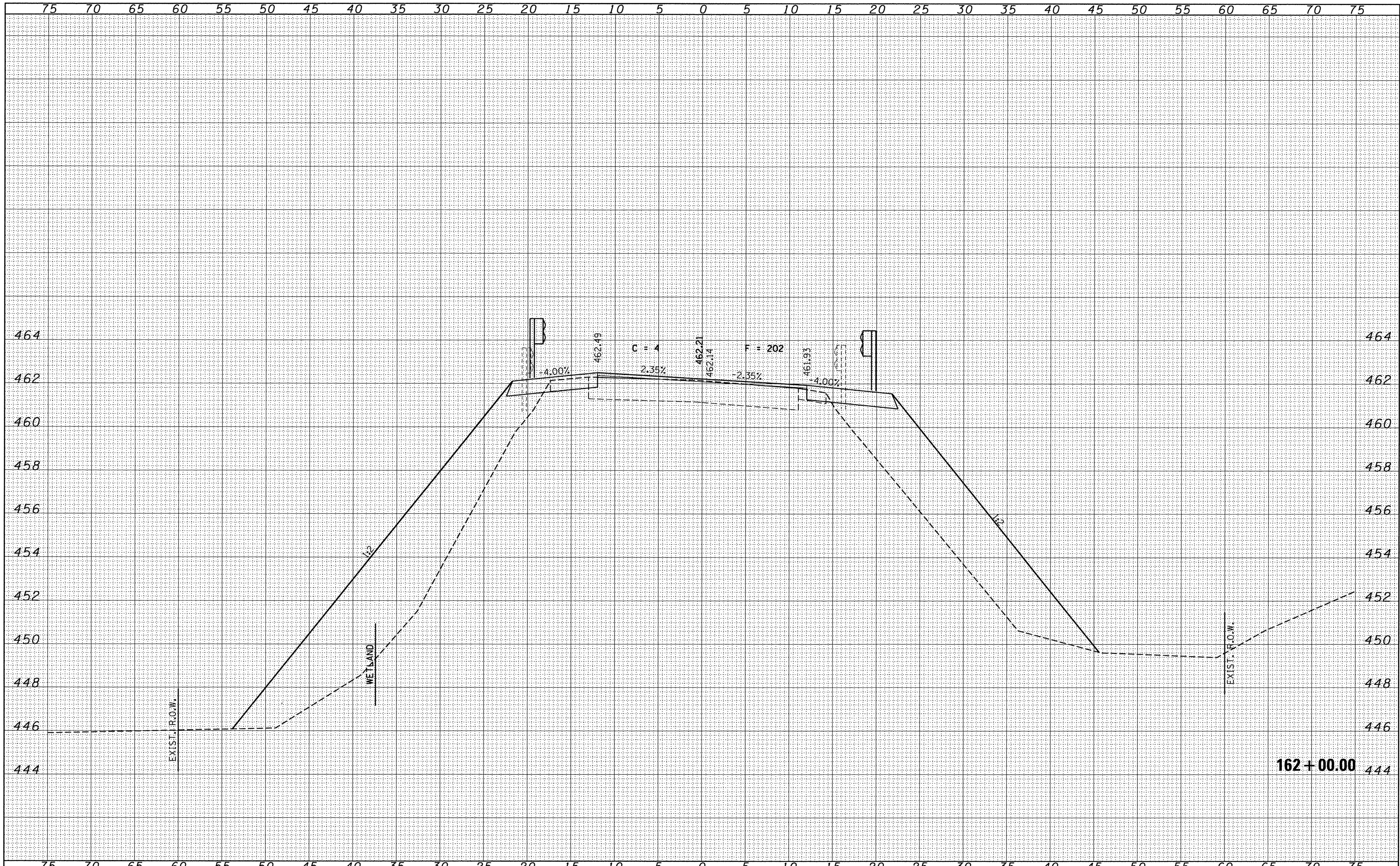
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| FILE NAME = 100110-sht-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000009 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 82 | CONTRACT NO. 89634 | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | SHEET NO. 18 OF 27 SHEETS | STA. 161+00.00 TO STA. 161+00.00 | ILLINOIS FED. AID PROJECT | | | |
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| FILE NAME = 100110-sht-exs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000989 | | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 83 | | | |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | ILLINOIS FED. AID PROJECT | | | | |
| | PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - | | SCALE: H5+V2 | SHEET NO. 19 OF 27 SHEETS | STA. 161+50.00 TO STA. 161+50.00 | | | | | |

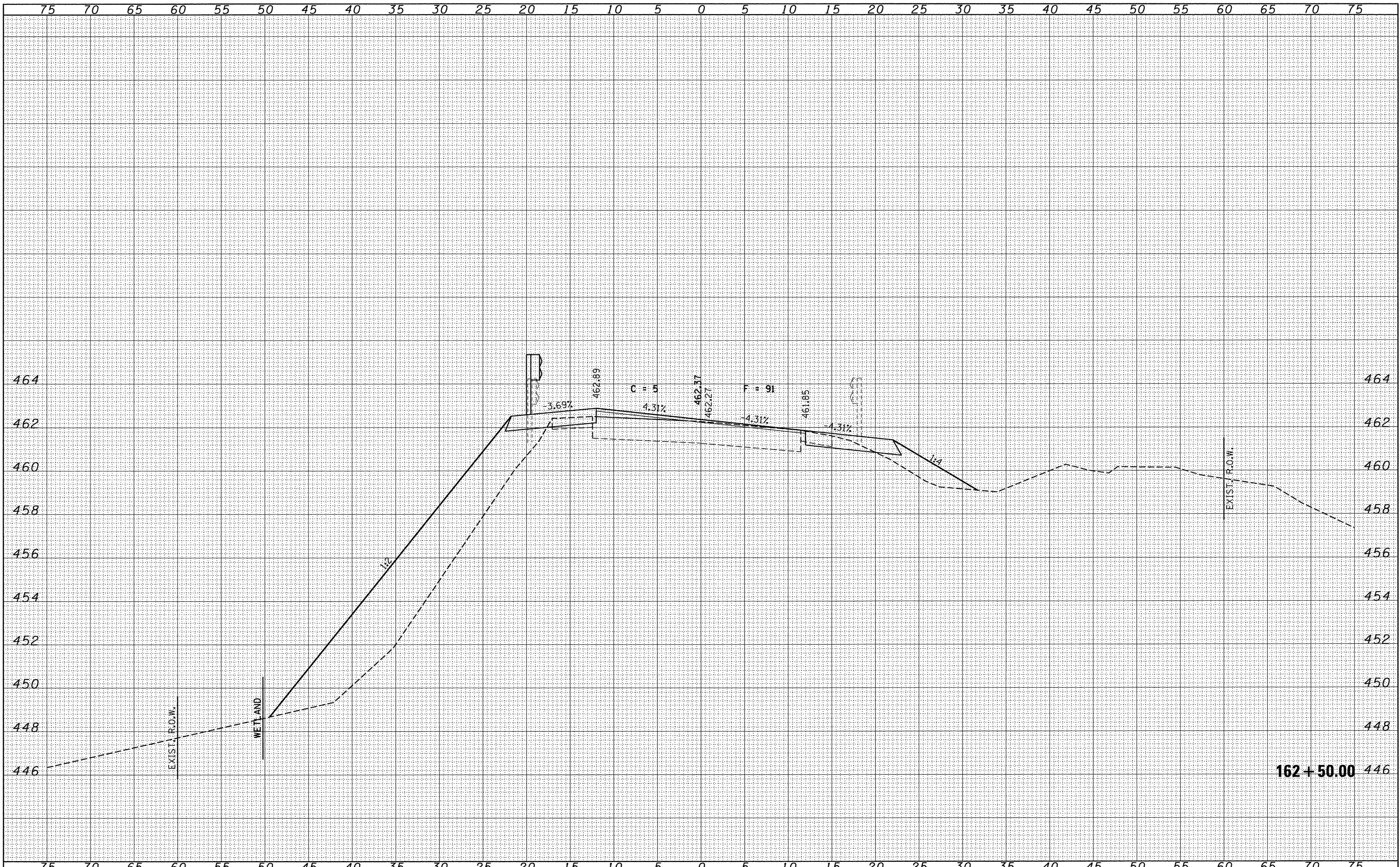


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| FILE NAME = 100110-sh1-9xs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62793 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 84 | | |
| PLOT DATE = 6/30/2016 | DATE - 06/30/16 | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | | | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | |

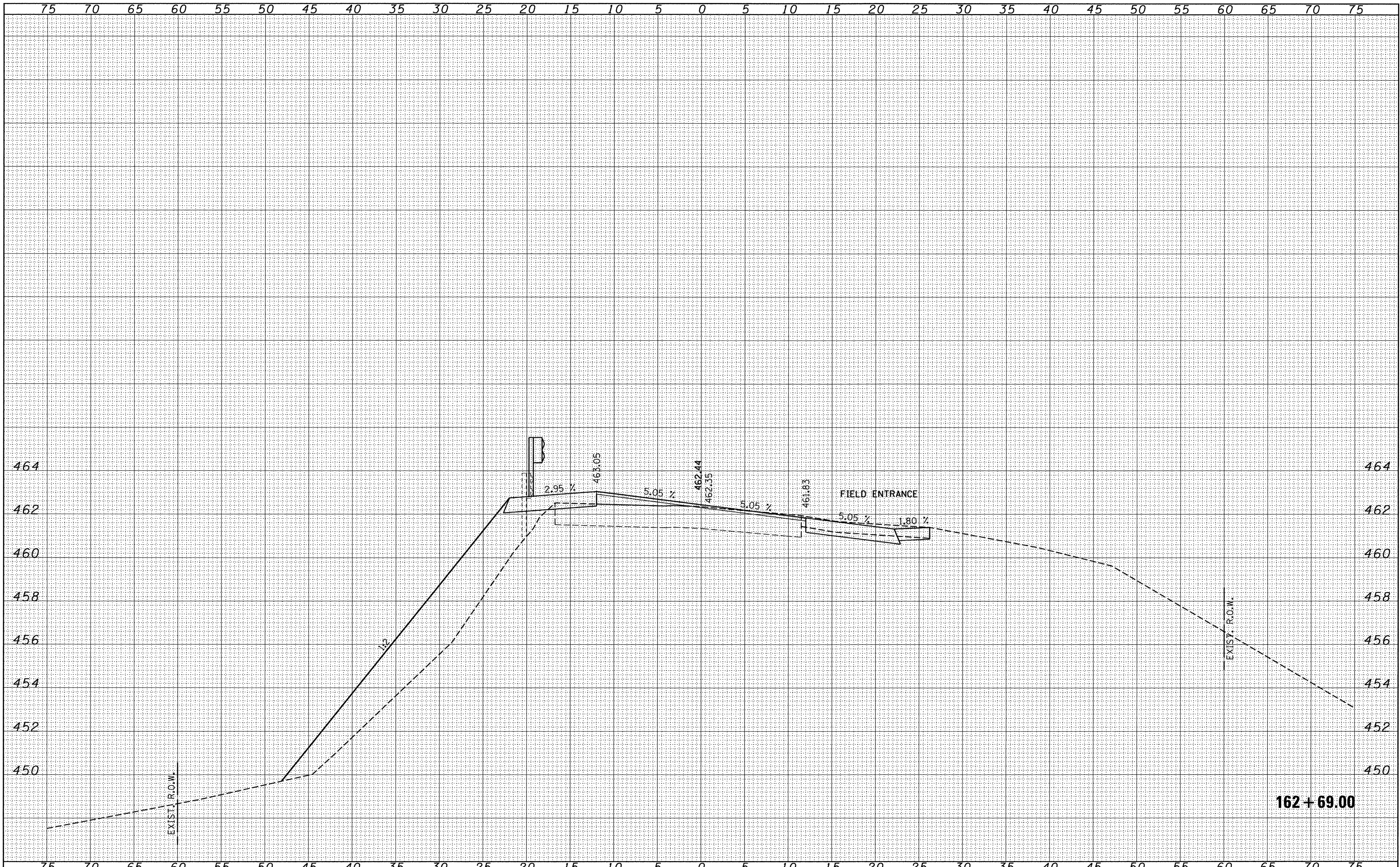
SCALE: H5:V2 SHEET NO. 20 OF 27 SHEETS STA. 162+00.00 TO STA. 162+00.00



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| FILE NAME = 100110-shr-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184.000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 85 | | | |
| PLOT DATE = 6/30/2016 | | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | | | | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |
| | | | | SCALE: H5:V2 | SHEET NO. 21 OF 27 SHEETS | STA. 162+50.00 TO STA. 162+50.00 | | | | | | |



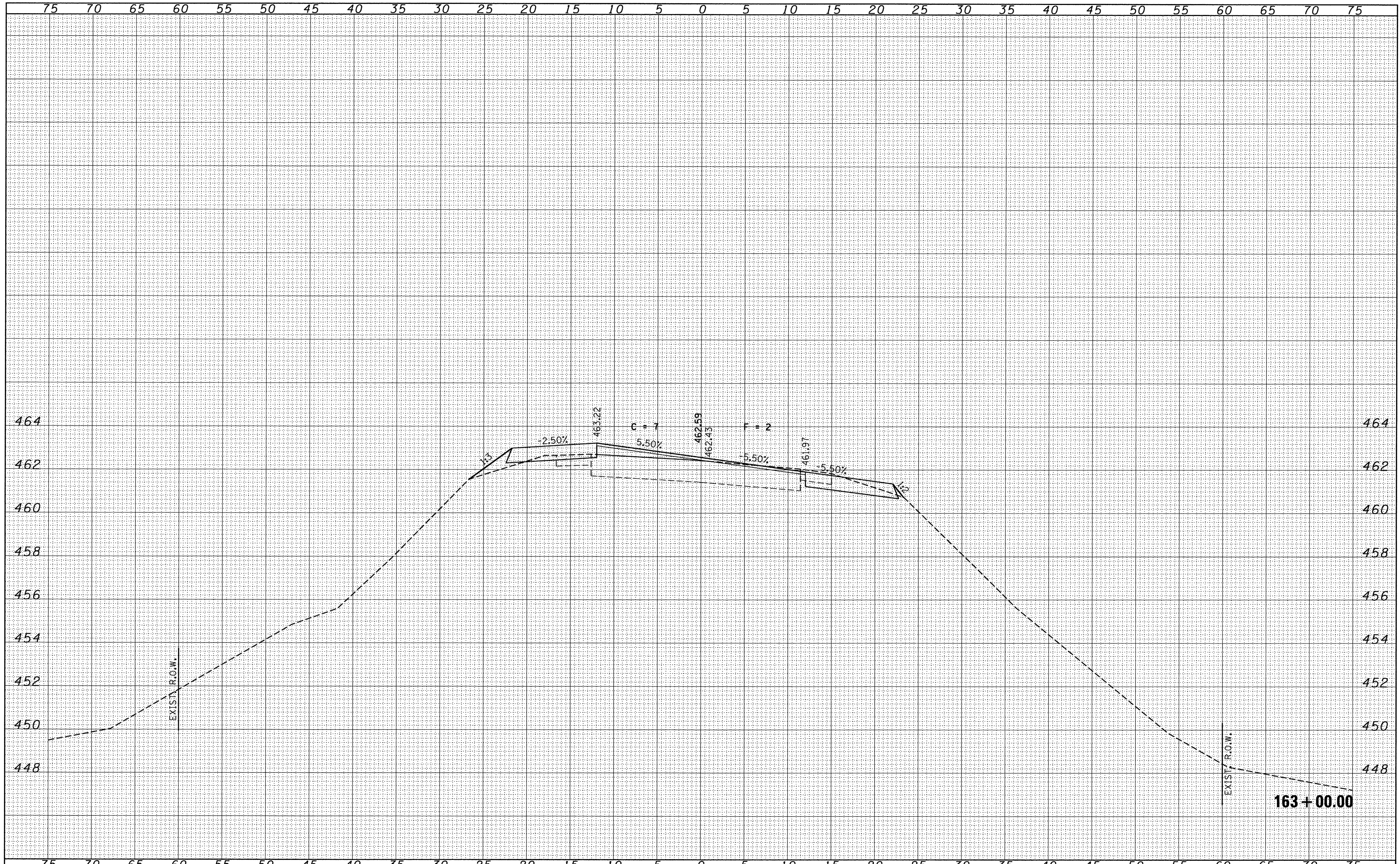
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| FILE NAME = 100110-sh1-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-000959 | | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 86 | | | |
| | PLOT SCALE = | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | | | | |
| | PLOT DATE = 6/30/2016 | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |
| | | | | SCALE: H5:V2 | SHEET NO. 22 OF 27 SHEETS | STA. 162+76.20 | TO STA. 162+76.20 | | | | | |

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

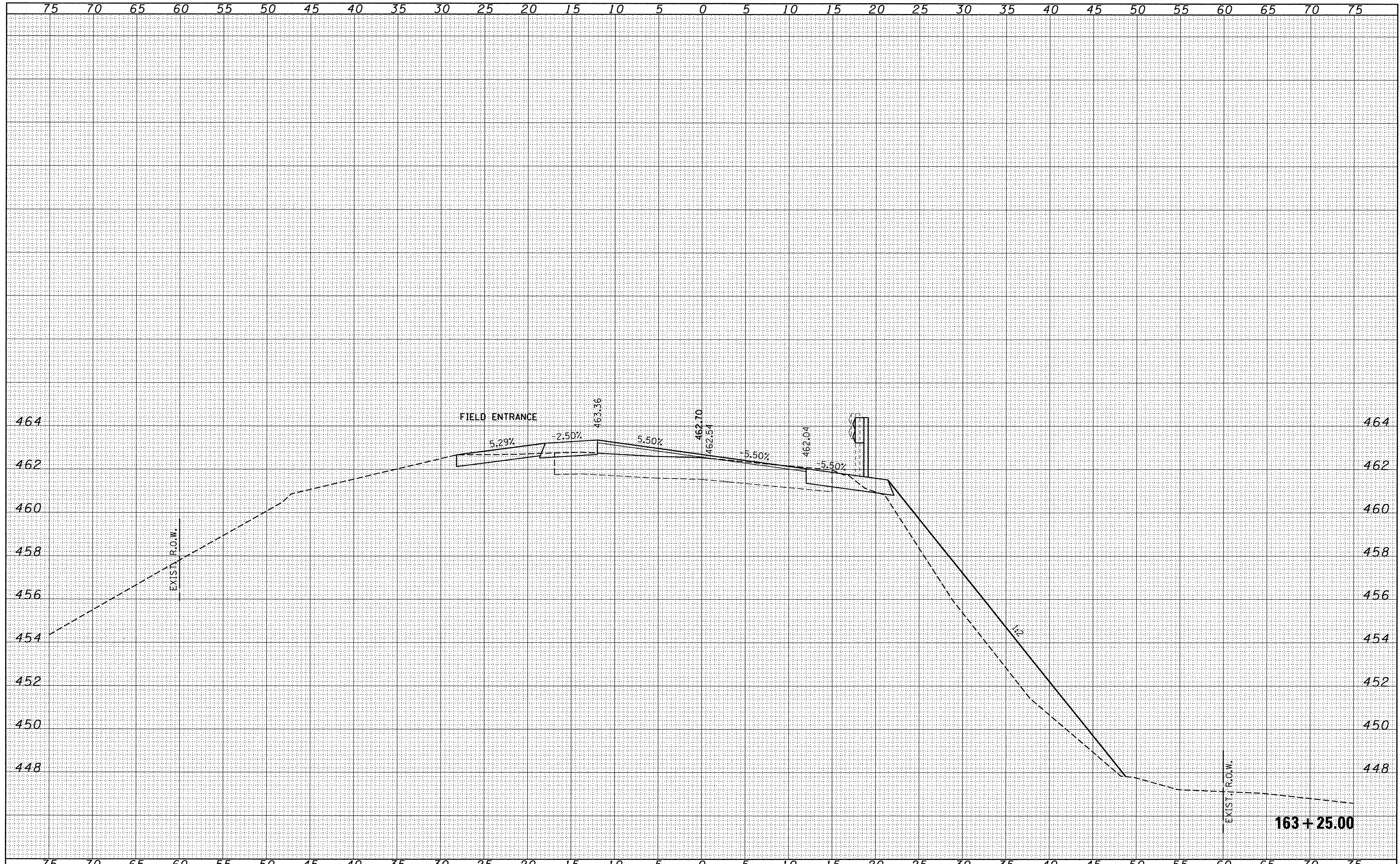


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| FILE NAME = 100110-sht-gxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62765 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000989 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 87 | | | | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | | | | | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | | |

SCALE: H5:V2 SHEET NO. 23 OF 27 SHEETS STA. 163+00.00 TO STA. 163+00.00

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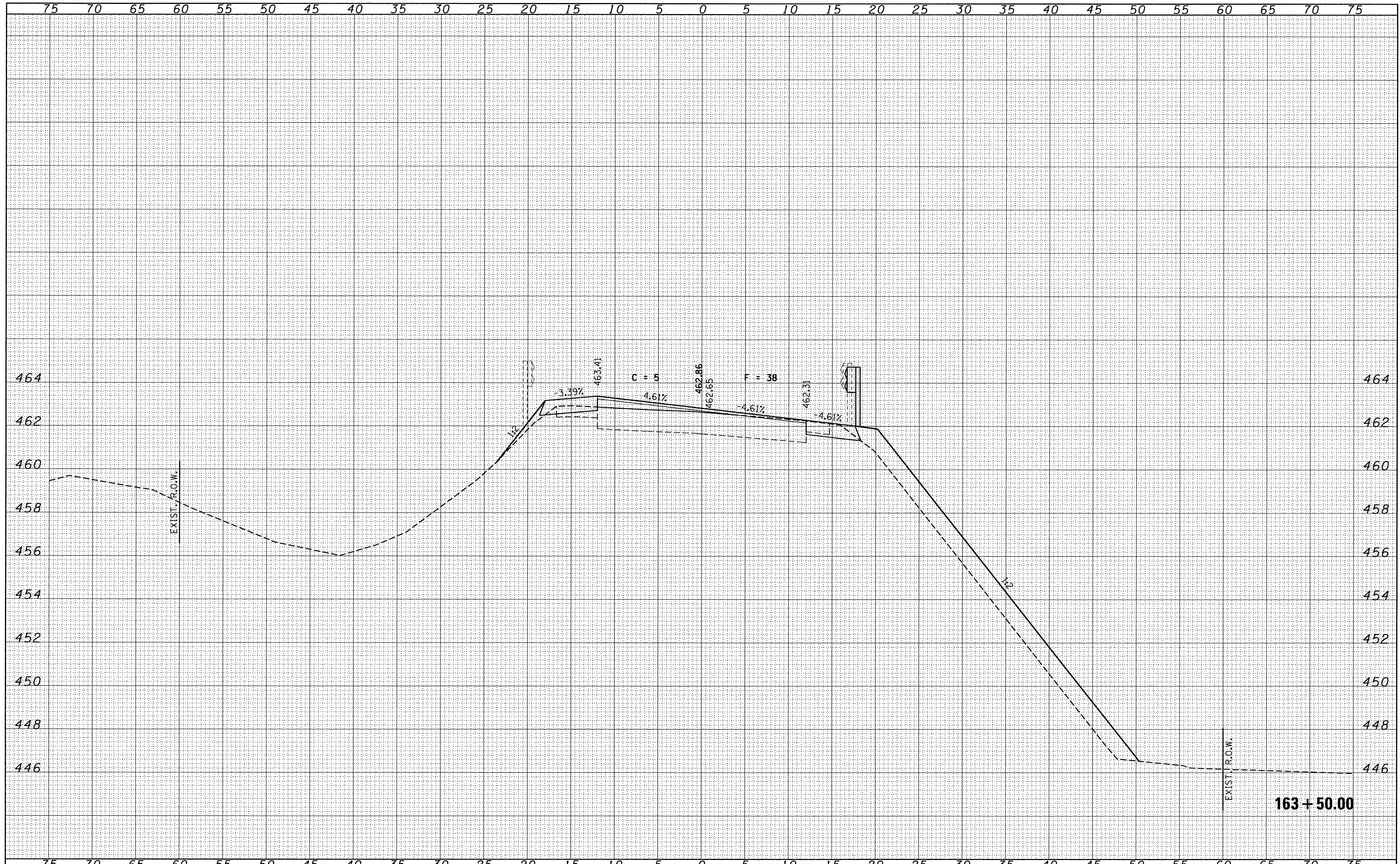
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| SURVEYED | PLOTTED |
| NOTE BOOK | AREAS CHECKED |
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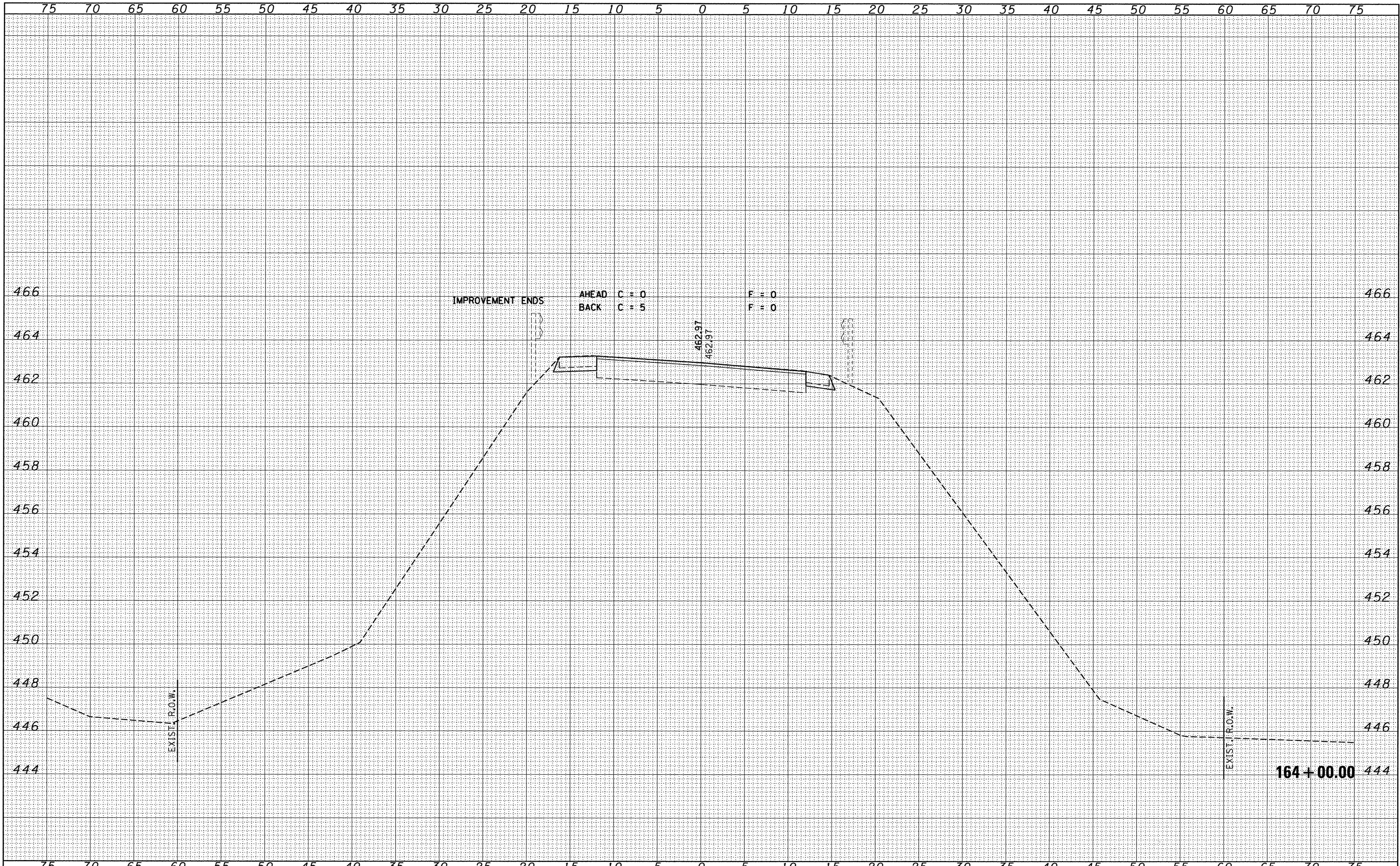
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| FILE NAME = 100110-sht-sxs.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009969 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 88 | | | |
| | PLOT DATE = 6/30/2016 | CHECKED - M.D.C. | REVISED - | | SCALE: H5:V2 | | SHEET NO. 24 OF 27 SHEETS | | STA. 163+18.13 TO STA. 163+18.13 | | CONTRACT NO. 89634 | |
| | | DATE - 06/30/16 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |

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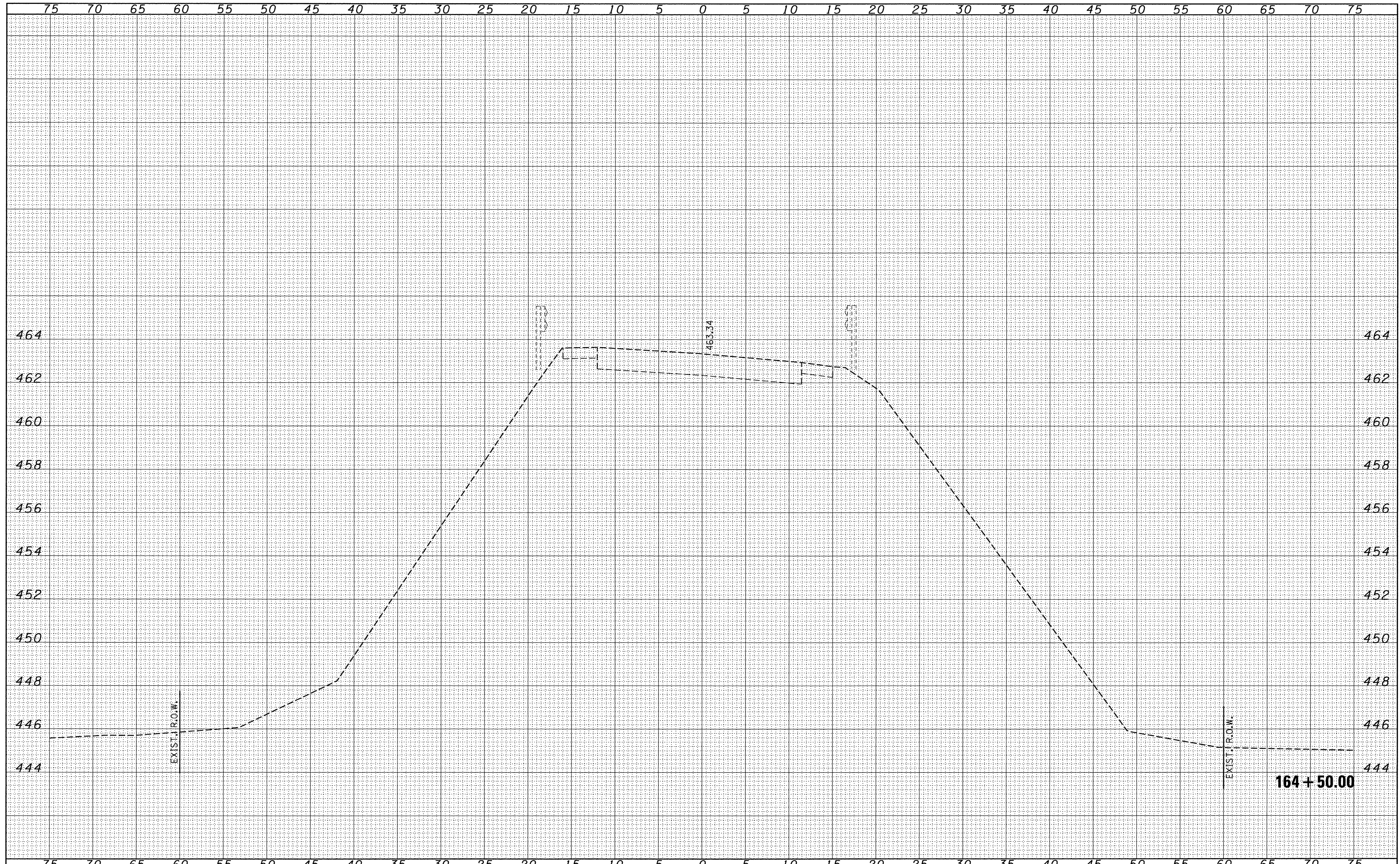
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| FILE NAME = 100110-shr-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | <p align="center">STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT</p> | <p align="center">CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD</p> | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-000959 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 89 | | |
| PLOT DATE = 6/30/2016 | | CHECKED - M.D.C. | REVISED - | | SCALE: H5+V2 | | SHEET NO. 25 OF 27 SHEETS | | CONTRACT NO. 89634 | | |
| | | DATE - 06/30/16 | REVISED - | | STA. 163+50.00 TO STA. 163+50.00 | | ILLINOIS FED. AID PROJECT | | | | |



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| AREAS CHECKED | |
| NO. | |

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| FILE NAME = 100110-shr-sss.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT | CROSS SECTIONS F.A.S. 461 / C.H. 16 / MANITO ROAD | | | | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000859 | PLOT SCALE = | DRAWN - T.W.K. | REVISED - | | 461 | 07-00010-12-BR | TAZEWELL | 91 | 90 | | | | |
| PLOT DATE = 6/30/2016 | | CHECKED - M.D.C. | REVISED - | | CONTRACT NO. 89634 | | | | ILLINOIS FED. AID PROJECT | | | | |
| | | DATE - 06/30/16 | REVISED - | | SCALE: H5:V2 | SHEET NO. 26 OF 27 SHEETS | STA. 164+00.00 | TO STA. 164+00.00 | | | | | |



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| NOTE BOOK | |
| AREAS CHECKED | |
| NO. | |

FILE NAME = 100110-sht-sxs.dgn
 HAMPSON, LENZINI AND RENWICK, INC.
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE CORP. 184-090969

USER NAME =
 PLOT SCALE =
 PLOT DATE = 6/30/2016

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|-------------------|-----------|
| DESIGNED - J.W.F. | REVISED - |
| DRAWN - T.W.K. | REVISED - |
| CHECKED - M.D.C. | REVISED - |
| DATE - 06/30/16 | REVISED - |

**STATE OF ILLINOIS
 TAZEWELL COUNTY HIGHWAY DEPARTMENT**

**CROSS SECTIONS
 F.A.S. 461 / C.H. 16 / MANITO ROAD**

SCALE: H5+V2 SHEET NO. 27 OF 27 SHEETS STA. 164+50.00 TO STA. 164+50.00

| F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|----------|---------------------------|-----------|
| 461 | 07-00010-12-BR | TAZEWELL | 91 | 91 |
| CONTRACT NO. 89634 | | | ILLINOIS FED. AID PROJECT | |