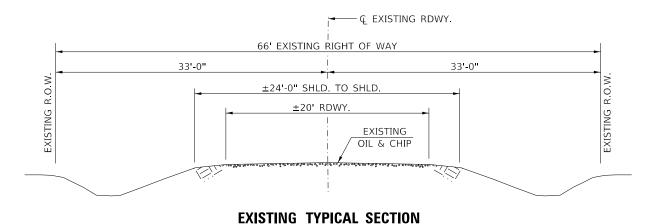
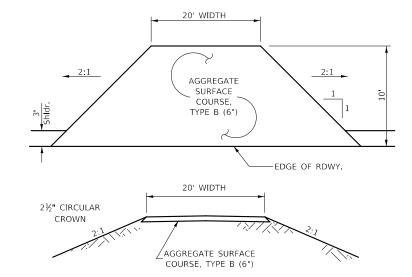


COMMITMENTS

THERE ARE NO COMMETMENTS FOR THIS PROJECT

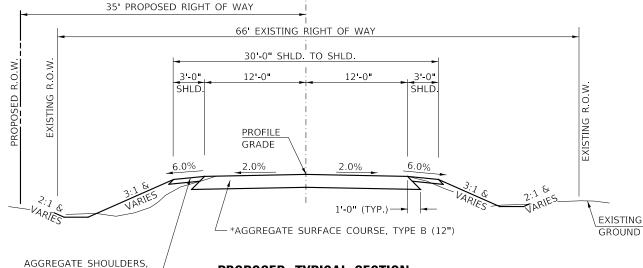




PRIVATE ENTRANCE

STA 15+79 LT (20' WIDE)

- G CONSTRUCTION



PROPOSED TYPICAL SECTION STA. 15+00.00 TO STA. 19+66.00 STA. 20+40.00 TO STA. 24+50.00

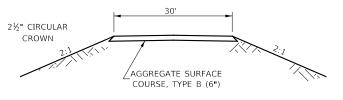
EXCEPT TRANSITIONS

BRIDGE OMISSION STA. 19+66.00 TO STA. 20+40.00

*ADDITIONAL PLACEMENT OF AGGREGATE SURFACE COURSE, TYPE B WILL BE REQUIRED WHERE THE PROPOSED PROFILE GRADE RAISES MORE THAN 12" FROM THE EXISTING SURFACE ELEVATION. EARTH FILL WILL NOT BE ALLOWED AND THE LIMITS WILL BE AT THE DISCRETION OF THE ENGINEER. AGGREGATE SURFACE COURSE, TYPE B SHALL BE PLACED IN ACCORDANCE WITH SECTION 402 OF THE STANDARD SPECIFICATIONS

TYPE B 4

LIMITS OF CONSTRUCTION/PROPOSED RIGHT OF WAY 2:1 2:1 AGGREGATE SURFACE COURSE TYPE B (6") -EDGE OF RDWY



FIELD ENTRANCES

STA 21+10 RT STA 21+10 LT

GENERAL NOTES

THE REMOVAL OF EXISTING OIL & CHIP SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED OR ADJUSTED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT

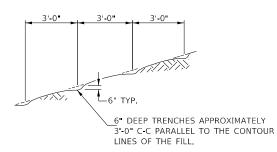
IF THE CONTRACTOR UTILIZES ORANGE TRAFFIC CONTROL SIGNS. THEY ARE REQUIRED TO BE FLUORESCENT ORANGE AND SHALL MEET RETRO REFLECTIVITY STANDARDS PER ARTICLE 1091.03 OF THE STANDARD SPECIFICATIONS.

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUC-TION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.



NOTE: ALL SLOPES 3:1 OR STEEPER AND GREATER THAN 5' IN HEIGHT SHALL BE CONTOUR PLOWED AS SHOWN IN DETAIL, COST SHALL BE INCLUDED WITH SEEDING, CLASS 2 (SPECIAL).

DETAIL OF CONTOUR PLOWING

| USER NAME = SMierzwa | DESIGNED - | JPS | REVISED |
|-----------------------------|------------|-----------|---------|
| | DRAWN - | JPS | REVISED |
| PLOT SCALE = 2.0000 ' / in. | CHECKED - | STM | REVISED |
| PLOT DATE = 3/15/2022 | DATE - | 3/15/2022 | REVISED |
| | | | |

IROQUOIS COUNTY COUNTY HIGHWAY 42 OVER TRIBUTARY TO LITTLE MUD CREEK

| delicine notes, in love sections, service | 1335 | 17-00234-00- |
|---|--------|--------------|
| GENERAL NOTES, TYPICAL SECTIONS, DETAILS | RTE. | 45.0004.00 |
| | F.A.S. | SECTION |

COUNTY IROQUOIS 32 2 CONTRACT NO. 87769 SHEET NO. 1 OF 1 SHEETS STA. 15+00.00 TO STA. 24+50.00 FED. ROAD DIST. NO. 7 ILLINOIS

| | **** | SUMMARY OF QUANTITIES | | |
|----|----------|---|---------------|-----------------|
| - | 20200100 | . ITEM | UNIT CU YD | QUANTITY 735 |
| | | | | |
| | | REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL | CU YD | 30 |
| | | CHANNEL EXCAVATION | CU YD | 650 |
| SP | 20700220 | POROUS GRANULAR EMBANKMENT | CU YD | 55 |
| | 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 500 |
| | 28000305 | TEMPORARY DITCH CHECKS | FOOT | 48 |
| | 28000400 | PERIMETER EROSION BARRIER | FOOT | 580 |
| | 28000500 | INLET AND PIPE PROTECTION | EACH | 4 |
| | 28100209 | STONE RIPRAP, CLASS AS | TON | 700 |
| | 28200200 | FILTER FABRIC | SQ YD | 615 |
| SP | 40200800 | AGGREGATE SURFACE COURSE, TYPE B | TON | 2,111 |
| | 42300100 | PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 5 INCH | SQ YD | 35 |
| | 44000200 | DRIVEWAY PAVEMENT REMOVAL | SQ YD | 10 |
| - | 48101200 | AGGREGATE SHOULDERS, TYPE B | TON | 120 |
| SP | 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| | | PIPE CULVERT REMOVAL | FOOT | 83 |
| | | STRUCTURE EXCAVATION | CU YD | 60 |
| | | CONCRETE STRUCTURES | | |
| | | | CU YD | 28.8 |
| | | CONCRETE ENCASEMENT | CU YD | 2.6 |
| | | PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH) | SQ FT | 2,160 |
| | 50800105 | REINFORCEMENT BARS | POUND | 3,110 |
| - | 51200957 | FURNISHING METAL SHELL PILES 12"x0.250" | FOOT | 440 |
| | 51202305 | DRIVING PILES | FOOT | 440 |
| | 51203200 | TEST PILE METAL SHELLS | EACH | 2 |
| | 51500100 | NAME PLATES | EACH | 1 |
| | 54001001 | BOX CULVERT END SECTIONS, CULVERT NO. 1 | EACH | 2 |
| | 54010802 | PRECAST CONCRETE BOX CULVERTS 8' X 2' | FOOT | 24 |
| SP | 542D0220 | PIPE CULVERTS, CLASS D, TYPE 1 15" | FOOT | 40 |
| SP | 542D0223 | PIPE CULVERTS, CLASS D, TYPE 1 18" | FOOT | 20 |
| SP | 542D0229 | PIPE CULVERTS, CLASS D, TYPE 1 24" | FOOT | 40 |
| SP | 59300100 | CONTROLLED LOW-STRENGTH MATERIAL | CU YD | 8.0 |
| | 60801018 | FLAP GATE 18" | EACH | 1 |
| | 63200310 | GUARDRAIL REMOVAL | FOOT | 208 |
| | | MOBILIZATION | L SUM | 1 |
| | | TERMINAL MARKER - DIRECT APPLIED | | |
| | | | EACH | . 4 |

| SP: SEE SPECIAL | PROVISIONS | |
|-----------------|----------------|------------|
| GBSP: SEE GUIDE | BRIDGE SPECIAL | PROVISIONS |

CONSTRUCTION CODE TYPE: 0010

| | | SUMMARY OF QUANTITIES | | |
|---|----------|---|-------|----------|
| | CODE NO. | ITEM | UNIT | QUANTITY |
| GBSP | X0900064 | MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES | SQ YD | 30 |
| SP | X1200090 | TRAVERSABLE PIPE GRATE, SPECIAL | EACH | 2 |
| SP | X2501000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.75 |
| SP | Z0023000 | FIELD TILE INSPECTION STRUCTURE | EACH | 1 |
| | Z0062500 | SAWING P.C. CONCRETE DRIVEWAYS | FOOT | 16 |
| *************************************** | XX006199 | STEEL BRIDGE RAIL, TYPE SM (SPECIAL) | FOOT | 148 |

SP: SEE SPECIAL PROVISIONS
GBSP: SEE GUIDE BRIDGE SPECIAL PROVISIONS
A: SPECIALTY ITEMS

PIPE CULVERTS, CLASS D, TYPE 1 18"

5 I DE

LEFT

PIPE CULVERTS, CLASS D, TYPE 1 24"

SIDE

RIGHT

PIPE CULVERTS, CLASS D, TYPE 1 15"

SIDE

LEFT

STATION

19+52

STATION

STATION

21+10

21+10

TOTAL

TOTAL.

TOTAL

| CONSTRUCTION | CODE | TYPE: | 0010 |
|--------------|------|-------|------|
| | | | |

| EARTHWORK SUMMARY | | | | | | | | |
|--------------------------|---------------------|-----------------------|-------------------------|------|---------------------|--|--|--|
| STATION TO STATION | EARTH EXCAVATION | CHANNEL EXCAVATION | STRUCTURE EXCAVATION | FILL | WASTE (SHORTAGE) | | | |
| | CU YD | | | | | | | |
| RDWY 15+00.00 - 19+66.00 | 410 | | | 212 | 96 | | | |
| RDWY 20+40.00 - 24+50.00 | 324 | | | 181 | 62 | | | |
| CHANNEL | | 650 | | | | | | |
| STRUCTURE 60 | | | | | | | | |
| TOTAL | 734 | 650 | 60 | 393 | 158 | | | |
| USE . | 735 | 650 | 60 | - | 160 | | | |

FOOT

20

20

FOOT

40

40

FOOT

40

40

120

(@ 25% SHR!NKAGE)

| TEMPORA | CHECKS | |
|---------|--------|------|
| STATION | SIDE | FOOT |
| 17+80 | LEFT | 12 |
| 19+80 | RIGHT | 12 |
| 20+30 | LEFT | 12 |
| 20+40 | RIGHT | 12 |
| TOTAL | | 48 |

| INLET AN | D PIPE PR | OTECTION |
|----------|-----------|----------|
| STATION | SIDE | EACH |
| 17+06 | RIGHT | 1 |
| 19+42 | LEFT | 1 |
| 21+26 | RIGHT | 1 |
| 21+27 | LEFT | 1 |
| TOTAL | | 4 |

| | AGGREGATE | SHOULDER | S, TYPE B | 140#/CF | • |
|-----------|-----------|----------|------------|---------|-----|
| STATION T | O STATION | SIDE | WIDTH | LENGTH | TON |
| 15+00.00 | 15+60.50 | LT | VAR. | 60.50' | 8 |
| 15+00.00 | 15+45.00 | RT | VAR. | 45.00' | 7 |
| 15+92.50 | 19+48.19 | LT | 3.00' | 350.69' | 25 |
| 15+45.00 | 15+60.00 | RT | 3.50' AVG. | 15.00' | 1 |
| 15+60.00 | 15+80.00 | RT | 4.00' | 20.001 | 2 |
| 15+80.00 | 15+90.00 | RT | 3.50' AVG. | 10.001 | 1 |
| 15+90.00 | 16+84.00 | RT | 3.00' | 94.00' | 7 |
| 16+84.00 | 16+99.00 | RT | 3.50' AVG. | 15.00' | 1 |
| 16+99.00 | 17+06.00 | ŔŦ | 4.00' | 7.00' | 1 |
| 17+48.50 | 19+54.69 | RT | 3.00' | 206.19' | 15 |
| 19+48.19 | 19+60.95 | LT | 3.55' AVG. | 12.76' | 1 |
| 19+54.69 | 19+71.00 | RT | 3.55' AVG. | 16.31' | 1 |
| 20+34.90 | 20+51.31 | LT | 3.63' AVG. | 16.41' | 1 |
| 20+45.05 | 20+57.80 | RT | 3.55' AVG. | 12.75' | 1 |
| 20+51.31 | 20+83.50 | LT | 3.00' | 32.19' | 3 |
| 20+57.80 | 20+83.50 | RT | 3.00' | 25.70' | 2 |
| 21+36.50 | 24+00.00 | LT | 3.00' | 263.50' | 19 |
| 21+36.50 | 24+00.00 | RT | 3,00' | 263.50' | 19 |
| 24+00.00 | 24+50.00 | LT | 2,07' AVG. | 50.00' | 2 |
| 24+00.00 | 24+50.00 | RT | 2.44' AVG. | 50.00' | 3 |
| TOTAL | | | | | 136 |

| STATION | SIZE | SIDE | FOOT |
|---------|------|-------|------|
| 20+22 | 18" | LEFT | 15 |
| 20+41 | 24" | RIGHT | 20 |
| 21+07 | 24" | RIGHT | 24 |
| 21+14 | 15" | LEFT | 24 |
| TOTAL | | | 83 |

| GUARDRAIL REMOVAL | | | | | | |
|-------------------|-----------|-------|------|--|--|--|
| STATION T | O STATION | SIDE | FOOT | | | |
| 19+27 | 19+79 | LEFT | 52 | | | |
| 19+36 | 19+88 | RIGHT | 52 | | | |
| 20+12 | 20+64 | LEFT | 52 | | | |
| 20+19 | 20+71 | RIGHT | 52 | | | |
| TOTAL | | | 208 | | | |
| | | | | | | |

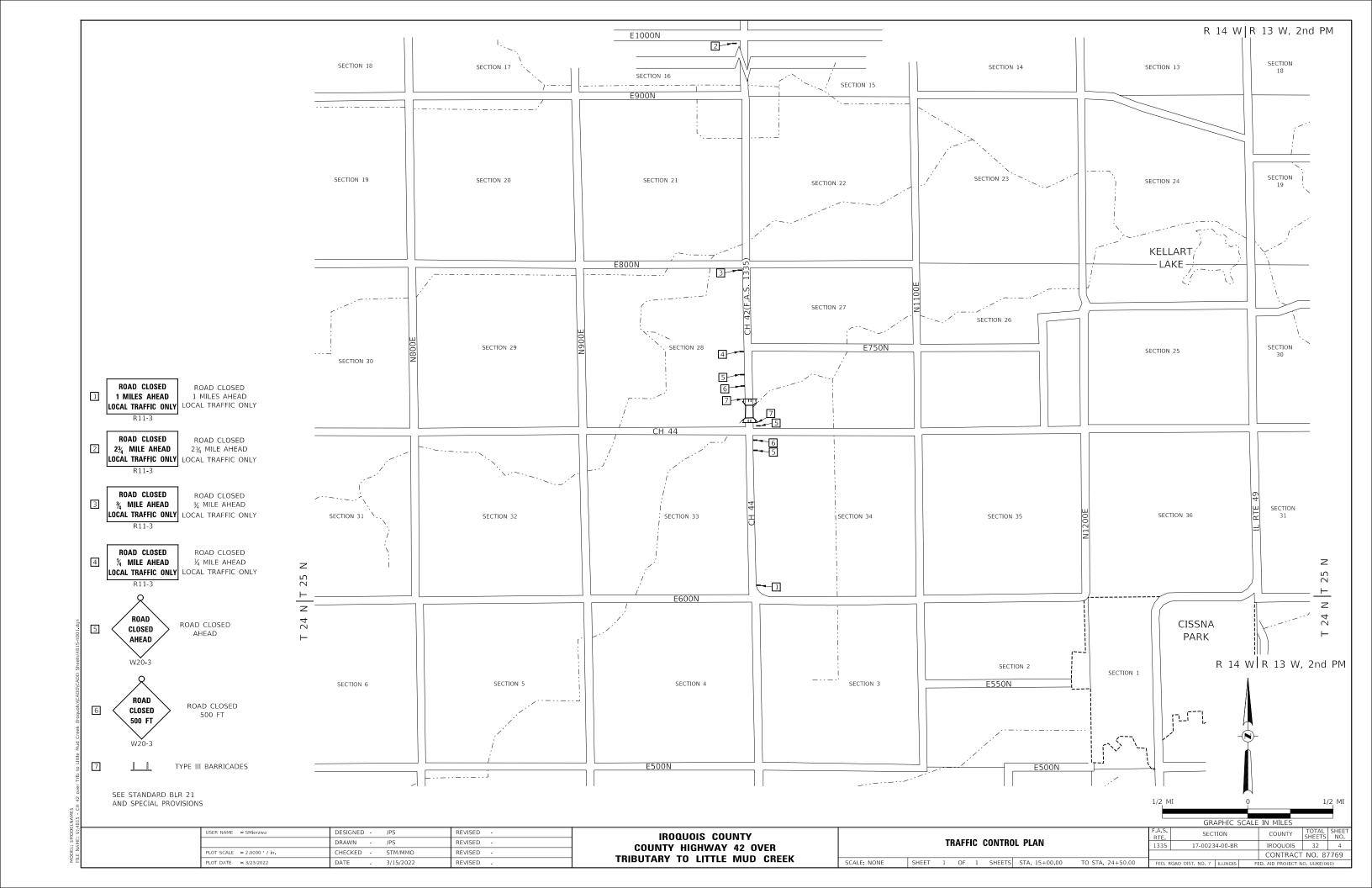
| PER | IMETER ERC | SION BARR | IER | | | | | | |
|-----------|------------------|-----------|------|--|--|--|--|--|--|
| STATION T | O STATION | SIDE | FOOT | | | | | | |
| 15+00 | 16+00 | LEFT | 115 | | | | | | |
| 17÷06 | 17+48 | R I GHT | 45 | | | | | | |
| 20+90 | 21+30 | LEFT | 45 | | | | | | |
| 20+90 | 21+30 | R I GHT | 45 | | | | | | |
| 21+75 | 24+50 | RIGHT | 280 | | | | | | |
| 24+00 | 24+00 24+50 LEFT | | | | | | | | |
| TOTAL | 580 | | | | | | | | |

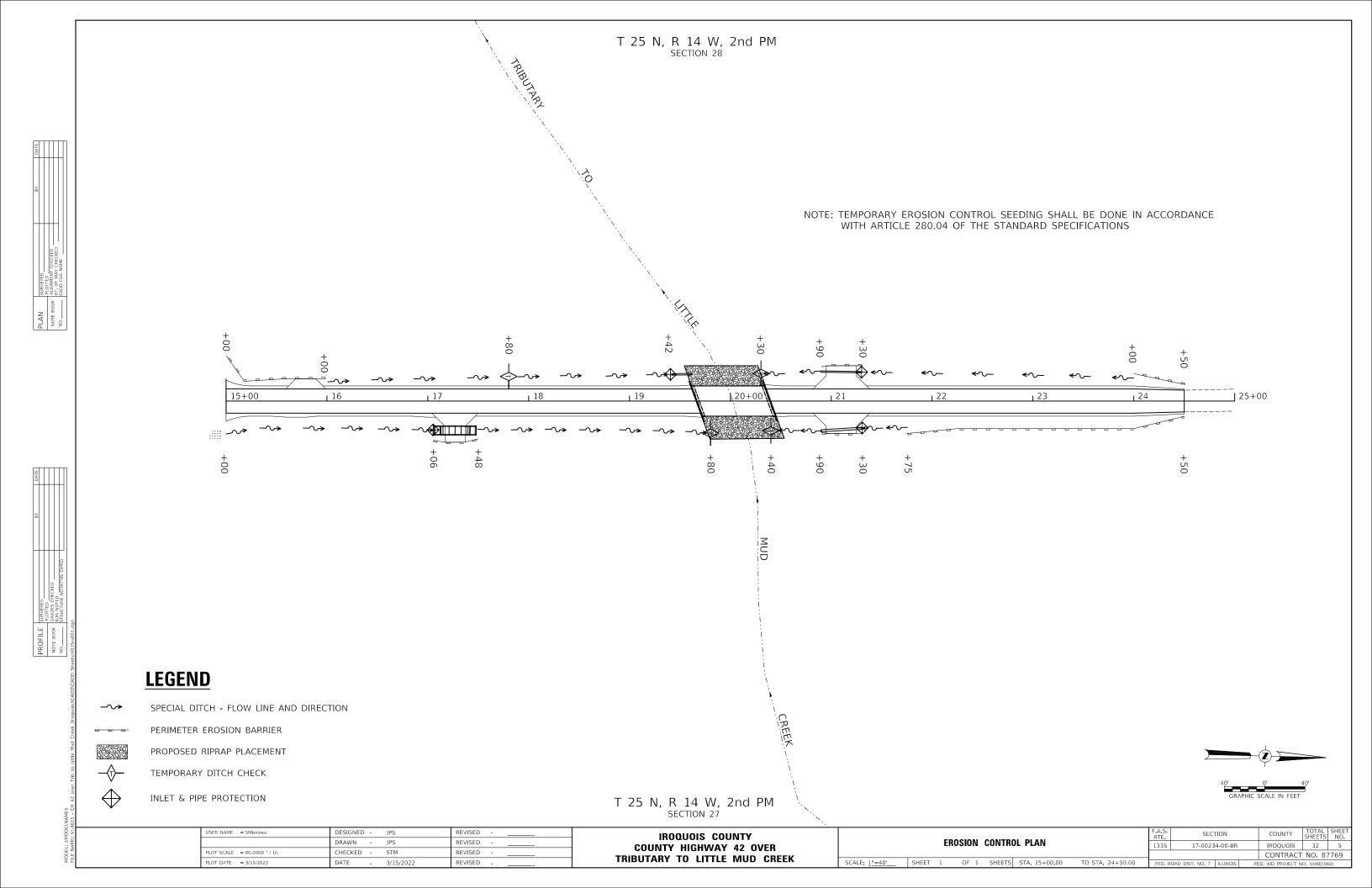
| | AGGREGATE | SURFACE CO | URSE, TYPE | B 140#/C | F |
|----------|------------|---------------|-------------|----------|-------|
| STATION | TO STATION | THICKNESS | WIDTH | LENGTH | TON |
| 15+00.00 | 15+50.00 | 1.00' | 25.00' | 50.00' | 88 |
| 15+50.00 | 19+66.00 | 1.00' & VAR. | 25,00' | 416.00' | 1.043 |
| ABUTMENT | BACKFILL - | SEE SPECIAL F | ROVISIONS | | 42 |
| 20+40.00 | 24+00.00 | 1.00' & VAR. | 25.00' | 360.00' | 772 |
| 24+00.00 | 24+50.00 | 1.00' | 23.75' AVG | 50.00' | 83 |
| ENTR. 15 | +79.00 LT | 0.50' | 30.00' AVG. | 10.00' | 11 |
| ENTR. 17 | +27.00 RT | 0.50' | 33.00' AVG. | 13.00' | 15 |
| ENTR. 21 | +10.00 LT | 0.50' | 30' & VAR. | 23.00' | 30 |
| ENTR. 21 | +10.00 RT | 0.50' | 30' & VAR. | 20,30' | 27 |
| OTAL | | | | | 2,111 |

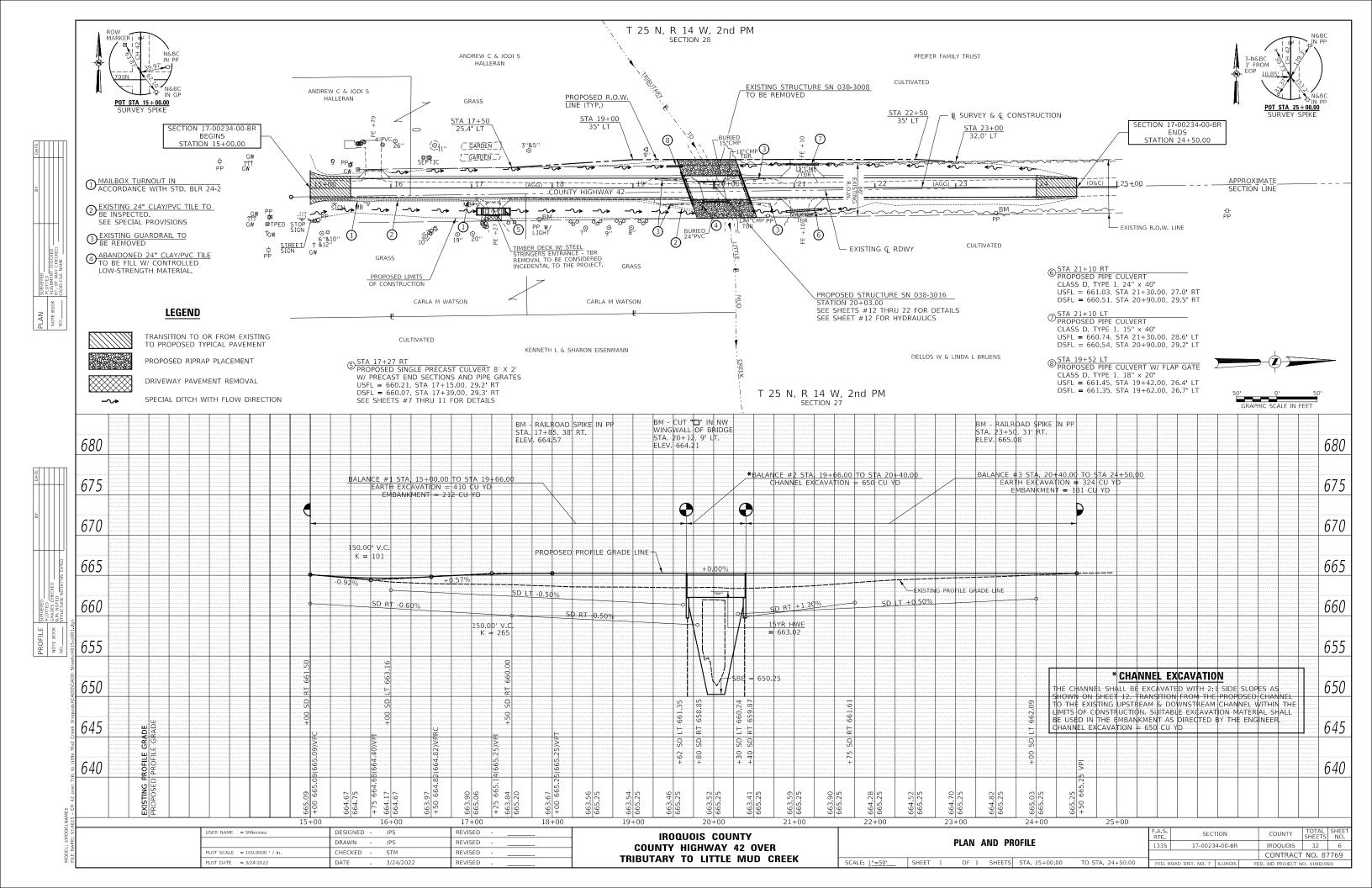
COUNTY TOTAL SHEET NO.
IROQUOIS 32 3

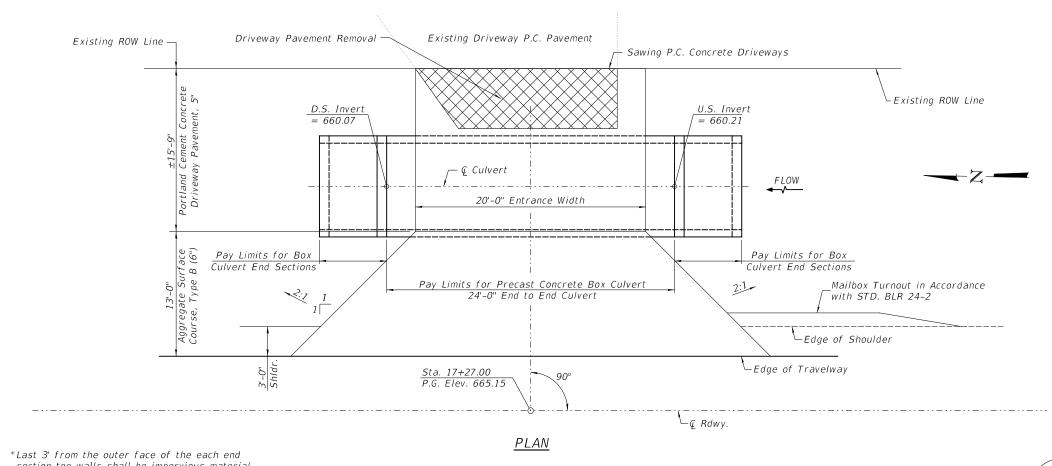
| USER NAME = SMierzwa | DESIGNED - | JPS | REVISED - | IROQUOIS COUNTY | SUMMARY OF QUANTITIES. | F.A.S. | SECTION | COUNTY | TOTAL : | HEET NO. |
|-------------------------------|------------|-----------|-----------|-------------------------------|--|---------|--------------------------|------------------|--------------|-------------|
| | DRAWN - | JPS | REVISED - | COUNTY HIGHWAY 42 OVER | | 1335 | 17-00234-00-BR | IROQUOIS | 32 | 3 |
| PLOT SCALE + 100,0000 ' / in, | CHECKED - | MMO/STM | REVISED - | | SCHEDULES OF QUANTITIES | | | CONTRAC | T NO. 87 | /69 |
| PLOT DATE = 3/23/2022 | DATE - | 3/15/2022 | REVISED - | TRIBUTARY TO LITTLE MUD CREEK | SCALE: NONE SHEET 1 OF 1 SHEETS STA. 15+00.00 TO STA. 24+50.00 | FED. RO | DAD DIST, NO. 7 ILLINOIS | FED, AID PROJECT | NO. UUKE(060 | , |

TOTAL









GENERAL NOTES

All excavation required for removal of the existing structure or construction of the culvert as shown in these plans and in accordance with the Standard Specifications shall be included in the cost of Precast Concrete Box Culverts. Areas of excavation required for construction of the new culvert shall be

backfilled with Porous Granular Embankment up to the top of slab elevation. The required depth of removal and replacement of unsuitable materials may

be adjusted by the Engineer to account for variable subsurface conditions. The 6 in. thick layer of porous granular embankment required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections.

The construction of the Portland Cement Concrete Driveway Pavement shall be in accordance with Sec. 423 of the Standard Specifications.

The area to be excavated for the proposed box culvert and end sections shall not be measured for payment. The cost of the excavation and disposal shall be included in the cost of Precast Concrete Box Culverts, 8'x2'.

TOTAL BILL OF MATERIAL

| | ITEM | UNIT | TOTAL |
|---|--|-------|-------|
| | Removal & Disposal of Unsuitable Material | CU YD | 30 |
| 1 | Porous Granular Embankment | CU YD | 55 |
| | Aggregate Surface Course, Type B | TON | 15 |
| | Sawing P.C. Concrete Driveways | F00T | 16 |
| | Portland Cement Concrete Driveway Pavement, 5" | SQ YD | 35 |
| | Driveway Pavement Removal | SQ YD | 10 |
| | Box Culvert End Sections, Culvert No. 1 | EACH | 2 |
| | Precast Concrete Box Culverts 8' X 2' | FOOT | 24 |
| 1 | Traversable Pipe Grate, Special | EACH | 2 |
| 1 | Membrane Waterproofing System for Buried Structures | SQ YD | 30 |
| | | | |

1) See Special Provisions

Pay Limits for Membrane Waterproofing System for Buried Structures Membrane Waterproofing System for Buried Structures 3" Ø Weep holes

> MEMBRANE WATERPROOFING FOR BURIED STRUCTURES

GRANULAR CULVERT BACKFILL & BOX CULVERT DESIGN FILL DESIGN FILL POROUS GRANULAR PROPOSED BOX LENGTH STATION TYPE SKEW EDGE OF PROFILE EMBANKMENT CULVERT SIZE (FEET) GRADE SHOULDER (MINIMUM) (MAXIMUM) CU YD 17+27.00 8' X 2' PRECAST 1.00 55 24 TOTAL 55

SEE STANDARD PRECAST BOX CONFIGURATIONS IN ASTM C1577-11a

section toe walls shall be impervious material 8'-0" * Porous Granular Embankment (See Special Provisions) Unsuitable Material Removal and replacement with -SECTION THROUGH PRECAST BOX CULVERT Porous Granular Embankment POROUS GRANULAR EMBANKMENT DETAIL

BOX CULVERT BACKFILLING DETAIL

AT PROPOSED BOX CULVERTS

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment below the top of the box culvert extending to a vertical plane 2 ft from the exterior sides of the culvert, to 3 feet from the outer face of the end section toe walls and not closer than 2 ft from the face of embankment.

The work shown in the detail shall be performed in accordance with the applicable portions of Article 207 and Article 540 of the Standard Specifications. This work shall be paid for at the contract unit price per TON for Porous Granular Embankment.

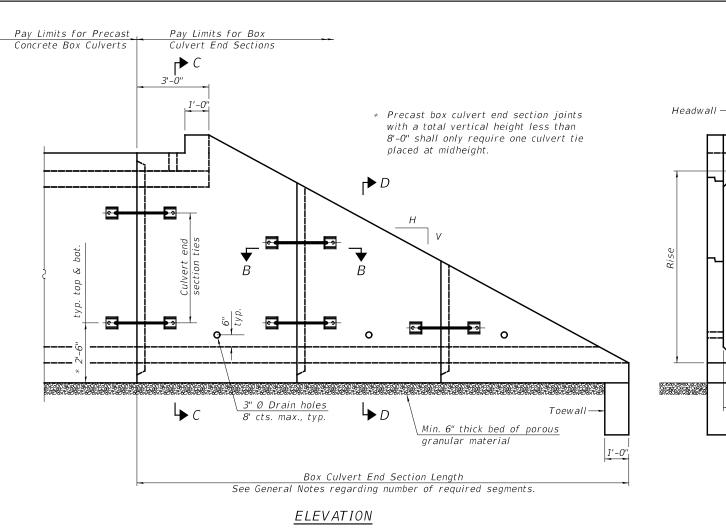
Last 3' from the outer face of the each end section toe wall shall be impervious material, subject to approval of the Engineer.

JSER NAME = SMierzwa DESIGNED - JPS REVISED DRAWN -JPS REVISED HECKED -STM REVISED PLOT DATE = 3/23/2022 3/13/2022 REVISED

IROQUOIS COUNTY COUNTY HIGHWAY 42 OVER TRIBUTARY TO LITTLE MUD CREEK

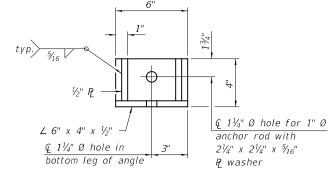
SCALE: NONE

| | | | | | F.A.S. RTE | SECT | ΓΙΟΝ | | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|------------------|--------|---------------|------------------|---------------|-----------------|----------|----|------------------|-----------------|--------------|
| | PRECAST BOX O | ULVERI | AND DETAILS | | 1335 | 17-0023 | 4-00-BR | | IROQUOIS | 32 | 7 |
| | | | | | | | | | CONTRACT | NO. 87 | 769 |
| E | SHEET NO. 1 OF 5 | SHEETS | STA. 17+27.00 | TO STA. 17+27.00 | FED. R | OAD DIST, NO. 7 | ILLINOIS | FE | D. AID PROJECT N | O. UUKE(06 | (0) |



END VIEW

Span

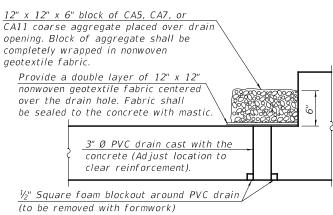


2'-0"

typ.

Porous granular

RESTRAINT ANGLE DETAIL



SECTION A-A

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.) (Sheet 1 of 2)

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for

the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See roadway plans for embankment slope (V:H).

1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. $2\frac{1}{4}$ " x $2\frac{1}{4}$ " x $\frac{5}{16}$ " plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

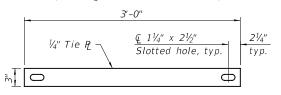
Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..

For end sections with traversable pipe grate systems, see grate detail sheet for required modifications.

a Joint 13/4" — Restraint angle 1'-4" 1'-4" ♀ 1" Ø anchor rods with 2½" x 2½" x ½16" P washers installed in $1\frac{1}{8}$ " Ø formed holes in culvert walls

SECTION B-B (Showing end section tie details)



TIE PLATE DETAIL

SCB-TES 2-17-2017

| USER NAME = SMierzwa | DESIGNED | - | JPS | REVISED |
|-------------------------------|----------|---|-----------|---------|
| | DRAWN | - | JPS | REVISED |
| PLOT SCALE = 100.0000 ' / in. | CHECKED | - | STM | REVISED |
| PLOT DATE = 3/15/2022 | DATE | - | 3/13/2022 | REVISED |

PLAN

IROQUOIS COUNTY COUNTY HIGHWAY 42 OVER TRIBUTARY TO LITTLE MUD CREEK

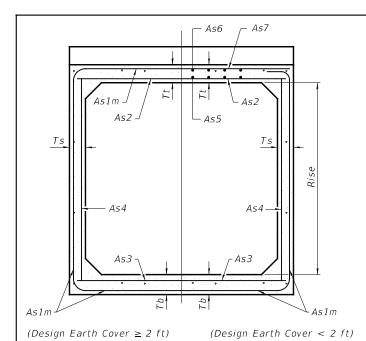
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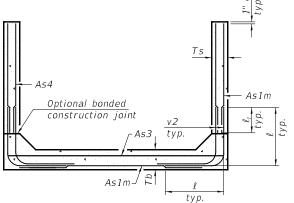
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| SINGLE CE | ELL PRECAS | г вох | CULVER | T TAPERED E | ND SECTIONS |
|-------------|-------------|-------|--------|---------------|------------------|
| SCALE: NONE | SHEET NO. 2 | OF 5 | SHEETS | STA. 17+27.00 | TO STA. 17+27.00 |

| F.A.S. RTF. | SECT | ΓΙΟΝ | | COUNTY | TOTAL SHEETS | SHEE NO. | |
|----------------|-----------------|----------|----|-----------------------------|-----------------|----------|--|
| 1335 | 17-0023 | 4-00-BR | | IROQUOIS | 32 | 8 | |
| | | | | CONTRACT | NO. 87 | 7769 | |
| FED. R | OAD DIST. NO. 7 | ILLINOIS | FE | FED. AID PROJECT NO. UUKE(0 | | | |



SECTION C-C



ALTERNATE SECTION D-D

As1m REINFORCEMENT (in.²/ ft) Rise (ft. 2 3 5 6 7 10 11 12 Ts (in.) 0.19 0.17 0.26 0.21 0.18 0.22 0.26 0.23 0.22 0.40 0.35 0.43 0.39 0.36 0.34 0.40 0.44 | 0.39 | 0.35 | 0.43 | 0.40 | 0.37 | 0.36 | 0.48 0.55 0.49 0.58 0.54 0.50 0.48 0.45 0.46 0.46 0.61 0.75

(As1m reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221)

l, DIMENSION

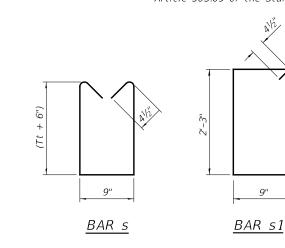
#3 bar = 2'-0" #4 bar = 2'-8" $#5 \ bar = 3'-4"$

#6 bar = 3'-11''

Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

The size and spacing of the v2 bars shall provide a minimum reinforcement area along each face of the walls (in.2/ft.) equal to 1.10*(As1m). v2 bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.



#4 s bars at spacing = Tt (Spacing need not be less than 8") 4-h bars (See Section F-F) HEADWALL ELEVATION (Allow sidewall reinforcement to extend into end of headwall.)

TOEWALL CONSTRUCTION SEQUENCE

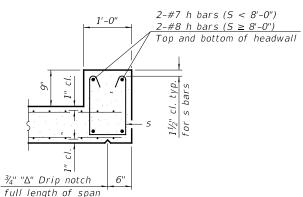
1. Perform excavation and construct toewall.

SECTION D-D

- 2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box
- 3. Set precast box culvert end section.
- 5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.
- The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling the method.
- ** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

3" Ø corrugated PE pipe per Article 1040.04 of the Standard Specifications. Fill with non-shrink grout 6-#5 h1 bars placed as shown #4 v1 bars drilled and grouted into toewall in 9" min. deep holes at 1'-6" cts., max. #4 s1 bars at 1½" cI. 1'-0" cts., max. typ. 1'-0"

SECTION E-E



SECTION F-F

SCB-TES 2-17-2017

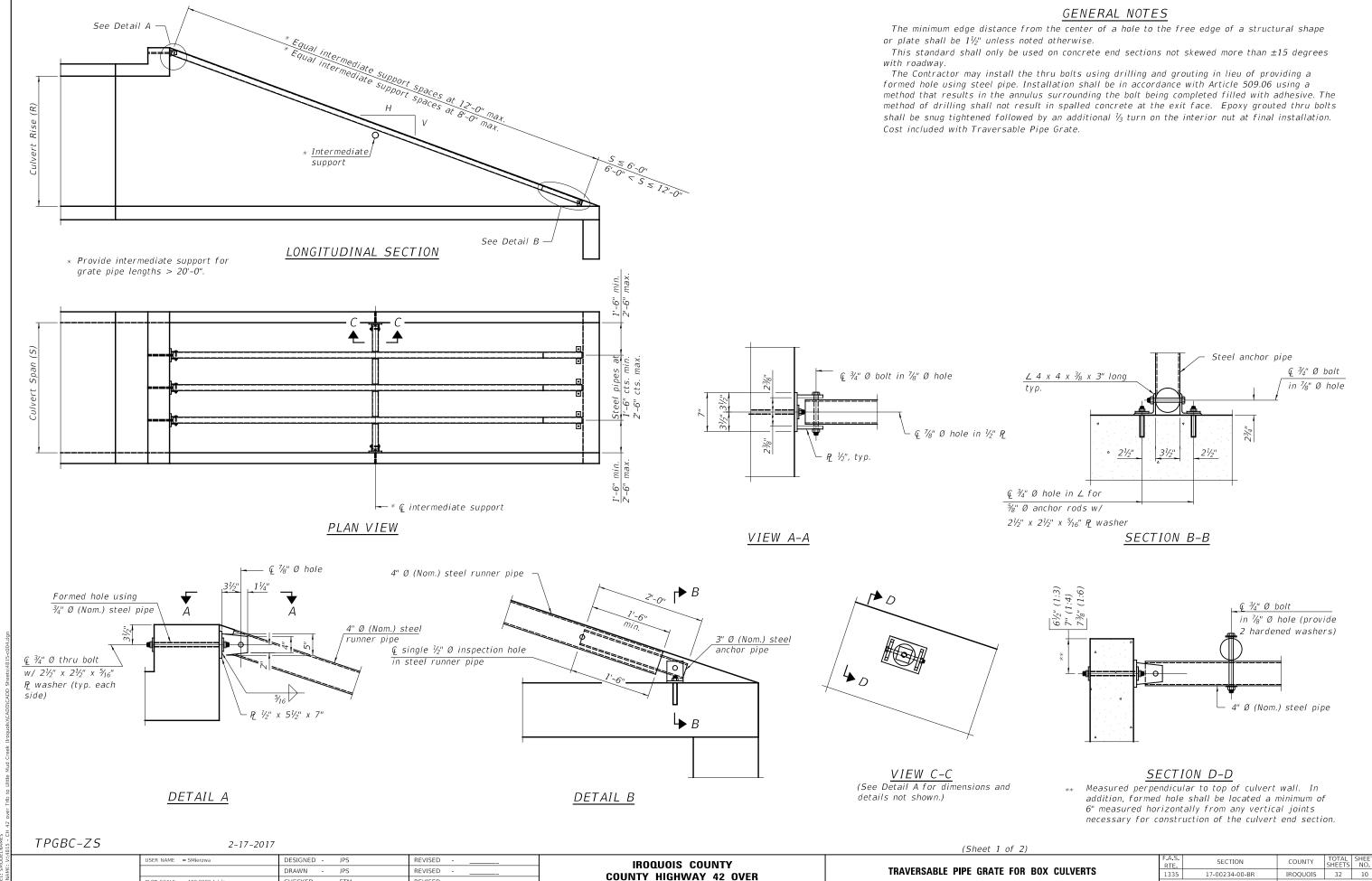
| USER NAME = SMierzwa | DESIGNED - | JPS | REVISED |
|-------------------------------|------------|-----------|---------|
| | DRAWN - | JPS | REVISED |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | STM | REVISED |
| PLOT DATE = 3/15/2022 | DATE - | 3/13/2022 | REVISED |

IROQUOIS COUNTY COUNTY HIGHWAY 42 OVER TRIBUTARY TO LITTLE MUD CREEK

| | (Sheet 2 o | f 2) | | | | | | |
|-------------|-------------------------|---------------|------------------|---------------|-------------------------|--------------------|-----------------|--------------|
| | | | | F.A.S. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| SINGLE C | ELL PRECAST BOX CULVER | IT TAPERED EN | D SECTIONS | 1335 | 17-00234-00-BR | IROQUOIS | 32 | 9 |
| | | | | 1 | | CONTRAC | L NO. 8. | 7769 |
| SCALE: NONE | SHEET NO. 3 OF 5 SHEETS | STA. 17+27.00 | TO STA, 17+27.00 | FED. RC | AD DIST. NO. 7 ILLINOIS | FED. AID PROJECT I | NO. UUKE(0) | 50) |

culvert end sections.

4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.



TRIBUTARY TO LITTLE MUD CREEK

CONTRACT NO. 87769

SHEET NO. 4 OF 5 SHEETS STA. 17+27.00 TO STA. 17+27.00

HECKED -

DATE

PLOT DATE = 3/15/2022

STM

3/13/2022

REVISED

REVISED

| PIPE-GRATE | SCHEDULE | FOR BO | X CUIVERT | FND | SECTIONS |
|------------|----------|--------|-----------|------------|----------|
| IIILTUNALL | JUILDULL | 101100 | \wedge | $L \cap D$ | JECHIONS |

| The content of the | | | | | | | SIC | pe of End Sec | tion | | | 1 |
|--|--------|------------|---------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|
| Section Control Section Sect | 1 | | - | | | | | 1:4 | | | 1:6 | |
| 4 2 7 5 1 1 2 1 1 2 1 2 2 2 | Carve. | rt Dilliei | 1310113 | Main Pipe | Int. Support | Total Length | Main Pipe | Int. Support | Total Length | Main Pipe | Int. Support | Total Length |
| 4 | S (ft) | R (ft) | Tt (in) | No. / Length | No. / Length | of Pipe | No. / Length | No. / Length | | No. / Length | No. / Length | |
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| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 5 | 4 | 6 | 1 @ 14'-9" | N/A | 14'-9" | 1 @ 19'-3" | N/A | 19'-3" | 1 @ 28'-7" | | |
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| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 8 | 6 | 8 | 3 @ 21'-7" | 2 @ 7'-7" | 79'-11" | 3 @ 28'-3" | 3 @ 7'-7" | 107'-6" | 3 @ 41'-9" | 5 @ 7'-7" | 163'-2" |
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| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 11 | | | | 4 @ 10'-7" | 182'-4" | 4 @ 45'-9" | 5 @ 10'-7" | 235'-11" | 4 @ 67'-7" | 8 @ 10'-7" | 355'-0" |
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| 12 8 12 4 @ 29'-0" 3 @ 11'-7" 150'-9" 4 @ 37'-10" 4 @ 11'-7" 197'-8" 4 @ 55'-11" 7 @ 11'-7" 304'-9" 12 10 12 4 @ 35'-4" 4 @ 11'-7" 187'-8" 4 @ 46'-1" 5 @ 11'-7" 242'-3" 4 @ 68'-1" 8 @ 11'-7" 365'-0" 12 12 12 4 @ 41'-8" 5 @ 11'-7" 224'-7" 4 @ 54'-4" 6 @ 11'-7" 286'-10" 4 @ 80'-3" 10 @ 11'-7" 436'-10" | | | | | | | | | | | | |
| 12 10 12 4 @ 35'-4" 4 @ 11'-7" 187'-8" 4 @ 46'-1" 5 @ 11'-7" 242'-3" 4 @ 68'-1" 8 @ 11'-7" 365'-0" 12 12 12 4 @ 41'-8" 5 @ 11'-7" 224'-7" 4 @ 54'-4" 6 @ 11'-7" 286'-10" 4 @ 80'-3" 10 @ 11'-7" 436'-10" | | | | | | | | | | | | |
| 12 12 12 4 @ 41'-8" 5 @ 11'-7" 224'-7" 4 @ 54'-4" 6 @ 11'-7" 286'-10" 4 @ 80'-3" 10 @ 11'-7" 436'-10" | | | | | - | | | | | | | |
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| IPS REVISED | | 12 | 1 Z | | 1 2 6 11 -/ | / | 1 1 6 54 -4 | 1 5 6 11 -/ | 1 200 10 | 1 , & 00-5 | 10 @ 11-7 | 150 10 |

TPGBC-ZS

2-17-2017

| USER NAME = SMierzwa | DESIGNED | - | JPS | REVISED |
|-------------------------------|----------|---|-----------|---------|
| | DRAWN | - | JPS | REVISED |
| PLOT SCALE = 100.0000 ' / in. | CHECKED | - | STM | REVISED |
| PLOT DATE = 3/15/2022 | DATE | - | 3/13/2022 | REVISED |

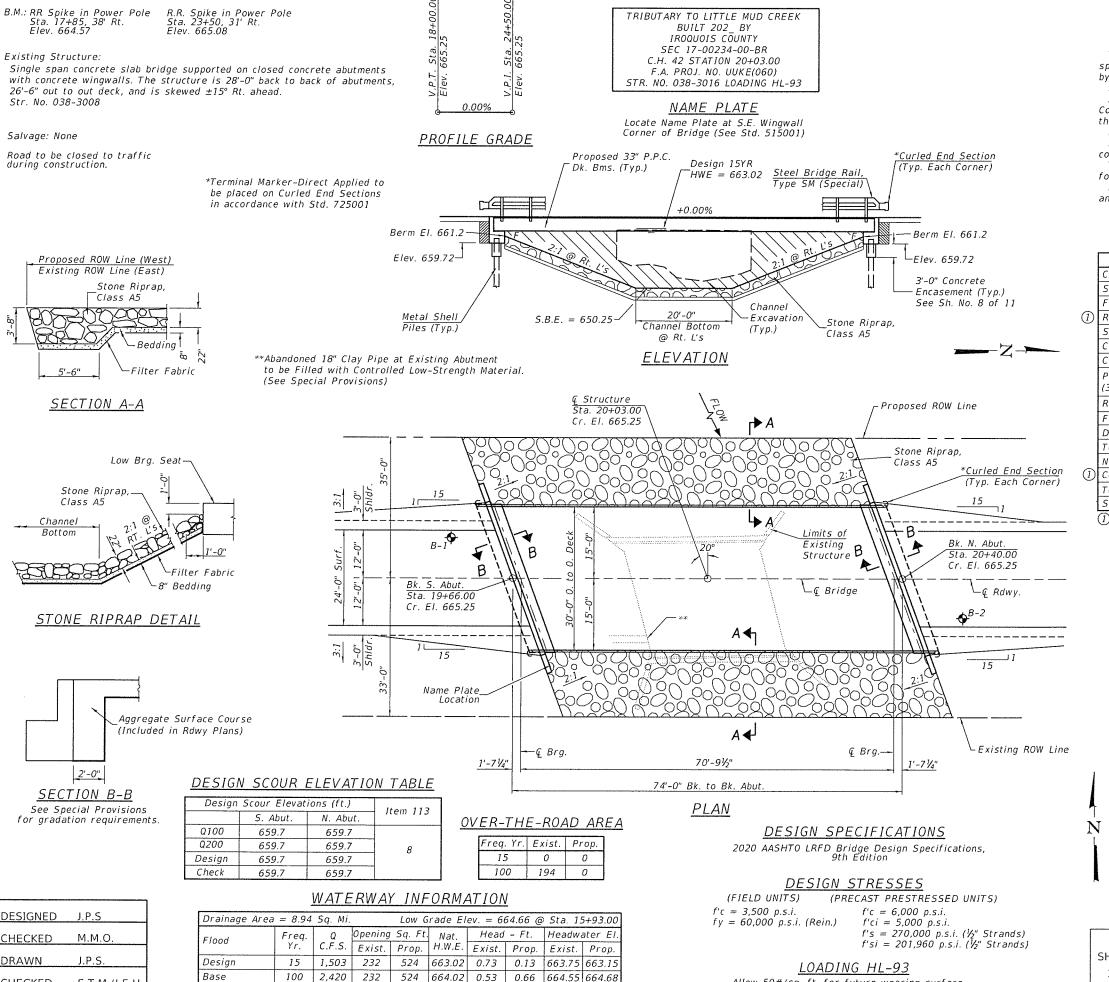
IROQUOIS COUNTY **COUNTY HIGHWAY 42 OVER** TRIBUTARY TO LITTLE MUD CREEK

| | | , - | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | |
|--------------------|-----------------------|------------------|--|---------------|----------------------------|
| | | | | F.A.S. RTE | SECTION |
| IK. | AVERSABLE PIPE GRATE | FOR BOX COTAI | ERIS | 1335 | 17-00234-00-BR |
| | | | | | |
| SCALE: <u>NONE</u> | SHEET NO. 5 OF 5 SHEE | TS STA. 17+27.00 | TO STA. 17+27.00 | FED. R | OAD DIST. NO. 7 ILLINOIS F |

(Sheet 2 of 2)

COUNTY TOTAL SHEET NO.

IROQUOIS 32 11 CONTRACT NO. 87769
FED. AID PROJECT NO. UUKE(060)



CHECKED

S.T.M./J.E.H.

GENERAL NOTES

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.

For Soil Boring Logs, See Sheets 9 thru 11 of 11.

A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Articles 1020.05(b)(10) and 1021.07 of the Standard Specifications.

Reinforcement Bars designated (E) shall be epoxy coated.

Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|-------|-------|-------|-------|
| Channel Excavation | CU YD | | 650 | 650 |
| Stone Riprap, Class A5 | TON | | 700 | 700 |
| Filter Fabric | SQ YD | | 615 | 615 |
| Removal of Existing Structures | EACH | | | 1 |
| Structure Excavation | CUYD | | 60 | 60 |
| Concrete Structures | CU YD | | 28.8 | 28.8 |
| Concrete Encasement | CU YD | | 2.6 | 2.6 |
| Precast Prestressed Concrete Deck Beams (33" Depth) | SQ FT | 2,160 | | 2,160 |
| Reinforcement Bars | POUND | | 3,110 | 3,110 |
| Furnishing Metal Shell Piles 12"x0.250" | FOOT | | 440 | 440 |
| Driving Piles | FOOT | | 440 | 440 |
| Test Pile Metal Shells | EACH | | 2 | 2 |
| Name Plates | EACH | | 1 | 1 |
| Controlled Low-Strength Material | CU YD | | 8.0 | 8.0 |
| Terminal Marker - Direct Applied | EACH | . 4 | | 4 |
| Steel Bridge Rail, Type SM (Special) | FOOT | 148 | | 148 |

1) See Special Provisions

HINTER OF STREET OF STREET

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 Standard Specification for Highway Bridges.

This design complies with all requirements of the current AASHTO Guide Specifications for spismic Design of highway bridges.

| 3128122 | Ilihois Structural No. 6440 | Expires 11/30/2022

R. 14 W. 2nd P.M.

27

28

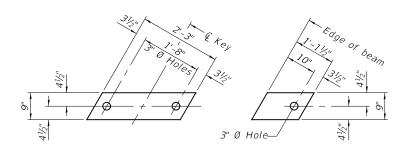
Project
Location
S 33

LOCATION SKETCH

GENERAL PLAN AND ELEVATION IROQUOIS COUNTY SECTION 17-00234-00-BR F.A.S. 1335 (C.H. 42) OVER TRIB. TO LITTLE MUD CREEK

| | F.A.S. ROUTE | SECT | ION | | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---|-------------|--------|--------------------|----------|-----------------|--------------|
| SHEET NO. 1 | 1335 | 17-00234 | -00-BR | | IROQUOIS | 32 | 12 |
| 11 SHEETS | | S.N. 038-30 | 16 | CONTRACT NO. 87769 | | | |
| | FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. UUKE(| | | | | | |

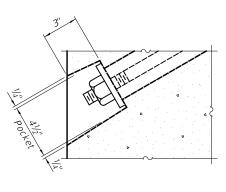
Allow 50#/sq. ft. for future wearing surface.

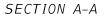


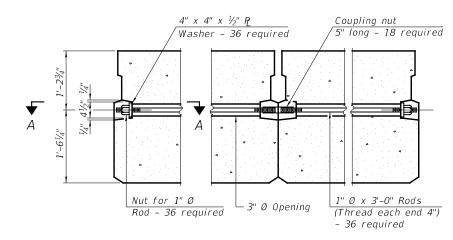
1/2" FABRIC BEARING PAD (Interior) 18 Required

1/2" FABRIC BEARING PAD (Exterior) 4 Required

FIXED







See Sheet No. 4 of 11

for Details.

Pad (Typ.)

Exterior Brg.

TYPICAL TRANSVERSE TIE ASSEMBLY

30'-0" F. to F. Rail 15'-0"

Total Crown Drop= 213/16"

_Slope ¾16" per ft.

—Interior Brg. Pad (Typ.)

BILL OF MATERIAL

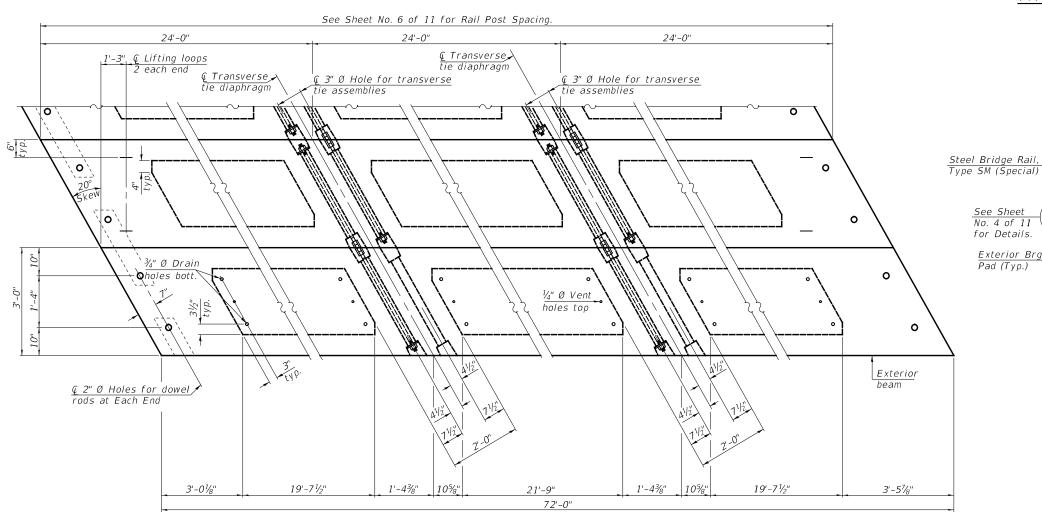
ITEM

Precast Prestressed Concrete

Deck Beams (33" Depth)

10-Precast Prestressed Concrete Deck Beams at 3'-0" each = 30'-0"

HALF CROSS SECTION



NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Two $\frac{1}{6}$ " fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum $2\frac{1}{2}$ " Ø lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications,

shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

SUPERSTRUCTURE IROQUOIS COUNTY <u>SECTION 17-00234-00-BR</u> F.A.S. 1335 (C.H. 42) OVER

TRIB. TO LITTLE MUD CREEK

Symm. About € Rdwy.

←Grouted Key

P.G.-

| | F.A.S. ROUTE | SECTION | | | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---|----------------|--------------------|--|----------------|-----------------|--------------|
| SHEET NO. 2 | 1335 | 17-00234-00-BR | | | IROQUOIS 32 13 | | |
| 11 SHEETS | | S.N. 038-30 | CONTRACT NO. 87769 | | | | |
| | FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. UUKE(060) | | | | | | |

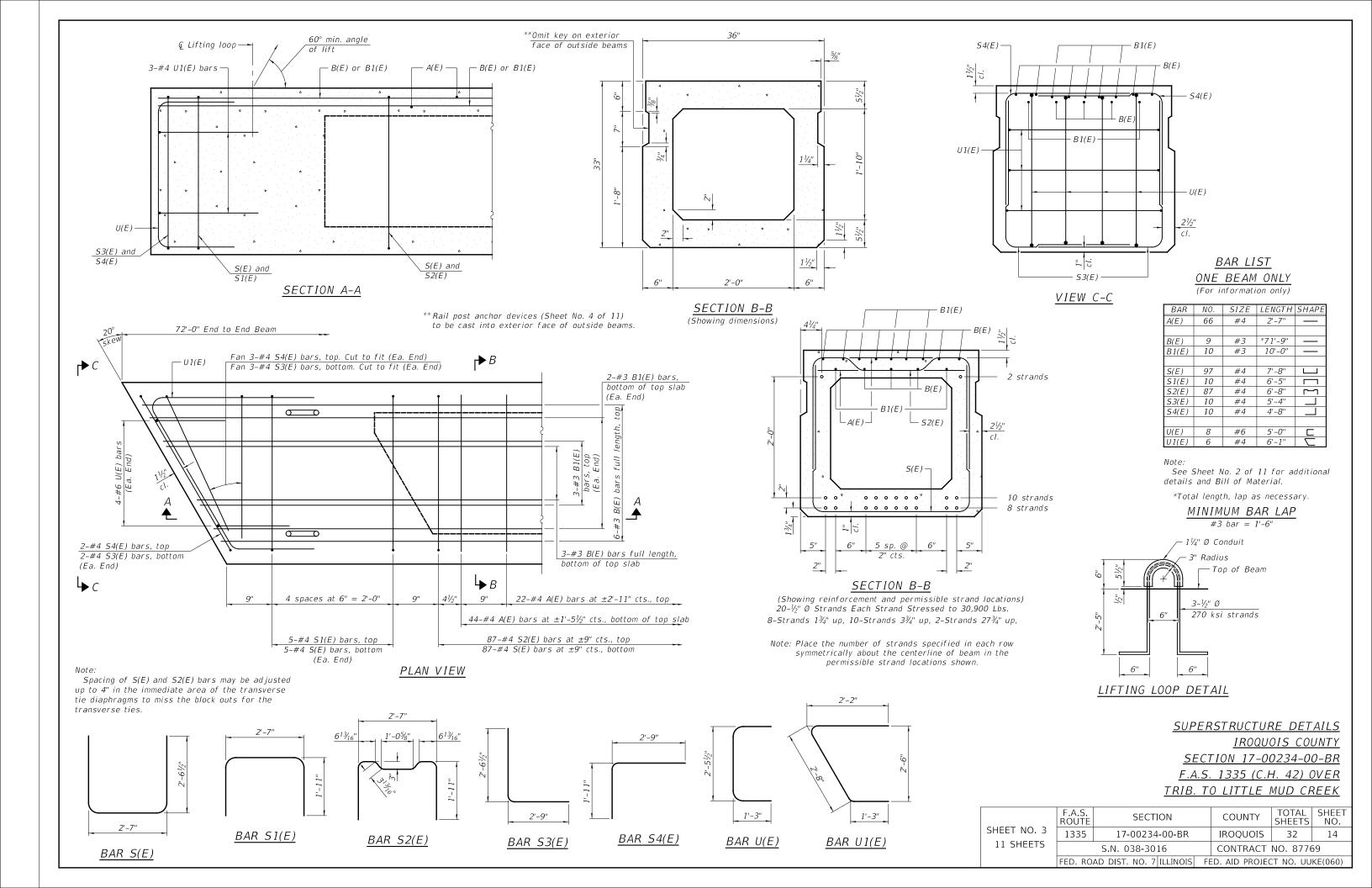
UNIT QUANTITY

2,160

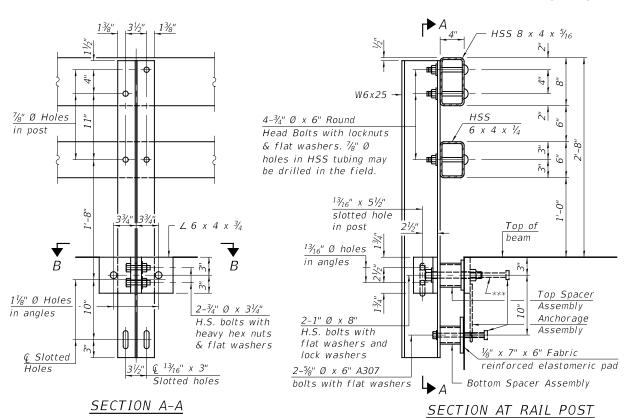
SQ FT

| | 1/4" Ø Vent holes top | | • | | |
|-------------|--------------------------|-------------|-----------------------------|------------------|--|
| | 21'-9" | 41/2 | 11/2" 2'.0" 19'-71/2" | Exterior beam | |
| 1 -478 1078 | | 1 -4/8 10/8 | 19-7/2 | 3 - 378 | |
| | 72'-0" | | | | |
| | <u>PLAN VIEW</u> | | | | |
| | | ۸ | UATE C | | |

Connect beams in pairs with the transverse tie configuration shown.



SEE SHEET NO. 6 OF 11 FOR RAIL POST SPACING



Top Spacer

Grind ¾₁₆" Chamfer

¢ 1%" Ø Holes in

angles and plates

PL ½" x 7" x 6"

x 3\%" long

HSS 6 x 3 x 1/4

holes

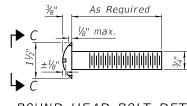
BOTTOM SPACER ASSEMBLY

3/4" 31/5"

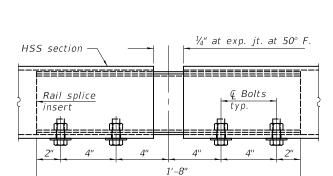
Assembly

-W6x25

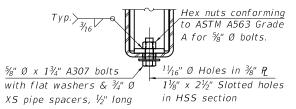
SECTION B-B



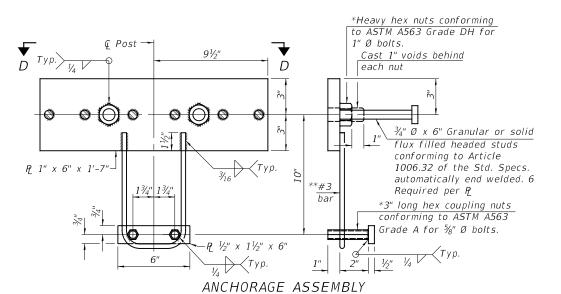
ROUND HEAD BOLT DETAIL



RAIL SPLICE ELEVATION



RAIL SPLICE CONNECTION AT EXPANSION JT.



NOTES

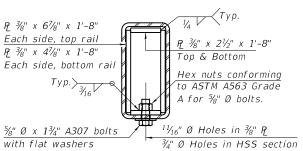
All field drilled holes shall be coated with an approved zinc rich paint before erection. A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x $11\frac{1}{2}$ ", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than $\frac{1}{4}$ " (top) or $\frac{1}{2}$ " (bottom), longer bolts are required. Cost included with Steel Bridge Rail, Type SM (Special).

All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

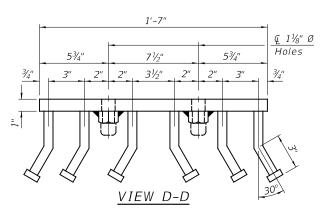
All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.

*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



SECTION AT RAIL SPLICE



STEEL BRIDGE RAIL TYPE SM (SPECIAL) IROQUOIS COUNTY SECTION 17-00234-00-BR F.A.S. 1335 (CH 42) OVER TRIB. TO LITTLE MUD CREEK

BILL OF MATERIAL

With Slot (shown) or

Approved Recess

Without Slot

or Recess

VIEW C-C

| ITEM | UNIT | QUANTITY |
|--------------------------------------|------|----------|
| Steel Bridge Rail, Type SM (Special) | F00T | 148 |

SHEET NO. 4 11 SHEETS

(Sheet 1 of 2)

| | F.A.S. ROUTE | SECTION | 0234-00-BR IRO 0-3016 CON | COUNTY | TOTAL SHEETS | SHEET NO. | | | |
|-----|-----------------|-------------------------|------------------------------|--------------------------------|-----------------|--------------|--|--|--|
| 4 R | 1335 | 17-00234-00-BR | | IROQUOIS 32 15 | | | | | |
| | | S.N. 038-3016 | CONTRACT NO. 87769 | | | | | | |
| | FED. RO. | AD DIST. NO. 7 ILLINOIS | FE | FED. AID PROJECT NO. UUKE(060) | | | | | |

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

**Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

4815-b004.dgn

 $HSS 6 \times 4 \times \frac{1}{4}$

x 3½" long

PL 1/2" x 111/2" x 5"

Anchorage

6" long

 $2^{-13}/_{16}$ " Holes in angles

111/2"

11/8" Ø holes

6"

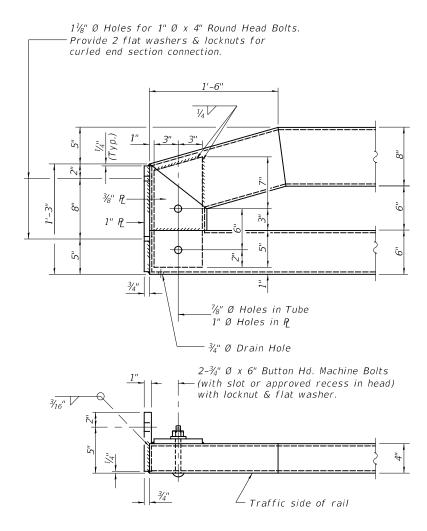
TOP SPACER ASSEMBLY

23/4"

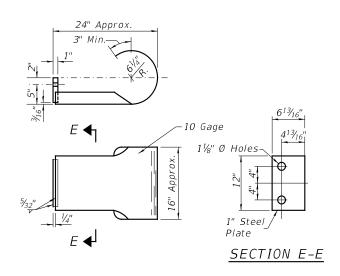
 $1-\frac{13}{16}$ " x $5\frac{1}{2}$ " Slotted

hole in post

Assembly



END OF RAIL DETAILS



CURLED END SECTION

(4 Req'd) Cost Included with Steel Bridge Rail, Type SM (Special). Terminal Markers - Direct Applied shall be placed on end of each Curled End Section. (Typ. Each Corner)

STEEL BRIDGE RAIL,

TYPE SM (SPECIAL)

IROQUOIS COUNTY

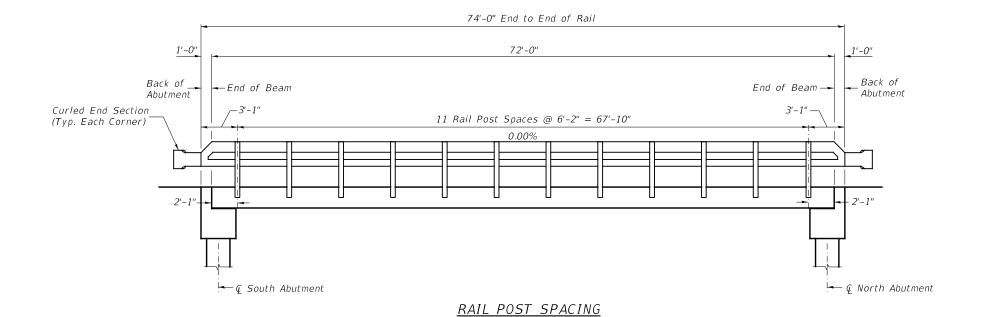
SECTION 17-00234-00-BR

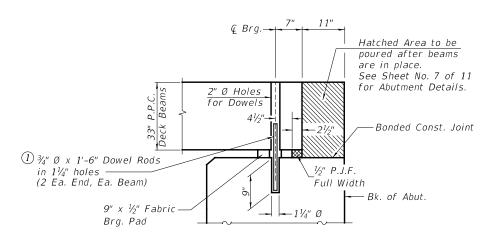
F.A.S. 1335 (CH 42) OVER

TRIB. TO LITTLE MUD CREEK

SHEET NO. 5

| F.A.S. ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
|-----------------|-------------------------|---------------|-----------------|--------------|--|
| 1335 | 17-00234-00-BR | IROQUOIS | 32 16 | | |
| | S.N. 038-3016 | CONTRACT | NO. 8776 | 59 | |
| FED BO | AD DIST NO 7 ILLINOIS I | FD AID PROJEC | T NO UU | KE(060) | |



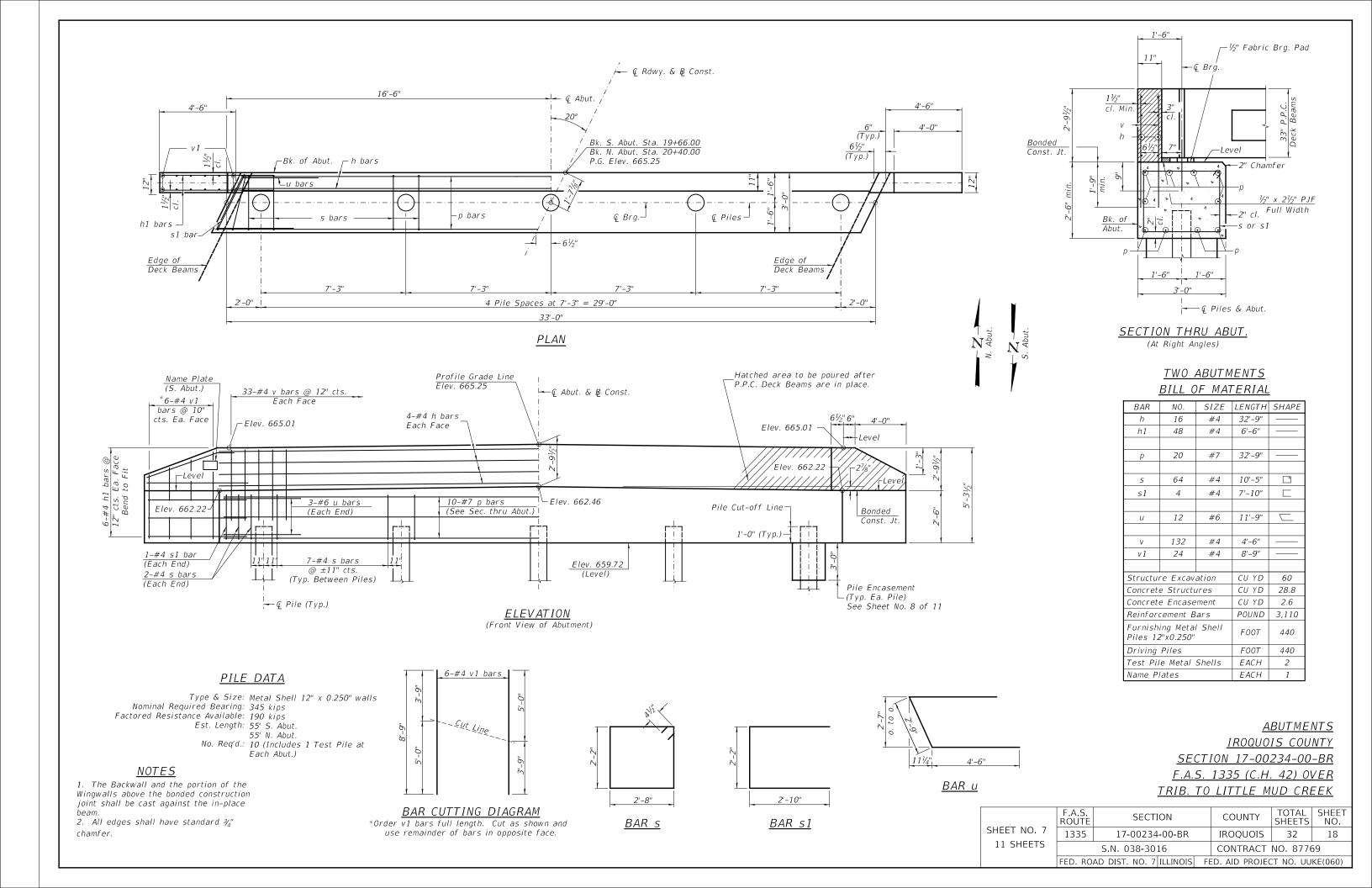


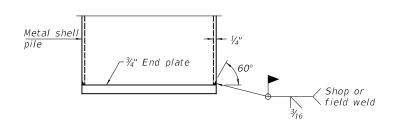
① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.

SECTION THRU ABUTMENTS
(At Right Angles)

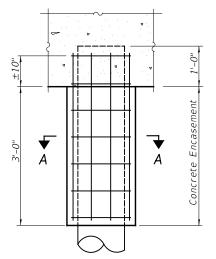
RAIL POST SPACING &
SUPERSTRUCTURE DETAILS
IROQUOIS COUNTY
SECTION 17-00234-00-BR
F.A.S. 1335 (C.H. 42) OVER
TRIB. TO LITTLE MUD CREEK

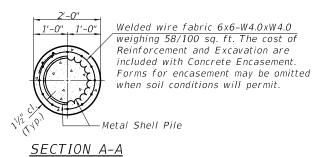
| | | | | | - 1 | | |
|-------------|---|----------------|--------------------|-----------------|--------------|--|--|
| | F.A.S. ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | |
| SHEET NO. 6 | 1335 | 17-00234-00-BR | IROQUOIS 32 17 | | | | |
| 11 SHEETS | | S.N. 038-3016 | CONTRACT NO. 87769 | | | | |
| | FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. UUKE(060) | | | | | | |





END PLATE ATTACHMENT





8-#7 bars

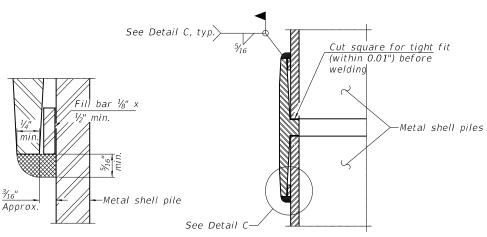
10'-6" long, typ.

ELEVATION

DETAIL OF METAL SHELL PILE ENCASEMENT AT ABUTMENTS

6" Horizontal bend (Typ.)—

ELEVATION



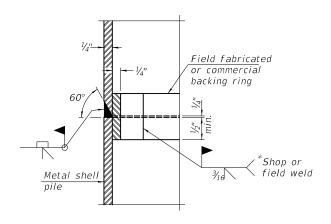
The $\frac{1}{8}$ " x $\frac{1}{2}$ " min. fill bar may be constructed of 2 bars with a $\frac{1}{8}$ " max. gap between them.

Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

Notes:

DETAIL C



COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

METAL SHELL PILE DETAILS IROQUOIS COUNTY <u>SECTION 17-00234-00-BR</u> F.A.S. 1335 (C.H. 42) OVER TRIB. TO LITTLE MUD CREEK

The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

Abutment

| | F.A.S. ROUTE | SECT | ION | COUNTY | TOTAL SHEETS | SHEET NO. | |
|-------------|--|----------------|----------|-----------------------------------|-----------------|--------------|---------|
| SHEET NO. 8 | ROUTE SECTION COUNTY SHEETS N 1335 17-00234-00-BR IROQUOIS 32 | 19 | | | | | |
| 11 SHEETS | | S.N. 038-30 | 16 | R IROQUOIS 32 CONTRACT NO. 87769 | 59 | | |
| | FED. RO | AD DIST. NO. 7 | ILLINOIS | FE | D. AID PROJEC | CT NO. UU | KE(060) |

Metal Shell Piles

REINFORCEMENT AT ABUTMENTS

SECTION B-B

The cost of Reinforcement

is included with Furnishing

Metal Shell Piles 12"x0.250"

| Midwest Testing Services, Inc. | | BORING LOG | | | | | | | Phone: 815-223-6696 | | | | | |
|--------------------------------|----------|-----------------------------|----------------|------------------|------------|-------------|------------|-----------------|---------------------|--------------|-------------------|----------------------------|--------------|--|
| | | 3705 Progress Blvd. | | CI | | | c | 2 | | | Fax: | 815-223-6 | 659 | |
| | | Peru, IL 61354 | | S | neet | | of. | | | | e-ma | il: mts37@coi | mcast.net | |
| Client: | Untabias | on Engineering Inc. | J | D. | -i | Nσ. | | | B-1 | | | | | |
| | | 17-00234-00-BR | - | | _ | Ele | 3 7 | — | 662.2 | 20 | | | | |
| | | Over Tributary To Mud Creek | - | | | Dept | | <u> </u> | 61' | | Rota | ary Depth | NA | |
| 1 Toject Bit | | County, Illinois | - | | rt D | | .11 | 1 | 1/27/ | | | sh Date | 11/27/21 | |
| | roquois | county, minoto | - | 544 | | | S | AMP | | | | | LED BY | |
| Lagations | | 9' Left Of Station 19+60 | | | | | | | | | | | | |
| Location: | | 9 Left Of Station 19+00 | | | | | | 0 | | | CF) | Randy Safra Diedrich D- | 120 | |
| _ | | | | | | e | | ows | ar | ୍ତ | (P | | | |
| | | | | _ | Š. | Тур | (H) | (B) | She | ေ | sity | | | |
| (DEPTH) | DEGG | SPIRE ON OF MATERIALS | Graphic Log | Depth in feet | Sample No. | Sample Type | Qu (TSF) | N Value (Blows) | Bulge / Shear | Moisture (%) | Dry Density (PCF) | | | |
| *ELEV. | DESC | CRIPTION OF MATERIALS | Gra | ŭ .≘ | Sam | Sam | nč | N | Bulg | Moi | Dry | REM | MARKS | |
| | | | | | | | | | | | | | | |
| 661.20 | | | | \Box_1 | | | | | | | | | | |
| F 1 | | Stiff Black And Brown | | F | | | | | | | | | | |
| 660.20 | | Clay (Fill) | | — 2 | | | | | | | | | | |
| F .50 20 | | 2.1., (2.1.) | | | Ι, | G C | 1.2 | 7 | ъ | 2.1 | | | | |
| 659.20 | | | L | | 1 | SS | 1.3 | 7 | В | 21 | | | | |
| 658.20 | | | | — 4 | | | | | | | | | | |
| ⊢ I | | | | F | | | | | | | | | | |
| 657.20 | | | | — 5 | ┢ | 00 | | _ | _ | 20 | | | | |
| 656.20 | | | | _6 | 2 | SS | 1.5 | 8 | В | 20 | | | | |
| | | | | L _° | | | | | | | | | | |
| 655.20 | | Stiff Drownigh | | — 7 | | | | | | | | | | |
| F 1 | | Stiff Brownish Gray Clay | Gray Clay | | ⊦ | ⊢ | | | | | | | | |
| 654.20 | | <i>5.11, 5.11,</i> | | 8 | 3 | SS | 1.6 | 8 | В | 20 | | | | |
| 653.20 | | | | | | | | | | | | | | |
| - 055.20 | | | | L . | | | | | | | | | | |
| 652.20 | | | | -10 | ⊢ | | | | | | | | | |
| F | | | | ┝ | 4 | SS | 1.6 | 9 | В | 21 | | | | |
| 651.20 | | | | _11 | | | | | | | | | | |
| 650.20 | | | | _12 | | | | | | | | | | |
| F F | | | ⊹ — - | ⊦ | H | | | | | | | | | |
| 649.20 | | | | 13 | 5 | SS | 2.3 | 14 | В | 18 | | | | |
| 648.20 | | | | L ₁₄ | | | | | | | | | | |
| [040.20 | | | | L'* | | | | | | | | | | |
| 647.20 | | | | 15 | _ | | | | | | | | | |
| - I | | | | ⊦ | 6 | SS | 2.3 | 16 | В | 17 | | | | |
| 646.20 | | Very Stiff Brown Gray Clay | | 16 | Т | | | | | | | | | |
| 645.20 | | With Thin Sand Seams | | L ₁₇ | l | | l | | | 1 | | | | |
| L 015.20 | | | | ⊢ ′′ | <u> </u> | igspace | | | | | | | | |
| 644.20 | | | | -18 | 7 | SS | 2.4 | 15 | В | 18 | | | | |
| ا ا | | | | H | \vdash | | | | | | | | | |
| 643.20 | | | | 19 | | | | | | l | | | | |

642.20

Comments:

Groundwater Data: Static water level after auger removal -Elevation 644.0

Midwest Testing Services, Inc. **BORING LOG** Phone: 815-223-6696 3705 Progress Blvd. Fax: 815-223-6659 Sheet 2 of 3 Peru, IL 61354 e-mail: mts37@comcast.net Boring No. B-1 Hutchison Engineering Inc. Project Name Section 17-00234-00-BR 662.20 Surface Elev. Project Site: CH-42 Over Tributary To Mud Creek Auger Depth 61' Rotary Depth 11/27/21 Finish Date 11/27/21 Iroquois County, Illinois Start Date DRILLED BY Randy Safranski Diedrich D-120 9' Left Of Station 19+60 Location: (DEPTH ELEV. DESCRIPTION OF MATERIALS REMARKS 641.20 **—** 640.20 9 SS 2.4 15 B **—** 639.20 638.20 ---637.20 10 SS 2.0 13 B 20 636.20 **—** 635.20 Very Stiff 11 SS 2.2 14 B 634.20 Gray Clay -633.20 -632.20 12 SS 2.3 13 B 22 --631.20 -630.20 629.20 --628.20 -627.20 13 SS 2.5 15 B 21 --626.20 **-**625.20 623.20 Very Stiff Gray ---622.20 Silty Loam Till 14 SS 3.0 9 S

Groundwater Data: Static water level after auger removal -Elevation 644.0

Comments:

621.20

SOIL BORINGS
IROQUOIS COUNTY
SECTION 17-00234-00-BR
F.A.S. 1335 (C.H. 42) OVER
TRIB. TO LITTLE MUD CREEK

| | | F.A.S. ROUTE | SECTION | COUNT | Υ | TOTAL SHEETS | SHEET NO. | | | |
|--|-------------|-----------------|-----------------------|-------------|------------------------------|-----------------|--------------|--|--|--|
| | SHEET NO. 9 | 1335 | 17-00234-00-BR | IROQUO | IS | 32 | 20 | | | |
| | 11 SHEETS | | S.N. 038-3016 | CONTRA | CONTRACT NO. 87769 | | | | | |
| | | FED RO | AD DIST NO 7 ILLINOIS | FED AID PRO | ED AID PROJECT NO LIUKE(060) | | | | | |

| Midwest Testing Services, Inc. | | | | BORING LOG | | | | | | | Phone: 815-223-6696 | | | | |
|--------------------------------|---------------------|-----------------------------|----------------|-------------------------------------|----------------------------|-------------|----------|-----------------|---------------|--------------|----------------------|---------------------------|-------|--|--|
| | 3705 Progress Blvd. | | | Shoot 2 of 2 | | | | | | | Fax: 815-223-6659 | | | | |
| | Peru, IL 61354 | | | | Sheet <u>3</u> of <u>3</u> | | | | | | | e-mail: mts37@comcast.net | | | |
| Client: | Hutchise | _ | Bo | rino | Nο | | | B-1 | | | | | | | |
| | | 17-00234-00-BR | _ | Boring No. B-1 Surface Elev. 662.20 | | | | | | | | | | | |
| | | Over Tributary To Mud Creek | _ | - Aug | | | | | 61' | | Rota | ry Depth | NA | | |
| | | County, Illinois | _ | Sta | rt D | ate | | 1 | 1/27/ | | Finish Date 11/27/21 | | | | |
| | | | | SAMPLES | | | | | DRILLED BY | | | | | | |
| Location: | | 9' Left Of Station 19+60 | | | | | | | | |) | Randy Safra | nski | | |
| | | | | | | | | (s) | | | (PCF) | Diedrich D- | 120 | | |
| | | | | _ ا | be | _ | 3low | ear | (%) | y (| | | | | |
| (DEPTH) | T | | .2 | _ = # | Sample No. | Sample Type | Qu (TSF) | N Value (Blows) | Bulge / Shear | Moisture (%) | Dry Density | | | | |
| ELEV. | DESC | CRIPTION OF MATERIALS | Graphic Log | Depth in feet | du | ldu | D 1 | Valı | ılge | oiste | y De | | | | |
| 620.20 | 2200 | | | | Sa | Sa | ŏ | z | Βū | M | Dr | REM | IARKS | | |
| ⊢ | | | | ⊦ | | | | | | | | | | | |
| 619.20 | | | | -43 | | | | | | | | | | | |
| 618.20 | | | | 44 | | | | | | | | | | | |
| L 010.20 | | | | F | | | | | | | | | | | |
| 617.20 | | | | — 45 | ┝ | | | | | | | | | | |
| - | | | | ۲., | 15 | SS | 3.5 | 26 | S | 14 | | | | | |
| 616.20 | | | | — 46 | | | | | | | | | | | |
| 615.20 | | | | 47 | | | | | | | | | | | |
| ⊢ | | | | ⊦ | | | | | | | | | | | |
| 614.20 | | Very Stiff Gray | | -48 | | | | | | | | | | | |
| 613.20 | | Silty Loam Till | | 49 | | | | | | | | | | | |
| L 013.20 | | | | L " | | | | | | | | | | | |
| 612.20 | | | | -50 | <u> </u> | | | | | | | | | | |
| 611.20 | | | | 51 | 16 | SS | 3.4 | 28 | S | 14 | | | | | |
| | | | | | | | | | | | | | | | |
| 610.20 | | | | 52 | | | | | | | | | | | |
| ⊢ | | | | Η | | | | | | | | | | | |
| 609.20 | | | | 53 | | | | | | | | | | | |
| 608.20 | | | | 54 | | | | | | | | | | | |
| F | | | | F | | | | | | | | | | | |
| 607.20 | | | | -55 | 1.7 | CC | 2.2 | 24 | - | 1.5 | | | | | |
| 606.20 | | | | 56 | 17 | SS | 3.2 | 24 | S | 15 | | | | | |
| _ 000.20 | | | | F | | | | | | | | | | | |
| 605.20 | | | | — 57 | | | | | | | | | | | |
| 604.20 | | | | 58 | | | | | | | | | | | |
| L 604.20 | | | | | | | | | | | | | | | |
| 603.20 | | | | 59 | | | | | | | | | | | |
| F | | | | H | | | | | | | | | | | |
| 602.20 | | | | 60 | 10 | SS | 3.7 | 31 | S | 12 | | | | | |
| -601.20 | | | \bot | F 61 | 10 | دد | ٥./ | 21 | ٥ | 12 | | | | | |
| F . | , | | | \vdash | | | | | | | | | | | |

Bottom of Boring

Groundwater Data: Static water level after auger removal -Elevation 644.0

| Samanan | Midwest Testing Services, Inc. | | | Е | BOI | RIN | G L | Phor | Phone: 815-223-6696 | | | | | |
|---|--------------------------------|---|----------------|------------------|------------|-------------|-----------|---------------|---------------------|--------------|-------------------|-----------------------------------|--|--|
| | 3705 Progress Blvd. | | | | | | of | | | | Fax: | 815-223-6659 | | |
| | n in Oli | Peru, IL 61354 | | 5. | 1001 | | 01 | | | | e-ma | il: mts37@comcast.net | | |
| Client: | Hutchiso | | Boring No. B-2 | | | | | | | | | | | |
| Project Na | _ | Surface Elev. | | | | | 662.2 | :0 | | | | | | |
| Project Site: CH-42 Over Tributary To Mud Creek | | | | _ | | | ger Depth | | 61' | | | Rotary Depth NA | | |
| Iroquois County, Illinois | | | | Sta | rt D | ate | | AMPI | 1/27/ | 21 | Fini | sh Date 11/27/21 | | |
| | | | | | _ | | 5/ | AMP | LES | | | DRILLED BY | | |
| Location: | 10' Right Of Station 20+50 | | | | | | | | | | (F) | Randy Safranski Diedrich D-120 | | |
| | | | | | | n | | Value (Blows) | ıı | (9 | Dry Density (PCF) | Dictation D 120 | | |
| | | | | | | Гуре | (F) | (Ble | Bulge / Shear | Moisture (%) | sity | | | |
| (DEPTH) | DEGG | NAME OF A COMPANY | Graphic Log | Depth in feet | ple | ple ' | (TS | alue | je / 3 | stur | Den | | | |
| *ELEV. 662.20 | DESC | CRIPTION OF MATERIALS | Gra | ⊒. ⊑ | Sample No. | Sample Type | Qu (TSF) | N | Bulg | Moi | Dry | REMARKS | | |
| | | | | L | | | | | | | | | | |
| — 661.20 | | Stiff Black And Brown | | _1 | | | | | | | | | | |
| - I | | Clay (Fill) | | ⊦ | | | | | | | | | | |
| 660.20 | | () | | - 2 | | | | | | | | | | |
| 659.20 | | | | 3 | 1 | SS | 1.3 | 8 | В | 20 | | | | |
| - | | | | ⊢ | Ĥ | ~~ | | | _ | | l | | | |
| 658.20 | | | | | | | | | | | | | | |
| 657.20 | | | | | | | | | | | | | | |
| - 037.20 | | | | L | 2 | SS | 1.7 | 9 | В | 20 | | | | |
| -656.20 | | | | — 6 | _ | | | | | | | | | |
| 655.20 | | | | | | | | | | | | | | |
| _ 033.20 | | | | Γ΄ | | | | | | | | | | |
| 654.20 | | | | - 8 | 3 | SS | 1.6 | 8 | В | 21 | | | | |
| 653.20 | | | | | \vdash | | | | | | 1 | | | |
| - 033.20 | | Stiff Gray Clay | | Γ" | | | | | | | | | | |
| 652.20 | | | | 10 | _ | | | | | | | | | |
| F | | | | ┝ | 4 | SS | 1.7 | 8 | В | 21 | | | | |
| 651.20 | | | | _11 | | | | | | | 1 | | | |
| -650.20 | | | | 12 | | | | | | | | | | |
| F | | | | ١ | ⊢ | 0.0 | | - 10 | _ | 4.0 | l | | | |
| 649.20 | | | | _13 | 5 | SS | 1.9 | 13 | В | 18 | | | | |
| 648.20 | | | | L ₁₄ | _ | | | | | | | | | |
| - 1 | | | | F | | | | | | | | | | |
| 647.20 | | | ╁ | 15 | 6 | ee. | 1.8 | 12 | В | 17 | 1 | | | |
| 646.20 | | | | _16 | Ľ | SS | 1.8 | 13 | В | 1/ | | | | |
| - 1 | | | | F | | | | | | | | | | |
| 645.20 | | | | 17 | | | | | | | | | | |
| 644.20 | | Stiff Brownish Gray Clay | | L ₁₈ | 7 | SS | 1.6 | 12 | В | 18 |] | | | |
| - | | With Thin Sand Seams | | F | Ŀ | | , | | | | - | | | |

Groundwater Data: Static water level after auger removal -Elevation 644.0

Comment

SOIL BORINGS

IROQUOIS COUNTY

SECTION 17-00234-00-BR

F.A.S. 1335 (C.H. 42) OVER

TRIB. TO LITTLE MUD CREEK

| | F.A.S. ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | | | |
|--------------|-----------------|-------------------------|--------------------------------|-----------------|--------------|--|--|--|--|
| SHEET NO. 10 | 1335 | 17-00234-00-BR | IROQUOIS | 32 | 21 | | | | |
| 11 SHEETS | | S.N. 038-3016 | CONTRACT | TRACT NO. 87769 | | | | | |
| | FED. RO. | AD DIST. NO. 7 ILLINOIS | FED. AID PROJECT NO. UUKE(060) | | | | | | |

| Down | Midwest Testing Services, Inc. | | | BORING LOG | | | | | | | | Phone: 815-223-6696 | | | |
|---|--------------------------------|---------------------------|---------|------------------|--|-------------|----------|-----------------|---------------|--------------|-------------------|-------------------------|----------|--|--|
| | 3705 Progress Blvd. | | | Sheet 2 of 3 | | | | | | | | Fax: 815-223-6659 | | | |
| | | Peru, IL 61354 | | 5. | nect | | . 01 | | • | | e-ma | il: mts37@comc | ast.net | | |
| Client: | Hutchiso | on Engineering Inc. | | Во | ring | Nσ. | | | B-2 | | | | | | |
| Project Na | | Surface Elev. | | | | 662.20 | | | | | | | | | |
| Project Site: CH-42 Over Tributary To Mud Creek | | | | _ Auş | | | th | 61' | | | | ary Depth | NA | | |
| Iroquois County, Illinois | | | | | rt D | ate | | | 1/27/ | 21 | Fini | sh Date | 11/27/21 | | |
| Location: | 10 | O' Right Of Station 20+50 | | | | | <u> </u> | AMP. | LES | | <u> </u> | DRILLI Randy Safrans | iki | | |
| | | | | | | e | | ows) | ar | (0) | · (PC) | Diedrich D-12 | 0 | | |
| | | | T | Т . | Š. | Тур | SF) | (BI | She | (°) | nsity | | | | |
| (DEPTH) ELEV. 641.20 | DESC | CRIPTION OF MATERIALS | Graphic | Depth in feet | Sample No. | Sample Type | Qu (TSF) | N Value (Blows) | Bulge / Shear | Moisture (%) | Dry Density (PCF) | REM <i>A</i> | ARKS | | |
| 041.20 | | | 1 | L | <u> </u> | 0, | Ť | Ţ | | | | | | | |
| 640.20 | | | | 22 | | | | | | | | | | | |
| F | | | | ١ | | 00 | 1.0 | | _ | 22 | ł | | | | |
| 639.20 | | a ima | | 23 | 9 | 22 | 1.9 | 17 | В | 22 | | | | | |
| 638.20 | | Stiff Gray Clay | | 24 | | | | | | | | | | | |
| F | | | | ١ | | | | | | | | | | | |
| 637.20 | | | | 25 | 10 | SS | 1.8 | 12 | В | 21 | 1 | | | | |
| 636.20 | | | | 26 | | 55 | 1.0 | 12 | | -1 | | | | | |
| 635.20 | | | | 27 | | | | | | | | | | | |
| F | | | | ١ | | ~~ | _ | | _ | - | ł | | | | |
| 634.20 | | | | 28 | 11 | SS | 2.5 | 15 | В | 20 | | | | | |
| 633.20 | | | | 29 | | | | | | | | | | | |
| F | | | | F | | | | | | | | | | | |
| 632.20 | | | | 30 | 12 | SS | 2.3 | 14 | В | 18 | 1 | | | | |
| 631.20 | | | | -31 | <u> </u> | | | | _ | | ł | | | | |
| | | N. G.: 00 | | | | | | | | | | | | | |
| F 1 | | Very Stiff Gray Clay | | H | | | | | | | | | | | |
| 629.20 | | Gray Chay | | -33 | | | | | | | | | | | |
| L _{628.20} | | | | | | | | | | | | | | | |
| - | | | | ⊦ | | | | | | | | | | | |
| 627.20 | | | | 35 | 12 | SS | 2.2 | 14 | В | 18 | l | | | | |
| L _{626.20} | | | | <u></u> | 13 | 33 | 2.2 | 14 | ь | 10 | | | | | |
| - | | | | H | | | | | | | | | | | |
| 625.20 | | | | 37 | | | | | | | | | | | |
| 624.20 | | | | 38 | | | | | | | | | | | |
| F | | | | ۲. | | | | | | | | | | | |
| 623.20 | | | 7 | - 39 | | | | | | | | | | | |
| 622.20 | | Very Stiff Gray | | 40 | \vdash | _ | _ | | \vdash | _ | 1 | | | | |
| 621.20 | | Silty Loam Till | | L ₄₁ | 14 | SS | 3.4 | 21 | S | 14 | | | | | |
| 021.20 | | | 1 | 41 | | | | | | | 1 | I | | | |

Groundwater Data: Static water level after auger removal -Elevation 644.0

Comments:

Midwest Testing Services, Inc. **BORING LOG** Phone: 815-223-6696 3705 Progress Blvd. Fax: 815-223-6659 Sheet <u>3</u> of <u>3</u> Peru, IL 61354 e-mail: mts37@comcast.net Boring No. B-2 Hutchison Engineering Inc. Project Name Section 17-00234-00-BR Surface Elev. 662.20 Project Site: CH-42 Over Tributary To Mud Creek Auger Depth 61' Rotary Depth 11/27/21 Finish Date 11/27/21 Iroquois County, Illinois Start Date DRILLED BY 10' Right Of Station 20+50 Location: Randy Safranski Diedrich D-120 (DEPTH ELEV. DESCRIPTION OF MATERIALS REMARKS 620.2 ---619.20 ---618.20 ---617.20 15 SS 3.4 32 S 12 --616.20 ---615.20 614.20 613.20 612.20 16 SS 3.8 35 S 12 ---611.20 Very Stiff Gray Silty Loam Till -610.20 **—** 609.20 **—** 608.20 -607.20 17 SS 3.3 27 S -606.20 --605.20 **-**604.20 603.20 602.20 18 SS 3.1 32 S **-**600.20 Bottom of Boring

Groundwater Data: Static water level after auger removal -Elevation 644.0

Comments:

<u>SOIL BORINGS</u> <u>IROQUOIS COUNTY</u>

> F.A.S. 1335 (C.H. 42) OVER TRIB. TO LITTLE MUD CREEK

<u>SECTION 17-00234-00-BR</u>

