STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SECTION T,R, 72 KENDALL 30 1 -00-BR ILLINOIS CONTRACT NO. FED. ROAD DIST, NO.

INDEX OF SHEETS

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2. SUMMARY OF QUANTITIES

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4. PLAN AND PROFILE

SOIL EROSION AND SEDIMENT 5-7. CONTROL PLANS

AND GENERAL NOTES

8-24. BRIDGE PLANS

25-30.

STATION CROSS SECTIONS

SEE PROPOSAL BOOKLET FOR

280001-07

515001-04

NAME PLATE FOR BRIDGES TRAFFIC CONTROL DEVICES

701901-09 725001-01

BLR 21-9

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

TEMPORARY EROSION CONTROL SYSTEMS

OBJECT AND TERMINAL MARKERS

PLANS FOR PROPOSED TOWNSHIP BRIDGE PROGRAM

SECTION 22-04115-00-BR KENDALL TOWNSHIP HIGHWAY DEPARTMENT **KENDALL COUNTY** T.R. 72 / WHEELER ROAD PROPOSED STRUCTURE NO. 047-3190

LOCATION MAP

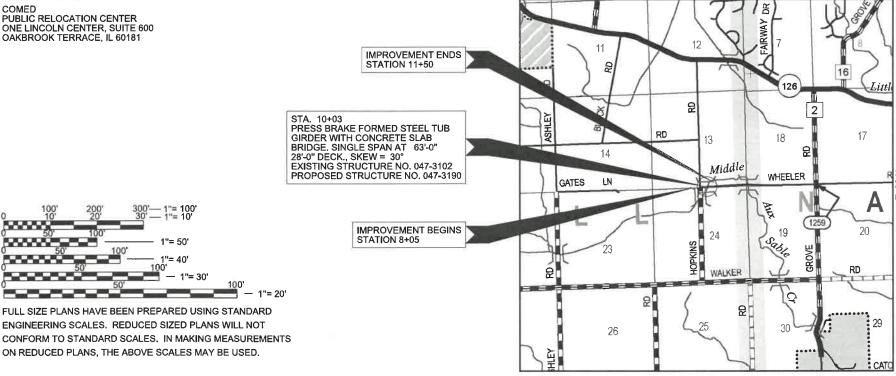
NET LENGTH OF SECTION = 345 FEET = 0.065 MILES

APPROXIMATE SCALE:

R. 7 E., 3RD P.M.



PUBLIC RELOCATION CENTER ONE LINCOLN CENTER, SUITE 600 OAKBROOK TERRACE, IL 60181



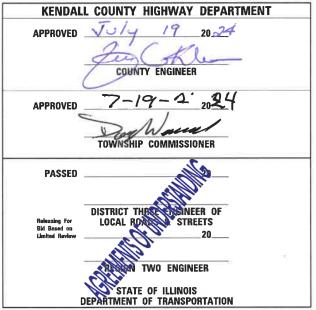
FUNCTIONAL CLASSIFICATION: LOCAL ROAD DESIGN SPEED:

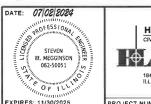
DESIGN TRAFFIC:

30 MPH









HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURV 3085 STEVENSON DRIVE, SUITE 201

184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 22.0550.130 DATE: 07/02/2024

CODE NO.	SUMMARY OF QUANTITIES ITEM	TYPE 0(RUCTION CODE 010
20200100	EARTH EXCAVATION	CU YD	TOTAL 215
20300100	CHANNEL EXCAVATION	CU YD	100
20900110	POROUS GRANULAR BACKFILL	CU YD	90
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	58
28000305	TEMPORARY DITCH CHECKS	FOOT	30
28000400	PERIMETER EROSION BARRIER	FOOT	250
28000500	INLET AND PIPE PROTECTION	EACH	1
28100207	STONE RIPRAP, CLASS A4	TON	280
28200200	FILTER FABRIC	SQ YD	325
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	445
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1
50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	35.5
50300255	CONCRETE SUPERSTRUCTURE	CU YD	66.8
50300300	PROTECTIVE COAT	SQ YD	208
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	16690
50900209	STEEL RAILING, TYPE SMX	FOOT	120
51201400	FURNISHING STEEL PILES HP10X42	FOOT	605
51202305	DRIVING PILES	FOOT	605
51203400	TEST PILE STEEL HP10X42	EACH	1
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS, 1"	EACH	24
542D5470	PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 15"	FOOT	32
58700300	CONCRETE SEALER	SQ FT	157
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	52
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	132
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.25
	PRESS-BRAKE-FORMED STEEL TUB GIRDER (PBFSTG) SYSTEM	SQ FT	1764
	CONTRACTOR LAYOUT	L SUM	1

GENERAL NOTES

- 1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2022", THE LATEST REVISION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ILLINOIS SUPPLEMENT, THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- 2) THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATIONS 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.
- 3) 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.
- 4) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES

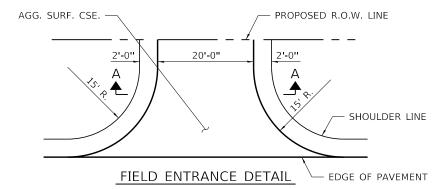
AGGREGATE SURFACE COURSE 2.05 TON/CU YD STONE RIPRAP 1.75 TON/CU YD

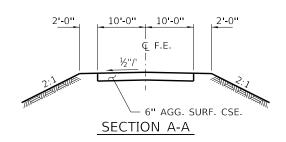
- 5) THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.
- 6) EXCAVATION REQUIRED BY THE CONTRACTOR FOR TEMPORARY CONSTRUCTION OPERATIONS SHALL NOT BE PAID FOR
- 7) COMMITMENTS:
 - 1) NONE

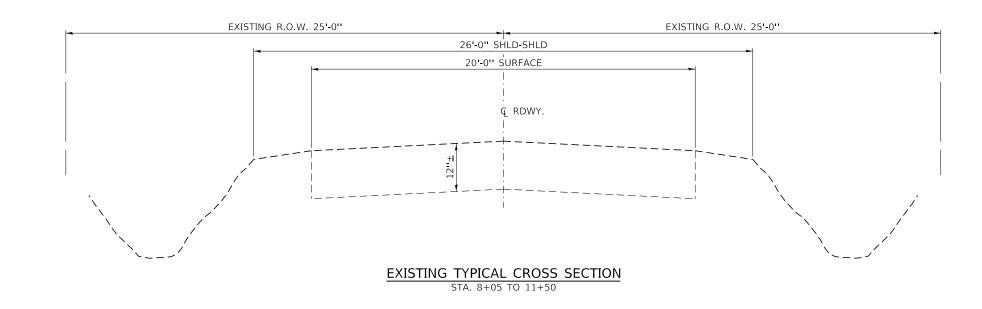
	EA	ARTHWOR	K SCHED	ULE			
	EARTH	CHANNEL	SHRINKAGE	PERCENT	EXCAVATION	EMBANKMENT	EARTHWORK
LOCATION	EXCAVATION	EXCAVATION	FACTOR	USED	ADJUSTED FOR	REQUIRED	BALANCE
LOCATION					SHRINKAGE		
	CU.YD.	CU.YD.			CU.YD.	CU.YD.	CU.YD.
TR 72 / WHEELER ROAD							
STA. 8+05.00 TO STA. 9+71.50	135		25.00%	100.00%	101	17	84
STA. 9+71.50 TO STA. 10+34.50		100	25.00%	70.00%	53		53
STA. 10+34.50 TO STA. 11+50.00	79		25.00%	100.00%	59	21	38
ENTRANCE STA. 10+90.00						8	-8
TOTAL	213	100			213	47	167
USE	215	100					165

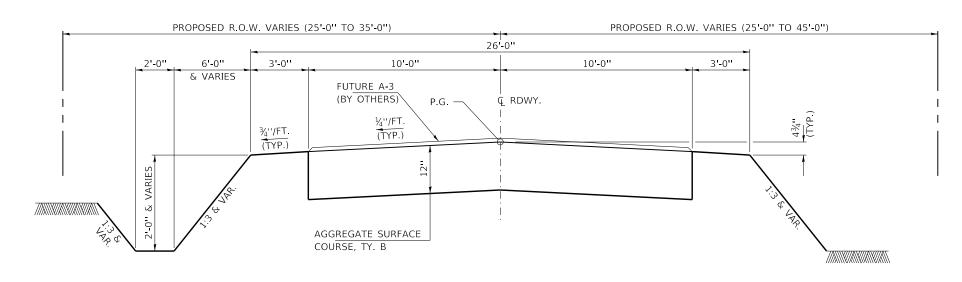
WASTE 165 CU YDS

FII	E NAME = 220550-sht-summary.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -				T.R.	SECTION	COUNTY	SHEETS NO.
	HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - D.M.F.	REVISED -	STATE OF ILLINOIS	SUM	MARY OF QUANTITIES AND GENERAL NOTES	72	22-04115-00-BR	KENDALL	30 2
-	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	CHECKED - X.X.X.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT			KENDA	LL TOWNSHIP	CONTRACT	NO.
	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	DATE - 07/02/2024	REVISED -		SCALE:	SHEET NO. 1 OF 1 SHEETS STA. 8+05 TO STA. 11+50		ILLINOIS FED. AII	ID PROJECT	









SUGGESTED CUT SECTION CONSTRUCT AS SHOWN IN STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

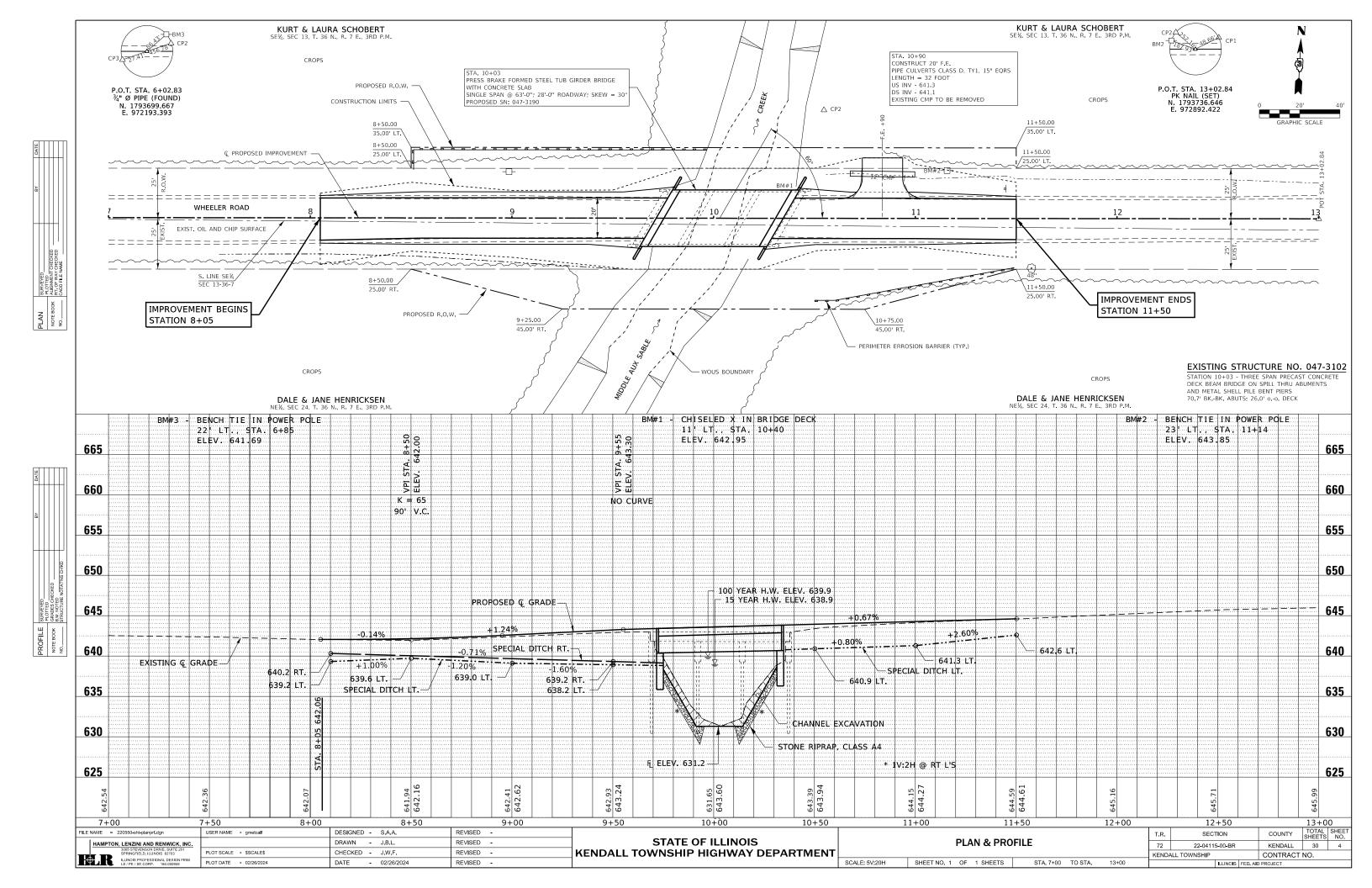
STA. 8+05 TO 11+50

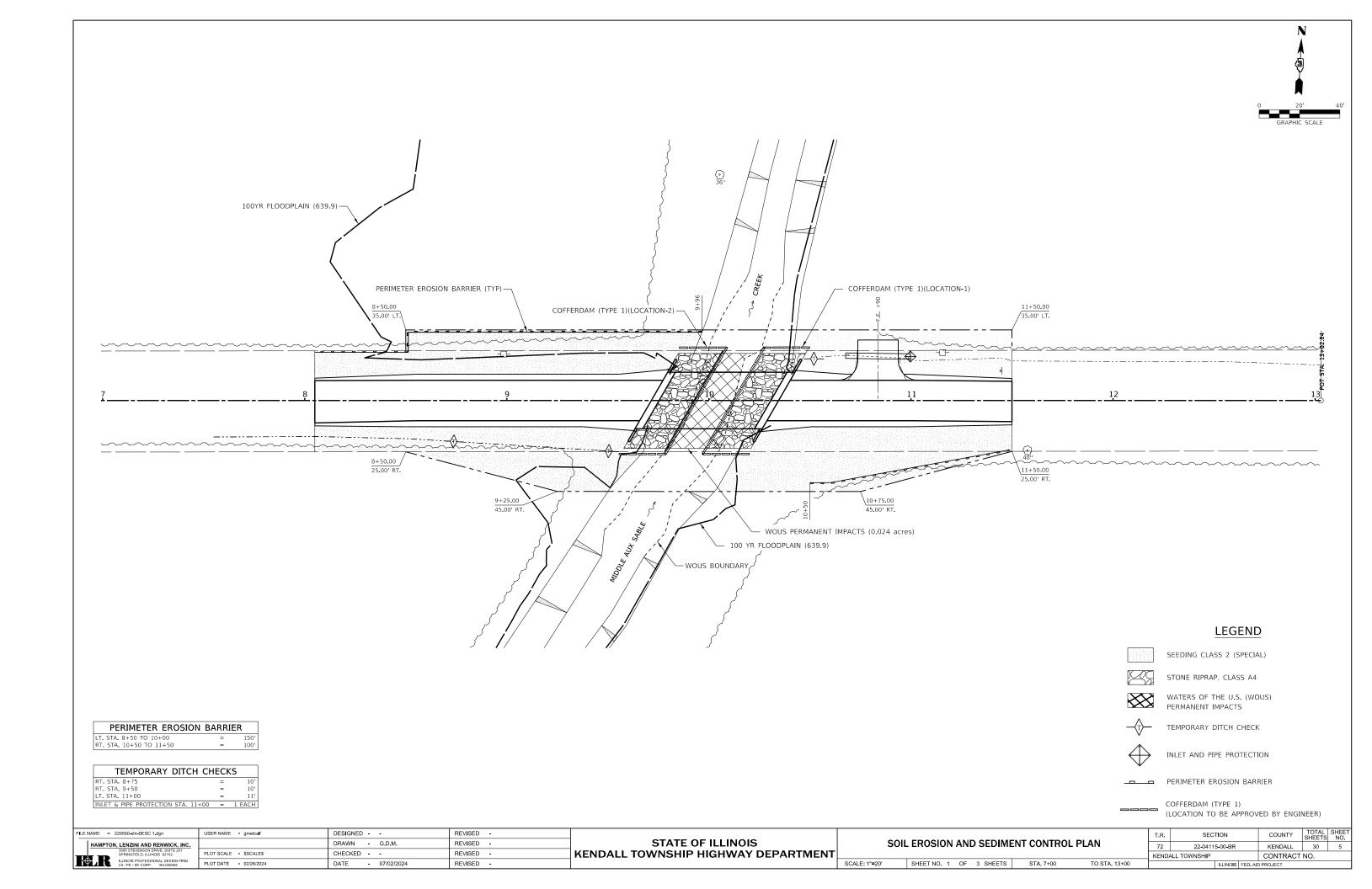
TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY ARE TO BE CONSTRUCTED FROM STA. 8+05 TO 8+55 AND STA. 11+00 TO STA. 11+50. SEE SHEET _ FOR TRANSITION AT BRIDGE. CONSTRUCT AGGREGATE BASE TO THE FULL 20 FT. WIDTH

FOR THE LENGTH OF THE IMPROVEMENT.

SUGGESTED FILL SECTION CONSTRUCT AS SHOWN IN STATION CROSS SECTIONS

FILE	NAME = 220550-sht-typsections.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -						T.R.	SECTION	COUNTY	TOTAL	SHEET
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_	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	CHECKED - X.X.X.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT					KENDALL	TOWNSHIP	CONTRACT	ſ NO.	
\blacksquare	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	DATE - 07/02/2024	REVISED -		SCALE:	SHEET NO. 1 OF 1 SHEETS	STA. 8+05	TO STA. 11+50		ILLINOIS FED, AI	D PROJECT		-



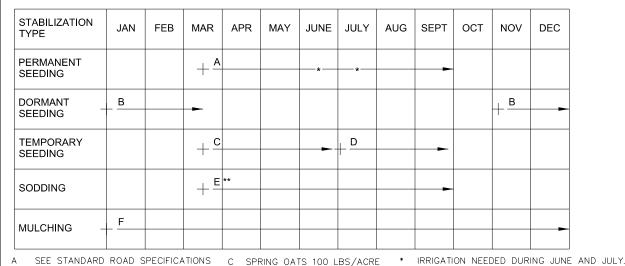


GENERAL NOTES FOR SOIL EROSION AND SEDIMENT CONTROL

- 1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED ACCORDING TO THE STANDARDS AND SPECIFICATIONS IN THE 2013 ILLINOIS URBAN MANUAL (IUM), THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2022 AND THE PLAN DETAILS.
- 2. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES. IT SHALL BE PRESENTED UPON REQUEST FROM ANY AUTHORIZED AGENT.
- 3. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE ENGINEER.
- 4. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO INFORM ANY SUB-CONTRACTOR(S) WHO MAY PERFORM WORK ON THIS PROJECT, OF THE REQUIREMENTS IN IMPLEMENTING AND MAINTAINING THESE EROSION CONTROL PLANS AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS SET FORTH BY THE ILLINOIS EPA.
- 5. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF UPLAND DISTURBANCE. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR. SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- 6. PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, ADDITIONAL PHASES OF DEVELOPMENT AND OFF-SITE BORROW OR WASTE AREAS) A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER.
- 7. THE CONTRACTOR SHALL CLEAN UP AND GRADE THE WORK AREA AS THE PROJECT PROGRESSES TO ELIMINATE THE CONCENTRATION OF RUNOFF. THE PAVEMENT SHALL BE CLEANED DAILY TO REMOVE EARTH MATERIAL TO THE SATISFACTION OF THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- 8. ALL TEMPORARY EROSION CONTROL MEASURES MUST BE MAINTAINED AND IMMEDIATELY REPLACED AS NEEDED AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL INSPECTION AND REPAIR. THE CONTRACTOR SHALL INSPECT AND COMPLETE MAINTENANCE OF ALL ITEMS A MINIMUM OF EVERY 7 DAYS AND WITHIN 24 HOURS OF A ONE-HALF INCH RAINFALL. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SEEDING IS ACHIEVED. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK
- 9. REMOVAL OF TRAPPED SEDIMENT SHALL BE PAID FOR AS EARTH EXCAVATION. SEDIMENT SHALL BE REMOVED WHEN SILTATION REACHES 50% OF THE HEIGHT OF THE BARRIER.
- 10. TEMPORARY STOCKPILES OF MATERIALS MAY NOT BE LOCATED IN WETLANDS OR DRAINAGE SWALES OR ON THE LEVEE EMBANKMENT. THE LOCATION OF ANY TEMPORARY STOCKPILE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. STOCKPILES TO REMAIN IN PLACE MORE THAN THREE DAYS SHALL BE FURNISHED WITH EROSION & SEDIMENT CONTROL (I.E. PERIMETER EROSION BARRIER). STOCK PILES TO REMAIN IN PLACE FOR THIRTY DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- 11. THE CONTRACTOR SHALL MAINTAIN AND PRESERVE ANY EXISTING SUB SURFACE DRAINAGE SYSTEMS (i.e. FIELD TILES) ACCORDING TO SECTION 611 OF THE IDOT STANDARD SPECIFICATIONS.
- 12. CLEANING OF VEHICLES AND EQUIPMENT SHALL BE PERFORMED IN A MANNER TO AVOID POLLUTANT DISCHARGE TO WETLANDS AND OPEN WATERS TO THE MAXIMUM EXTENT POSSIBLE.
- 13. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTION RUNOFF. LEAKY EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
- 14. TEMPORARY SEEDING SHALL BE COMPLETED ON ALL AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH CONSTRUCTION WILL BE STOPPED FOR A PERIOD OF MORE THAN 14 CALENDAR DAYS. WINTER SHUTDOWN SHALL BE ADDRESSED EARLY IN THE FALL GROWING SEASON SO THAT SLOPES AND OTHER BARE EARTH AREAS MAY BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATIVE COVER FOR PROPER EROSION AND SEDIMENT CONTROL.
- 15. STOCKPILED SOIL AND MATERIALS SHALL BE REMOVED FROM FLOOD HAZARD AREAS AT THE END OF EACH WORKDAY.
- 16. LAND DISTURBANCE BELOW THE ORDINARY HIGH WATER MARK SHALL BE MINIMIZED. WHEN NECESSARY, EQUIPMENT SHALL CROSS CHANNELS ONLY AT PERMENANT OR TEMPORARY STABILIZED CROSSINGS.

IN-STREAM WORK NOTES:

- 1) WORK IN THE WATERWAY SHALL BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE FLOW AT OR BELOW THE NORMAL WATER ELEVATION.
- 2) THE CONTRACTOR SHALL DESIGN AN IN-STREAM WORK PLAN TO ALLOW FOR THE CONVEYANCE OF THE 2-YEAR PEAK FLOW PAST THE WORK AREA WITHOUT OVERTOPPING THE COFFERDAM. THE 2-YEAR PEAK FLOW RATE IS ESTIMATED AS 341 CFS. THE CONTRACTOR SHALL SUBMIT PLANS OF THE PROPOSED COFFERDAM TO THE ENGINEER FOR APPROVAL PRIOR TO WORK.
- 3) WATER SHALL BE ISOLATED FROM THE IN-STREAM WORK AREA USING A COFFERDAM CONSTRUCTED OF NON-ERODIBLE MATERIALS (STEEL SHEETS, AQUA BARRIERS, RIP RAP AND GEOTEXTILE LINER, ETC.). EARTHEN COFFERDAMS ARE NOT PERMISSIBLE.
- 4) THE COFFERDAM SHALL BE CONSTRUCTED FROM THE UPLAND AREA AND NO EQUIPMENT MAY ENTER FLOWING WATER AT ANY TIME. IF THE INSTALLATION OF THE COFFERDAM CANNOT BE COMPLETED FROM SHORE AND ACCESS IS NEEDED TO REACH THE AREA TO BE COFFERED, OTHER MEASURES, SUCH AS THE CONSTRUCTION OF A CAUSEWAY, WILL BE NECESSARY TO ENSURE THAT EQUIPMENT DOES NOT ENTER THE WATER. ONCE THE COFFERDAM IS IN PLACE AND THE AREA IS DEWATERED, EQUIPMENT MAY ENTER THE COFFERED AREA TO PERFORM THE WORK.
- 5) IF BYPASS PUMPING IS NECESSARY, THE INTAKE HOSE SHALL BE PLACED ON A STABLE SURFACE OR FLOATED TO PREVENT SEDIMENT FROM ENTERING THE HOSE. THE BYPASS DISCHARGE SHALL BE PLACED ON A NON-ERODIBLE, ENERGY DISSIPATING SURFACE PRIOR TO REJOINING THE STREAM FLOW AND SHALL NOT CAUSE EROSION. FILTERING OF BYPASS WATER IS NOT NECESSARY UNLESS THE BYPASS WATER HAS BECOME SEDIMENT LADEN AS A RESULT OF THE CURRENT CONSTRUCTION ACTIVITIES.
- 6) DURING DEWATERING OF THE COFFERED AREA, THE HOSE INTAKE SHALL BE PLACED IN A SUMP PIT (IUM STANDARD 650) AND THE OUTLET DISCHARGED ON A NON-ERODIBLE ENERGY DISSIPATING SURFACE. ALL SEDIMENT LADEN WATER MUST BE FILTERED. POSSIBLE OPTIONS FOR SEDIMENT REMOVAL INCLUDE BAFFLE SYSTEMS, IONIC POLYMER SYSTEMS, DEWATERING BAGS, OR OTHER APPROPRIATE METHODS. WATER SHALL HAVE SEDIMENT REMOVED PRIOR TO BEING RE-INTRODUCED TO THE DOWNSTREAM WATERWAY. A STABILIZED CONVEYANCE SHALL BE USED FOR DEWATERING. DISCHARGE WATER IS CONSIDERED CLEAN IF IT DOES NOT RESULT IN A VISUALLY IDENTIFIABLE DEGRADATION OF WATER CLARITY. THE EXACT MEANS, METHODS, AND LOCATIONS OF DEWATERING SHALL BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORK.
- 7) THE AREA FROM THE TOE TO THE TOP OF THE SIDE SLOPE SHALL BE TEMPORARILY STABILIZED DURING CONSTRUCTION TO REDUCE THE POTENTIAL FOR EROSION. ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS



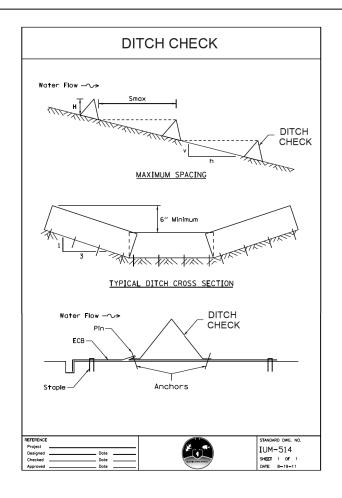
- SEE STANDARD ROAD SPECIFICATIONS C SPRING OATS 100 LBS/ACRE FOR SEEDING MIXTURE.
- SEE STANDARD ROAD SPECIFICATIONS FOR SEEDING MIXTURE.
- D WHEAT OR CEREAL RYE 150 LBS/ACRE.
- ** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.

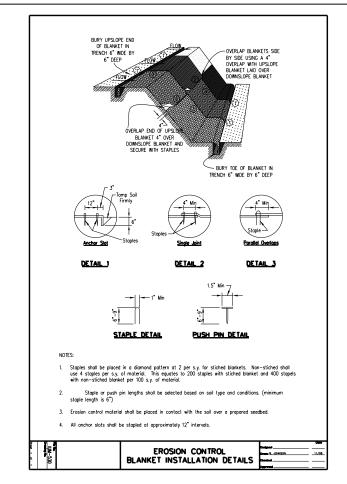
E SOD

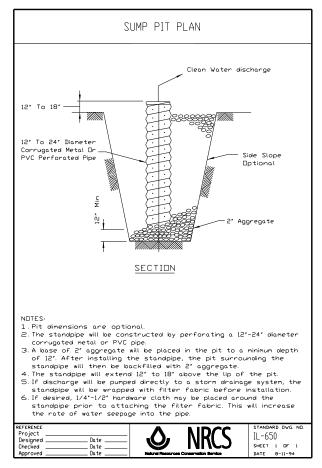
F STRAW MULCH 2 TONS/ACRE.

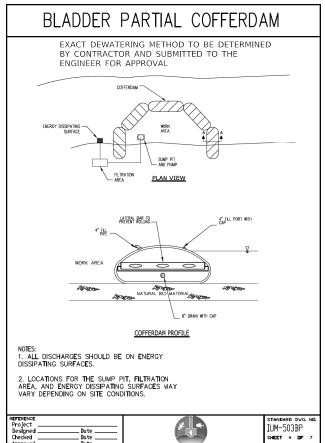
SOIL STABILIZATION CHART

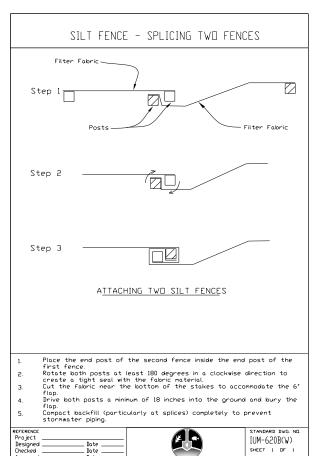
FILE	NAME = 220550-sht-SESC-2.dgn	USER NAME = gmetcalf	DESIGNED	REVISED -	, i	SOIL EDOSION AND SEDIMENT CONTROL DETAILS			T.R.	SECTION	COUNTY	TOTAL SHE
	HAMPTON, LENZINI AND RENWICK, INC.		DRAWN G.D.M.	REVISED -	STATE OF ILLINOIS SOIL EROSION AND SEDIMENT CONTROL DETAILS		72	22-04115-00-BR	KENDALL	30 €		
_	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	CHECKED	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT				KENDALL	TOWNSHIP	CONTRACT	NO.
B	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	DATE - 07/02/2024	REVISED -		SCALE: 1"=20'	SHEET NO. 2 OF 3 SHEETS	STA. TO STA.		ILLINOIS FED. AII	D PROJECT	

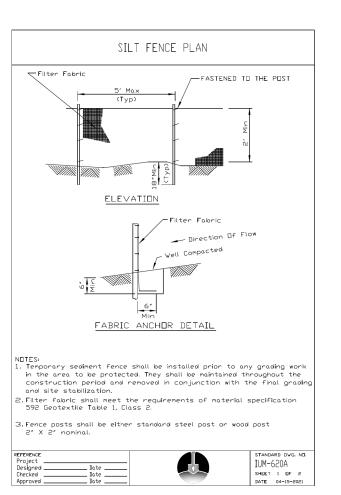


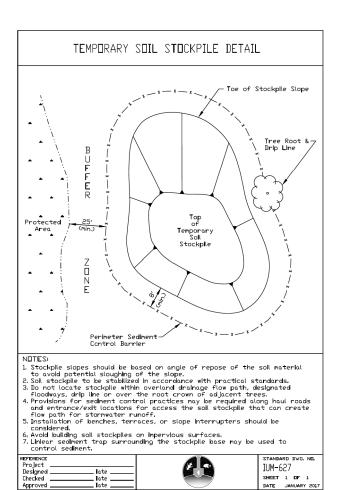












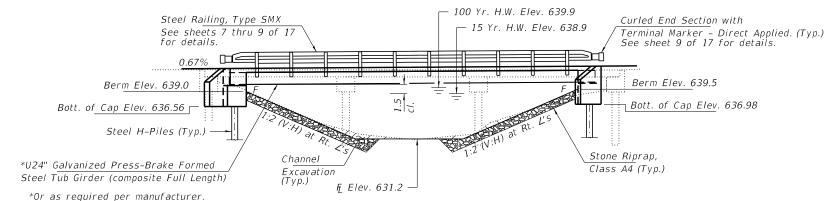
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h	SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	CHECKED	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT		KENDA	LL TOWNSHIP	CONTRACT NO.
	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	DATE - 07/02/2024	REVISED -		SCALE: 1"=20' SHEET NO. 3 OF 3 SHEETS STA. TO STA.		ILLINOIS FED. AII	PROJECT

BENCHMARK: Chisled "X" in Bridge Deck. 11' LT., Sta. 10+40. Elev. 642.95

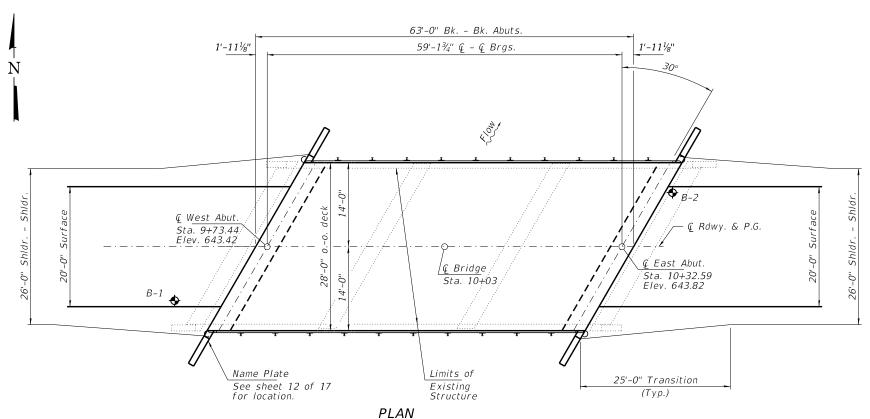
EXISTING STRUCTURE: Sta. 10+03 - Single span precast concrete deck beam bridge on spill thru-abutments and metal shell pile bent piers 70.7' bk.-bk. abut's: 26.0' o.-o. deck.

Structure closed to traffic during construction.

No Salvage



ELEVATION



DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition with 2021 Errata. Steel requirements beyond these Specifications shall be per 2017 AISC Steel Construction Manual, 15th Edition.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure) f'c = 3,500 psi (Superstructure)

fy = 60,000 psi (Reinf.) fy = 50,000 psi (Structural Steel) (AASHTO M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.094g Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.169g Soil Site Class = D

WATERWAY INFORMATION

Existing Low Grade Elev. 642.0 at Sta. 8+50 Drainage Area = 11.9 Sq. Mi. Proposed Low Grade Elev. 642.0 at Sta. 8+50									
Flood Freq. Q Opening Sq. Ft. Nat. Head - Ft. Headw								ater El.	
F1000	1000 Yr. C.F.S. Exist. Prop. H.W.E. Exist. Prop.								Prop.
Ten-Year	10	724	240	250	638.5	0.7	0.1	639.2	638.6
Design	15	820	250	260	638.9	0.7	0.1	639.6	639.0
Base	100	1250	300	320	639.9	0.7	0.2	640.6	640.1
Scour Check	200	1410	310	330	640.1	0.7	0.2	640.8	640.3
Max. Calc.	500	1620	340	340	640.5	0.7	0.3	641.2	640.8
O Year Velocity through Existing Bridge = 3.0 fps 10 Year Velocity through Proposed Bridge = 2.9 fps									

I certify that to the best of my knowledge, information and belief, this bridge substructure 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."

07/02/2024

ILLINOIS STRUCTURAL NO. 081-6529

Expires 11-30-2024

SCOTT M

INDEX OF STRUCTURE SHEETS

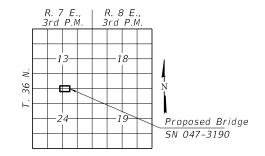
- General Plan & Elevation General Details Top of Slab Elevations Superstructure Superstructure Details
- Steel Railing, Type SMX Steel Railing Details Structural Steel Structural Steel Details
- West Abutment
- 12. 13. 14. 15. East Abutment Abutment Details HP Pile Details Borings



PROFILE GRADE

MIDDLE AUX SABLE CREEK BUILT 202 BY KENDALL COUNTY SEC. 22-04115-00-BR KENDALL TOWNSHIP STR. NO. 047-3190 LOADING HL-93

NAME PLATE See Std. 515001



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

Event/Limit	Design Scou	ur Elev. (ft.)	Item
State	W. Abut.	E. Abut.	113
Q100	636.6	637.0	
Q200	636.6	637.0	,
Design	636.6	637.0	0
Check	636.6	637.0	

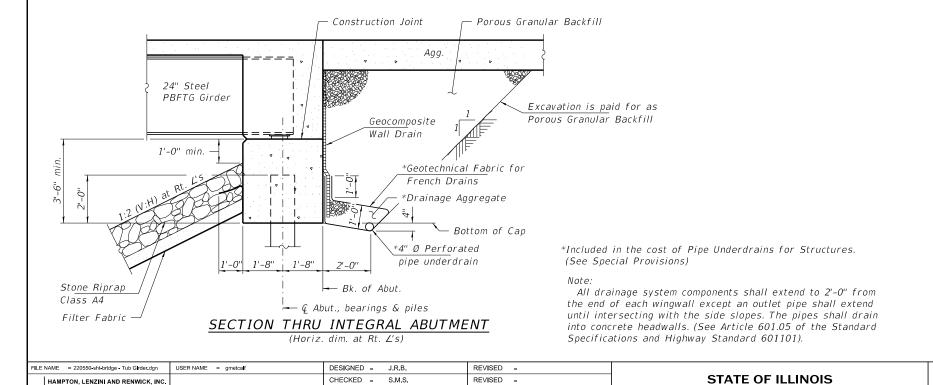
GENERAL PLAN & ELEVATION T.R. 72 OVER MIDDLE AUX SABLE CREEK SECTION 22-04115-00-BR KENDALL TOWNSHIP STATION 10+03 STRUCTURE NO. 047-3190

FILE	IAME = 220550-sht-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -		GENERAL PLAN & ELEVATION
	HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS	
	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	STRUCTURE NO. 047-3190
_ ⊦€	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 1 OF 17 SHEETS

T.R.	SECTION			COUNTY	TOTAL SHEETS	SHEET NO.
72	22-0411	5-00-BR		KENDALL	30	8
KENDA	LL TOWNSHIP		CONTRACT	NO.		
ILLINOIS FED. AI				PROJECT		

9+89.2 10+05.6 10+27.3 10+44.5 24.0' Lt. 24.0' Lt. 24.0' Lt. 24.0' Lt. 9+77.9 9+99.6 10+16.8 9+61.5 24.0' Rt. 24.0' Rt 24.0' Rt. 24.0' Rt.

RIPRAP LAYOUT



REVISED -

REVISED -

REVISED -

KENDALL TOWNSHIP HIGHWAY DEPARTMENT

CHECKED - S.M.S.

CHECKED - S.M.S.

- D.M.F.

HAMPTON, LENZINI AND RENWICK, INC

PLOT DATE = 02/26/2024

GENERAL NOTES

Fasteners shall be ASTM F 3125 Grade A325 Type 1. Fasteners shall be hot dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel." Bolts 7/8" diameter, holes 15/16" diameter, unless otherwise noted.

Calculated weight of Structural Steel = 16,690 lbs.

All structural steel shall be AASHTO M270 Grade 50W and shall be galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel".

No field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated.

Excavation required to construct the Abutments & Piers shall be included in the cost of Concrete Structures. Excavation required to construct cofferdams shall be included in the cost of Concrete Encasement. No additional compensation will be allowed for Structure Excavation or Cofferdam Excavation.

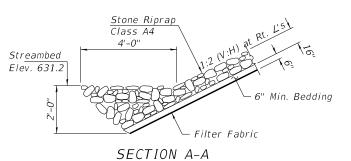
A film forming Concrete Sealer shall be applied to the top and front face of the wingwalls.

Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

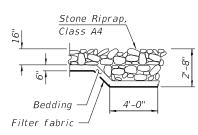
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. Dewatering of the Channel shall be completed in accordance with NWP14 for excavation required for Riprap installation.

Plans are for a Press-Brake-Formed Steel Tub Girder (PBFSTG) superstructure. The provided details and layout are for general design and layout and may be modified as required for the actual prefabricated bridge system that is used. All adjustments shall be submitted to the Engineer for review & approval and will not be cause for additional compensation for a change in scope of the work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



Note: See Special Provisions for Stone Riprap, Class A4.



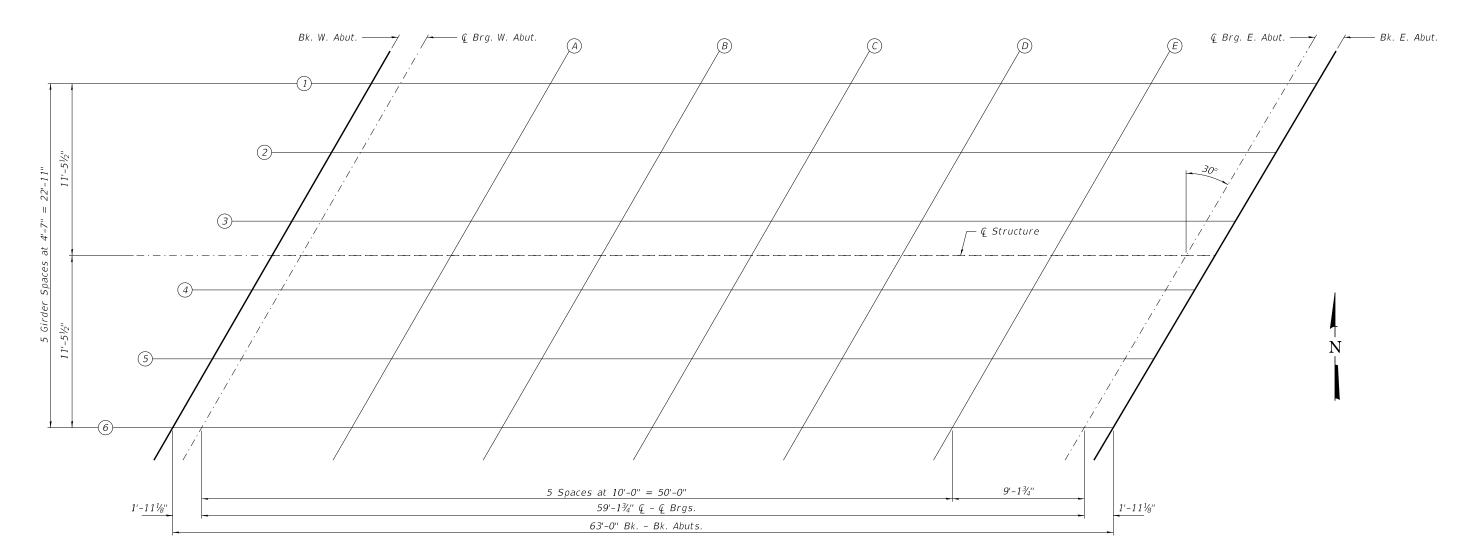
SECTION B-B

TOTAL BILL OF MATERIAL

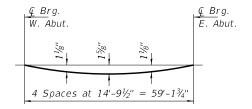
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			100
Porous Granular Backfill	Cu. Yd.			90
Stone Riprap, Class A4	Ton			280
Filter Fabric	Sq. Yd.			325
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		35.5	35.5
Concrete Superstructure	Cu. Yd.	66.8		66.8
Protective Coat	Sq. Yd.	208		208
Reinforcement Bars, Epoxy Coated	Pound	10,410	6,280	16,690
Steel Railing, Type SMX	Foot	120		120
Furnishing Steel Piles HP10x42	Foot		605	605
Driving Piles	Foot		605	605
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Anchor Bolts, 1"	Each		24	24
Concrete Sealer	Sq. Ft.	157		157
Geocomposite Wall Drain	Sq. Yd.			<i>52</i>
Pipe Underdrain for Structures 4"	Foot			132
Terminal Marker - Direct Applied	Each			4
Press Brake Formed Steel Tub Girder (PBFSTG) Sys.	Sq. Ft.	1,764		1,764

GENERAL DETAILS STRUCTURE NO. 047-3190 SHEET NO. 2 OF 17 SHEETS

T.R.	SEC.	TION		COUNTY	TOTAL SHEETS	SHE
72	22-04115-00-BR			KENDALL	30	9
KENDA	LL TOWNSH I P		CONTRACT	NO.		
		RUMOIS	EED AU	D PPO JECT		



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 4 & 5 of 17.

FILE NAME = 220550-sht-bridge - Tub Girder.dgn USER NAME = gr	BEGIGNES - C.Y.B.	REVISED -	07.475 07.11.11.010	TOP OF SLAB ELEVATIONS	T.R.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
HAMPTON, LENZINI AND RENWICK, INC.	CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS	STRUCTURE NO. 047 2400	72	22-04115-00-BR	KENDALL	30 10
SPRINGFIELD, ILLINOIS 62703 PLOT SCALE = \$	SCALE\$ DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	31KUCTUKE NO. 047-3130	KENDALL	TOWNSHIP	CONTRACT	NO.
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 PLOT DATE = 0:	2/26/2024 CHECKED - S.M.S.	REVISED -		SHEET NO. 3 OF 17 SHEETS			PROJECT	

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+78.13	-11.46	643.22	643.22
Ç Brg. W. Abut.	9+80.06	-11.46	643.24	643.24
А	9+90.06	-11.46	643.31	643.38
В	10+00.06	-11.46	643.38	643.49
С	10+10.06	-11.46	643.44	643.57
D	10+20.06	-11.46	643.51	643.62
E	10+30.06	-11.46	643.57	643.64
Ç Brg. E. Abut.	10+39.20	-11.46	643.64	643.64
Bk. E. Abut.	10+41.13	-11.46	643.65	643.65

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+72.84	-2.29	643.37	643.37
ℚ Brg. W. Abut.	9+74.76	-2.29	643.39	643.39
А	9+84.76	-2.29	643.45	643.52
В	9+94.76	-2.29	643.52	643.64
С	10+04.76	-2.29	643.59	643.72
D	10+14.76	-2.29	643.65	643.77
Е	10+24.76	-2.29	643.72	643.78
€ Brg. E. Abut.	10+33.91	-2.29	643.78	643.78
Bk. E. Abut.	10+35.83	-2.29	643.80	643.80

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+75.48	-6.88	643.30	643.30
ℚ Brg. W. Abut.	9+77.41	-6.88	643.31	643.31
А	9+87.41	-6.88	643.38	643.45
В	9+97.41	-6.88	643.45	643.57
С	10+07.41	-6.88	643.52	643.65
D	10+17.41	-6.88	643.58	643.69
E	10+27.41	-6.88	643.65	643.71
Ç Brg. E. Abut.	10+36.56	-6.88	643.71	643.71
Bk. E. Abut.	10+38.48	-6.88	643.72	643.72

Q STRUCTURE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+71.52	0.00	643.41	643.41
Ç Brg. W. Abut.	9+73.44	0.00	643.42	643.42
А	9+83.44	0.00	643.49	643.56
В	9+93.44	0.00	643.56	643.68
С	10+03.44	0.00	643.63	643.76
D	10+13.44	0.00	643.69	643.81
E	10+23.44	0.00	643.76	643.82
Ç Brg. E. Abut.	10+32.59	0.00	643.82	643.82
Bk. E. Abut.	10+34.51	0.00	643.83	643.83

FILE NAM	E = 220550-sht-bridge - Tub Girder dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -		TOP OF SLAB ELEVATIONS	T.R. SE	CTION	COUNTY	TOTAL	SHEE
HA	MPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS		72 22-041	115-00-BR	KENDALL	30	11
	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	- STRUCTURE NO. 047-3190	KENDALL TOWNSHIP		CONTRACT	10.	
ͿͰ₩	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 4 OF 17 SHEETS		ILLINOIS FED. AI	D PROJECT		

<u>GIRDER 4</u>

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+70.19	2.29	643.35	643.35
ℚ Brg. W. Abut.	9+72.12	2.29	643.37	643.37
А	9+82.12	2.29	643.44	643.51
В	9+92.12	2.29	643.51	643.63
С	10+02.12	2.29	643.57	643.70
D	10+12.12	2.29	643.64	643.75
Е	10+22.12	2.29	643.70	643.77
ℚ Brg. E. Abut.	10+31.26	2.29	643.77	643.77
Bk. E. Abut.	10+33.19	2.29	643.78	643.78

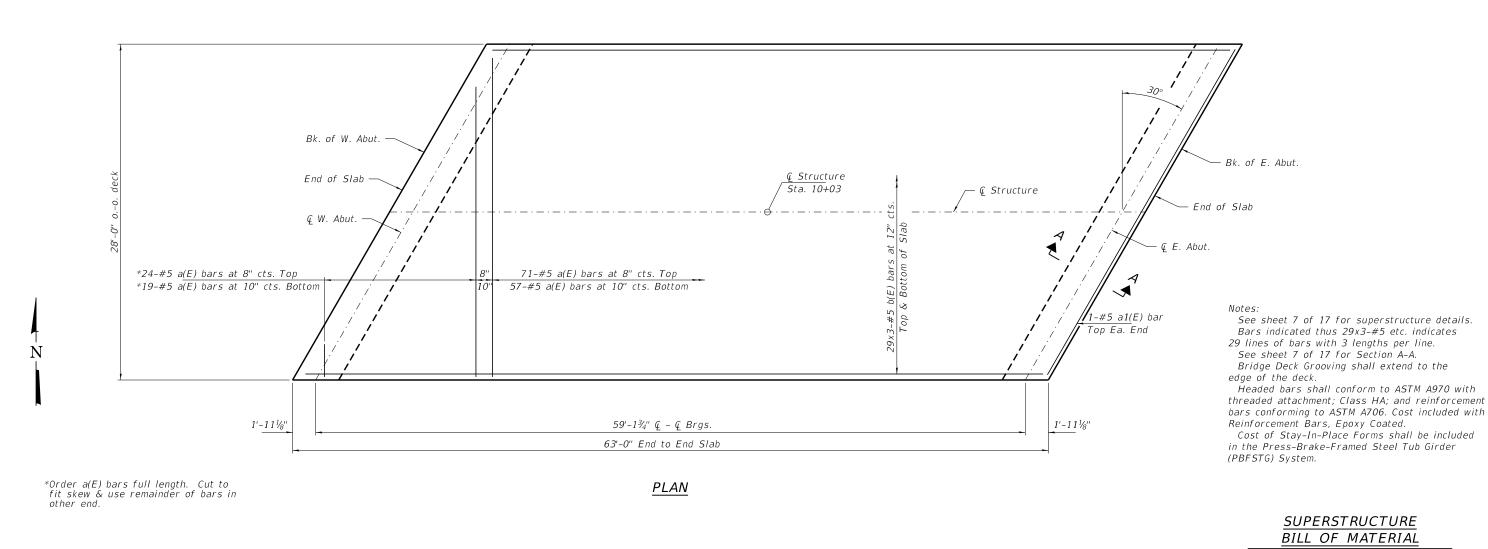
GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+64.90	11.46	643.14	643.14
Ç Brg. W. Abut.	9+66.82	11.46	643.15	643.15
A	9+76.82	11.46	643.22	643.29
В	9+86.82	11.46	643.29	643.41
С	9+96.82	11.46	643.35	643.48
D	10+06.82	11.46	643.42	643.53
E	10+16.82	11.46	643.48	643.55
₡ Brg. E. Abut.	10+25.97	11.46	643.55	643.55
Bk. E. Abut.	10+27.89	11.46	643.56	643.56

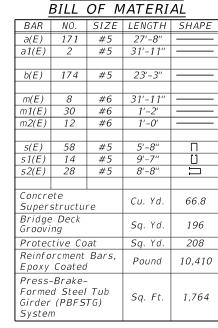
GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	9+67.55	6.88	643.24	643.24
₡ Brg. W. Abut.	9+69.47	6.88	643.26	643.26
А	9+79.47	6.88	643.33	643.40
В	9+89.47	6.88	643.40	643.52
С	9+99.47	6.88	643.46	643.59
D	10+09.47	6.88	643.53	643.64
Е	10+19.47	6.88	643.59	643.66
ℚ Brg. E. Abut.	10+28.62	6.88	643.66	643.66
Bk. E. Abut.	10+30.54	6.88	643.67	643.67

FILE NAM	= 220550-sht-bridge - Tub Girder dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -		TOP OF SLAB ELEVATIONS	T.R. SE	ECTION	COUNTY	TOTAL	SHEE
HA	MPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS		72 22-04	115-00-BR	KENDALL	30	12
	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	- STRUCTURE NO. 047-3190	KENDALL TOWNSHIP		CONTRACT	10.	
ͿͺͰ ʹ Ψ	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 5 OF 17 SHEETS		ILLINOIS FED. AI	D PROJECT		

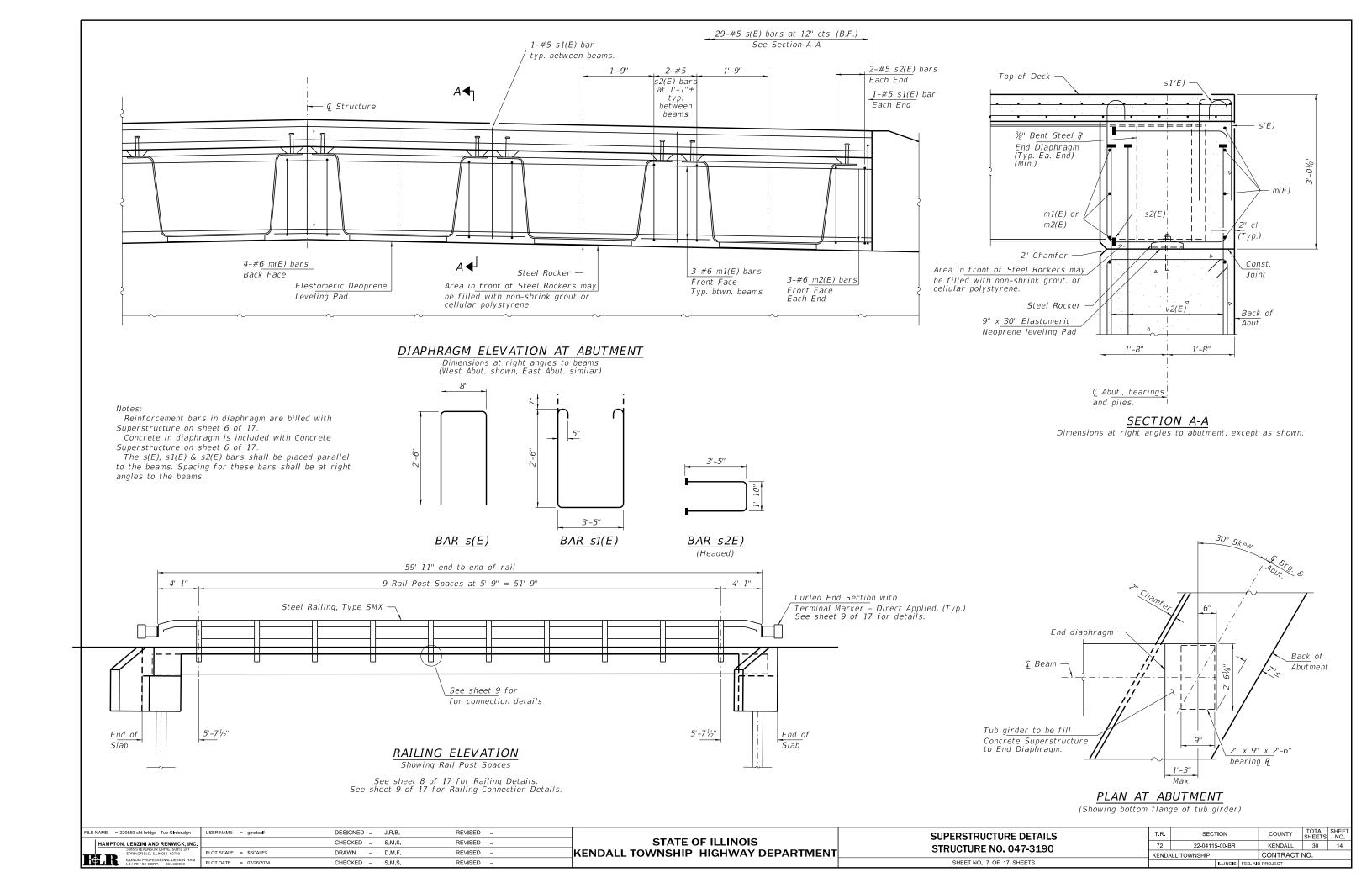


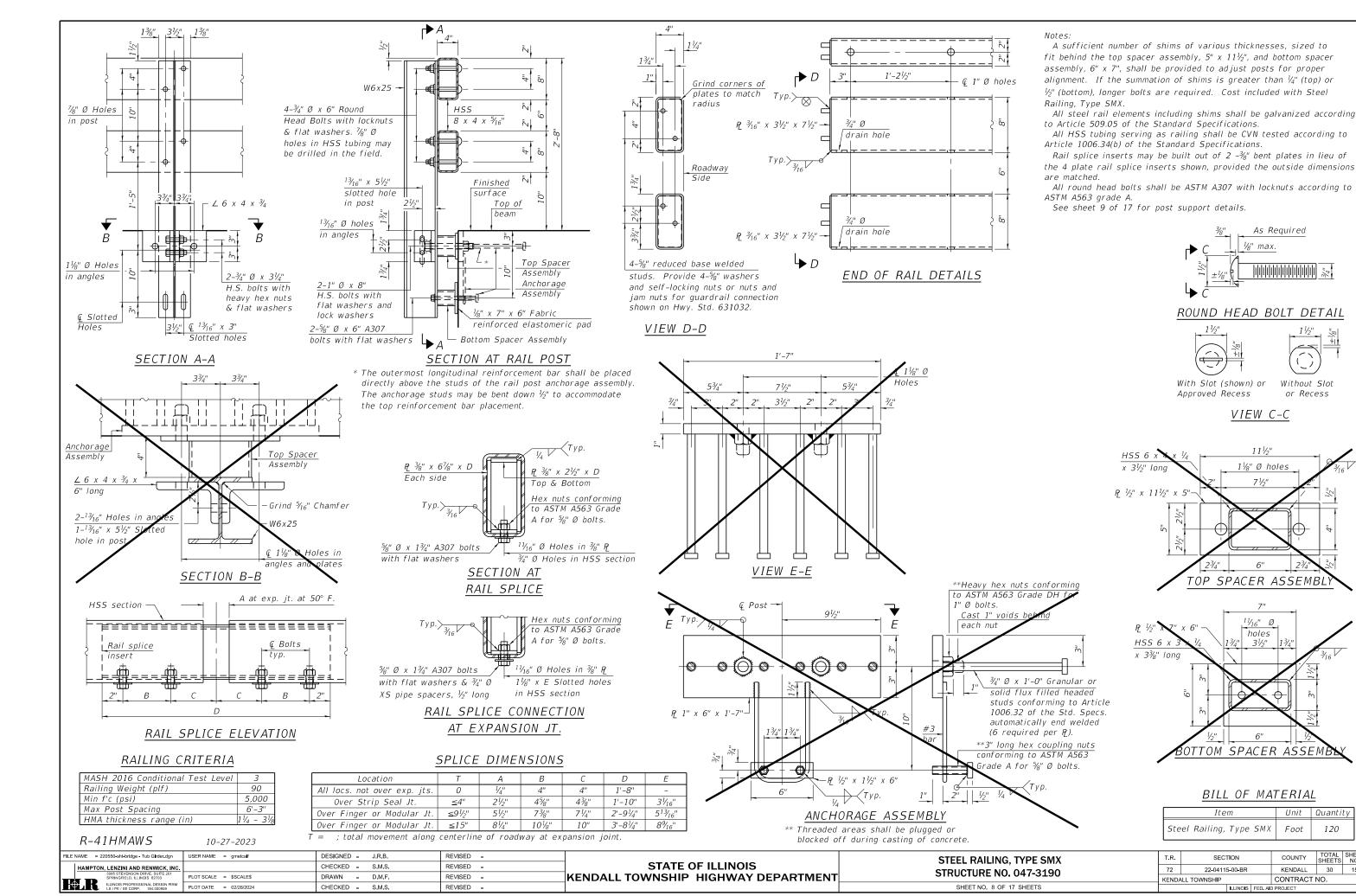
SUPERSTRUCTURE

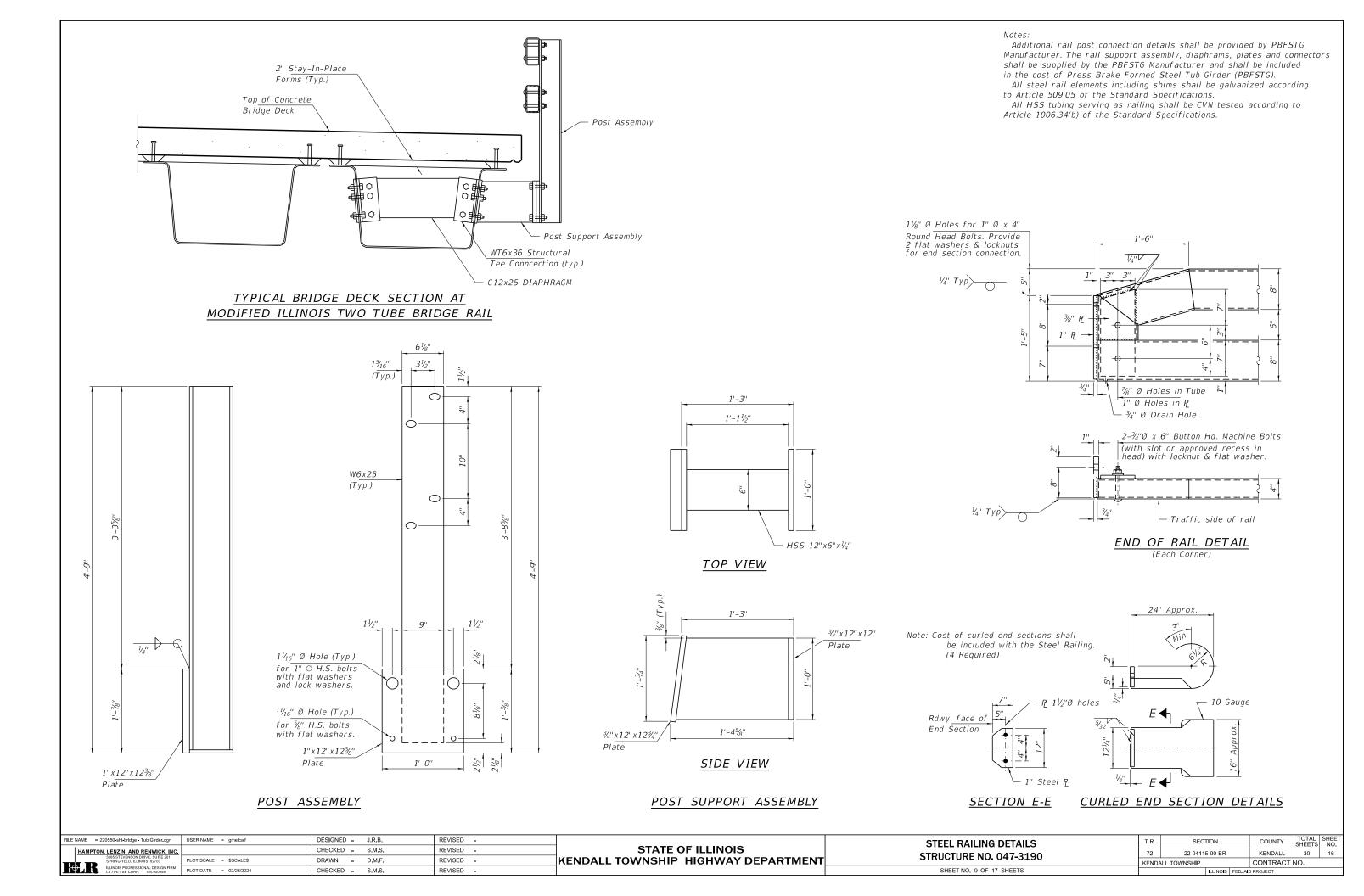


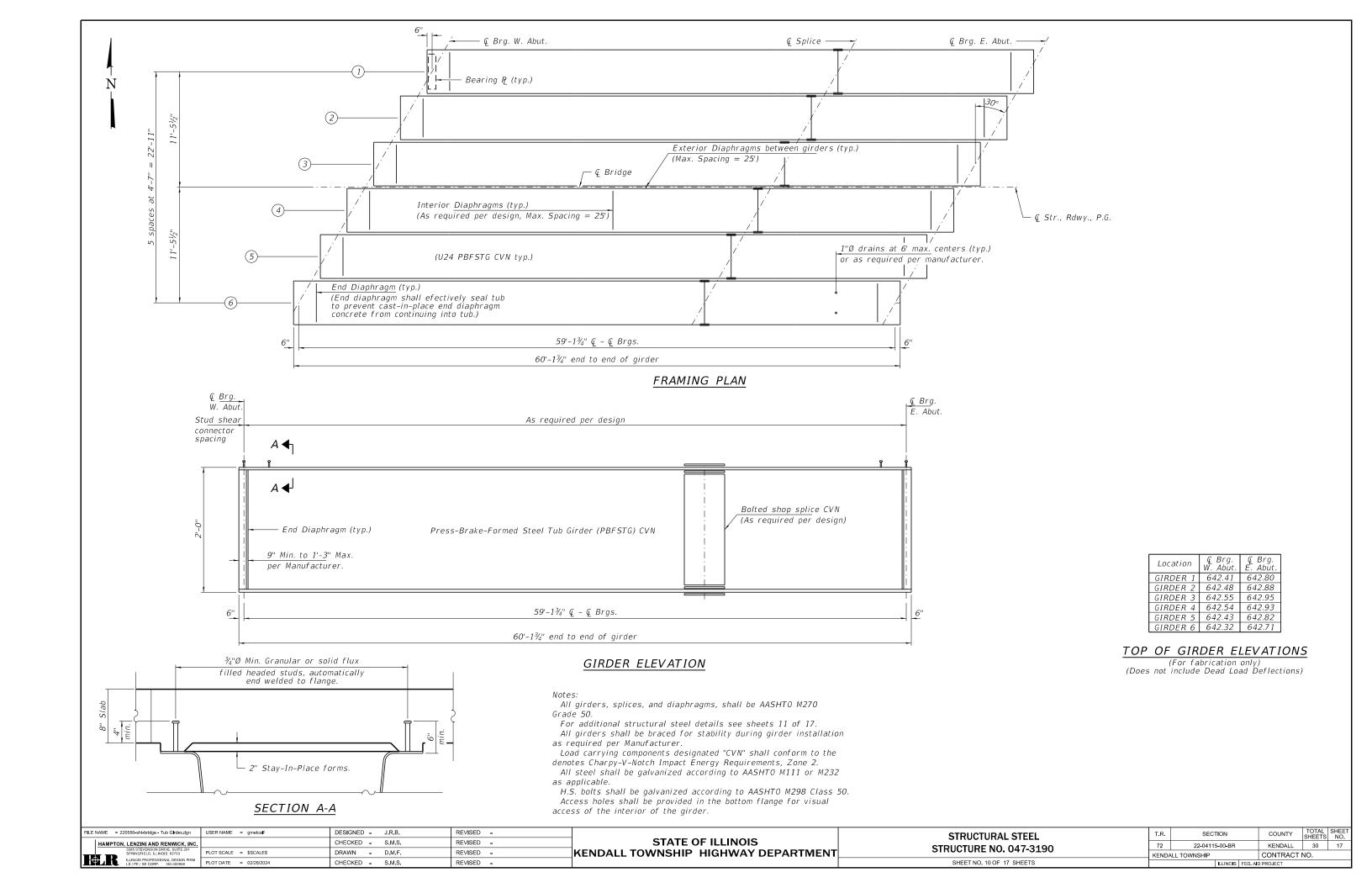
28'-0" o.-o. deck 14'-0" 14'-0'' Steel Railing, Type SMX Total Drop = $3\frac{3}{8}$ " in 14'-0" Total Drop = $3\frac{3}{8}$ " in $14^{\circ}-0$ " See sheets 7 & 8 of 17 for details. ¾" Drip Notch - @ Structure full length (Typ.) b(E) —√ – b(E) Slope 2% Slope 2% a(E)- b(E) See Detail A ³¼" chamfer (Typ.) 41/2" 41/2" Stay-In-Place Forms 2½" 2'-61/2" 5 Spaces at 4'-7" = 22'-11" 2'-61/2" MIN. BAR LAP DETAIL A CROSS SECTION #5 bars = 3'-6" (Looking East)

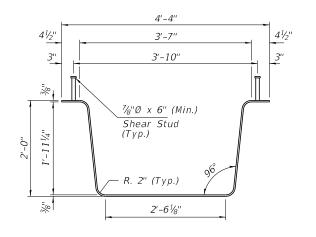
FILE NAME	= 220550-sht-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -		SUPERSTRUCTURE	T.R.	SECTION	COUNTY	TOTAL	SHEET
Індмі	TON LENZINI AND RENWICK INC		CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS		70	00 04445 00 DD	KENDALI	GILLETO	10.
11/2/40	TON, ELNZINI AND REMAICK, INC.					CTDUCTUDE NO. 047 2400	/2	22-04115-00-BR	KENDALL	1 30 1	13
	SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	- STRUCTURE NO. 047-3190	KENDALL TOV	WNSHIP	CONTRACT	NO.	
<u>.</u> ф.	ILLINOIS PROFESSIONAL DESIGN FIRM		OUEOVED ONE	DELMOED.	7	OUEST NO. O. O.S. 47 OUESTO					
	LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 6 OF 17 SHEETS		ILLINOIS FED. AI	ID PROJECT		



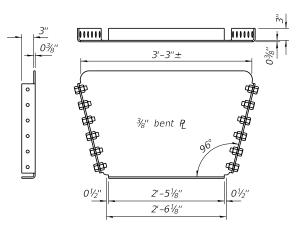




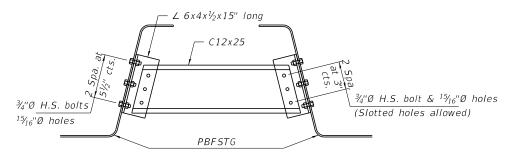




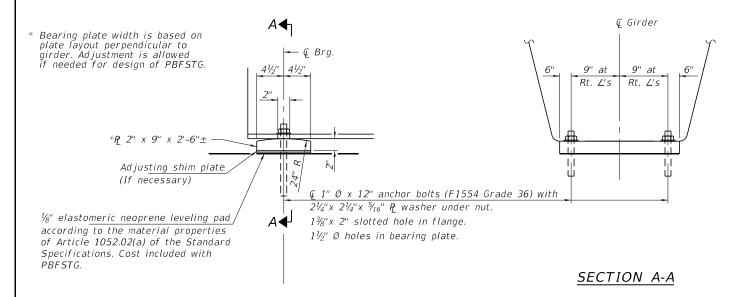
ESTIMATED STEEL SECTION



ANTICIPATED END DIAPHRAGM



ANTICIPATED EXTERIOR DIAPHRAGMS



ELEVATION AT ABUTMENT

FIXED BEARING AT ABUTMENTS

(12 required)

GIRDER MOMENT TABLE (in4) Ic(n)(in4) Ic(3n) (in^4) 55 (in^3) Sc(n) (in^3) (in³) DC1 (k/') MDC1 ('k) DC2 (k/')MDC2 ('k) DW (k/') MDW ('k) LLDF ('k) M4 + IMMu (Strength I) ('k) ('k) fs DC1 (ksi) (ksi) fs DC2 fs DW (ksi fs (4+IM) (ksi, fs (Service II) (ksi) 0.95Rh Fyf (ksi) fs (Total)(Strength I)(ksi, Øf En (ksi) (k)

GIRDER REACTION TABLE						
		Abutment				
		Interior	Exterior			
LLDF						
0CF						
RDC1	(k)					
RDC2	(k)					
RDW	(k)					
R Ł	(k)					
R IM	(k)					
RTotal	l (k)					
/ 0						

(Girder tables to be filled out by Designer / Manufacturer.)

Notes:

Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The coresponding 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.

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

The structural steel plates of the fixed bearings, including pintles, shall conform to the requirements of AASHTO M270 Grade 50.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

All Girders, diaphragms, connection plates and splices shall be M270 Grade 50.

All steel shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts shall be galvanized according to AASHTO M298 Class 50.

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.4 and in.3).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) due to short-term composite live loads (in.4 and in.3).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) due to longterm composite (superimposed) dead loads (in.4 and in.3).

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

MDC1: 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.).

MDC2: 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.).
MDW: Un-factored moment due to long-term composite (superimposed

future wearing surface only) dead load (kip-ft.). M_{\pm} + im: Un-factored live load moment plus dynamic load allowance (impact)

ME + IM: Un-ractored live load moment plus dynamic load allowance (impact (kip-ft.).

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

1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M½ + IM

Of Mn: 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).

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

MDC1 / Snc

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

MDC2 / Sc(3n).

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

MDW / Sc(3n).

 f_s (½+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi). $M_L^2 + IM / Sc(n)$.

fs (Service II): Sum of stresses as computed below (ksi). fsDC1 + fsDC2 + fsDW + 1.3 fs + IM

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

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

1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs \mathbb{k} + IM

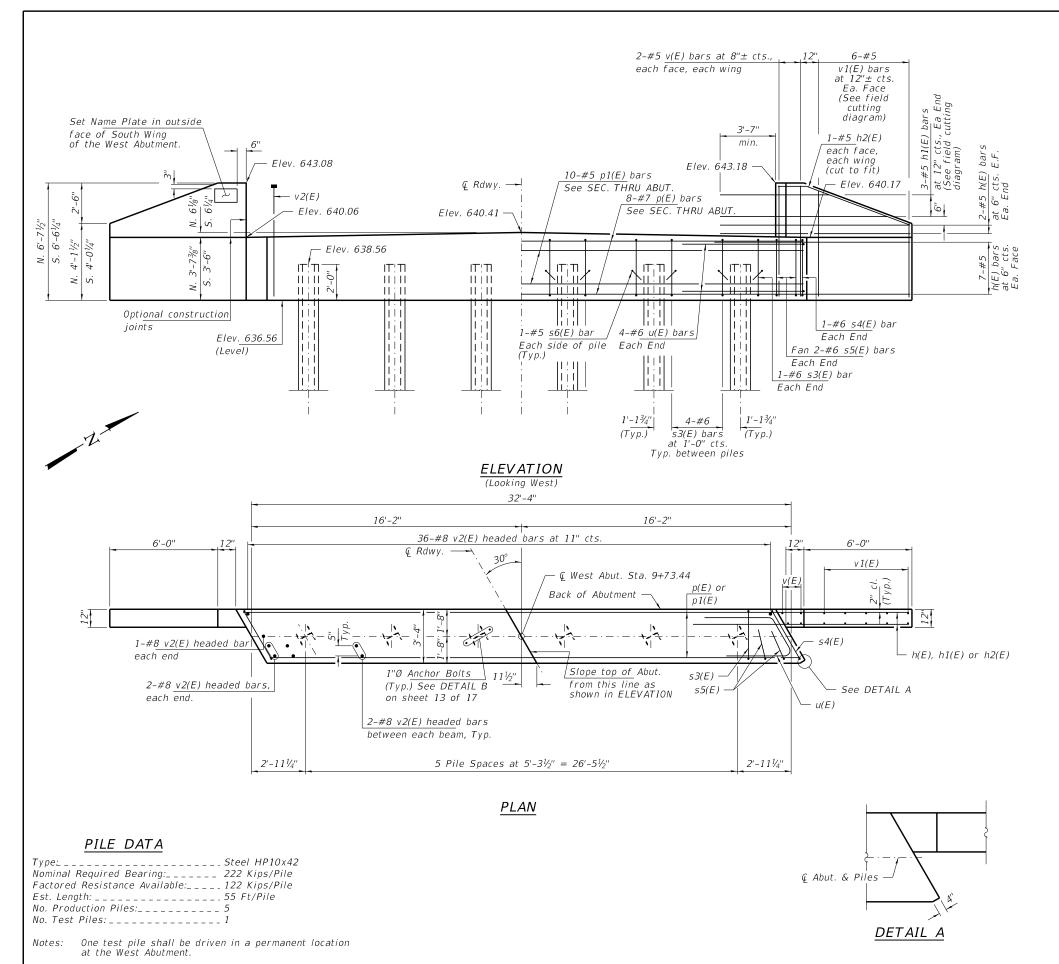
Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

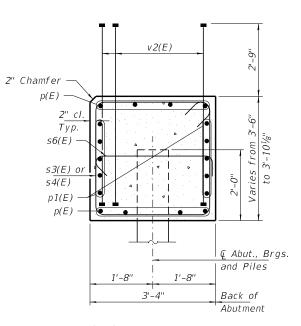
Vf: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

USER NAME = gmetcalf DESIGNED - J.R.B. REVISED -FILE NAME = 220550-sht-bridge - Tub Girder.dgn SECTION COUNTY STRUCTURAL STEEL DETAILS STATE OF ILLINOIS CHECKED - S.M.S. REVISED -HAMPTON, LENZINI AND RENWICK, INC KENDALL 72 22-04115-00-BF 30 **STRUCTURE NO. 047-3190** D.M.F REVISED -KENDALL TOWNSHIP HIGHWAY DEPARTMENT KENDALL TOWNSHIF CONTRACT NO. REVISED -SHEET NO. 11 OF 17 SHEETS CHECKED - S.M.S. PLOT DATE = 02/26/2024





<u>SEC. THRU ABUT.</u>

Dimensions at right angles to abutment.

BILL OF MATERIAL - W. ABUT.

BAR	NO.	LENGTH	SHAPE	
h(E)	36	#5	11'-0''	
h1(E)	6	#5	16'-0''	
h2(E)	4	#5	7'-1''	
p(E)	8	#7	32'-0'	
p1(E)	10	#5	32'-0'	
s3(E)	22	#6	13'-8''	
s4(E)	2	#6	14'-6''	
s5(E)	4	#6	8'-2"	
s6(E)	12	#5	4'-0''	
u(E)	8	#6	12'-1"	
v(E)	8	#5	6'-2''	
v1(E)	12	#5	9'-5''	
v2(E)	52	#8	6'-0''	
Structure i	Excavation		Cu. Yd.	57
Concrete S	tructures		Cu. Yd.	17.8
Reinf. Bars	s, Ероху Соа	nted	Pound	3,140
Furnishing	Steel Piles	HP10x42	Foot	275
Driving Pil	es		Foot	275
Test Pile S	Steel HP10x	12	Each	1
Name Plate	25		Each	1

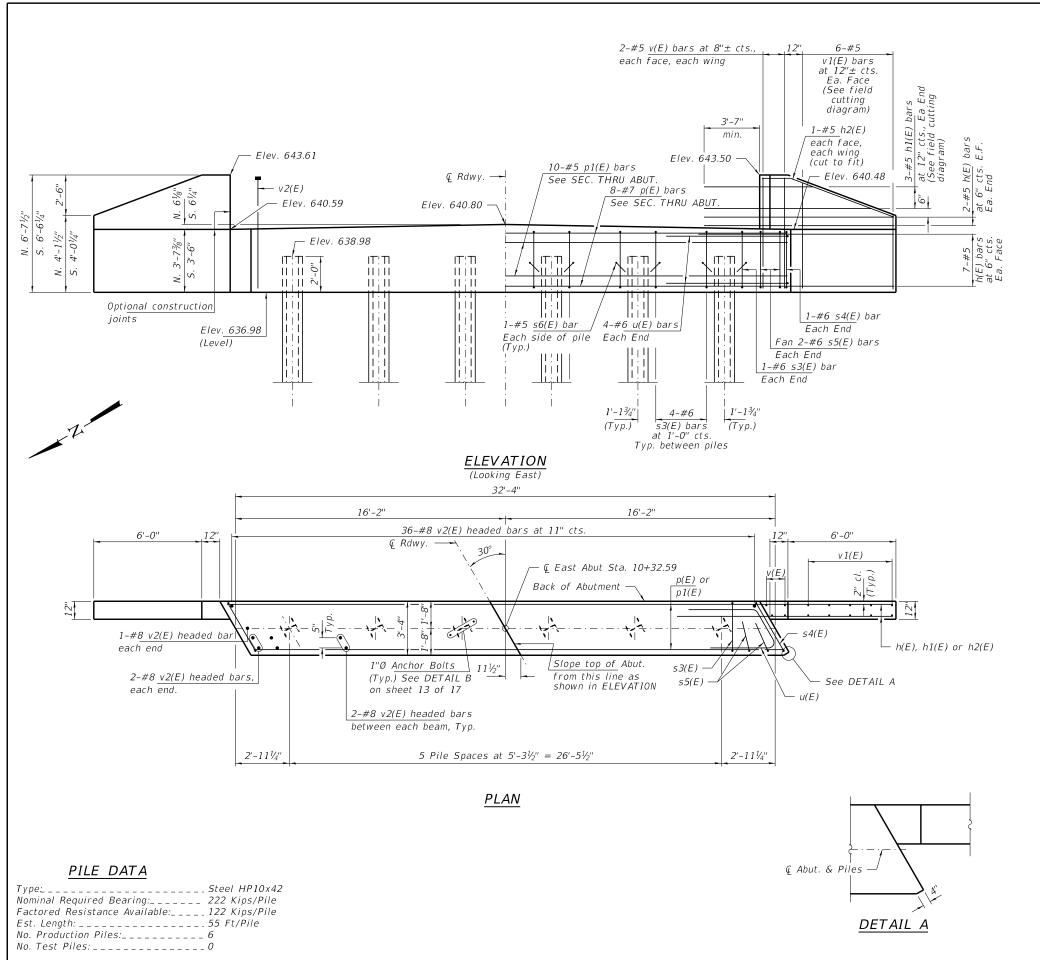
Notes:

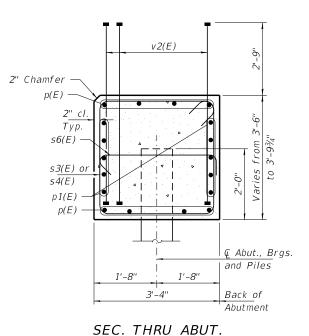
Abutment elevations are based on 2" Stay-In-Place forms and 0" fillets. If actual construction differs for the PBFSTG, the abutment elevations will need to be adjusted.

Abutment bearing seats may be sloped to match roadway

grade if needed.
Reinforcment bars are detailed on sheet 13 of 17.

FILE NAME = 220550-sht-bridge - Tub Girder.dgn USER NAME = gmetcalf DESIGNED - J.R.B. REVISED -SECTION COUNTY **WEST ABUTMENT** HAMPTON, LENZINI AND RENWICK, INC. **STATE OF ILLINOIS** CHECKED - S.M.S. REVISED -72 22-04115-00-BR KENDALL 30 19 STRUCTURE NO. 047-3190 DRAWN - D.M.F. REVISED -KENDALL TOWNSHIP HIGHWAY DEPARTMENT KENDALL TOWNSHIP CONTRACT NO. SHEET NO. 12 OF 17 SHEETS PLOT DATE = 02/26/2024 CHECKED - S.M.S. REVISED -





Dimensions at right angles to abutment.

BILL OF MATERIAL - E. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	36	#5	11'-0"	
h1(E)	6	#5	16'-0''	
h2(E)	4	#5	7'-1"	
p(E)	8	#7	32'-0'	
p1(E)	10	#5	32'-0'	
s3(E)	22	#6	13'-8''	
54(E)	2	#6	14'-6''	
s5(E)	4	#6	8'-2"	
s6(E)	12	#5	4'-0''	
u(E)	8	#6	12'-1"	
v(E)	8	#5	6'-2"	
v1(E)	12	#5	9'-5"	
v2(E)	52	#8	6'-0''	
Structure i	Excavation		Cu. Yd.	29
Concrete S	tructures		Cu. Yd.	17.7
Reinf. Bars	s, Epoxy Coa	ated	Pound	3,140
Furnishing	Steel Piles	HP10x42	Foot	330
Driving Pil	es		Foot	330

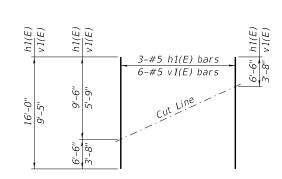
Notes:

Abutment elevations are based on 2" Stay-In-Place forms and 0" fillets. If actual construction differs for the PBFSTG, the abutment elevations will need to be adjusted. Abutment bearing seats may be sloped to match roadway

grade if needed.

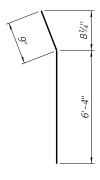
Reinforcment bars are detailed on sheet 13 of 17.

FILE NAME = 220550-sht-bridge - Tub Girder.dgn USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	OTATE OF HANNING	STATE OF ILLINOIS EAST ABUTMENT T.R. 72		SECTION	COUNTY	TOTAL SHEETS	HEET NO.
HAMPTON, LENZINI AND RENWICK, INC.	CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS			22-04115-00-BR	KENDALL	30	20
3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	STRUCTURE NO. 047-3190	KENDALL T	rOWNSHIP	CONTRACT	NO.	
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 13 OF 17 SHEETS		ILLINOIS FED. AI	AID PROJECT		

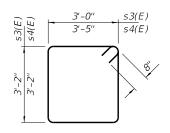


FIELD CUTTING DIAGRAM

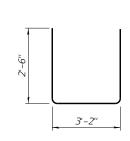
Order h1(E) & v1(E) full length. Cut as shown and use remainder of bars in opposite face.



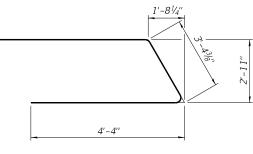
BAR h2(E)



BAR s3(E) & s4(E)



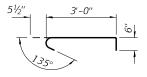
BAR s5(E)



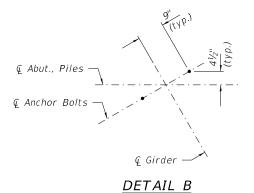
BAR u(E)



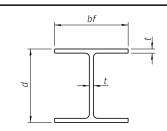
BAR v2(E)
(Headed)



BAR s6(E)

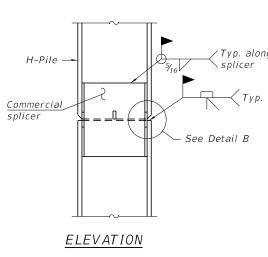


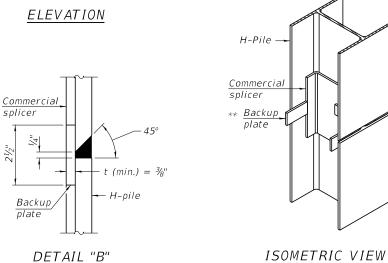
FIL	NAME = 220550-sht-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	ABUTMENT DETAILS	T.R.	SECTION	COUNTY	TOTAL	HEET NO.
	HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -		STRUCTURE NO. 047-3190	72	22-04115-00-BR	KENDALL	30	21
	SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	31KUCTURE NO. 047-3190	KENDALL '	TOWNSHIP	CONTRACT	NO.	
	ILLINOIS PROFESSIONAL DESIGN FIRM ILLS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO.14 OF 17 SHEETS		ILLINOIS FED. AI	ID PROJECT		



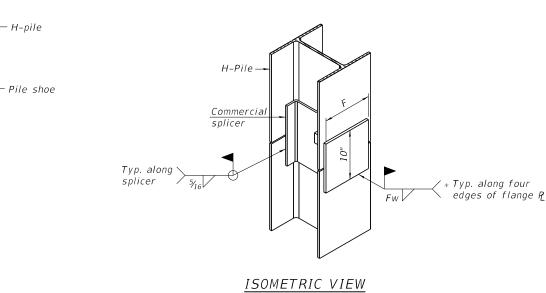
STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 18x181	18"	18"	1"	36"
x 1 5 7	17¾''	17 ⁷ /8''	7/8"	36"
x135	17½"	17¾"	3/4"	36"
HP 16x183	16½"	16½"	11/8"	36"
x162	161/4'	161/8"	1''	36"
x141	16"	16"	7/8'	36"
x121	15¾''	157/8"	3/4"	36"
HP 14x117	141/4"	147/8"	¹³ / ₁₆ "	30"
x102	14"	143/4"	¹ 1/ ₁₆ "	30"
x89	137/8"	1 4 3/4"	5/8"	30"
x73	135/8"	145/8"	1/2"	30"
HP 12x84	121/4"	121/4"	¹ 1/ ₁₆ "	24"
x74	12½"	121/4"	5/8"	24"
x63	12"	121/8"	1/2"	24"
x53	113/4"	12"	7/ ₁₆ "	24"
HP 10x57	10"	101/4"	% ₁₆ "	24"
x42	9¾"	10½"	7/ ₁₆ "	24"
HP 8x36	8"	81/8"	⁷ / ₁₆ "	18"





WELDED COMMERCIAL SPLICE



SHOE ATTACHMENT

DETAIL A

ELEVATION

H-pile -

Pile shoe

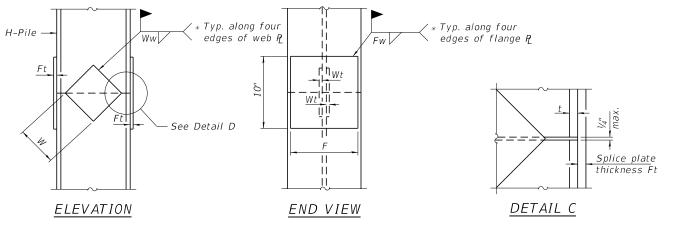
See Detail A

Typ. shop or field weld

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

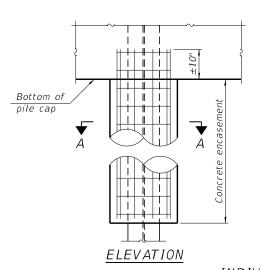
WELDED COMMERCIAL SPLICE ALTERNATE

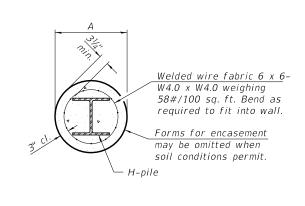
- $_*$ Interrupt welds $\frac{1}{4}$ " from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer ($\frac{5}{16}$ " min.).



Designation	F	Ft	Fw	W	Wt	Ww
HP 18x181	15½"	11/2"	1"	91/2"	7/8"	3/4"
x 157	151/4"	11/4"	1''	91/2"	7/8"	3/4"
x135	15½"	11/4"	1''	91/2"	7/8"	3/4"
HP 16x183	13¾"	11/2'	1"	81/4"	7/8"	3/4"
x162	131/2"	11/2"	1"	81/4"	3/4"	5/8''
x 1 4 1	13½"	11/4"	7/8"	81/4"	3/4"	5/8''
x121	131/2"	11/4"	7/8"	81/4"	3/4"	5/8''
HP 14x117	12½"	1"	7/8"	73/4"	5/8"	1/2"
x102	121/2"	7/8"	3/4"	73/4"	5/8"	1/2"
x89	121/2"	3/4"	11/16"	73/4"	5/8"	1/2"
x73	121/2"	5/8"	%16"	73/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6½"	5/8"	1/2"
x74	10"	7/8"	11/16"	61/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6½"	1/2"	3/8"
x53	10"	5/8"	1/2"	61/2"	1/2"	3/8"
HP 10x57	8"	3/4"	%16"	51/4"	1/2"	3∕8″
x42	8"	5/8"	%16"	5½"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	41/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE





SECTION A-A

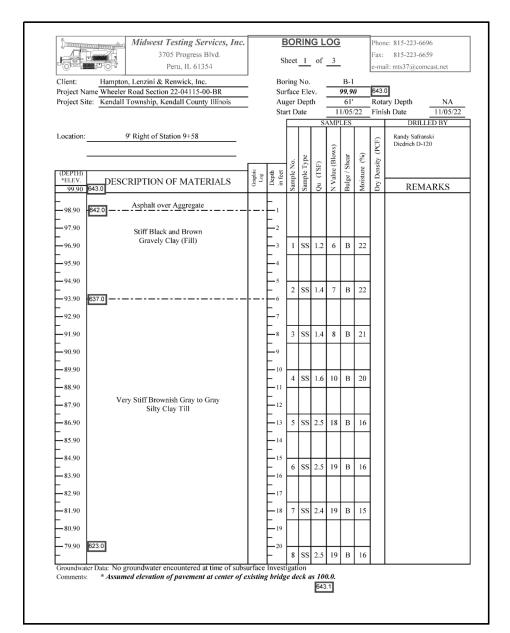
INDIVIDUAL PILE CONCRETE ENCASEMENT

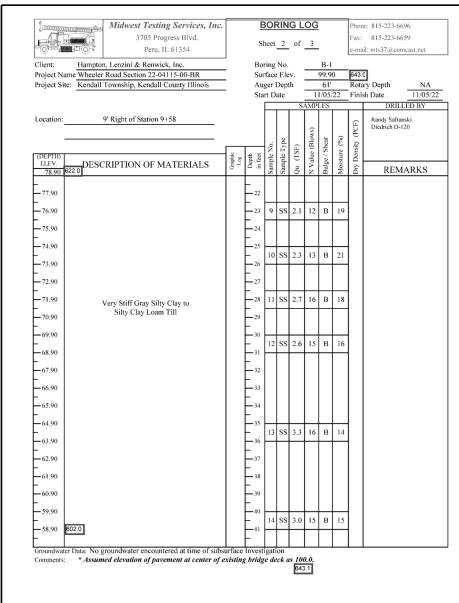
(when specified)

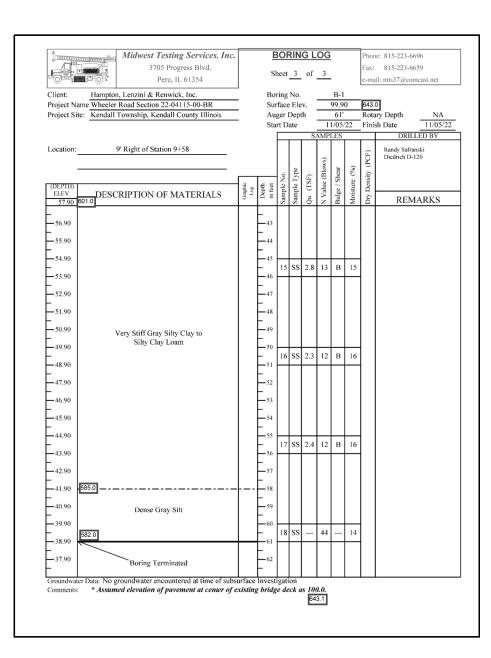
F	F-HP	10-27-2023	:	*** Weld size per pile shoe	manufacturer (5/16" min.).
FILE	NAME = 220550-sht-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	
	HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS
	3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT
LK	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -	

COUNTY TOTAL SHEET NO.

KENDALL 30 22 **HP PILE DETAILS** SECTION 22-04115-00-BR 72 **STRUCTURE NO. 047-3190** KENDALL TOWNSHIP CONTRACT NO. SHEET NO. 15 OF 17 SHEETS

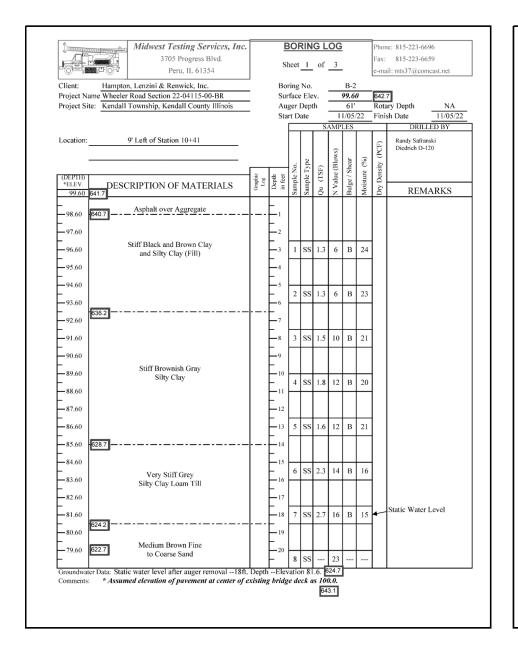


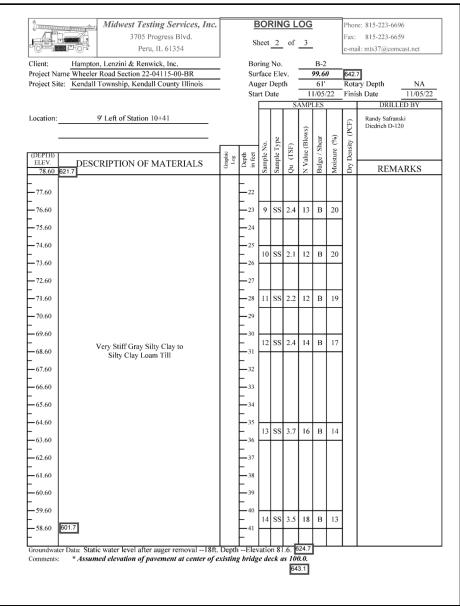


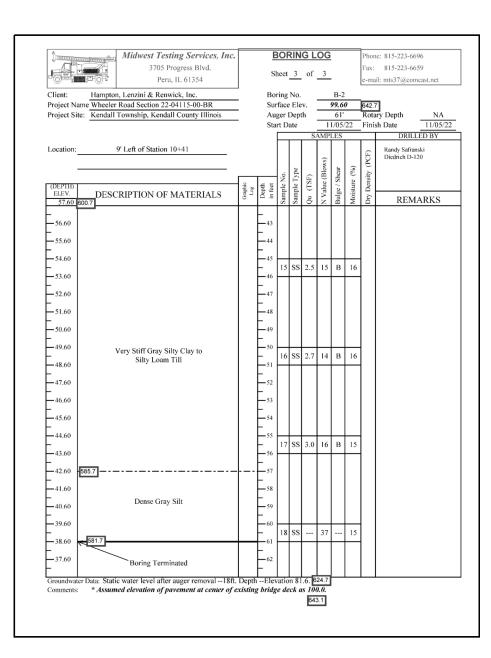


BORING-1

SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGNATE OF 184,0009 LS / PE / SE CORP. 184,0009	PLOT SCALE = \$SCALE\$ FIRM	DRAWN - D.M.F. CHECKED - S.M.S.	REVISED -	KENDALL TOWNSHIP HIGHWAY DEPARTMENT	SHEET NO. 16 OF 17 SHEETS	KENDA	LL TOWNSHIP	CONTRACT	NO.
HAMPTON, LENZINI AND RENWIC 3085 STEVENSON DRIVE, SUITI	INC.	CHECKED - S.M.S.	REVISED -	STATE OF ILLINOIS	STRUCTURE NO. 047-3190	72	22-04115-00-BR	KENDALL	30
FILE NAME = 220550-sht-bridge - Tub Girde	gn USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	CTATE OF ILLINOIS	BORINGS	T.R.	SECTION	COUNTY	TOTAL SHEETS







BORING-2

FILE NAM	E = 220550-sht-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT			SECTION	COUNTY	TOTAL	SHEET NO.
<u>H.</u>	MPTON, LENZINI AND RENWICK, INC.		CHECKED - S.M.S.	REVISED -		STRUCTURE NO. 047 2400	72	22-04115-00-BR	KENDALL	30	24
	SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -		51KUCTUKE NO. 047-3130	KENDALL	TOWNSHIP	CONTRACT	NO.	
_ ΙΨ.	ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -		SHEET NO. 17 OF 17 SHEETS		ILLINOIS FED. AID	D PROJECT		

