

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 72	22-04115-00-BR	KENDALL	30	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO.	

INDEX OF SHEETS

SHEET NO. DESCRIPTION

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND GENERAL NOTES
3. TYPICAL SECTIONS
4. PLAN AND PROFILE
- 5-7. SOIL EROSION AND SEDIMENT CONTROL PLANS
- 8-24. BRIDGE PLANS
- 25-30. STATION CROSS SECTIONS

SEE PROPOSAL BOOKLET FOR HIGHWAY STANDARDS:

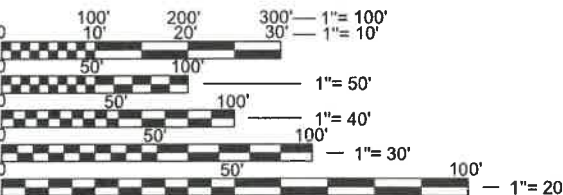
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-04	NAME PLATE FOR BRIDGES
701901-09	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

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

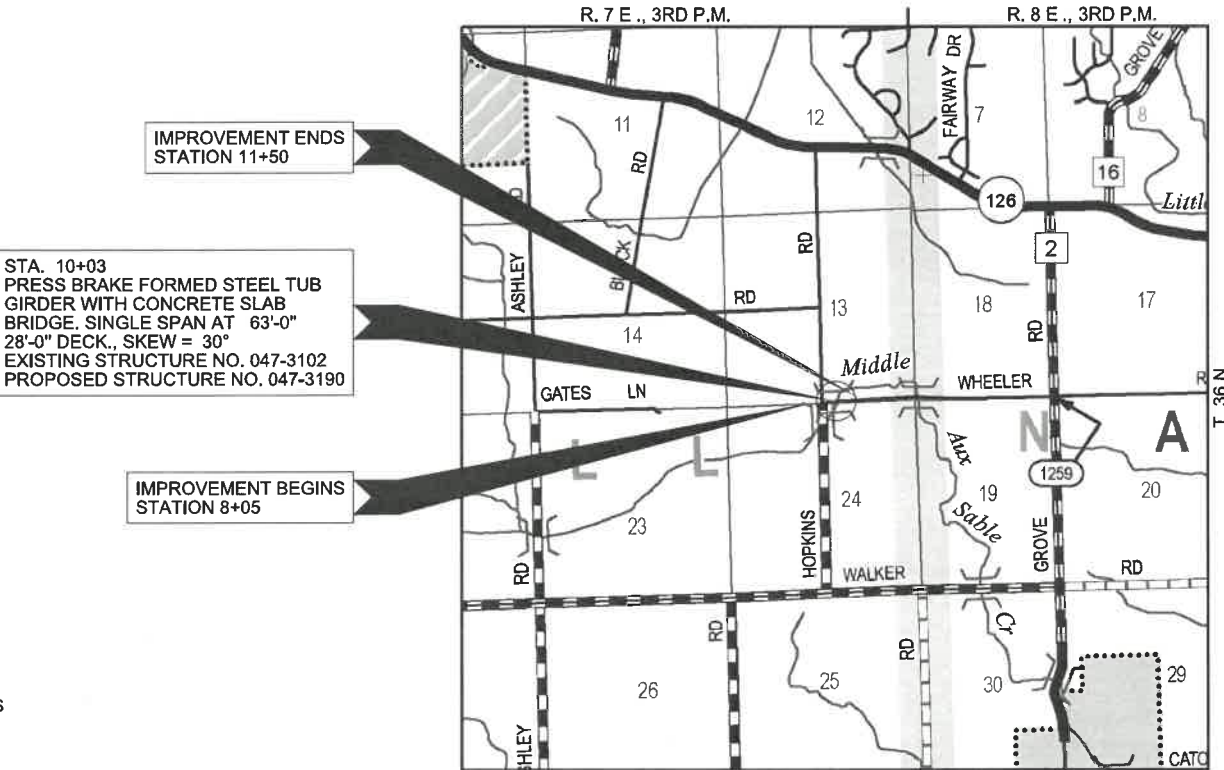
UTILITIES

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



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

FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 125 ADT



LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE
NET LENGTH OF SECTION = 345 FEET = 0.065 MILES



LOCATION OF SECTION INDICATED THUS: -

KENDALL COUNTY HIGHWAY DEPARTMENT

APPROVED July 19 2024
COUNTY ENGINEER

APPROVED 7-19-24 2024
TOWNSHIP COMMISSIONER

PASSED 20

DISTRICT THREE ENGINEER OF
LOCAL ROADS & STREETS
20

REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WARNING



CALL 811
BEFORE YOU DIG
DIG NO: A231993307

DATE: 07/02/2024



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

184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 22.0550.130 DATE: 07/02/2024

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	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

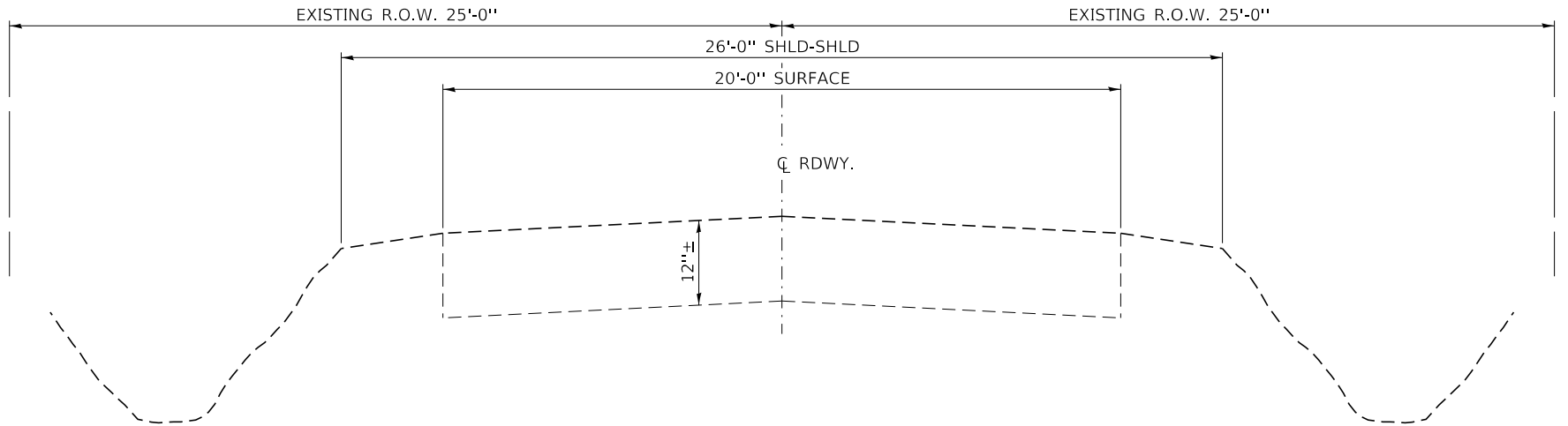
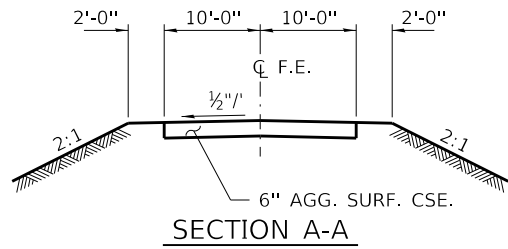
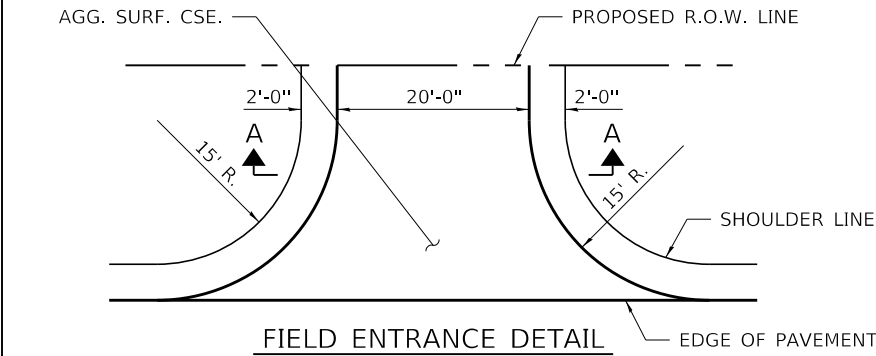
AGGREGATE SURFACE COURSE2.05 TON/CU YD

STONE RIPRAP1.75 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:

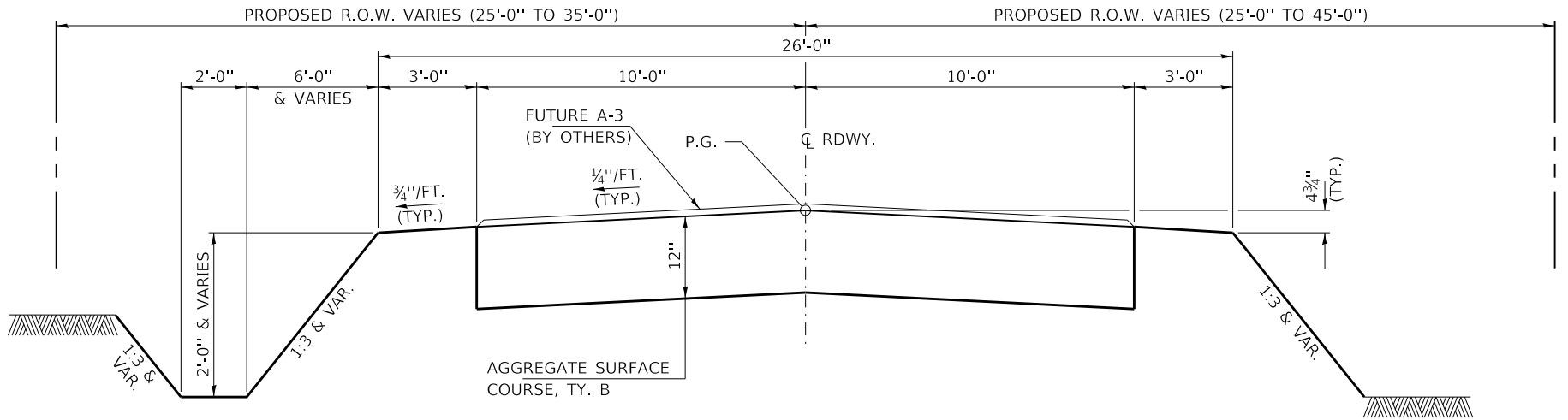
1) NONE

EARTHWORK SCHEDULE							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	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



EXISTING TYPICAL CROSS SECTION
STA. 8+05 TO 11+50



PROPOSED TYPICAL CROSS SECTION
STA. 8+05 TO 11+50

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

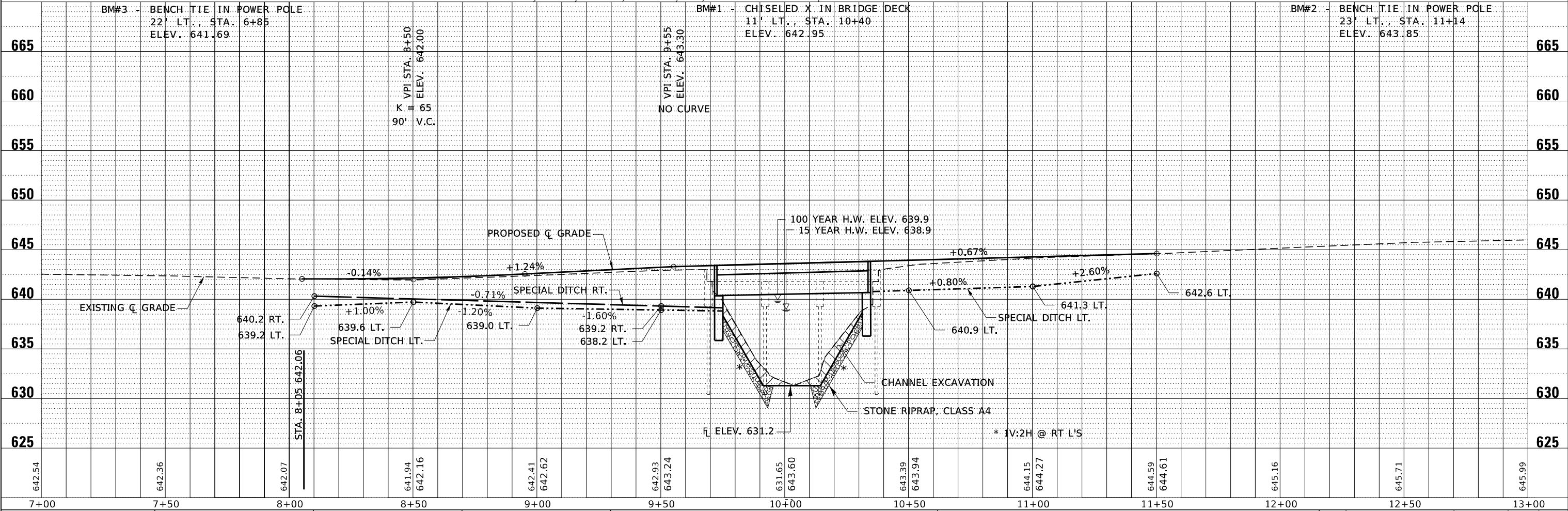
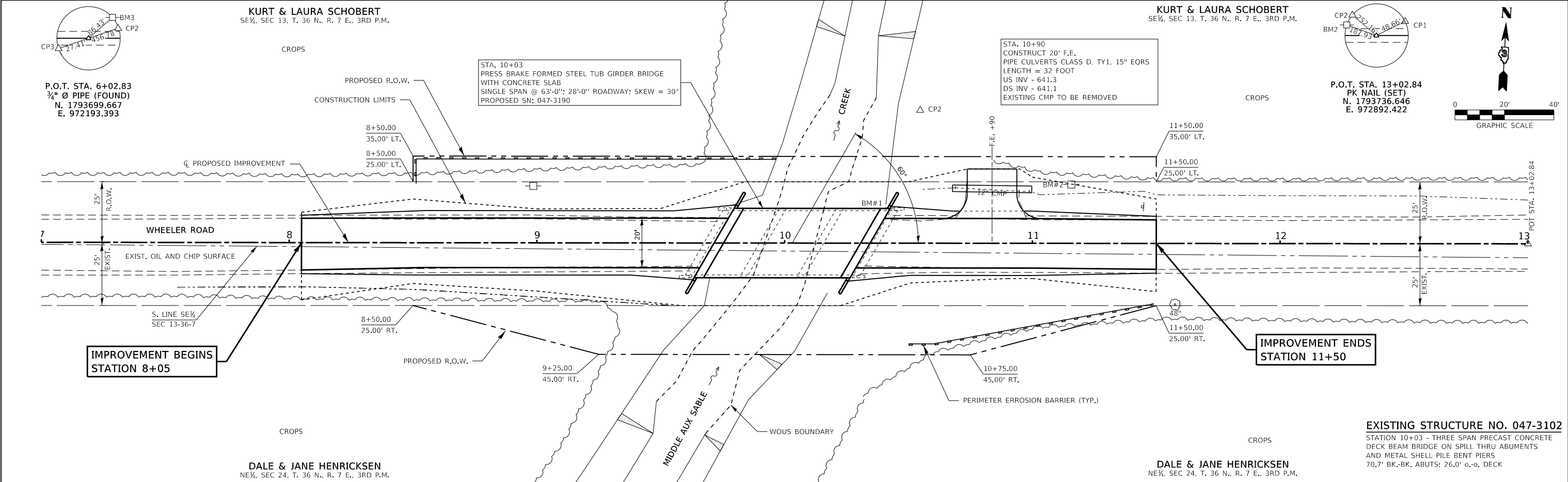
TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING
ROADWAY ARE TO BE CONSTRUCTED FROM STA. 8+05 TO 8+55
AND STA. 11+00 TO STA. 11+50. SEE SHEET _ FOR TRANSITION
AT BRIDGE.
CONSTRUCT AGGREGATE BASE TO THE FULL 20 FT. WIDTH
FOR THE LENGTH OF THE IMPROVEMENT.

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

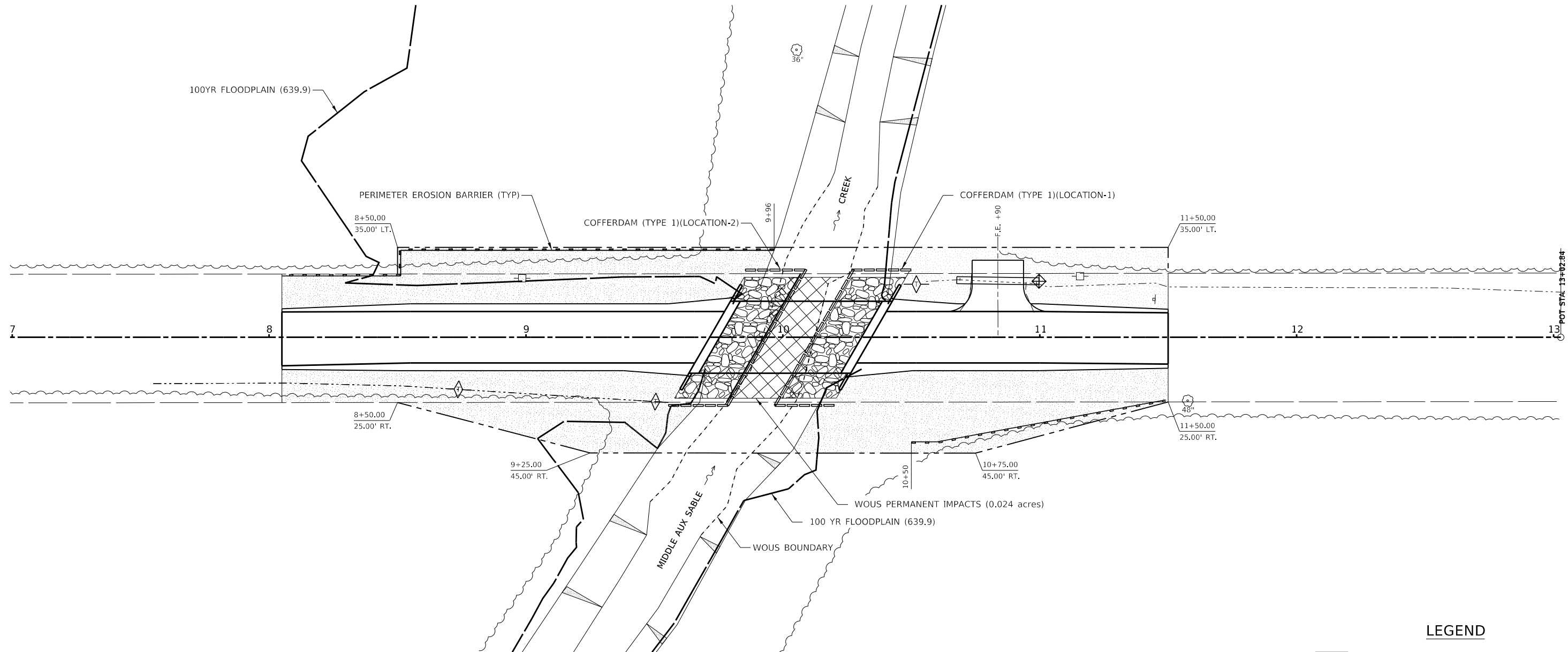
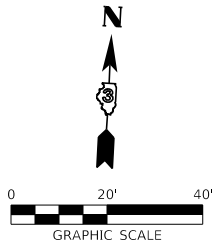
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		PLOT SCALE = \$SCALES		DRAWN - D.M.F.		REVISED -			72		22-04115-00-0B		KENDALL		30		3						
		PLOT DATE = 02/26/2024		CHECKED - X.X.X.		REVISED -			KENDALL TOWNSHIP														
		DATE = 07/02/2024		REVISED -		CONTRACT NO.																	
						ILLINOIS FED. AID PROJECT																	
								SCALE:		SHEET NO. 1 OF 1 SHEETS		STA. 8+05 TO STA. 11+50											

PLAN	SURVEYED	BY	DATE
NOTE BOOK NO.	ALIGNED CHECKED		
	FILED		
	CADD FILE NAME		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK NO.	GRADES CHECKED		
	FILED		
	STRUCTURE NOTATIONS CHKD		



FILE NAME = 220550-shi-planprf.dgn	USER NAME = gmetcal	DESIGNED - S.A.A.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	PLAN & PROFILE	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	DRAWN - J.B.L.	REVISED -			72	22-04115-00-BR	KENDALL	30	4
PLOT DATE = 02/26/2024	CHECKED - J.W.F.	REVISD -	REVISD -			KENDALL TOWNSHIP CONTRACT NO.				
DATE = 02/26/2024	REVISD -	REVISD -	REVISD -			ILLINOIS FED. AID PROJECT				



PERIMETER EROSION BARRIER		
LT. STA. 8+50 TO 10+00	=	150'
RT. STA. 10+50 TO 11+50	=	100'

TEMPORARY DITCH CHECKS		
RT. STA. 8+75	=	10'
RT. STA. 9+50	=	10'
LT. STA. 11+00	=	11'
INLET & PIPE PROTECTION STA. 11+00	=	1 EACH

LEGEND

- SEEDING CLASS 2 (SPECIAL)
- STONE RIPRAP, CLASS A4
- WATERS OF THE U.S. (WOUS) PERMANENT IMPACTS
- TEMPORARY DITCH CHECK
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- COFFERDAM (TYPE 1) (LOCATION TO BE APPROVED BY ENGINEER)

FILE NAME = 220550-sht-SESC 1.dgn		USER NAME = gmetcallf	DESIGNED - -	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	SOIL EROSION AND SEDIMENT CONTROL PLAN				T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 ER		PLOT SCALE = \$SCALE\$	DRAWN - G.D.M.	REVISED -		72	22-04115-00-BR	KENDALL	30	5				
		PLOT DATE = 02/26/2024	CHECKED - -	REVISED -		KENDALL TOWNSHIP				CONTRACT NO.				
			DATE = 07/02/2024	REVISED -		ILLINOIS FED. AID PROJECT								
						SCALE: 1"=20'		SHEET NO. 1 OF 3 SHEETS		STA. 7+00 TO STA. 13+00				

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:

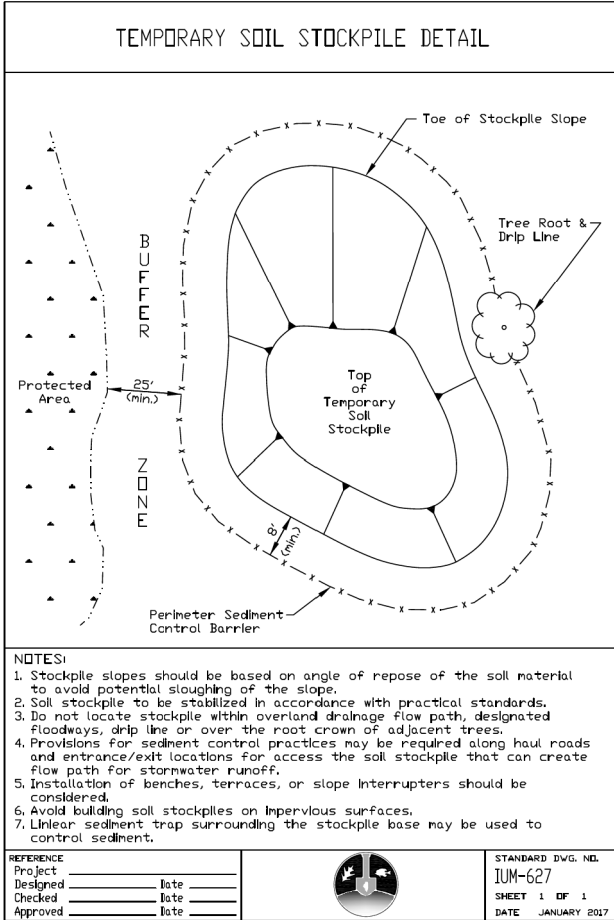
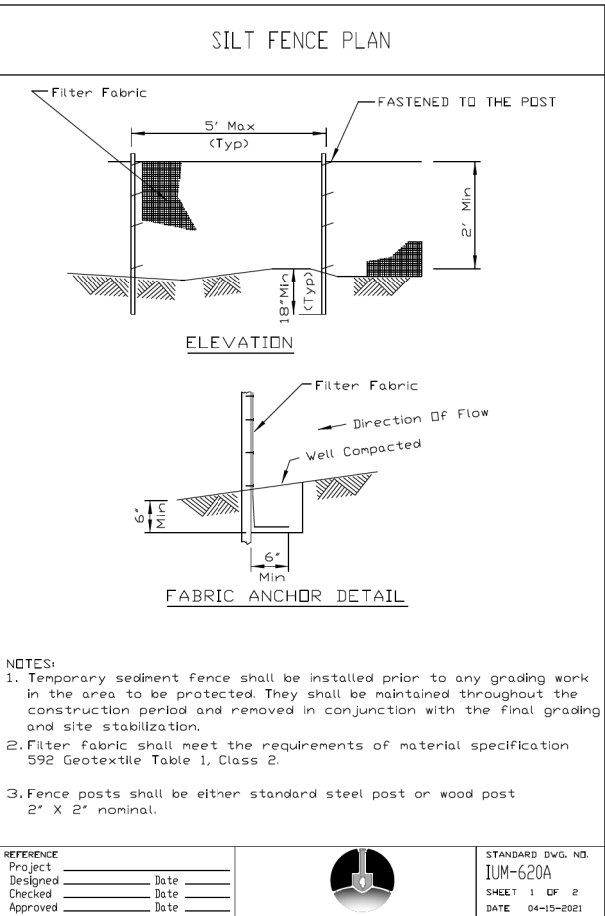
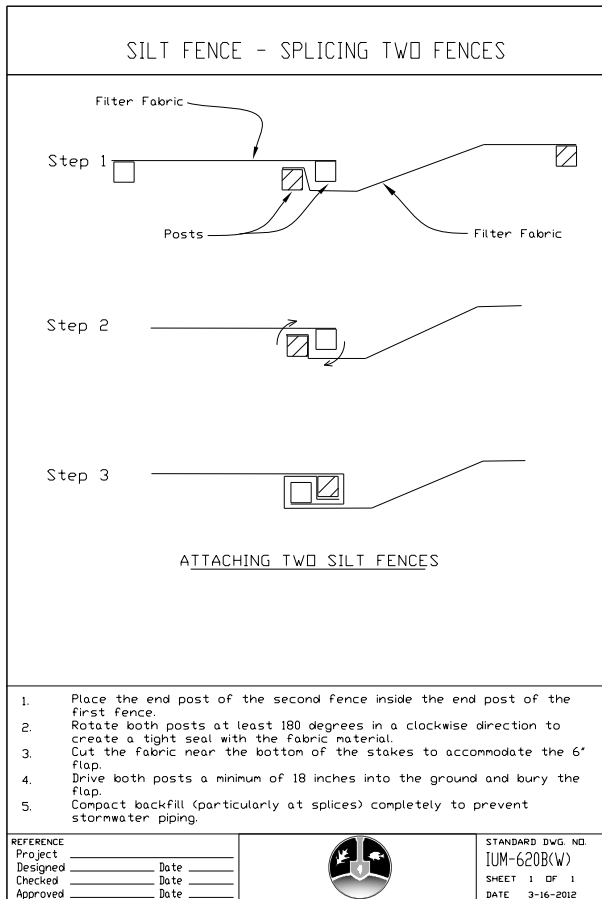
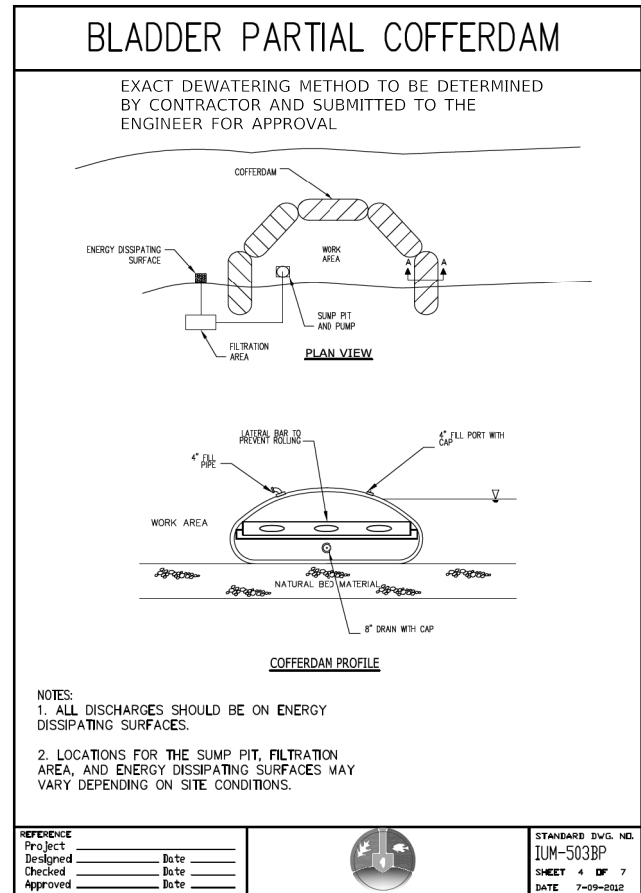
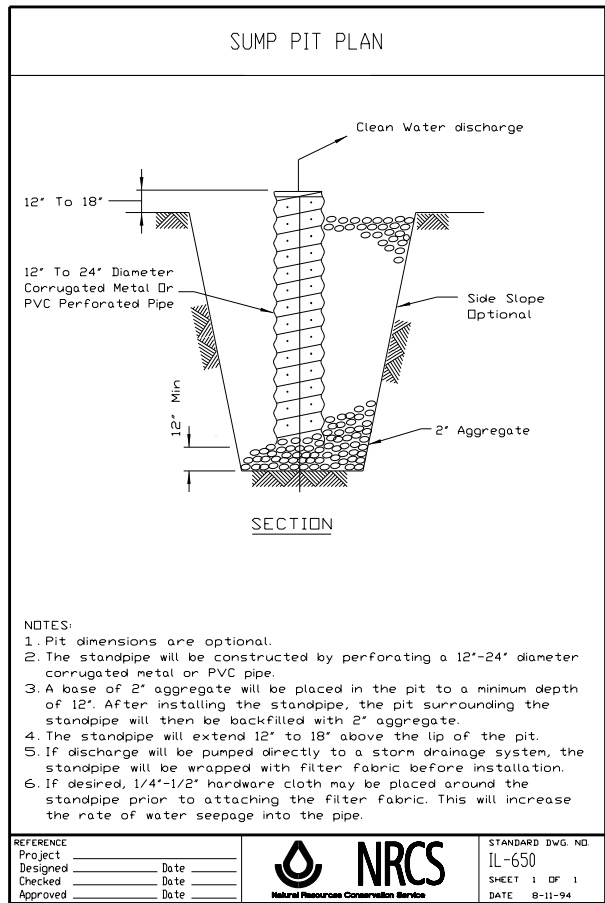
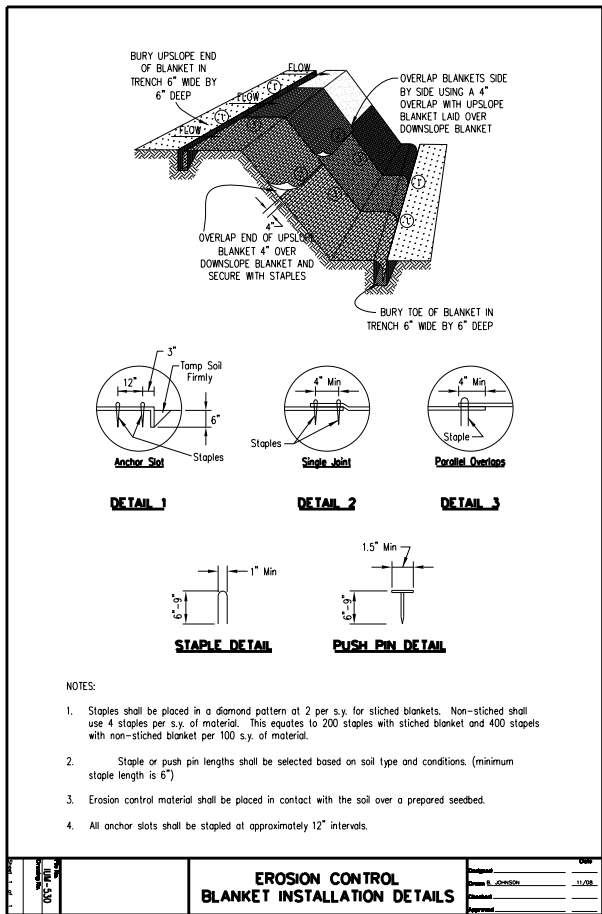
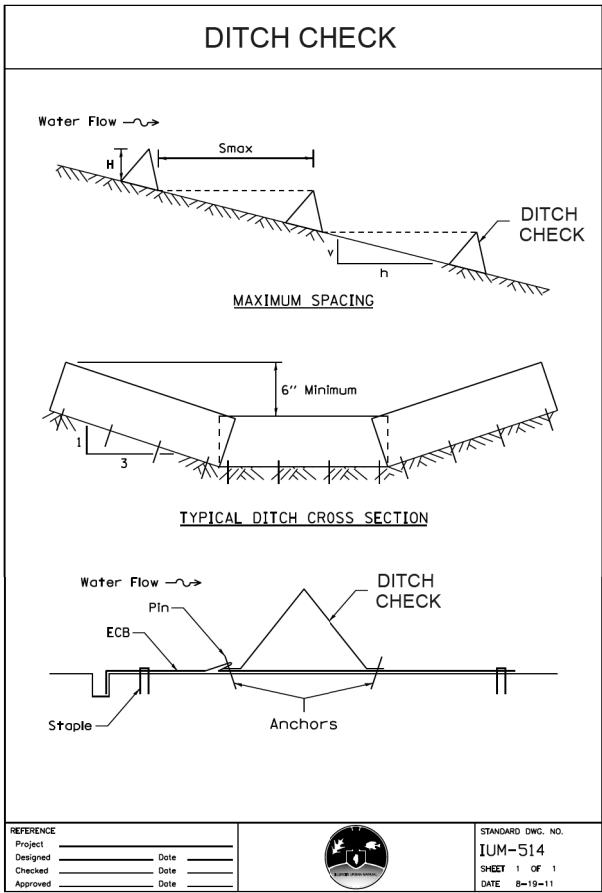
- 1) WORK IN THE WATERWAY SHALL BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE FLOW AT OR BELOW THE NORMAL WATER ELEVATION.
- 2) THE CONTRACTOR SHALL DESIGN AN IN-STREAM WORK PLAN TO ALLOW FOR THE CONVEYANCE OF THE 2-YEAR PEAK FLOW PAST THE WORK AREA WITHOUT OVERTOPPING 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.

STABILIZATION TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
PERMANENT SEEDING			+ A			*	*		➔			
DORMANT SEEDING	+ B ➔		➔								+ B ➔	➔
TEMPORARY SEEDING			+ C			➔	+ D		➔			
SODDING			+ E**						➔			
MULCHING	+ F											➔

- A SEE STANDARD ROAD SPECIFICATIONS FOR SEEDING MIXTURE.
- C SPRING OATS 100 LBS/ACRE
- * IRRIGATION NEEDED DURING JUNE AND JULY.
- B 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-shit-SESC-2.dgn		USER NAME = gmetcaff	DESIGNED - -	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	SOIL EROSION AND SEDIMENT CONTROL DETAILS					T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959 	PLOT SCALE = \$SCALE\$	DRAWN - G.D.M.	REVISED -	72		22-04115-00-BR	KENDALL	30	6						
	PLOT DATE = 02/26/2024	CHECKED - -	REVISED -	KENDALL TOWNSHIP					CONTRACT NO.						
	DATE = 07/02/2024	REVISED -	SCALE: 1"=20'					SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				



FILE NAME = 220550-shl-bridge - Tub Gdrdr.dgn		USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
 HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM I.L.D.# 047-0086 - 044-000868		CHECKED - S.M.S.	REVISED -	72			22-04115-00-BR	KENDALL	30	8	
	PLOT SCALE = 02/26/2024	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP							
	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -	CONTRACT NO.							
				SHEET NO. 1 OF 17 SHEETS							

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 1 1/16" 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.

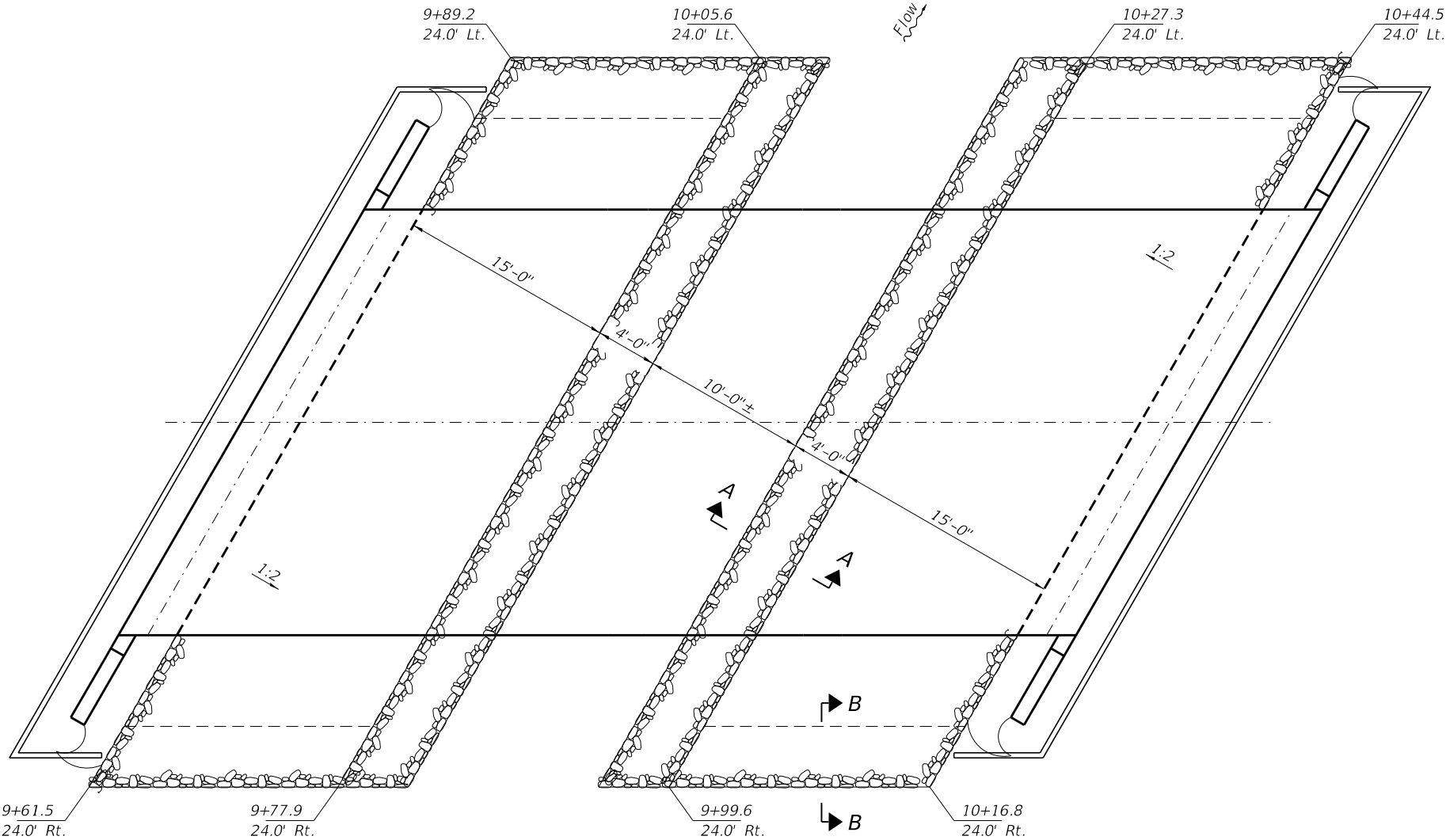
Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

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

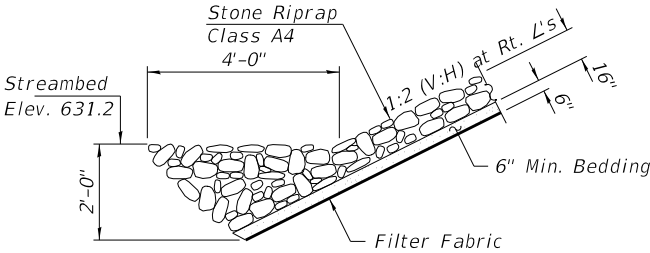
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

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.

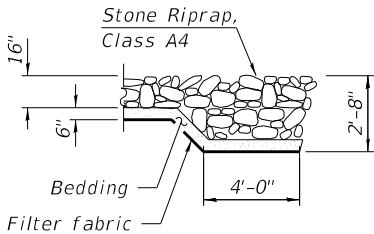


RIPRAP LAYOUT



SECTION A-A

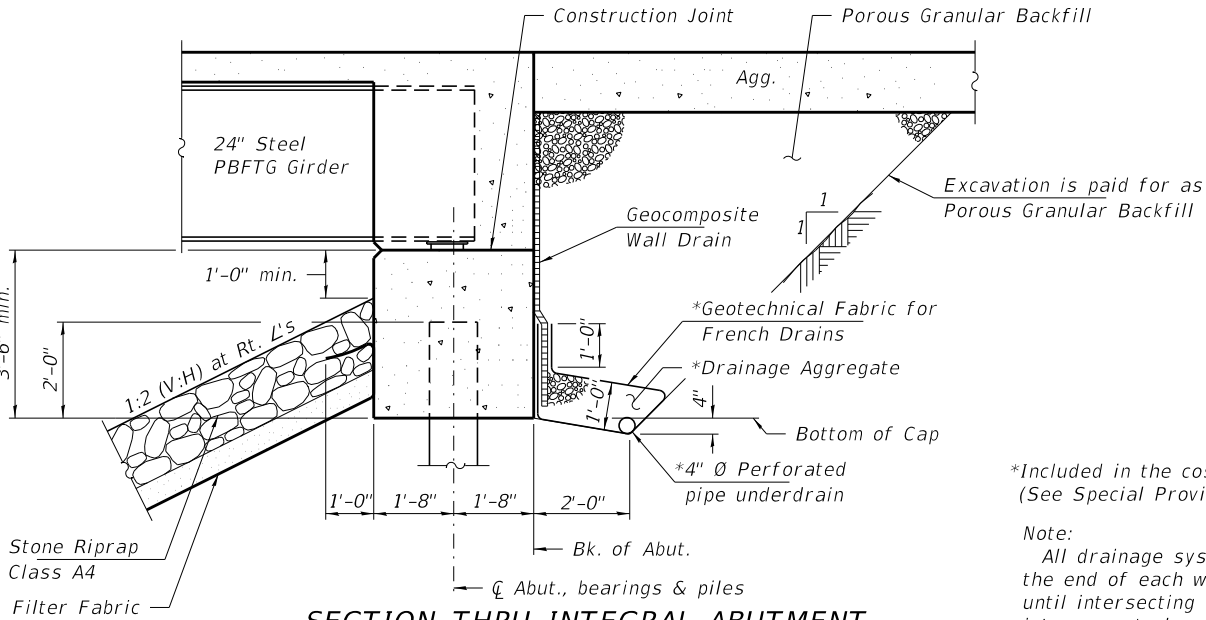
Note: See Special Provisions for Stone Riprap, Class A4.



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.			52
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

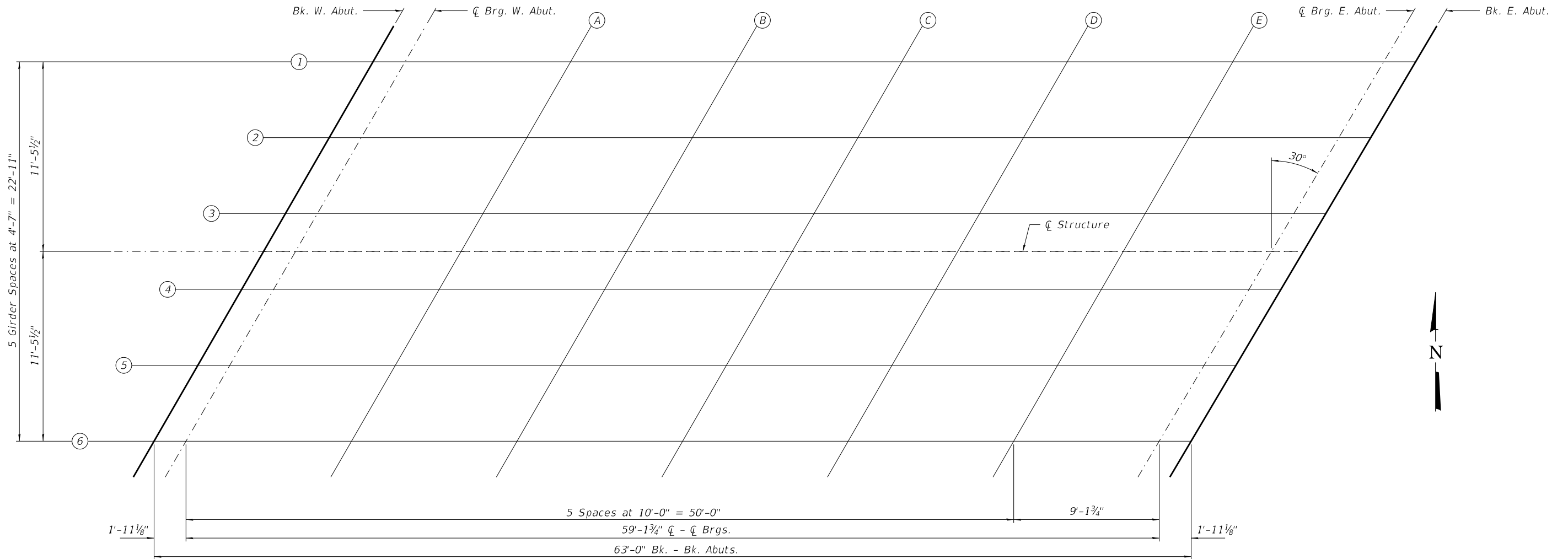


SECTION THRU INTEGRAL ABUTMENT

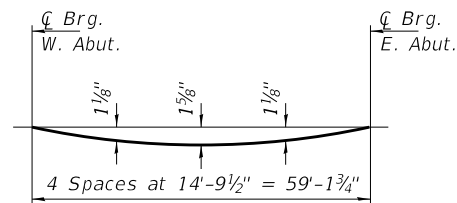
(Horiz. dim. at Rt. L's)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

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



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-shi-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	TOP OF SLAB ELEVATIONS STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.M.S.	REVISED -			72	22-04115-00-BR	KENDALL	30	10
PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -	REVISED -			KENDALL TOWNSHIP		CONTRACT NO.		
						ILLINOIS		FED. AID 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
⌒ Brg. W. Abut.	9+80.06	-11.46	643.24	643.24
A	9+90.06	-11.46	643.31	643.38
B	10+00.06	-11.46	643.38	643.49
C	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
⌒ 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 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
⌒ Brg. W. Abut.	9+77.41	-6.88	643.31	643.31
A	9+87.41	-6.88	643.38	643.45
B	9+97.41	-6.88	643.45	643.57
C	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
⌒ Brg. E. Abut.	10+36.56	-6.88	643.71	643.71
Bk. E. Abut.	10+38.48	-6.88	643.72	643.72

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
⌒ Brg. W. Abut.	9+74.76	-2.29	643.39	643.39
A	9+84.76	-2.29	643.45	643.52
B	9+94.76	-2.29	643.52	643.64
C	10+04.76	-2.29	643.59	643.72
D	10+14.76	-2.29	643.65	643.77
E	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

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
⌒ Brg. W. Abut.	9+73.44	0.00	643.42	643.42
A	9+83.44	0.00	643.49	643.56
B	9+93.44	0.00	643.56	643.68
C	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
⌒ Brg. E. Abut.	10+32.59	0.00	643.82	643.82
Bk. E. Abut.	10+34.51	0.00	643.83	643.83

GIRDER 4

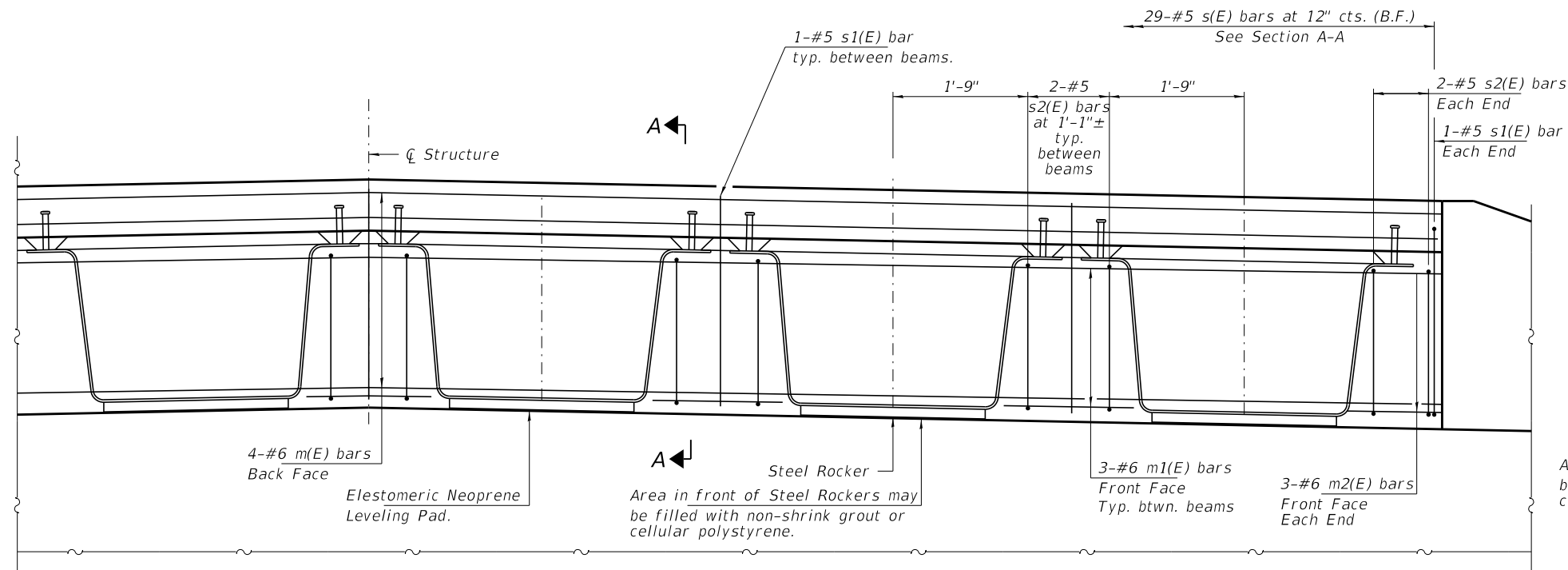
<i>Location</i>	<i>Station</i>	<i>Offset</i>	<i>Theoretical Grade Elevations</i>	<i>Theoretical Grade Elevations Adjusted For Dead Load Deflection</i>
<i>Bk. W. Abut.</i>	<i>9+70.19</i>	<i>2.29</i>	<i>643.35</i>	<i>643.35</i>
<i>☐ Brg. W. Abut.</i>	<i>9+72.12</i>	<i>2.29</i>	<i>643.37</i>	<i>643.37</i>
<i>A</i>	<i>9+82.12</i>	<i>2.29</i>	<i>643.44</i>	<i>643.51</i>
<i>B</i>	<i>9+92.12</i>	<i>2.29</i>	<i>643.51</i>	<i>643.63</i>
<i>C</i>	<i>10+02.12</i>	<i>2.29</i>	<i>643.57</i>	<i>643.70</i>
<i>D</i>	<i>10+12.12</i>	<i>2.29</i>	<i>643.64</i>	<i>643.75</i>
<i>E</i>	<i>10+22.12</i>	<i>2.29</i>	<i>643.70</i>	<i>643.77</i>
<i>☐ Brg. E. Abut.</i>	<i>10+31.26</i>	<i>2.29</i>	<i>643.77</i>	<i>643.77</i>
<i>Bk. E. Abut.</i>	<i>10+33.19</i>	<i>2.29</i>	<i>643.78</i>	<i>643.78</i>

GIRDER 5

<i>Location</i>	<i>Station</i>	<i>Offset</i>	<i>Theoretical Grade Elevations</i>	<i>Theoretical Grade Elevations Adjusted For Dead Load Deflection</i>
<i>Bk. W. Abut.</i>	<i>9+67.55</i>	<i>6.88</i>	<i>643.24</i>	<i>643.24</i>
<i>☐ Brg. W. Abut.</i>	<i>9+69.47</i>	<i>6.88</i>	<i>643.26</i>	<i>643.26</i>
<i>A</i>	<i>9+79.47</i>	<i>6.88</i>	<i>643.33</i>	<i>643.40</i>
<i>B</i>	<i>9+89.47</i>	<i>6.88</i>	<i>643.40</i>	<i>643.52</i>
<i>C</i>	<i>9+99.47</i>	<i>6.88</i>	<i>643.46</i>	<i>643.59</i>
<i>D</i>	<i>10+09.47</i>	<i>6.88</i>	<i>643.53</i>	<i>643.64</i>
<i>E</i>	<i>10+19.47</i>	<i>6.88</i>	<i>643.59</i>	<i>643.66</i>
<i>☐ Brg. E. Abut.</i>	<i>10+28.62</i>	<i>6.88</i>	<i>643.66</i>	<i>643.66</i>
<i>Bk. E. Abut.</i>	<i>10+30.54</i>	<i>6.88</i>	<i>643.67</i>	<i>643.67</i>

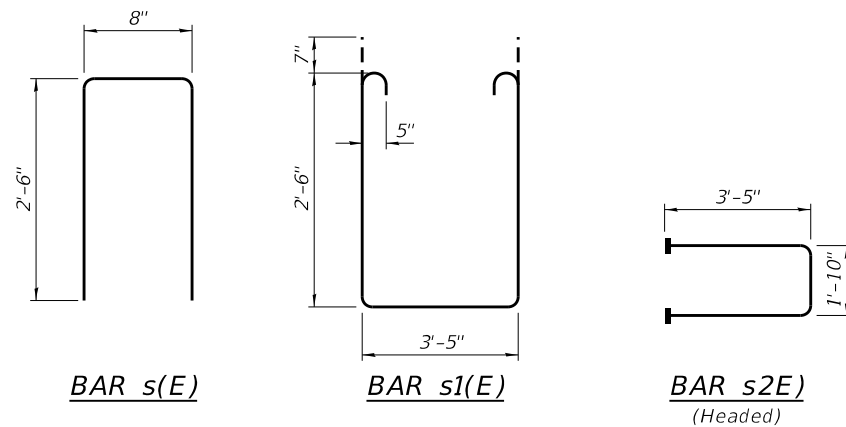
GIRDER 6

<i>Location</i>	<i>Station</i>	<i>Offset</i>	<i>Theoretical Grade Elevations</i>	<i>Theoretical Grade Elevations Adjusted For Dead Load Deflection</i>
<i>Bk. W. Abut.</i>	<i>9+64.90</i>	<i>11.46</i>	<i>643.14</i>	<i>643.14</i>
<i>☒ Brg. W. Abut.</i>	<i>9+66.82</i>	<i>11.46</i>	<i>643.15</i>	<i>643.15</i>
<i>A</i>	<i>9+76.82</i>	<i>11.46</i>	<i>643.22</i>	<i>643.29</i>
<i>B</i>	<i>9+86.82</i>	<i>11.46</i>	<i>643.29</i>	<i>643.41</i>
<i>C</i>	<i>9+96.82</i>	<i>11.46</i>	<i>643.35</i>	<i>643.48</i>
<i>D</i>	<i>10+06.82</i>	<i>11.46</i>	<i>643.42</i>	<i>643.53</i>
<i>E</i>	<i>10+16.82</i>	<i>11.46</i>	<i>643.48</i>	<i>643.55</i>
<i>☒ Brg. E. Abut.</i>	<i>10+25.97</i>	<i>11.46</i>	<i>643.55</i>	<i>643.55</i>
<i>Bk. E. Abut.</i>	<i>10+27.89</i>	<i>11.46</i>	<i>643.56</i>	<i>643.56</i>

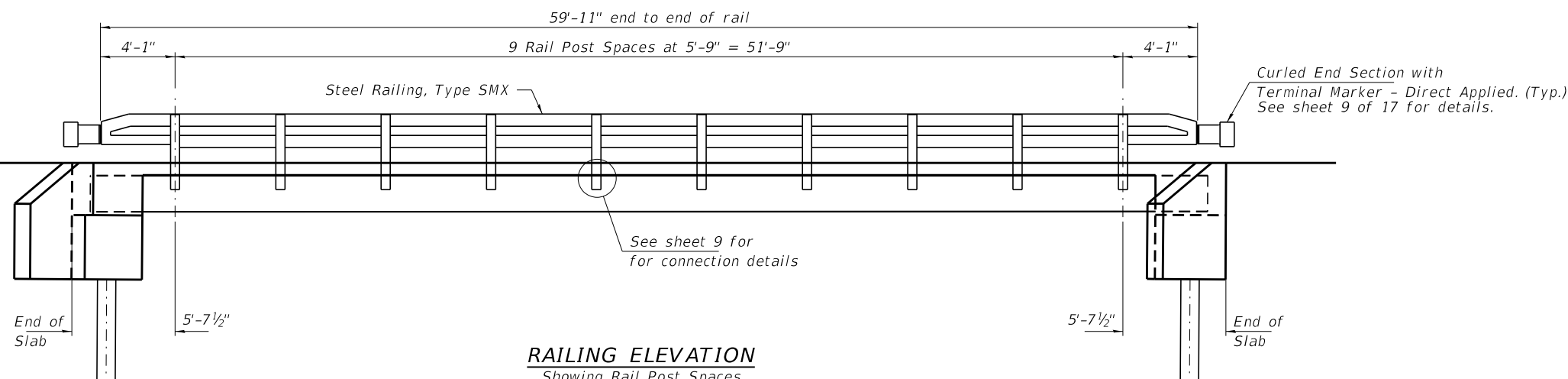


DIAPHRAGM ELEVATION AT ABUTMENT

Dimensions at right angles to beams
(West Abut. shown, East Abut. similar)

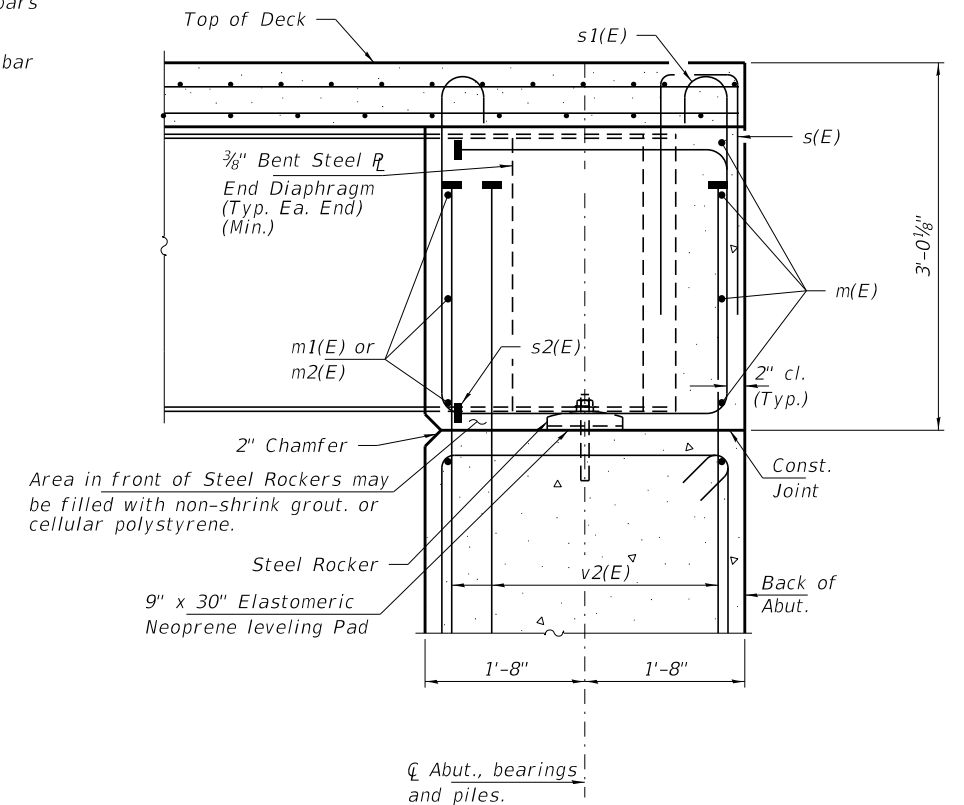


Notes:
Reinforcement bars in diaphragm are bitted with Superstructure on sheet 6 of 17.
Concrete in diaphragm is included with Concrete Superstructure on sheet 6 of 17.
The s(E), s1(E) & s2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.



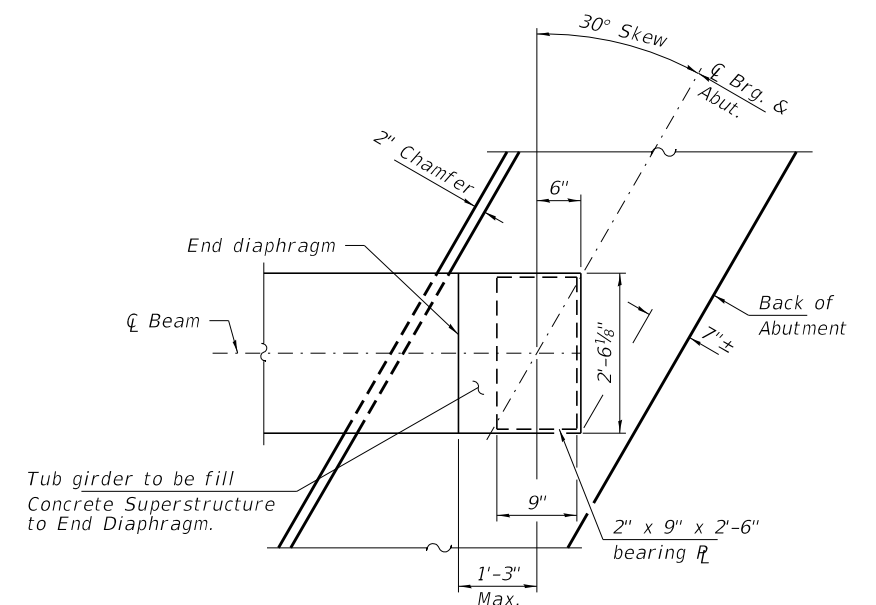
RAILING ELEVATION
Showing Rail Post Spaces

See sheet 8 of 17 for Railing Details.
See sheet 9 of 17 for Railing Connection Details.



SECTION A-A

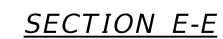
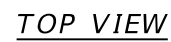
Dimensions at right angles to abutment, except as shown.



PLAN AT ABUTMENT
(Showing bottom flange of tub girder)

FILE NAME = 220550-shi-bridge - Tub Girder.dgn	USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.M.S.	REVISED -			72	22-04115-00-BR	KENDALL	30	14
PLOT DATE = 02/26/2024		DRAWN - D.M.F.	REVISED -			KENDALL TOWNSHIP		CONTRACT NO.		
		CHECKED - S.M.S.	REVISED -			ILLINOIS		FED. AID PROJECT		

SHEET NO. 7 OF 17 SHEETS



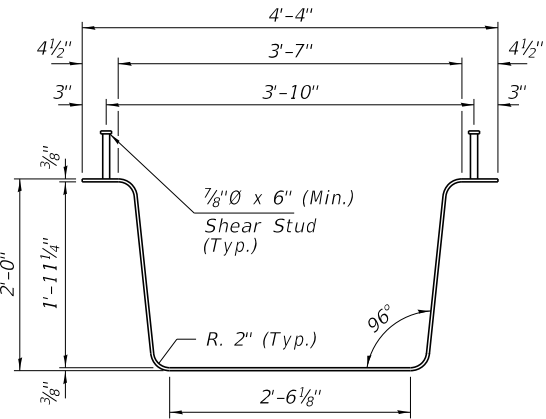
Notes:

Additional rail post connection details shall be provided by PBFSTG Manufacturer. The rail support assembly, diaphragms, plates and connectors shall be supplied by the PBFSTG Manufacturer and shall be included in the cost of Press Brake Formed Steel Tub Girder (PBFSTG).

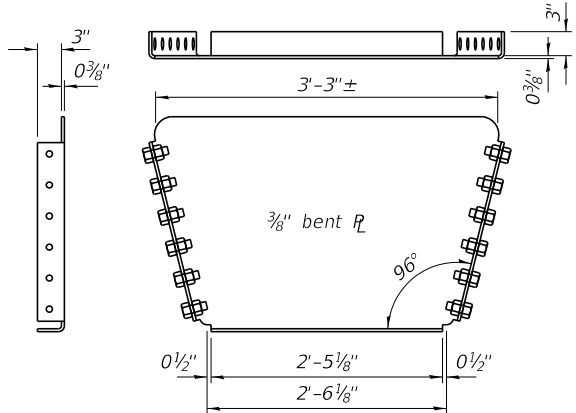
All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

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

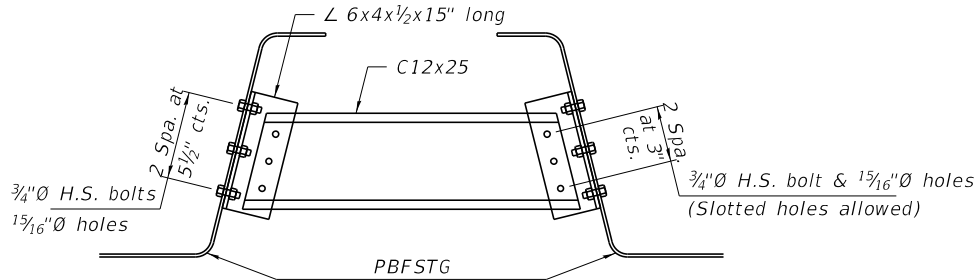
FILE NAME = 220550-sh-btbridge - Tub Gilder.dgn		USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	STEEL RAILING DETAILS STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959	PLOT SCALE = \$SCALE\$	CHECKED - S.M.S.	REVISED -	72			22-04115-00-BR	KENDALL	30	16	
	PLOT DATE = 02/26/2024	DRAWN - D.M.F.	REVISED -	KENDALL TOWNSHIP			CONTRACT NO.				
		CHECKED - S.M.S.	REVISED -	SHEET NO. 9 OF 17 SHEETS			ILLINOIS FED. AID PROJECT				



ESTIMATED STEEL SECTION

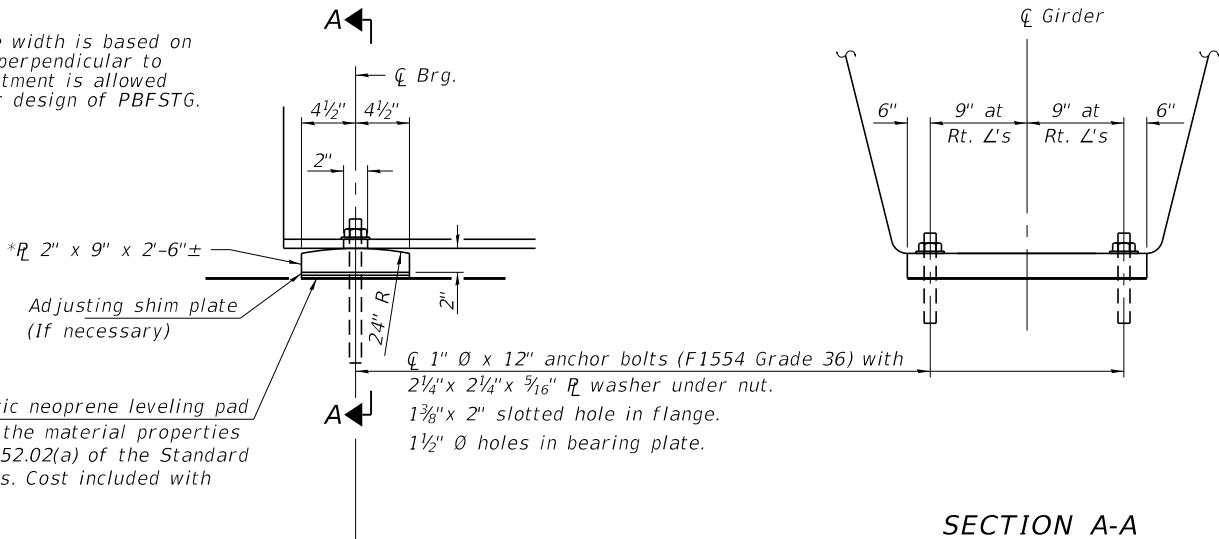


ANTICIPATED END DIAPHRAGM



ANTICIPATED EXTERIOR DIAPHRAGMS

* Bearing plate width is based on plate layout perpendicular to girder. Adjustment is allowed if needed for design of PBFSTG.



ELEVATION AT ABUTMENT

FIXED BEARING AT ABUTMENTS
(12 required)

GIRDER MOMENT TABLE	
	0.5 Sp. 1
Is	(in ⁴)
Ic(n)	(in ⁴)
Ic(3n)	(in ⁴)
Ss	(in ³)
Sc(n)	(in ³)
Sc(3n)	(in ³)
DC1	(k/ft)
MDC1	(k)
DC2	(k/ft)
MDC2	(k)
DW	(k/ft)
MDW	(k)
LLDF	
M _l + i _M	(k)
Mu (Strength I)	(k)
Øf Mn	(k)
fs DC1	(ksi)
fs DC2	(ksi)
fs DW	(ksi)
fs (l+IM)	(ksi)
fs (Service II)	(ksi)
0.95Rh Fyf	(ksi)
fs (Total)(Strength I)(ksi)	
Øf Fn	(ksi)
Vf	(k)

GIRDER REACTION TABLE		
	Abutment	
	Interior	Exterior
LLDF		
OCF		
RDC1	(k)	
RDC2	(k)	
RDW	(k)	
R _l	(k)	
R _{iM}	(k)	
RTotal	(k)	

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

Notes:

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

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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 long-term 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_l + i_M: Un-factored 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 M_l + i_M

Øf 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).

fs (l+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 + i_M / Sc(n).

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

fsDC1 + fsDC2 + fsDW + 1.3 fs_l + i_M

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_l + i_M

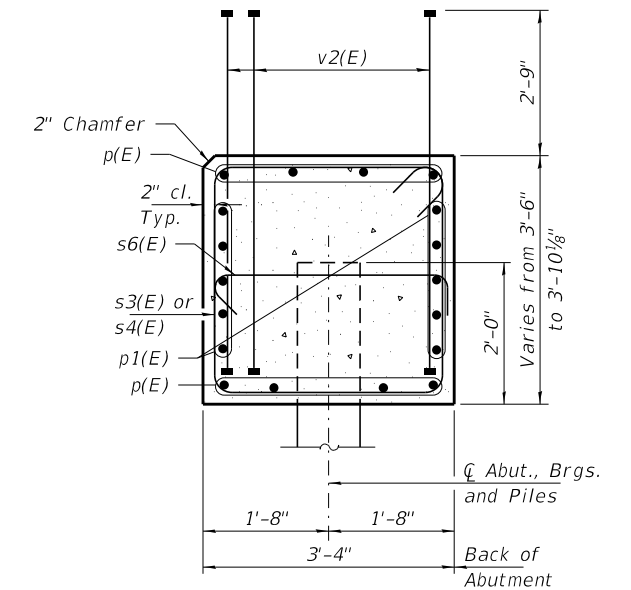
Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

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

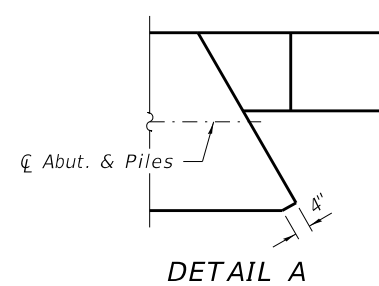
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

FILE NAME = 220550-shi-bridge - Tub Girder.dgn		USER NAME = gmetcall	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	STRUCTURAL STEEL DETAILS STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
 HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959		CHECKED - S.M.S.	REVISED -	72			22-04115-00-BR	KENDALL	30	18			
		PLOT SCALE = \$SCALE\$	DRAWN - D.M.F.	REVISED -			KENDALL TOWNSHIP		CONTRACT NO.				
		PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -			SHEET NO. 11 OF 17 SHEETS						
								ILLINOIS	FED. AID PROJECT				



SEC. THRU ABUT.
Dimensions at right angles to abutment.



DETAIL A

Notes: One test pile shall be driven in a permanent location at the West Abutment.

BILL OF MATERIAL - W. ABUT.

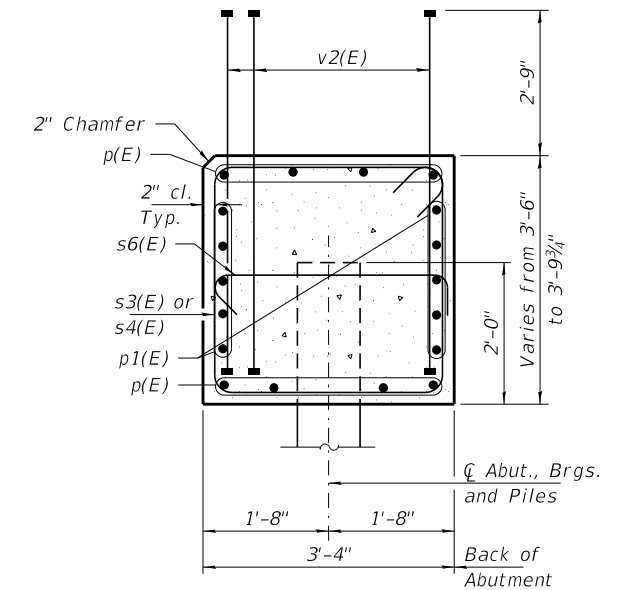
BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	36	#5	11'-0"	
h1(E)	6	#5	16'-0"	
h2(E)	4	#5	7'-1"	
p(E)	8	#7	32'-0'	
p1(E)	10	#5	32'-0'	
s3(E)	22	#6	13'-8"	
s4(E)	2	#6	14'-6"	
s5(E)	4	#6	8'-2"	
s6(E)	12	#5	4'-0"	
u(E)	8	#6	12'-1"	
v(E)	8	#5	6'-2"	
v1(E)	12	#5	9'-5"	
v2(E)	52	#8	6'-0"	
Structure Excavation			Cu. Yd.	57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

Notes:

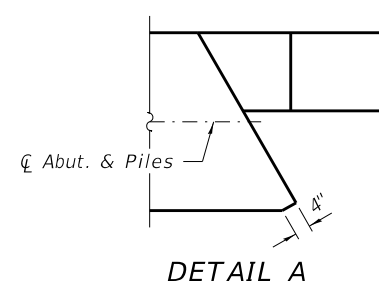
Abutment elevations are based on 2" Stay-In-Place forms and 0" fillets. If actual construction differs for the PBFSTG, the abutment elevations will need to be adjusted.

Abutment bearing seats may be sloped to match roadway grade if needed.

Reinforcement bars are detailed on sheet 13 of 17.



SEC. THRU ABUT.
Dimensions at right angles to abutment.



DETAIL A

Type:	Steel HP10x42
Nominal Required Bearing:	222 Kips/Pile
Factored Resistance Available:	122 Kips/Pile
Est. Length:	55 Ft/Pile
No. Production Piles:	6
No. Test Piles:	0

BILL OF MATERIAL - E. ABUT.

BAR	NØ.	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"	
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 Excavation			Cu. Yd.	29
Concrete Structures			Cu. Yd.	17.7
Reinf. Bars, Epoxy Coated			Pound	3,140
Furnishing Steel Piles HP10x42			Foot	330
Driving Piles			Foot	330

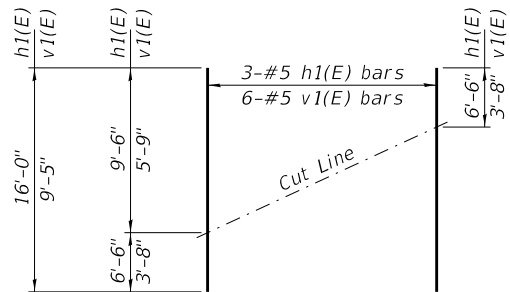
Notes:

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.

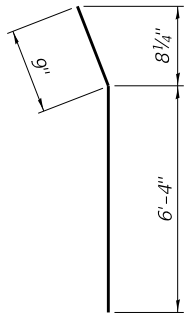
Abutment bearing seats may be sloped to match roadway grade if needed.

Reinforcement bars are detailed on sheet 13 of 17.

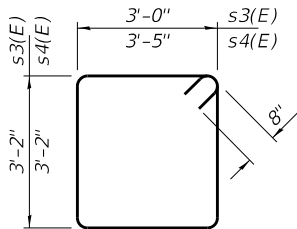
FILE NAME = 220550-sh-bldge - Tub Gilder.dgn		USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	EAST ABUTMENT STRUCTURE NO. 047-3190	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
 HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM I.S. (P.E.) & C. CORP. HA-000950	CHECKED - S.M.S.	DRAWN - D.M.F.	REVISED -	72			22-04115-00-BR	KENDALL	30	20	
	PLOT SCALE = \$SCE\$	CHECKED - S.M.S.	REVISED -	KENDALL TOWNSHIP CONTRACT NO.							
	PLOT DATE = 02/26/2024	CHECKED - S.M.S.	REVISED -	SHEET NO. 13 OF 17 SHEETS							



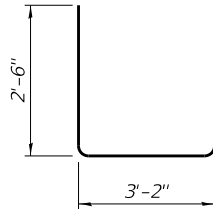
FIELD CUTTING DIAGRAM
Order h1(E) & v1(E) full length. Cut as shown
and use remainder of bars in opposite face.



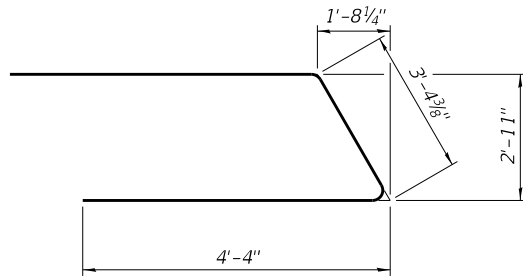
BAR h2(E)



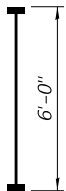
BAR s3(E) & s4(E)



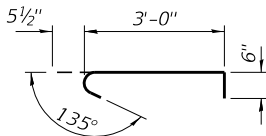
BAR s5(E)



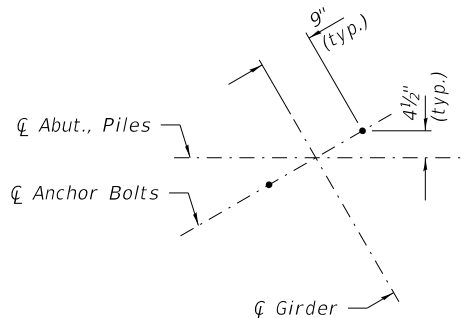
BAR u(E)



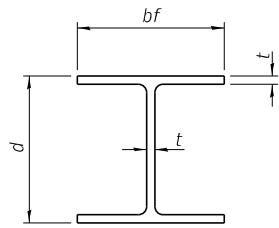
BAR v2(E)
(Headed)



BAR s6(E)

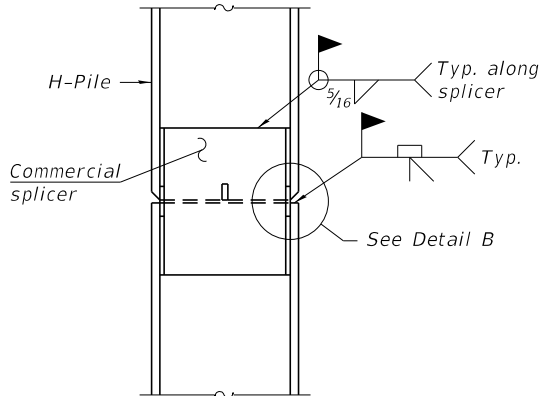


DETAIL B

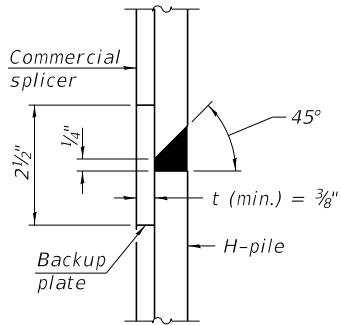


STEEL PILE TABLE

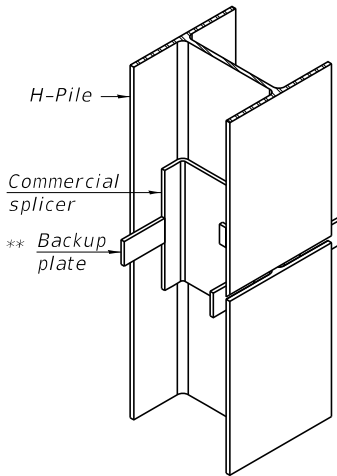
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 18x181	18"	18"	1"	36"
x157	17¾"	17⅞"	⅞"	36"
x135	17½"	17¾"	¾"	36"
HP 16x183	16½"	16½"	1⅛"	36"
x162	16¼"	16⅞"	1"	36"
x141	16"	16"	⅞"	36"
x121	15¾"	15⅞"	¾"	36"
HP 14x117	14¼"	14⅞"	1⅜"	30"
x102	14"	14¾"	1⅛"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅞"	½"	30"
HP 12x84	12¼"	12¼"	1⅛"	24"
x74	12⅞"	12¼"	⅝"	24"
x63	12"	12⅞"	½"	24"
x53	11¾"	12"	⅞"	24"
HP 10x57	10"	10¼"	⅞"	24"
x42	9¾"	10⅞"	⅞"	24"
HP 8x36	8"	8⅞"	⅞"	18"



ELEVATION

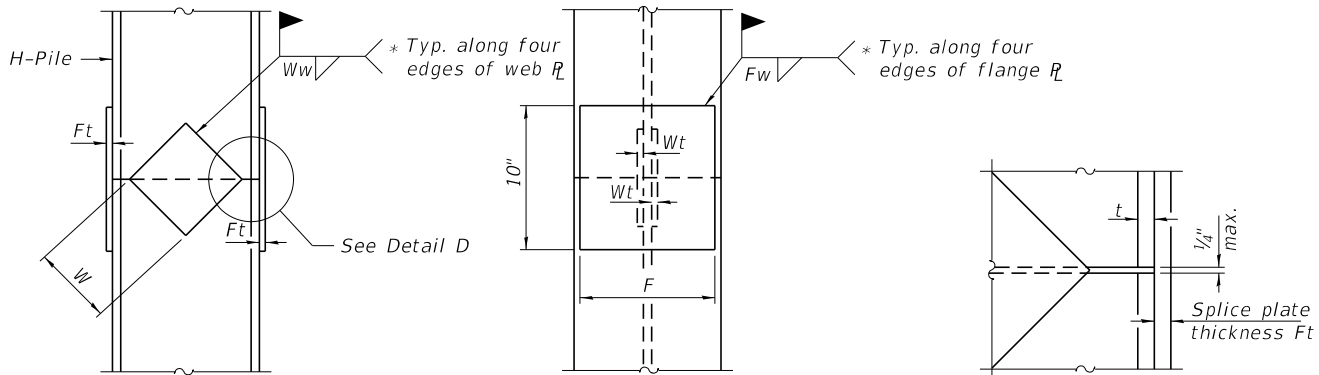


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



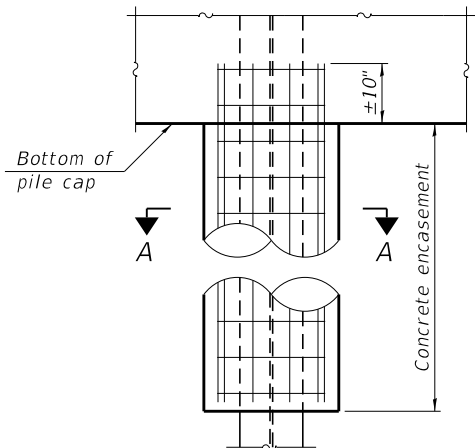
ELEVATION

END VIEW

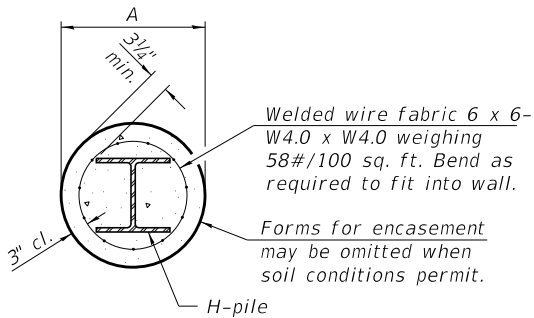
DETAIL C

Designation	F	Ft	Fw	W	Wt	Ww
HP 18x181	15½"	1½"	1"	9½"	⅞"	¾"
x157	15½"	1¼"	1"	9½"	⅞"	¾"
x135	15¼"	1¼"	1"	9½"	⅞"	¾"
HP 16x183	13¾"	1½"	1"	8¼"	⅞"	¾"
x162	13½"	1½"	1"	8¼"	¾"	⅝"
x141	13½"	1¼"	⅞"	8¼"	¾"	⅝"
x121	13½"	1¼"	⅞"	8¼"	¾"	⅝"
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	1⅛"	7¾"	⅝"	½"
x73	12½"	⅝"	⅞"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	1⅛"	6½"	⅝"	½"
x74	10"	⅞"	1⅛"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	⅞"	5¼"	½"	⅜"
x42	8"	⅝"	⅞"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	⅞"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

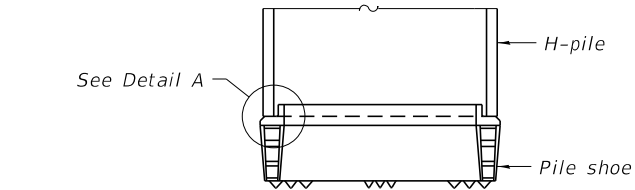


ELEVATION

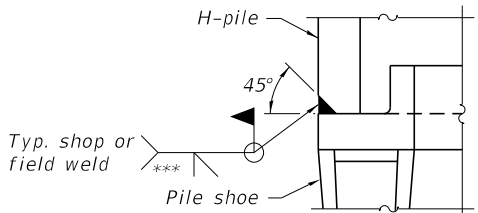


SECTION A-A

INDIVIDUAL PILE
CONCRETE ENCASUREMENT
(when specified)

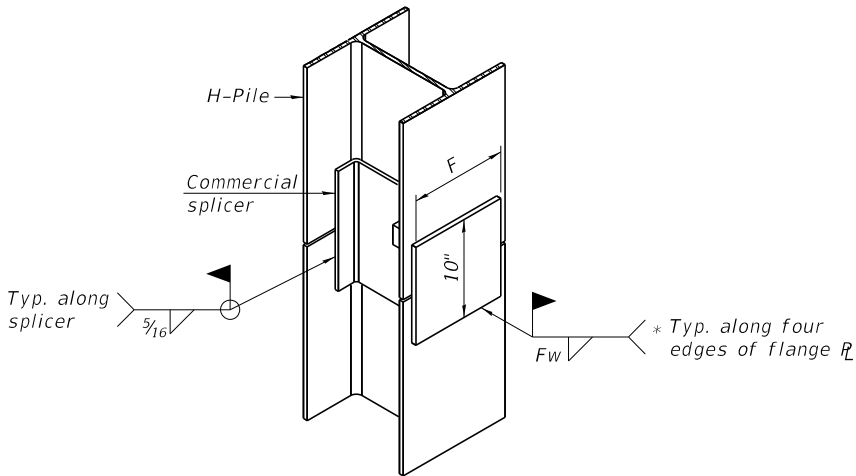


ELEVATION



DETAIL A

SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

* Interrupt welds ¼" from end of web and/or each flange.

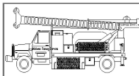
** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (⅝" min.).

F-HP

10-27-2023

FILE NAME = 220550-shi-bridge - Tub Girder.dgn		USER NAME = gmetcalf	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS KENDALL TOWNSHIP HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 047-3190					
 HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$		CHECKED - S.M.S.	REVISED -		72	22-04115-00-BR		KENDALL	30	22
	PLOT DATE = 02/26/2024		CHECKED - S.M.S.	REVISED -		KENDALL TOWNSHIP		CONTRACT NO.			
						SHEET NO. 15 OF 17 SHEETS					
						ILLINOIS FED. AID PROJECT					



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 1 of 3

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Hampton, Lenzini & Renwick, Inc.
Project Name Wheeler Road Section 22-04115-00-BR
Project Site Kendall Township, Kendall County Illinois

Boring No. B-1
Surface Elev. 99.90 643.0
Auger Depth 61'
Start Date 11/05/22

Rotary Date NA
Finish Date 11/05/22

Location: 9' Right of Station 9+58

(DEPTH)
*ELEV.

99.90 643.0

DESCRIPTION OF MATERIALS

98.90 642.0

Asphalt over Aggregate

97.90

Stiff Black and Brown
Gravely Clay (Fill)

96.90

95.90

94.90

93.90 637.0

92.90

91.90

90.90

89.90

88.90

87.90

Very Stiff Brownish Gray to Gray
Silty Clay Till

86.90

85.90

84.90

83.90

82.90

81.90

80.90

79.90 623.0

Graphic Log

Depth
in feet

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

SAMPLES

Sample No.

Sample Type

Qu (TSF)

N Value (Blows)

Bulge / Shear

Moisture (%)

Dry Density (PCF)

1 SS 1.2 6 B 22

2 SS 1.4 7 B 22

3 SS 1.4 8 B 21

4 SS 1.6 10 B 20

5 SS 2.5 18 B 16

6 SS 2.5 19 B 16

7 SS 2.4 19 B 15

8 SS 2.5 19 B 16

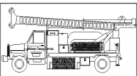
DRILLED BY

Randy Safranski
Diedrich D-120

REMARKS

Groundwater Data: No groundwater encountered at time of subsurface investigation
Comments: * Assumed elevation of pavement at center of existing bridge deck as 100.0.

643.1



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 2 of 3

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Hampton, Lenzini & Renwick, Inc.
Project Name Wheeler Road Section 22-04115-00-BR
Project Site Kendall Township, Kendall County Illinois

Boring No. B-1
Surface Elev. 99.90 643.0
Auger Depth 61'
Start Date 11/05/22

Rotary Date NA
Finish Date 11/05/22

Location: 9' Right of Station 9+58

(DEPTH)
*ELEV.

78.90 622.0

DESCRIPTION OF MATERIALS

77.90

76.90

75.90

74.90

73.90

72.90

71.90

70.90

69.90

68.90

67.90

66.90

65.90

64.90

63.90

62.90

61.90

60.90

59.90

58.90 602.0

Graphic Log

Depth
in feet

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

SAMPLES

Sample No.

Sample Type

Qu (TSF)

N Value (Blows)

Bulge / Shear

Moisture (%)

Dry Density (PCF)

9 SS 2.1 12 B 19

10 SS 2.3 13 B 21

11 SS 2.7 16 B 18

12 SS 2.6 15 B 16

13 SS 3.3 16 B 14

14 SS 3.0 15 B 15

DRILLED BY

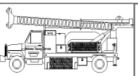
Randy Safranski
Diedrich D-120

REMARKS

Very Stiff Gray Silty Clay to
Silty Clay Loam Till

Groundwater Data: No groundwater encountered at time of subsurface investigation
Comments: * Assumed elevation of pavement at center of existing bridge deck as 100.0.

643.1



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 3 of 3

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Hampton, Lenzini & Renwick, Inc.
Project Name Wheeler Road Section 22-04115-00-BR
Project Site Kendall Township, Kendall County Illinois

Boring No. B-1
Surface Elev. 99.90 643.0
Auger Depth 61'
Start Date 11/05/22

Rotary Date NA
Finish Date 11/05/22

Location: 9' Right of Station 9+58

(DEPTH)
*ELEV.

57.90 601.0

DESCRIPTION OF MATERIALS

56.90

55.90

54.90

53.90

52.90

51.90

50.90

49.90

48.90

47.90

46.90

45.90

44.90

43.90

42.90

41.90 585.0

40.90

39.90

38.90 582.0

37.90

Graphic Log

Depth
in feet

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

SAMPLES

Sample No.

Sample Type

Qu (TSF)

N Value (Blows)

Bulge / Shear

Moisture (%)

Dry Density (PCF)

15 SS 2.8 13 B 15

16 SS 2.3 12 B 16

17 SS 2.4 12 B 16

18 SS --- 44 --- 14

DRILLED BY

Randy Safranski
Diedrich D-120

REMARKS

Very Stiff Gray Silty Clay to
Silty Clay Loam

Dense Gray Silt

Boring Terminated

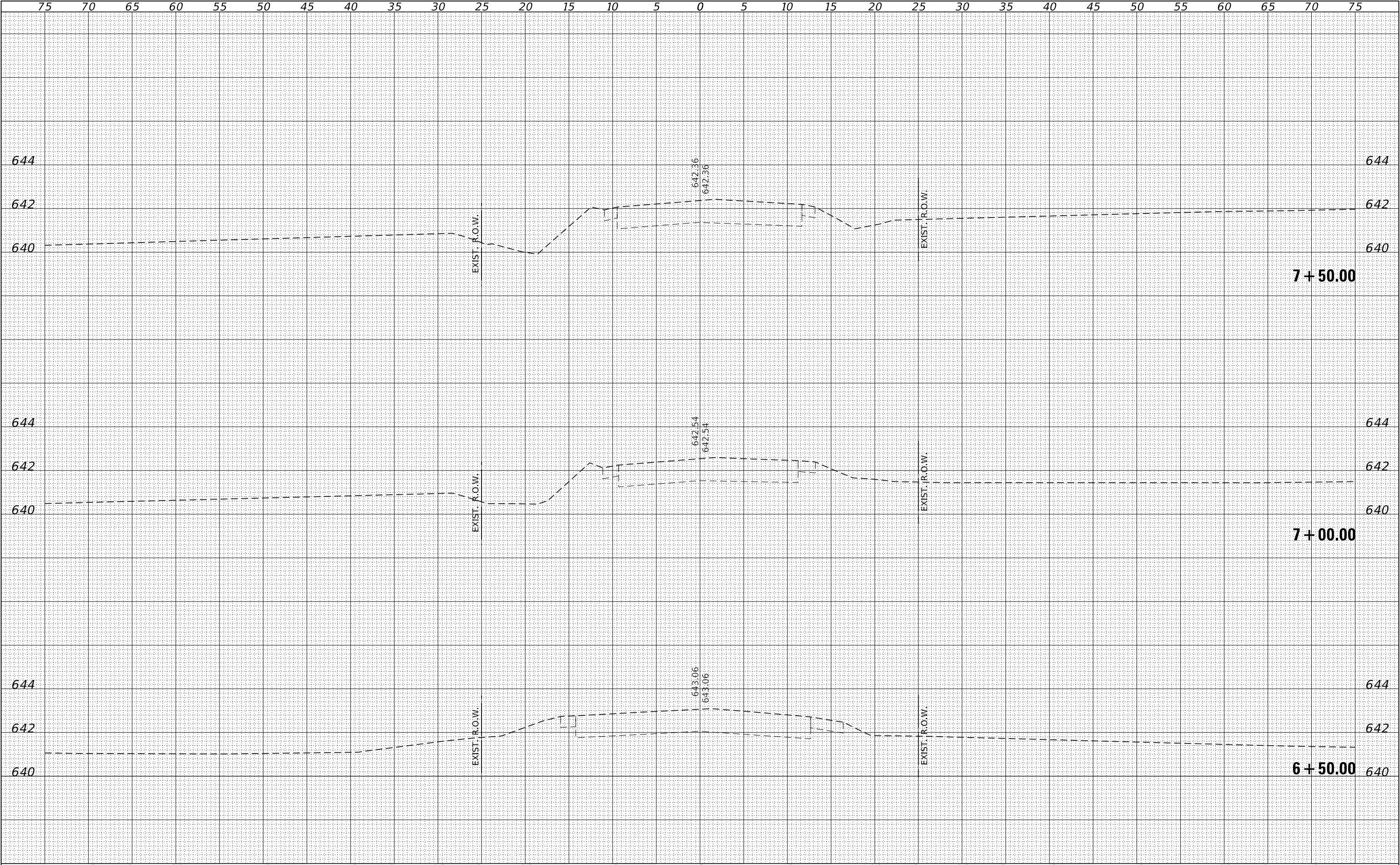
Groundwater Data: No groundwater encountered at time of subsurface investigation
Comments: * Assumed elevation of pavement at center of existing bridge deck as 100.0.

643.1

BORING-1

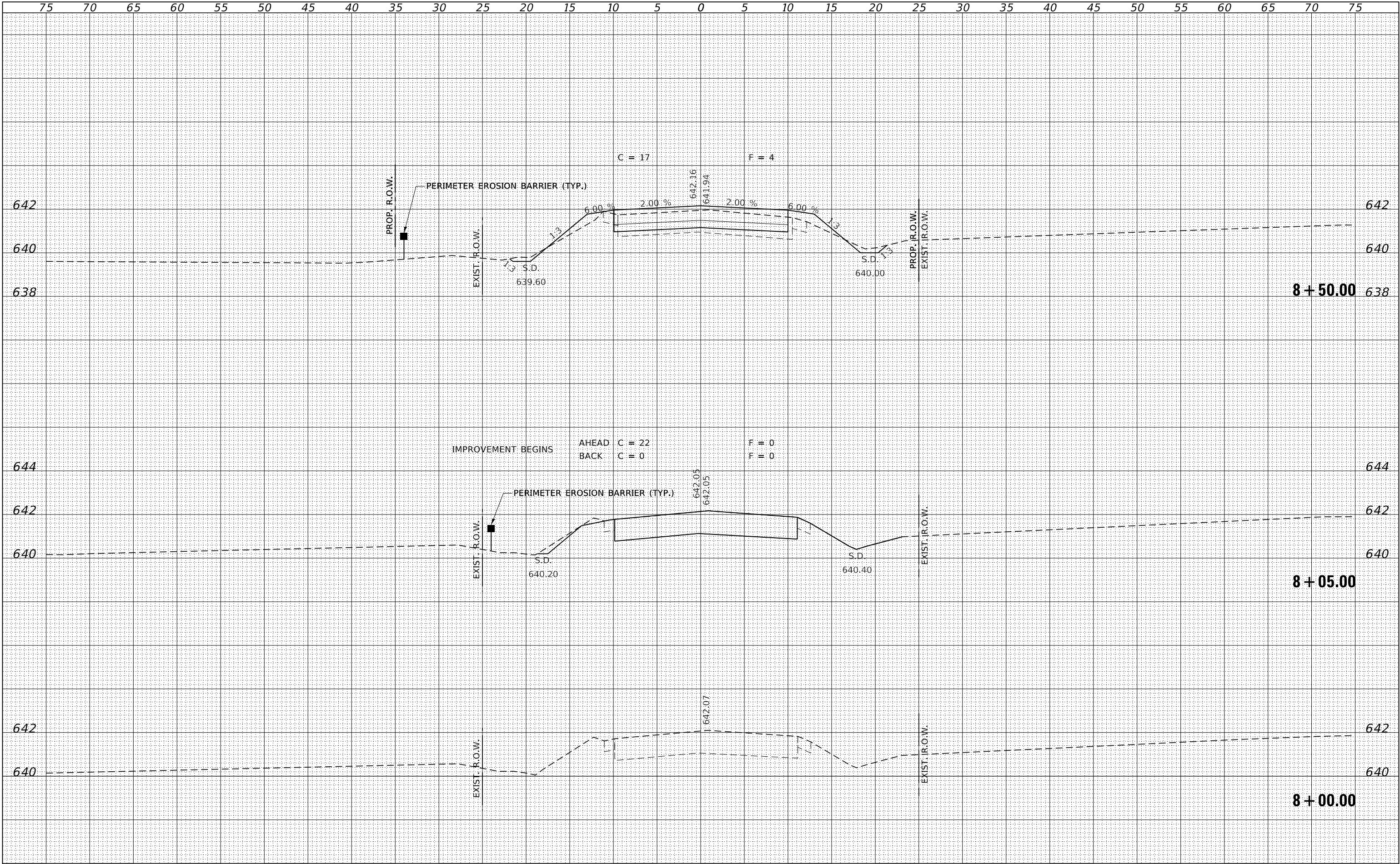
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ORIGINAL SURVEY	NO.	SURVEYED PLOTTED NOTE BOOK	BY	DATE



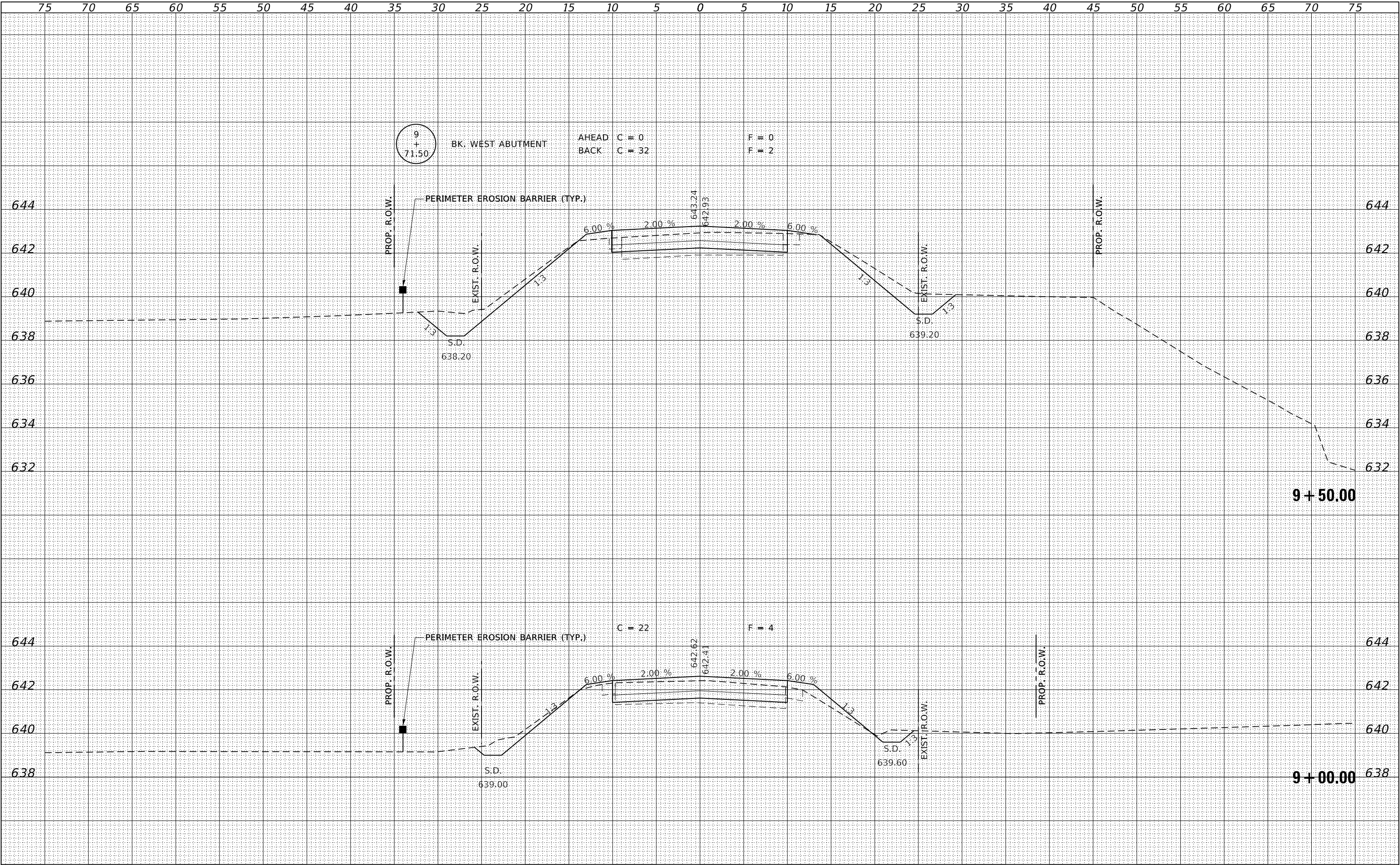
FINAL	SURVEYED	BY	DATE
SURVEY	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

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



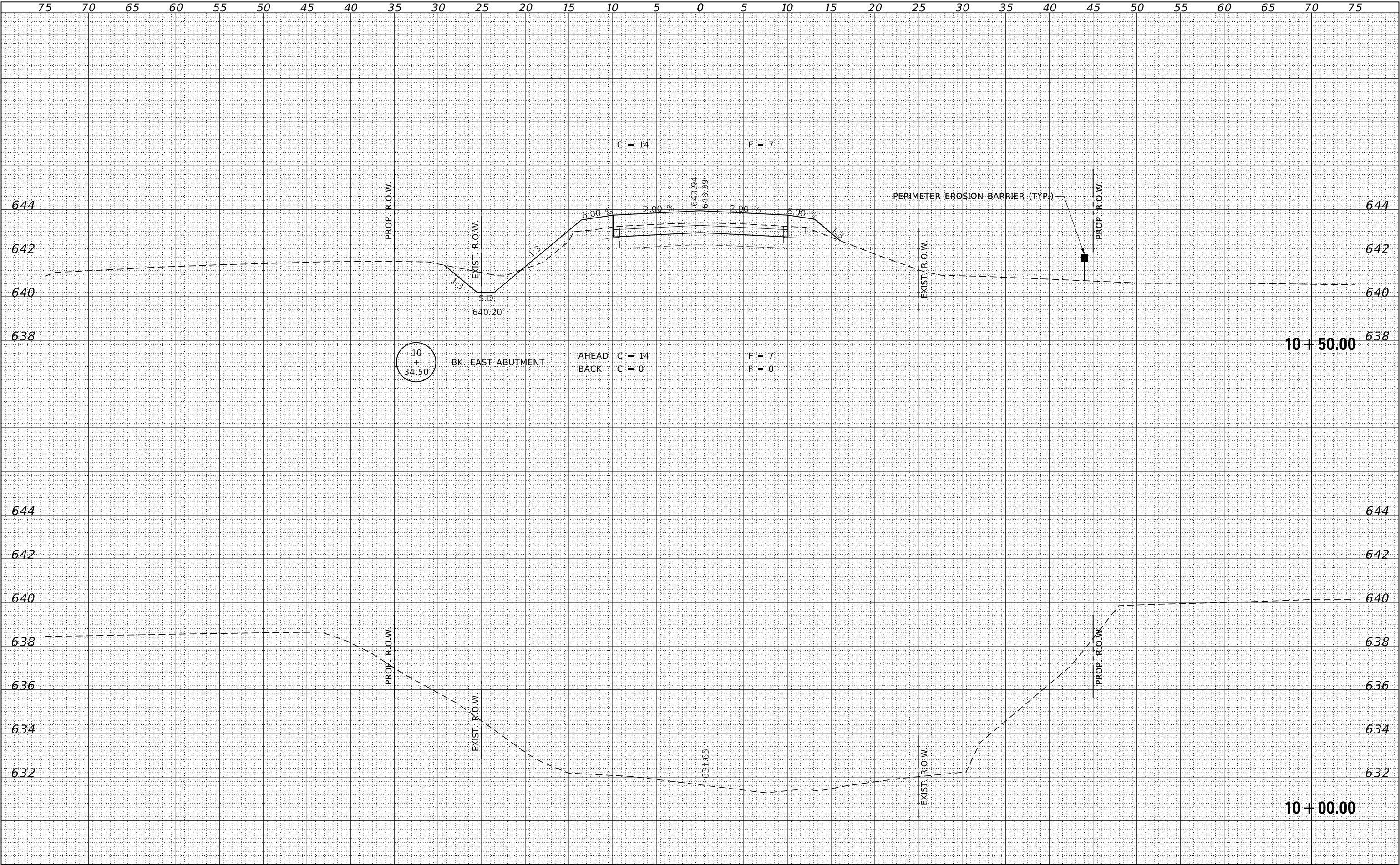
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	BY
	SURVEYED
	PLOTTED
NOTE BOOK	TEMPLATE
	AREAS
	CHECKED
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ORIGINAL SURVEY	DATE
	BY
	SURVEYED
	PLOTTED
NOTE BOOK	TEMPLATE
	AREAS
	CHECKED
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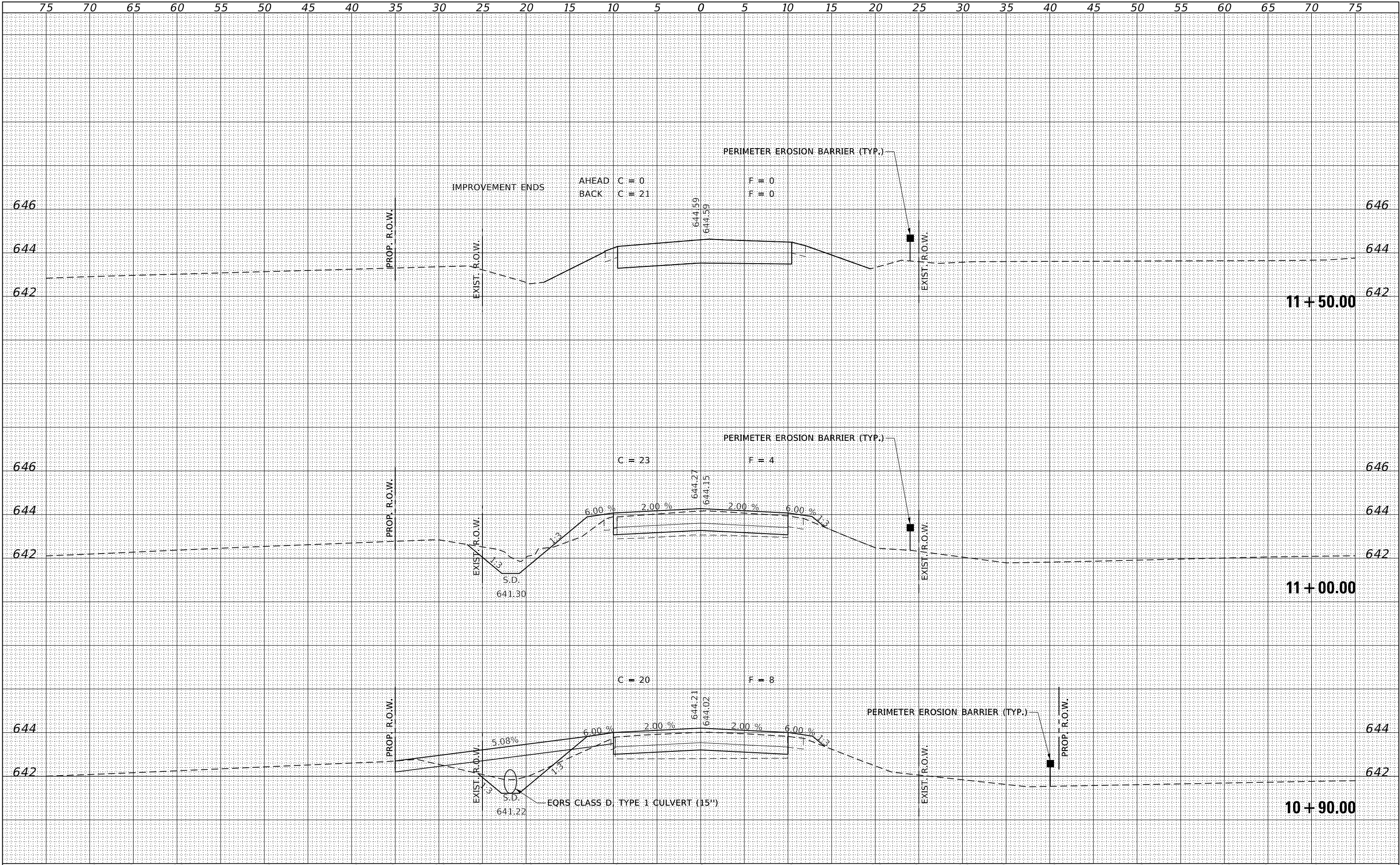
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NOTE BOOK	TEMPLATE		
NO.	AREAS CHECKED		

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



DATE	BY	SURVEYED	PLOTTED	NO.
		NOTE BOOK	TEMPLATE	AREAS CHECKED

DATE	BY	SURVEYED	PLOTTED	NO.
		NOTE BOOK	TEMPLATE	AREAS CHECKED



FINAL SURVEY	SURVEYED PLOTTED NOTE BOOK NO.	BY	DATE

ORIGINAL SURVEY	SURVEYED PLOTTED NOTE BOOK NO.	BY	DATE

