

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	227
20300100	CHANNEL EXCAVATION	CU YD	150
25100630	EROSION CONTROL BLANKET	SQ YD	593
28100207	STONE RIPRAP, CLASS A4	TON	361
28200200	FILTER FABRIC	SQ YD	297
35100100	AGGREGATE BASE COURSE, TYPE A	TON	323
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	17
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	645
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	65
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	41
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	24
48101200	AGGREGATE SHOULDERS, TYPE B	TON	30
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	29.8
50300260	BRIDGE DECK GROOVING	SQ YD	203
50300300	PROTECTIVE COAT	SQ YD	209
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,792
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6,720
* 50900205	STEEL RAILING, TYPE S1	FOOT	124
51200957	FURNISHING METAL SHELL PILES 12"X0.250"	FOOT	288
51202305	DRIVING PILES	FOOT	288
51203200	TEST PILE METAL SHELLS	EACH	1
51204650	PILE SHOES	EACH	10
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	34
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	46
60100935	PIPE DRAINS 10"	FOOT	10
67100100	MOBILIZATION	L SUM	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
^ Z0013798	CONSTRUCTION LAYOUT	L SUM	1
^ Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	124
^ X2070302	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	120

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL
^ X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2
^ X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	203
^ X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

^ SEE SPECIAL PROVISIONS

GENERAL NOTES

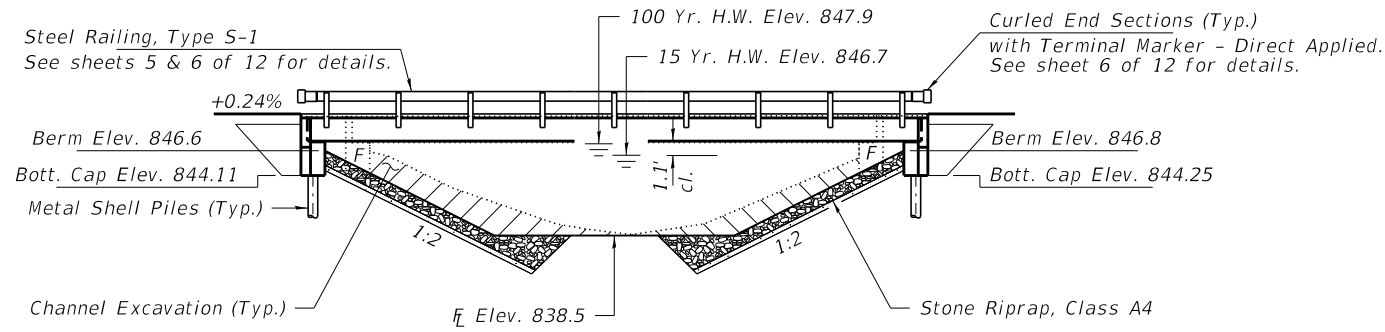
- 1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.
 - 2) ALL CLEARING, GRUBBING, FENCE REMOVAL, PAVEMENT REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
 - 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) ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.
 - 5) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON 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.
 - 6) THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
 - 7) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
 AGGREGATE BASE COURSE 2.05 TON/CU YD
 HOT MIX ASPHALT 112 LBS/SQ YD./INCH THICKNESS
 POROUS GRANULAR EMBANKMENT 2.0 TON/CU YD
- BITUMINOUS MATERIALS RATES**
- | SURFACE TYPE | RESIDUAL RATE |
|-------------------------------|----------------|
| AGGREGATE BASE | 0.250 LB/SQ FT |
| MILLED HMA OR PCC (TACK COAT) | 0.050 LB/SQ FT |
| EXISTING PAVEMENT (TACK COAT) | 0.050 LB/SQ FT |
| TACK COAT (BETWEEN LIFTS) | 0.025 LB/SQ FT |
- 8) THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE TOPSOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
 - 9) THE AREA TO BE SEEDED AND COVERED WITH EROSION CONTROL BLANKET SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.
 SEEDING, CLASS 2 (SPECIAL) = 0.2 ACRES
 EROSION CONTROL BLANKET = 593 SQ YD
 - 10) ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
 - 11) COMMITMENTS:
 1.) A BAT ASSESSMENT SHALL BE CONDUCTED IF WORK OCCURS TO EXISTING STRUCTURE AFTER SEPTEMBER 16, 2021.

BENCHMARK: Chiseled " X " on NE wingwall 14.0' Lt. Sta. 9+73, Elev. 851.55

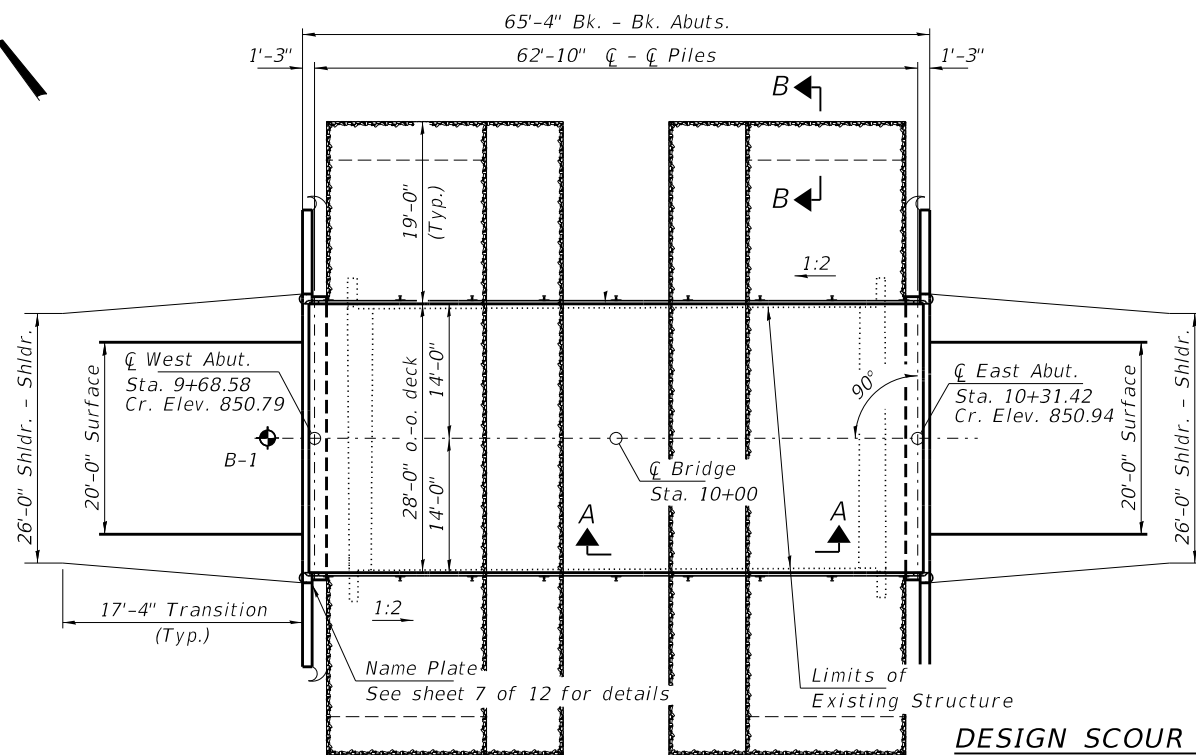
EXISTING STRUCTURE NO. 019-4207: Sta. 10+00 - Single span precast prestressed concrete deck beam bridge on spill thru concrete pile bent abutments. 56.0' bk.-bk. Abuts; 26.5' o.-o. deck.

Structure closed to traffic during construction.

No Salvage



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Wearing Surface)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2"Ø low lax. strands)
fpbt = 201,960 psi (1/2"Ø low lax. strands)
fy = 60,000 psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.084g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.147g
Soil Site Class = D

WATERWAY INFORMATION

Flood		Q		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.	
Yr.	C.F.S.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
10	769	240	330	846.3	0.1	0.1	846.4	846.4	
Design	15	870	260	350	846.7	0.1	0.1	846.8	846.8
Base	100	1,330	330	420	847.9	0.3	0.3	848.2	848.2
Scour Check	200	1,510	340	430	848.2	0.5	0.5	848.7	848.7
Max. Calc.	500	1,740	340	430	848.6	0.7	0.5	849.3	849.1

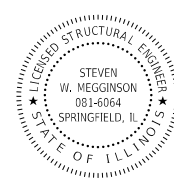
Existing Low Grade Elev. 850.5 at Sta. 8+50
Proposed Low Grade Elev. 850.5 at Sta. 8+50
10 Year Velocity through Existing Bridge = 3.2 fps
10 Year Velocity through Proposed Bridge = 2.3 fps

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elev. (ft.)		Item
	W. Abut.	E. Abut.	
Q100	844.11	844.25	113
Q200	844.11	844.25	
Design	844.11	844.25	8
Check	844.11	844.25	

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

Steven W. Megginson 05/21/2021
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2022

STATE OF ILLINOIS
DEKALB COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 019-4214

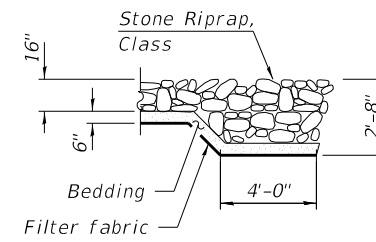
SHEET NO. 1 OF 12 SHEETS

GENERAL NOTES

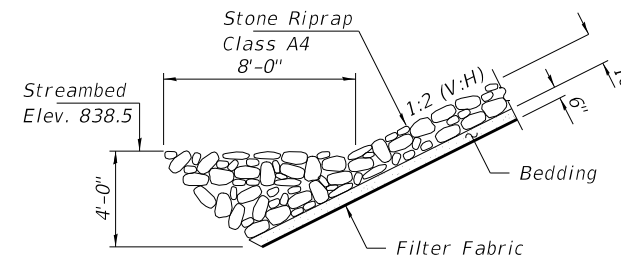
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at North Abutment or approved by the Engineer before ordering the remainder of piles.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
All bars to be epoxy coated.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
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.

INDEX OF STRUCTURE SHEETS

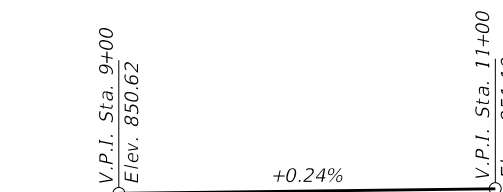
1. General Plan & Elevation
2. 27"x48" PPC Deck Beam
3. 27"x48" PPC Deck Beam Details
4. Superstructure
5. Superstructure Details
6. Steel Railing, Type S-1
7. West Abutment
8. East Abutment
9. Metal Shell Pile Details
- 10-11. Borings
12. Existing Bridge Plans



SECTION B-B



SECTION A-A



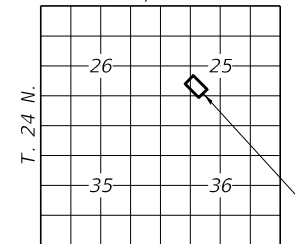
PROFILE GRADE
T.R. 244

COON CREEK
BUILT 2021 BY
DEKALB COUNTY
SEC. 17-06123-00-BR
GENOA ROAD DISTRICT
STR. NO. 019-4214
LOADING HL-93

NAME PLATE

See Std. 515001

R. 5 E., 3RD P.M.



Proposed Bridge
SN. 019-4214

LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL		
		SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			150
Stone Riprap, Class A4	Ton			361
Filter Fabric	Sq. Yd.			297
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		29.8	29.8
Bridge Deck Grooving	Sq. Yd.		203	203
Protective Coat	Sq. Yd.	203	6	209
Precast Prestressed Conc. Deck Beams (27" Depth)	Sq. Ft.	1,792		1,792
Reinforcement Bars, Epoxy Coated	Pound	2,660	4,060	6,720
Steel Railing, Type S-1	Foot	124		124
Furnishing Metal Shell Piles 12"x0.250	Foot		288	288
Driving Piles	Foot		288	288
Test Pile Metal Shells	Each		1	1
Pile Shoes	Each		10	10
Name Plates	Each		1	1
Geocomposite Wall Drain	Sq. Yd.		46	46
Pipe Underdrains for Structures 4"	Foot		124	124
Porous Granular Embankment, Special	Ton		120	120
Concrete Wearing Surface	Sq. Yd.	203		203

FILE NAME = 210049-shl-bridge.dgn	USER NAME =	DESIGNED - I.P.N.	REVISED - 07/12/2021 I.P.N.
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN - T.D.S.	REVISED -
	PLOT DATE = 7/12/2021	CHECKED - S.W.M.	REVISED -

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
244	17-06123-00-BR	DEKALB	22	6
GENOA ROAD DISTRICT		CONTRACT NO. 87767		
ILLINOIS		FED. AID PROJECT		