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HIGHWAY STANDARDS

000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

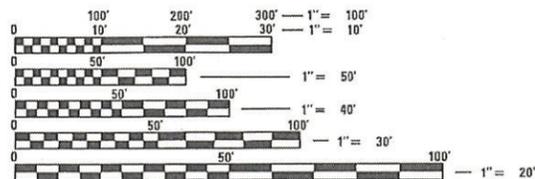
UTILITIES

AT&T DISTRIBUTION
G11629@ATT.COM

COMCAST
MARTHA GIERAS
224-229-5862
MARTHA_GIERAS@COMCAST.COM

CITY OF ROCK FALLS
DICK SIMON
815-622-1145
815-716-0120
dsimon@rockfalls61071.com

NICOR GAS
UTILITY CONSULTANT G03W
630-388-2362



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.

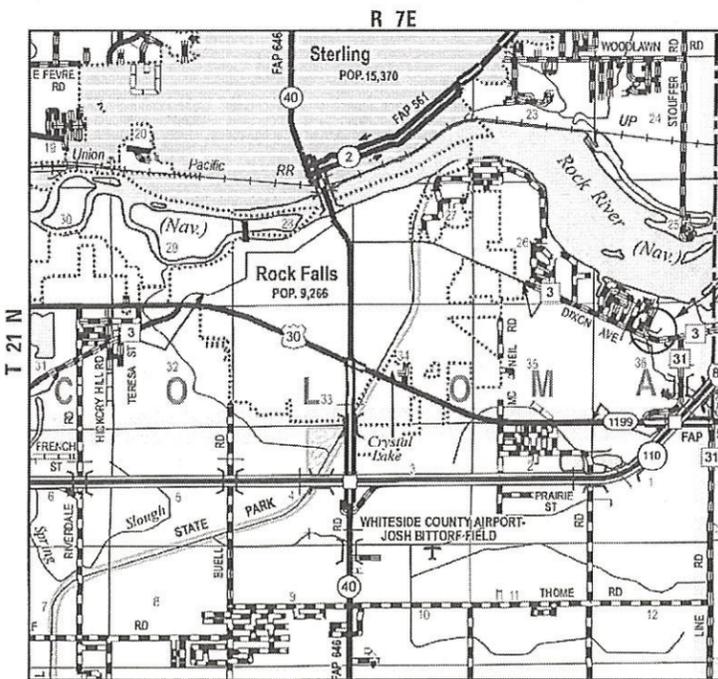
J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811

HLC PROJECT NO. 7164

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
BRIDGE REPLACEMENT**

**FAU 5560 (DIXON AVENUE OVER HOWLAND CREEK) CO HWY 3
WHITESIDE COUNTY
COLOMA TOWNSHIP
SECTION 22-00228-01-BR
FEDERAL PROJECT NO. PVAQ(201)
JOB NO. C-92-022-23**

**EXISTING STRUCTURE 098-3001
PROPOSED STRUCTURE 098-3079**



4TH PM
LOCATION MAP

TOTAL LENGTH = 641.55 FT. = 0.12 MILE
NET LENGTH = 641.55 FT. = 0.12 MILE



Anthony R. Fortin
ANTHONY R. FORTIN, P.E. DATE 09/30/2022
LICENSE EXPIRES 11/30/2022

THE PROPOSED IMPROVEMENT CONSISTS OF REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A PBFTG DECK BEAM BRIDGE ON SPILL THROUGH CONCRETE PILE BENT ABUTMENTS AND CONCRETE ENCASED PIERS. 54' CLEAR ROADWAY AND 107'-10" BACK TO BACK ABUTMENTS, MINOR CHANNEL SHAPING, OTHER MINOR COLLATERAL WORK.

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
DECATUR (217) 422-8544
SCHAUMBURG (773) 714-0050
ROCKFORD (815) 489-0050
184-001397

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00228-01-BR	WHITESIDE	25	01
	COLOMA TWP	ILLINOIS	STRUCTURE NO. 098-3001	



LOCATION OF SECTION INDICATED THUS: -

SECTION 17-00228-00-BR
BEGINS STATION 108 + 66.45
ENDS STATION 115 + 08.00

FUNCTIONAL CLASSIFICATION - MINOR ARTERIAL
2016 ADT = 3150
DESIGN SPEED = 40 MPH

APPROVED *November 30, 2022* COUNTY ENGINEER

PASSED *11/30* DISTRICT TWO ENGINEER OF LOCAL ROADS AND STREETS

Releasing For Bid Based on Limited Review *11/30* DEPUTY DIRECTOR OF HIGHWAYS REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE DETAILS IN THE PLANS, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS, AND THE LATEST EDITION OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", THE " SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS', THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", THE "MANUAL OF TEST PROCEDURES FOR MATERIALS", AND THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS".
2. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL " J.U.L.I.E" AT 1-800-892-0123 FOR FIELD LOCATION OF BURIED ELECTRIC, TELEPHONE, GAS AND OTHER FACILITIES AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
3. LOCATIONS OF PUBLIC OR PRIVATE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND THE COUNTY DOES NOT GUARANTEE THEIR ACCURACY. THE CONTRACTOR SHALL HAVE THE RESPECTIVE UTILITY COMPANIES FIELD LOCATE ALL OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ALSO VERIFY THE DEPTHS OF THE EXISTING UTILITIES IF NECESSARY. ANY RELOCATION OR LOWERING OF UTILITIES SHALL BE COORDINATED BY THE CONTRACTOR IN SUCH A MANNER AS TO NOT IMPEDE PROJECT PROGRESS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.
5. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK AND COORDINATE ALL CONSTRUCTION OPERATIONS WITH THE ENGINEER.
6. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS OR PROPERTY OR REFERENCE MARKERS UNTIL THE OWNER, HIS AGENT OR AN AUTHORIZED SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THE LOCATIONS.
7. MAINTAINING DRAINAGE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DRAINAGE FLOWS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL SUPPLY A PLAN AS A SUBMITTAL REVIEW FOR EACH LOCATION THAT WILL MAINTAIN FLOWS THAT MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS AND NOT CAUSE ANY DAMAGE UPSTREAM OR TO ANY ADJACENT DRAINAGE WATERSHED. THE PLAN SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF ILLINOIS. THE PLAN MUST BE SUBMITTED AT LEAST TWO WEEKS PRIOR TO THE START OF ANY CULVERT WORK. THE COST OF MAINTAINING DRAINAGE FLOWS SHALL BE INCIDENTAL TO THE CONTRACT.
8. THE CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES, IF SHOWN ARE FOR INFORMATION ONLY.
9. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, THE PROPOSED CONCRETE TRUCK WASHOUT LOCATION . RUNOFF FROM WASHOUT AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE DITCH OR DRAINAGE SYSTEMS.
10. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM FIELD MEASUREMENTS AND AS-BUILT PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF THE MATERIALS.
11. ALL WORK SHALL BE COMPLETED WITHIN THE COUNTY RIGHT-OF-WAY WITH NO EQUIPMENT OR MATERIAL STORAGE ON PRIVATE PROPERTY.
12. THE CONTRACTOR'S OPERATIONS AND TEMPORARY STORAGE ACTIVITIES SHALL BE LIMITED TO THE WORK AREA AND/OR CONSTRUCTION LIMITS.
13. COORDINATE ANY REQUIRED SIGN REMOVAL WITH THE COUNTY ONE (1) WEEK PRIOR TO CONSTRUCTION.
14. NO CHANNEL GRADING OR CULVERT CONSTRUCTION ACTIVITIES WILL BE ALLOWED IN STANDING WATER OR DURING PERIODS OF HIGH FLOWS AND EXCESSIVE CHANNEL FLOW VELOCITIES.
15. SAW CUTTING SHALL BE PERFORMED AT LOCATIONS DESIGNATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, AND SHALL BE CONSIDERED INCLUDED IN THE COST OF APPLICABLE PAY ITEMS. CLEANING AND REMOVAL OF ANY AND ALL SAW CUT DEBRIS SHALL ALSO BE INCLUDED. TRAFFIC IS TO BE MAINTAINED FOR THE DURATION OF THE PROJECT.
16. THE FOLLOWING BMPS SHALL BE IMPLEMENTED TO CONTROL RESIDUAL CONCRETE, CONCRETE SEDIMENTS, AND RINSE WATER:
 - A) TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED FOR RINSING OUT CONCRETE TRUCKS. SIGNS SHALL BE INSTALLED DIRECTING CONCRETE TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED.
 - B) THE CONTRACTOR SHALL HAVE THE LOCATION OF TEMPORARY CONCRETE WASHOUT FACILITIES APPROVED BY THE RESIDENT ENGINEER.
 - C) ALL TEMPORARY CONCRETE WASHOUT FACILITIES ARE TO BE INSPECTED BY THE CONTRACTOR AFTER EACH USE AND ALL SPILLS MUST BE REPORTED TO THE RESIDENT ENGINEER AND CLEANED UP IMMEDIATELY.
 - D) CONCRETE WASTE SOLIDS/LIQUIDS SHALL BE DISPOSED OF PROPERLY.

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE:0010

Code Number	Pay Item	Unit	Total
20200100	Earth Excavation	Cu. Yd.	
25000200	Seeding, Class 2	Acre	
25000400	Nitrogen Fertilizer Nutrient	Pound	
25000500	Phosphorus Fertilizer Nutrient	Pound	
25000600	Potassium Fertilizer Nutrient	Pound	
25100630	Erosion Control Blanket	Sq. Yd.	
28000510	Inset Filters	Each	
28000400	Perimeter Erosion Barrier	Foot	
28100107	Stone Riprap, Class A4	Sq. Yd.	
28200200	Filter Fabric	Sq. Yd.	
35101400	Aggregate Base Course, Type B	Ton	
40600275	Bituminous Materials (Prime Coat)	Pound	
40600290	Bituminous Materials (Tack Coat)	Pound	
40604050	Hot-mix Asphalt Surface Course, IL-9.5, Mix "C" N50	Ton	
42400100	Portland Cement Concrete Sidewalk 4 Inch	Sq. Ftr.	
44000161	HMA Surface Removal, 3"	Sq. Yd.	
44000300	Curb Removal	Foot	
44000600	Sidewalk Removal	Sq. Ftr.	
50100100	Removal of Existing Structures	Each	
50200100	Structure Excavation	Cu. Yd.	
50201121	Cofferdam (Type 2)(Location 1)	Each	
50201122	Cofferdam (Type 2)(Location 2)	Each	
50300225	Concrete Structures	Cu. Yd.	
50300255	Concrete Superstructure	Cu. Yd.	
50300260	Bridge Deck Grooving	Cu. Yd.	
50301350	Concrete Superstructure (Approach Slab)	Cu. Yd.	
50800515	Bar Splicers	Each	
50800205	Reinforcement Bars, Epoxy Coated	Pound	
50900200	Steel Railing, Type 2399	Foot	
51200958	Furnishing Metal Shell Piles 14" X 0.250"	Foot	
51202305	Driving Piles	Foot	
51203200	Test Pile Metal Shells	Each	
51204650	Pile Shoes	Each	
51500100	Name Plates	Each	
52100520	Anchor Bolts, 1"	Each	
52200010	Temporary Sheet Piling	Sq. Ftr.	
550A0050	Storm Sewers, Class A, Type 1 12"	Foot	
58600101	Granular Backfill for Structures	Cu. Yd.	
59100100	Geocomposite Wall Drain	Sq. Yd.	
60146304	Pipe Underdrains for Structures 4"	Foot	
60603800	Combination Concrete Curb And Gutter, Type B-6.12	Foot	
63100087	Traffic Barrier Terminal, Type 6A	Each	
63100167	Traffic Barrier Terminal Type 1 (Special) Tangent	Each	
67100100	Mobilization	L Sum	
72501000	Terminal Marker Direct Applied	Each	
78000200	Thermoplastic Pavement Marking - Line 4"	Foot	
X0322194	Polymer Modified Portland Cement Mortar	Sq. Ftr.	
X7010216	Traffic Control And Protection (Special)	L Sum	
Z0013798	Construction Layout	L Sum	
Z0029090	Diamond Grinding (Bridge Section)	Sq. Yd.	
*	Furnishing Superstructure	Sq. Ft.	6175

* - SEE SPECIAL PROVISIONS

RATES OF APPLICATION

ITEMS		RATE OF APPLICATION
AGGREGATE BASE COURSE	=	2.05 TONS/ CU YD
RIPRAP	=	1.5 TONS/ CU YD
PORTLAND CEMENT	=	8% BY WEIGHT
BITUMINOUS MATERIALS (TACK COAT)	=	0.025 LB/SQ FT
BITUMINOUS MATERIALS (PRIME COAT)	=	0.25 TO 0.50 GAL/SQ YD AT 8.2 TO 8.35 LB/GAL

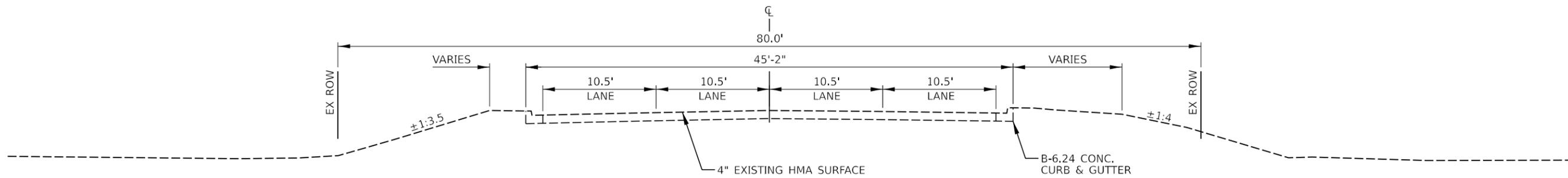
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	DRAWN - JDM	REVISED -
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PLOT DATE = \$DATES	DATE - 09/30/2022	REVISED -

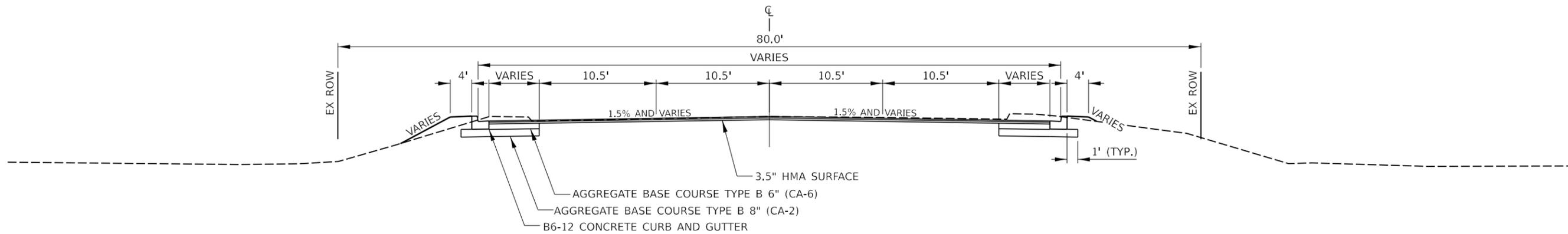
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GENERAL NOTES, SUMMARY OF QUANTITIES AND RATES OF APPLICATION				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	PROJECT 7164	ILLINOIS	FED. AID PROJECT
						WHITESIDE	16	2
						CONTRACT NO.		



EXISTING TYPICAL SECTION

FOR INFORMATION ONLY



PROPOSED TYPICAL SECTION
 STA. 108+98.98 TO 111+22.08
 STA. 112+89.91 TO 115+08.00

MODEL AND/OR FILE NAME\$
 FILE NAME\$.SHEET\$



USER NAME = \$USERS	DESIGNED - ARF	REVISED -
DRAWN - JDM	CHECKED - ARF	REVISED -
DATE - 09/30/2022		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROADWAY TYPICAL SECTIONS	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00228-01-BR	WHITESIDE	16	3
CONTRACT NO.				
PROJECT 7164 ILLINOIS FED. AID PROJECT				

DATE	
BY	
REVIEWED	
PLANNED	
NOTED	
NO.	

DATE	
BY	
REVIEWED	
PLANNED	
NOTED	
NO.	

EXISTING STRUCTURE 098-3001 TYPE: 3-SPAN SPANS: 30-35.25-30 LENGTH: 95.3' WIDTH: 50.3 U.S. FLOWLINE: 642.06 D.S. FLOWLINE: 642.06 SKEW: 0 DEGREES	PROPOSED STRUCTURE 098-3079 TYPE: 3-SPAN PBFTG SPANS: 30-45-30 LENGTH: 108'-4" WIDTH: 57.0' U.S. FLOWLINE: 642.06 D.S. FLOWLINE: 642.06 SKEW: 0 DEGREES
---	---

EX CURVE
PI STA = 108+99.96
 $\Delta = 02^{\circ}05'30''$ (LT)
D = $00^{\circ}25'06''$
R = 13,695.98'
T = 250.02'
E = 2.28'
e =
PC STA = 106+49.93
PT STA = 111+49.93

REMOVE AND REPLACE
HMA ENTRANCE WITH
4 1/2" HMA SURFACE
OVER 10" AGG.

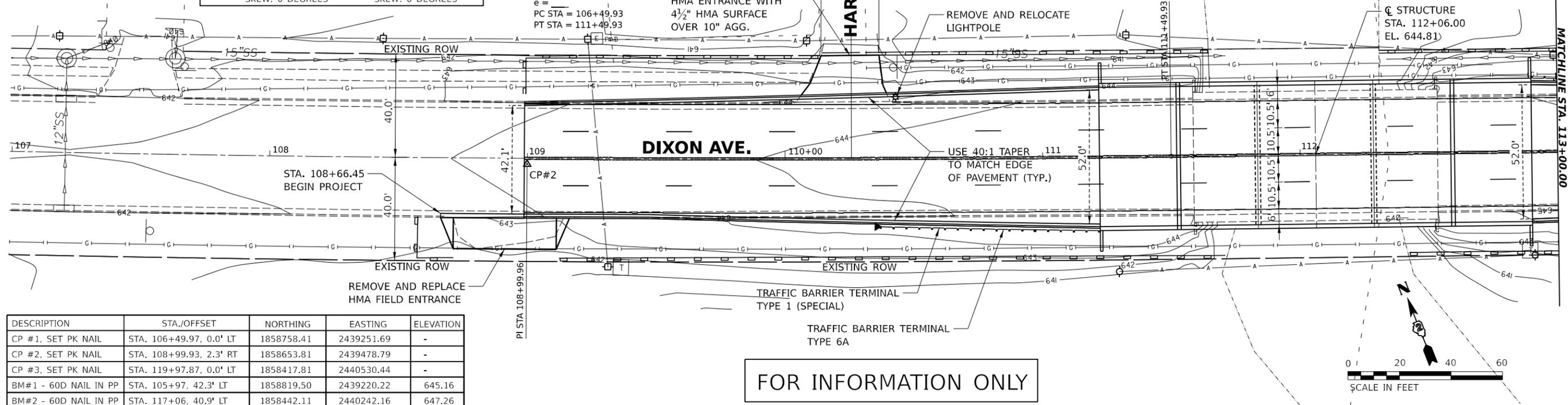
REMOVE AND RELOCATE
LIGHTPOLE

USE 40:1 TAPER
TO MATCH EDGE
OF PAVEMENT (TYP.)

LEGEND

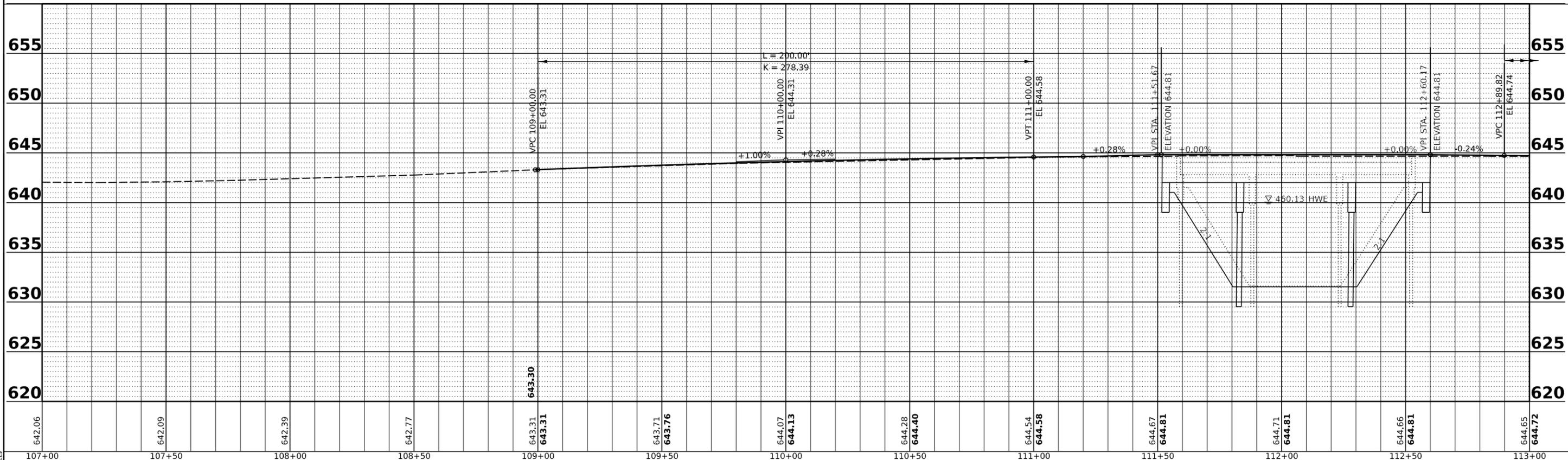
- PERIMETER EROSION BARRIER
- INLET FILTERS

STRUCTURE
STA. 112+06.00
EL. 644.81



DESCRIPTION	STA./OFFSET	NORTHING	EASTING	ELEVATION
CP #1, SET PK NAIL	STA. 106+49.97, 0.0' LT	1858758.41	2439251.69	-
CP #2, SET PK NAIL	STA. 108+99.93, 2.3' RT	1858653.81	2439478.79	-
CP #3, SET PK NAIL	STA. 119+97.87, 0.0' LT	1858417.81	2440530.44	-
BM#1 - 60D NAIL IN PP	STA. 105+97, 42.3' LT	1858819.50	2439220.22	645.16
BM#2 - 60D NAIL IN PP	STA. 117+06, 40.9' LT	1858442.11	2440242.16	647.26

FOR INFORMATION ONLY



MODEL: \$MODELNAME\$
FILE NAME: \$FILES\$

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

USER NAME = \$USERS\$	DESIGNED - ARF	REVISED -
PLOT SCALE = \$SCALES\$	DRAWN - JDM	REVISED -
PLOT DATE = \$DATES\$	CHECKED - ARF	REVISED -
	DATE - 09/30/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

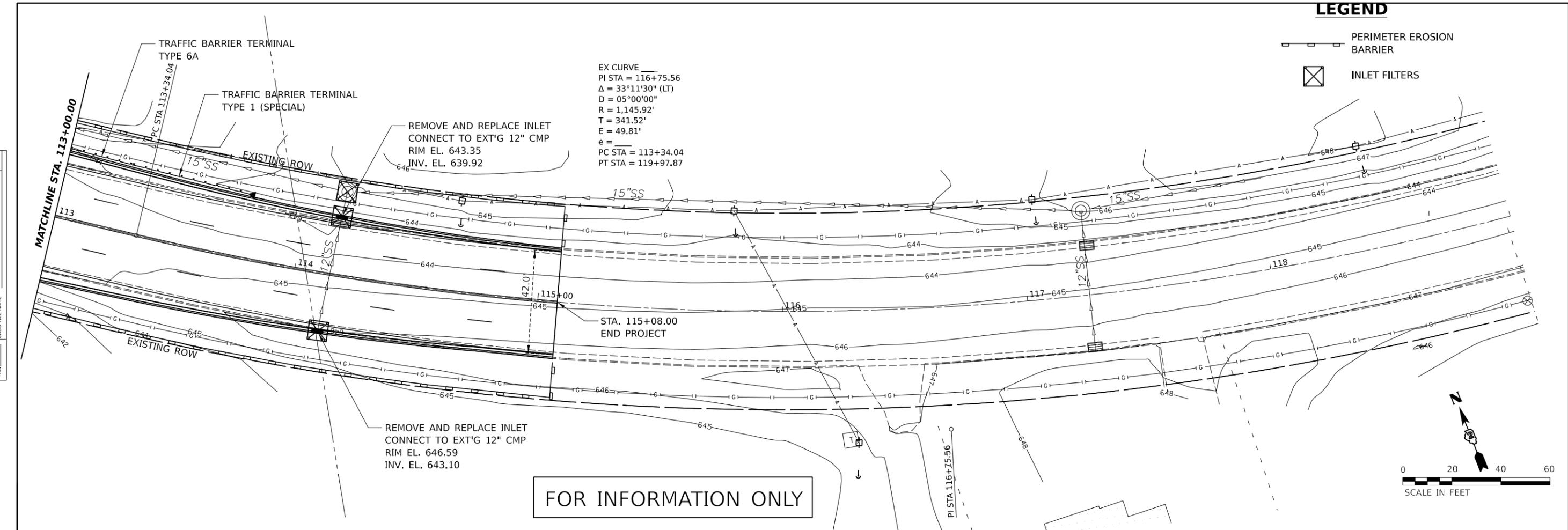
PLAN AND PROFILE
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK

SCALE: SCALE SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00228-01-BR	WHITESIDE	16	4
PROJECT 7164 ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	CHKD	
	NO.	

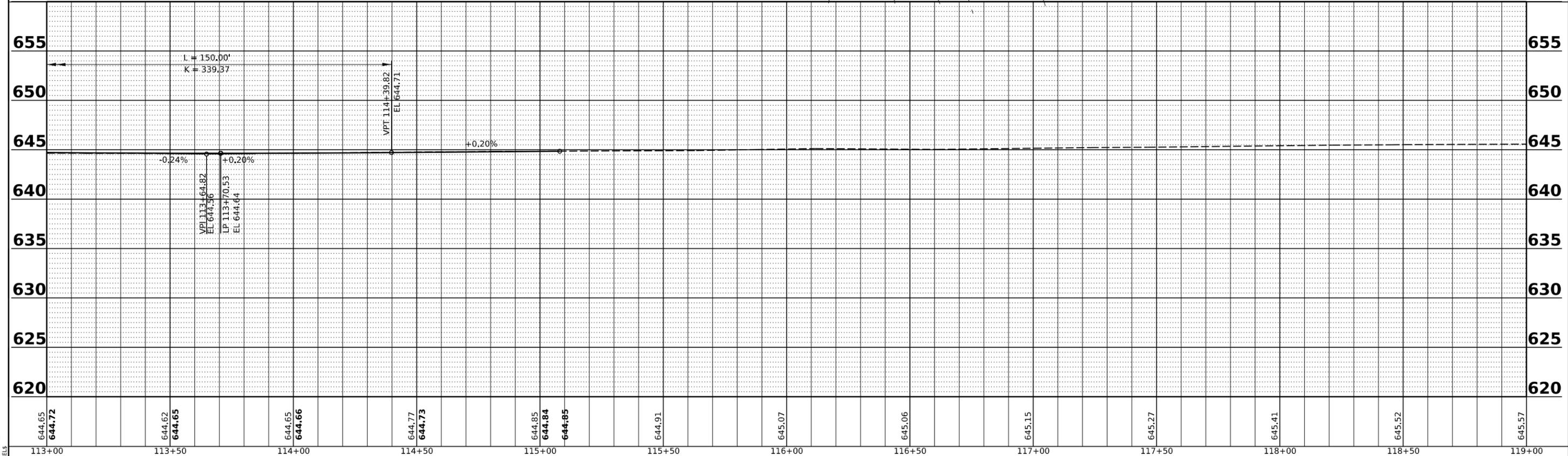
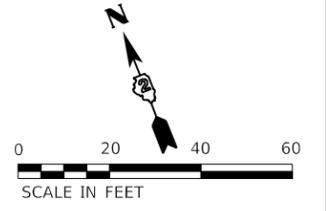


LEGEND

- PERIMETER EROSION BARRIER
- INLET FILTERS

EX CURVE
 PI STA = 116+75.56
 $\Delta = 33^\circ 11' 30''$ (LT)
 $D = 05^\circ 00' 00''$
 $R = 1,145.92'$
 $T = 341.52'$
 $E = 49.81'$
 $e =$
 PC STA = 113+34.04
 PT STA = 119+97.87

FOR INFORMATION ONLY



MODEL: \$MODELNAME\$
 FILE NAME: \$FILES\$

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS

USER NAME =	USUSERS	DESIGNED -	ARF	REVISED -	
PLOT SCALE =	SSCALES	DRAWN -	JDM	REVISED -	
PLOT DATE =	SDATES	CHECKED -	ARF	REVISED -	
		DATE -	09/30/2022	REVISED -	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

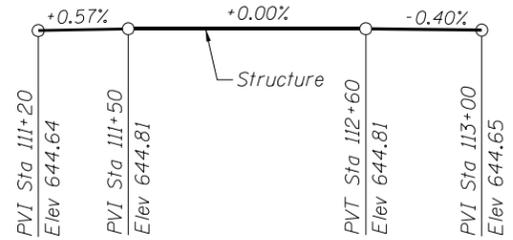
PLAN AND PROFILE
 CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
 SCALE: SCALE SHEET 2 OF 20 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00228-01-BR	WHITESIDE	16	5
PROJECT 7164 ILLINOIS FED. AID PROJECT				

Bench Mark: #1 60D Nail in Power Pole Sta. 105+97, 42.3' LT. Elevation 645.16
 #2 60D Nail in Power Pole Sta. 117+06, 40.9' LT. Elevation 647.26

Existing Structure: S.N. 098-3001 built 1967 as F.A.U. Route 5560, Section 17-00228-00-BR at Station 112+07.83. Rehabilitated in 1983 as Section 83-00081-00-BR. Structure consists of three span reinforced concrete slab supported by spill-thru abutments and open concrete pile bent piers. 95.3' back-to-back abutments. 50.3' out-to-out deck. Structure to be removed and replaced using stage construction.

Note:
 All excavation for the new structure back-to-back of abutments as shown, from ROW to ROW, will not be paid for separately, and the cost of excavation & hauling excess material shall be included in the cost of removal of existing structures. No additional compensation will be allowed.



CONSTRUCTION PROFILE

LOADING HL-93

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 4,000$ psi (superstructure)
 $f'_c = 3,500$ psi (substructure)
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (M270 Gr 50)

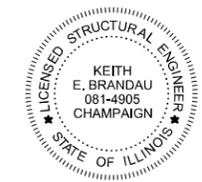
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec (S_{D1}) = 0.074
 Design Spectral Acceleration at 0.2 sec (S_{D5}) = 0.116
 Soil Site Class = D

ADT/ADTT

Functional Classification - Minor Arterial
 2016 ADT = 3150
 2016 ADTT = 378
 Design Speed = 40 mph

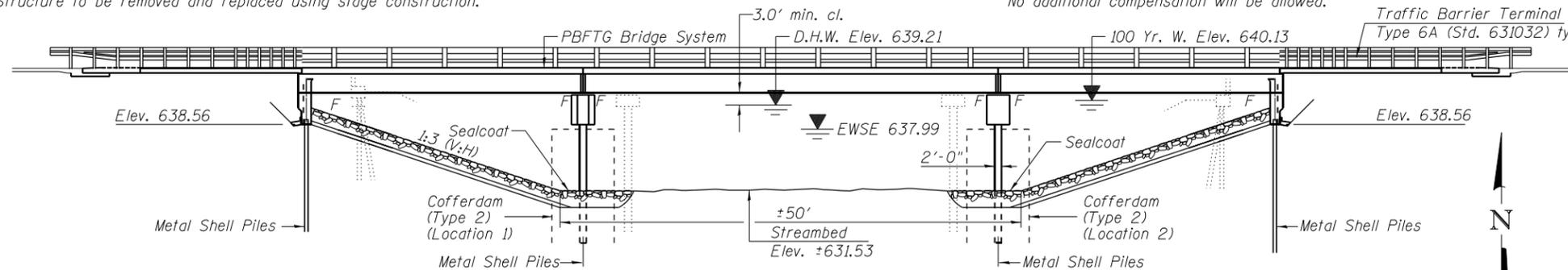
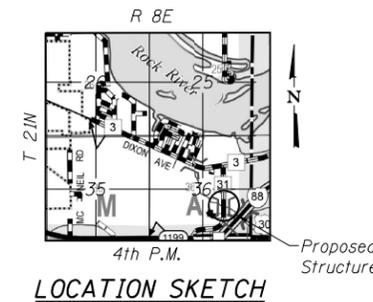
Information is provided on this sheet that is not applicable to Furnishing Superstructure



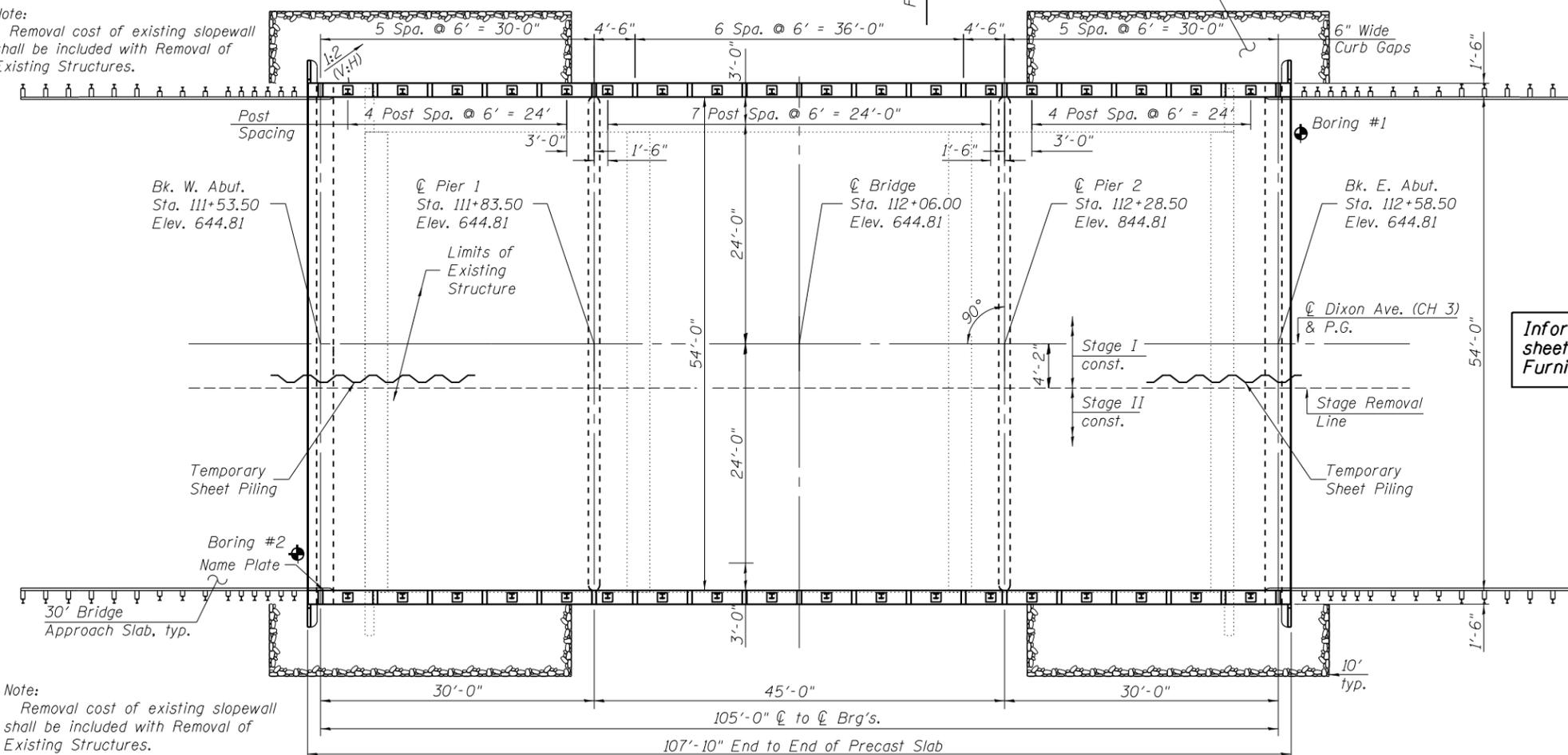
Keith E. Brandau 03/05/2022
 Keith E. Brandau, P.E., S.E. Date
 License Expires 11/30/2022

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 Bridge Design Specifications.

GENERAL PLAN AND ELEVATION
CTY HWY 3 (DIXON AVE) OVER HOWLAND CREEK
F.A.U. 5560 - SEC. 17-00228-00-BR
WHITESIDE COUNTY
STATION 112+06.00
STRUCTURE NO. 098-3079



ELEVATION



PLAN

Note:
 Removal cost of existing slopewall shall be included with Removal of Existing Structures.

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	30	2,750	365	450	639.21	0.36	0.24	639.57	639.45
Base	100	3,570	442	537	640.13	0.40	0.25	640.53	640.38
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	4,680	529	636	641.19	0.08	-0.09	641.27	641.10

10 Year Velocity Through Existing Bridge = 7.55 ft/s
 10 Year Velocity Through Proposed Bridge = 6.77 ft/s

DESIGN SCOUR ELEVATION TABLE

Flood	Design Scour Elevations (ft.)				
		W. Abut.	E. Abut.	E. Pier	W. Pier
Base	100	624.53	626.73	626.73	624.53
Max. Calc	500	623.04	626.73	626.73	623.04

FILE NAME = R:\P\J\County\7164 Whiteside Co - Dixon Ave Bridge\CADD\Structural\Furnishing Set\06-7164-Gen Plan & Elevation.dgn

USER NAME = jmadara	DESIGNED = KEB	REVISED = -
PLOT TIME = 9:18:32 AM	DRAWN = JDM	REVISED = -
PLOT SCALE = 8,0000' / 1" =	CHECKED = KEB	REVISED = -
PLOT DATE = 9/30/2022	DATE = 09/30/2022	REVISED = -



DECATUR (217) 422-8544
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 184-001397

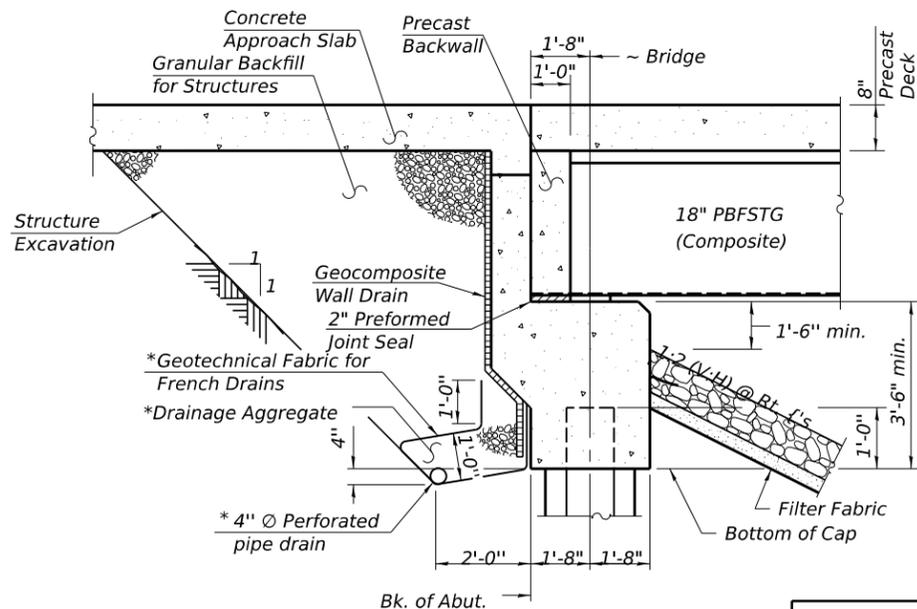
GENERAL PLAN AND ELEVATION
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
 SCALE: SHEET NO. OF SHEETS STA. 111+20 TO STA. 113+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	6

ILLINOIS STRUCTURE NO. 098-3001

GENERAL NOTES:

- Engineer of record shall ensure deck slab design and details, barriers and miscellaneous steel details are in accordance with project requirements. deck slab design and details, barriers and miscellaneous steel details are per project and owner requirements.
- All structural steel hardware shall be mechanically galvanized, per ASTM A153.
- High strength bolts: ASTM F3125 Gr A325, Type I
Anchor bolts: ASTM F1554, Grade 55
Nuts: ASTM A563/A563U, Grade DH
Washers: ASTM F436/F436M, Type I
- Tighten all bolts using the turn of the nut method per research council on structural connections (RCDC) requirements for slip critical connections.
- A higher strength concrete may be substituted for a lower strength concrete, if approved by the bridge engineer of record.
- All primary structural steel for shall be AASHTO M270 (ASTM A709) Grade 50, and shall be tested per Charpy V-Notch impact energy requirements specified in AASHTO M270 (ASTM A123) Temperature Zone 2, unless noted otherwise.
- All fabricated steel shall be hot dip galvanized per AASHTO M11 (ASTM A123).
- Weld shear studs to steel surfaces and perform preproduction test as required in AASHTO/AWS D1.5 (2015). Shear connector studs must meet the requirements of AASHTO 169, For cold finish carbon steel, cold-drawn bar, Grade 1015 or Grade 1020, either semi-killed or fully killed.
- The quantity, size, and location of placement for each shear stud type specified per approved shop drawings. Shear stud weld shall be checked for uniformity around the base. a specified number (1 percent) of all shear studs shall be bent 10°-15° out of plumb, using an eight-pound hammer.
- Do not field-weld on any part of the bridge, except where shown on the drawings, without prior approval of the Engineer.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Layout of slope protection system may be varied to suit ground conditions in the field as directed by the ENGINEER. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- Sealcoat thickness design to be based on the Estimated Water Surface Elevation (EWSE). Cofferdam design and sealcoat thickness design to be submitted to the Engineer for approval.



SECTION THRU ABUTMENT
(Dimensions are at Rt. {s})

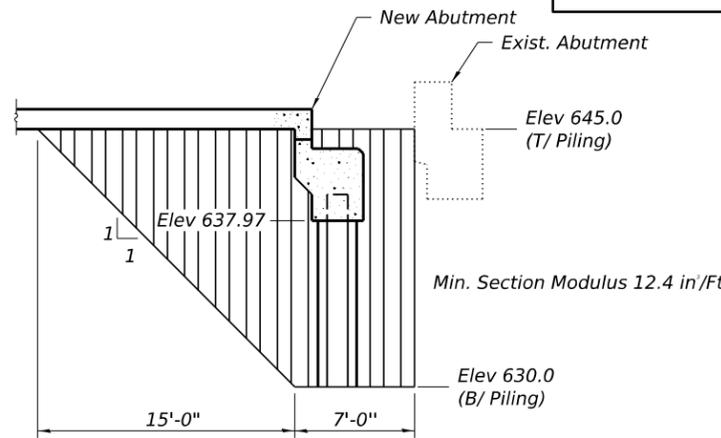
Information is provided on this sheet that is not applicable to Furnishing Superstructure

INDEX OF SHEETS

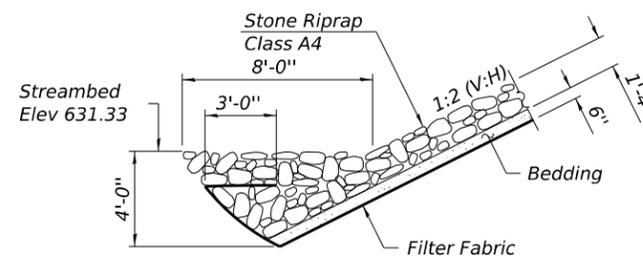
- 6 General Plan and Elevation
- 7 General Data
- 8 Stage Construction Details
- 9 Superstructure
- 10 Superstructure Details
- 11 Steel Railing Details
- 12 Structural Steel
- 13 Structural Details
- 14-15 Abutments
- 16 Piers
- 17-18 Bridge Approach Slab Details
- 19 Pile Details
- 20 Bar Splicer Assembly Details
- 21-23 Soil Boring Logs

HOWLAND CREEK
BUILT 20 BY
WHITESIDE COUNTY
SEC. 17-00228-00-BR
DIXON AVE CH 3 STA. 10+00.00
STR. NO. 098-3079 LOADING HL-93

NAME PLATE
See Std. 515001



TEMPORARY SHEET PILING DETAIL
(Typ. Both Abutments)



STONE RIPRAP ANCHOR DETAIL

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).

* Included in the cost of Granular Backfill for Structures

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Granular Backfill for Structures	Cu. Yd.			
Stone Riprap, Class A4	Sq. Yd.			
Filter Fabric	Sq. Yd.			
Removal of Existing Structures	Each			
Structure Excavation	Cu. Yd.			
Concrete Structures	Cu. Yd.			
Bridge Deck Grooving	Sq. Yd.			
Protective Coat	Sq. Yd.			
Furnishing Superstructure	Sq. Ft.	6175		6175
Reinforcement Bars, Epoxy Coated	Pound			
Bar Splicers	Each			
Furnishing Metal Shell Piles 14" x 0.250"	Foot			
Driving Piles	Foot			
Pile Shoes	Each			
Temporary Sheet Piling	Sq. Ft.			
Name Plates	Each			
Anchor Bolts, 1"	Each			
Geocomposite Wall Drain	Sq. Yd.			
Pipe Underdrains for Structures 4"	Foot			
Cofferdam Type 2 - Location 1	Each			
Cofferdam Type 2 - Location 2	Each			
Concrete Superstructures (Approach Slab)	Cu. Yd.			
Concrete Superstructures	Cu. Yd.			

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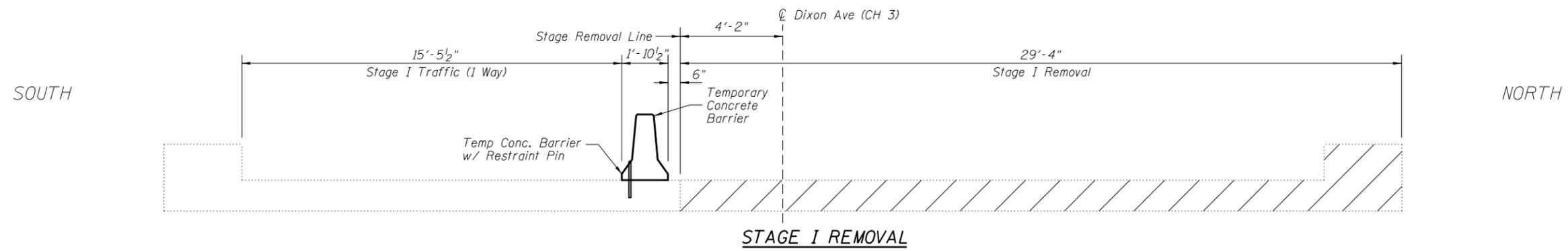
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CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS

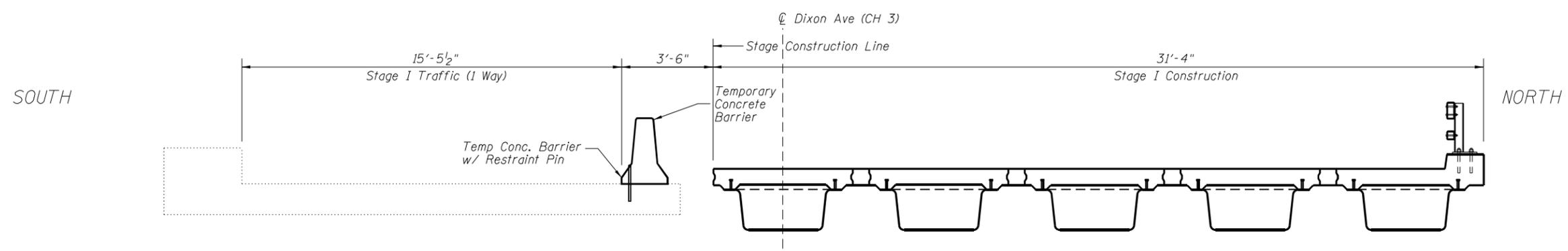
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GENERAL DATA		
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK		
SCALE:	SHEET NO. OF SHEETS	STA. 11+20 TO STA. 11+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	7
STRUCTURE NO. 098-3001			ILLINOIS	

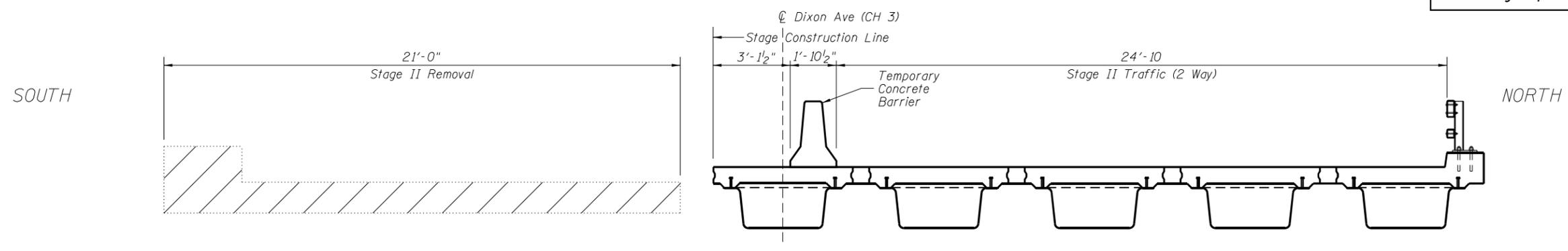


STAGE I REMOVAL

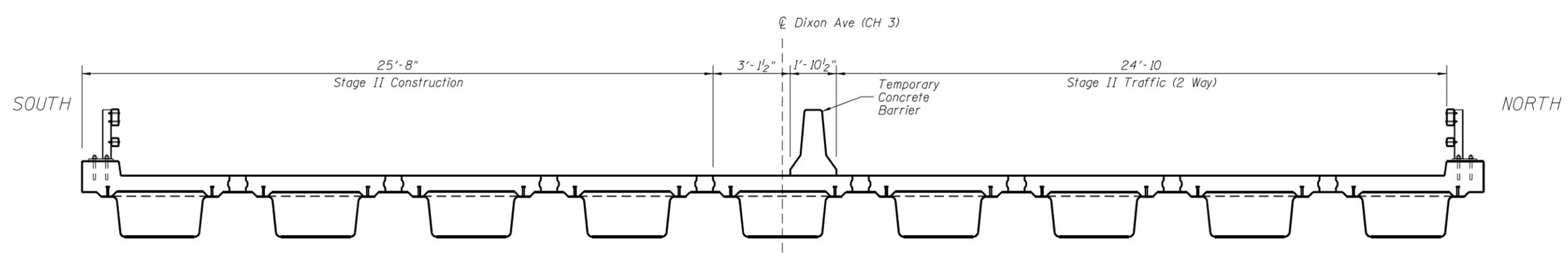


STAGE I CONSTRUCTION

Information is provided on this sheet that is not applicable to Furnishing Superstructure



STAGE II REMOVAL



STAGE II CONSTRUCTION

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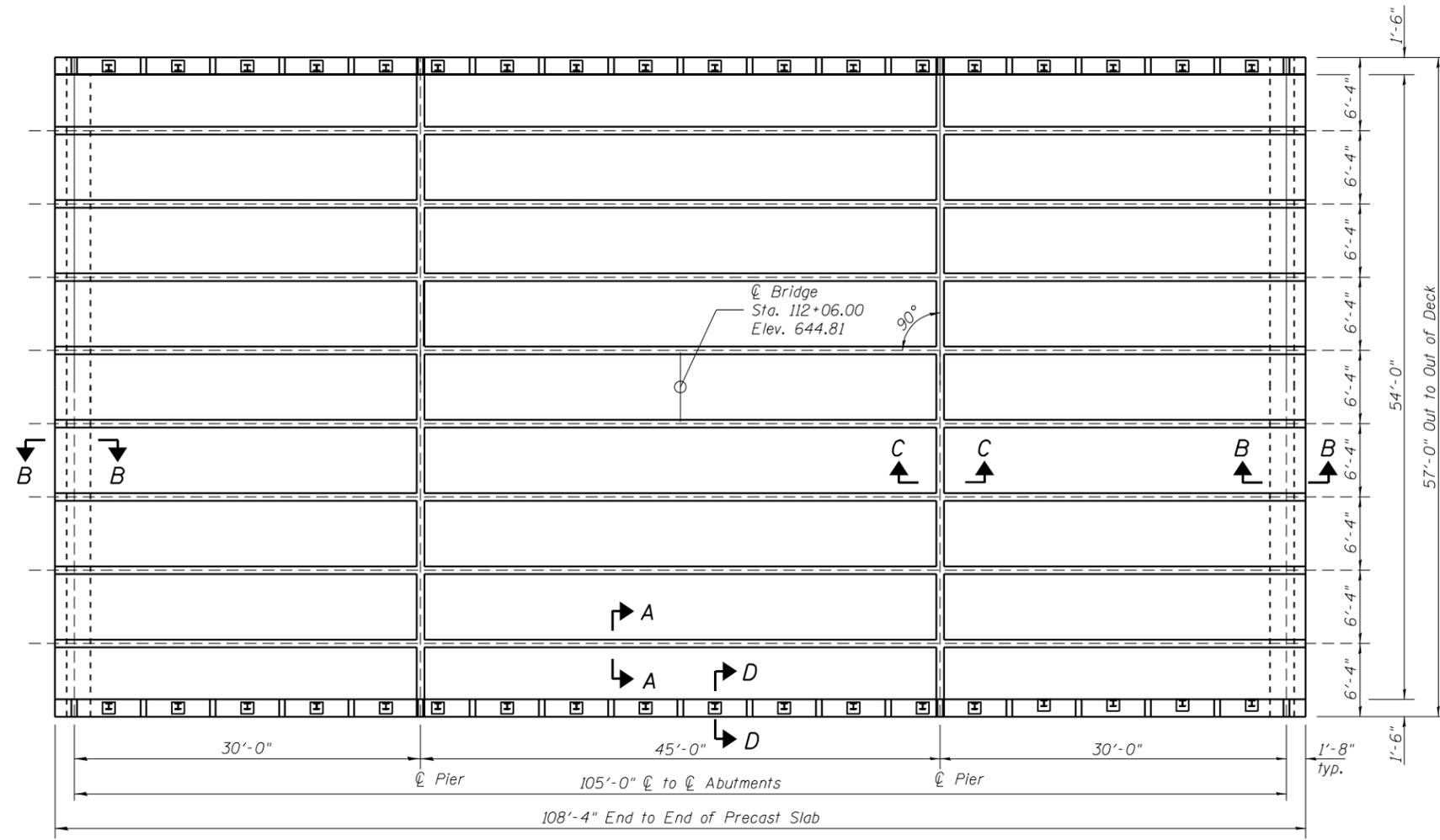
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STAGE CONSTRUCTION
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK

SCALE: SHEET NO. 3 OF SHEETS STA. 111+20 TO STA. 113+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STRUCTURE NO. 098-3001			ILLINOIS	

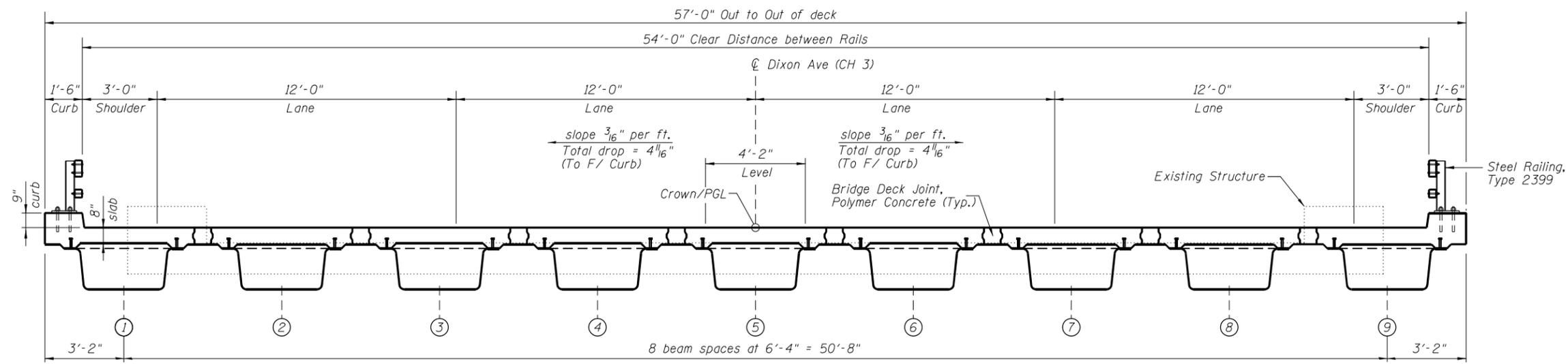


Information is provided on this sheet that is not applicable to Furnishing Superstructure

MINIMUM BAR LAP
 #5 bar = 3'-6"

- Notes:
1. See Sheet 10 of 26 for superstructure details and Bill of Material.
 2. See Sheet 10 of 26 for Section A-A, Section B-B, Section C-C, and diaphragm details.
 3. See Sheet 11 of 26 for railing details.

PLAN



CROSS SECTION
 (Looking Up Station)

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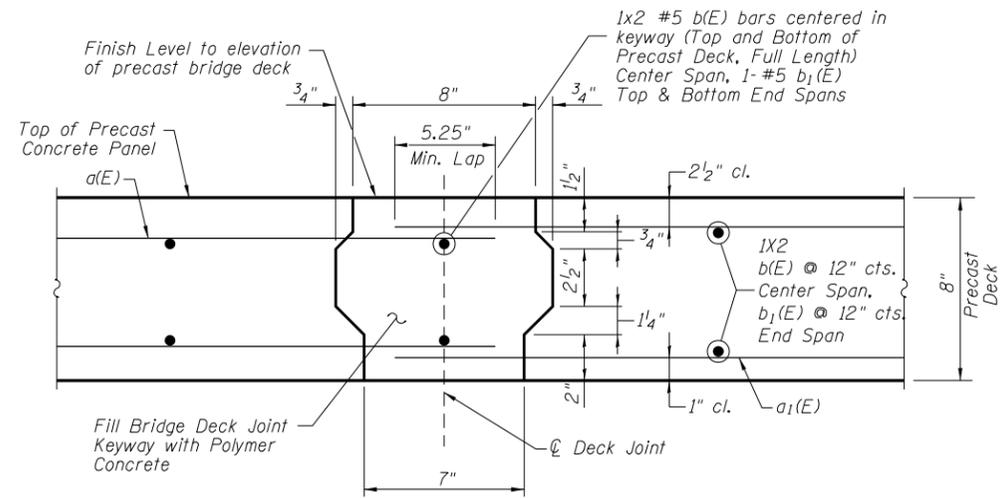
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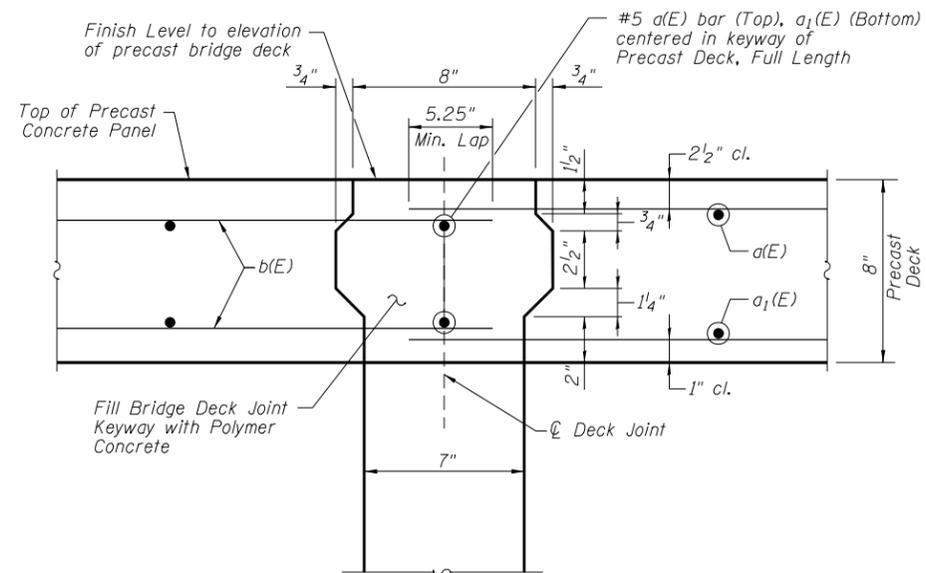
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 184-001397

SUPERSTRUCTURE		
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK		
SCALE:	SHEET NO. 3 OF SHEETS	STA. 111+20 TO STA. 113+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	9
STRUCTURE NO. 098-3001				
ILLINOIS				



SECTION A-A



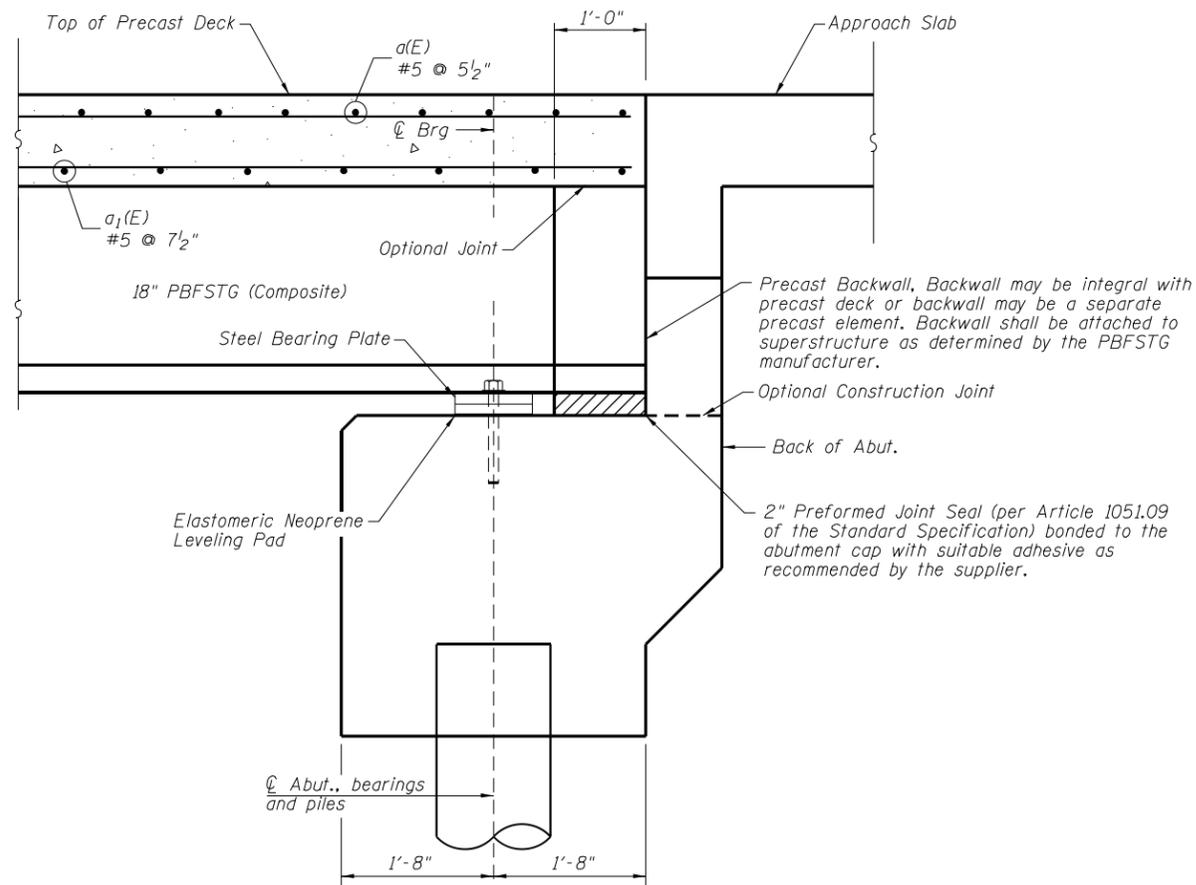
SECTION C-C

Information is provided on this sheet that is not applicable to Furnishing Superstructure

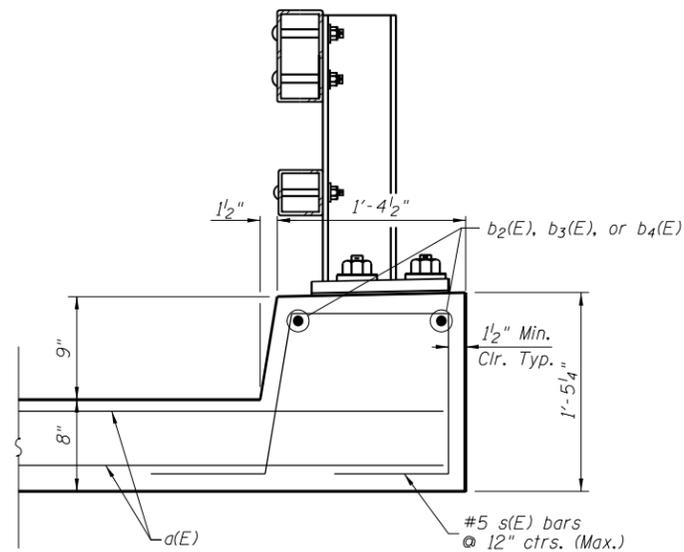
PRECAST DECK REINFORCEMENT BAR LIST

Bar	No.	Size	Length	Shape
a(E)	2178	#5	6'-9"	—
a ₁ (E)	1611	#5	6'-9"	—
b(E)	284	#5	24'-6"	—
b ₁ (E)	284	#5	32'-3"	—
b ₂ (E)	8	#5	4'-10"	—
b ₃ (E)	56	#5	5'-2"	—
b ₄ (E)	8	#5	3'-8"	—
s(E)	200	#5	5'-1"	⌋

Notes:
 All Reinforcement bars in Precast Concrete Deck are included in PBFSTG System and shall be designed per PBFSTG manufacturer.
 Bars shown in precast panels are minimum required.



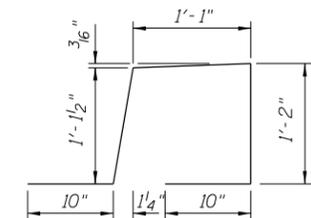
SECTION B-B
 (Dimensions are at Rt. Δ's)



SECTION D-D

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Deck Grooving	Sq. Yd.	
Protective Coat	Sq. Yd.	
Reinforcement Bars, Epoxy Coated	Pound	44,890
Diamond Grinding (Bridge Section)	Sq. Yd.	
Furnishing Superstructure	Sq. Ft.	6175
Polymer Concrete Joints	Sq. Ft.	



BAR s(E)

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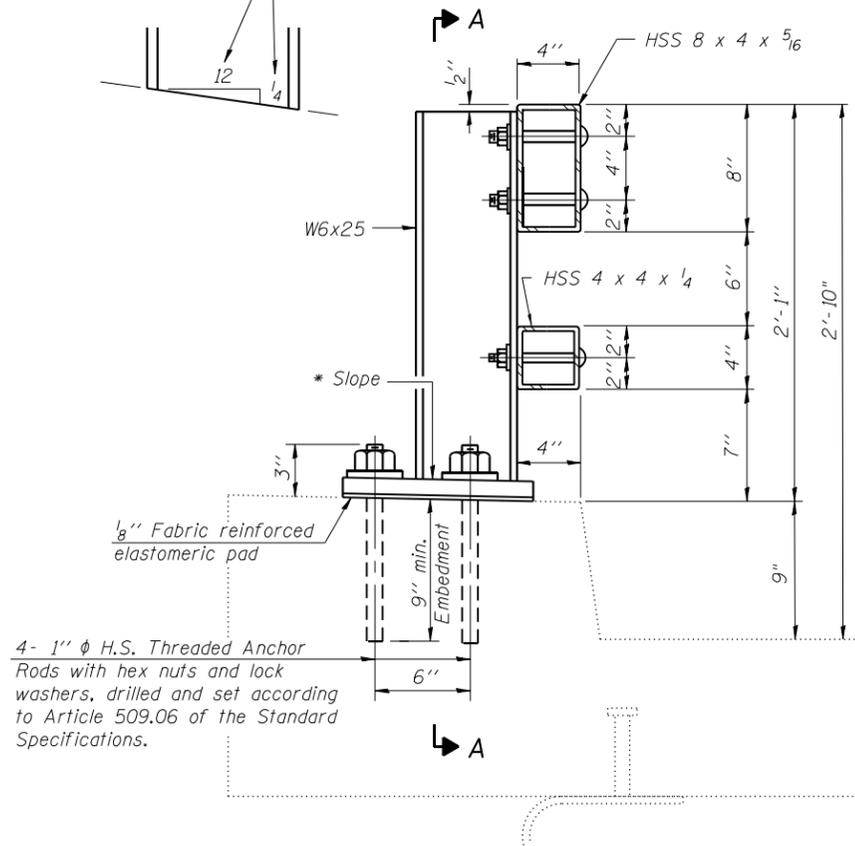
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SUPERSTRUCTURE DETAILS
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK

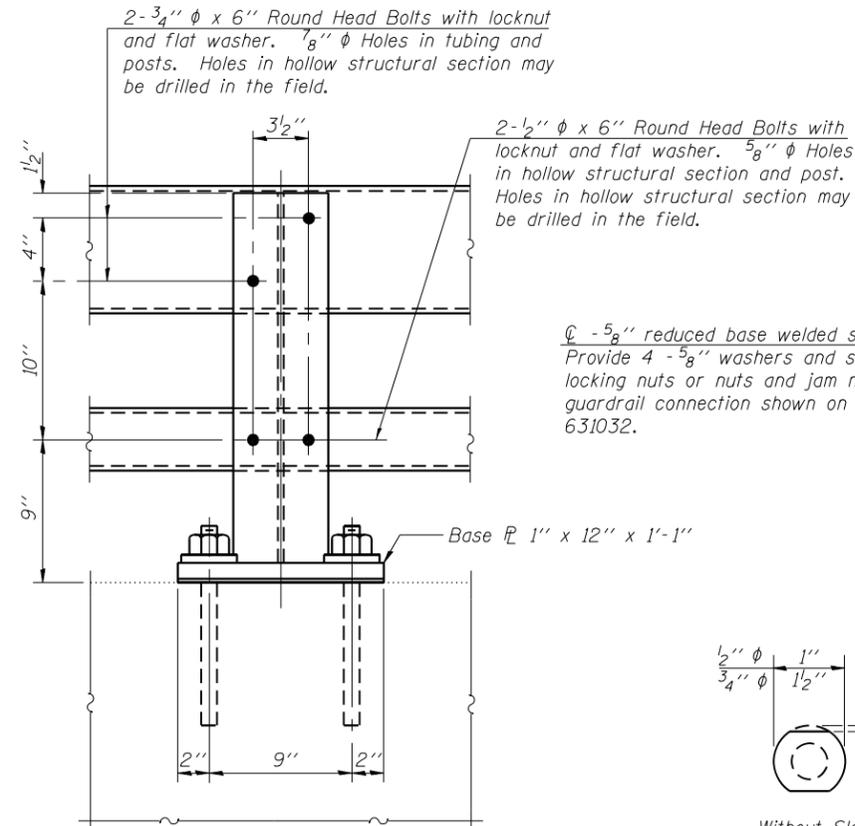
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STRUCTURE NO. 098-3001			ILLINOIS	

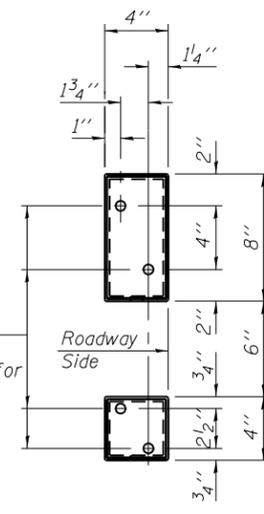
* Cut bottom end of post to curb slope.



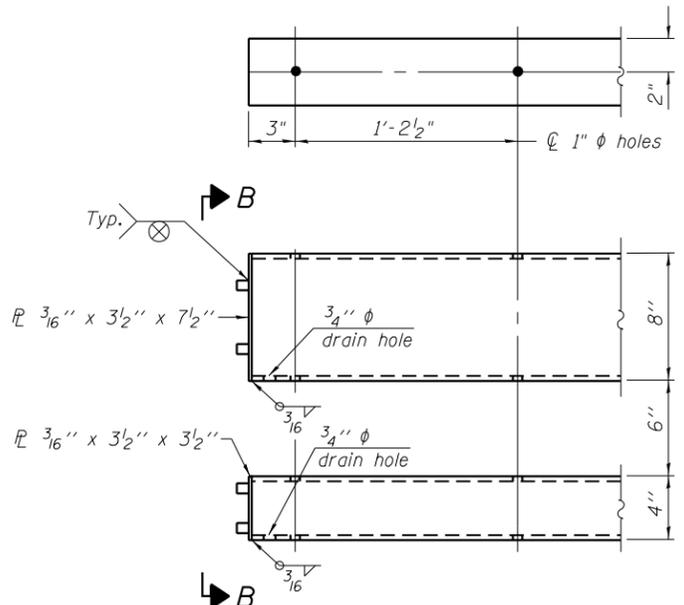
SECTION AT RAIL POST



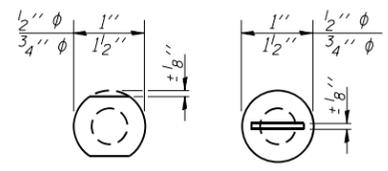
SECTION A-A



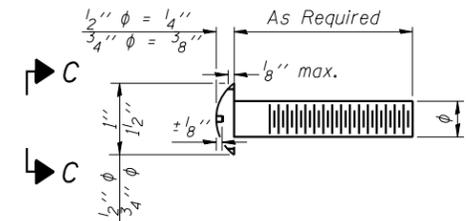
VIEW B-B



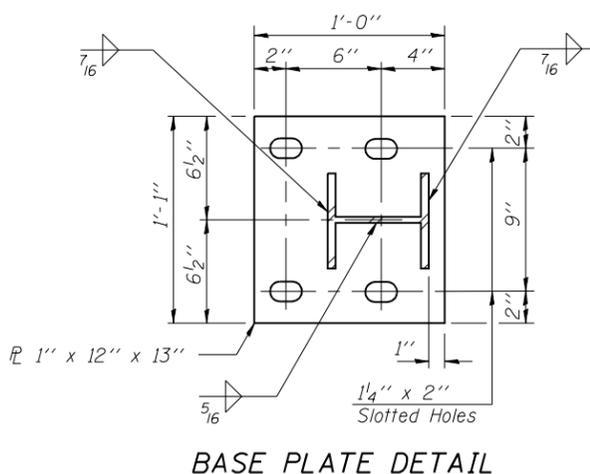
END OF RAIL DETAILS



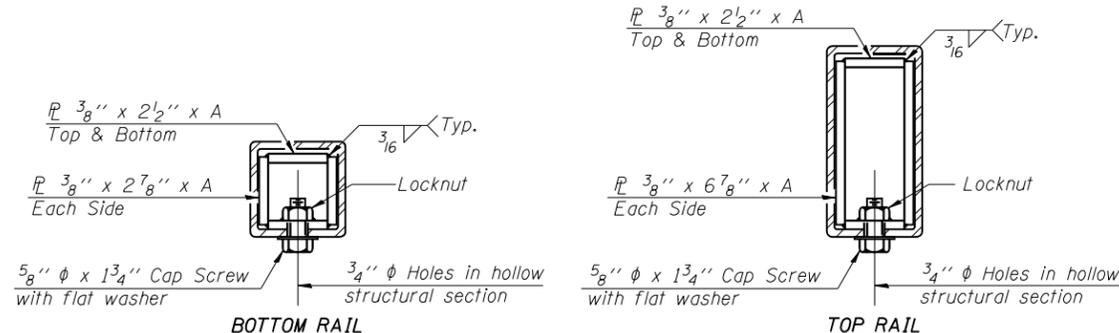
VIEW C-C



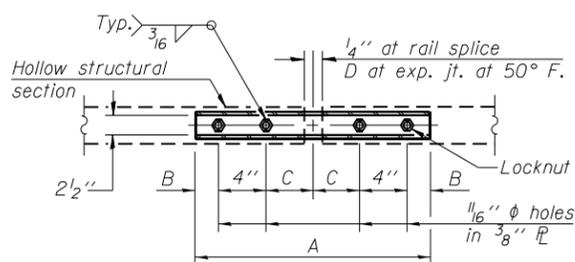
DETAIL OF 1/2" ϕ & 3/4" ϕ ROUND HEAD BOLTS



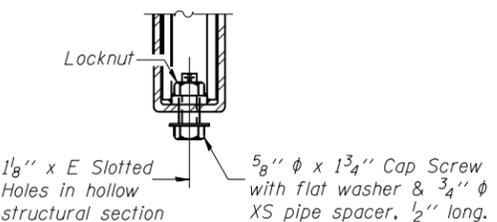
BASE PLATE DETAIL



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Information is provided on this sheet that is not applicable to Furnishing Superstructure

Notes:
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤4"	2 1/2"	1'-8"	2"	4"	2 1/2"
>4" ≤6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
>6 1/2" ≤9"	5"	2'-4"	3 1/2"	6 1/2"	9"
>9" ≤13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	

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R-31

11-22-2016

(6'-3" Maximum Post Spacing)

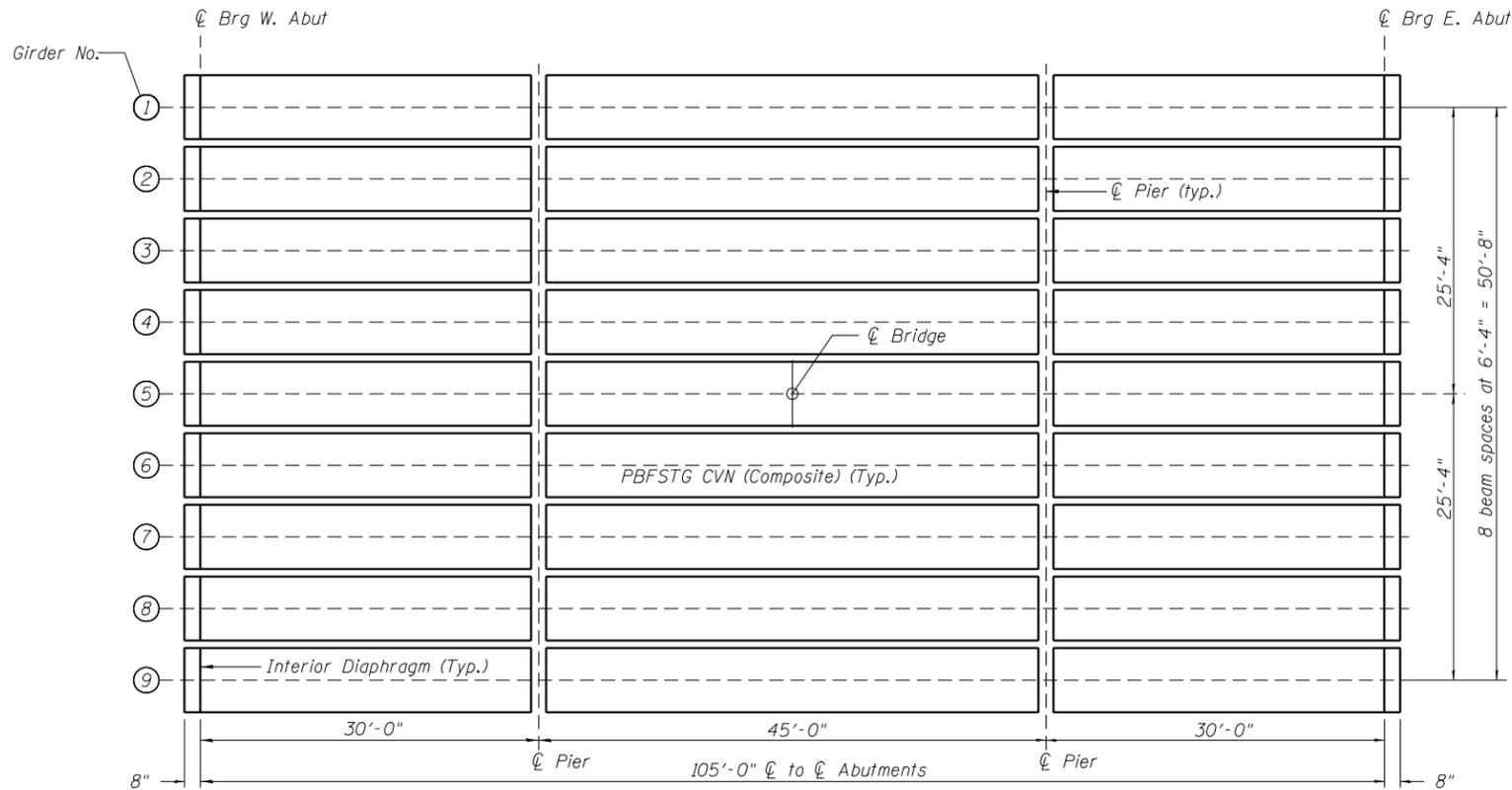
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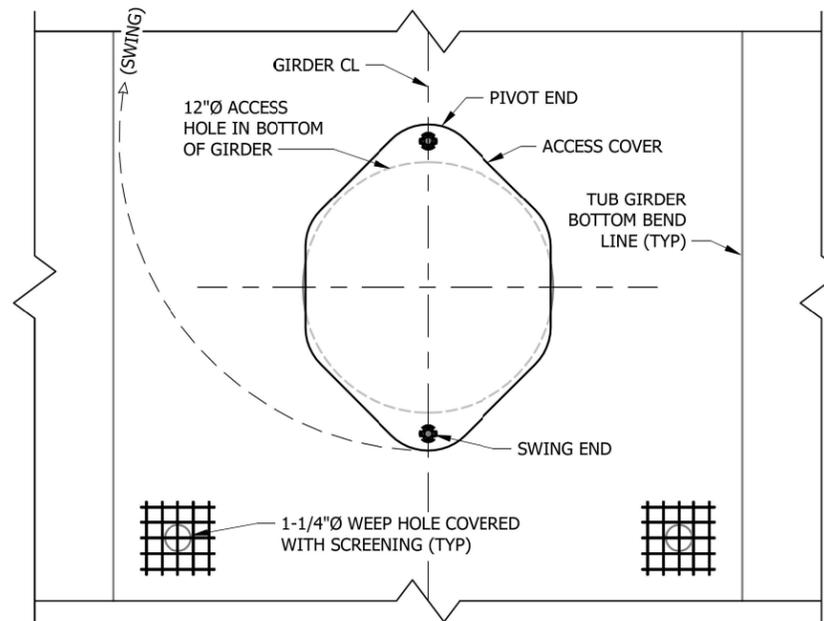
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184-001397

STEEL RAILING, TYPE 2399
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
SCALE: SHEET NO. OF SHEETS STA. 111+20 TO STA. 113+00

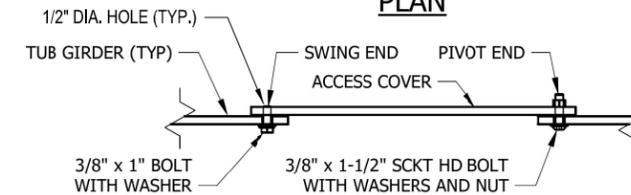
FAS RTE. 5560	SECTION 22-00-00228-01-BR	COUNTY WHITESIDE	TOTAL SHEETS 16	SHEET NO. 11
ILLINOIS			STRUCTURE NO. 098-3001	



PLAN



PLAN



SECTION

INSPECTION HATCH DETAIL

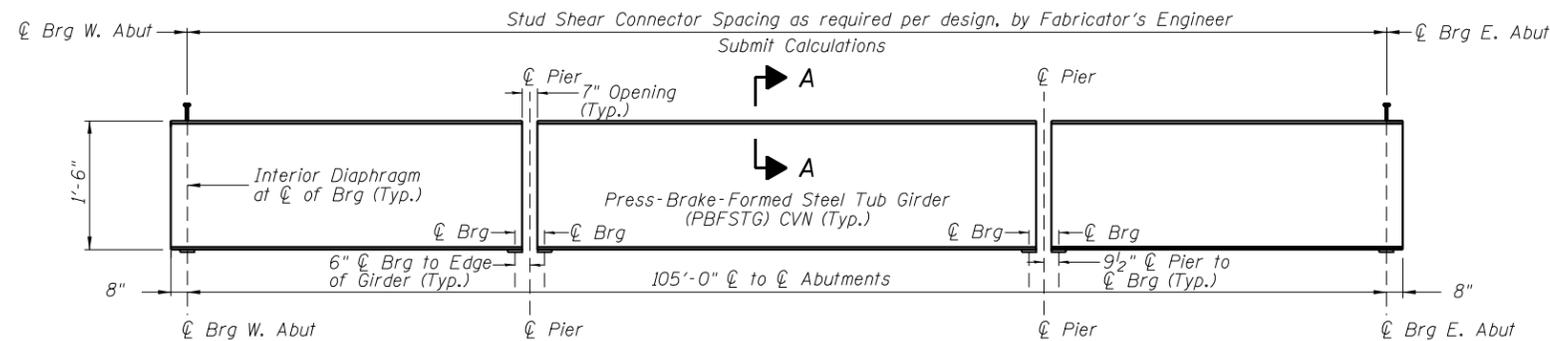
NOTES:

Hatch cover shall be oriented on the inside girder so that the cover plate fits over the hole.

Tighten bolt, but allow for movement.

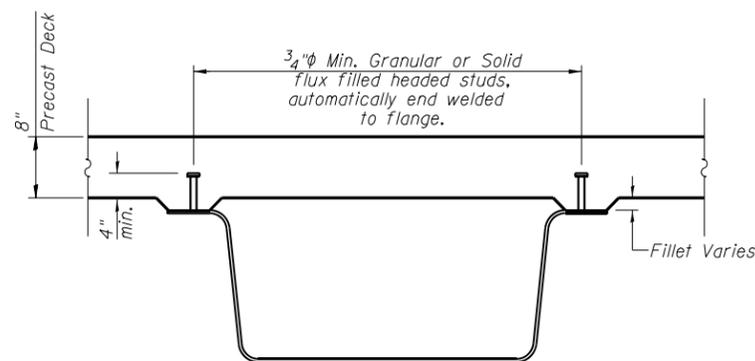
Every Tub Girder shall have two inspection hatches, one each end at ±3' from end of Tub Girder.

Information is provided on this sheet that is not applicable to Furnishing Superstructure



GIRDER ELEVATION

"CVN" denotes Charpy V-Notch impact energy requirements, Zone 2



SECTION A-A

NOTES:

All primary and secondary members shall be $F_y=50$ ksi. For additional structural steel details see sheet 13 of 25. All girders shall be braced for stability during girder installation as required per Manufacturer.

"CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2. All Structural Steel and H.S. Bolts shall be galvanized according to the Special Provisions.

Location	C Brg. E. Abut.	C Brg. W. Abut.
Girder 1		
Girder 2		
Girder 3		
Girder 4		
Girder 5		
Girder 6		
Girder 7		
Girder 8		
Girder 9		

TOP OF WEB ELEVATIONS

(For fabrications only)

(Does not include Dead Load Deflection)
Top of Web Elevations to be determined/filled out by Designer/Manufacturer if required.

NOTE:

Top of Web Elevations Table to be filled out by fabricator's engineer & shall provide calculations & information to Chastain & Associates LLC as part of the Shop Drawing Submittals.

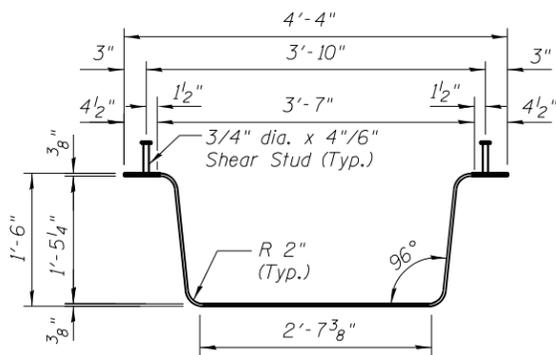
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STRUCTURAL STEEL		FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK		5560	22-00-00228-01-BR	WHITESIDE	16	12
SCALE:		SHEET NO. 7 OF SHEETS		STA. 111+20 TO STA. 113+00		ILLINOIS
						STRUCTURE NO. 098-3001

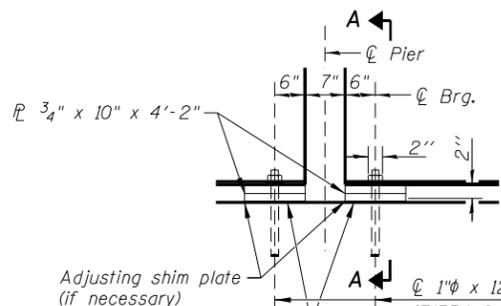


Notes:
 Two 1/2 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and places as shown on bearing details.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding 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 (if applicable), shall conform to the requirements of AASHTO M270 Grade 50.
 Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
 "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
 All primary members (Tub Girders) shall be A572 Grade 65. All secondary members shall be M270 Grade 50.
 All structural steel and H.S. bolts shall be galvanized according to the Special Provisions.

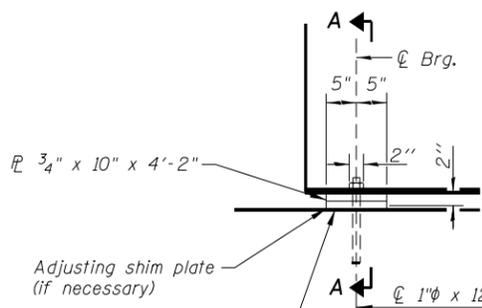
ESTIMATED STEEL SECTION

* Bearing plate width is based on plate layout along the \bar{C} of bearing. Abutment width allows for bearing plate aligned perpendicular to girder. Adjustment is allowed if needed for design of PBFSTG.

Chastain and Associates LLC design includes substructure elements only. Abutment design and details are based on assumed typical reactions and dimensions. Contractor shall verify that final design and details are compatible with the selected superstructure prior to construction. The contractor shall employ a Structural Engineer licensed in the State of Illinois to provide alternate abutment designs as required at no additional cost to the contract.



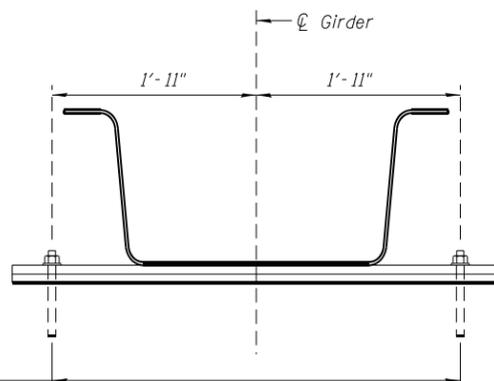
ELEVATION AT PIER



ELEVATION AT ABUTMENT

Fabricator's Structural Engineer shall provide information for all table spaces and shall provide calculations & information to Chastain & Associates LLC as part of the shop drawing submittals.

Notes:
 All bearing plates, anchor bolts, nuts, washers, and pintles (if applicable) shall be galvanized according to AASHTO M111 or M232 as applicable.



SECTION A-A

(Horiz. dimensions at Rt. Δ 's to \bar{C} Girder)

FIXED BEARINGS AT ABUTMENTS

(18 required)

INTERIOR GIRDER MOMENT TABLE			
		0.5 End Span	0.5 Ctr. Span
I_s	(in ⁴)	-	-
I_c (n)	(in ⁴)	-	-
I_c (3n)	(in ⁴)	-	-
S_s	(in ³)	-	-
S_c (n)	(in ³)	-	-
S_c (3n)	(in ³)	-	-
DC1	(k/')	-	-
MDC1	('k)	-	-
DC2	(k/')	-	-
MDC2	('k)	-	-
DW	(k/')	-	-
MDW	('k)	-	-
LLDF		-	-
MLL + IM	('k)	-	-
MU (Strength I)	('k)	-	-
$\phi_f M_n$	('k)	-	-
f_s DC1	(ksi)	-	-
f_s DC2	(ksi)	-	-
f_s DW	(ksi)	-	-
f_s (LL + IM)	(ksi)	-	-
f_s (Service II)	(ksi)	-	-
0.95R _h F _{yf}	(ksi)	-	-
f_s (Total)(Strength I)	(ksi)	-	-
$\phi_f F_n$	(ksi)	-	-
V _f	(k)	-	-

INTERIOR GIRDER REACTION TABLE					
		Abutment		Pier	
		Interior	Exterior	Interior	Exterior
LLDF		-	-	-	-
OCF		-	-	-	-
RDC1	(k)	-	-	-	-
RDC2	(k)	-	-	-	-
RDW	(k)	-	-	-	-
RLL	(k)	-	-	-	-
RIM	(k)	-	-	-	-
RTotal	(k)	-	-	-	-

*** Information to be provided by PBFSTG manufacturer. See Special Provisions.

ESTIMATED GIRDER REACTION TABLE		
		Abutment
		Interior/Exterior
RDC1	(k)	-
RDC2	(k)	-
RDW	(k)	-
RLL	(k)	-
RIM	(k)	-
RTotal	(k)	-

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in⁴ and in³).
 $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).
 $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).
 DC1: Un-factored non-composite dead load (kips/ft.).
 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.).
 $M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$
 $\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
 $M_L + IM / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (L + IM)$
 0.95R_hF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (L + IM)$
 $\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
 V_f: Maximum factored shear range in span computed according to Article 6.10.10.
 LLDF: Live Load Distribution Factor
 OCF: Obtuse Correction Factor

Information is provided on this sheet that is not applicable to Erecting Superstructure

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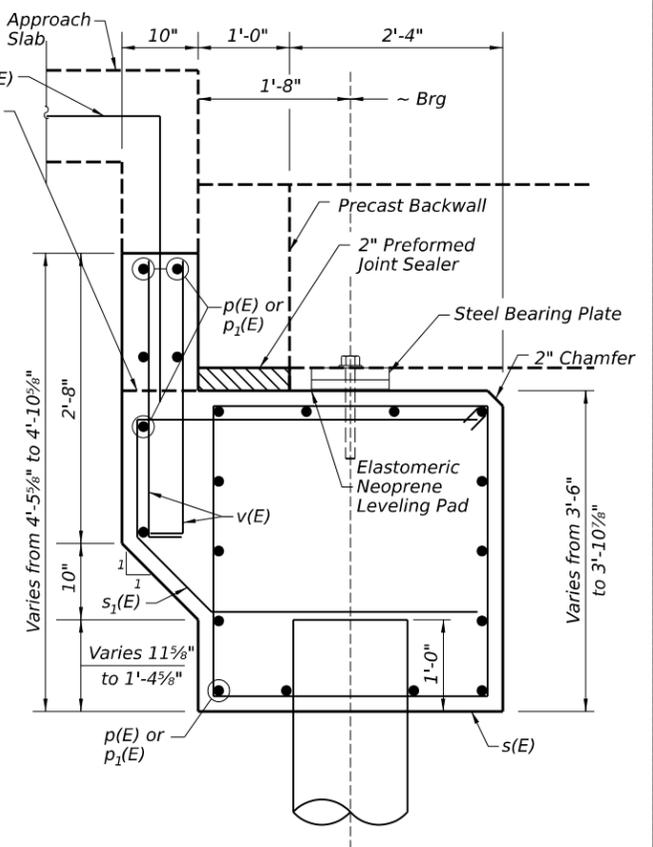
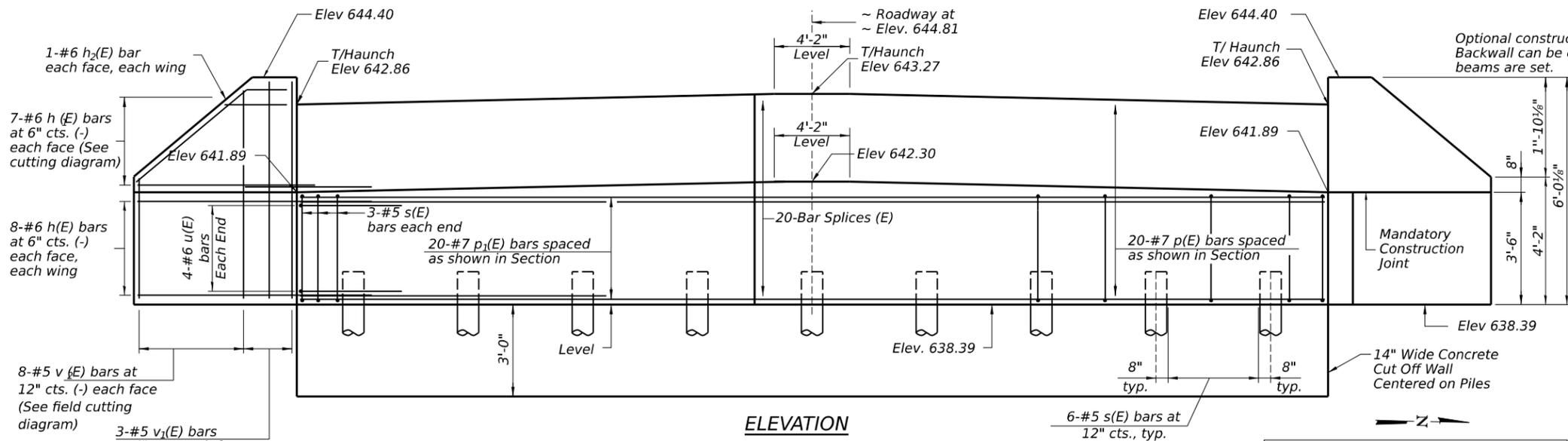
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PLOT DATE = 11/29/2022	DATE = 11/28/2022	REVISED = -

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS

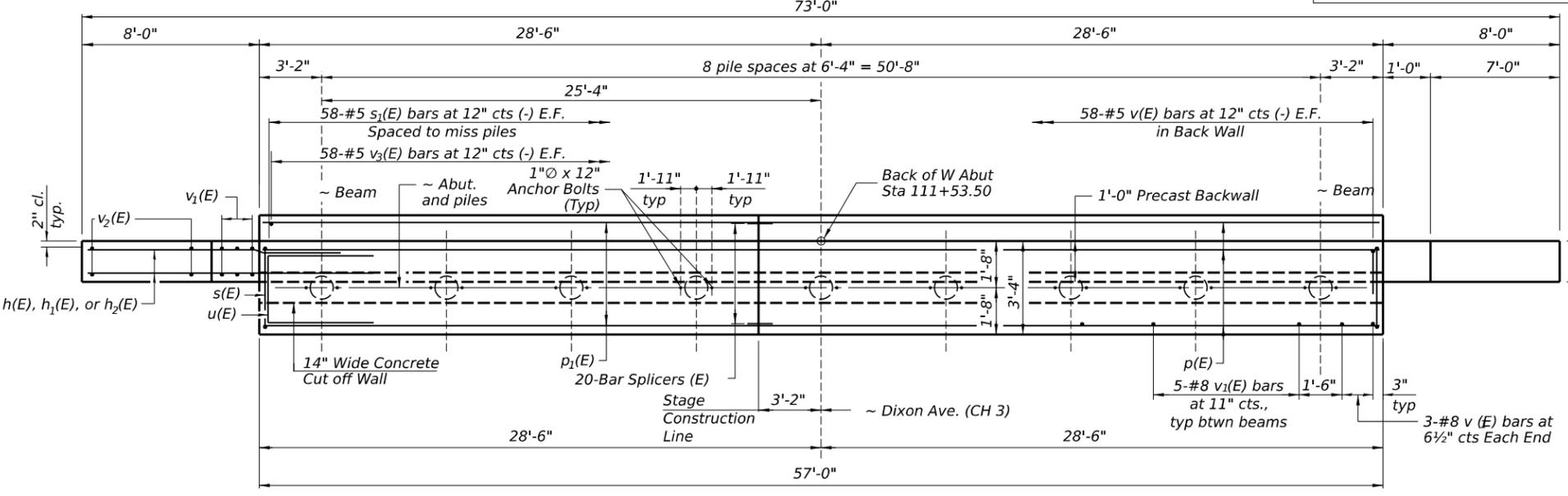
DECATUR (217) 422-8544
 SCHAUMBURG (773) 714-0050
 ROCKFORD (815) 489-0050
 184-001397

STRUCTURAL STEEL DETAILS
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
 SCALE: SHEET NO. 8 OF SHEETS STA. 111+20 TO STA. 113+00

FAS RTE = 5560	SECTION = 22-00-00228-01-BR	COUNTY = WHITESIDE	TOTAL SHEETS = 16	SHEET NO. = 13
ILLINOIS			STRUCTURE NO. 098-3001	



Note: Top of abutment cap elevations based on 2" thick bearing plate plus 1/8" elastomeric pad. If bearings are other than assumed, adjust cap elevations. Maintain cap depth as shown.



SEC. THRU ABUT.

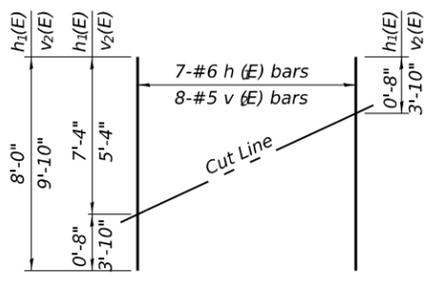
BILL OF MATERIAL (WEST ABUTMENT)

Bar	No.	Size	Length	Shape
h(E)	32	#6	12'-2"	—
h1(E)	14	#6	8'-0"	—
h2(E)	4	#6	8'-0"	—
p(E)	20	#7	31'-4"	—
p1(E)	20	#7	25'-0"	—
s1(E)	54	#5	13'-3"	⊏
s2(E)	58	#5	9'-4"	⊏
u(E)	8	#6	11'-0"	⊏
v(E)	116	#5	3'-8"	⊏
v1(E)	12	#5	6'-0"	—
v2(E)	16	#5	9'-2"	—
v3(E)	58	#5	4'-0"	—
Structure Excavation				Cu. Yd.
Concrete Structures				Cu. Yd.
Reinforcement Bars, Epoxy Coated				Pound
Furnishing Metal Shell Piles 14"x0.250"				Foot
Driving Piles				Foot
Test Pile Metal Shells				Each
Pile Shoes				Each

Information is provided on this sheet that is not applicable to Furnishing Superstructure

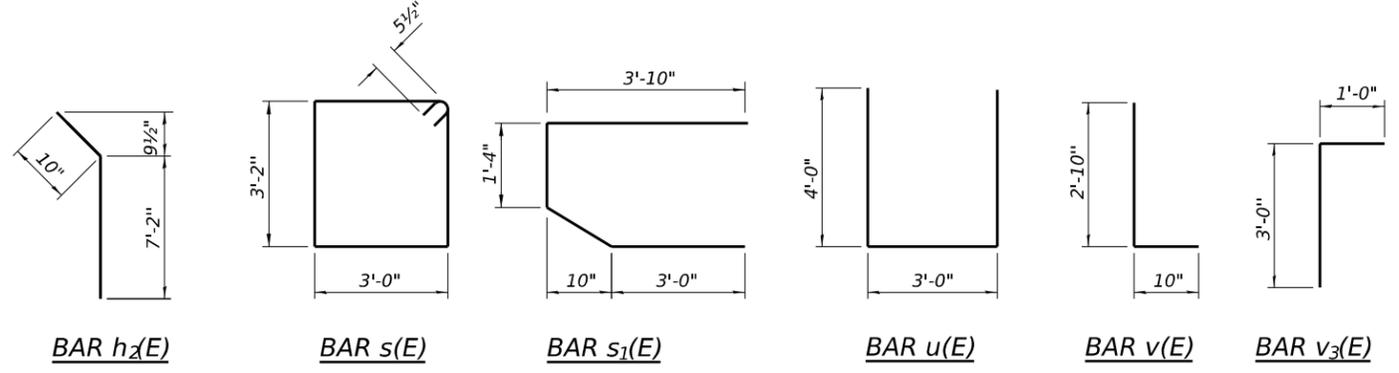
PILE DATA

Type: Metal Shell - 14" x 0.250" walls
 Nominal Required Bearing: 211k
 Factored Resistance Available: 116k
 Est. Length: 40 ft.
 No. Production Piles: 8
 No. Test Piles: 1 (W. Abut.)



FIELD CUTTING DIAGRAM

Order h1(E) and v3(E) bars full length. Cut as shown and use remainder of bars in opposite face.



FILE NAME = \$FILES\$

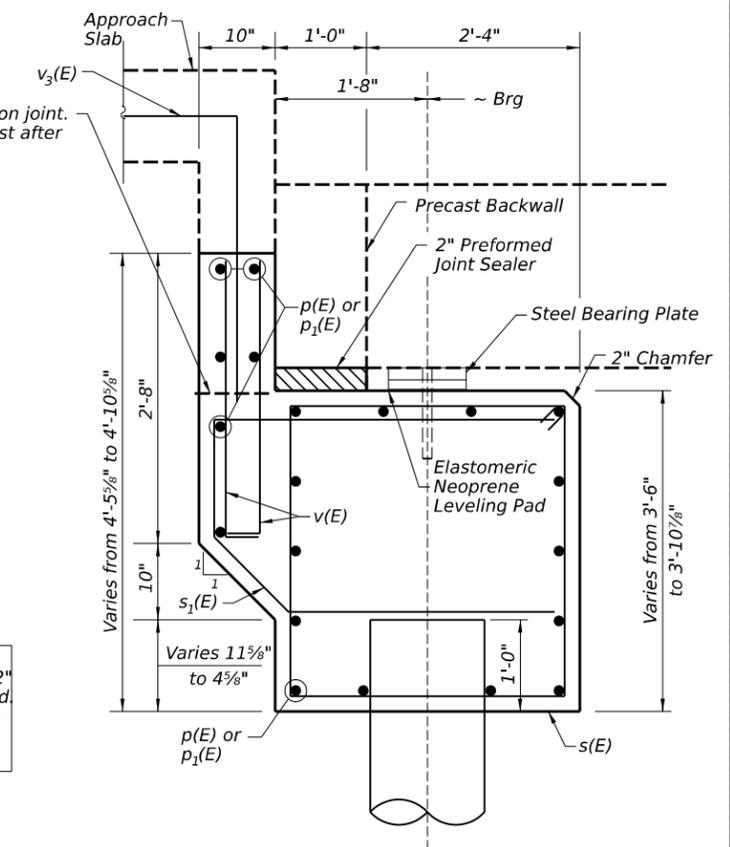
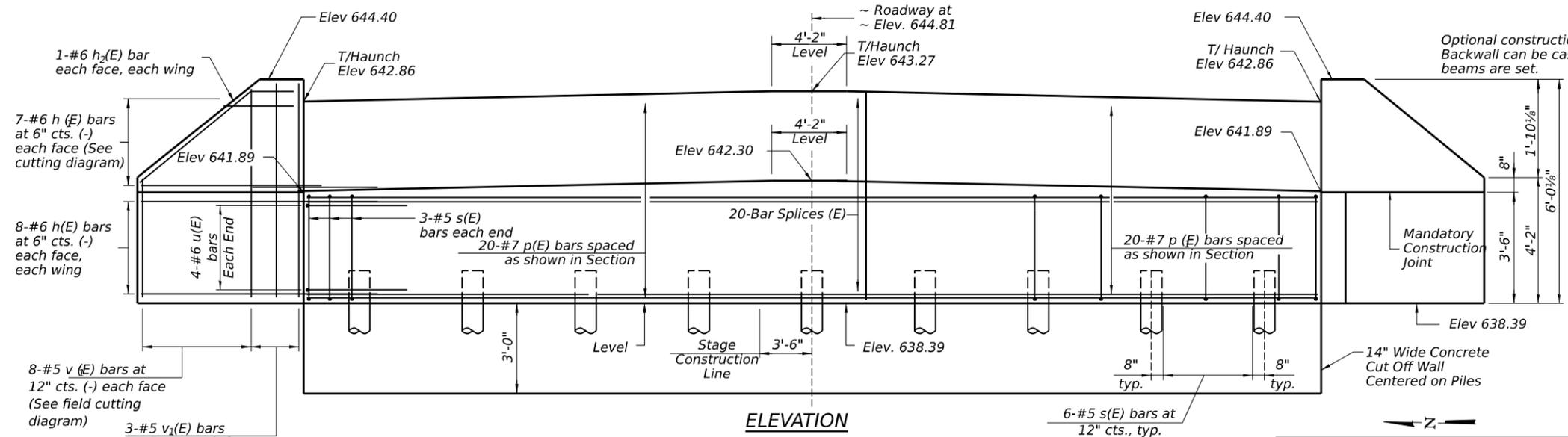
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PLOT DATE = *DATE*	DATE	09/30/2022	REVISED	-

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS

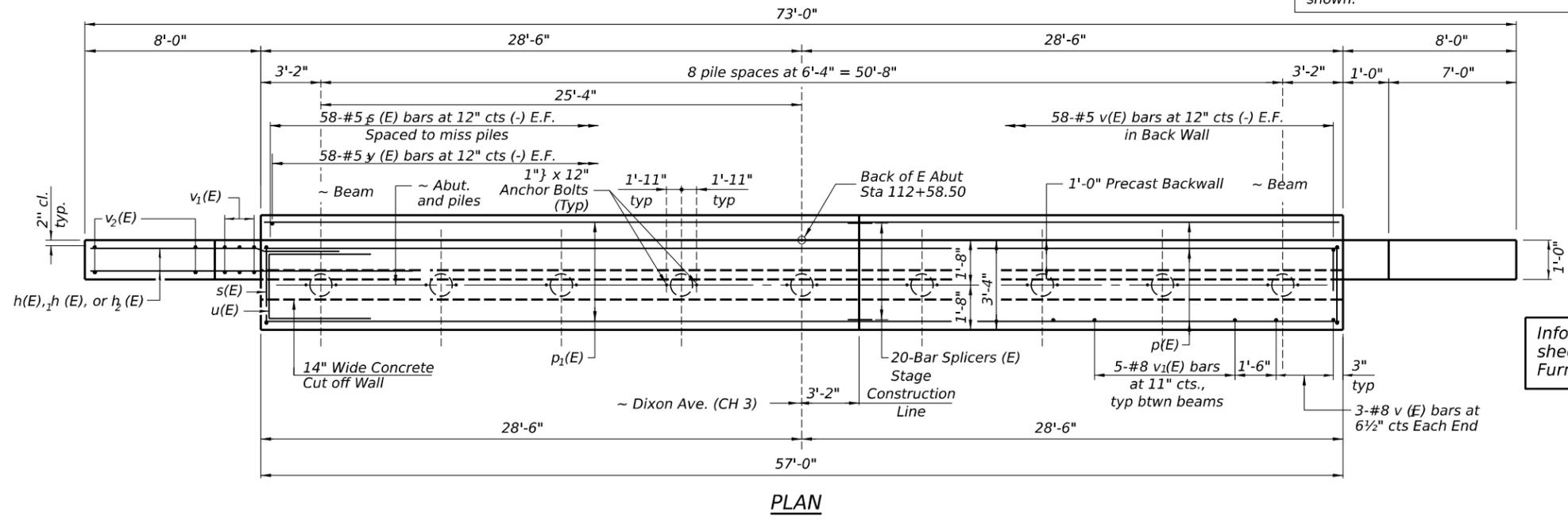
DECATUR (217) 422-8544
 SCHAUMBURG (773) 714-0050
 ROCKFORD (815) 489-0050
 184-001397

WEST ABUTMENT
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
 SCALE: SHEET NO. 90F SHEETS STA. 11+20 TO STA. 11+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	14
ILLINOIS			STRUCTURE NO. 098-3001	



Note: Top of abutment cap elevations based on 2" thick bearing plate plus 1/8" elastomeric pad if bearings are other than assumed, adjust cap elevations. Maintain cap depth as shown.



Information is provided on this sheet that is not applicable to Furnishing Superstructure

SEC. THRU ABUT.

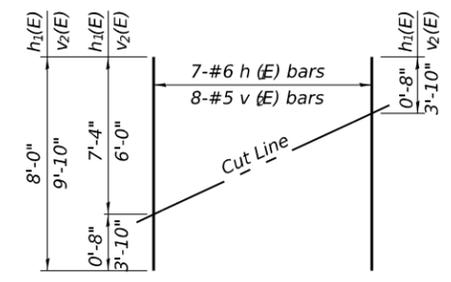
BILL OF MATERIAL (EAST ABUTMENT)

Bar	No.	Size	Length	Shape
h(E)	32	#6	12'-2"	—
h1(E)	14	#6	8'-0"	—
h2(E)	4	#6	8'-0"	—
p(E)	20	#7	31'-4"	—
p1(E)	20	#7	25'-0"	—
s1(E)	54	#5	13'-3"	□
s2(E)	58	#5	9'-4"	□
u(E)	8	#6	11'-0"	□
v(E)	116	#5	3'-8"	L
v1(E)	12	#5	6'-0"	—
v2(E)	16	#5	9'-2"	—
v3(E)	58	#5	4'-0"	—
Structure Excavation				Cu. Yd.
Concrete Structures				Cu. Yd.
Reinforcement Bars, Epoxy Coated				Pound
Furnishing Metal Shell Piles 14"x0.250"				Foot
Driving Piles				Foot
Test Pile Metal Shells				Each
Pile Shoes				Each

For details of piles see sheet 19 of 25.

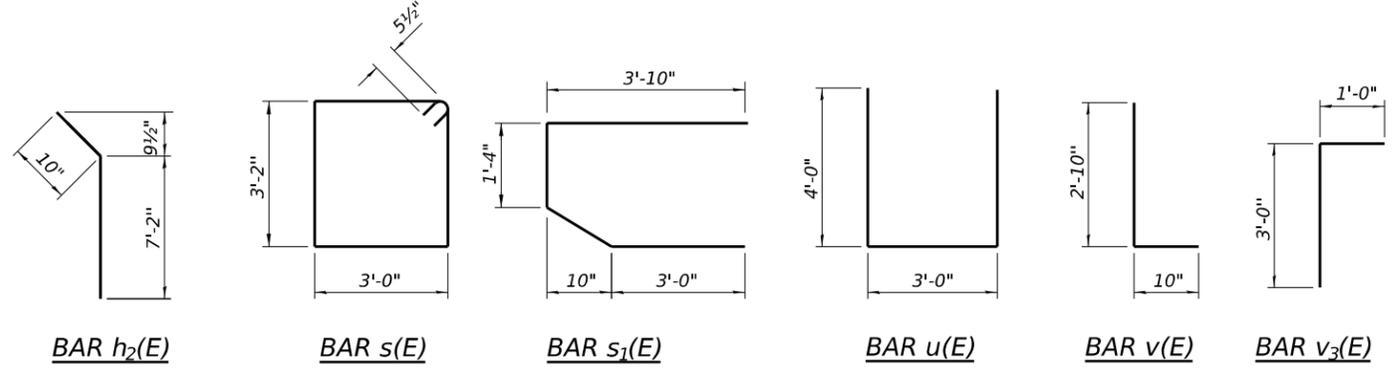
PILE DATA

Type: Metal Shell - 14" x 0.250" walls
 Nominal Required Bearing: 211k
 Factored Resistance Available: 116k
 Est. Length: 20 ft.
 No. Production Piles: 8
 No. Test Piles: 1 (E. Abut.)



FIELD CUTTING DIAGRAM

Order h1(E) and v3(E) bars full length. Cut as shown and use remainder of bars in opposite face.



FILE NAME = \$FILES\$

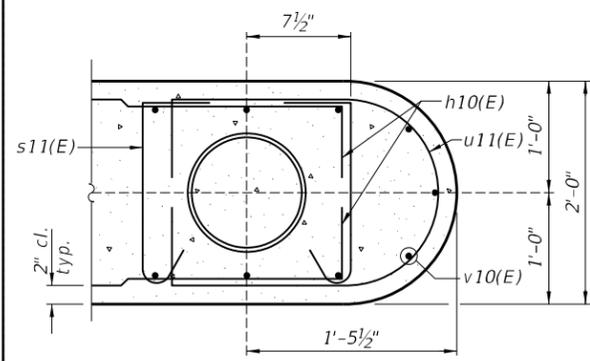
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PLOT SCALE = *SCALE*	CHECKED	KEB	REVISED	-
PLOT DATE = *DATE*	DATE	09/30/2022	REVISED	-

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS

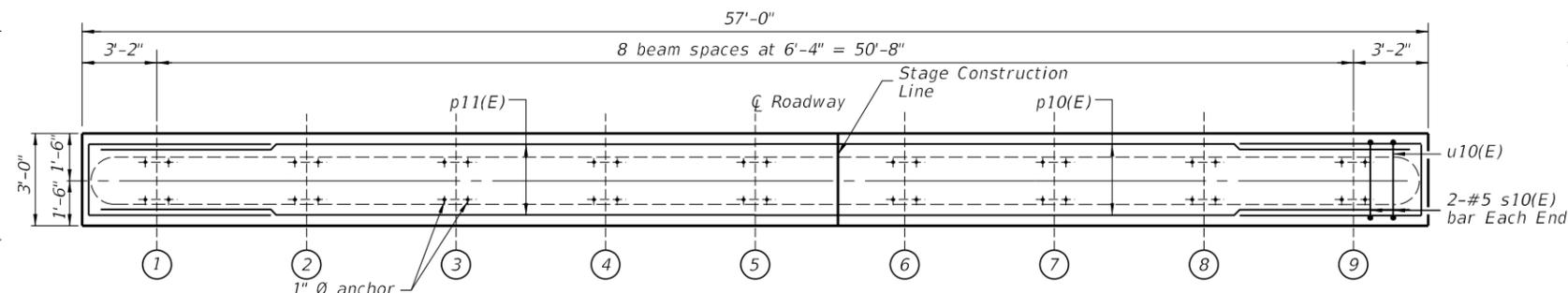
DECATUR (217) 422-8544
 SCHAUMBURG (773) 714-0050
 ROCKFORD (815) 489-0050
 184-001397

EAST ABUTMENT
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK
 SCALE: SHEET NO. 90F SHEETS STA. 113+20 TO STA. 113+00

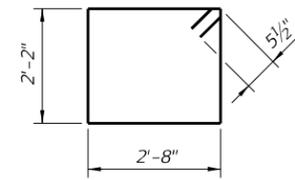
FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	15
ILLINOIS			STRUCTURE NO. 098-3001	



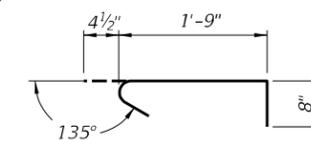
SECTION A-A



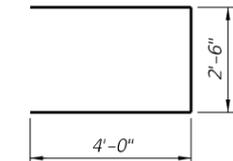
TOP PLAN



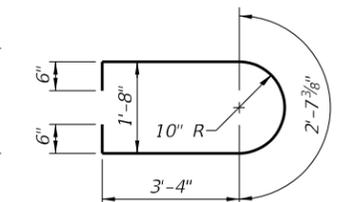
BAR s10(E)



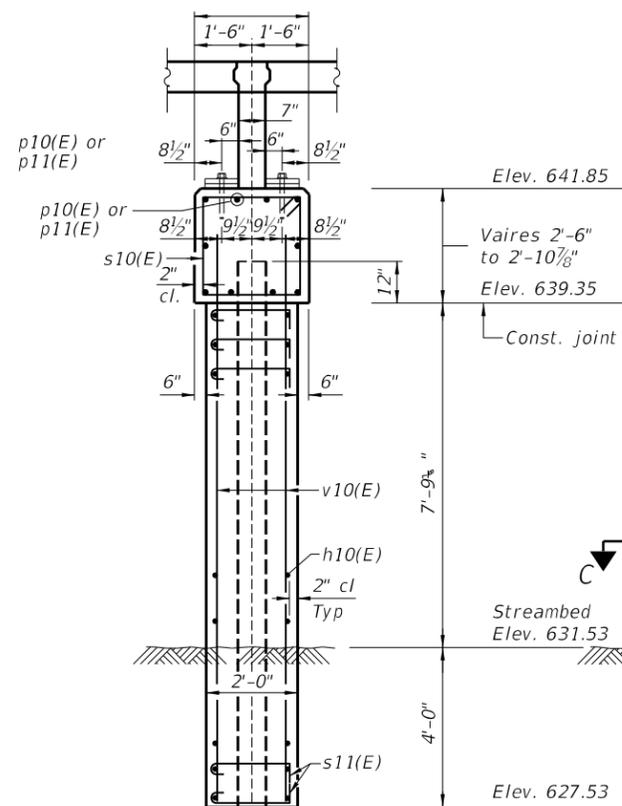
BAR s11(E)



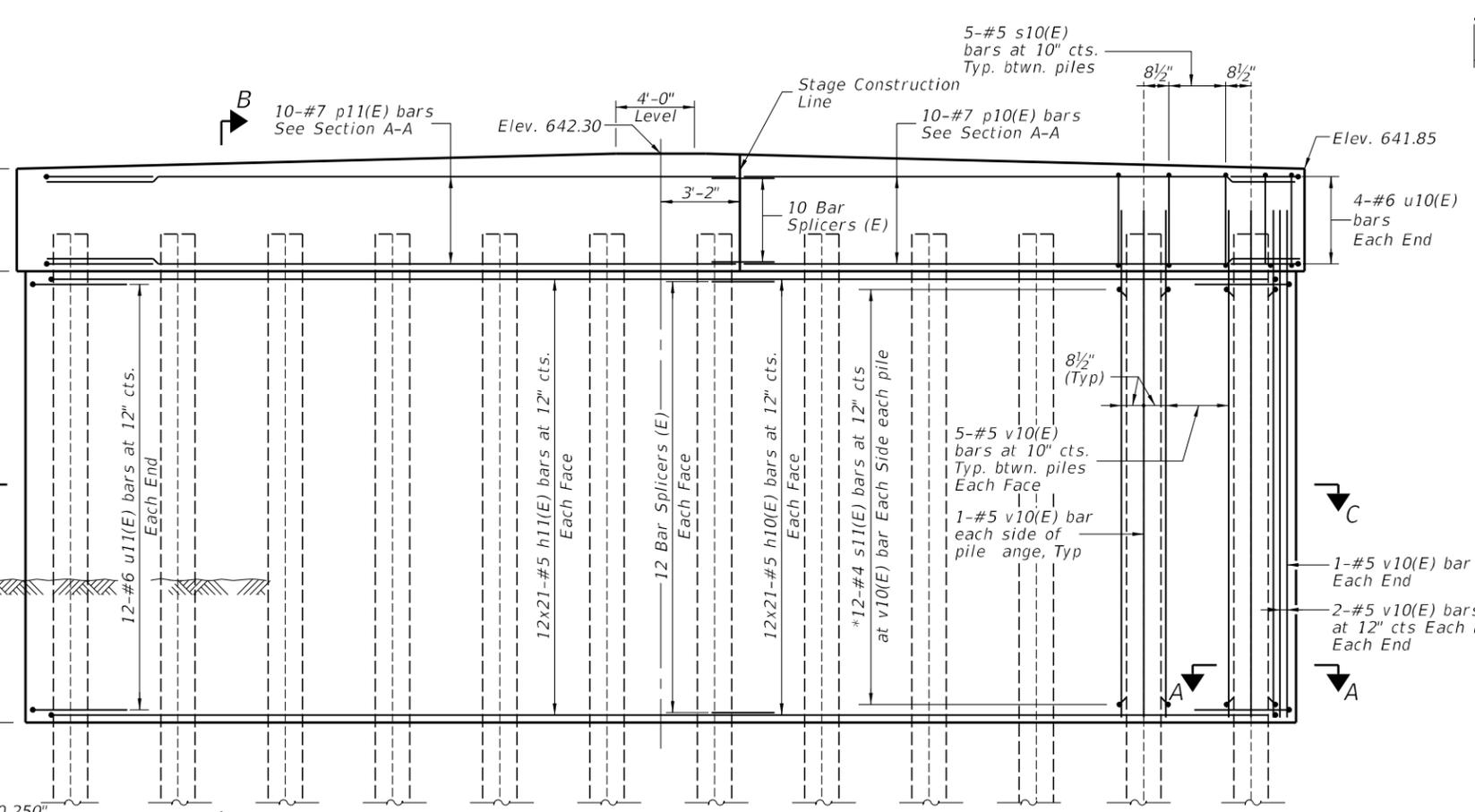
BAR u10(E)



BARS u11(E)



SECTION B-B



ELEVATION
(Looking East)

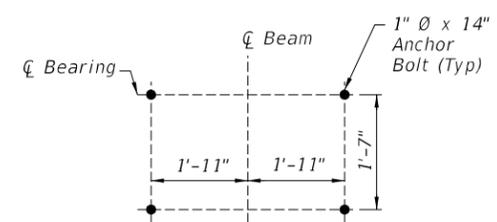
PILE DATA
 Type: Metal Shell 14"x0.250"
 Nominal Required Bearing: 218 kips
 Factored Resistance Available: 123 kips
 Est. Length: 55' W. Pier, 30' E. Pier
 No. Production Piles: 22
 No. Test Piles: 2 (1 West Pier, 1 East Pier)

Information is provided on this sheet that is not applicable to Furnishing Superstructure

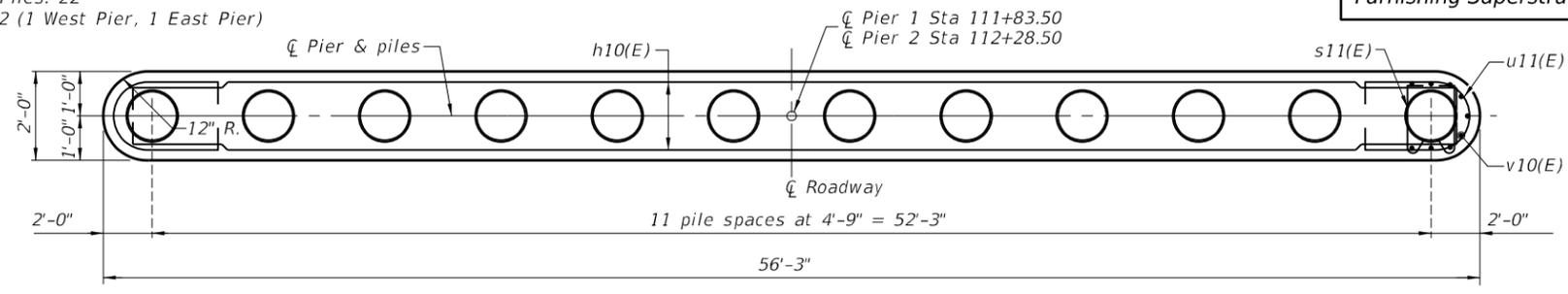
BILL OF MATERIAL (2 PIERS)

Bar	No.	Size	Length	Shape
h10(E)	48	#5	23'-3"	—
h11(E)	48	#5	30'-3"	—
p10(E)	20	#7	24'-8"	—
p11(E)	20	#7	31'-8"	—
s10(E)	118	#5	10'-7"	□
s11(E)	576	#4	2'-10"	U
u10(E)	16	#7	10'-6"	U
u11(E)	48	#6	10'-4"	U
v10(E)	288	#5	13'-6"	—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing Metal Shell Piles, 14"x0.250"			Foot	
Driving Piles			Foot	
Test Pile, Metal Shell			Each	
Pile Shoes			Each	
Cofferdam (Type 2) (Location 1)			Each	
Cofferdam (Type 2) (Location 2)			Each	

Notes:
 If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater in forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.
 For details of piles see sheet 19 of 26.
 All edges shall have standard 3/4" chamfer.
 Space reinforcement in cap to miss anchor bolts.



ANCHOR BOLT LAYOUT



SECTION C-C

FILE NAME = \$FILES\$

USER NAME = *USER*	DESIGNED KEB	REVISED -
PLOT TIME = *TIME*	DRAWN JDM	REVISED -
PLOT SCALE = *SCALE*	CHECKED KEB	REVISED -
PLOT DATE = *DATE*	DATE 09/30/2022	REVISED -

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 DECATUR (217) 422-8544
 SCHAUMBURG (773) 714-0050
 ROCKFORD (815) 489-0050
 184-001397

PIER DETAILS		
CH 3 (DIXON AVENUE) OVER HOWLAND CREEK		
SCALE:	SHEET NO. OF SHEETS	STA. 113+20 TO STA. 113+00

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5560	22-00-00228-01-BR	WHITESIDE	16	16
ILLINOIS			STRUCTURE NO. 098-3001	