The following images and sheets show examples of CADD file errors and recommended corrections.

BRIDGE NEW - PPCB
NHSX-058-1(94)--3H-07
LETTING DATE 02-20-2018

BLACK HAWK COUNTY - DESIGN NO. 317

BLACK HAWK COUNTY

LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY 80
- UNITED STATES HIGHWAY 65
- STATE HIGHWAY 175
- COUNTY HIGHWAY S27
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES — ABBEY ROAD
- UNINCORPORATED PLACE — ELWOOD

IOWA DOT
Highway Division

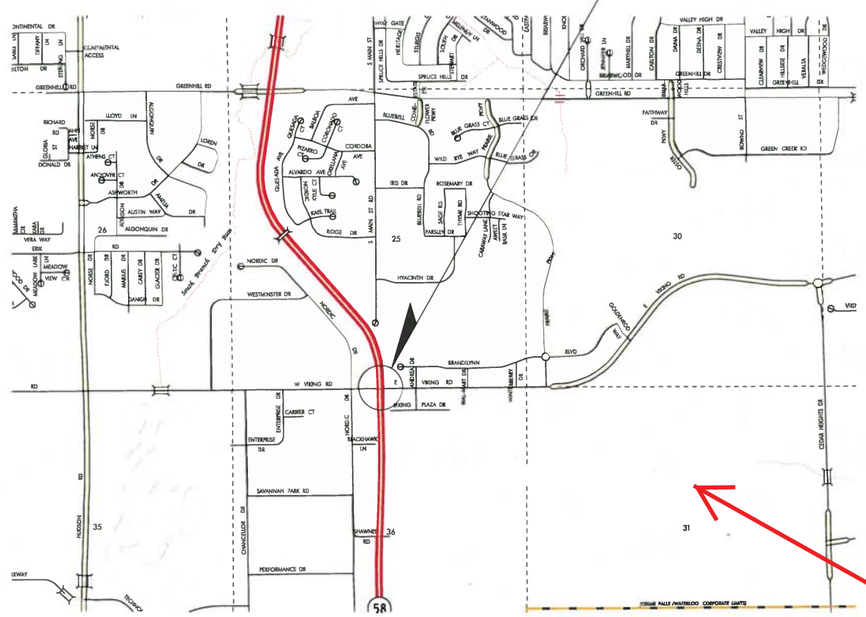
PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM
BLACK HAWK COUNTY

BRIDGE NEW - PPCB
VIKING ROAD OVER IA 58

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN NO. 317



R-14W

LOCATION MAP

SUBMITTED PLAN PDF, SHOWING DETAILS.

ENGLISH STANDARD BRIDGE PLANS		
STANDARD	ISSUED	REVISED

	TOTAL SHEETS
	61
PROJECT NUMBER	
NHSX-058-1(94)--3H-07	
R.O.W. PROJECT NUMBER	
PROJECT IDENTIFICATION NUMBER	
12-07-058-010	

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED BRIDGE QUANTITIES
3-58	DESIGN NO. 317
SPS.1-SPS.3	SOIL PROFILE SHEETS

REVISIONS

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER _____

DESIGN DATA URBAN

IA 58			VIKING ROAD		
2013 AADT	24,200	V.P.D.	2013 AADT	12,950	V.P.D.
2040 AADT	46,150	V.P.D.	2040 AADT	22,950	V.P.D.
2040 DHV	3,665	V.P.H.	2040 DHV	2,620	V.P.H.
TRUCKS	5	%	TRUCKS	5	%
TOTAL DESIGN ESALs	_		TOTAL DESIGN ESALs	_	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
1		STRUCTURAL DESIGN
57		ARCHITECTURAL DESIGN
SPS.1		GEOTECHNICAL DESIGN

STRUCTURAL DESIGN

I hereby certify that this engineering document was prepared

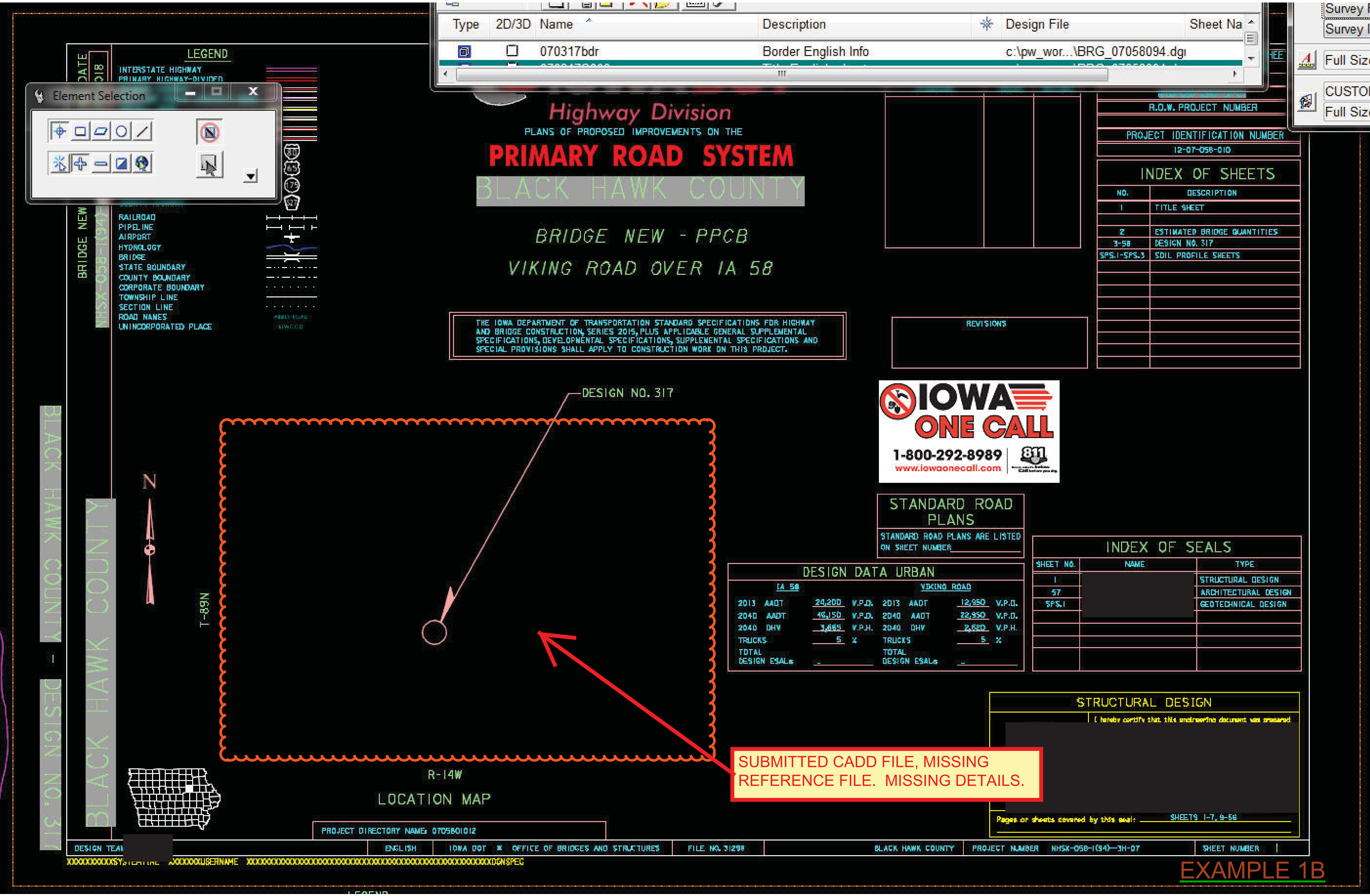
Pages or sheets covered by this seal: DESIGN SHEETS 1 THRU 57

PROJECT DIRECTORY NAME: 0705801012

ENGLISH	IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES	FILE NO. 31298	BLACK HAWK COUNTY	PROJECT NUMBER NHSX-058-1(94)--3H-07	SHEET NUMBER 1

pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60494632-Iowa 58 Final Design\900 Work\0705801012\BRFinal\07058094.brg 070317S000 11x17_pdf.pltcfg

EXAMPLE 1A



Type | 2D/3D | Name | Description | Design File | Sheet Na
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Survey
Survey
Full Size
CUSTOM
Full Size
Element Selection
LEGEND
INTERSTATE HIGHWAY
PRIMARY HIGHWAY-DIVIDED
RAILROAD
PIPELINE
AIRPORT
HYDROLOGY
BRIDGE
STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE BOUNDARY
TOWNSHIP LINE
SECTION LINE
ROAD NAMES
UNINCORPORATED PLACE
BRIDGE NEW
NHSX-058-1(94)
Highway Division
PLANS OF PROPOSED IMPROVEMENTS ON THE
PRIMARY ROAD SYSTEM
BLACK HAWK COUNTY
BRIDGE NEW - PPCB
VIKING ROAD OVER IA 58
THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.
R.O.W. PROJECT NUMBER
PROJECT IDENTIFICATION NUMBER
12-07-058-010
INDEX OF SHEETS
NO. | DESCRIPTION
1 | TITLE SHEET
2 | ESTIMATED BRIDGE QUANTITIES
3-58 | DESIGN NO. 317
SPS.1-SPS.3 | SOIL PROFILE SHEETS
REVISIONS
DESIGN NO. 317
IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811
STANDARD ROAD PLANS
STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER
DESIGN DATA URBAN
IA 58
2013 AADT 24,200 V.P.D.
2040 AADT 46,150 V.P.D.
2040 DHV 3,665 V.P.H.
TRUCKS 5 %
TOTAL DESIGN ESALs -
VIKING ROAD
2013 AADT 12,950 V.P.D.
2040 AADT 22,950 V.P.D.
2040 DHV 2,620 V.P.H.
TRUCKS 5 %
TOTAL DESIGN ESALs -
INDEX OF SEALS
SHEET NO. | NAME | TYPE
1 | [redacted] | STRUCTURAL DESIGN
57 | | ARCHITECTURAL DESIGN
SPS.1 | | GEOTECHNICAL DESIGN
N
T-89N
R-14W
LOCATION MAP
BLACK HAWK COUNTY - DESIGN NO. 317
BLACK HAWK COUNTY
STRUCTURAL DESIGN
I hereby certify that this engineering document was prepared
[redacted]
Pages or sheets covered by this seal: SHEETS 1-7, 9-58
SUBMITTED CADD FILE, MISSING REFERENCE FILE. MISSING DETAILS.
PROJECT DIRECTORY NAME: 0705801012
DESIGN TEAM [redacted]
ENGLISH
IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES
FILE NO. 31298
BLACK HAWK COUNTY
PROJECT NUMBER NHSX-058-1(94)--3H-07
SHEET NUMBER 1
XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDGNSPEC
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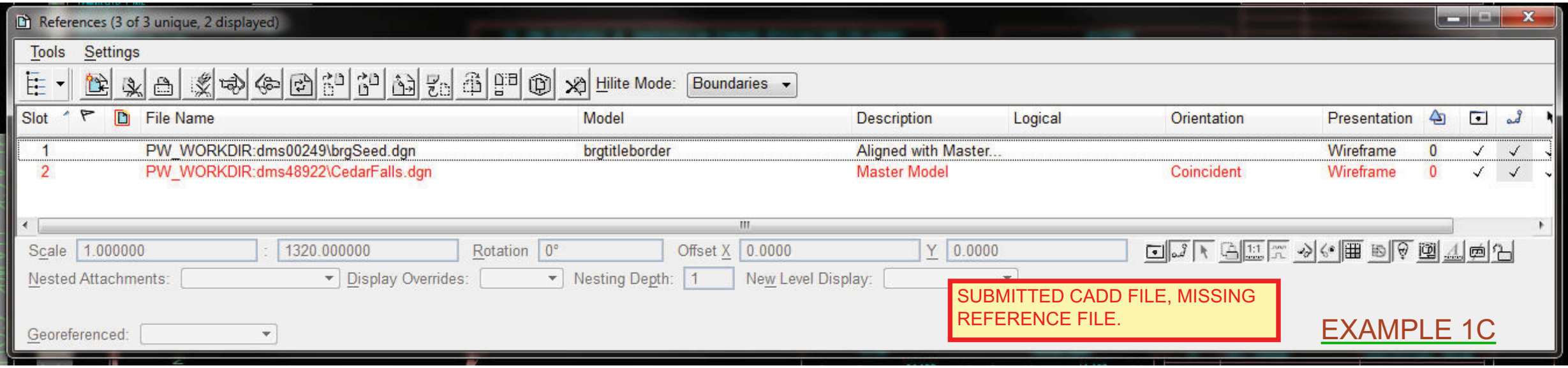
References (3 of 3 unique, 2 displayed)
Tools
Settings
Hilite Mode:
Boundaries
Slot
File Name
Model
Description
Logical
Orientation
Presentation
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brgtitleborder
Aligned with Master...
Wireframe
0
2
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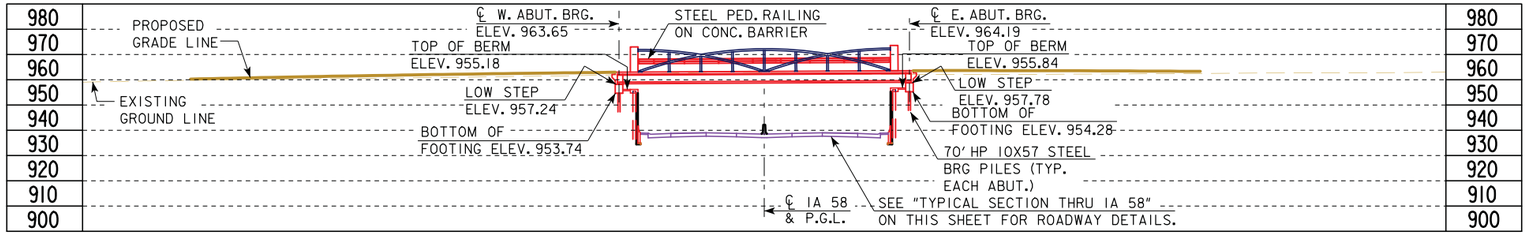
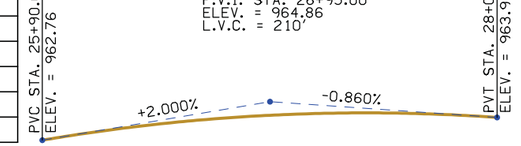
Master Model
Coincident
Wireframe
0
Scale
1.000000
1320.000000
Rotation
0°
Offset X
0.0000
Y
0.0000
Nested Attachments:
Display Overrides:
Nesting Depth:
1
New Level Display:
Georeferenced:
SUBMITTED CADD FILE, MISSING REFERENCE FILE.

EXAMPLE 1C

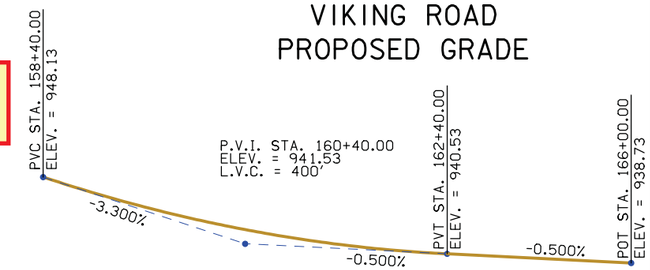


LONGITUDINAL SECTION ALONG ℄ CONSTRUCTION VIKING ROAD

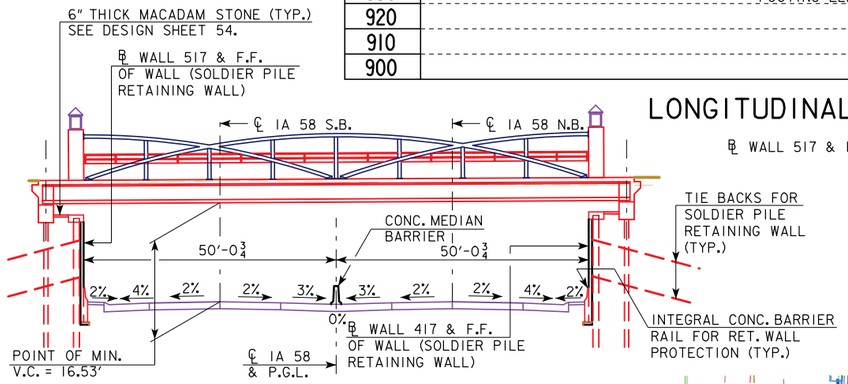
BENCH MARK: NO. 520 - STA. 25+82.9 VIKING RD., 62.2' RT., FOUND "X" ON NORTHERLY BOLT OF FIRE HYDRANT IS SW QUADRANT OF VIKING ROAD & IA 58, ELEV. 962.270 (= AS-BUILT PLAN BM #203 ELEV. 962.37)



VIKING ROAD PROPOSED GRADE

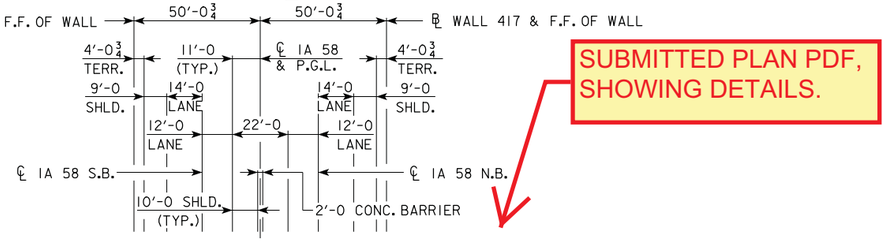


IA 58 PROPOSED GRADE

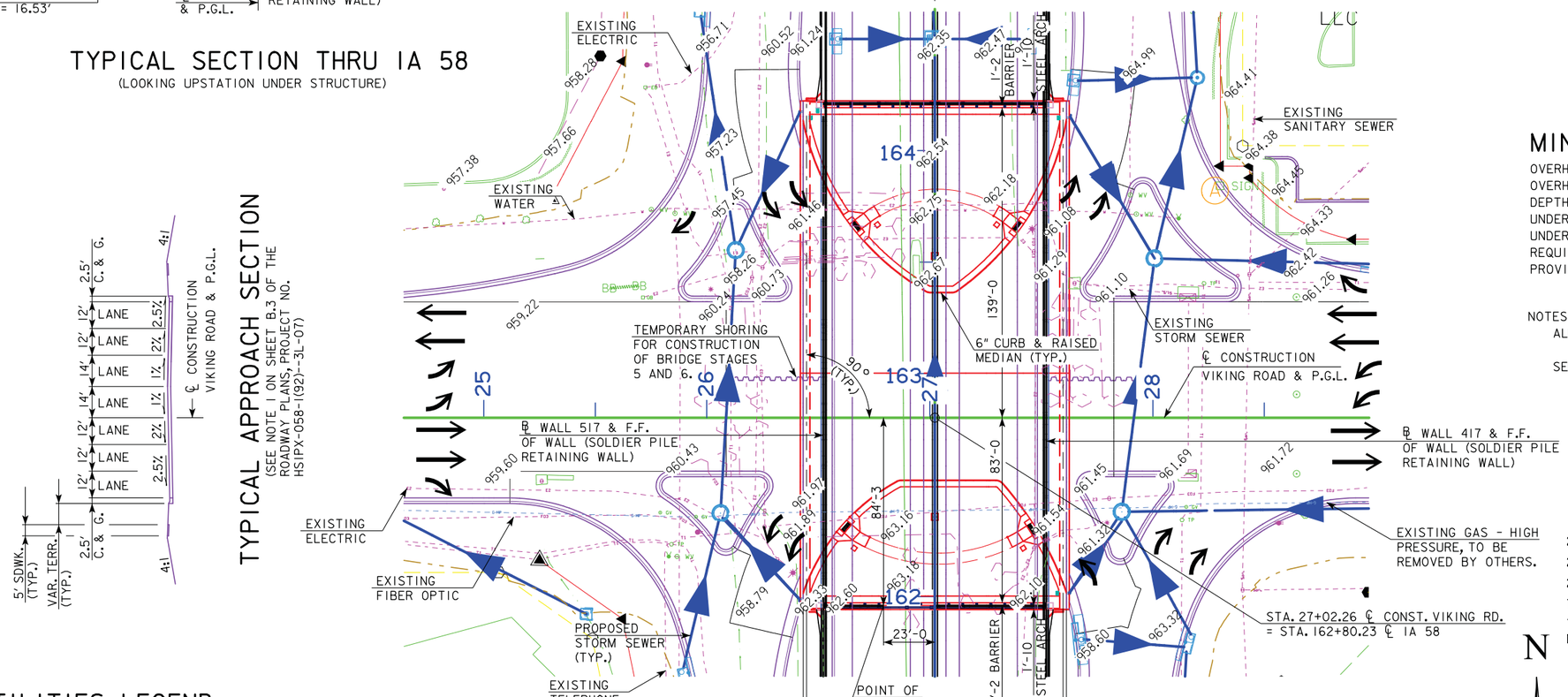


TYPICAL SECTION THRU IA 58

(LOOKING UPSTATION UNDER STRUCTURE)



SUBMITTED PLAN PDF, SHOWING DETAILS.



SITUATION PLAN

TYPICAL APPROACH SECTION

(SEE NOTE 1 ON SHEET B.3 OF THE ROADWAY PLANS, PROJECT NO. HSIPX-058-1(92)--3L-07)

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 26+79.26, 84.25' RT.
OVERHEAD ELEVATION = 962.76
DEPTH OF SUPERSTRUCTURE = 4.87'
UNDERPASS STATION = 161+95.98, 23.0' LT.
UNDERPASS ELEVATION = 941.36
REQUIRED MIN. VERT. CLEARANCE = 16.50'
PROVIDED MIN. VERT. CLEARANCE = 16.53'

NOTES:
ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.

SEE DESIGN SHEET 12 FOR BRIDGE CROSS SECTION.

TRAFFIC ESTIMATE

IA 58				VIKING ROAD			
2013 AADT	24,200	V.P.D.		2013 AADT	12,950	V.P.D.	
2040 AADT	46,150	V.P.D.		2040 AADT	22,950	V.P.D.	
2040 DHV	3,665	V.P.H.		2040 DHV	2,620	V.P.H.	
TRUCKS	5	%		TRUCKS	5	%	
TOTAL DESIGN ESALs	-			TOTAL DESIGN ESALs	-		

UTILITIES LEGEND:

E1 - ELECTRICAL - CEDAR FALLS UTILITIES
E2 - ELECTRICAL - CEDAR FALLS UTILITIES
FO1 - FIBER OPTICS - CENTURY LINK
FO2 - FIBER OPTICS - MEDIACOM
FO3 - FIBER OPTICS - CEDAR FALLS UTILITIES
G-HP - GAS HIGH PRESSURE - CEDAR FALLS UTILITIES
SAN - SANITARY - CEDAR FALLS UTILITIES
ST.S. - STORM SEWER - CEDAR FALLS UTILITIES
ST.S.2 - STORM SEWER - PRIVATE
TI - TELEPHONE - CENTURYLINK
W - WATER - CEDAR FALLS UTILITIES

WATER MAIN AND STREET LIGHT RELOCATIONS TO BE COMPLETED BY PAVING CONTRACT HSIPX-058-1(92)--3L-07. ALL OTHER RELOCATIONS BY UTILITY.

LOCATION

VIKING ROAD OVER IA 58
T-89N R-14W
SECTIONS 25 & 36
CEDAR FALLS TOWNSHIP
BLACK HAWK COUNTY
FHWA NO. 700880
LATITUDE 42.484026°
LONGITUDE -92.445656°

N

DESIGN FOR 0° SKEW

115'-0 X 228'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

115'-0 SIMPLE SPAN

SITUATION PLAN

STA. 27+02.26, ℄ CONST. VIKING ROAD — DECEMBER, 2017

BLACK HAWK COUNTY

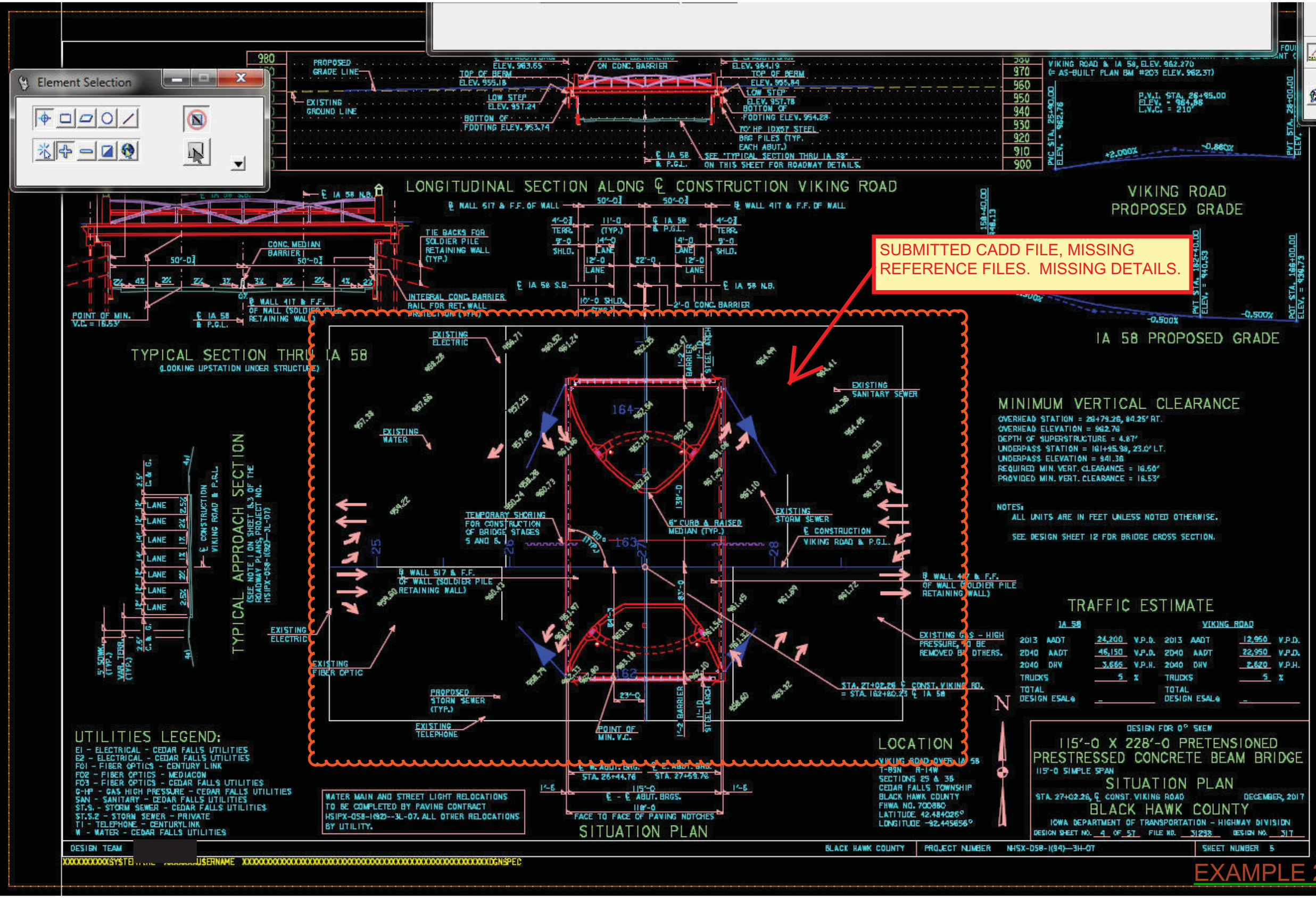
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 57 — FILE NO. 31298 — DESIGN NO. 317

BLACK HAWK COUNTY	PROJECT NUMBER NHSX-058-1(94)--3H-07	SHEET NUMBER 5

I705801012\BRFinal\07058094.brg 070317S004 11x17_pdf.pltcfg

EXAMPLE 2A


Element Selection
LONGITUDINAL SECTION ALONG ℄ CONSTRUCTION VIKING ROAD
VIKING ROAD PROPOSED GRADE
IA 58 PROPOSED GRADE
TYPICAL SECTION THRU IA 58
(LOOKING UPSTATION UNDER STRUCTURE)
TYPICAL APPROACH SECTION
(SEE NOTE 1 ON SHEET 8.3 OF THE ROADWAY PLANS, PROJECT NO. HSIPX-058-1(92)--3L-07)
SUBMITTED CADD FILE, MISSING REFERENCE FILES. MISSING DETAILS.
MINIMUM VERTICAL CLEARANCE
OVERHEAD STATION = 28+79.26, 84.25' RT.
OVERHEAD ELEVATION = 962.76
DEPTH OF SUPERSTRUCTURE = 4.87'
UNDERPASS STATION = 161+95.98, 23.0' LT.
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REQUIRED MIN. VERT. CLEARANCE = 16.50'
PROVIDED MIN. VERT. CLEARANCE = 16.53'
NOTES:
ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
SEE DESIGN SHEET 12 FOR BRIDGE CROSS SECTION.
TRAFFIC ESTIMATE
IA 58
2013 AADT 24,200 V.P.D.
2040 AADT 46,150 V.P.D.
2040 DHV 3,665 V.P.H.
TRUCKS 5 %
TOTAL DESIGN ESALs
VIKING ROAD
2013 AADT 12,950 V.P.D.
2040 AADT 22,950 V.P.D.
2040 DHV 2,620 V.P.H.
TRUCKS 5 %
TOTAL DESIGN ESALs
UTILITIES LEGEND:
E1 - ELECTRICAL - CEDAR FALLS UTILITIES
E2 - ELECTRICAL - CEDAR FALLS UTILITIES
FO1 - FIBER OPTICS - CENTURY LINK
FO2 - FIBER OPTICS - MEDIACOM
FO3 - FIBER OPTICS - CEDAR FALLS UTILITIES
G-HP - GAS HIGH PRESSURE - CEDAR FALLS UTILITIES
SAN - SANITARY - CEDAR FALLS UTILITIES
ST.S. - STORM SEWER - CEDAR FALLS UTILITIES
ST.S.2 - STORM SEWER - PRIVATE
T1 - TELEPHONE - CENTURYLINK
W - WATER - CEDAR FALLS UTILITIES
WATER MAIN AND STREET LIGHT RELOCATIONS TO BE COMPLETED BY PAVING CONTRACT HSIPX-058-1(92)--3L-07. ALL OTHER RELOCATIONS BY UTILITY.
SITUATION PLAN
LOCATION
VIKING ROAD OVER IA 58
T-89N R-14W
SECTIONS 25 & 36
CEDAR FALLS TOWNSHIP
BLACK HAWK COUNTY
FHWA NO. 7008BC
LATITUDE 42.484026°
LONGITUDE -92.445656°
DESIGN FOR 0° SKEW
115'-0 X 228'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
115'-0 SIMPLE SPAN
SITUATION PLAN
STA. 27+02.26, ℄ CONST. VIKING ROAD
DECEMBER, 2017
BLACK HAWK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 4 OF 57
FILE NO. 31298
DESIGN NO. 317
DESIGN TEAM
BLACK HAWK COUNTY
PROJECT NUMBER HSIPX-058-1(92)--3L-07
SHEET NUMBER 5

EXAMPLE 2B

References (11 of 11 unique, 5 displayed)

Tools Settings

Hilite Mode Boundaries

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4	PW_WORKDIR:dms48938\07058092.dsn	SR_0030_VikingRoad	Viking Road Centerl...	Ref	Coincident	Wireframe	0		✓
5	PW_WORKDIR:dms48938\07058092.dsn	Road_Design_Linework	Linework for HWY ...	Linework	Coincident	Wireframe	0	✓	✓
6	PW_WORKDIR:dms48901\07058088.PHO	TOPO_0020	20 Scale Topo		Coincident	Wireframe	0	✓	✓
7	PW_WORKDIR:dms49007\07058093.ROW	Proposed	Proposed ROW	ROW-BCN-East	Coincident	Wireframe	0	✓	✓
8	PW_WORKDIR:dms48938\07058092.dsn	DRN	Storm Sewer and D...	Ref-1	Coincident	Wireframe	0	✓	✓

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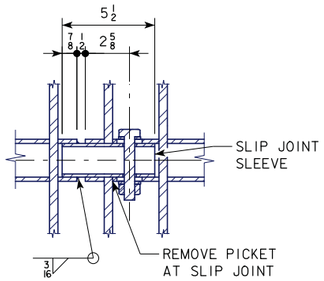
Nested Attachments: Display Overrides: Nesting Depth: 1 New Level Display:

Georeferenced:

SUBMITTED CADD FILE, MISSING REFERENCE FILES.

EXAMPLE 2C



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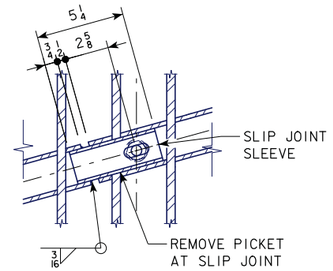

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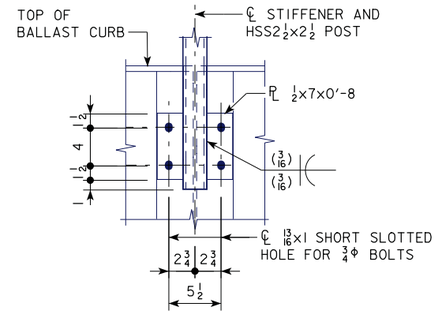
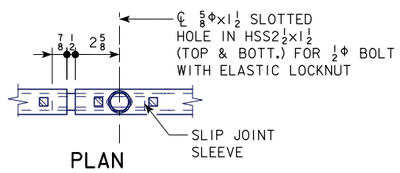
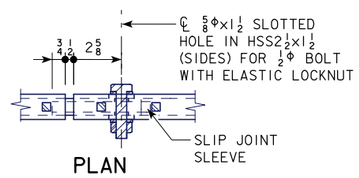


VIEW E-E



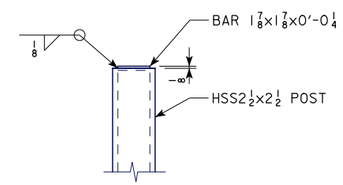
PLAN

TYPICAL SLIP JOINT DETAIL

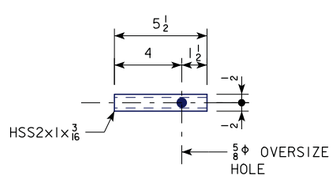


PLAN

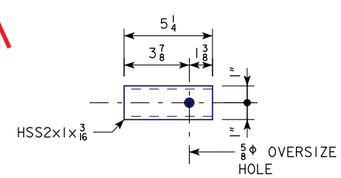
SLIP JOINT DETAIL AT WING WALL



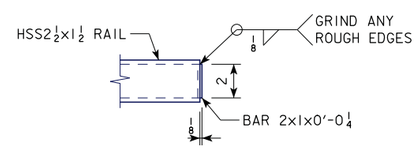
CAP TOP OF POST DETAIL



TYPICAL SLIP JOINT SLEEVE



SLIP JOINT SLEEVE AT WING WALL



CAP END OF RAIL DETAIL

PICKET FENCING NOTES:

THE STEEL PICKET FENCE RAIL IS TO BE BID ON A LINEAL FOOT BASIS MEASURED END TO END OF RAIL. THE PRICE BID FOR "STEEL PICKET FENCING" SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, INCLUDING BOLTS, LOCKNUTS/WASHERS, ANCHOR BOLTS AND SHIMS, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE FENCE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

THE MATERIAL FOR TUBE POSTS SHALL MEET THE REQUIREMENTS OF ASTM A-500, GRADE B. PLATES AND SQUARE RODS SHALL MEET THE REQUIREMENTS OF ASTM A709 GRADE 50. THE ½ Φ BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A-307. THE BOLTS, NUTS AND WASHERS ARE TO BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.

ALL FENCING MEMBERS SHALL BE FLAT AND STRAIGHT AFTER FABRICATION TO WITHIN 1/8-INCH IN 10 FEET. STRAIGHTEN BY MECHANICAL MEANS WITHOUT DAMAGE TO THE FENCING.

ALL PICKET FENCE PANELS, POSTS AND PLATES SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123. AFTER GALVANIZING, THE PICKET FENCE PANELS, POSTS, AND PLATES SHALL BE CLEANED AND POWDER COATED IN ACCORDANCE WITH THE STEEL PICKET FENCE POWDER COATING NOTES ON DESIGN SHEET93 . COLOR OF POWDER COATING IS TO MATCH FEDERAL STANDARD 595C COLOR NUMBER 24084 (SEMI-GLOSS DARK WARM GREY). SUBMIT PAINT COLOR SAMPLES FOR APPROVAL TO THE IOWA DOT OFFICE OF BRIDGES AND STRUCTURES. ALL COST ASSOCIATED WITH CLEANING, PREPARATION AND POWDER COATING ARE TO BE INCLUDED IN THE PRICE BID FOR "STEEL PICKET FENCING".

SUBMIT SHOP DRAWINGS OF ALL COMPONENTS OF THE RAILING FOR APPROVAL. SHOP DRAWINGS FOR THE FENCING ON THE ABUTMENTS WINGWALLS SHALL BE PREPARED BASED ON THE POST CONSTRUCTION SURVEY OF THESE WALLS. COST OF PERFORMING THE POST CONSTRUCTION SURVEY OF THESE WALLS SHALL BE INCLUDED IN THE PRICE BID FOR "STEEL PICKET FENCING".

FENCING MOCKUP NOTES

CONSTRUCT A MOCKUP FENCING PANEL FOR REVIEW BY THE ENGINEER. FOR THE PURPOSES OF THE MOCKUP, ONE "TYPICAL FENCING PANEL" AND TWO POSTS SHALL BE FABRICATED, GALVANIZED, AND POWDER COATED ACCORDING TO THE REQUIREMENTS IN THESE PLANS. ACTUAL FENCING PRODUCTION MAY NOT PROCEED UNTIL FINAL APPROVAL OF THE MOCKUP. IF THE MOCKUP IS REJECTED, CONSTRUCT ANOTHER MOCK UP AT THE DIRECTION OF THE ENGINEER. USE MATERIALS AND METHODS TO CREATE THE MOCKUP(S) THAT ARE IDENTICAL TO THOSE PROPOSED FOR THE ACTUAL FENCING FOR THE PROJECT. THE APPROVED MOCKUP SHALL REMAIN AT THE PROJECT SITE FOR COMPARISON TO ACTUAL FENCING AS THEY ARE DELIVERED. PROTECT THE MOCKUP FENCING FROM DAMAGE DURING STORAGE PERIOD. IF APPROVED FOR USE, INSTALL THE MOCKUP AS PART OF THE FINAL FENCING. INCLUDE ALL COSTS ASSOCIATED WITH THE MOCKUP IN THE PRICE BID FOR "STEEL PICKET FENCING".

FENCING INSTALLATION NOTES

CONTRACTOR SHALL VERIFY DIMENSIONS OF THE CONCRETE PRIOR TO COMMENCING FINAL LAYOUT AND INSTALLATION OF FENCING. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN CONCRETE DIMENSIONS PRIOR TO FENCING INSTALLATION.

SET ALL FENCING POSTS PLUMB. SHIM BASE PLATES AS NECESSARY TO SET POSTS PLUMB.

SEAL MATERIAL FOR CAULKING SHALL BE NEUTRAL CURE AND NON SAG SILICONE. THREE PRODUCTS MEETING THESE CRITERIA ARE DOW 888, CSL342 JOINT SEALANT, OR CRAFCO ROADSAVER SILICONE.

PICKET FENCE QUANTITIES

ITEM	LENGTH	NO.	LENGTH
ABUTMENT A1 - SPF-AA1(L)	14.71	1	14.71
ABUTMENT A1 - SPF-AA1(R)	14.71	1	14.71
SPAN A1 - SPF-SA1	50.00	2	100.00
SPAN B1 - SPF-SB1	100.50	2	201.00
SPAN B2 - SPF-SB2	90.25	2	180.50
SPAN C1 - SPF-SC1(L)	48.02	1	48.02
SPAN C1 - SPF-SC1(R)	48.02	1	48.02
ABUTMENT C2 - SPF-AC2(L)	59.07	1	59.07
ABUTMENT C2 - SPF-AC2(R)	59.07	1	59.07
	TOTAL (LIN. FT.)		725.1

SUBMITTED PLAN PDF, SHOWING DETAILS.

Do not place text in this location, this is reserved for ADDENDUM stamp.

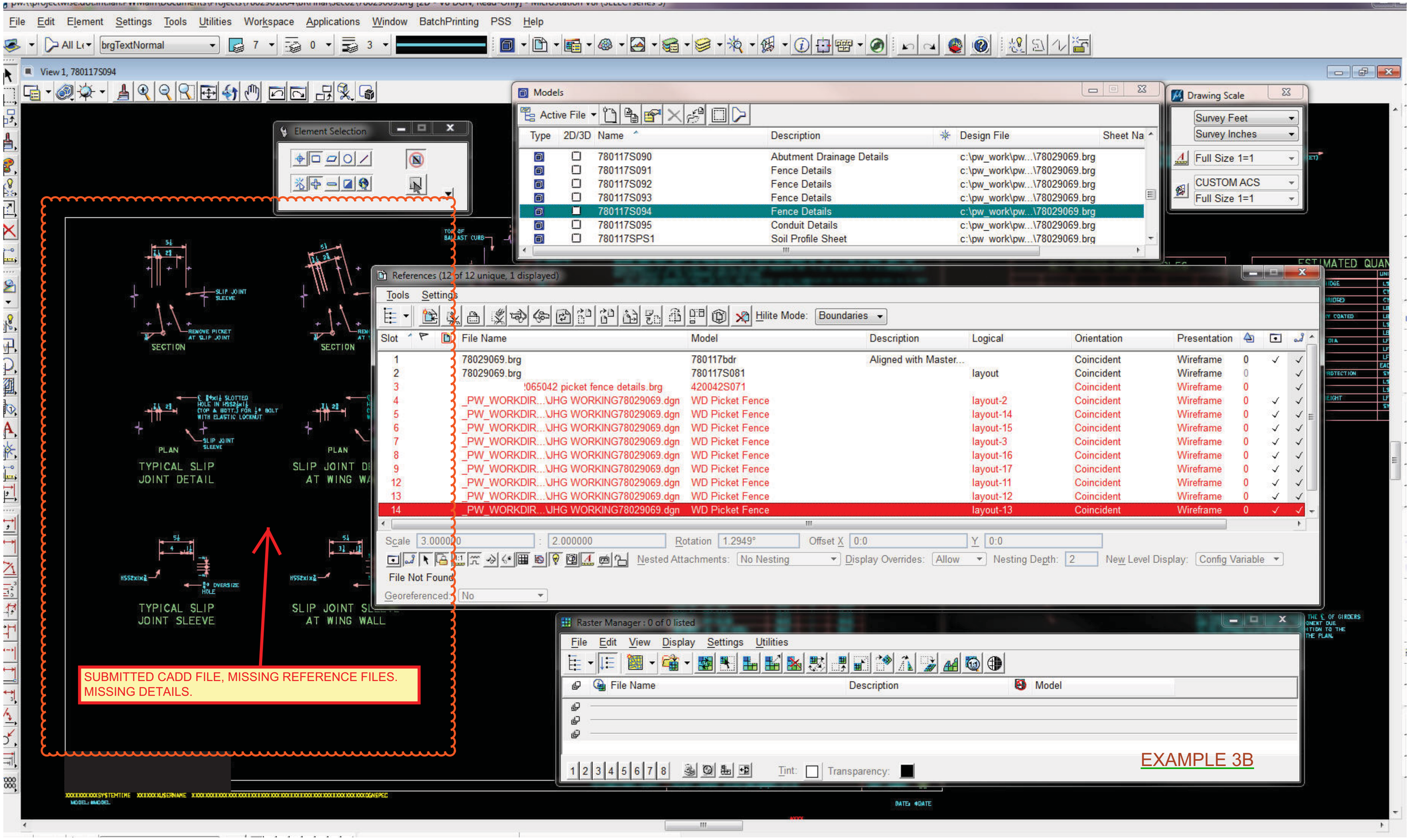
LOCATION
UPRR BR. 1.71 OVER I-29,
OMAHA SUBDIVISION
T-75N R-44W
SECTION 33
LAKE TOWNSHIP
POTTAWATTAMIE COUNTY
FHWA NO. 44736
FRA NO. 816679K
IOWA CROSSING NUMBER 12921
BRIDGE MAINT. NO. 7852.9x029
LATITUDE 41.249866°
LONGITUDE -95.906777°

DESIGN FOR 0° SKEW
290'-1½ x 90'-2 WELDED STEEL GIRDER BRIDGE
50'-0, 100'-6, 90'-3, 50'-0
FENCE DETAILS
STATION 101+32.08 APRIL, 2017
POTTAWATTAMIE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 94 OF 95 FILE NO. 95(169) DESIGN NO. 14

POTTAWATTAMIE COUNTY | PROJECT NUMBER IM-NHS-029-3(69)53--03-78 | SHEET NUMBER 95

DATE: 4/3/2017

EXAMPLE 3A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View 1, 780117S094
Element Selection
Models
Active File
Type 2D/3D Name Description Design File Sheet Na
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780117S091 Fence Details c:\pw_work\pw...\78029069.brg
780117S092 Fence Details c:\pw_work\pw...\78029069.brg
780117S093 Fence Details c:\pw_work\pw...\78029069.brg
780117S094 Fence Details c:\pw_work\pw...\78029069.brg
780117S095 Conduit Details c:\pw_work\pw...\78029069.brg
780117SPS1 Soil Profile Sheet c:\pw_work\pw...\78029069.brg
Drawing Scale
Survey Feet
Survey Inches
Full Size 1=1
CUSTOM ACS
Full Size 1=1
References (12 of 12 unique, 1 displayed)
Tools Settings
Hilite Mode: Boundaries
Slot File Name Model Description Logical Orientation Presentation
1 78029069.brg 780117bdr Aligned with Master... Coincident Wireframe 0
2 78029069.brg 780117S081 layout Coincident Wireframe 0
3 !065042 picket fence details.brg 420042S071 Coincident Wireframe 0
4 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-2 Coincident Wireframe 0
5 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-14 Coincident Wireframe 0
6 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-15 Coincident Wireframe 0
7 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-3 Coincident Wireframe 0
8 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-16 Coincident Wireframe 0
9 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-17 Coincident Wireframe 0
12 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-11 Coincident Wireframe 0
13 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-12 Coincident Wireframe 0
14 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-13 Coincident Wireframe 0
Scale 3.000000 2.000000 Rotation 1.2949° Offset X 0:0 Y 0:0
Nested Attachments: No Nesting Display Overrides: Allow Nesting Depth: 2 New Level Display: Config Variable
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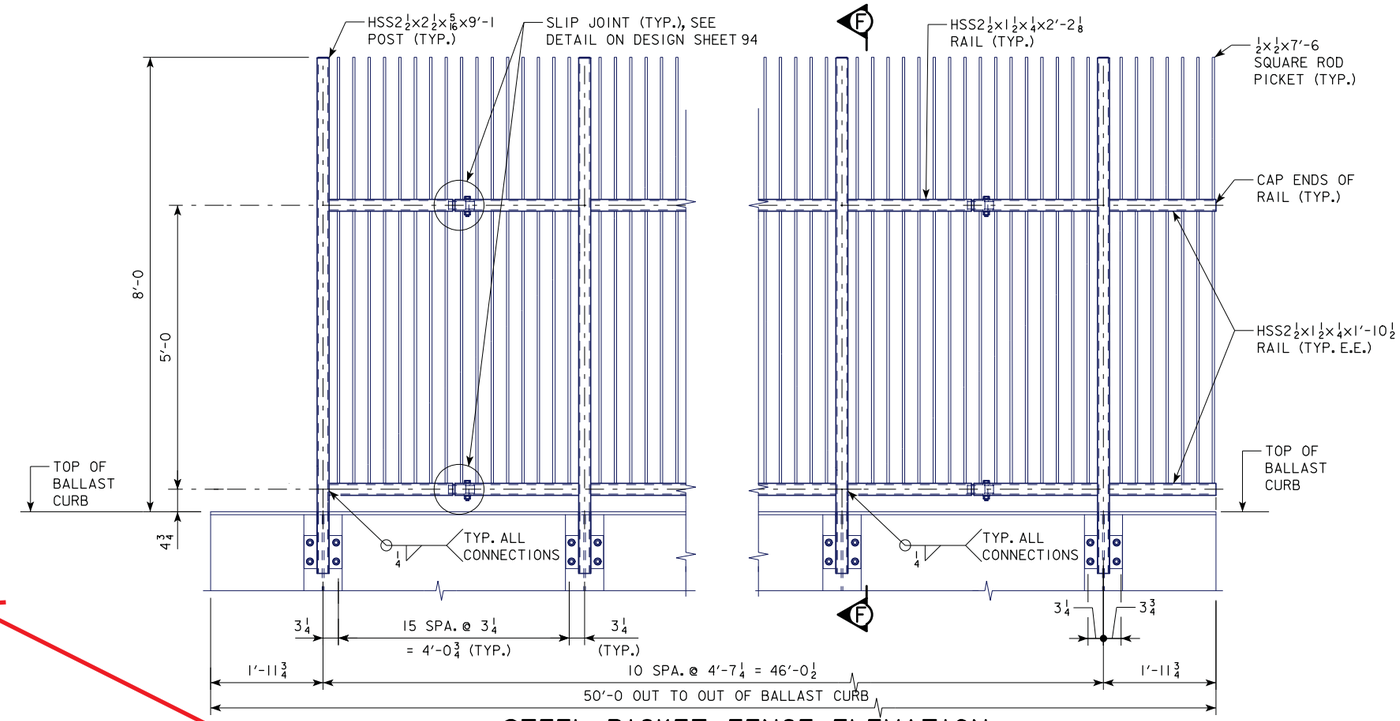
Georeferenced: No
Raster Manager : 0 of 0 listed
File Edit View Display Settings Utilities
File Name Description Model
Tint: Transparency:
SLIP JOINT SLEEVE
REMOVE PICKET AT SLIP JOINT
SECTION
PLAN
TYPICAL SLIP JOINT DETAIL
SLIP JOINT DI AT WING WA
TYPICAL SLIP JOINT SLEEVE
SLIP JOINT SL AT WING WALL
SUBMITTED CADD FILE, MISSING REFERENCE FILES.
MISSING DETAILS.
EXAMPLE 3B

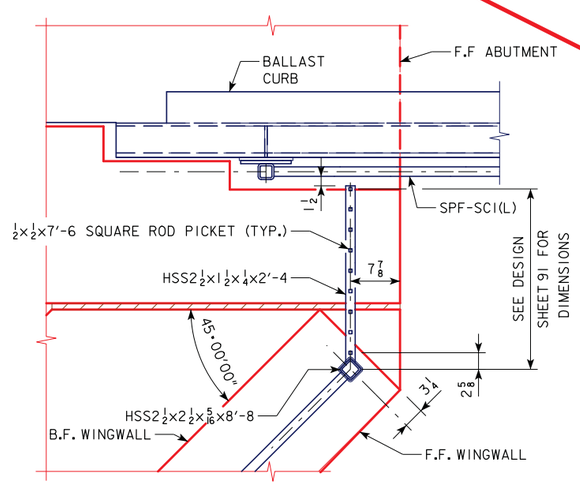
STEEL PICKET FENCE POWDER COATING NOTES:

STEEL RAILING COMPONENTS SHALL BE ABRASIVE BLAST CLEANED TO A MINIMUM OF SSPC-SP6 "COMMERCIAL BLAST CLEANING" PRIOR TO HOT-DIP GALVANIZING. GALVANIZE COMPONENTS IN ACCORDANCE WITH ASTM A 123. DO NOT QUENCH OR APPLY CHROMATE CONVERSION COATINGS TO ANY GALVANIZED COMPONENTS THAT WILL RECEIVE POWDER COATING. FOLLOWING GALVANIZING, POWDER COAT COMPONENTS IN ACCORDANCE WITH MATERIALS I.M. 568.
PREPARATION OF GALVANIZED SURFACES FOR PAINT SHALL BE IN ACCORDANCE WITH MATERIALS I.M. 568, APPENDIX F. COMPLETE " PAINT OVER GALVANIZED SURFACE TRAVEL LOG" IN APPENDIX E.
ALL POWDER COATING EXCEPT FIELD TOUCH-UP SHALL BE PERFORMED IN AN APPROVED SHOP IN ACCORDANCE WITH MATERIALS I.M. 568.
SUBMIT PROPOSED PREPARATION METHODS AND PRODUCT DATA FOR ALL COATINGS PROPOSED FOR USE TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO POWDER COATING. POWDER COATING SHALL MATCH FEDERAL STANDARD NO. 595C COLOR NUMBER 24084 ((SEMI-GLOSS DARK WARM GREY). SUBMIT POWDER COATING COLOR SAMPLE TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS.
PROTECT ALL POWDER COATED RAILING SURFACES FROM DAMAGE DURING SHIPPING, HANDLING, AND INSTALLATION.
FOLLOWING RAILING INSTALLATION, REPAIR ANY DAMAGE TO THE POWDER COATED FINISH IN ACCORDANCE WITH THE COATING MANUFACTURER'S RECOMMENDATIONS. SUBMIT THE POWDER COATING MANUFACTURER'S WRITTEN FIELD REPAIR AND RECOATING PROCEDURES TO THE ENGINEER PRIOR TO TOUCH-UP OPERATIONS. FOLLOWING FINAL INSTALLATION AND TOUCH-UP PAINTING, THE FINISHED SURFACES SHALL BE UNIFORM IN COLOR, SHEEN, TEXTURE AND HIDING ACROSS EACH CONTINUOUS SURFACE AREA WHEN VIEWED IN NATURAL DAYLIGHT AT NORMAL VIEWING ANGLES AND FROM DISTANCES NOT LESS THAN 39 INCHES FROM SURFACE. COMPONENTS DEEMED UNACCEPTABLE BY THE ENGINEER SHALL BE REMOVED AND RETURNED TO AN APPROVED POWDER COATING SHOP, AND SHALL BE COMPLETELY STRIPPED AND RECOATED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE PROJECT.



STEEL PICKET FENCE ELEVATION
SPF-SCI(L) SHOWN, SPF-SCI(R) SIMILAR BY MIRROR

SUBMITTED PLAN PDF, SHOWING DETAILS.



SECTION C-C
SPF-AC2(L) SHOWN, SPF-AC2(R) SIMILAR BY MIRROR

Do not place text in this location, this is reserved for ADDENDUM stamp.

NOTE:

FOR SECTION F-F, SEE DESIGN SHEET 92.

FOR SLIP JOINT DETAILS, SEE DESIGN SHEET 94.

FOR PICKET FENCE LOCATION PLAN, SEE DESIGN SHEET 91.

FOR CAP TOP OF POST AND ENDS OF RAILS DETAILS, SEE DESIGN SHEET 94.

LOCATION

UPRR BR. 171 OVER I-29,
OMAHA SUBDIVISION
T-75N R-44W
SECTION 33
LAKE TOWNSHIP
POTTAWATTAMIE COUNTY
FHWA NO. 44736
FRA NO. 816679K
IOWA CROSSING NUMBER 12921
BRIDGE MAINT. NO. 7852.9x029
LATITUDE 41.249866°
LONGITUDE -95.906777°

DESIGN FOR 0° SKEW

290'-1 1/2 x 90'-2 WELDED STEEL GIRDER BRIDGE

50'-0, 100'-6, 90'-3, 50'-0

FENCE DETAILS

STATION 101+32.08 APRIL, 2017

POTTAWATTAMIE COUNTY

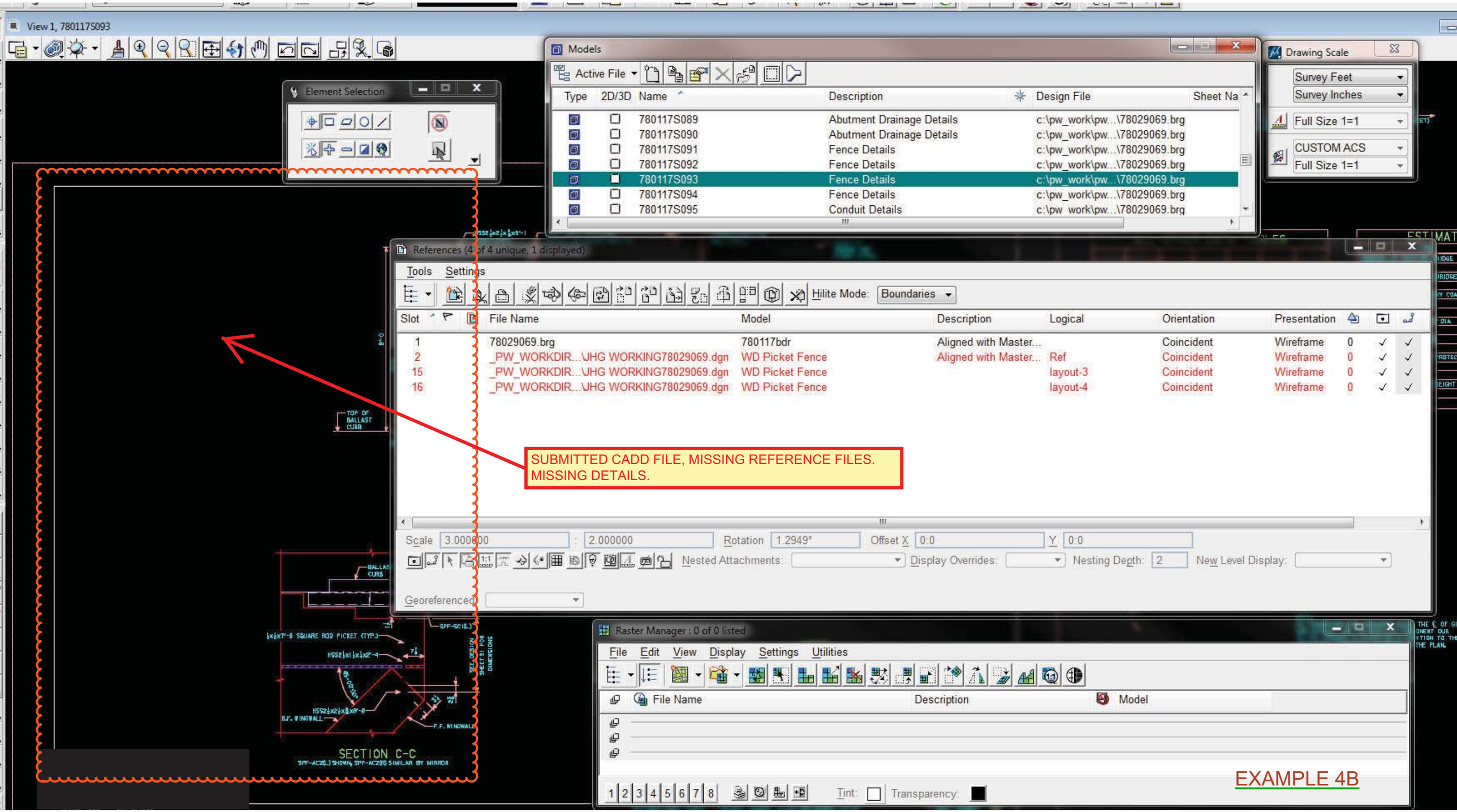
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 93 OF 95 FILE NO. 307133 DESIGN NO. 17

POTTAWATTAMIE COUNTY	PROJECT NUMBER IM-NHS-029-3(69)5[illegible]--03-78	SHEET NUMBER 94

DATE: 4/3/2017

EXAMPLE 4A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Active File
Type 2D/3D Name Description Design File Sheet Na
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780117S090 Abutment Drainage Details c:\pw_work\pw...\78029069.brg
780117S091 Fence Details c:\pw_work\pw...\78029069.brg
780117S092 Fence Details c:\pw_work\pw...\78029069.brg
780117S093 Fence Details c:\pw_work\pw...\78029069.brg
780117S094 Fence Details c:\pw_work\pw...\78029069.brg
780117S095 Conduit Details c:\pw_work\pw...\78029069.brg
Drawing Scale
Survey Feet
Survey Inches
Full Size 1=1
CUSTOM ACS
Full Size 1=1
References (4 of 4 unique, 1 displayed)
Tools Settings
Hilite Mode: Boundaries
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1 78029069.brg 780117bdr Aligned with Master... Coincident Wireframe 0
2 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence Aligned with Master... Ref Coincident Wireframe 0
15 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-3 Coincident Wireframe 0
16 _PW_WORKDIR...\JHG WORKING78029069.dgn WD Picket Fence layout-4 Coincident Wireframe 0
SUBMITTED CADD FILE, MISSING REFERENCE FILES.
MISSING DETAILS.
Scale 3.000000 : 2.000000 Rotation 1.2949° Offset X 0:0 Y 0:0
Nested Attachments: Display Overrides: Nesting Depth: 2 New Level Display:
Georeferenced
Raster Manager : 0 of 0 listed
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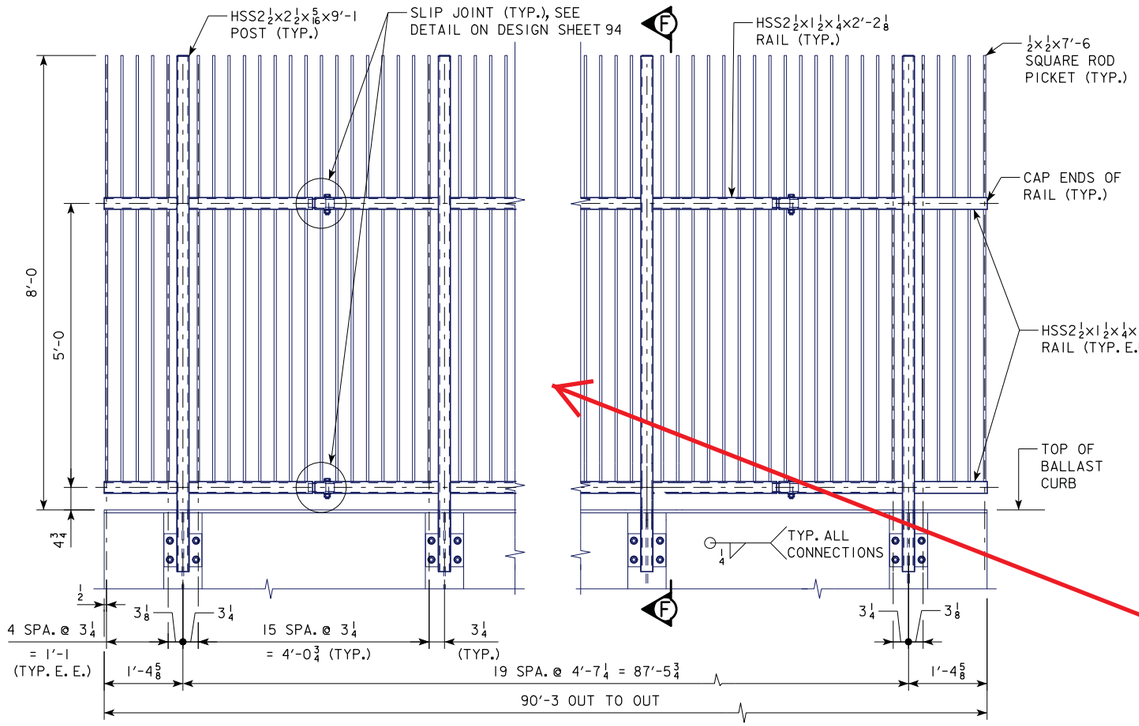
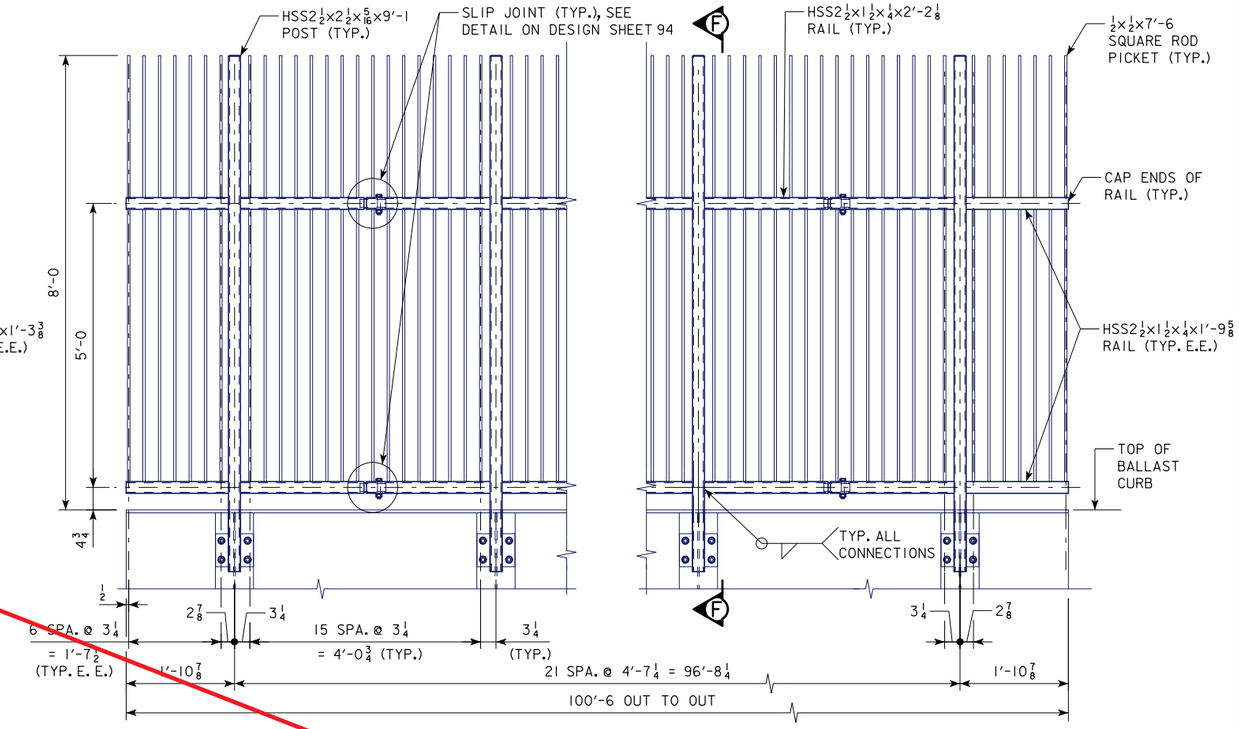
File Name Description Model
Tint: Transparency:
SECTION C-C

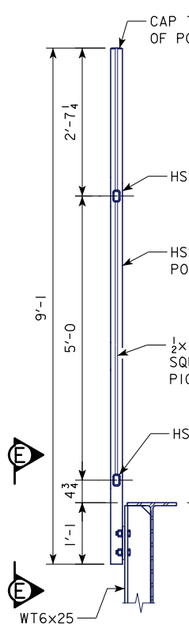
EXAMPLE 4B



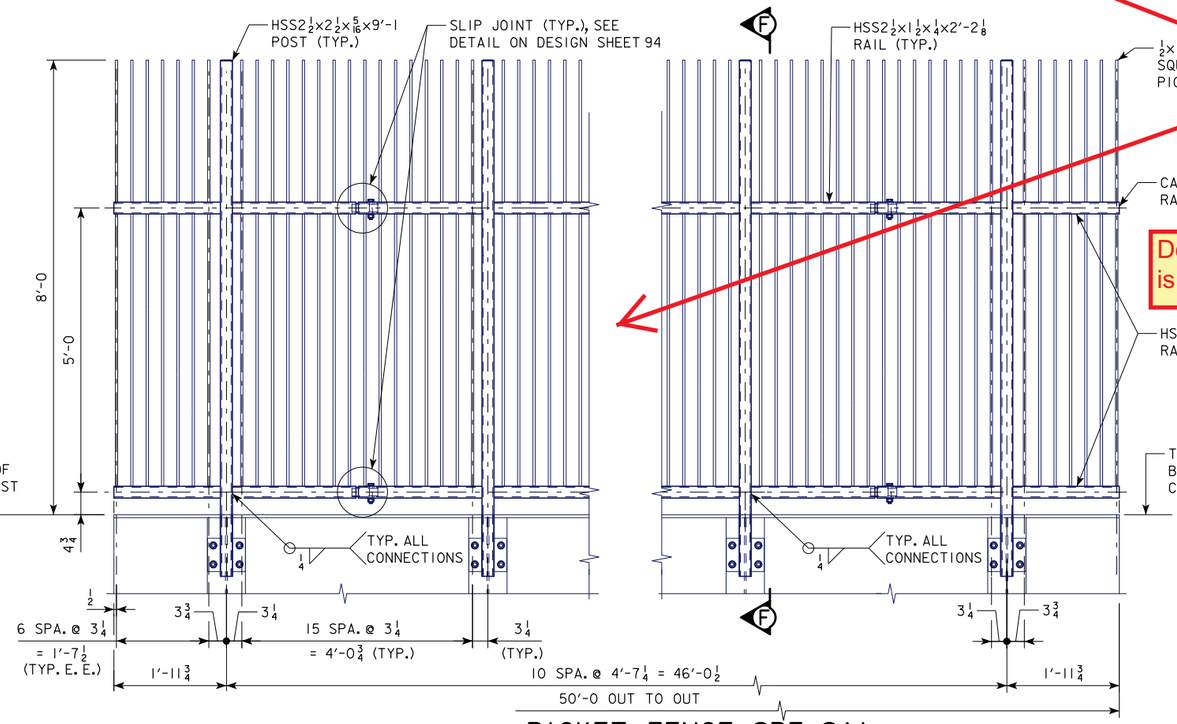
STEEL PICKET FENCE SPF-SB2



STEEL PICKET FENCE SPF-SB1



SECTION F-F



PICKET FENCE SPF-SA1

SUBMITTED PLAN PDF, SHOWING DETAILS.

Do not place text in this location, this is reserved for ADDENDUM stamp.

LOCATION

UPRR BR. 1.71 OVER I-29,
OMAHA SUBDIVISION
T-75N R-44W
SECTION 33
LAKE TOWNSHIP
POTTAWATTAMIE COUNTY
FHWA NO. 44736
FRA NO. 816679K
IOWA CROSSING NUMBER 12921
BRIDGE MAINT. NO. 7852.9x029
LATITUDE 41.249866°
LONGITUDE -95.906777°

NOTE:

FOR SECTION E-E, SEE DESIGN SHEET 94.

FOR SLIP JOINT DETAILS, SEE DESIGN SHEET 94.

FOR PICKET FENCE LOCATION PLAN, SEE DESIGN SHEET 91.

FOR CAP TOP OF POST AND ENDS OF RAILS DETAILS, SEE DESIGN SHEET 94.

DESIGN FOR 0° SKEW

290'-1½ x 90'-2 WELDED STEEL GIRDER BRIDGE

50'-0, 100'-6, 90'-3, 50'-0

FENCE DETAILS

STATION 101+32.08 APRIL, 2017

POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 92 OF 95 FILE NO. 30169 DESIGN NO. 117

POTTAWATTAMIE COUNTY	PROJECT NUMBER IM-NHS-029-3(69)53--03-78	SHEET NUMBER 93

DATE: 3/30/2017

EXAMPLE 5A

View 1, 780117S092

Element Selection

Models

Active File

Type	2D/3D	Name	Description	Design File	Sheet Na
		780117S089	Abutment Drainage Details	c:\pw_work\pw...\78029069.brg	
		780117S090	Abutment Drainage Details	c:\pw_work\pw...\78029069.brg	
		780117S091	Fence Details	c:\pw_work\pw...\78029069.brg	
		780117S092	Fence Details	c:\pw_work\pw...\78029069.brg	
		780117S093	Fence Details	c:\pw_work\pw...\78029069.brg	
		780117S094	Fence Details	c:\pw_work\pw...\78029069.brg	
		780117S095	Conduit Details	c:\pw_work\pw...\78029069.brg	

Drawing Scale

Survey Feet

Survey Inches

Full Size 1=1

CUSTOM ACS

Full Size 1=1

References (15 of 15 unique, 1 displayed)

Tools Settings

Hilite Mode: Boundaries

Slot	File Name	Model	Description	Logical	Orientation	Presentation			
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4	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-2	Coincident	Wireframe	0	✓	✓
5	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-14	Coincident	Wireframe	0	✓	✓
6	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-15	Coincident	Wireframe	0	✓	✓
8	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-6	Coincident	Wireframe	0	✓	✓
9	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-7	Coincident	Wireframe	0	✓	✓
10	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-8	Coincident	Wireframe	0	✓	✓
11	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-9	Coincident	Wireframe	0	✓	✓
12	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-11	Coincident	Wireframe	0	✓	✓
13	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-12	Coincident	Wireframe	0	✓	✓
14	_PW_WORKDIR...\JHG WORKING78029069.dgn	WD Picket Fence		layout-13	Coincident	Wireframe	0	✓	✓

Scale 3.000000 : 2.000000 Rotation 1.2949° Offset X 0:0 Y 0:0

Nested Attachments: Display Overrides: Nesting Depth: 2 New Level Display:

Georeferenced:

SUBMITTED CADD FILE, MISSING REFERENCE FILES. MISSING DETAILS.

EXAMPLE 5B

STEEL PICKET FENCE SPF-SB2

SECTION F-F

STEEL PICKET FENCE SPF-SA1

NOTE:

LOCATION

290'-½ x 90'-2 WELDED STEEL GIRDER BRIDGE

FENCE DETAILS

POTTAWATTAMIE COUNTY

VARIABLE SHEET NUMBER TEXT

WESTBOUND BRIDGE SITUATION PLAN

Do not place text in this location, this is reserved for ADDENDUM stamp.

CIRCULAR CURVE SYSTEM

CURVE NO.	BEGIN CURVE STATION	BEGIN CURVE COORDINATES NORTH	BEGIN CURVE COORDINATES EAST	P.I. STATION	P.I. COORDINATES NORTH	P.I. COORDINATES EAST	END CURVE STATION	END CURVE COORDINATES NORTH	END CURVE COORDINATES EAST	Δ	D	T	L	E	R
124	253+52.76	380789.145	2765937.765	262+78.36	381689.432	2766152.758	271+12.15	382187.907	2766932.669	43°59'04.57"	2°30'00.00"	925.60'	1759.38'	179.85'	2291.83'
212	5247+83.17	380215.459	2765850.071	5249+16.36	380348.381	2765898.562	5250+49.26	380479.424	2765922.393	06°39'07.73"	2°30'00.00"	133.19'	266.09'	3.87'	2291.83'
213	5252+97.75	380723.909	2765968.855	5253+73.94	380798.864	2765980.486	5254+50.00	380872.148	2766001.309	05°33'17.65"	3°38'54.73"	76.18'	152.19'	1.85'	1570.38'
225	7257+70.00	381167.554	2766108.025	7258+70.19	381259.184	2766148.557	7259+69.98	381343.434	2766202.786	06°54'22.57"	4°27'12.55"	100.19'	199.98'	3.90'	1286.54'
226	7259+69.98	381343.434	2766202.786	7264+61.15	381756.436	2766468.625	7269+37.12	382020.948	2766682.479	24°38'50.34"	2°32'54.60"	491.16'	967.13'	53.03'	2248.23'
232	8260+95.93	381492.888	2766188.992	8262+61.15	381633.644	2766275.518	8264+25.98	381763.011	2766378.296	08°53'10.51"	2°05'11.11"	165.23'	330.05	4.97'	2749.13'

CURVE NO.	SUPERELEVATION BACK e	s	m	x	FORWARD s	m	x	TANGENT BEARING BACK	FORWARD	CURVE NO.
124	.05	280.00	—	80.00	280.00	—	80.00	N13°25'51.59"E	N57°24'56.16"E	124
212	.040	45.00	27.00	0.00	45.00	27.00	0.00	N03°38'17.76"E	N10°18'25.49"E	212
213	.02	—	—	—	—	—	—	N10°18'25.49"E	N15°51'43.14"E	213
225	.05	—	—	—	—	—	—	N23°51'43.25"E	N32°46'05.81"E	225
226	.040	—	—	—	45.00	27.00	0.00	N32°46'05.81"E	N57°24'56.16"E	226
232	.050	—	—	—	189.00	41.00	54.00	N31°34'47.88"E	N38°27'58.40"E	232

SPIRAL CURVE DATA, CURVE 124

T.S. STA.	= 251+52.76	N 380,593.363	E2,765,896.991
P.I. STA.	= 262+97.16	N 381,717.000	E2,766,114.000
S.T. STA.	= 273+12.15	N 382,290.660	E2,767,104.236
Δ	= 48° 59' 4.57"		
T_s	= 1144.40'		
L_s	= 200.00'		
θ	= 2°30' 00.00"		
P	= 0.73'		
K	= 99.99'		
X_c	= 199.96'		
Y_c	= 2.91'		
L.T.	= 133.35'		
S.T.	= 66.68'		
E_s	= 227.42'		

TANGENT BEARING

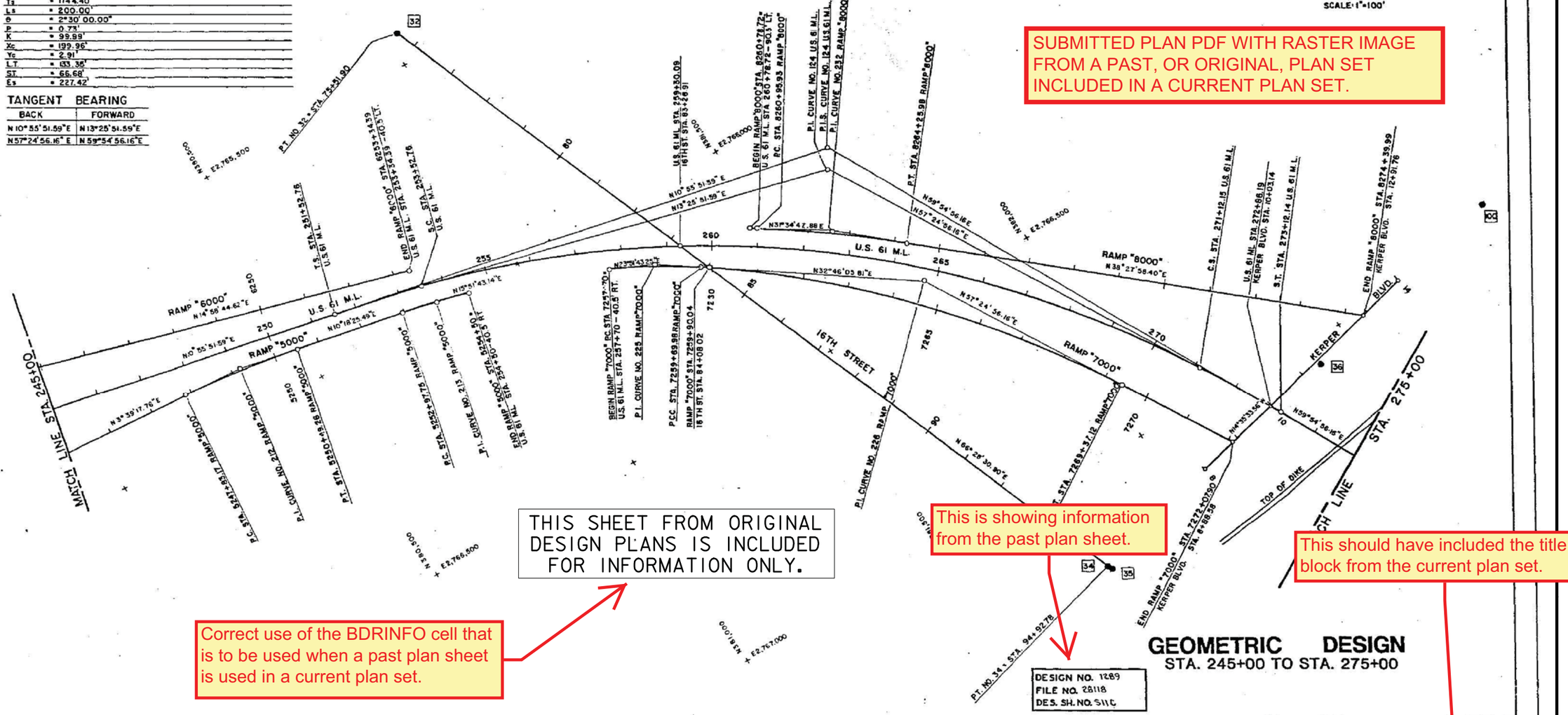
BACK	FORWARD
N 10° 55' 51.59" E	N 13° 25' 51.59" E
N 57° 24' 56.16" E	N 59° 54' 56.16" E

TRAVERSE DATA

TRAVERSE POINT	COORDINATE NORTH	COORDINATE EAST
* 30	380,408.884	2,765,676.933
32	381,018.532	2,765,428.751
* 33	380,533.982	2,767,563.917
34	381,793.227	2,767,208.325
35	381,797.781	2,767,218.787
36	382,425.287	2,767,053.296
* 37	382,015.073	2,767,717.933
* 38	382,121.030	2,767,961.330
* 92	380,429.538	2,765,691.910
* 93	380,724.377	2,765,560.177
100	382,908.756	2,766,925.792
* 91	379,724.020	2,765,691.997

*NOT SHOWN ON SHEET

SCALE: 1"=100'



SUBMITTED PLAN PDF WITH RASTER IMAGE FROM A PAST, OR ORIGINAL, PLAN SET INCLUDED IN A CURRENT PLAN SET.

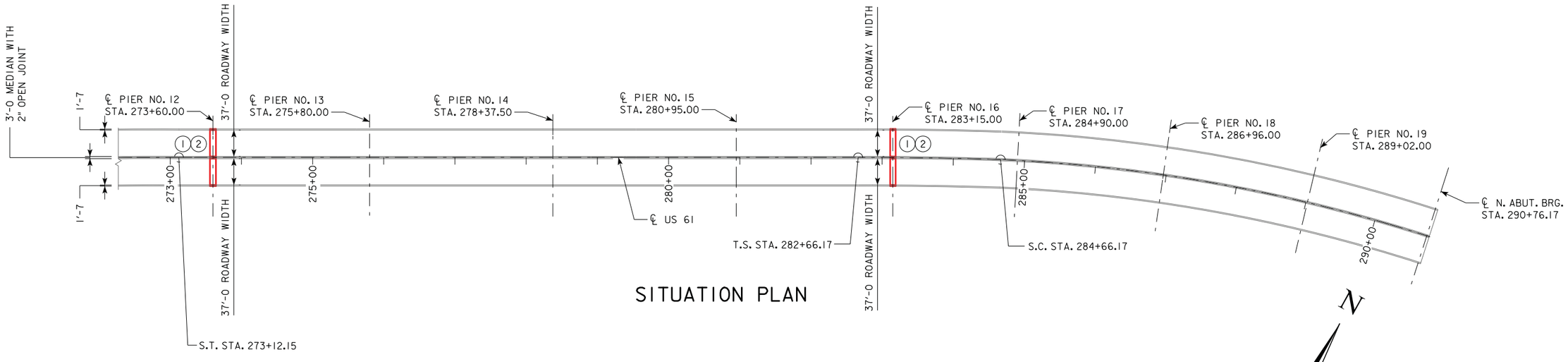
THIS SHEET FROM ORIGINAL DESIGN PLANS IS INCLUDED FOR INFORMATION ONLY.

Correct use of the BDRINFO cell that is to be used when a past plan sheet is used in a current plan set.

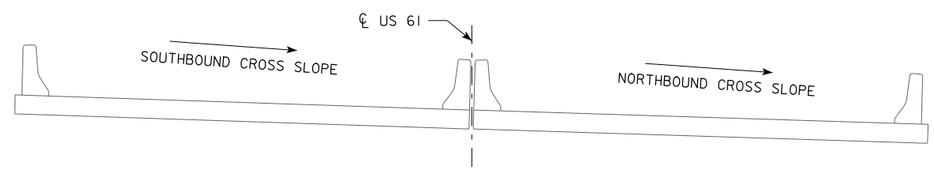
This is showing information from the past plan sheet.

This should have included the title block from the current plan set.

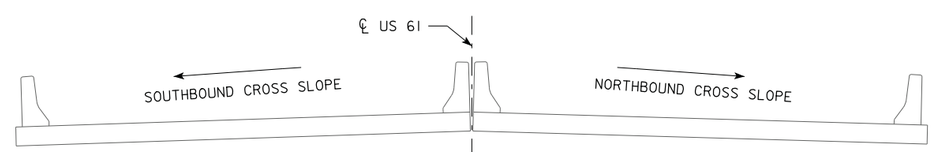
EXAMPLE 6A



SITUATION PLAN



CROSS SLOPES AT PIERS 3, 9, & 16



CROSS SLO

Title block should be used on all plan sheets even those that are showing a plan sheet from an existing, or past, plan set.

CROSS SLOPE AT JOINTS	
PIER 3 SB	5.0%
PIER 3 NB	5.0%
PIER 9 SB	5.0%
PIER 9 NB	5.0%
PIER 12 SB	1.2%
PIER 12 NB	2.0%
PIER 16 SB	1.2%
PIER 16 NB	2.0%

REPAIRS SHALL CONSIST OF:

1. REPLACE MODULAR EXPANSION JOINTS AT PIERS 3, 9, 12, AND 16.
2. CLEAN AND PAINT CORRODED AREAS AT THE TOP FLANGES OF THE END DIAPHRAGMS UNDER JOINT REPLACEMENT.

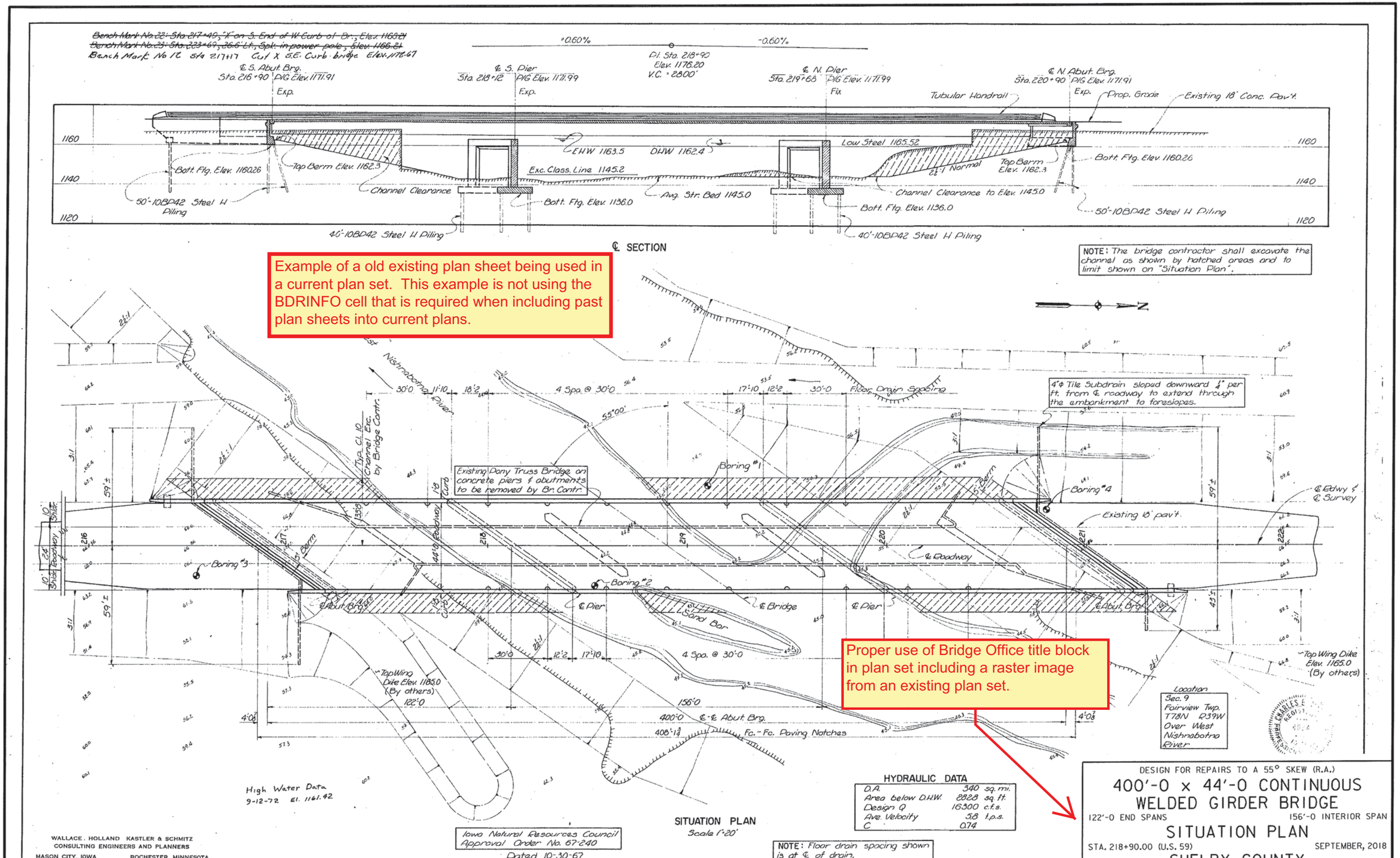
EXAMPLE 6B

DESIGN FOR REPAIR TO
4029'-9 x 80'-2 MIN. CONTINUOUS WELDED GIRDER BRIDGE
UNITS 580'-9, 612'-0, 604'-0, 510'-0, 955'-0, AND 761'-2

SITUATION PLAN

STA. 272+86.19 (℄ US 61) MAY 2017

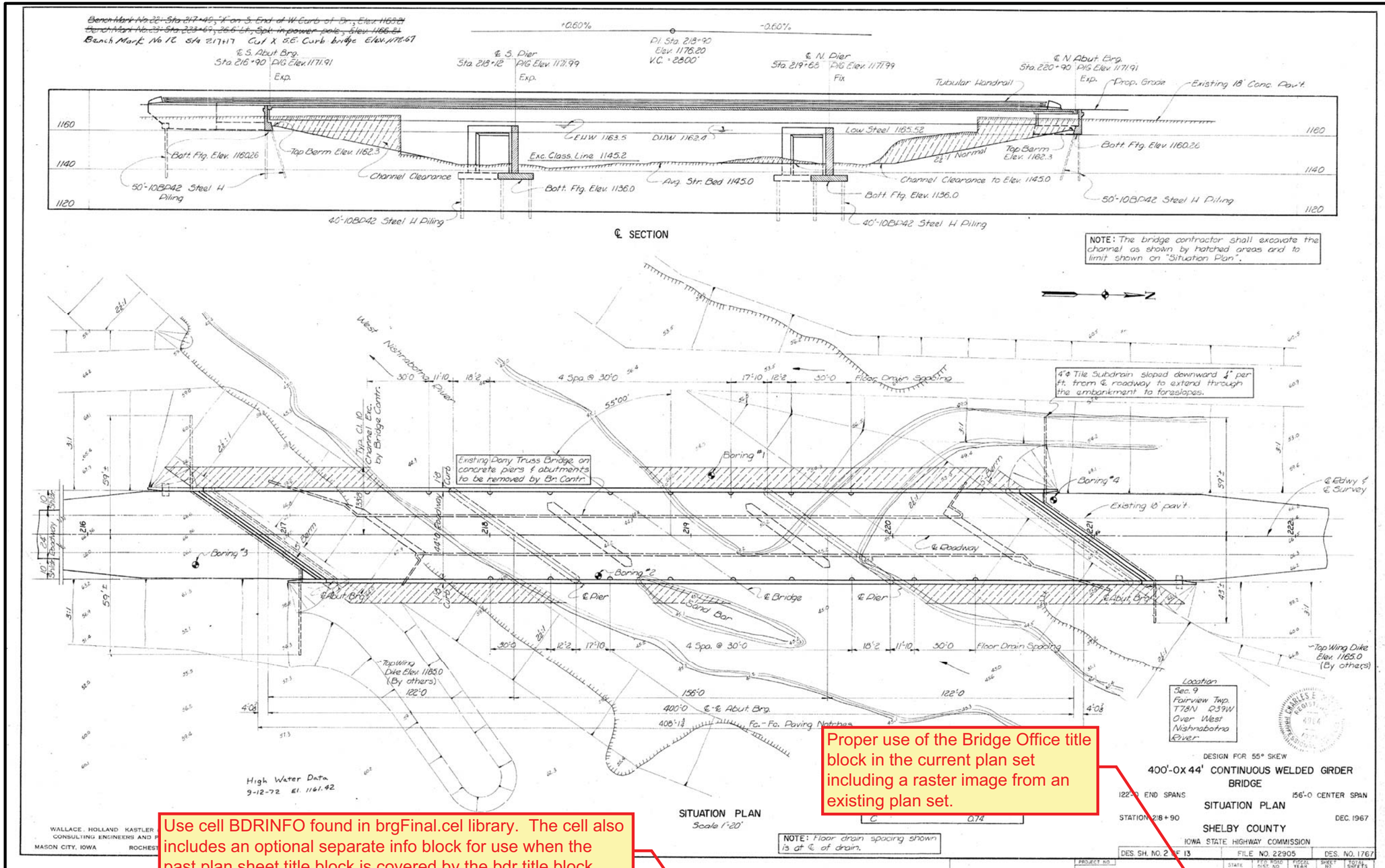
DUBUQUE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 15 FILE NO. 31395 DESIGN NO. 1217



Example of a old existing plan sheet being used in a current plan set. This example is not using the BDRINFO cell that is required when including past plan sheets into current plans.

Proper use of Bridge Office title block in plan set including a raster image from an existing plan set.

EXAMPLE 6C



Proper use of the Bridge Office title block in the current plan set including a raster image from an existing plan set.

Use cell BDRINFO found in brgFinal.cel library. The cell also includes an optional separate info block for use when the past plan sheet title block is covered by the bdr title block.

THIS SHEET FROM ORIGINAL DESIGN PLANS IS INCLUDED FOR INFORMATION ONLY.

DESIGN FOR REPAIRS TO A 55° SKEW (R.A.)

400'-0 x 44'-0 CONTINUOUS WELDED GIRDER BRIDGE

122'-0 END SPANS 156'-0 INTERIOR SPAN

SITUATION PLAN

STA. 218+90.00 (U.S. 59) SEPTEMBER, 2018

SHELBY COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 12 FILE NO. 31418 DESIGN NO. 118

DESIGN TEAM AMA / JSZ | SHELBY COUNTY | PROJECT NUMBER MB-059-4(501)70--77-83 | SHEET NUMBER 4

5/4/2018 1:52:12 PM bkloss pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8305901016\BRFinal\BRG_83059501.dgn 830118S003p 11x17_pdf.pltcfg

EXAMPLE 6D

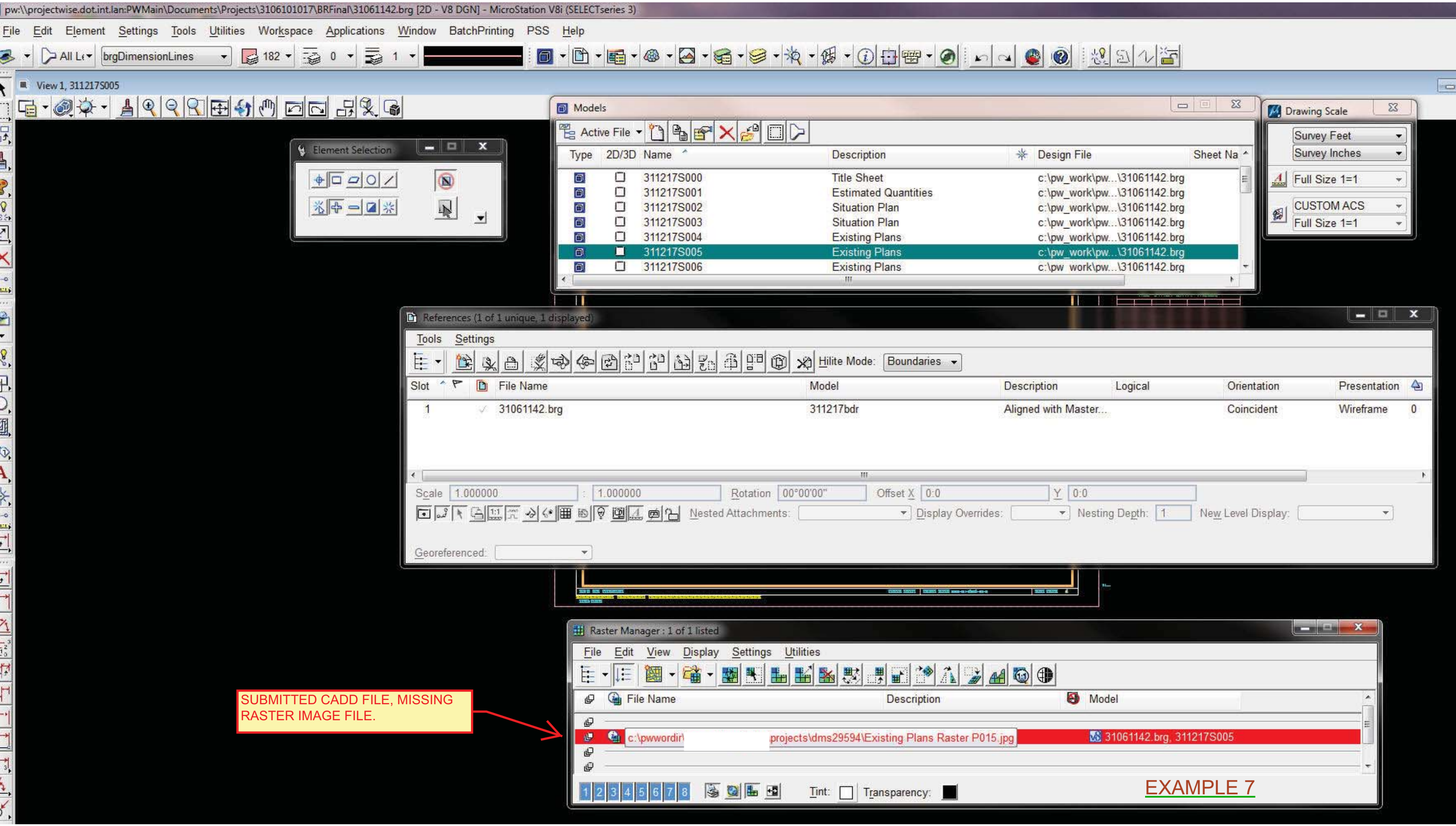
DESIGN NO.
FILE NO.
DESIGN SHEET NO.

Place this cell on plans that do not show existing plan title block.

THIS SHEET FROM ORIGINAL DESIGN PLANS IS INCLUDED FOR INFORMATION ONLY.

Cell BDRINFO found in brgFinal.cel library.

EXAMPLE 6E


pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3106101017\BRFinal\31061142.brg [2D - V8 DGN] - MicroStation V8i (SELECTseries 3)
File Edit Element Settings Tools Utilities Workspace Applications Window BatchPrinting PSS Help
brgDimensionLines
View 1, 311217S005
Element Selection
Models
Active File
Type 2D/3D Name Description Design File Sheet Na
311217S000 Title Sheet c:\pw_work\pw...\31061142.brg
311217S001 Estimated Quantities c:\pw_work\pw...\31061142.brg
311217S002 Situation Plan c:\pw_work\pw...\31061142.brg
311217S003 Situation Plan c:\pw_work\pw...\31061142.brg
311217S004 Existing Plans c:\pw_work\pw...\31061142.brg
311217S005 Existing Plans c:\pw_work\pw...\31061142.brg
311217S006 Existing Plans c:\pw_work\pw...\31061142.brg
Drawing Scale
Survey Feet
Survey Inches
Full Size 1=1
CUSTOM ACS
Full Size 1=1
References (1 of 1 unique, 1 displayed)
Tools Settings
Hilite Mode: Boundaries
Slot File Name Model Description Logical Orientation Presentation
1 31061142.brg 311217bdr Aligned with Master... Coincident Wireframe 0
Scale 1.000000 1.000000 Rotation 00°00'00" Offset X 0:0 Y 0:0
Nested Attachments: Display Overrides: Nesting Depth: 1 New Level Display:
Georeferenced:
Raster Manager : 1 of 1 listed
File Edit View Display Settings Utilities
File Name Description Model
c:\pwwordir\ projects\dms29594\Existing Plans Raster P015.jpg 31061142.brg, 311217S005
Tint: Transparency:
SUBMITTED CADD FILE, MISSING RASTER IMAGE FILE.

EXAMPLE 7

GENERAL NOTES:

IT IS THE INTENT OF THIS DESIGN TO STAGE CONSTRUCT A TWIN 12'x6'x67'-0 REINFORCED CONCRETE BOX CULVERT SKEWED 15° LEFT AHEAD AT STATION 348+45.69.

THE RCB CULVERT SECTIONS ARE DESIGNED FOR HL-93 LIVE LOAD AND 1 FOOT OF EARTH FILL.

THE RCB CULVERT SECTIONS ARE DESIGN FOR CLASS 1 EXPOSURE CONDITION.

ALL SLAB AND FLOOR REINFORCING STEEL IS TO BE SUPPORTED AT INTERVALS OF NOT MORE THAN 3'-0 IN EITHER DIRECTION AS OUTLINED IN THE STANDARD SPECIFICATIONS.

THE CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR EDGE OR END OF REINFORCING BAR TO BE 2" UNLESS OTHERWISE NOTED.

EXCEPT FOR DOWEL BARS 5r1 IN SLAB, LONGITUDINAL REINFORCING IS NOT TO EXTEND THRU THE CONSTRUCTION JOINTS.

FLOOR OF BARREL IS TO BE FINISHED SMOOTH. SIDES OF FOOTING ARE TO BE FORMED TO INSURE CORRECT LINE AND GRADE.

THE PERMISSIBLE CONSTRUCTION JOINT AT THE TOP OF THE WALLS MAY BE LOWERED AT THE CONTRACTOR'S OPTION WITH ENGINEER'S APPROVAL.

THE REINFORCEMENT SUPPLIED FOR THIS STRUCTURE SHALL BE GRADE 60. REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE DESIGN STRESSES ARE BASED ON GRADE 60 REINFORCEMENT.

THE VERTICAL BARS IN THE WALLS MAY BE SPLICED ABOVE THE FOOTING AT THE CONTRACTOR'S OPTION AS FOLLOWS:

BAR SIZE NUMBER	4	5	6	7	8	9
MINIMUM SPLICE LENGTH	17"	21"	25"	31"	41"	51"

THIS SPLICE, IF USED, WILL BE AT THE CONTRACTOR'S EXPENSE.

REINFORCING BAR CLEARANCES WILL BE AS FOLLOWS:

EDGE CLEARANCES:	2" EXCEPT
TOP OF FLOOR	$2\frac{1}{4}$" TO NEAR TRANSVERSE REINFORCING BAR
BOTTOM OF FLOOR	$3\frac{1}{2}$" TO NEAR TRANSVERSE REINFORCING BAR
END CLEARANCES:	
VERTICAL TOP	2"
VERTICAL BOTTOM	3" OR $3\frac{1}{2}$" IF OVERALL HEIGHT OF THE CULVERT IS NOT TO A FULL INCH
TRANSVERSE	2"

ALL CONSTRUCTION JOINTS SHALL BE FORMED WITH A BEVELED KEYWAY.

ALL BEVELED KEYWAYS SHALL BE CENTERED.

KEYWAY SIZE SHALL BE 2x4 EXCEPT OPTIONAL KEYWAY AT CURTAIN WALL STRUT SHALL BE 2x6.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED OR SHOWN.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THESE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5a1 IS $\frac{5}{8}$ INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	4	5	6	7	8	9
BAR DESIGNATION	13	16	19	22	25	29

ALL REINFORCING BARS AND BARS NOTED AS DOWELS SUPPLIED FOR THIS STRUCTURE SHALL BE DEFORMED REINFORCEMENT UNLESS OTHERWISE NOTED OR SHOWN.

THE CLASS 20 EXCAVATION QUANTITY IS BASED ON THE ASSUMPTION THAT AT THE START OF CULVERT CONSTRUCTION, THE EXISTING GROUNDLINE SHOWN ON THE "SITUATION PLAN" HAS REMAINED UNDISTURBED AND NO ROADWAY FILL HAS BEEN PLACED.

AN 18" DIAMETER CORRUGATED METAL PIPE IS TO BE CAST IN THE WALL AT THE LOCATION INDICATED ON SHEET V.03 AND C.04. THE CONTRACTOR IS TO FURNISH A 4 FOOT SECTION OF PIPE AS REQUIRED. THE PIPE IS TO BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR "STRUCTURAL CONCRETE, (CULVERT)". THE LONGITUDINAL AND TRANSVERSE BARS, IN THE AREA OF THE OPENING, ARE TO BE FIELD CUT AND BENT TO PROVIDE FOR 2" MINIMUM CLEARANCE ALL AROUND THE OPENING. SEE SHEET V.13 FOR DETAILS.

WHEN DE-WATERING PRESENTS A PROBLEM FOR PLACING THE CURTAIN WALLS AS DETAILED, ALTERNATE METHODS SUCH AS STEEL SHEET PILE AND PRECAST CONCRETE WALLS MAY BE APPROVED BUT AT NO ADDITIONAL COST. THE CULVERT CONTRACTOR IS TO SUBMIT TO THE ENGINEER FOR APPROVAL COMPLETE DRAWINGS OF THE PROPOSED CURTAIN WALL ALTERNATE BEFORE BEGINNING CONSTRUCTION.

UTILITY COMPANIES AND MUNICIPALITIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

REMOVAL NOTES:

FAINT LINES ON PLANS INDICATE EXISTING STRUCTURE.

NEW CULVERT CONSTRUCTION SHALL BE DONE IN STAGES AS SPECIFIED ON THE STAGE CONSTRUCTION LAYOUTS. ONE LANE OF TWO-WAY TRAFFIC IS TO BE MAINTAINED ON THE EXISTING CULVERT DURING STAGE 1 AND ON THE NEW CULVERT DURING STAGE 11.

REMOVAL OF THE EXISTING CULVERT SHALL BE ON A VERTICAL PLANE AT THE LOCATION SHOWN IN THESE PLANS. THE REMOVAL LINE SHALL BE INITIATED WITH A 2 1/2"± DEEP SAW CUT ON THE TOP AND BOTH SIDES OF EACH WALL, AND ACROSS THE TOP OF THE FLOOR. THIS SAW CUT SHOULD CUT THRU ANY EXISTING LONGITUDINAL REINFORCING THEREBY FACILITATING A NEAT NON-SPALLED BREAK LINE.

REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO OTHER PORTIONS OF THE EXISTING STRUCTURE NOT NOTED FOR REMOVAL SHALL BE THE RESPONSIBILITY OF THE BRIDGE CONTRACTOR AND SHALL BE REPAIRED AT NO EXTRA COST TO THE STATE.

SPECIFICATIONS:

DESIGN:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED., SERIES OF 2014.

CONSTRUCTION:

IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES OF 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN STRESSES:

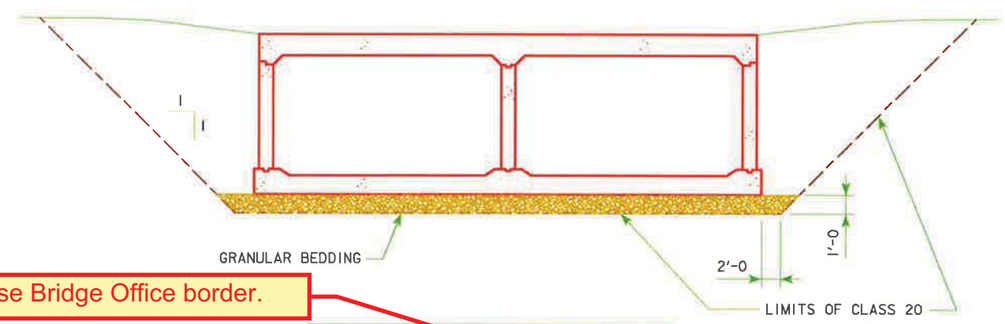
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED., SERIES OF 2014:

REINFORCING STEEL IN ACCORDANCE WITH AASHTO LRFD SECTION 5, GRADE 60.
CONCRETE IN ACCORDANCE WITH AASHTO LRFD SECTION 5, f'c = 4.0 KSI.

INDEX OF SHEETS

NO.	DESCRIPTION
V.01	GENERAL NOTES
V.02	QUANTITIES
V.03	SITUATION PLAN
STAGE 1	
V.04	CULVERT BARREL SECTION - STAGE 1
V.05-V.07	CULVERT END SECTION DETAILS - STAGE 1
V.08-V.10	CULVERT HEADWALL DETAILS - STAGE 1
V.11	QUANTITIES - STAGE 1
V.12	FENCE DETAILS - STAGE 1
STAGE 11	
V.13	CULVERT BARREL SECTIONS - STAGE 11
V.14	CULVERT STANDARD SECTION DETAILS - STAGE 11
V.15-V.17	CULVERT END SECTION DETAILS - STAGE 11
V.18	FLOOR TRANSITION AND PARAPET DETAILS - STAGE 11
V.19-V.20	CULVERT HEADWALL DETAILS - STAGE 11
V.21	CURTAIN WALL DETAILS - STAGE 11
V.22	QUANTITIES - STAGE 11
V.23	FENCE DETAILS - STAGE 11

Use Font 83.



Use Bridge Office border.

TRAFFIC CONTROL PLAN

NOTE: THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS.

NOTE:
POLLUTION PREVENTION PLAN SHOWN ELSEWHERE IN THESE PLANS.

DESIGN FOR 15° SKEW (LA)

TWIN 12'x6'x67' REINFORCED CONCRETE BOX CULVERT

GENERAL NOTES

STA. 348+45.69, EXISTING ℄ U.S. HIGHWAY 6 NOVEMBER, 2015

CITY OF LADORA, IOWA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 23 FILE NO. 31126 DESIGN NO. 315

ENGLISH	IOWA DOT	DESIGN TEAM	700765	IOWA COUNTY	PROJECT NUMBER	STPN-006-6(50)-2J-48	SHEET NUMBER V.01

EXAMPLE 8

Models

Active File

Type	2D/3D	Name	Description	Design File	Sheet Name
		572115bdr	EB Border English Info	c:\pw_wor...\BRG_57151146.dgr	
		572115S000	Title English sheet	c:\pw_wor...\BRG_57151146.dgr	
		572115S001	Quantities & Notes	c:\pw_wor...\BRG_57151146.dgr	
		572115S002	Situation Plan	c:\pw_wor...\BRG_57151146.dgr	
		572115S003	Deck Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S004	Abutment Removals	c:\pw_wor...\BRG_57151146.dgr	
		572115S005	South Abutment Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S007	North Abutment Removals	c:\pw_wor...\BRG_57151146.dgr	
		572115S008	North Abut Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S009	North Abut Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S012	Concrete Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S014	Expansion Joint Details	c:\pw_wor...\BRG_57151146.dgr	
		572115S015	Exp Joint Notes	c:\pw_wor...\BRG_57151146.dgr	
		572115S017	Drain Details	c:\pw_wor...\BRG_57151146.dgr	
		572115SSSS	Detail Sheet Seed	c:\pw_wor...\BRG_57151146.dgr	
		WD-Situation Plan	Situation Plan Layout	c:\pw_wor...\BRG_57151146.dgr	
		WD-Typical Section	Transverse Section	c:\pw_wor...\BRG_57151146.dgr	
		Working Details	Repair Details	c:\pw_wor...\BRG_57151146.dgr	
		z-STD 1007C	Subdrain for Water Crossings	c:\pw_wor...\BRG_57151146.dgr	
		z-STD 1059	Welded Girder Drain Details	c:\pw_wor...\BRG_57151146.dgr	
		Z-VOID WorkingDetails	English Reference Work Sheet	c:\pw_wor...\BRG_57151146.dgr	

Change model names to show sheet numbers in sequential order, no missing numbers or skipped sequences.

EXAMPLE 9

References (1 of 1 unique, 1 displayed)

Tools Settings

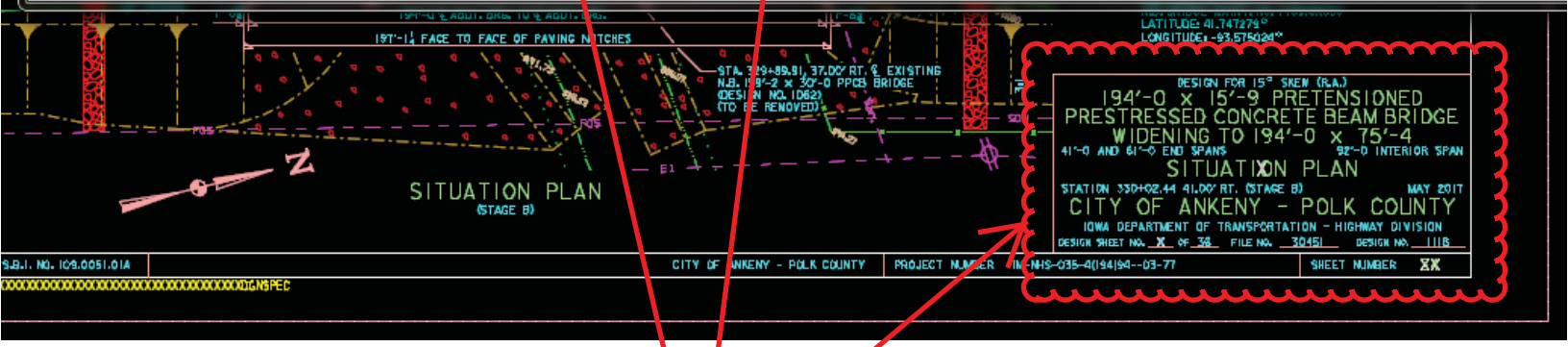
Hilite Mode: Boundaries

Slot	File Name	Model	Description	Logical	Orientation	Prese
2	PW_WORKDIR:d0590229\77035140.str	I-35over4mile bdr Design No 1118	Border English Info	Border Engli...	Standard Top	Wiref

Scale 1.000000 : 1.000000 Rotation 0° Offset X 0.0000 Y 0.0000

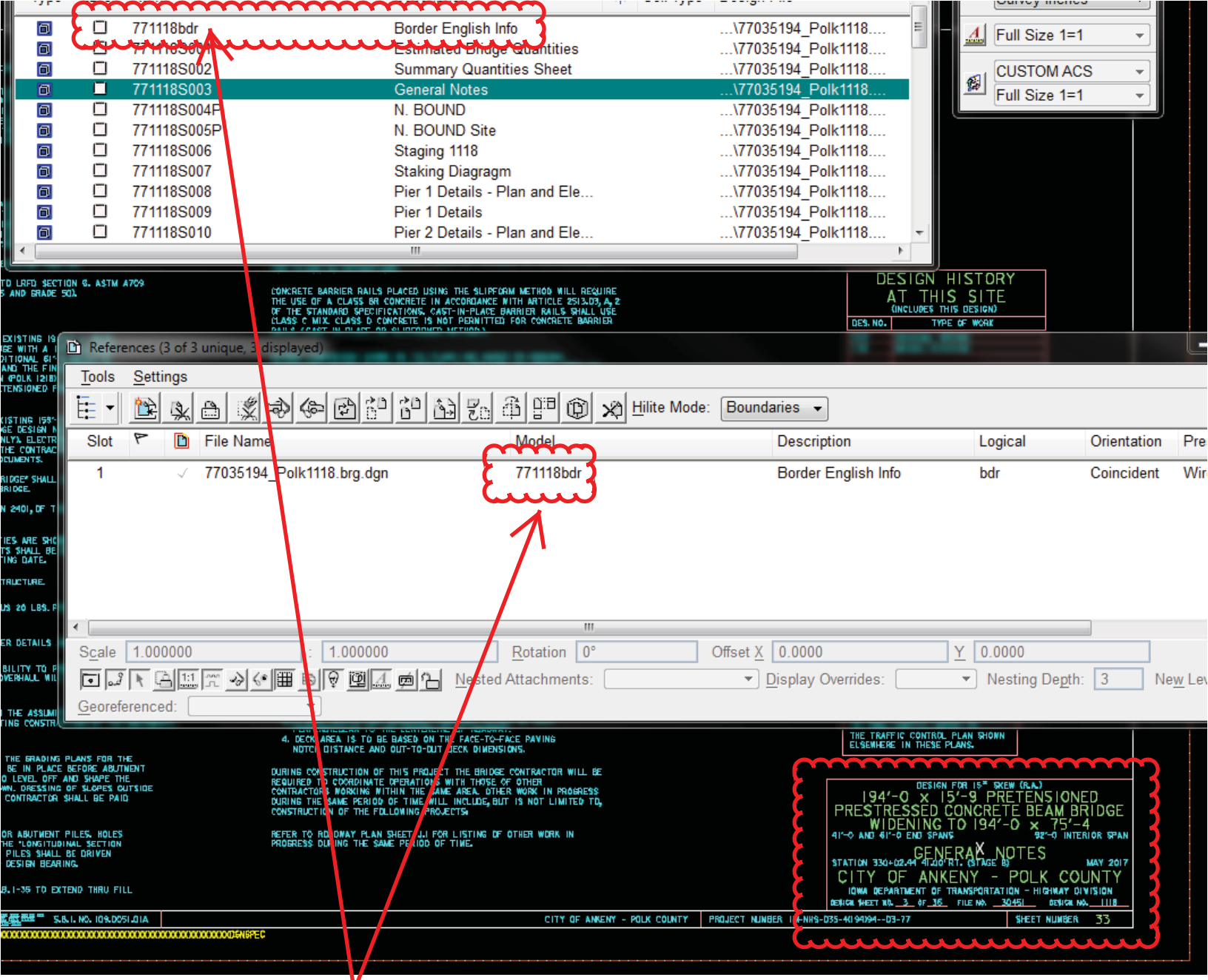
Nested Attachments: Display Overrides: Nesting Depth: 3 New Level

Georeferenced:



Do not use the .str file bdr model for Final Bridge sheet borders. Only use the .bdr model in the Final Bridge plan sheets. In this case it should be 771118bdr. This also applies to the bdr used in design 1018 which should be 771018bdr

EXAMPLE 10A



Proper use of Bridge Final bdr model. This applies to both designs 1018 and 1118.

EXAMPLE 10B

This information is in the Bridge Office title sheet seed file. All lavender or purple text is a reminder to the detailer of information or instructions of what is to be done. The intention is to use the pre-listed examples provided on the sides of the sheet border.

ENGLISH TITLE SHEET

BRIDGE NEW - CCS
BRIDGE NEW - PPCB
BRIDGE NEW - STEEL GIRDER
BRIDGE NEW - OTHER
BRIDGE REPLACEMENT - CCS
BRIDGE REPLACEMENT - PPCB
BRIDGE REPLACEMENT - STEEL GIRDER
BRIDGE REPLACEMENT - OTHER
BRIDGE - SUPERSTRUCTURE
BRIDGE - SUBSTRUCTURE
BRIDGE AND APPROACHES - CCS
BRIDGE AND APPROACHES - PPCB
BRIDGE AND APPROACHES - STEEL GIRDER
BRIDGE AND APPROACHES - OTHER
RECONSTRUCTION - BRIDGE DECK REPLACEMENT
RECONSTRUCTION - BRIDGE WIDENING
RECONSTRUCTION - BRIDGE SUPER REPLACEMENT
RECONSTRUCTION - BRIDGE SUPER STRENGTHEN
BRIDGE REHABILITATION
PPCB REPAIR
STEEL GIRDER REPAIR
BRIDGE DECK OVERLAY
BRIDGE REMOVAL
BRIDGE DECK GROOVING
DECK JOINT REPAIR
BRIDGE RAIL RETROFIT
EPOXY INJECTION OF OVERLAYS
EPOXY INJECTION OF CRACKS
BRIDGE REPAIR
ABUTMENT REPAIR
PIER REPAIR
PILING REPAIR
PERMANENT SCOUR COUNTERMEASURES
RCB CULVERT - REPAIR
RCB CULVERT NEW - SINGLE BOX
RCB CULVERT NEW - TWIN BOX
RCB CULVERT NEW - TRIPLE BOX
RCB CULVERT REPLACEMENT - SINGLE BOX
RCB CULVERT REPLACEMENT - TWIN BOX
RCB CULVERT REPLACEMENT - TRIPLE BOX
RCB CULVERT EXTENSION - SINGLE BOX
RCB CULVERT EXTENSION - TWIN BOX
RCB CULVERT EXTENSION - TRIPLE BOX
RECONSTRUCTION - RCB CULVERT EXTENSION - TWIN BOX
RECONSTRUCTION - RCB CULVERT EXTENSION - TRIPLE BOX
RETAINING WALL - CAST-IN-PLACE
PIPE CULVERT / DROP INLET
PIPE CULVERT / FLUME
REVETMENT
NOISE WALL

PRELIMINARY
NOT FOR CONSTRUCTION

REVISIONS TO THIS DESIGN PLAN AND/OR PROJECT SPECIFICATIONS SHOULD BE SUBMITTED BY .....

ALWAYS PLACE BOTH ON TITLE SHEET WHEN PLANS ARE STILL IN REVIEW.

USE THE ONE THAT IS APPLICABLE

DESIGN DATA URBAN
REFER TO INDIVIDUAL SITUATION PLANS FOR TRAFFIC DATA INFORMATION

DESIGN DATA URBAN

2007 AADT	?	V.P.D.
2027 AADT	?	V.P.D.
2027 DHV	?	V.P.H.
TRUCKS	?	%
ESALs per day	?	

LOCATION MAP SCALE
Miles 0 1 2 3
Kilometers 0 1 2 3 4 5

LETTING DATE ? ?-?-2022
WORK TYPE ?
? COUNTY - DESIGN ?

LEGEND
INTERSTATE HIGHWAY
PRIMARY HIGHWAY-DIVIDED
PRIMARY HIGHWAY
PORTLAND CEMENT CONCRETE ROAD
ASPHALT ROAD
BITUMINOUS ROAD
GRAVEL ROAD
EARTHEN ROAD
INTERSTATE HIGHWAY
UNITED STATES HIGHWAY
STATE HIGHWAY
COUNTY HIGHWAY
RAILROAD
PIPELINE
AIRPORT
HYDROLOGY
BRIDGE
STATE BOUNDARY
COUNTY BOUNDARY
CORPORATE BOUNDARY
TOWNSHIP
SECTION LINE
ROAD NAMES
UNINCORPORATED PLACE
A-BBE-ROAD
R-HOOD

PLACE DESCRIPTIONS LOCATED OUTSIDE OF BORDER IN THESE LOCATIONS USING Dng/Text/Borders LEVEL with pulldown on for color, weight and linestyle.

IOWADOT
Highway Division
PLANS OF PROPOSED IMPROVEMENTS ON THE
PRIMARY ROAD SYSTEM
? COUNTY

USE THE APPROPRIATE ROAD SYSTEM.

WORK TYPE
?
?
FRA NO.??????? FOR SINGLE NUMBER IF APPLICABLE

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN ?
FRA NO."SEE RR CROSSING TABLE" FOR MULTIPLE NO. IF APPLICABLE

N

LOCATION MAP

PROJECT DIRECTORY NAME: ?

ENGLISH STANDARD BRIDGE PLANS
STANDARD	ISSUED	REVISED

INDEX OF SHEETS
NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE SHEET - DESIGN ?
2-?	DESIGN ?
?	SOIL PROFILE SHEET
?	ESTIMATE SHEET FOR ROADWAY
?	PRECAST CULVERT STANDARD SHEETS
C.01	ESTIMATE SHEET FOR ROADWAY
C.01-C.02	ROADWAY SHEETS

TOTAL SHEETS ?
PROJECT NUMBER ?
R.O.W. PROJECT NUMBER ?
PROJECT IDENTIFICATION NUMBER ?

REVISIONS

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

ORIGINAL FIELD (EDIT THIS TEXT)

FOR MULTIPLE NO. IF APPLICABLE
RR CROSSING NO.
FRA ?????? FRA ?????? FRA ??????

STANDARD ROAD PLANS
STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER

DESIGN DATA RURAL
REFER TO INDIVIDUAL SITUATION PLANS FOR TRAFFIC DATA INFORMATION

USE THE ONE THAT IS APPLICABLE

DESIGN DATA RURAL

2007 AADT	?	V.P.D.
2027 AADT	?	V.P.D.
2027 DHV	?	V.P.H.
TRUCKS	?	%
Total Design ESALs	?	

INDEX OF SEALS
SHEET NO.	NAME	TYPE
BRIDGE STANDARDS	NORMAN L. McDONALD	STRUCTURAL DESIGN

ORIGINAL FIELD (EDIT THIS TEXT)

SHEETS ? THRU ? OF ?

??-??-2022
2022
SHEETS ? THRU ? OF ?

DESIGN TEAM | ENGLISH | IOWA DOT # OFFICE OF BRIDGES AND STRUCTURES | FILE NO. ? | ? COUNTY | PROJECT NUMBER ? | SHEET NUMBER 1

7/12/2017 7:54:55 AM bkloss W:\Highway\Bridge\MethodsSection\CADD Concept Drafts\brgSeed.dgn brgtitle 11x17.pdf.pltcfg

INTERSTATE ROAD SYSTEM

BRIDGE NEW - CCS
BRIDGE NEW - PPCB
BRIDGE NEW - STEEL GIRDER
BRIDGE NEW - OTHER
BRIDGE REPLACEMENT - CCS
BRIDGE REPLACEMENT - PPCB
BRIDGE REPLACEMENT - STEEL GIRDER
BRIDGE REPLACEMENT - OTHER
BRIDGE - SUPERSTRUCTURE
BRIDGE - SUBSTRUCTURE
BRIDGE AND APPROACHES - CCS
BRIDGE AND APPROACHES - PPCB
BRIDGE AND APPROACHES - STEEL GIRDER
BRIDGE AND APPROACHES - OTHER
RECONSTRUCTION - BRIDGE DECK REPLACEMENT
RECONSTRUCTION - BRIDGE WIDENING
RECONSTRUCTION - BRIDGE SUPER REPLACEMENT
RECONSTRUCTION - BRIDGE SUPER STRENGTHEN
BRIDGE REHABILITATION
PPCB REPAIR
STEEL GIRDER REPAIR
BRIDGE DECK OVERLAY
BRIDGE REMOVAL
BRIDGE DECK GROOVING
DECK JOINT REPAIR
BRIDGE RAIL RETROFIT
EPOXY INJECTION OF OVERLAYS
EPOXY INJECTION OF CRACKS
BRIDGE REPAIR
ABUTMENT REPAIR
PIER REPAIR
PILING REPAIR
PERMANENT SCOUR COUNTERMEASURES
RCB CULVERT - REPAIR
RCB CULVERT NEW - SINGLE BOX
RCB CULVERT NEW - TWIN BOX
RCB CULVERT NEW - TRIPLE BOX
RCB CULVERT REPLACEMENT - SINGLE BOX
RCB CULVERT REPLACEMENT - TWIN BOX
RCB CULVERT REPLACEMENT - TRIPLE BOX
RCB CULVERT EXTENSION - SINGLE BOX
RCB CULVERT EXTENSION - TWIN BOX
RECONSTRUCTION - RCB CULVERT EXTENSION - TWIN BOX
RECONSTRUCTION - RCB CULVERT EXTENSION - TRIPLE BOX
RETAINING WALL - CAST-IN-PLACE
PIPE CULVERT / DROP INLET
PIPE CULVERT / FLUME
REVETMENT
NOISE WALL

INDEX OF SHEETS
NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE SHEET - DESIGN ? CAST-IN-PLACE CULVERT
2-?	DES ? CAST-IN-PLACE CULVERT
?	ESTIMATE SHEET - DESIGN ? CAST-IN-PLACE CULVERT ALTERNATE
?	DES ? CAST-IN-PLACE CULVERT ALTERNATE
?	ESTIMATE SHEET - DESIGN ? PRECAST CULVERT ALTERNATE
2-?	DES ? PRECAST CULVERT ALTERNATE
	PRECAST CULVERT STANDARD SHEETS
C.01	ESTIMATE SHEET FOR ROADWAY
C.01-C.02	ROADWAY SHEETS

CITY MAP NOT TO SCALE
SECTION X
X TWP.
PART OF CITY OF X

STANDARD ROAD PLANS
STANDARD	DATE

PAUL W. FLATTERY	ROADWAY DESIGN
JASON M. STRUM	ROADWAY DESIGN
YANXIAO JIA	ROADWAY DESIGN
ROBERT A. SCHOENROCK	ROADWAY DESIGN
KELLY BELL	ROADWAY DESIGN
STACY RYAN	ROADWAY DESIGN
KEVIN K. PATEL	ROADWAY DESIGN
ELIJAH GANSEN	ROADWAY DESIGN
JASON HOLST	ROADWAY DESIGN
DUNG T. TA	ROADWAY DESIGN
RYAN MILLER	ROADWAY DESIGN
STEPHEN MEGIVERN	GEOTECHNICAL DESIGN
MARK D. MASTELLER	LANDSCAPE DESIGN
DAVID R. CLAMAN	HYDRAULIC DESIGN
DAVID J. MULHOLLAND	HYDRAULIC DESIGN
PATRICIA G. SCHWARZ	HYDRAULIC DESIGN
WILLIAM L. KAUFMAN	HYDRAULIC DESIGN
JOHN R. CLUTE	HYDRAULIC DESIGN
STEVEN L. SEIVERT	STRUCTURAL DESIGN
DEAN G. BIERWAGEN	STRUCTURAL DESIGN
JAMES S. NELSON	STRUCTURAL DESIGN
HAROLD L. ADCOCK	STRUCTURAL DESIGN
DAVID L. BARE	STRUCTURAL DESIGN
STUART S. NIELSEN	STRUCTURAL DESIGN
ROBERT D. MITCHELL	STRUCTURAL DESIGN
HAIPING CHEN	STRUCTURAL DESIGN
JAMES R. HAUBER	STRUCTURAL DESIGN
DAVID M. EVANS	STRUCTURAL DESIGN
KAREN B. KONTOS	STRUCTURAL DESIGN
STEVE MAIFIELD	STRUCTURAL DESIGN
CURTIS J. CARTER	STRUCTURAL DESIGN
LILI YANG	STRUCTURAL DESIGN
PING LU	STRUCTURAL DESIGN
AHMAD ABU-AFIFEH	STRUCTURAL DESIGN

LEGEND
INTERSTATE ROUTE
FREEWAY OR EXPRESSWAY ROUTE
U.S. NUMBERED ROUTE
BUSINESS ROUTE
STATE NUMBERED ROUTE
UNSIGNED ROUTE
COUNTY NUMBERED ROUTE
SECONDARY ROAD OR ADJOINING CITY STREET
CITY STREET
PARK, INSTITUTION, OR FEDERAL ROAD
RAILROAD
CORPORATION LINE
SECTION LINE
CUL-DE-SAC
SECTION, TOWNSHIP & RANGE NUMBERS 9, T-81N, R-30W

USE THIS LEGEND FOR CITY MAPS

HYDRAULIC DESIGN
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature John C. Sample Date
Printed or Typed Name
My license renewal date is December 31, ____
Pages or sheets covered by this seal: ____

STRUCTURAL DESIGN
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature John C. Sample Date
Printed or Typed Name
My license renewal date is December 31, ____
Pages or sheets covered by this seal: ____

BLANK CERTIFICATIONS FOR CONSULTANTS

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

EXAMPLE 11A

SUMMARY OF CONCRETE QUANTITIES

LOCATION	STRUCTURAL CONCRETE	HPC STRUCT. CONCRETE
____ ABUT. FTG. + BKWL. + WING EXT. + MASKWALL	-----	-----
____ ABUT. FTG. + BKWL. + WING EXT. + MASKWALL	-----	-----
BRIDGE DECK **	-----	-----
ABUTMENT WINGS	-----	-----
WING COUNTERFORTS	-----	-----
INTERMEDIATE DIAPHRAGMS	-----	-----
PIER NO. 1	-----	-----
PIER NO. 2	-----	-----
LIGHT POLE BASE	-----	-----
APPROACH SIDEWALK	-----	-----
** INCLUDES ABUTMENT AND PIER DIAPHRAGMS FOR PCC		
TOTAL (CU. YDS.)	-----	-----

SUMMARY OF REINFORCING STEEL

LOCATION	NON-COATED REINFORCING STEEL	STAINLESS STEEL REINFORCING STEEL	EPOXY COATED REINFORCING STEEL
____ ABUT. FTG. + BKWL. + WING EXT. + MASKWALL	-----	-----	-----
____ ABUT. FTG. + BKWL. + WING EXT. + MASKWALL	-----	-----	-----
BRIDGE DECK + ABUT. FTG. **	-----	-----	-----
ABUTMENT WINGS	-----	-----	-----
WING COUNTERFORTS	-----	-----	-----
INTERMEDIATE DIAPHRAGMS	-----	-----	-----
BARRIER RAIL - ____ RAIL	-----	-----	-----
BARRIER RAIL - ____ RAIL	-----	-----	-----
BARRIER RAIL END SECTION	-----	4 AT _____	4 AT _____
PIER NO. 1	-----	-----	-----
PIER NO. 2	-----	-----	-----
LIGHT POLE BASE	-----	-----	-----
APPROACH SIDEWALK	-----	-----	-----
** INCLUDES ABUTMENT AND PIER DIAPHRAGMS FOR PCC			
TOTAL (LBS.)	-----	-----	-----

SUMMARY OF EXCAVATION

LOCATION	CLASS 20 EXCAVATION	CLASS ___ EXCAVATION
____ ABUTMENT	-----	-----
____ ABUTMENT	-----	-----
PIER NO. 1	-----	-----
PIER NO. 2	-----	-----
TOTAL (CU. YDS.)	-----	-----

SUMMARY OF FOUNDATIONS

LOCATION	SUBSTRUCTURE TYPE	FOUNDATION TYPE	NUMBER	LENGTH (LIN. FT.)	TOTAL (LIN. FT.)
____ ABUTMENT	-----	-----	-----	-----	-----
____ ABUTMENT	-----	-----	-----	-----	-----
PIER NO. 1	-----	-----	-----	-----	-----
PIER NO. 2	-----	-----	-----	-----	-----

FOUNDATION TYPES
HP10x42
HP10x57
HP12x53
HP14x73
HP14x89
TIMBER FOUNDATION PILING
TIMBER TRESTLE - PILE BENTS
___ INCH DRILLED SHAFT
12" PRESTRESSED CONCRETE
14" PRESTRESSED CONCRETE
16" PRESTRESSED CONCRETE
SPREAD FOOTING

SUBSTRUCTURE TYPE
INTEGRAL ABUTMENT
STUB ABUTMENT
SEMI-INTEGRAL ABUTMENT
FRAME PIER
VEE PIER
TEE PIER
DIAPHRAGM PIER
PILE BENT PIER
OTHER

All lavender or purple text is a reminder to the detailer of information or instructions of what is to be listed. The intention is to use the pre-listed examples provided and then delete or move unused text off of plan sheet.

BEARING TYPES
PLAIN NEOPRENE 1"
PLAIN NEOPRENE TAPERED
LAMINATED NEOPRENE
LAMINATED NEOPRENE/CURVED SOLE PLATE - ASSEMBLY
MASONRY PLATE/CURVED SOLE PLATE - ASSEMBLY
MASONRY PLATE/BRONZE BEARING - ASSEMBLY
ROCKER/MASONRY PLATE - ASSEMBLY
FIXED SHOE - ASSEMBLY
POT BEARING ASSEMBLY
DISC BEARING ASSEMBLY
S3 x 7.5
3 x 3 BAR

ASSOCIATED BID ITEM
INCIDENTAL ITEM
INCIDENTAL ITEM
INCIDENTAL ITEM
* STRUCTURAL STEEL
Δ STRUCTURAL STEEL
Δ STRUCTURAL STEEL
ΔΔ STRUCTURAL STEEL
ΔΔ STRUCTURAL STEEL
EACH
EACH
INCIDENTAL ITEM
INCIDENTAL ITEM

SUMMARY OF STRUCTURAL STEEL

	LOCATION		TOTAL (LBS.)
	BRIDGE DECK DRAINS		-----
④	DIAPHRAGMS		-----
	____ ABUTMENT BEARINGS		-----
	____ ABUTMENT BEARINGS		-----
	PIER NO. 1 BEARINGS		-----
	PIER NO. 2 BEARINGS		-----
	WELDED GIRDERS	INTERIOR GIRDERS ① _____ AT _____	-----
		EXTERIOR GIRDERS ① 2 AT _____	-----
	DIAPHRAGMS ②		-----
		TOTAL (LBS.)	-----

① GIRDER WEIGHT INCLUDES STUDS, BEARING STIFFENERS, INTERMEDIATE STIFFENERS, CONNECTION PLATES, SPLICE PLATES, BOLTS, WELDS AND FLANGE DEFLECTORS.

② DIAPHRAGMS INCLUDE ALL INTERMEDIATE, ABUTMENT AND PIER DIAPHRAGM MATERIAL, INCLUDING BOLTS AND WELDS. ALSO INCLUDES ANY LATERAL BRACING MATERIAL.

④ DESIGNER NOTE - THIS ITEM IS USED WHEN PPCB BRIDGES USE STEEL INTERMEDIATE DIAPHRAGMS.

SUMMARY OF BEARINGS

LOCATION	BEARING TYPE	NUMBER	ASSOCIATED BID ITEM
_____ ABUTMENT	-----	-----	-----
_____ ABUTMENT	-----	-----	-----
PIER NO. 1	-----	-----	-----
PIER NO. 2	-----	-----	-----

PPCB BRIDGES
* CURVED SOLE PLATES AND LAMINATED NEOPRENE PADS ARE INCIDENTAL TO PPC BEAMS
Δ CURVED SOLE PLATES ARE INCIDENTAL TO PPC BEAMS

STEEL BRIDGES
* LAMINATED PADS ARE INCIDENTAL TO STRUCTURAL STEEL
ΔΔ INCLUDES SOLE PL AND ANCHOR BOLTS

STUB ABUTMENT WELDED GIRDER OR PPCB BRIDGES

SUMMARY QUANTITIES SHEET

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. _____ DESIGN NO. _____

DESIGN TEAM | COUNTY | PROJECT NUMBER | SHEET NUMBER

EXAMPLE 11B

Plan preparation for multiple county projects listing the counties

The Title Sheet will list all counties involved in the project.

The Detail Sheets for the designs located in the county number listed in the Project Number will show that county.

> Exception: The designs in the project located in other counties different from the county number listed in the Project Number will show all counties in the border information and the county where the design is located will be in the title block.

Example:
STP-144-3(312)- -2C-37 Greene Co. Des. No. 403 and Webster Co. Des. No. 403 is tied to it.

For Greene Co. Des. 403, the county listed in the Title Block and Border of the design sheets would be Greene.

For Webster Co. Des. 403, the county listed in the Title Block of the design sheets would be Webster and the county listed in the Border of the design sheets would be Greene (Webster).

EXAMPLE 12A

Multiple county project example.

DESIGN FOR REPAIRS TO A 45° SKEW

70'-0 x 30'-0 CONTINUOUS
I-BEAM BRIDGE

CONCRETE REPAIRS

STA. 645+12.00 AUG., 2003

GREENE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 4 FILE NO. 29911 DESIGN NO. 503

GREENE COUNTY	PROJECT NUMBER	STP-144-3(12)--2C-37	SHEET NUMBER

EXAMPLE 12B

ESIGN

s engineering document was prepared
ct personal supervision and that I
essional Engineer under the laws

Date

te is December 31, _____

LOCATION

Multiple county project example.

IA. 144 OVER EAST BUTTRICK CREEK
T 86 N R 29 W
SECTION 28 & 29
LOST GROVE TOWNSHIP
WEBSTER COUNTY
MAINT. NO. 9432.2S144
FHWA NO. 052340

DESIGN FOR REPAIRS TO A 0° SKEW

50'-0 x 30'-0 CONTINUOUS
I-BEAM BRIDGE

GENERAL NOTES & QUANTITIES

STA. 747+00.00 AUG., 2003

WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 4 FILE NO. 29911 DESIGN NO. 403

GREENE (WEBSTER) COUNTY

PROJECT NUMBER STP-144-3(12)--2C-37

SHEET NUMBER V.01

EXAMPLE 12C