whks
engineers + planners + land surveyors

MEMORANDUM

TO: Bill Waller, City Administrator

FROM: Tim Hruska, P.E., L.S.

DATE: October 20, 2020

RE: Wagon Wheel Trail – Phase 3 Preliminary Plans

Per City Council direction, WHKS has prepared preliminary plans for the proposed Wagon Wheel Trail – Phase 3 pedestrian bridge. These plans are attached to the memo.

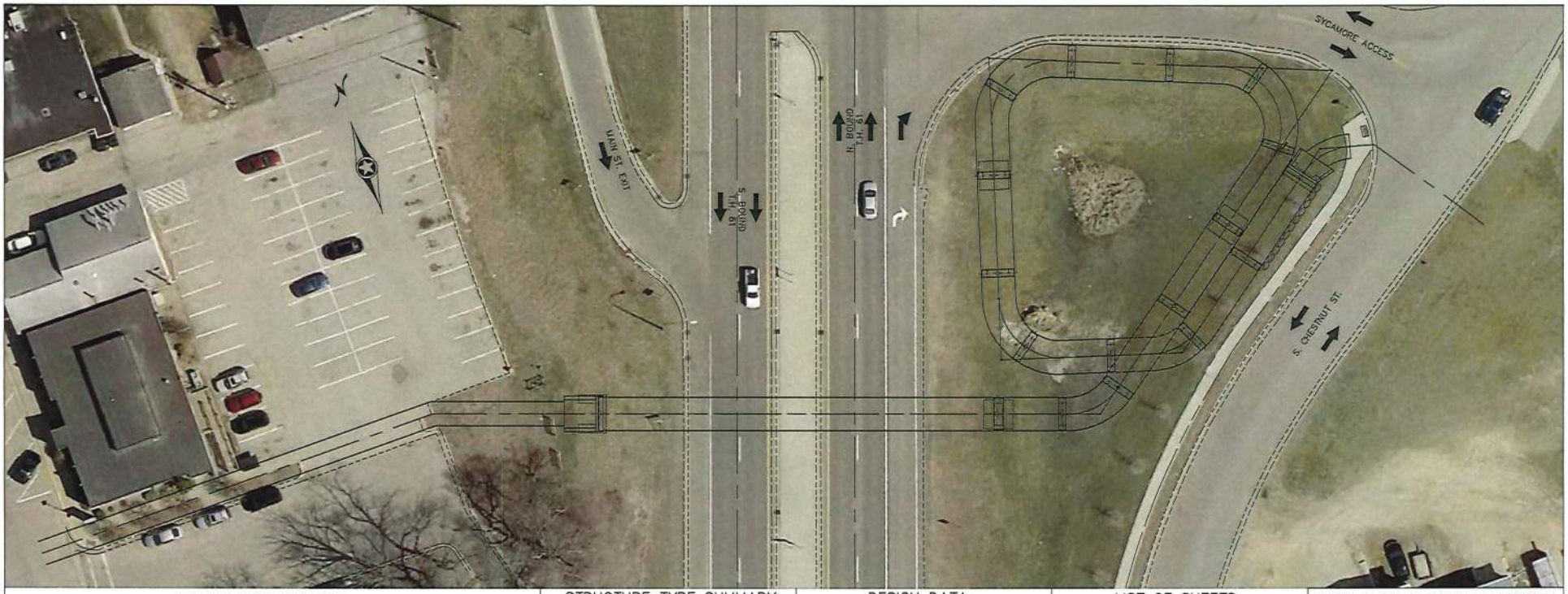
The proposed Pedestrian Bridge will be a truss structure with a decorative arch as shown in the rendering below. The western end of the bridge connects to South 1st Street at grade and the eastern end uses a concrete boardwalk to bring users down to the intersection of Sycamore Street and Chestnut Street. A 10' wide shared use path will also be constructed on the east side of Sycamore Street leading to Main Street.

As part of the project the section of South 1st Street from South Walnut Street to the east will be reconstructed. Two concept plans have been attached to this memo for discussion.

On October 8th, 2020 Archaeologists with the MnDOT Cultural Resource Unit, with the help of a local contractor hired by the City of La Crescent, used a small excavator to do some exploratory digging at the western abutment at the end of South 1st Street. A verbal confirmation that no significant items of interest were uncovered during this test dig. The final determination from the Cultural Recourse Unit is expected in the coming weeks.

Final Construction Plans will be developed and go through a MnDOT Final Review this winter. The Wagon Wheel Trail – Phase 3 Project is scheduled to be Advertised and Awarded in the Spring of 2021 and completed by the Fall of 2021.

Council Action Recommendation
We recommend that the Council review the preliminary plans for submittal to the MnDOT Bridge Office.



CONSTRUCTION NOTES

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

SEE SPECIAL PROVISIONS FOR ALL XXXX.6XX SERIES PAY ITEMS FOR ADDITIONAL REQUIREMENTS.

THE BAR SIZES SHOWN IN THIS PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

A TRUSS SPAN SHALL FURNISHED BY THE PREFABRICATED TRUSS MANUFACTURER FOR SPAN 1. THE MAXIMUM CENTERLINE DECK PROFILE TO LOW CHORD HEIGHT SHALL BE 2'-9" FOR SPAN 1. ADJUSTMENTS TO THE SEAT ELEVATIONS SHOWN IN THESE PLANS SHALL BE APPROVED BY THE ENGINEER.

SEE SPECIAL PROVISIONS FOR PRE-FABRICATED PEDESTRIAN BRIDGE/BICYCLE BRIDGE SUPERSTRUCTURE SPECIFICATIONS.

THE PILE LOADS SHOWN IN THE PLANS AND THE CORRESPONDING NOMINAL PILE BEARING RESISTANCE WERE COMPUTED USING LRFD METHODOLOGY. PILE BEARING RESISTANCE DETERMINED IN THE FIELD SHALL INCORPORATE THE METHODS AND/OR FORMULAS DESCRIBED IN THE SPECIAL PROVISIONS.

STRUCTURE TYPE SUMMARY

SUPERSTRUCTURE:

PREFABRICATED STEEL TRUSS WITH CONCRETE DECK (SPAN 1).

CAST IN PLACE CONCRETE SLAB (SPANS 2 -17)

ALL CONCRETE REINFORCING STEEL IS EPOXY COATED.

SUBSTRUCTURE:

ABUTMENTS: LOW PARAPET TYPE ABUTMENTS SUPPORTED BY 12" CONCRETE FILLED STEEL SHELL PILES.

PIERS 1, 5 AND 11:
SINGLE CONCRETE COLUMN WITH CAP SUPPORTED ON 12" CONCRETE FILLED STEEL SHELL PILES.

PIERS 2-4, 6-10, AND 12-16 PILE BENT WITH CONCRETE ENCASEMENT WALL AND 16" CONCRETE FILLED STEEL SHELL PILES.

DESIGN DATA

2020 AND CURRENT INTERIM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 9TH EDITION

2009 AND CURRENT INTERIM AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

H10 MAINTENANCE VEHICLE LIVE LOAD
OR 90 PSF UNIFORM LIVE LOAD

MATERIAL DESIGN PROPERTIES:

REINFORCED CONCRETE:
$f'c$ = 4 KSI CONCRETE
n = 8 FOR REINFORCEMENT BARS
fy = 60 KSI PLAIN AND EPOXY COATED BARS

STRUCTURAL STEEL:
Fy = 36 KSI SPEC. 3306 (PAINTED)
Fy = 50 KSI SPEC. 3309 (PAINTED)

DECK AREA = 10025 SQ. FT.

DESIGN SPEED
(UNDER) 50 MPH - T.H. 61
(OVER) 20 MPH

LIST OF SHEETS

NO.	DESCRIPTION
S1	PROJECT OVERVIEW
S2-S5	GENERAL PLAN AND ELEVATION
S6	TYPICAL SECTION
S7	SCHEDULE OF QUANTITIES
S8	BRIDGE LAYOUT
S9-S10	BRIDGE SURVEY
S11-S12	BRIDGE SURVEY PLAN AND PROFILE

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

PRELIMINARY

SIGNED _____ DATE _____

NAME JUSTIN M. ZIMMERMAN LIC NO. 50630

whks
engineers • planners • land surveyors

BRIDGE NO. XXXXX

PROPOSED BRIDGE LOCATED 0.2 MILES NE OF JCT SOUTH 3RD ST. (IN LA CRESCENT)

SPAN IDENTIFICATION NO.
SPAN 1 - 302
SPAN 2 THRU 17 - 209

OVERVIEW AND SITUATION PLAN

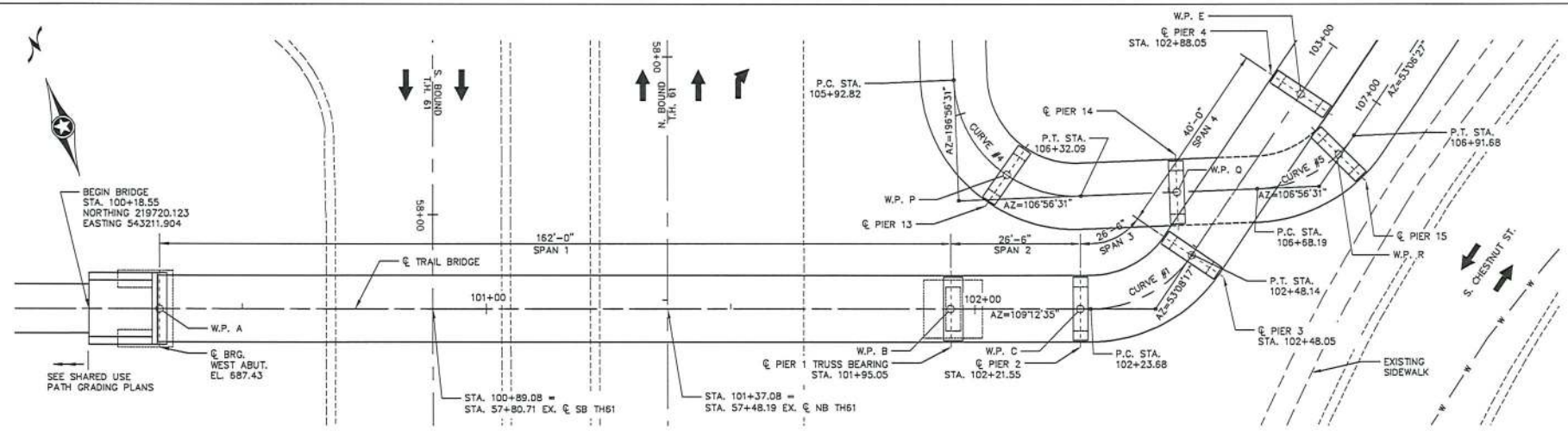
SEC. 10 T 104 N R 04 W
CITY OF LA CRESCENT HOUSTON COUNTY

APPROVED _____
STATE BRIDGE ENGINEER

DATE _____

DES.	JMZ	DR.	JMZ
CHK.	XXX	CHK.	XXX
S.P. 236-090-003			
SHEET NO. S1 OF XX SHEETS			

BRIDGE NO. XXXXX

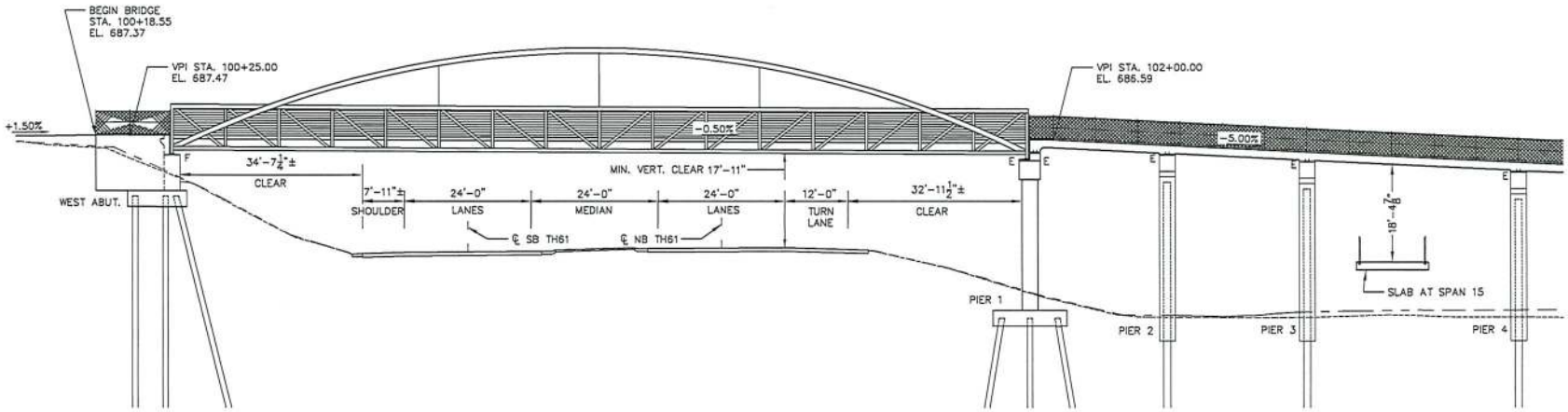


PLAN SPANS 1–4

0 20'

SCALE: 1/8" = 1'-0"

NOTE: SEE BRIDGE LAYOUT SHEET FOR HORIZONTAL CURVE DATA.



ELEVATION SPANS 1–4

0 20'

SCALE: 1/8" = 1'-0"

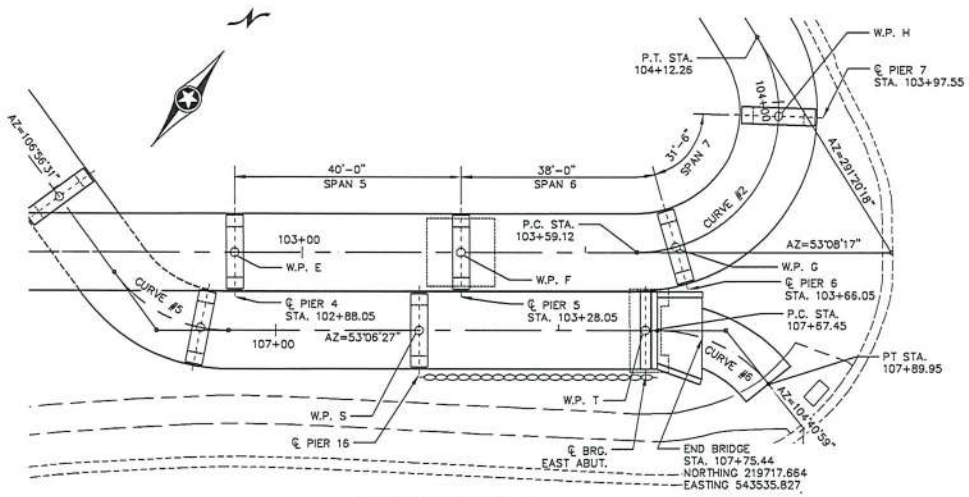
GROUND PROFILE

EXISTING 6'-10" LT. ----------

EXISTING 6'-10" RT. - - - - -

PROPOSED ℄ P.G. ———

whks	DES: JMZ CHK: XXX DR: JMZ CHK: XXX	CERTIFIED BY PRELIMINARY LICENSED PROFESSIONAL ENGINEER DATE NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630	GENERAL PLAN AND ELEVATION (SPANS 1–4)	S.P. 236–090–003 SHEET NO. S2 OF XX SHEETS	APPROVED: BRIDGE NO. XXXXX

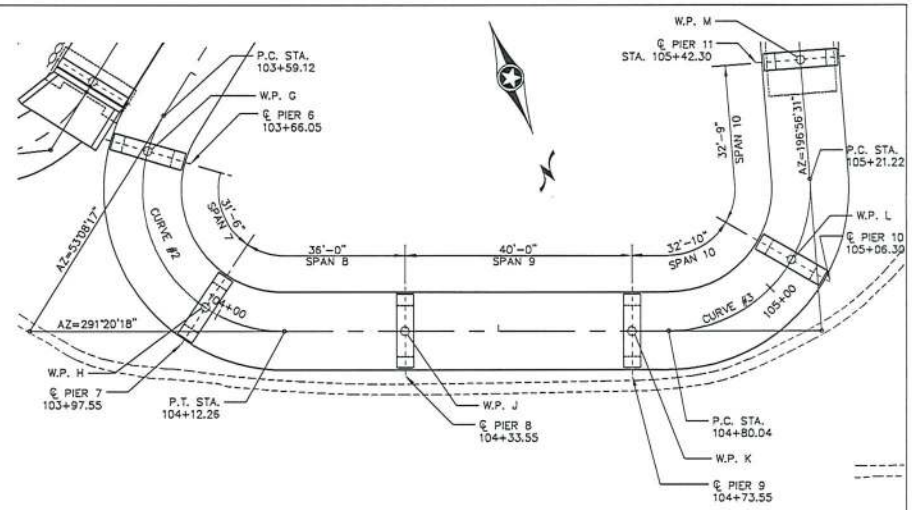


PLAN SPANS 5–7

0 20'

SCALE: 1/4" = 1'-0"

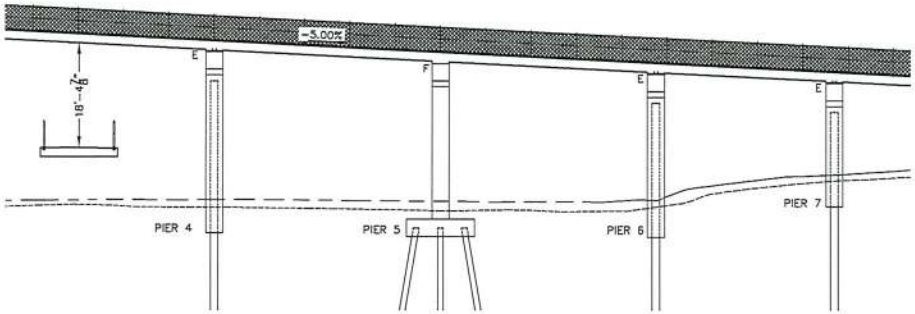
NOTE: SEE BRIDGE LAYOUT SHEET FOR HORIZONTAL CURVE DATA.



PLAN SPANS 8–10

0 20'

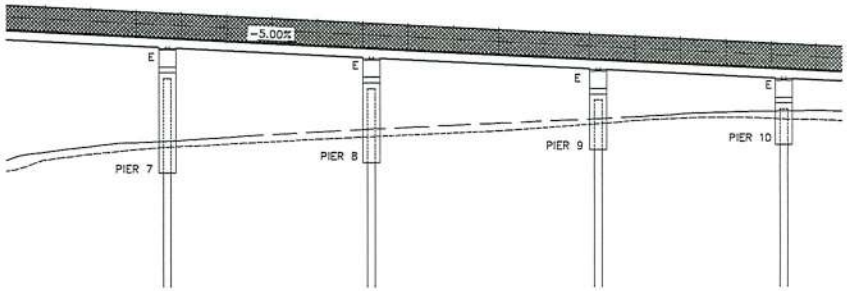
SCALE: 1/4" = 1'-0"



ELEVATION SPANS 5–7

0 20'

SCALE: 1/4" = 1'-0"



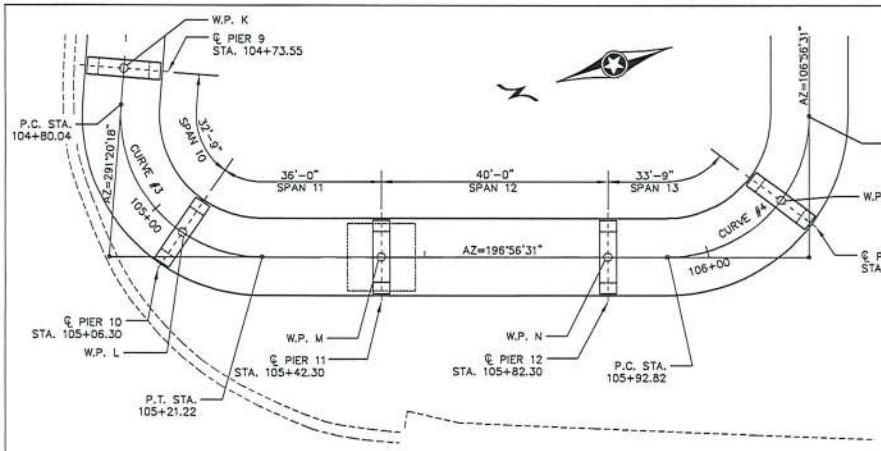
ELEVATION SPANS 8–10

0 20'

SCALE: 1/4" = 1'-0"

GROUND PROFILE	
EXISTING 6'-10" LT.	----------
EXISTING 6'-10" RT.	- - - - -
PROPOSED ℄ P.G.	————

whks	DES: JMZ CHK: XXX DR: JMZ CHK: XXX	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER DATE NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630 PRELIMINARY	GENERAL PLAN AND ELEVATION (SPANS 5–10)	S.P. 236–090–003 SHEET NO. S3 OF XX SHEETS	APPROVED: BRIDGE NO. XXXXX

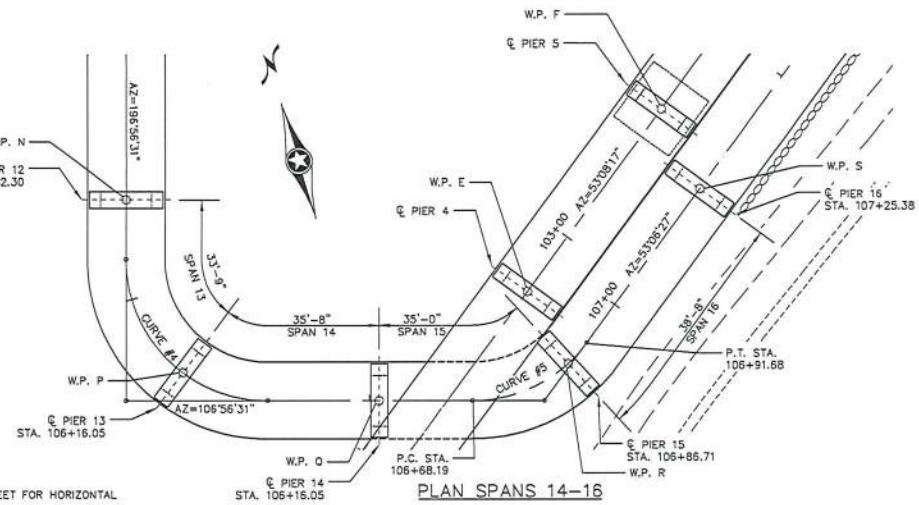


PLAN SPANS 11–13

0 20'

SCALE: 1/8" = 1'-0"

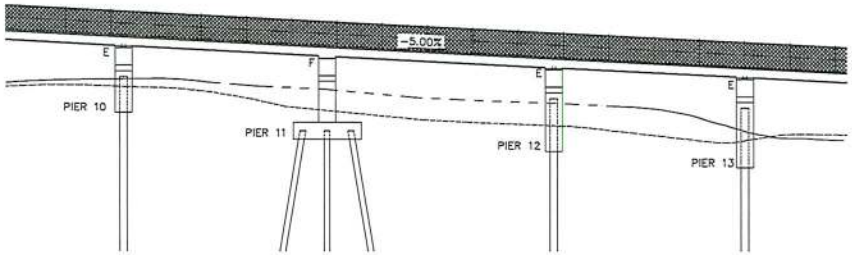
NOTE: SEE BRIDGE LAYOUT SHEET FOR HORIZONTAL CURVE DATA.



PLAN SPANS 14–16

0 20'

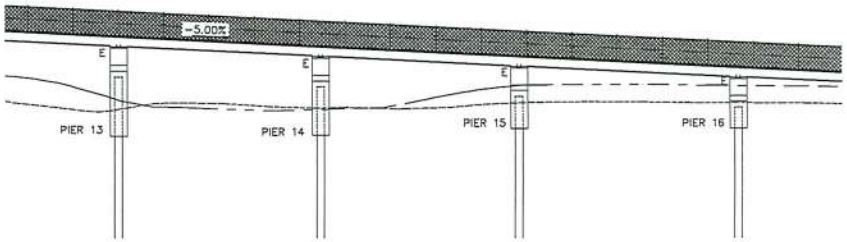
SCALE: 1/8" = 1'-0"



ELEVATION SPANS 11–13

0 20'

SCALE: 1/8" = 1'-0"



ELEVATION SPANS 14–16

0 20'

SCALE: 1/8" = 1'-0"

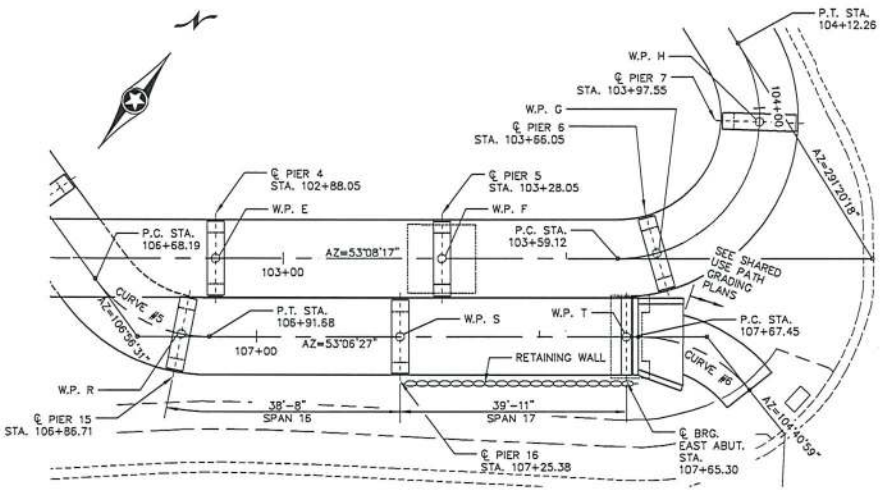
GROUND PROFILE

EXISTING 6'-10" LT.

EXISTING 6'-10" RT.

PROPOSED ℄ P.G.

whks	DES: JMZ CHK: XXX DR: JMZ CHK: XXX	CERTIFIED BY PRELIMINARY LICENSED PROFESSIONAL ENGINEER DATE NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630	GENERAL PLAN AND ELEVATION (SPANS 11–16)	S.P. 236–090–003 SHEET NO. S4 OF XX SHEETS	APPROVED:	BRIDGE NO. XXXXX

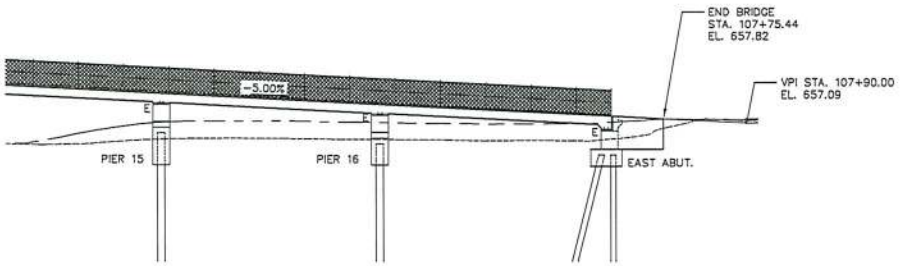


NOTE: SEE BRIDGE LAYOUT SHEET FOR HORIZONTAL CURVE DATA.

PLAN SPANS 16–17

0 20'

SCALE: 1/4" = 1'-0"



ELEVATION SPANS 16–17

0 20'

SCALE: 1/4" = 1'-0"

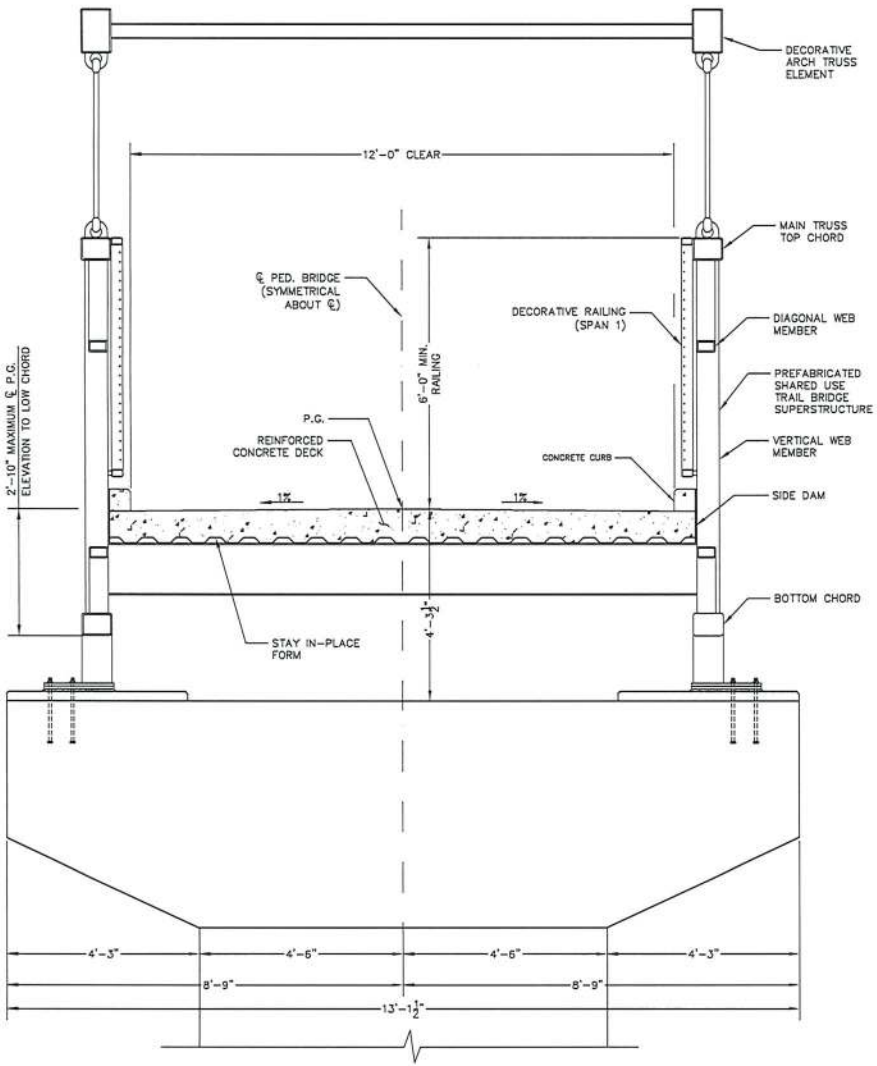
GROUND PROFILE

EXISTING 6'-10" LT. ----------

EXISTING 6'-10" RT. - - - - -

PROPOSED ℄ P.G. ————

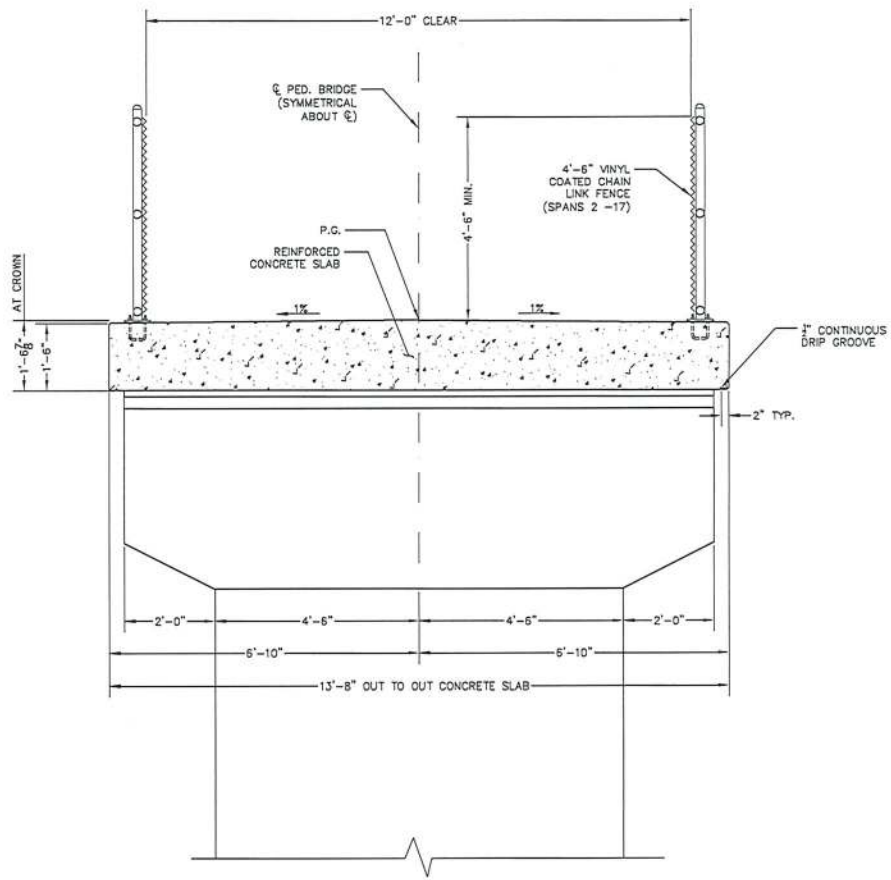
whks	DES: JMZ CHK: XXX DR: JMZ CHK: XXX	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER DATE NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630 PRELIMINARY	GENERAL PLAN AND ELEVATION (SPANS 15–16)	S.P. 236-090-003 SHEET NO. S5 OF XX SHEETS	APPROVED: BRIDGE NO. XXXXX



TYPICAL SECTION NEAR PIER 1

0 2'

SCALE: ⅜" = 1'-0"



TYPICAL SECTION NEAR PIERS 2-16

0 2'

SCALE: ⅜" = 1'-0"

whks	DES: JMZ CHK: XXX DR: JMZ CHK: XXX	CERTIFIED BY LICENSED PROFESSIONAL ENGINEER DATE NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630 PRELIMINARY	TYPICAL SECTIONS	S.P. 236-090-003 SHEET NO. S6 OF XX SHEETS	APPROVED: BRIDGE NO. XXXXX

SCHEDULE OF QUANTITIES FOR THE ENTIRE BRIDGE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	
2021.501	MOBILIZATION	LUMP SUM		
2401.507	STRUCTURAL CONCRETE (3B52)	CU YD		(P)
2401.508	REINFORCEMENT BARS (EPOXY COATED)	POUND		(P)
2401.601	STRUCTURE EXCAVATION	LUMP SUM		
2401.618	BRIDGE SLAB CONCRETE (3YHPC-M)	SQ FT		(P)
2402.502	ELASTOMERIC BEARING PAD TYPE 1	EACH		(P)
2402.503	EXPANSION JOINT DEVICES TYPE SPECIAL	LIN FT		(P)
2402.601	PEDESTRIAN BRIDGE (SUPERSTRUCTURE)	LUMP SUM		
2411.618	ARCH SURFACE FINISH (SINGLE COLOR)	SQ FT		(P)
2452.502	C-I-P CONC TEST PILE 60 FT LONG 12"	EACH		
2452.502	C-I-P CONC TEST PILE 70 FT LONG 12"	EACH		
2452.502	C-I-P CONC TEST PILE 55 FT LONG 16"	EACH		
2452.502	C-I-P CONC TEST PILE 60 FT LONG 16"	EACH		
2452.502	C-I-P CONC TEST PILE 65 FT LONG 16"	EACH		
2452.502	C-I-P CONC TEST PILE 70 FT LONG 16"	EACH		
2452.502	C-I-P CONC TEST PILE 75 FT LONG 16"	EACH		
2452.502	C-I-P CONC TEST PILE 80 FT LONG 16"	EACH		
2452.603	C-I-P CONCRETE PILING 12"	LIN FT		
2452.603	C-I-P CONCRETE PILING 16"	LIN FT		
2545.501	LIGHTING SYSTEM	LUMP SUM		
2557.503	WIRE FENCE DESIGN SPECIAL VINYL COATED	LIN FT		
2563.601	TRAFFIC CONTROL	LUMP SUM		

WORKING POINTS COORDINATES AND ELEVATIONS

WORKING POINT	DESCRIPTION	STATION	NORTHING	EASTING	TOP OF FINISHED DECK ELEV
A	WEST ABUT. CL. BRG.	100+33.05	219715.353	543225.594	687.43
B	C.L. PIER 1	101+95.05	219662.051	543378.574	686.61
C	C.L. PIER 2	102+21.55	219653.332	543403.598	685.51
D	C.L. PIER 3	102+48.05	219656.178	543428.754	684.19
E	C.L. PIER 4	102+88.05	219680.176	543460.762	682.19
F	C.L. PIER 5	103+28.05	219704.172	543492.766	680.19
G	C.L. PIER 6	103+66.05	219727.675	543522.523	678.29
H	C.L. PIER 7	103+97.55	219757.126	543523.123	676.71
J	C.L. PIER 8	104+33.55	219773.844	543491.896	674.91
K	C.L. PIER 9	104+73.55	219788.399	543454.638	672.91
L	C.L. PIER 10	105+06.30	219786.945	543423.824	671.28
M	C.L. PIER 11	105+42.30	219754.595	543409.445	669.48
N	C.L. PIER 12	105+82.30	219716.331	543397.789	667.48
P	C.L. PIER 13	106+16.05	219684.189	543398.488	665.79
Q	C.L. PIER 14	106+51.71	219669.353	543430.126	664.01
R	C.L. PIER 15	106+86.71	219665.908	543463.949	662.26
S	C.L. PIER 16	107+25.38	219688.703	543495.133	660.32
T	EAST ABUT. CL. BRG.	107+65.30	219712.667	543527.067	658.33

NOTES:

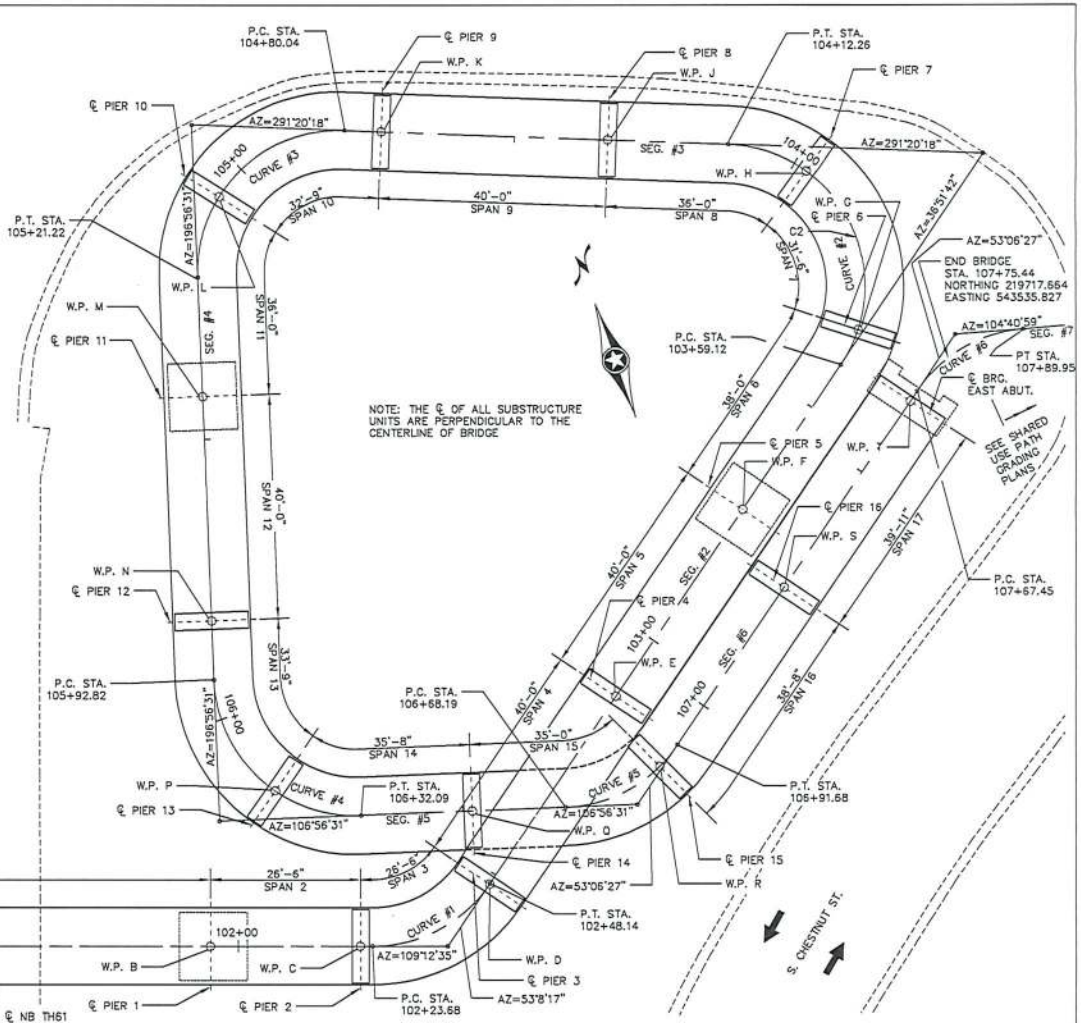
WORKING POINT COORDINATES ARE IN THE HOUSTON COUNTY COORDINATE SYSTEM

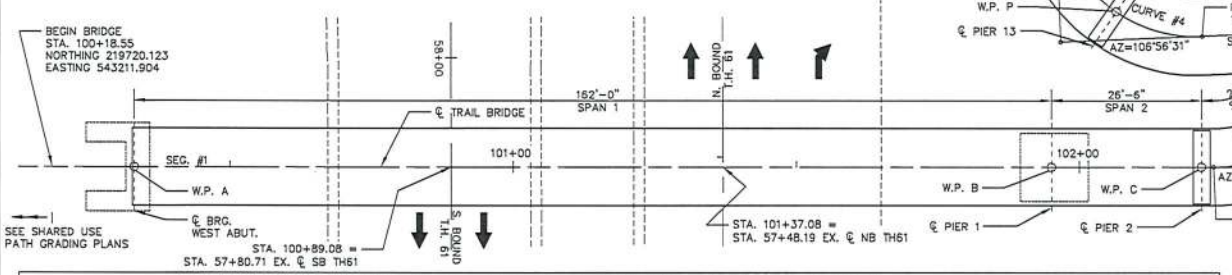
SEE BRIDGE SURVEY SHEETS FOR BENCH MARK INFORMATION

SEE ABUTMENT AND PIER DETAIL SHEETS FOR TOP OF DECK TO BRIDGE SEAT DIMENSIONS AND BRIDGE SEAT ELEVATIONS

HORIZONTAL CURVE DATA

HORIZ. CURVE #	CURVE #1	CURVE #2	CURVE #3	CURVE #4	CURVE #5	CURVE #6
P.I. STATION	102+35.91	103+85.69	105+00.63	106+12.45	106+79.93	107+78.70
P.I. NORTHING	219648.251	219749.754	219800.581	219682.356	219660.847	219721.211
P.I. EASTING	543418.182	543553.560	543423.453	543387.439	543458.030	543538.442
R.	25.00	25.00	25.00	25.00	25.00	25.00
Δ	56° 4' 17"	121° 47' 59"	94° 23' 47"	90° 0' 0"	53° 50' 4"	51° 34' 32"
L	24.47	53.15	41.19	39.27	23.49	22.50
T.	13.31	44.92	27.00	25.00	12.69	12.08
C.	23.50	43.69	36.69	35.36	22.64	21.75
P.C. STATION	102+23.68	103+59.12	104+80.04	105+92.82	106+68.19	107+67.45
P.C. NORTHING	219652.631	219722.810	219790.758	219706.271	219664.551	219713.960
P.C. EASTING	543405.611	543517.624	543448.599	543394.724	543445.888	543528.782
P.T. STATION	102+48.14	104+12.26	105+21.22	106+32.09	106+91.68	107+89.95
P.T. NORTHING	219656.237	219766.098	219774.757	219675.071	219668.472	219718.149
P.T. EASTING	543428.833	543511.723	543415.587	543411.354	543468.181	543550.126





HORIZONTAL ALIGNMENT LINE AND CURVE CHORD DATA

LINE SEG./CHORD #	SEG. #1	CHORD #1	SEG. #2	CHORD #2	SEG. #3	CHORD #3	SEG. #4	CHORD #4	SEG #5	CHORD #5	SEG. #6	CHORD #6	SEG. #7
STATION	99+65.47	102+23.68	102+48.14	103+59.12	104+12.26	104+80.04	105+21.22	105+92.82	106+32.09	106+68.19	106+91.68	107+67.45	107+89.95
NORTHING	219737.586	219652.631	219656.237	219722.810	219766.098	219790.758	219774.757	219706.271	219675.071	219664.551	219668.472	219713.960	219718.149
EASTING	543161.783	543405.611	543428.833	543517.624	543511.723	543448.599	543415.587	543394.724	543411.354	543445.888	543468.181	543528.782	543550.126
AZIMUTH	109° 12' 35"	81° 10' 26"	36° 51' 43"	352° 14' 18"	291° 20' 18"	244° 8' 25"	196° 56' 31"	151° 56' 31"	106° 56' 31"	80° 1' 29"	53° 6' 27"	78° 53' 43"	104° 40' 59"
LENGTH	258.20	23.50	110.98	43.69	67.77	36.69	71.59	35.36	36.10	22.64	75.77	21.75	10.05

WORKING POINT AND SUBSTRUCTURE LAYOUT

0 — 50'

SCALE: 1/2" = 1'-0"

whks

DES:	JMZ
CHK:	XXX
DR:	JMZ
CHK:	XXX

CERTIFIED BY

PRELIMINARY

LICENSED PROFESSIONAL ENGINEER — DATE

NAME: JUSTIN M. ZIMMERMAN — LIC. NO. 50630

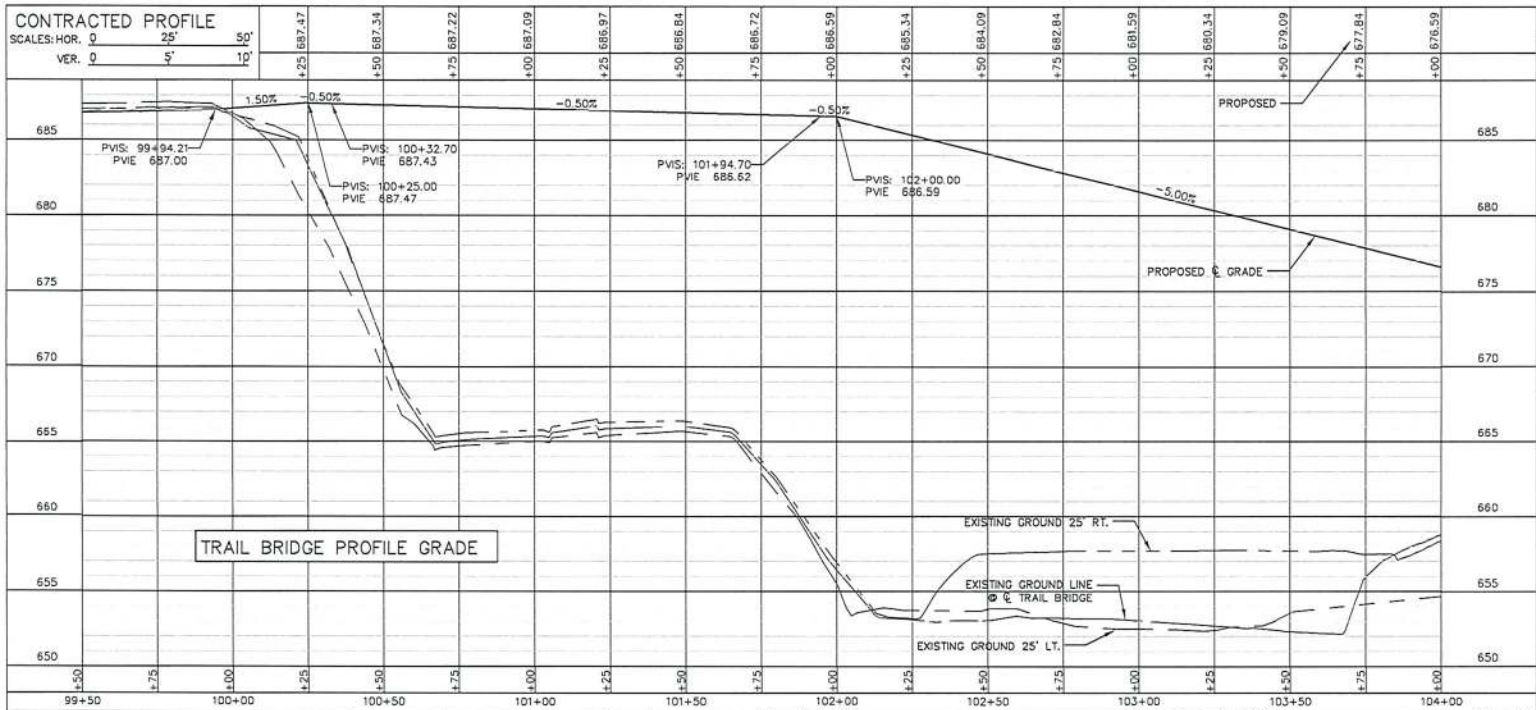
BRIDGE LAYOUT AND FOUNDATION PLAN

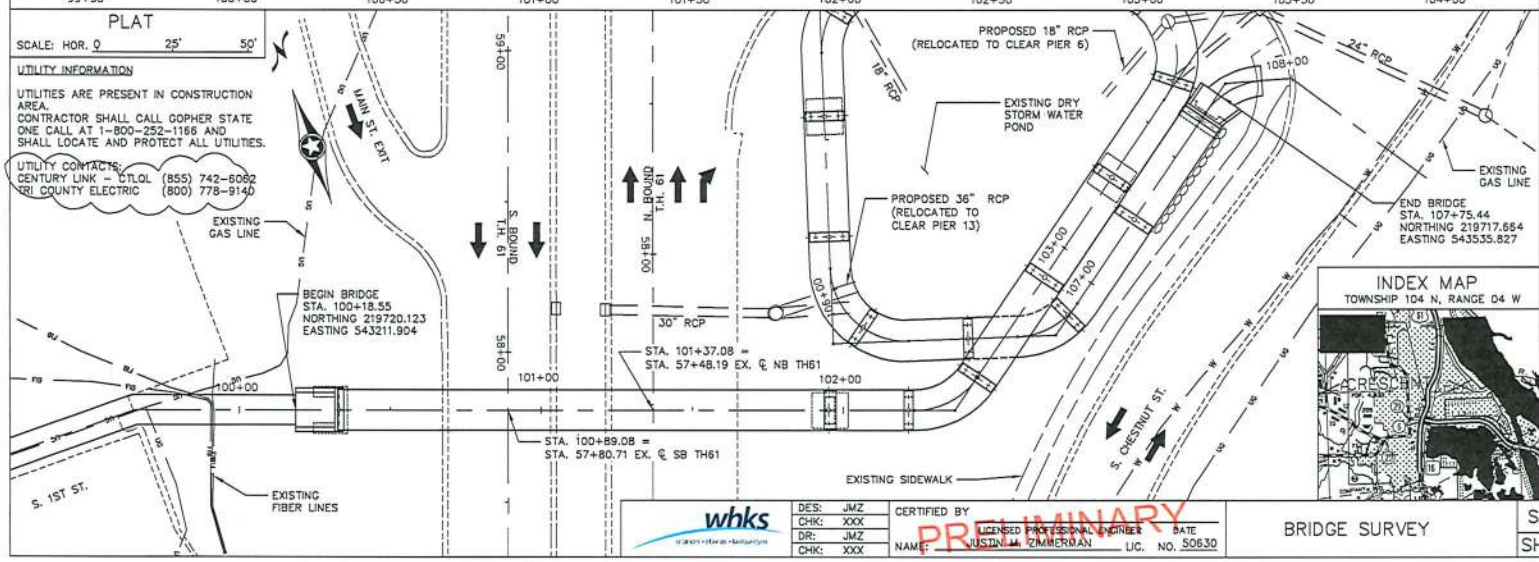
S.P. 236-090-003

APPROVED:

SHEET NO. S8 OF XX SHEETS

BRIDGE NO. XXXXX





FEDERAL PROJ. NO.

LOCATION ENGINEER'S OBSERVATION AT BRIDGE SITE

1. SPECIAL FEATURES: NONE

2. OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OR ROADWAY): GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA, ETC. NONE

3. APPARENT HIGH WATER ELEV: NA

4. OTHER DATA: NA

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE: 10-5-2020

STREAM OR DITCH DESIGNATION: N/A
DRAINAGE AREA: N/A SQ MILES
MAX. FLOOD ON RECORD UNK C.F.S.
MAX OBSERVED HIGHWATER ELEV. UNK FT.
DESIGN FLOOD (100 YR. FREQ.) N/A C.F.S.
HEADWATER ELEVATION: N/A FT.
DESIGN MEAN VELOCITY THROUGH STRUCTURE = N/A F.P.S.
TOTAL STAGE INCREASE: 0.0 FT.
LOW MEMBER AT OR ABOVE ELEVATION: N/A FT.
WATERWAY AREA REQUIRED BELOW ELEV. N/A = N/A SQ. FT. AT RIGHT ANGLES TO CHANNEL
BASIC FLOOD (100 YR. FREQ.) N/A C.F.S.
HEADWATER ELEVATION: N/A FT.
TOTAL STAGE INCREASE: N/A FT.
DESIGN MEAN VELOCITY THROUGH STRUCTURE = N/A F.P.S
FLOWLINE ELEVATION N/A FT. SKEW ANGLE N/A°
ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. N/A FT. (100 YR. FREQ.)

SCOUR CONFIRMATION RECOMMENDATION

DATE: 10-5-2020
TOTAL SCOUR AT PIER ELEVATION: N/A FT. (100 YR. FREQ.)
SCOUR CODE: N/A

ENGINEER'S RECOMMENDATION

DATE: 10-5-2020

BRIDGE SURVEY SHEETS MADE FROM: WHKS & CO. FIELD SURVEY
1ST BENCH MARK ELEVATION: 660.589 (NAVD 88)
LOCATION: TOP OF HYDRANT NUT SOUTH OF S CHESTNUT ST. AND SYCAMORE ACCESS INTERSECTION
2ND BENCH MARK ELEVATION: 688.753 (NAVD 88)
LOCATION: TOP OF HYDRANT NUT AT NE CORNER OF S 1ST ST. AND S WALNUT STREET INTERSECTION

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON TH 61
PROPOSED BRIDGE LOCATED 0.2 MILES NORTH EAST OF JUNCTION SOUTH 3RD STREET
SEC. 10 TWP. 104 N R 04 W
CITY: LA CRESCENT COUNTY: HOUSTON

whks

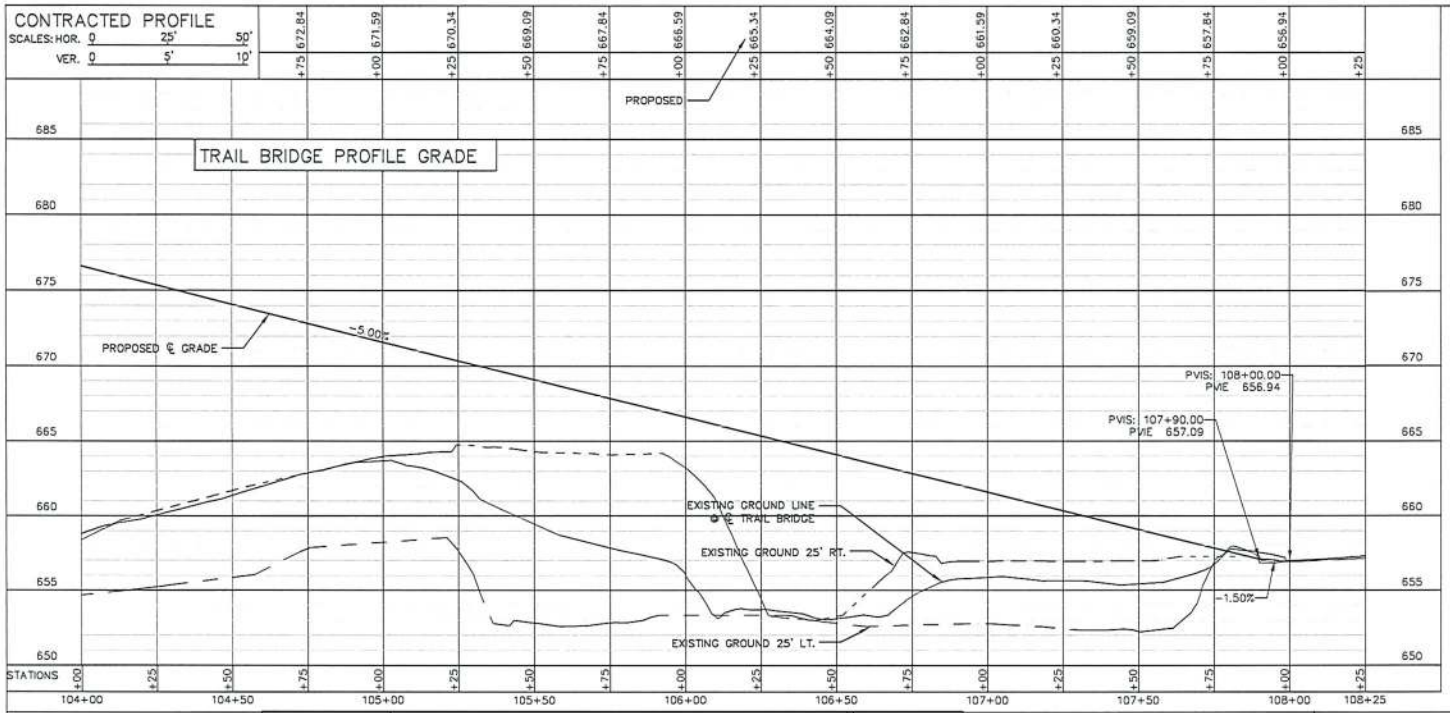
DES:	JMZ
CHK:	XXX
DR:	JMZ
CHK:	XXX

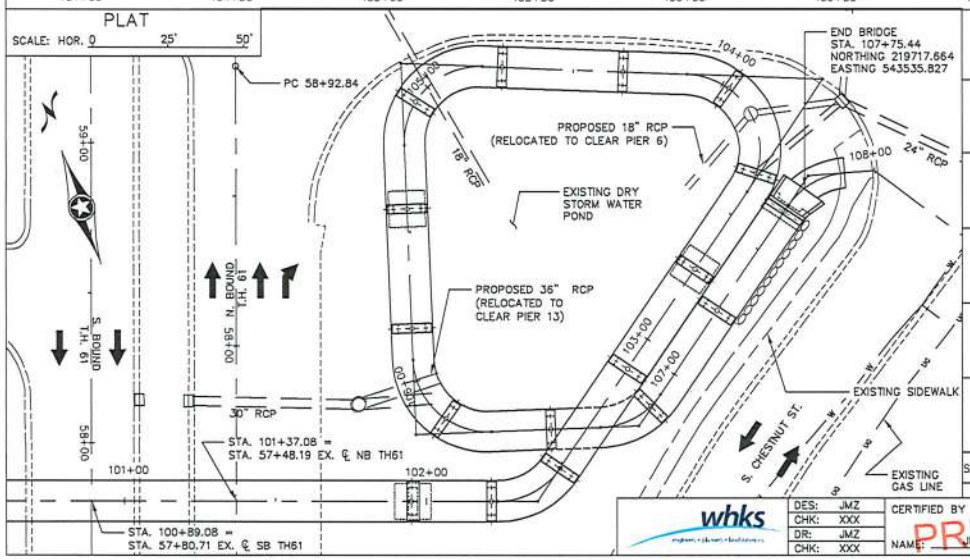
CERTIFIED BY
LICENSED PROFESSIONAL ENGINEER DATE
NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630

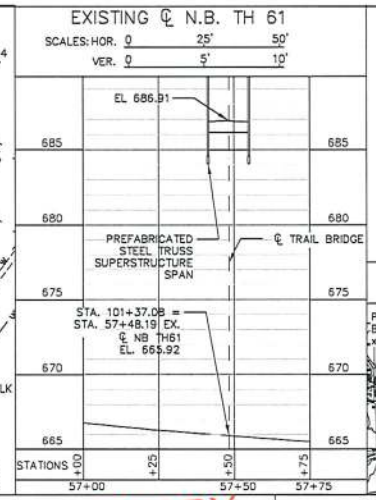
PRELIMINARY

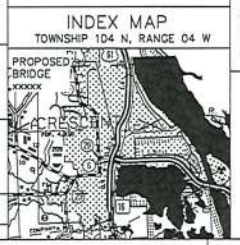
BRIDGE SURVEY

S.P. 236-090-003 APPROVED:
SHEET NO. S9 OF XX SHEETS
BRIDGE NO. XXXXX









FEDERAL PROJ. NO.

LOCATION ENGINEER'S OBSERVATION AT BRIDGE SITE

1. SPECIAL FEATURES: NONE

2. OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OR ROADWAY): GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA, ETC. NONE

3. APPARENT HIGH WATER ELEV: NA

4. OTHER DATA: NA

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE: 10-5-2020

STREAM OR DITCH DESIGNATION: N/A
DRAINAGE AREA: N/A SQ MILES
MAX. FLOOD ON RECORD UNK C.F.S.
MAX OBSERVED HIGHWATER ELEV. UNK FT.
DESIGN FLOOD (100 YR. FREQ.) N/A C.F.S.
HEADWATER ELEVATION: N/A FT.
DESIGN MEAN VELOCITY THROUGH STRUCTURE = N/A F.P.S.
TOTAL STAGE INCREASE: 0.0 FT.
LOW MEMBER AT OR ABOVE ELEVATION: N/A FT.
WATERWAY AREA REQUIRED BELOW ELEV. N/A = N/A SQ. FT. AT RIGHT ANGLES TO CHANNEL
BASIC FLOOD (100 YR. FREQ.) N/A C.F.S.
HEADWATER ELEVATION: N/A FT.
TOTAL STAGE INCREASE: N/A FT.
DESIGN MEAN VELOCITY THROUGH STRUCTURE = N/A F.P.S
FLOWLINE ELEVATION N/A FT. SKEW ANGLE N/A°
ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. N/A FT. (100 YR. FREQ.)

SCOUR CONFIRMATION RECOMMENDATION

DATE: 10-5-2020
TOTAL SCOUR AT PIER ELEVATION: N/A FT. (100 YR. FREQ.)
SCOUR CODE: N/A

ENGINEER'S RECOMMENDATION

DATE: 10-5-2020

BRIDGE SURVEY SHEETS MADE FROM: WHKS & CO. FIELD SURVEY
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MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON TH 61
PROPOSED BRIDGE LOCATED 0.2 MILES NORTH EAST OF JUNCTION SOUTH 3RD STREET
SEC. 10 TWP. 104 N R 04 W
CITY: LA CRESCENT COUNTY: HOUSTON

whks

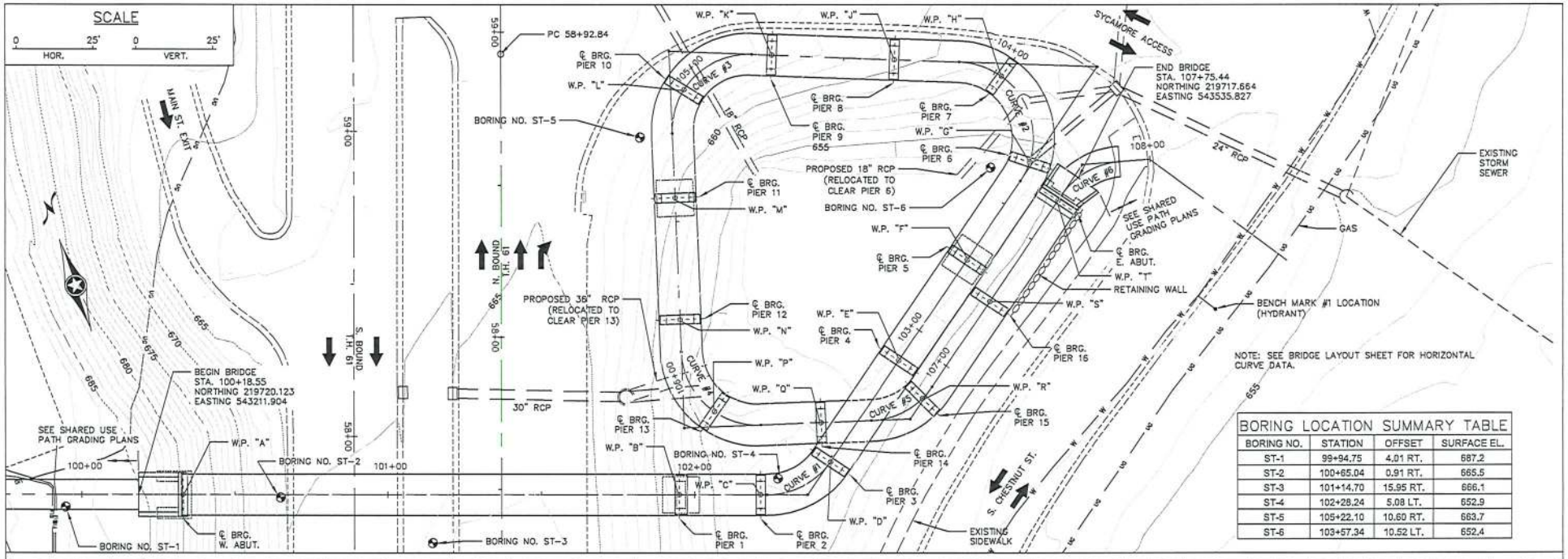
DES:	JMZ
CHK:	XXX
DR:	JMZ
CHK:	XXX

CERTIFIED BY
NAME: JUSTIN M. ZIMMERMAN LICENSED PROFESSIONAL ENGINEER LIC. NO. 50630 DATE

PRELIMINARY

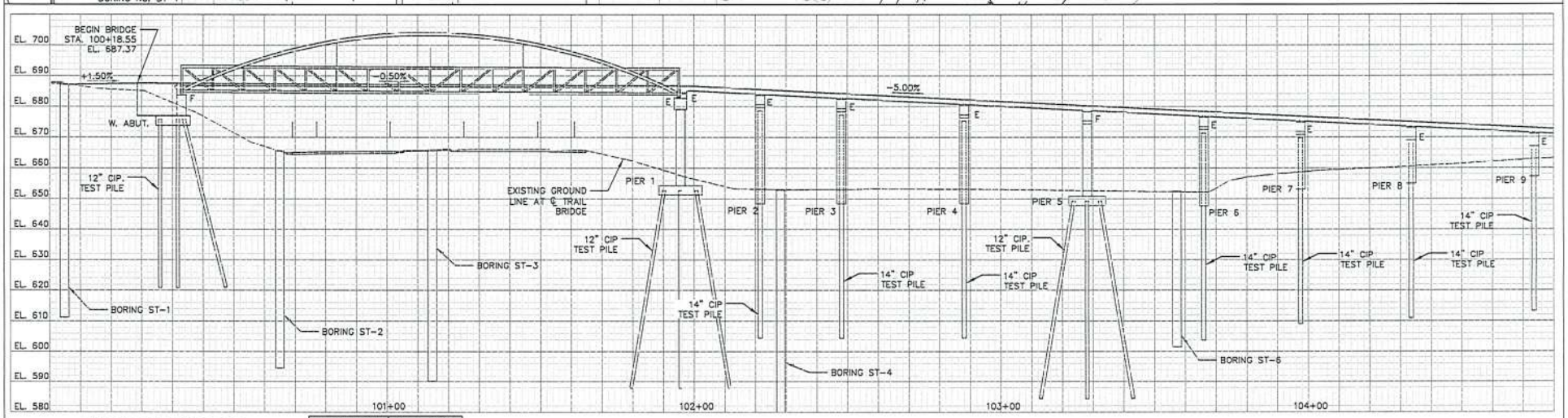
BRIDGE SURVEY

S.P. 236-090-003 APPROVED:
SHEET NO. S9 OF XX SHEETS
BRIDGE NO. XXXXX



BORING LOCATION SUMMARY TABLE

BORING NO.	STATION	OFFSET	SURFACE EL.
ST-1	99+94.75	4.01 RT.	687.2
ST-2	100+65.04	0.91 RT.	665.5
ST-3	101+14.70	15.95 RT.	666.1
ST-4	102+28.24	5.08 LT.	652.9
ST-5	105+22.10	10.60 RT.	663.7
ST-6	103+57.34	10.52 LT.	652.4



NOTE: SEE SOIL BORING LOG FOR DESCRIPTION OF MATERIALS AND BLOWS PER FOOT FOR EACH BORING

BORING SHOWN: ST-1 ~ ST-6
TAKEN WITH:
STANDARD 140 LB. HAMMER
30" DROP
2 INCH O.D. SAMPLER

whks

DES:	JMZ
CHK:	XXX
DR:	JMZ
CHK:	XXX

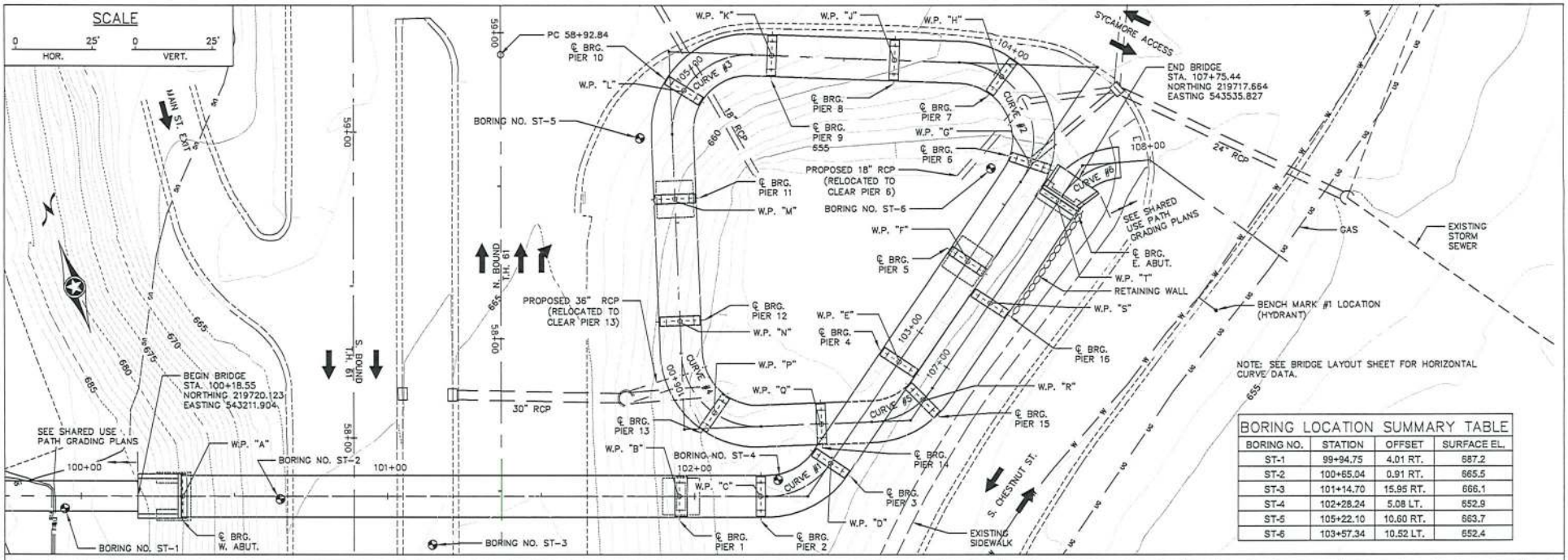
CERTIFIED BY
PRELIMINARY
LICENSED PROFESSIONAL ENGINEER — DATE
NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630

BRIDGE SURVEY
PLAN & PROFILE (1 OF 2)

S.P. 236-090-003
SHEET NO. S11 OF XX SHEETS

APPROVED:

BRIDGE NO. XXXXX



BORING LOCATION SUMMARY TABLE

BORING NO.	STATION	OFFSET	SURFACE EL.
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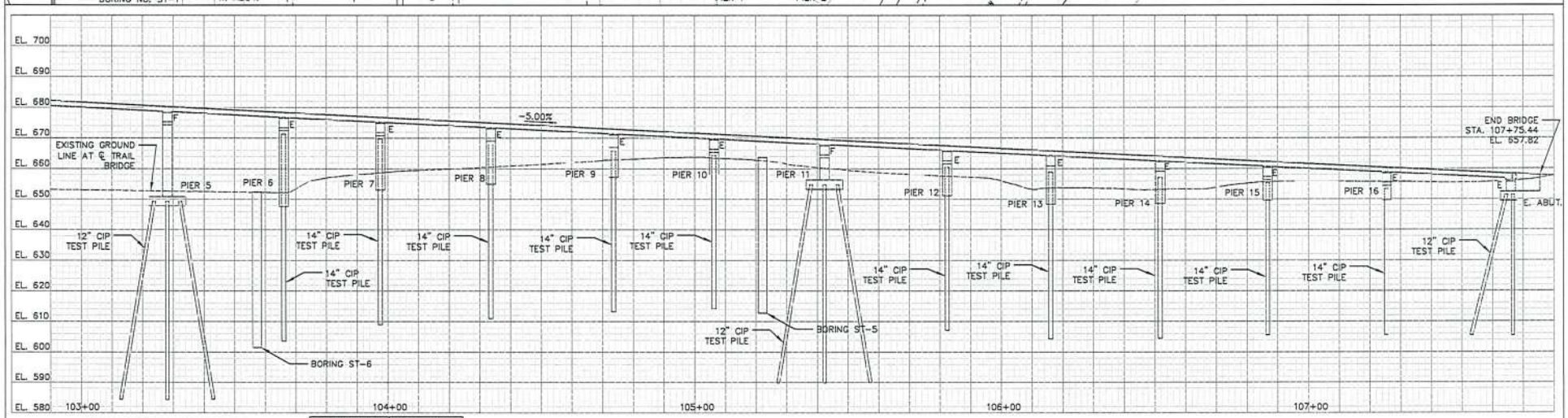


NOTE: SEE SOIL BORING LOG FOR DESCRIPTION OF MATERIALS AND BLOWS PER FOOT FOR EACH BORING

BORING SHOWN: ST-1 ~ ST-6
TAKEN WITH:
STANDARD 140 LB. HAMMER
30" DROP
2 INCH O.D. SAMPLER

whks

DES:	JMZ
CHK:	XXX
DR:	JMZ
CHK:	XXX

CERTIFIED BY
LICENSED PROFESSIONAL ENGINEER DATE
NAME: JUSTIN M. ZIMMERMAN LIC. NO. 50630

PRELIMINARY

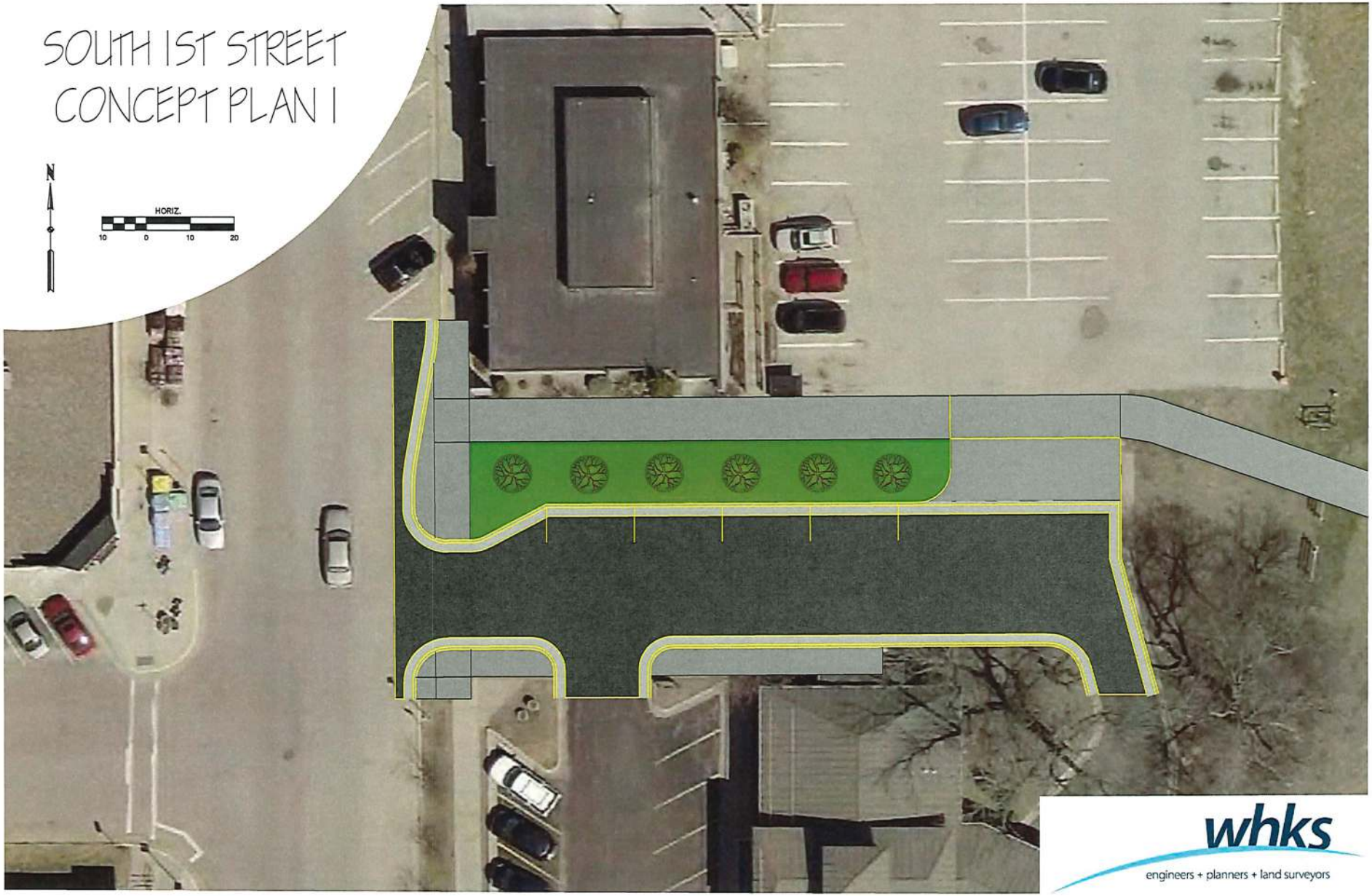
BRIDGE SURVEY
PLAN & PROFILE (2 OF 2)

S.P. 236-090-003
SHEET NO. S12 OF XX SHEETS

APPROVED:

BRIDGE NO. XXXXX

SOUTH 1ST STREET CONCEPT PLAN 1



whks
engineers + planners + land surveyors

SOUTH 1ST STREET CONCEPT PLAN 2

whks
engineers + planners + land surveyors