

MINNESOTA DEPARTMENT OF TRANSPORTATION

SAINT LOUIS COUNTY

CONSTRUCTION PLAN FOR: APPROACH GRADING AND THE REHABILITATION OF BRIDGE
NO. 69504 (SLC BR. NO. 940)

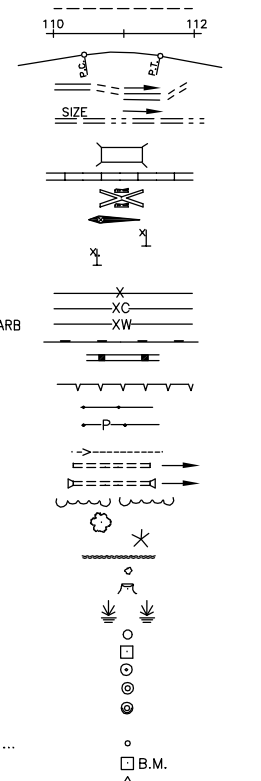
LOCATED ON FROM THE SOUTHWESTERN TERMINUS OF C.S.A.H. 12 TO 0.16 MILES NORTHEAST, SEC. 04,
T50N, R13W

STATE AID PROJ. NO. 069-612-016

GROSS LENGTH	<u>908.89</u> FEET	<u>0.172</u> MILES
BRIDGES-LENGTH	<u>212.01</u> FEET	<u>0.040</u> MILES
EXCEPTIONS-LENGTH	<u> </u> FEET	<u> </u> MILES
NET LENGTH	<u>908.89</u> FEET	<u>0.172</u> MILES

WARNING
 LOCATION OF UNDERGROUND UTILITIES
 TO BE VERIFIED BY CONTRACTOR.
 CALL BEFORE DIGGING.
 GOPHER STATE ONE CALL
 811 OR 1-800-252-1166
 REQUIRED BY LAW

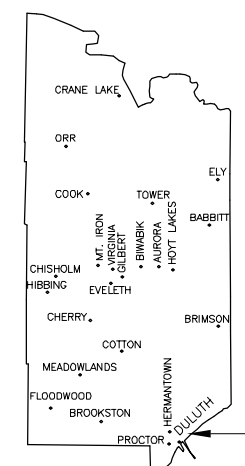
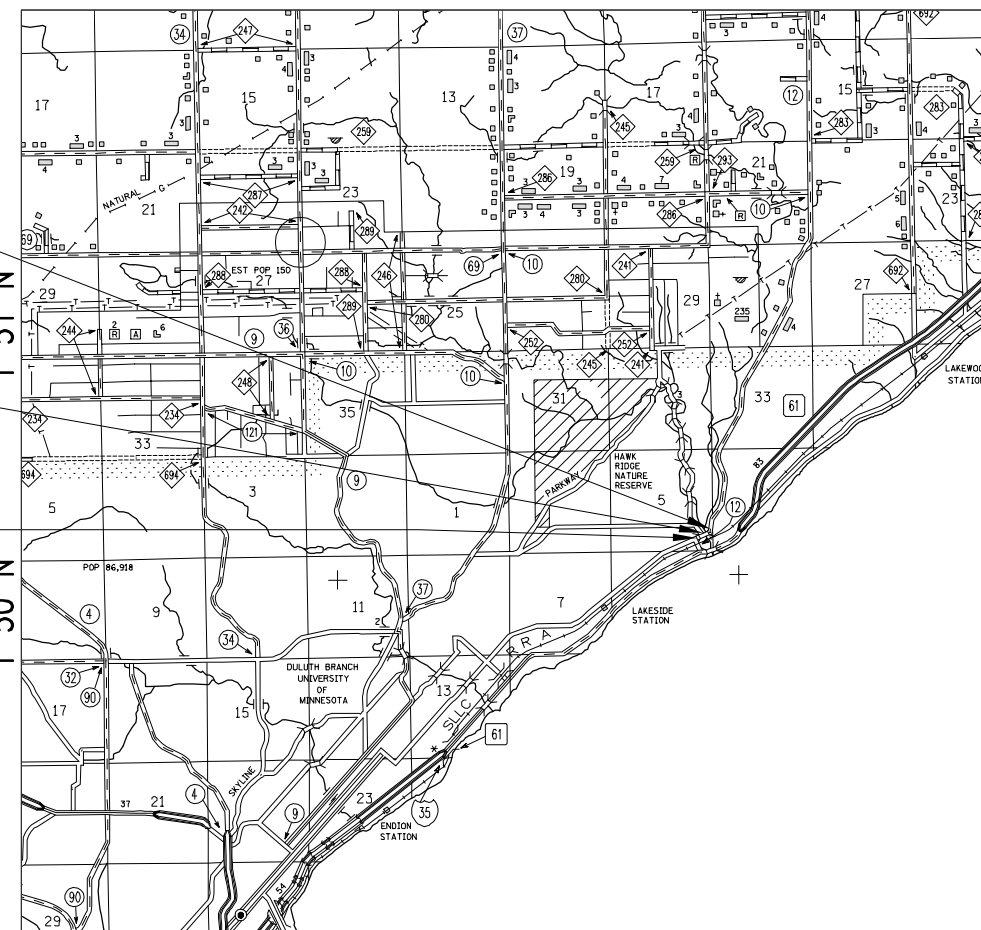
PLAN SYMBOLS	
SECTION SUBDIVISION LINE	---
EXISTING R/W	----
NEW R/W	=====
TEMP EASE	-----
RAILROAD R/W	-----
UNSURFACED RD. OR SHLD.	-----
EDGE OF LAKE	-----
SWAMP BOUNDARY	-----
MISCELLANEOUS BOUNDARY	-----
CORPORATE OR CITY LIMITS	//////
PROPERTY LINE	-----
RECREATIONAL TRAIL	-----
ALIGNMENT STATIONS	-----
ALIGNMENT POINTS	-----
RIVER OR CREEK	-----
DRAINAGE DITCH	-----
BRIDGE	-----
RAILROAD (SINGLE TRACK)	-----
RR CROSSING PAVEMENT MARKING	-----
RR CROSSING GATE	-----
RR CROSSBUCK SIGN	-----
RR CROSSBUCK SIGN W/LIGHTS	-----
BARBED WIRE FENCE	X-----
CHAIN LINK FENCE	XC-----
WOVEN WIRE, COMBINATION WOVEN AND BARB	XW-----
WOOD FENCE	-----
BILLBOARD	-----
RETAINING WALL	-----
GUARDRAIL (CABLE)	-----
GUARDRAIL (PLATE BEAM)	-----
DRAIN TILE	-----
CULVERT	-----
CULVERT WITH APRONS	-----
WOODS OR BRUSH, NURSERY	-----
DECIDUOUS TREES	-----
CONIFER (EVERGREEN) TREES	-----
HEDGE	-----
BUSH OR SHRUB	-----
STUMP	-----
SWAMP OR MARSH	-----
MONUMENT (CI, ACT, ACP, BCP, ...)	-----
CONCRETE OR STONE MONUMENT	-----
IRON PIPE	-----
IRON PIN OR REBAR	-----
IRON PIN WITH BRASS DISK	-----
NAIL, PK NAIL, SPIKE, SFP, T-BAR, ...	-----
VERTICAL CONTROL	-----
HORIZONTAL CONTROL	-----
POWER POLE	-----
LIGHT POLE	-----
LIGHT AND TELEPHONE POLE	-----
LIGHT, TELEPHONE AND POWER POLE	-----
GUY POLE	-----
POLE ANCHOR	-----
TELEPHONE POLE	-----
TELEPHONE AND POWER POLE	-----
UNDERGROUND CABLE PEDESTAL	-----
TELEPHONE MANHOLE (VAULT)	-----
ELECTRIC CABLE IN CONDUIT	-----
TELEPHONE CABLE IN CONDUIT	-----
BURIED ELECTRIC CABLE	-----
BURIED TELEPHONE CABLE	-----
GAS LINE	-----
WATER LINE	-----
VALVE	-----
FIRE HYDRANT	-----
WATER MANHOLE	-----
WELL	-----
LAWN SPRINKLER HEAD	-----
MANHOLE	-----
CATCH BASIN	-----
SEPTIC TANK	-----
FORCE MAIN LIFT STA.	-----
SEWER LINE	-----
PERMANENT BARRICADE	-----
TRAFFIC SIGNAL LIGHT	-----
HAND HOLE	-----
ENTRANCE	-----
BUILDING	-----
SATELLITE DISH	-----
STEEL TOWER	-----
FLAG POLE	-----



END PROJECT: S.A.P. 069-612-016
 STA. 59+45.33

RECONSTRUCT BRIDGE NO. 69504
 COUNTY BRIDGE NO. 940

BEGIN PROJECT: S.A.P. 069-612-016
 STA. 50+36.44



PROJECT LOCATION

ST. LOUIS COUNTY

SCALES	
PLAN	10 ft.
PROFILE	1" = 10' HORIZ. 1" = 10' VERT.
INDEX MAP	2500 ft.

PERFORMANCE DRIVEN DESIGN.
 LHBcorp.com
 PROJ. NO. 170150.04
 21 W. Superior St., Ste. 500 | Duluth, MN 55802 | 218.727.8446

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

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

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND INDEX MAP
	ESTIMATED QUANTITIES, STANDARD PLATES AND NOTES
	TYPICAL SECTIONS
	CONSTRUCTION DETAILS
	BRIDGE APPROACH TREATMENT
	BRIDGE APPROACH PANEL
	PAVEMENT JOINT DETAILS
	TRAFFIC CONTROL
	EROSION CONTROL DETAILS
	EXISTING CONDITIONS
	PLANNED CONSTRUCTION
	CROSS SECTIONS
B01-B__	BRIDGE NO. 69504

- THIS PLAN CONTAINS ___ SHEETS -

DESIGN DESIGNATION	
R VALUE =	<u>10</u> $\$N18\ 20 =$ <u>599,415</u>
ADT (Current Year)	2019 = <u>5369</u>
ADT (Future Year)	2039 = <u>3906</u>
D (Directional Distr.)	= <u>50-50%</u>
T (Heavy Commercial)	= <u> </u>
Proj. Soil Factor	= <u>130</u>
Shoulder Width	= <u>VARIABLE</u>
Design Loading	= <u>10 TON</u>
Design Speed	<u>30</u> MPH
Based on STOPPING Sight Distance	
Height Of Eye	<u>3.5</u> ft. Height of object <u>2.0</u> ft.
Design Speed not achieved at:	
STA. _____ TO STA. _____	MPH _____
STA. _____ TO STA. _____	MPH _____
Classification	<u>URBAN MINOR ART.</u>
Traffic Lanes	<u>2 @ 12' Each</u>
Turning Lanes	<u> </u>

DESIGNERS (LHB) Brad Scott, Gary Vonasek, Jon Siiter (Bridge)

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.

Print Name: JOSEPH D. LITMAN

Signature: _____

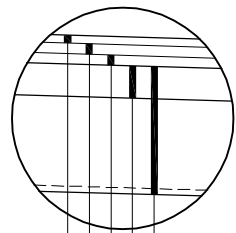
Date: _____ Reg. #: 21833

Approved: St. Louis County Engineer _____ Date: _____

District State Aid Engineer: Reviewed for compliance with State Aid rules/policy _____ Date: _____

Recommended for Approval _____ Date: _____
 State Bridge Engineer

Approved for State Aid Funding _____ Date: _____
 State Aid Engineer

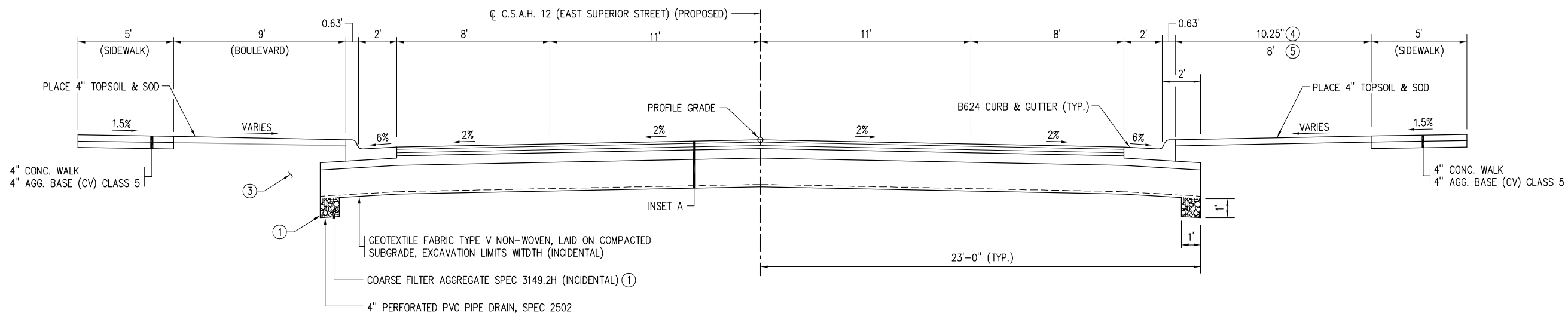


- 18" SELECT GRANULAR BORROW (CV) SPEC 2105 (MODIFIED 7%)
- 6" AGGREGATE BASE (CV) CLASS 5 (SPEC 2211)
- 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C) ②
- 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C) ②
- 1 1/2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C)

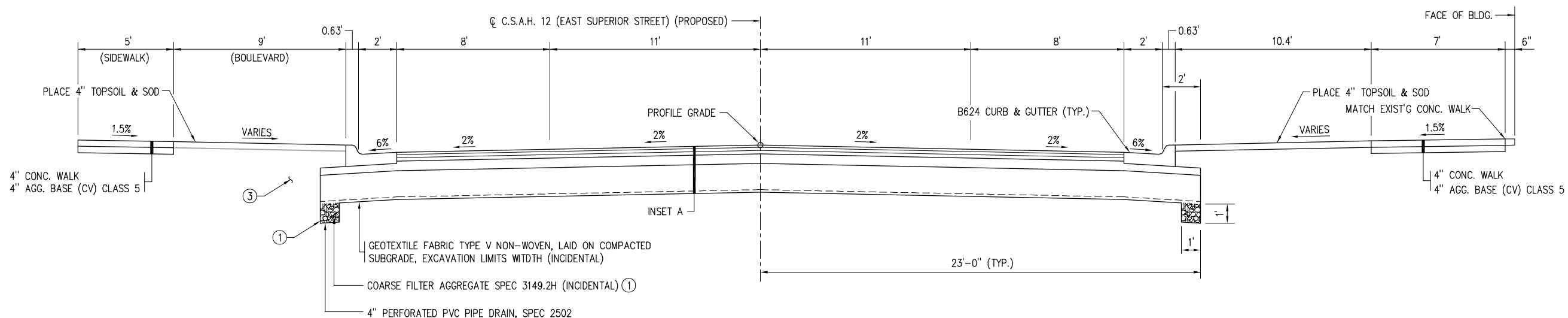
INSET A

KEY NOTES:

- ① WRAP COARSE FILTER AGGREGATE WITH TYPE 1 GEOTEXTILE FABRIC. (INCIDENTAL). OVERLAP JOINTS 1' MIN.
- ② PLACE TACK COAT BETWEEN COARSE - SPEC. 2357 (INCIDENTAL).
- ③ SELECT GRADING MATERIAL FROM EXCAVATION (INCIDENTAL).
- ④ STA. 51+35.00 TO 52+68.08.
- ⑤ STA. 52+68.08 TO 54+82.00.



TYPICAL SECTION
(STA. 51+00.37 TO 54+82.00)

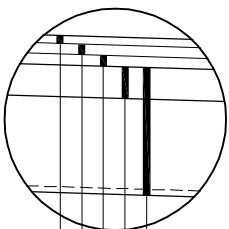


TYPICAL SECTION
(STA. 50+36.44 TO 51+00.37)

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

_____/_____/_____
DATE

REG. NO.

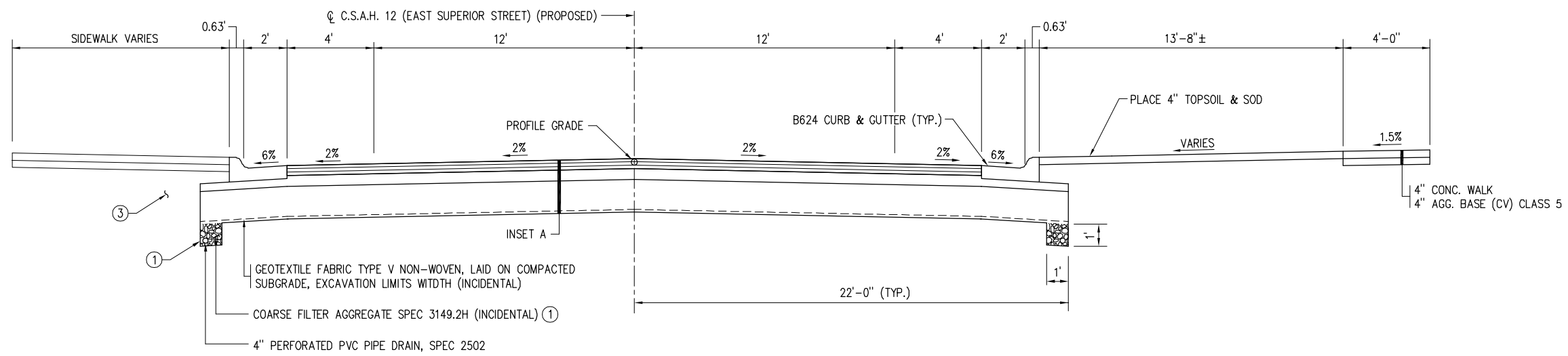


- 18" SELECT GRANULAR BORROW (CV) SPEC 2105 (MODIFIED 7%)
- 6" AGGREGATE BASE (CV) CLASS 5 (SPEC 2211)
- 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C) ②
- 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C) ②
- 1 1/2" TYPE SP 9.5 WEARING COURSE MIX (SPWEB340C)

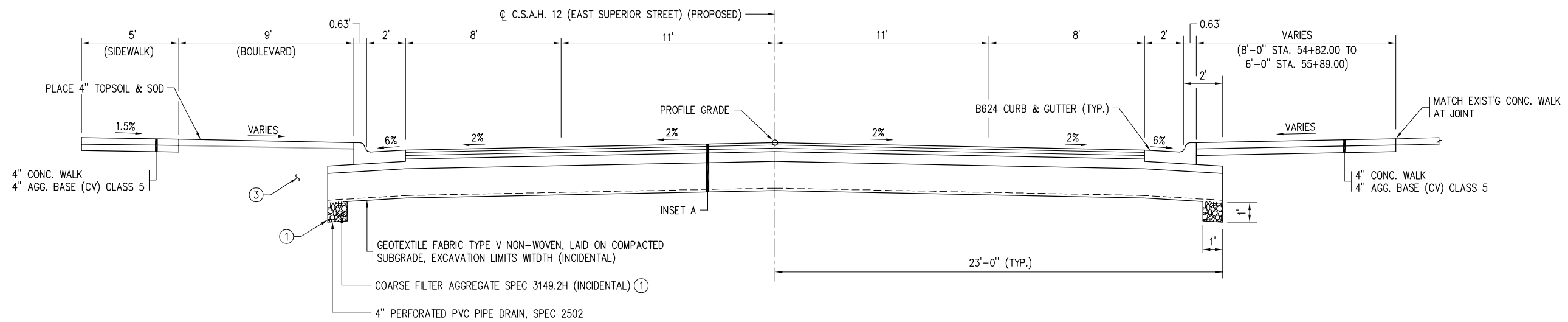
INSET A

KEY NOTES:

- ① WRAP COARSE FILTER AGGREGATE WITH TYPE 1 GEOTEXTILE FABRIC. (INCIDENTAL). OVERLAP JOINTS 1' MIN.
- ② PLACE TACK COAT BETWEEN COARSE - SPEC. 2357 (INCIDENTAL).
- ③ SELECT GRADING MATERIAL FROM EXCAVATION (INCIDENTAL).
- ④ VARIES, SEE PLAN SHEETS.



TYPICAL SECTION
(STA. ___+__ TO ___+__)



TYPICAL SECTION
(STA. 54+82.00 TO 55+89.50)

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

SIGNATURE _____ TYPED NAME _____

DATE _____
REG. NO. _____

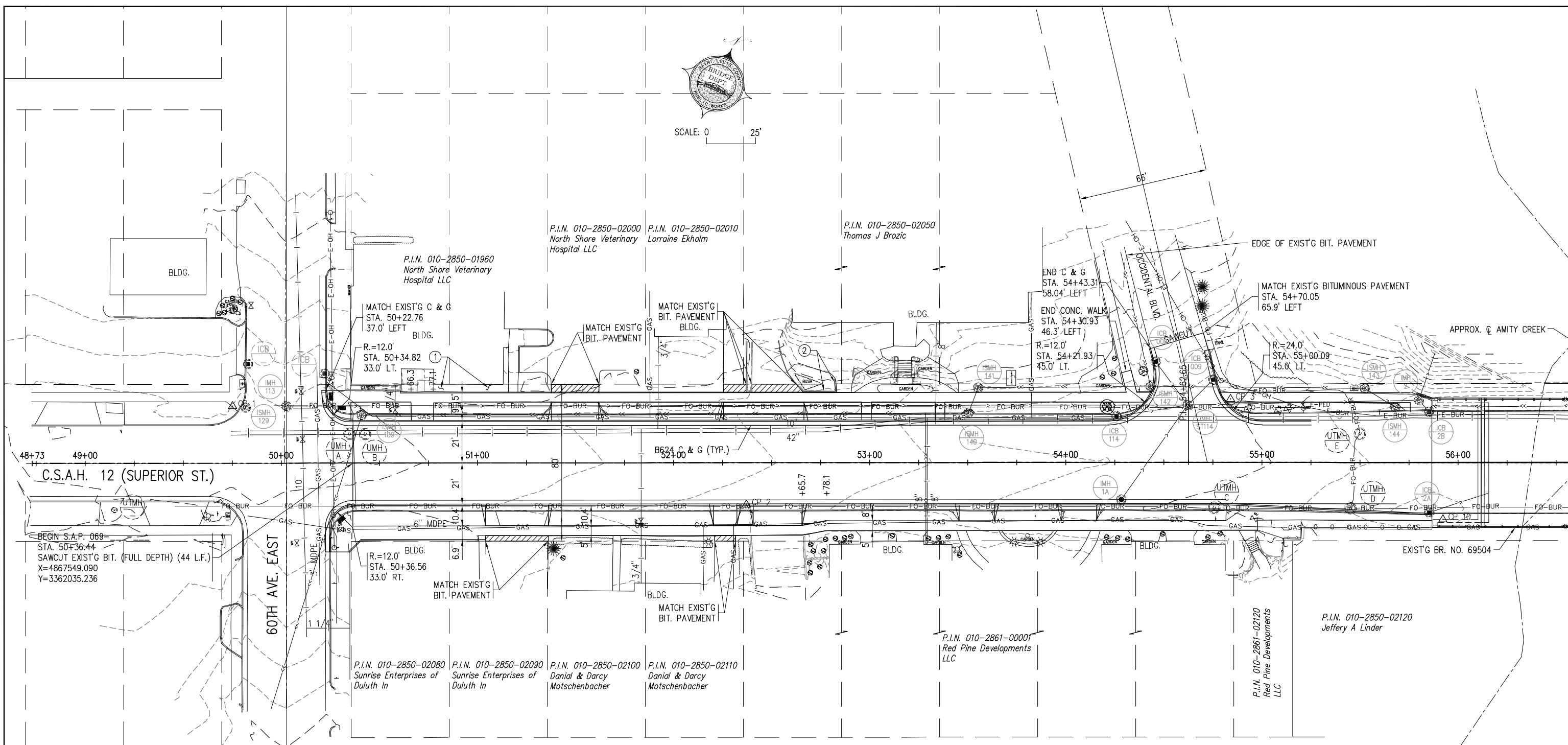
S.A.P. 069-612-216 C.P. 0012-287571

TYPICAL SECTIONS AND DETAILS

SHEET 2 OF 2 SHEETS





SCALE: 0 25'



KEY NOTES:

- ① CONTRACTOR SHALL ADJUST AND RESTORE EXIST'G LANDSCAPE ROCK AS NECESSARY TO ALLOW FOR PROPOSED SIDEWALK CONSTRUCTION. THIS WORK SHALL BE INCLUDED INCIDENTAL TO OTHER ITEMS.
- ② CONTRACTOR SHALL REMOVE EXIST'G LANDSCAPE TIMBERS (APPROX. 23 L.F.) AND INSTALL NEW 8X8 TREATED TIMBER AS SHOWN AND AS DIRECTED BY THE ENGINEER IN THE FIELD. REMOVAL OF EXISTING TIMBERS AND PLACEMENT OF NEW TIMBERS TO BE PAID FOR UNDER ITEM "INSTALL TREATED TIMBER".

LEGEND

-  BITUMINOUS MIX FOR PATCHING
-  CLEAR AND GRUB TREE

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

SIGNATURE

TYPED NAME

DATE

REG. NO.

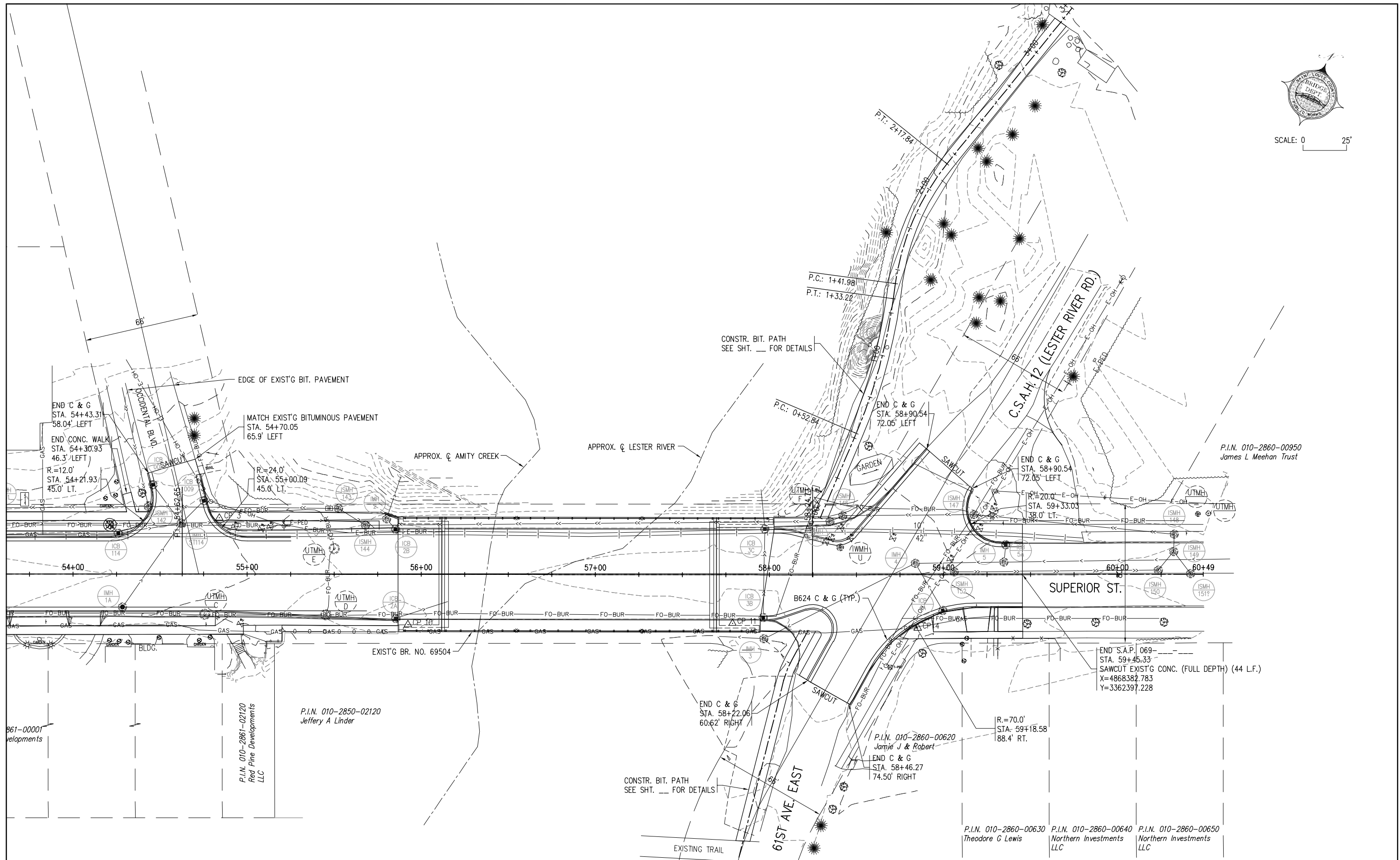
S.A.P. 069-612-216 C.P. 0012-287571

PROPOSED CONSTRUCTION

SHEET 01 OF __ SHEETS



SCALE: 0 25'



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

SIGNATURE

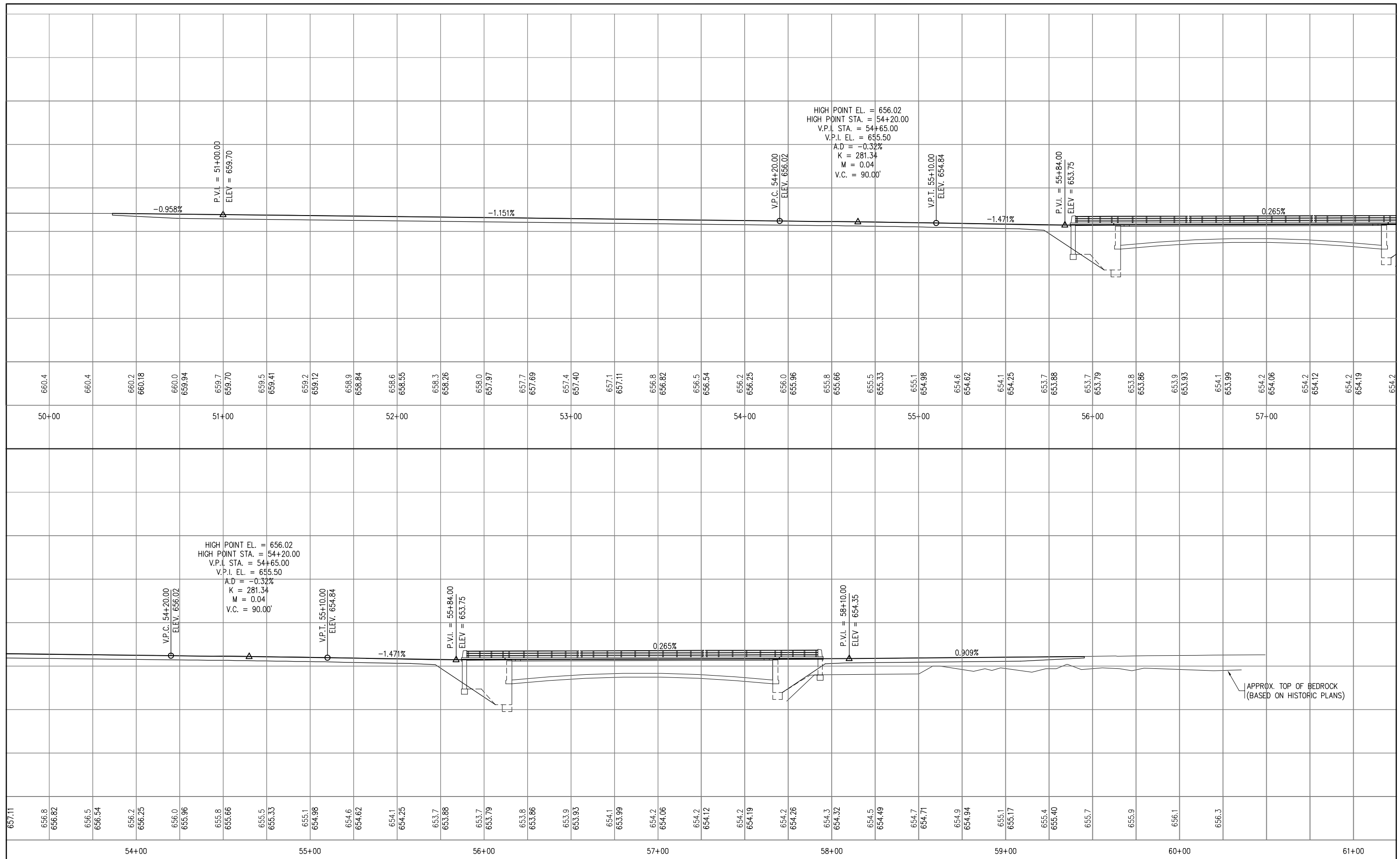
TYPED NAME

DATE

REG. NO.

S.A.P. 069-612-216 C.P. 0012-287571

PROPOSE CONSTRUCTION
SHEET 01 OF __ SHEETS



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

SIGNATURE

TYPED NAME

_____/_____/_____
DATE

REG. NO.

S.A.P. 069-612-216 C.P. 0012-287571

PROFILE-C.S.A.H. 12
SHEET 01 OF __ SHEETS